Sensors part 2

Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47
Россия (495)268-04-70
Казахстан (772)734-952-31

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Precise, flexible all-rounders

ULTRASONIC SENSORS

Whether for position detection, distance detection or detection of powdery and fluid media – our ultrasonic sensors are precise all-rounders. They measure fill levels, heights and sag without making contact as well as count and monitor the presence of objects. These universal sensors work regardless of color or surface composition and are unaffected by transparent objects with strong reflection. Fog, dust and impurities are also not a problem for them. Their high resolution and small blind zones guarantee the highest precision. Since they offer a generous detection range, they also work reliably at greater object distances.

Ultrasonic sensors from Balluff are available as switching or analog output types. Depending on the output signal you can either reliably detect and count objects or determine distances with high precision. These sensors therefore have versatile uses.

The most important benefits

- Contactless detection
- Reliable in critical environmental conditions such as fog, dust and impurities
- Irrespective of color, transparency, reflection properties and surface finish on the object
- Precise detection of even smaller objects
- Rectangular and cylindrical heads allow for greater freedom of design
- Can be used as normally open or normally closed – various output functions



PNP normally open/normally closed	**BUS0065** BUS M12M1-PPX-02/015-S04G	**BUS0066** BUS M12M1-PPX-05/024-S04G		
NPN normally open/normally closed	**BUS0063** BUS M12M1-NPX-02/015-S04G	**BUS0064** BUS M12M1-NPX-05/024-S04G		
PNP/NPN normally open/normally closed push-pull			**BUS0020** BUS M18M1-GPXI-02/015-S92G	
Style	block style	Ø 12 mm	Ø 18 mm	
Interface	IO-Link 1.0	—	IO-Link 1.1	
Connection	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 5-pin	
Housing material	PBT	Nickel-plated brass PBT	Brass PBT	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	600...8000 mm	40...350 mm	25...250 mm	
Switching frequency	3 Hz	20 Hz	25 Hz	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	9...30 VDC	10...30 VDC	10...30 VDC	
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	BUS0023 BUS W18M1-GPXI-02/015-S92G	**BUS0029** BUS M18M1-GPXI-03/025-S92G	**BUS002A** BUS W18M1-GPXI-03/025-S92G	**BUS004Z** BUS M18M1-GPXI-07/035-S92G	**BUS004Y** BUS W18M1-GPXI-07/035-S92G
	Ø 18 mm	Ø 18 mm	Ø 18 mm	Ø 18 mm	Ø 18 mm
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Brass PBT	Brass PBT	Brass PBT	Brass PBT	Brass PBT
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	25...250 mm	30...350 mm	30...350 mm	65...600 mm	65...600 mm
	25 Hz	25 Hz	25 Hz	12 Hz	12 Hz
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
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PNP normally open/normally closed				
2 × PNP normally open/normally closed			**BUS002P** BUS M30E1-PWX-03/025-S92K	
PNP/NPN normally open/normally closed push-pull	**BUS004P** BUS M18M1-GPXI-12/100-S92G	**BUS004N** BUS W18M1-GPXI-12/100-S92G		
Style	Ø 18 mm	Ø 18 mm	Ø 30 mm	
Interface	IO-Link 1.1	IO-Link 1.1	—	
Connection	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	
Housing material	Brass PBT	Brass PBT	Stainless steel PBT, TPU	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	120...1300 mm	120...1300 mm	30...350 mm	
Switching frequency	10 Hz	10 Hz	25 Hz	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	10...30 VDC	10...30 VDC	9...30 VDC	
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		BUS002T BUS M30E1-PPX-03/025-S92K	**BUS0022** BUS M30M1-PPX-03/025-S92K		
	BUS002R BUS M30M1-PWX-03/025-S92K			**BUS005J** BUS M30E1-PWX-07/035-S92K	**BUS005H** BUS M30M1-PWX-07/035-S92K
	Ø 30 mm	Ø 30 mm	Ø 30 mm	Ø 30 mm	Ø 30 mm
	–	–	–	–	–
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	30...350 mm	30...350 mm	30...350 mm	65...600 mm	65...600 mm
	25 Hz	25 Hz	25 Hz	12 Hz	12 Hz
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC
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PNP normally open/normally closed	**BUS005T** BUS M30E1-PPX-07/035-S92K	**BUS005F** BUS M30M1-PPX-07/035-S92K		
2 × PNP normally open/normally closed			**BUS003H** BUS M30E1-PWX-20/130-S92K	
Style	Ø 30 mm	Ø 30 mm	Ø 30 mm	
Interface	—	—	—	
Connection	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	
Housing material	Stainless steel PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	65...600 mm	65...600 mm	200...2000 mm	
Switching frequency	12 Hz	12 Hz	8 Hz	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	9...30 VDC	9...30 VDC	9...30 VDC	
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		BUS003A BUS M30E1-PPX-20/130-S92K	**BUS0039** BUS M30M1-PPX-20/130-S92K		
	BUS003C BUS M30M1-PWX-20/130-S92K			**BUS003U** BUS M30E1-PWX-35/340-S92K	**BUS003W** BUS M30M1-PWX-35/340-S92K
	Ø 30 mm	Ø 30 mm	Ø 30 mm	Ø 47.5 mm	Ø 47.5 mm
	—	—	—	—	—
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	200...2000 mm	200...2000 mm	200...2000 mm	350...5000 mm	350...5000 mm
	8 Hz	8 Hz	8 Hz	4 Hz	4 Hz
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC
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PNP normally open/normally closed	**BUS003R** BUS M30E1-PPX-35/340-S92K	**BUS003P** BUS M30M1-PPX-35/340-S92K		
2 × PNP normally open/normally closed			**BUS0040** BUS M30E1-PWX-60/600-S92K	
Style	Ø 47.5 mm	Ø 47.5 mm	Ø 65 mm	
Interface	—	—	—	
Connection	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	
Housing material	Stainless steel PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	350...5000 mm	350...5000 mm	600...8000 mm	
Switching frequency	4 Hz	4 Hz	3 Hz	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	9...30 VDC	9...30 VDC	9...30 VDC	
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	BUS003Z BUS M30M1-PWX-60/600-S92K	**BUS0047** BUS M30E1-PPX-60/600-S92K	**BUS0045** BUS M30M1-PPX-60/600-S92K	**BUS0021** BUS R06K1-PPX-02/007-S75G	**BUS004C** BUS R06K1-PPX-02/015-S75G
	Ø 65 mm	Ø 65 mm	Ø 65 mm	block style	block style
	—	—	—	—	—
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M8x1 connector, 4-pin	Connector, M8x1 connector, 4-pin
	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU	ABS	ABS
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	600...8000 mm	600...8000 mm	600...8000 mm	20...100 mm	20...250 mm
	3 Hz	3 Hz	3 Hz	250 Hz	25 Hz
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	CE, EAC	CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	9...30 VDC	9...30 VDC	9...30 VDC	20...30 VDC	20...30 VDC
	Page 25	Page 25	Page 25	Page 25	Page 25



PNP normally open/normally closed	**BUS0049** BUS R06K1-PPX-02/015-S75G-F01	**BUS004L** BUS R06K1-PPX-05/024-S75G	**BUS0057** BUS R06K1-PPX-03/025-S75G	
2 × PNP normally open/normally closed				
PNP/NPN normally open/normally closed push-pull				
Style	block style	block style	block style	
Interface	—	—	—	
Connection	Connector, M8x1 connector, 4-pin	Connector, M8x1 connector, 4-pin	Connector, M8x1 connector, 4-pin	
Housing material	ABS	ABS	ABS	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	20...250 mm	50...350 mm	30...350 mm	
Switching frequency	100 Hz	25 Hz	25 Hz	
Approval/Conformity	CE, EAC	CE, EAC	CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	20...30 VDC	20...30 VDC	20...30 VDC	
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	BUS0059 BUS R06K1-PPX-12/070-S75G				
		BUS006F BUS Q62K1-PWX-35/340-S92K		**BUS006H** BUS Q62K1-PWX-60/600-S92K	
			BUS006C BUS Q62K1-GPXI-35/340-S92K		**BUS006E** BUS Q62K1-GPXI-60/600-S92K
	block style	block style	block style	block style	block style
	—	—	IO-Link 1.0	—	IO-Link 1.0
	Connector, M8x1 connector, 4-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	ABS	PBT	PBT	PBT	PBT
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	120...1000 mm	350...5000 mm	350...5000 mm	600...8000 mm	600...8000 mm
	14 Hz	4 Hz	4 Hz	3 Hz	3 Hz
	CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	20...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC
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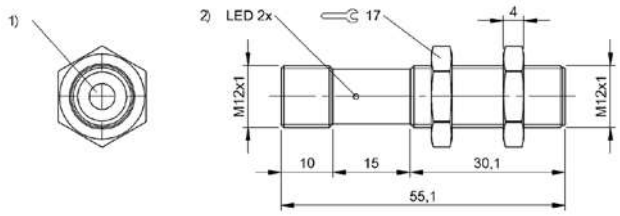
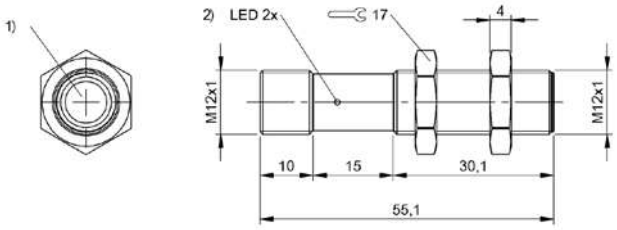


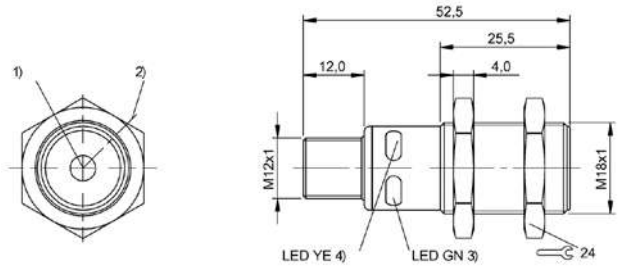
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS0063, BUS0065



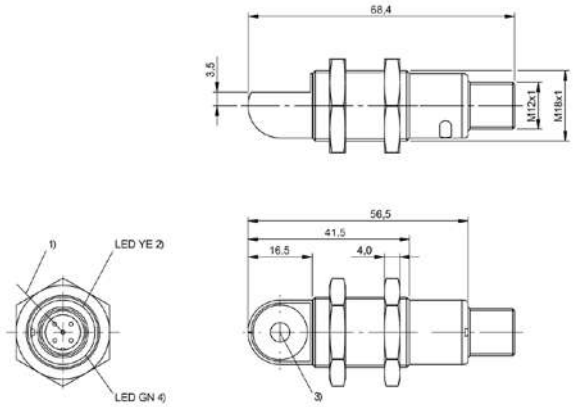
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS0064, BUS0066



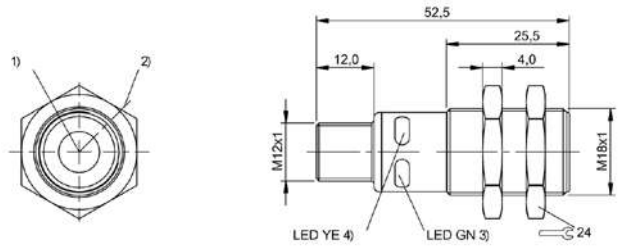
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS0020



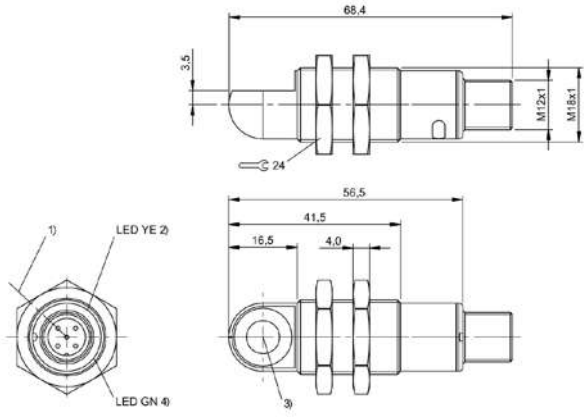
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS0023



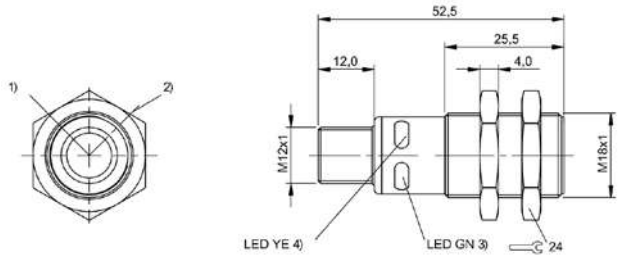
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS0029



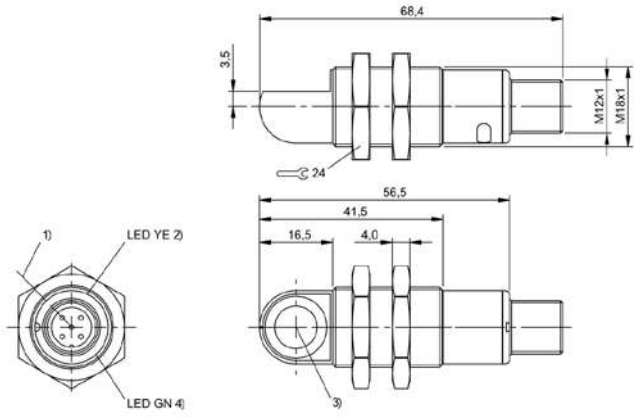
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS002A



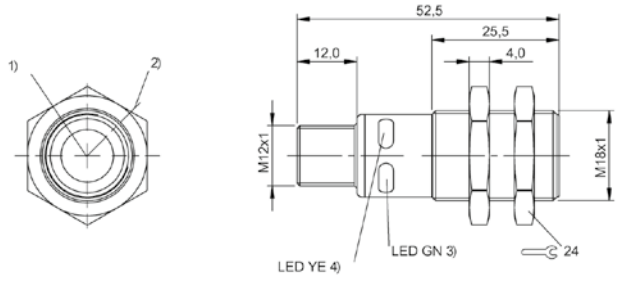
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS004Z



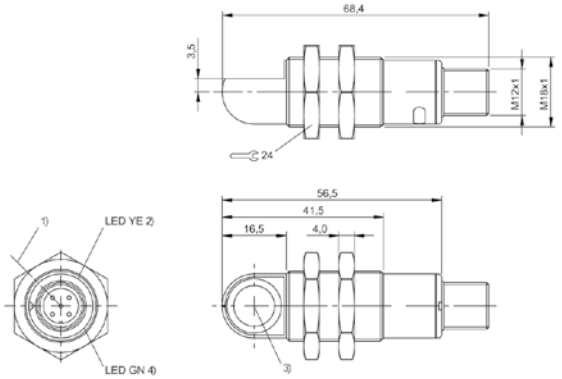
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS004Y



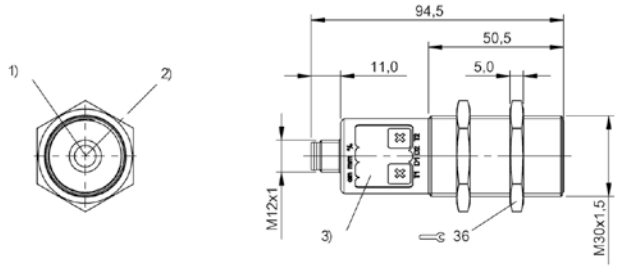
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) LED function indicator, 4) Output function

BUS004P



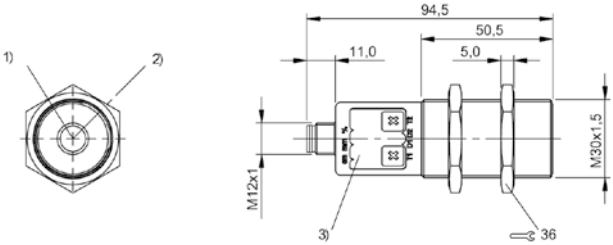
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS004N



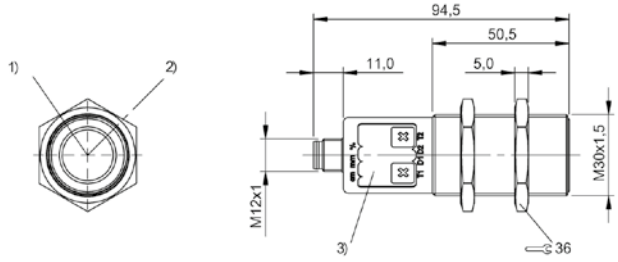
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS002P, BUS002R, BUS002T, BUS0022



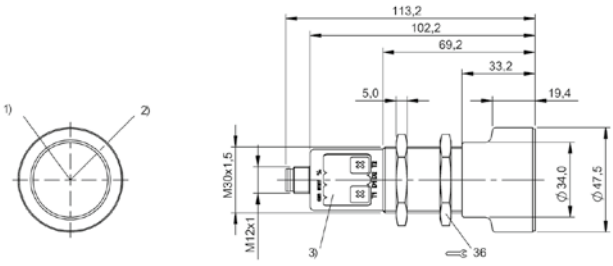
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS005J, BUS005H, BUS005T, BUS005F



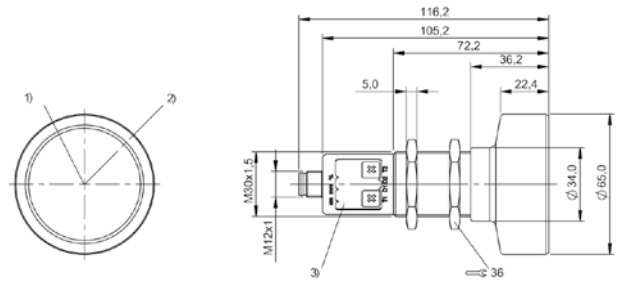
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS003H, BUS003C, BUS003A, BUS0039



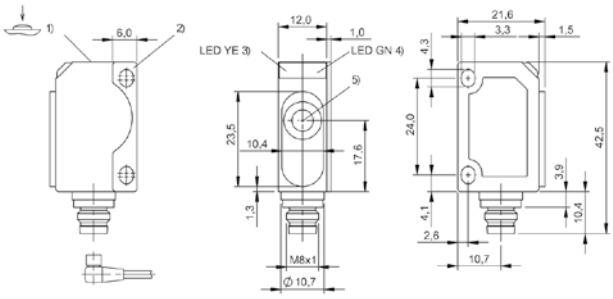
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS003U, BUS003W, BUS003R, BUS003P



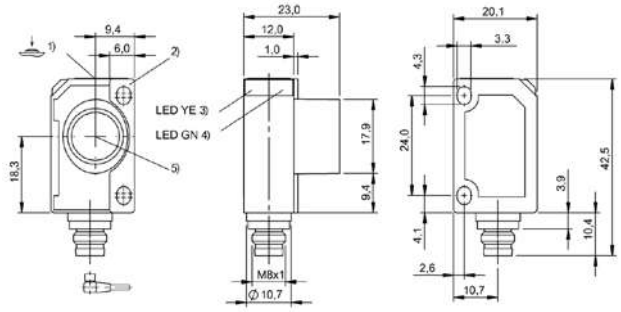
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS0040, BUS003Z, BUS0047, BUS0045



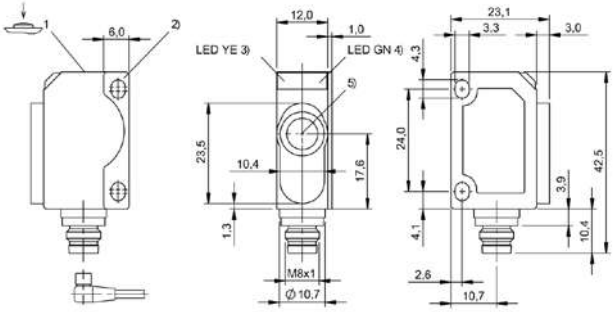
1) Set sensor, 2) Mounting plate, 3) Status indicator, 4) Operating voltage/mode, 5) Ultrasonic transducer axis

BUS0021, BUS004C, BUS0049



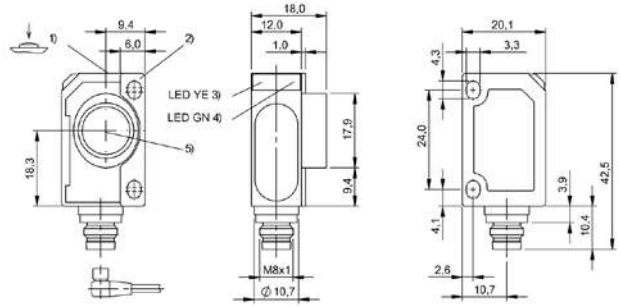
1) Set sensor, 2) Mounting plate, 3) Status indicator, 4) Operating voltage/mode, 5) Ultrasonic transducer axis

BUS0057



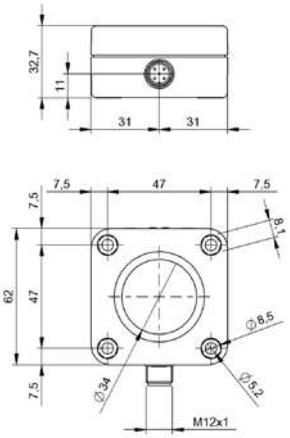
1) Set sensor, 2) Mounting plate, 3) Status indicator, 4) Operating voltage/mode, 5) Ultrasonic transducer axis

BUS004L



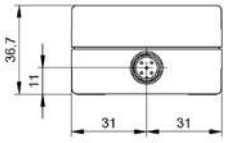
1) Set sensor, 2) Mounting plate, 3) Status indicator, 4) Operating voltage/mode, 5) Ultrasonic transducer axis

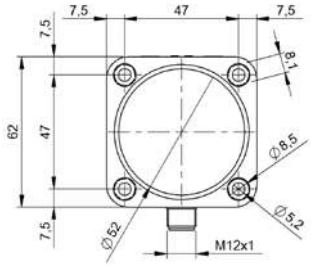
BUS0059



1) Ultrasonic transducer, 2) Display and control panel

BUS006F, BUS006C





1) Ultrasonic transducer, 2) Display and control panel

BUS006H, BUS006E



Analog, voltage 0...10 V, linear rising/falling	**BUS0067** BUS M12M1-XA-02/015-S04G	**BUS0068** BUS M12M1-XA-05/024-S04G	**BUS0026** BUS M18M1-XA-02/015-S92G	
Analog, current 4...20 mA, linear rising/falling	**BUS0069** BUS M12M1-XB-02/015-S04G	**BUS006A** BUS M12M1-XB-05/024-S04G	**BUS0025** BUS M18M1-XB-02/015-S92G	
Style	Ø 12 mm	Ø 12 mm	Ø 18 mm	
Switching output	—	—	—	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 5-pin	
Housing material	Nickel-plated brass PBT	Nickel-plated brass PBT	Nickel-plated brass PBT	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	20...250 mm	40...350 mm	25...250 mm	
Switching frequency	—	—	—	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	15...30 VDC	15...30 VDC	15...30 VDC	
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	BUS0028 BUS W18M1-XA-02/015-S92G	**BUS0024** BUS M18M1-XA-03/025-S92G	**BUS0050** BUS W18M1-XA-03/025-S92G	**BUS004T** BUS M18M1-XA-07/035-S92G	**BUS004R** BUS W18M1-XA-07/035-S92G
	BUS0027 BUS W18M1-XB-02/015-S92G	**BUS002C** BUS M18M1-XB-03/025-S92G	**BUS002E** BUS W18M1-XB-03/025-S92G	**BUS004W** BUS M18M1-XB-07/035-S92G	**BUS004U** BUS W18M1-XB-07/035-S92G
	Ø 18 mm	Ø 18 mm	Ø 18 mm	Ø 18 mm	Ø 18 mm
	—	—	—	—	—
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Brass PBT	Brass PBT	Brass PBT	Brass PBT	Brass PBT
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	25...250 mm	30...350 mm	30...350 mm	65...600 mm	65...600 mm
	—	—	—	—	—
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	15...30 VDC	15...30 VDC	15...30 VDC	15...30 VDC	15...30 VDC
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Analog, voltage 0...10 V, linear rising/falling	**BUS0052** BUS M18M1-XA-12/100-S92G	**BUS0051** BUS W18M1-XA-12/100-S92G		
Analog, current 4...20 mA, linear rising/falling	**BUS004M** BUS M18M1-XB-12/100-S92G	**BUS0053** BUS W18M1-XB-12/100-S92G		
Analog, voltage/analog, current 0...10 V/4...20 mA, linear rising/falling			**BUS002M** BUS M30E1-XC-03/025-S92K	
Style	Ø 18 mm	Ø 18 mm	Ø 30 mm	
Switching output	—	—	—	
Connection	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	
Housing material	Brass PBT	Brass PBT	Stainless steel PBT, TPU	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	120...1300 mm	120...1300 mm	30...350 mm	
Switching frequency	—	—	—	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	15...30 VDC	15...30 VDC	9...30 VDC	
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	BUS002N BUS M30M1-XC-03/025-S92K	BUS002K BUS M30E1-PPC-03/025-S92K	BUS002L BUS M30M1-PPC-03/025-S92K	BUS005L BUS M30E1-XC-07/035-S92K	BUS005K BUS M30M1-XC-07/035-S92K
	Ø 30 mm	Ø 30 mm	Ø 30 mm	Ø 30 mm	Ø 30 mm
	—	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	—	—
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	30...350 mm	30...350 mm	30...350 mm	65...600 mm	65...600 mm
	—	25 Hz	25 Hz	—	—
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC
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Analog, voltage/analog, current 0...10 V/4...20 mA, linear rising/falling	**BUS005N** BUS M30E1-PPC-07/035-S92K	**BUS005M** BUS M30M1-PPC-07/035-S92K	**BUS003E** BUS M30E1-XC-20/130-S92K	
Style	Ø 30 mm	Ø 30 mm	Ø 30 mm	
Switching output	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	—	
Connection	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	
Housing material	Stainless steel PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	65...600 mm	65...600 mm	200...2000 mm	
Switching frequency	12 Hz	12 Hz	—	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	9...30 VDC	9...30 VDC	9...30 VDC	
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	BUS003F BUS M30M1-XC-20/130-S92K	BUS0037 BUS M30E1-PPC-20/130-S92K	BUS0038 BUS M30M1-PPC-20/130-S92K	BUS003N BUS M30M1-PWC-20/130-S92K	BUS003M BUS M30E1-XC-35/340-S92K
	Ø 30 mm	Ø 30 mm	Ø 30 mm	Ø 30 mm	Ø 47.5 mm
	—	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	2x PNP normally open/ normally closed (NO/NC)	—
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	200...2000 mm	200...2000 mm	200...2000 mm	200...2000 mm	350...5000 mm
	—	8 Hz	8 Hz	8 Hz	—
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC
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Analog, voltage/analog, current 0...10 V/4...20 mA, linear rising/falling	**BUS003T** BUS M30M1-XC-35/340-S92K	**BUS003K** BUS M30E1-PPC-35/340-S92K	**BUS003L** BUS M30M1-PPC-35/340-S92K	
Style	Ø 47.5 mm	Ø 47.5 mm	Ø 47.5 mm	
Switching output	—	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	
Connection	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	
Housing material	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	350...5000 mm	350...5000 mm	350...5000 mm	
Switching frequency	—	4 Hz	4 Hz	
Approval/Conformity	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	9...30 VDC	9...30 VDC	9...30 VDC	
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	BUS0044 BUS M30M1-PWC-35/340-S92K	BUS0042 BUS M30E1-XC-60/600-S92K	BUS0041 BUS M30M1-XC-60/600-S92K	BUS003Y BUS M30E1-PPC-60/600-S92K	BUS0043 BUS M30M1-PPC-60/600-S92K
	Ø 47.5 mm	Ø 65 mm	Ø 65 mm	Ø 65 mm	Ø 65 mm
	2x PNP normally open/ normally closed (NO/NC)	—	—	PNP normally open/nor-mally closed (NO/NC)	PNP normally open/nor-mally closed (NO/NC)
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU	Stainless steel PBT, TPU	Brass PBT, TPU
	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass
	350...5000 mm	600...8000 mm	600...8000 mm	600...8000 mm	600...8000 mm
	4 Hz	—	—	3 Hz	3 Hz
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC
	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
	IP67	IP67	IP67	IP67	IP67
	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS
	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC	9...30 VDC
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Analog, voltage 0...10 V, linear rising/falling	**BUS004K** BUS R06K1-XA-02/015-S75G	**BUS0056** BUS R06K1-XA-05/024-S75G	**BUS005E** BUS R06K1-XA-12/070-S75G	
Analog, current 4...20 mA, linear rising/falling	**BUS004J** BUS R06K1-XB-02/015-S75G	**BUS004F** BUS R06K1-XB-05/024-S75G	**BUS005C** BUS R06K1-XB-12/070-S75G	
Analog, voltage/analog, current 0...10 V/4...20 mA, linear rising/falling				
Style	block style	block style	block style	
Switching output	—	—	—	
Connection	Connector, M8x1 connector, 4-pin	Connector, M8x1 connector, 4-pin	Connector, M8x1 connector, 4-pin	
Housing material	ABS	ABS	ABS	
Material sensing surface	PU foam epoxy resin glass	PU foam epoxy resin glass	PU foam epoxy resin glass	
Range	20...250 mm	50...350 mm	120...1000 mm	
Switching frequency	—	—	—	
Approval/Conformity	CE, EAC	CE, EAC	CE, EAC	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Protection degree	IP67	IP67	IP67	
Repeat accuracy	± 0.15 %FS	± 0.15 %FS	± 0.15 %FS	
Operating voltage Ub	20...30 VDC	20...30 VDC	20...30 VDC	
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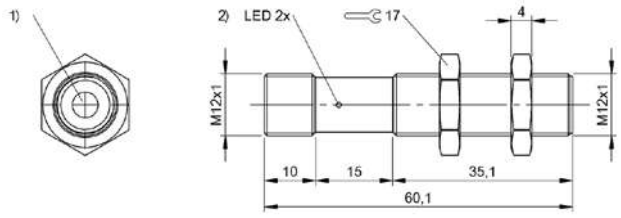
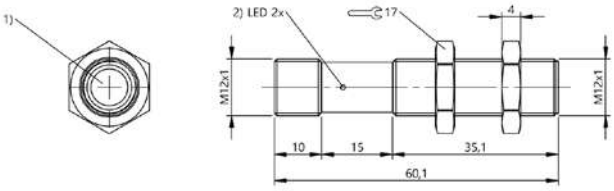
	BUS006J BUS Q62K1-XC-35/340-S92K	**BUS006K** BUS Q62K1-XC-60/600-S92K			
	block style	block style			
	—	—			
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin			
	PBT	PBT			
	PU foam epoxy resin glass	PU foam epoxy resin glass			
	350...5000 mm	600...8000 mm			
	—	—			
	cULus LISTED, CE, EAC	cULus LISTED, CE, EAC			
	-25...70 °C	-25...70 °C			
	IP67	IP67			
	± 0.15 %FS	± 0.15 %FS			
	9...30 VDC	9...30 VDC			
	Page 40	Page 40			



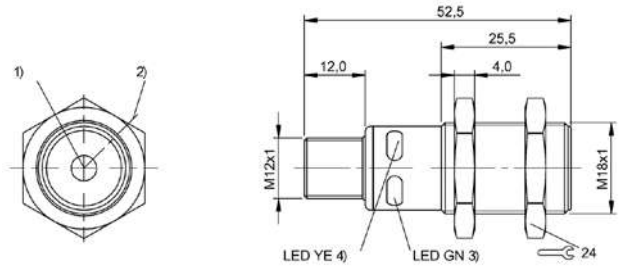
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS0067, BUS0069



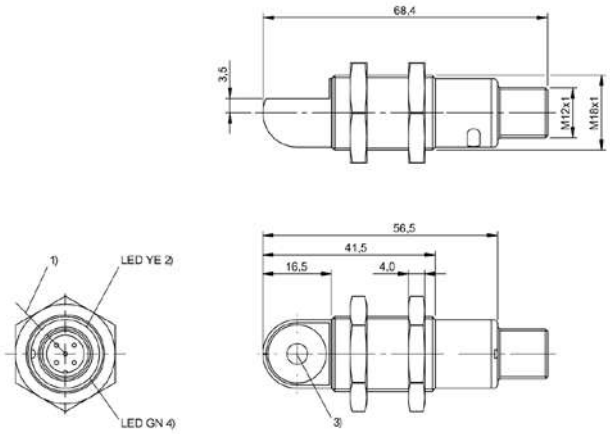
1) Ultrasonic transducer axis, 2) Function indicator

BUS0068, BUS006A



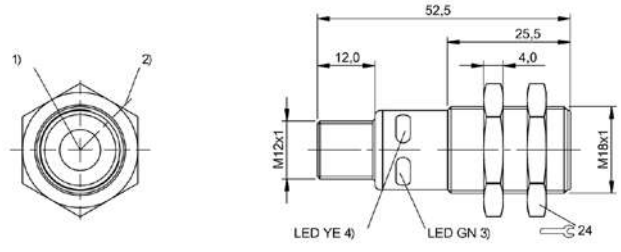
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS0026, BUS0025



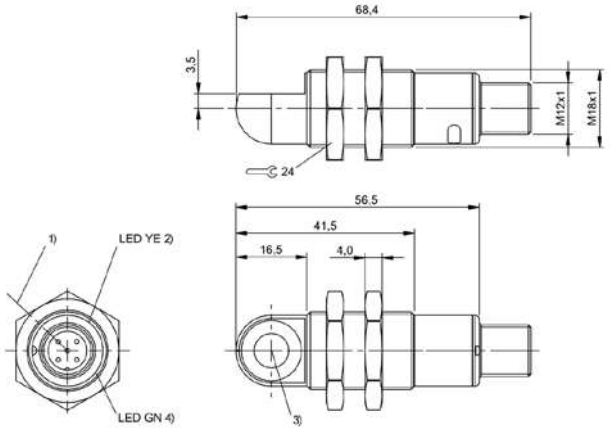
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS0028, BUS0027



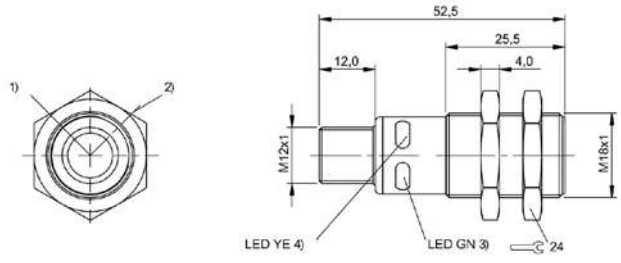
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS0024, BUS002C



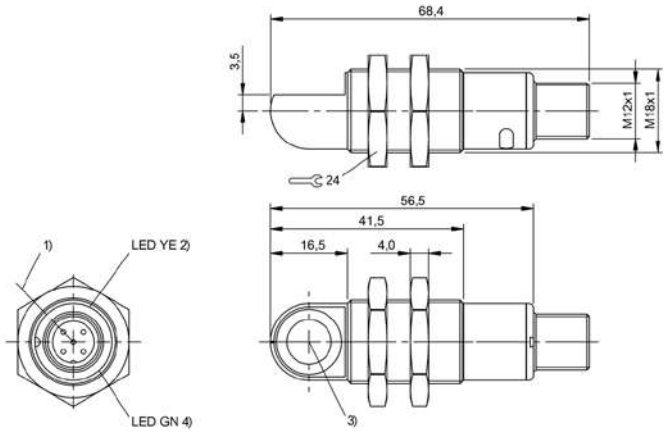
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS0050, BUS002E



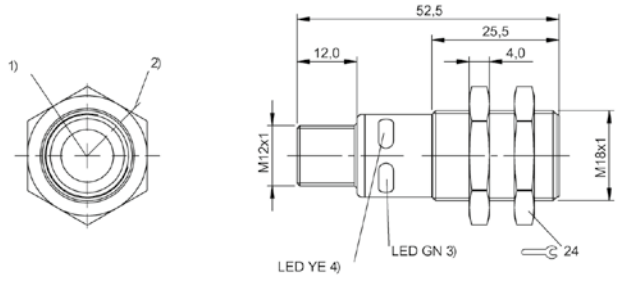
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Operating voltage, 4) Output function

BUS004T, BUS004W



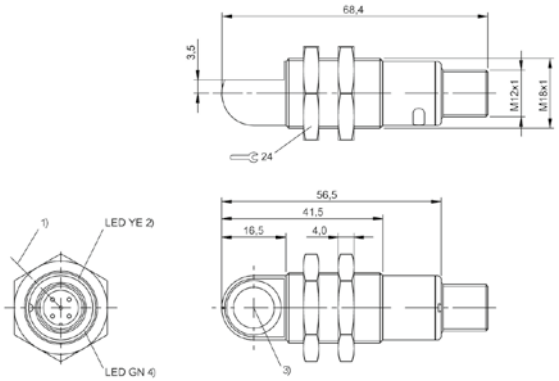
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS004R, BUS004U



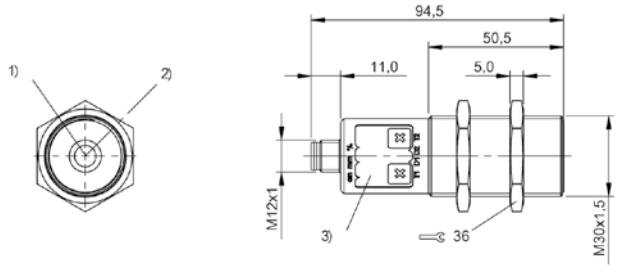
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) LED function indicator, 4) Output function

BUS0052, BUS004M



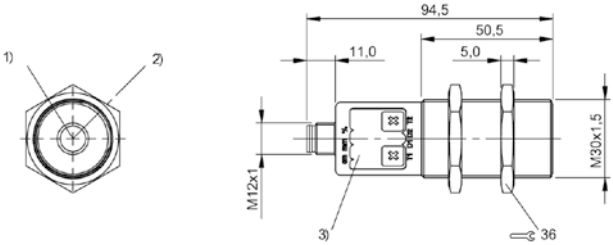
1) Exit direction 90° connector, 2) Output function, 3) Ultrasonic transducer axis, 4) Operating voltage

BUS0051, BUS0053



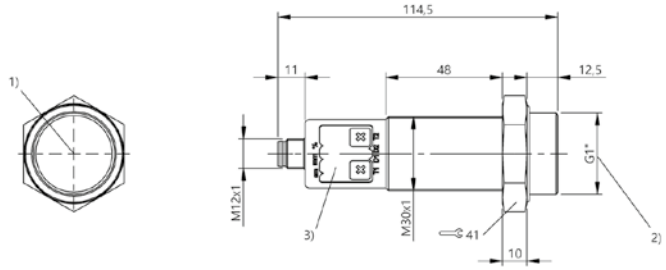
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS002M, BUS002N, BUS002K, BUS002L



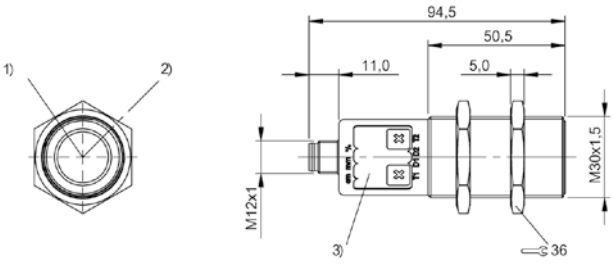
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS005L, BUS005K, BUS005N, BUS005M



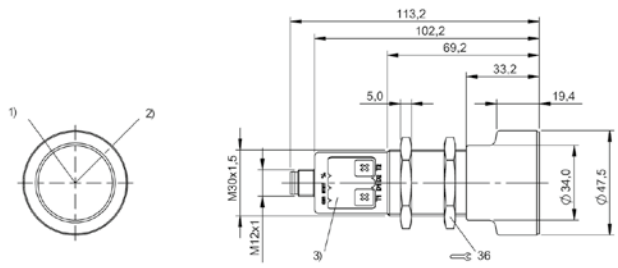
1) Ultrasonic transducer, 2) Process connection, 3) Display and control panel

BUS005Y, BUS005W



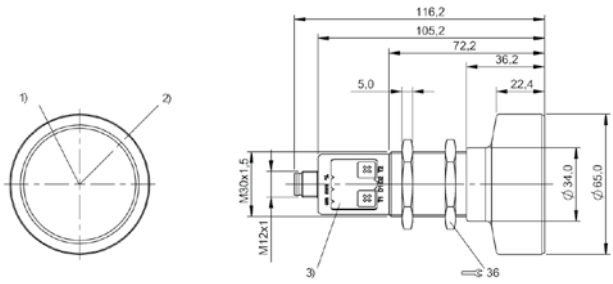
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS003E, BUS003F, BUS003N, BUS0037, BUS0038



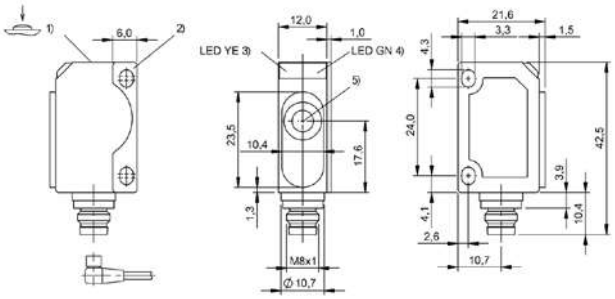
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS003M, BUS003T, BUS0044, BUS003K, BUS003L



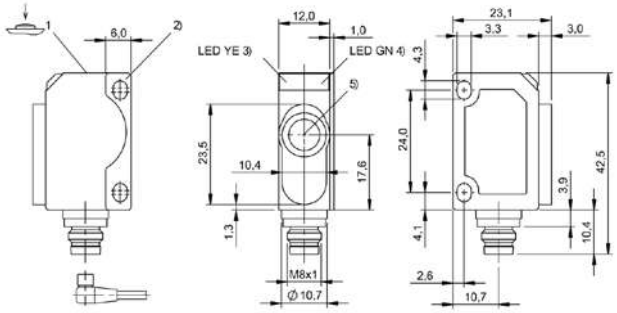
1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel

BUS0042, BUS0041, BUS003Y, BUS0043



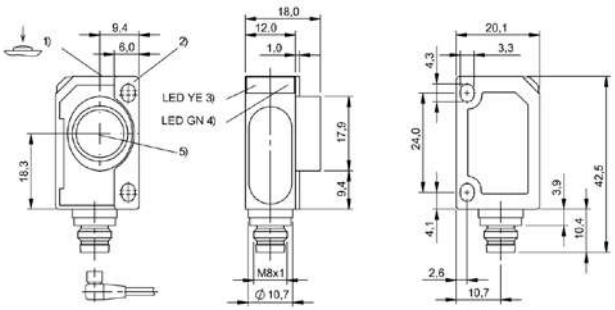
1) Set sensor, 2) Mounting plate, 3) Status indicator, 4) Operating voltage/mode, 5) Ultrasonic transducer axis

BUS004K, BUS004J



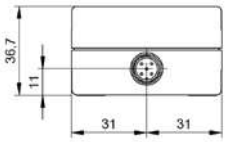
1) Set sensor, 2) Mounting plate, 3) Status indicator, 4) Operating voltage/mode, 5) Ultrasonic transducer axis

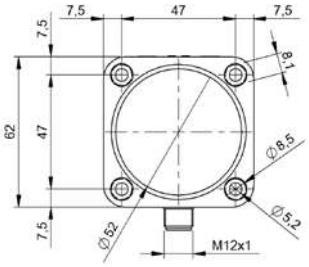
BUS0056, BUS004F



1) Set sensor, 2) Mounting plate, 3) Status indicator, 4) Operating voltage/mode, 5) Ultrasonic transducer axis

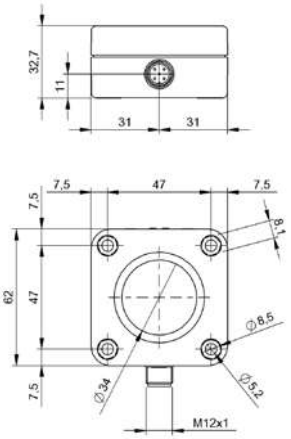
BUS005E, BUS005C





1) Ultrasonic transducer, 2) Display and control panel

BUS006K

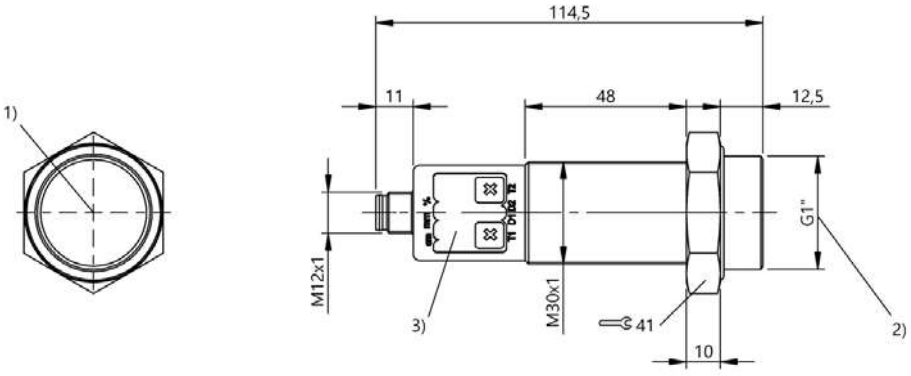


1) Ultrasonic transducer, 2) Display and control panel

BUS006J

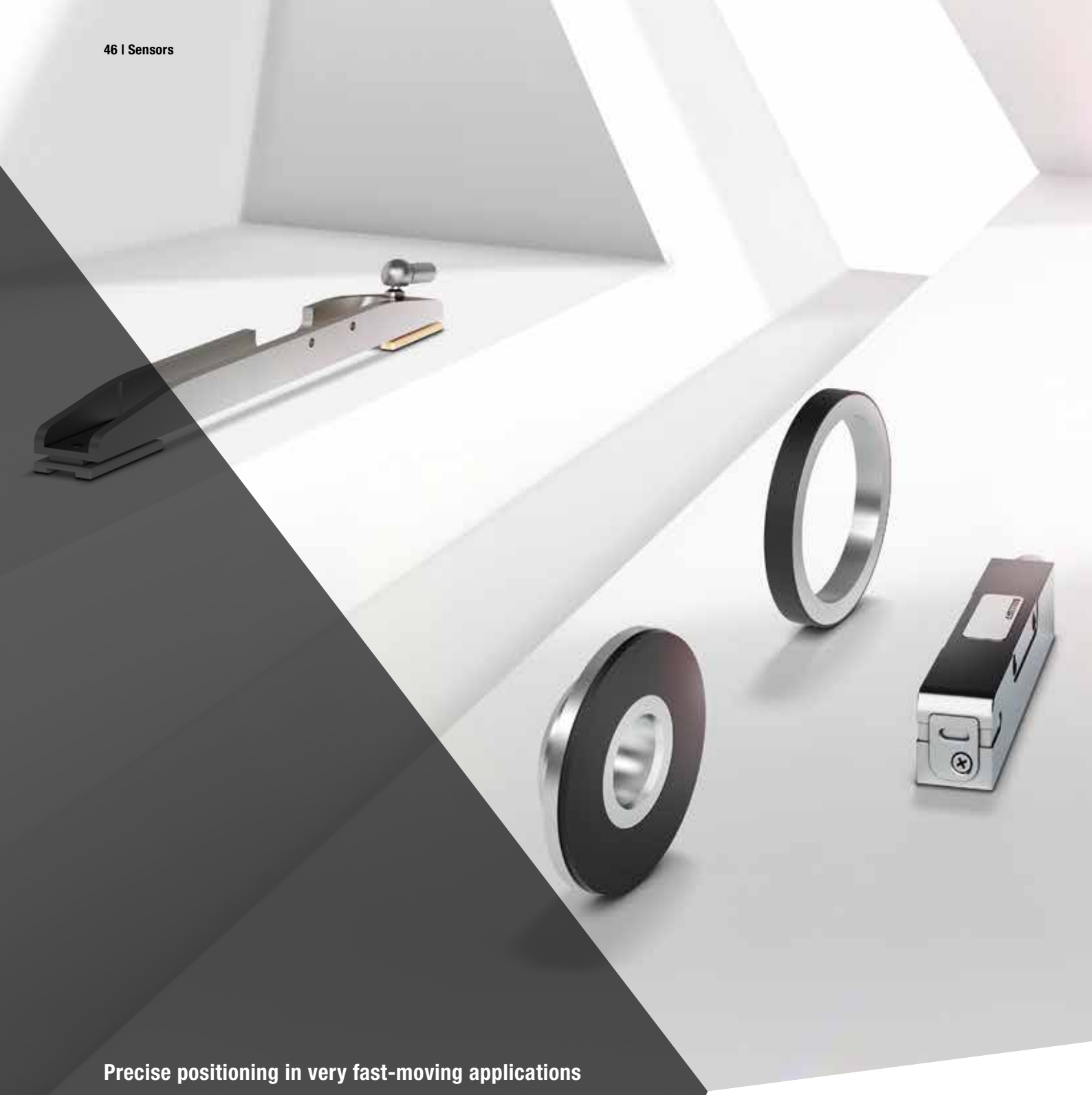
PNP normally open/normally closed	**BUS005Y** BUS M30E2-PPC-09/035-S92K-G1	
2 × PNP normally open/normally closed		
Style	Ø 47 mm	
Process connection	G 1“	
Analog output	Analog, voltage/Analog, current 0…10 V/4…20 mA linear rising/falling	
Connection	Connector, M12x1 connector, 5-pin	
Housing material	Stainless steel (1.4571) PBT, TPU	
Material sensing surface	PTFE	
Range	85...1500 mm	
Switching frequency	9 Hz	
Approval/Conformity	CE	
Ambient temperature	-25...70 °C	
Protection degree	IP67	
Repeat accuracy	± 0.15 %FS	
Pressure rating max.	6 bar	
Operating voltage Ub	9...30 VDC	
Productview	Page 44	

	BUS005U BUS M30E2-PWX-20/130-S92K-G1	BUS005W BUS M30E2-PPC-20/130-S92K-G1
	Ø 47 mm	Ø 47 mm
	G 1“	G 1“
	—	Analog, voltage/Analog, current 0…10 V/4…20 mA linear rising/falling
	Connector, M12x1 connector, 5-pin	Connector, M12x1 connector, 5-pin
	Stainless steel (1.4571) PBT, TPU	Stainless steel (1.4571) PBT, TPU
	PTFE	PTFE
	200...5000 mm	200...5000 mm
	5 Hz	5 Hz
	CE	CE
	-25...70 °C	-25...70 °C
	IP67	IP67
	± 0.15 %FS	± 0.15 %FS
	6 bar	6 bar
	9...30 VDC	9...30 VDC
	Page 44	Page 44



1) Ultrasonic transducer, 2) Process connection, 3) Display and control panel

BUS005Y, BUS005U, BUS005W



Precise positioning in very fast-moving applications

MAGNETIC ENCODERS

Balluff's magnetic encoders were developed for precise positioning and speed detection in very dynamic applications. The highly-precise, fastresponse encoders are optionally equipped with magnetic linear or rotational measuring elements. They are appropriate for linear as well as rotational applications, and incremental or absolute position detection.

Their rugged design makes them ideal in extreme ambient conditions. They also ensure increased uptime of your machines and equipment.

Features

- Contact-free and therefore wear-free
- Incremental or absolute interfaces
- High resolution to 1 µm
- Measurement lengths to 48 m
- Flexible installation and handling
- Long operational life, since very rugged

Preferred models

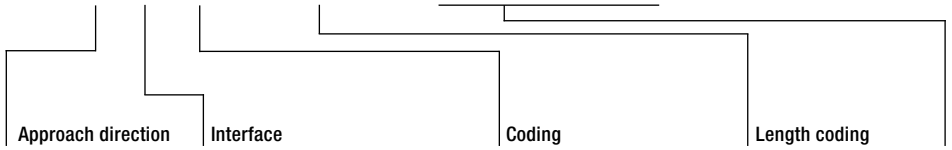
- BML-S1H1-S6QC-M3CA-D0-KA00,3-S284 (BML0393)
  Approach direction longitudinal to tape, SSI interface, binary code increasing, 256 length coding, pigtail 0.3 m with M12 plug
- BML-S1H2-S6QC-M3CA-D0-KA00,3-S284 (BML0394)
  Approach direction transverse to tape, SSI interface, binary code increasing, 256 length coding, pigtail 0.3 m with M12 plug

Absolute interface
Data format
Incremental interface
Resolution
Repeat accuracy
Overall system accuracy
Operating voltage
Current consumption
Max. read distance sensor/tape
Max. measuring length
Pole division incremental track
Traverse speed max.
Degree of protection
Approval/Conformity
Operating temperature
Housing material
Productview

For all specifications in conjunction with magnetic tape see page 62

Ordering example:

BML-S1H_-_6_C-M3_A-D0-KA00.3-S284



Approach direction

1	Parallel
2	Perpendicular

Interface

B	BiSS (bidirectional, serial synchronous)
S	SSI (serial, synchronous)

Coding

Q	Binary code, rising
R	Gray code, rising
S	Binary code decreasing
T	Gray code decreasing

Length coding

A	64
C	256
F	1024

Connection

KA00,3-S284
0.3 m cable with M12 connector, 12-pin

BML-S1H BML-S1H_-_6_C-M3_A-D0-KA00,3-S284
SSI or BiSS-C
16-bit (BML-S1H...-M3AA-...), 18-bit (BML-S1H...-M3CA-...) or 20-bit (BML-S1H...-M3FA-...)
Analog signals Sin/Cos 1 Vpp
~0.98 µm
±1 increment
±7 µm
5 V ±5%
< 50 mA at 5 V operating voltage
0.35 mm
64 mm (...-M3AA-...), 256 mm (...-M3CA-...) or 1024 mm (...-M3FA-...)
1 mm
5 m/s (absolute)
IP67
CE, cURus, EAC
-20...+80 °C
Aluminum, stainless steel
Page 65

	BML0903 BML SL1-ALZ1-UMZZ-ZU1L-S4	
Dimension	16 x 18.6 x 54 mm	
Interface	IO-Link 1.1	
Measuring range	8190 mm	
Connection	M12x1-Male, 4-pin	
Connection	Connector, M12x1-Male, 4-pin	
Resolution	1 µm	
Housing material	Die-cast zinc, nickel plated, Chrome-plated	
Operating voltage Ub	18...30 VDC	
Approval/Conformity	cURus, CE, EAC, WEEE	
Productview	Page 64	

Ordering example: **BML SL1 - ALZ0 - U1ZZ - ZU1L - S4**

S = Sensor head

Style/housing geometry (W x H x L):
L1 = 16 × 18.6 × 54.6 mm

Alignment:
0= lengthwise, together with Data Format 1
1= lengthwise, together with Data Format M or E

Interface:
U= IO-Link, absolute

Data format:
1= Smart Sensor Profile
m= Smart Sensor Profile Ed. 2
E= Smart Sensor Profile Ed. 2 Enhanced

Additional signal:
Z= no additional signal (BML…-S4/KA_ _)
A = 1 Vpp (additional analog, incremental real-time signal) (BML…-S284/KA_ _)

Resolution:
U1 = 1 µm

Operating voltage:
L= 18…30 V

Electrical connection:
S4 = M12×1, 4-pin
S284 = M12×1, 12-pin

	BML0905 BML SL1-ALZ1-UMZZ-AU1L-KA05	BML0901 BML SL1-ALZ1-UMZZ-AU1L-S284	BML0904 BML SL1-ALZ1-UEZZ-ZU1L-S4
	16 x 18.6 x 54 mm	16 x 18.6 x 54 mm	16 x 18.6 x 54 mm
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	8190 mm	8190 mm	8190 mm
		M12x1-Male, 12-pin	M12x1-Male, 4-pin
	Cable, 5 m, PUR	Connector, M12x1-Male, 12-pin	Connector, M12x1-Male, 4-pin
	1 µm	1 µm	1 µm
	Die-cast zinc, nickel plated, Chrome-plated	Die-cast zinc, nickel plated, Chrome-plated	Die-cast zinc, nickel plated, Chrome-plated
	18...30 VDC	18...30 VDC	18...30 VDC
	cURus, CE, EAC, WEEE	cURus, CE, EAC, WEEE	cURus, CE, EAC, WEEE
	Page 64	Page 64	Page 64

	BML085L BML SGA-AEZ1-LZZZ-ZU11-S115	
Dimension	16 x 18.6 x 54 mm	
Interface	DRIVE-CLiQ	
Measuring range	48 m	
Connection	M12x1-Male, 8-pin	
Connection	Connector, M12x1-Male, 8-pin	
Resolution	1 µm	
Housing material	Die-cast zinc, nickel plated, Chrome-plated	
Operating voltage Ub	10...30 VDC	
Approval/Conformity	cURus, CE, EAC, WEEE	
Productview	Page 66	

Ordering example:

BML SGA - AEZ1 - LZZZ - ZU11 - S115

S = Sensor head

Style/housing geometry (W x H x L):
GA= 16 × 18.6 × 54.6 mm

Alignment:
1= longitudinal

Interface:
L= DRIVE-CLiQ, absolute

Additional signal:
Z= No additional signal
T =T emperature sensor input

Resolution:
U1 = 1 µm/increment

Operating voltage:
1= 10 to 30 V DC

Electrical connection:
S115 = M12×1, 8-pin for DRIVE-CLiQ
S284 = M12×1, 12-pin for DRIVE-CLiQ with temperature sensor input

	BML08MH BML SGA-AEZ1-LZZZ-TU11-S284
	16 x 18.6 x 54 mm
	DRIVE-CLiQ
	48 m
	M12x1-Male, 12-pin
	Connector, M12x1-Male, 12-pin
	1 µm
	Die-cast zinc, nickel plated, Chrome-plated
	10...30 VDC
	cURus, CE, EAC, WEEE
	Page 66

Preferred models

- BML-S1G0-S7ED-M5EA-D0-S284 (BML041H)
  SSI interface, 1 µm resolution, additional real time signal Sin/Cos, M12 connector, 12-pin
- BML-S1G0-B7ED-M5EZ-90-S284 (BML042T)
  BiSS-C interface, 1 µm resolution, no real time signal, M12 connector, 12-pin

Absolute interface
Data format
Incremental interface
Resolution
Repeat accuracy
Overall system accuracy
Operating voltage
Current consumption
Max. read distance sensor/tape
Max. measuring length
Pole division incremental track
Traverse speed max.
Degree of protection
Approval/Conformity
Operating temperature
Housing material
Productview

For all specifications in conjunction with magnetic tape see page 62

Ordering example:

BML-S1G0-_7_ _-M5E_-_0-S284

Interface

B BiSS C (bidirectional, serial synchronous). absolute

S SSI (serial, synchronous), absolute

Data format

Interface B:
E binary, increasing (32 bits)

Interface S:
0 binary, increasing (24 bits)
1 Gray, increasing (24 bits)
6 binary, increasing (25 bits)
7 Gray, increasing (25 bits)
A binary, increasing (26 bits)
B Gray, increasing (26 bits)
E binary, increasing (32 bits)
F Gray, increasing (32 bits)

Resolution per LSB

C ~ 0.98 µm
D 1 µm
E 2 µm
F 5 µm
G 10 µm

Additional real time signal

Z-9 None
A-D analog (Sin/Cos), period 2 mm
Q-D digital, 0.12 µs edge separation
Q-G digital, 1 µs edge separation
Q-L digital, 8 µs edge separation
Q-P digital, 24 µs edge separation
G-D analog SIL2 (Sin/Cos), period 2 mm

Connection

S284 M12 connector axial with pin contacts, 12-pin

BML-S1G0 BML-S1G0-_7_ _-M5E_-_0-S284
SSI or BiSS-C
24, 25, 26 or 32 bit
Digital square wave signals RS 422 A, /A, B, /B, Z, /Z, analog signals Sin/Cos 1 Vpp, or safety-related analog signals Sin/Cos 1 Vpp (SIL2)
~0.98, 1, 2, 5 or 10 µm
±1 increment
±20 µm
5 V ±5 % and 10…28 V DC
70 mA at 24 V DC operating voltage
0.8 mm
48 m
2 mm
10 m/s
IP 67
CE, cURus, EAC
-20...+70 °C
Die-case zinc, stainless steel
Page 64

Features

- 1 µm resolution (digital)
- ±10 µm system accuracy permits high gain factors
- High repeat accuracy ±1 increment
- Reference signal
- Smallest form factor
- Rugged metal housing
- Mounted parallel or perpendicular to tape
- Pole separation 1 mm

Preferred models

- BML-S1F1-A62Z-M310-90-KA05 (BML02J1): Installation parallel to tape, analog output Sin/Cos, with reference signal, 5 m cable

- BML-S1F1-Q61D-M310-F0-KA05 (BML001A): Installation parallel to tape, analog output Sin/Cos, with reference signal, 5 m cable, resolution 1 µm, edge separation 0.48 µs, traverse speed up to 1 m/s

Incremental interface
Resolution
Repeat accuracy
Overall system accuracy
Operating voltage
Current consumption
Max. read distance sensor/tape
Pole division incremental track
Traverse speed max.
Degree of protection
Approval/Conformity
Operating temperature
Housing material
Productview

For all specifications in conjunction with magnetic tape see page 62

Ordering example:

BML-S1F_-A62Z-M3_0-90-_ _ _ _ (with analog output signal Sin/Cos)

BML-S1F_-Q61_-M3_0-_0-_ _ _ _ (with digital square wave signal RS422)

Approach direction

1	Parallel
2	Perpendicular

Resolution

D	1 µm
E	2 µm
F	5 µm
G	10 µm

Reference signal

0	None
1	Individually or fixed-periodic
2	pole-periodic, digital version only …-Q61_-…

Min. edge separation*

D	0.12 µs
E	0.29 µs
F	0.48 µs
G	1 µs
H	2 µs
K	4 µs
L	8 µs
N	16 µs
P	24 µs

Connection

KA02	PUR cable 2 m
KA05	PUR cable 5 m
KA10	PUR cable 10 m
KA20	PUR cable 20 m

BML-S1F BML-S1F_-A62Z-M3_0-90-_ _ _ _, BML-S1F_-Q61_-M3_0-_0-_ _ _ _
Digital square wave signals RS422 A, /A, B, /B, Z, /Z, sinusoidal analog signals Sin/Cos 1 Vpp
1 µm, 2 µm, 5 µm or 10 µm
±1 increment
±10 µm
5 V ±5%
< 50 mA at 5 V operating voltage
0.35 mm
1 mm
20 m/s
IP67
CE, cURus, EAC
-20...+80 °C
Aluminum, stainless steel
Page 64

Preferred models

- BML SF2-I201-AZZZ-ZZZ5-KA05 (BML07RR)
  Output signal analog Sin/Cos 1 Vpp
- BML SF2-I201-QZ11-ZU25-KA05 (BML0870)
  Output signal digital A/B/Z TTL
- BML SF2-I211-AZZZ-ZZZ5-KA05 (BML07RT)
  Output signal analog Sin/Cos 1 Vpp with reference signal
- BML SF2-I211-QZ11-ZU25-KA05 (BML085N)
  Output signal digital A/B/Z TTL
  with reference signal

Incremental interface
Resolution
Repeat accuracy
Overall system accuracy
Operating voltage
Current consumption
Max. read distance sensor/tape
Pole division incremental track
Traverse speed max.
Degree of protection
Approval/Conformity
Operating temperature
Housing material
Productview

For all specifications in conjunction with magnetic tape see page 62

Ordering example:

BML SF2-I2_ _-AZZZ-ZZZ5-_ _ _ _ (with analog output signal Sin/Cos)

BML SF2-I2_ _-QZ_ _-Z_ _5-_ _ _ _ (with digital square wave signal RS422)

Reference signal

0	no signal
1	Single signal (or fixed-periodic)
2	Pole-periodic signal

Approach direction

1	Parallel
2	Perpendicular

Minimum edge separation

11	0.11 µs
26	0.6 µs
42	0.42 µs
94	0.94 µs
N1	1.8 µs
J3	3.5 µs
A7	7 µs
B4	14 µs
C1	21 µs

Resolution

U1	1 µs
U2	2 µs
UD	10 µs
UZ	20 µs

Connection

KA02	PUR cable 2 m
KA05	PUR cable 5 m
KA10	PUR cable 10 m
KA20	PUR cable 20 m

BML SF2 BML SF2-I2_ _-AZZZ-ZZZ5-_ _ _ _, BML SF2-I2_ _-QZ_ _-Z_ _5-_ _ _ _
Digital square wave signals RS422 A, /A, B, /B, Z, /Z, sinusoidal analog signals Sin/Cos 1 Vpp
1, 2, 10 or 20 µm
±1 increment
up to ±12 µm (depending on the mechanical installation)
5 V ±5%
< 50 mA at 5 V operating voltage
1.8 mm
1 mm
20 m/s
IP67
CE, cURus, EAC
-20...+80 °C
Aluminum, stainless steel
Page 65

Preferred type
BML S1C0-Q53L-M400-M0-KA05 (BML0034)
Digital signal, 10...30 V, 5 m cable, resolution 0.1 mm, edge separation 10 µs, traverse speed up to 8 m/s

Incremental interface
Resolution
Repeat accuracy
Overall system accuracy
Operating voltage
Current consumption
Max. read distance sensor/tape
Traverse speed max.
Pole division, incremental track
Degree of protection
Approval/Conformity
Operating temperature
Housing material
Productview

For all specifications in conjunction with magnetic tape see page 62

Ordering example:

BML-S1C0-Q53_-M400-_0-KA__

Resolution
L 0.1 mm
M 0.2 mm
N 0.5 mm
P 1.0 mm
R 2.0 mm

Max. Edge separation
M 10 µs
R 100 µs

Connection
KA02 PUR cable 2 m
KA05 PUR cable 5 m
KA10 PUR cable 10 m
KA20 PUR cable 20 m

Ordering example: **BML-S2C0-____-M6__-_0-____**

Interface/supply voltage/output signal
Q51 digital square-wave signals, 10...30 V DC, differential voltage signal (RS422)
Q53 digital square-wave signals, 10...30 V DC, level same as operating voltage HTL
Q61 digital square-wave signals, 5 V DC, differential voltage signal (RS422)

Resolution (edge separation A/B)
G 10 µm K 50 µm L 100 µm
N 500 µm T 2500 µm

Reference signal
0 no signal
2 pole-periodic signal

Error signal
0 no error signal
4 Error signal (not for BML-...-KF...)

Min. edge separation /max. travel speed
K 10 µm L 8 µm M 10 µm
N 16 µm P 24 µm R 100 µm
S 1 ms T 2 ms

Connection
KA05 5 m cable, PUR, 12-conductor, cable lengths 2, 5, 10, 20 m
KF05 5 m cable, PUR, 8-conductor, possible cable lengths 2, 5, 10, 20 m
KA00,3-S284 0.3 m cable with M12 connector, 12-pin

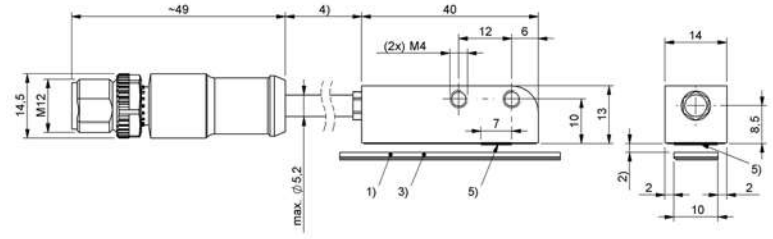
	BML-S1C0 BML-S1C0-Q53_-M400-_0-KA__	BML-S2C0 BML-S2C0-____-M6__-_0-____
	Digital square wave signals HTL A, B	Digital square wave signals RS422 A, /A, B, /B, Z, /Z or HTL A, B, Z
	5 µm, 10 µm, 25 µm or 50 µm	10 µm, 50 µm, 100 µm, 500 µm, 2500 µm
	±1 increment	±1 increment
	±100 µm	±400 µm
	10...30 V	10...30 V or 5 V ±5%
	< 40 mA at 24 V operating voltage	< 80 mA at 24 V operating voltage
	2 mm	1...5 mm (without cover strip)
	10 m/s	10 m/s
	5 mm	10 mm
	IP67	IP67
	CE, cURus, EAC	CE, cURus, EAC
	-20...+80 °C	-20...+80 °C
	PBT	PBT
	Page 65	Page 65



Model	Magnetic Tape	Magnetic Tape	Magnetic Tape	
Suitable for sensor heads	BML-S1H	BML-S1G	BML SL1	
Type code	BML-M02-A33-A3-M0009-A BML-M02-A33-A3-M0028-C BML-M02-A33-A3-M0102-F	BML-M02-A55-A3-M_ _ _ _-E	BML TSC-ALCZ-1_ZZ-M_ _ _ _	
Total length	91 mm, 283 mm, 1024 mm	up to 48 m	up to 8.19 m	
Measuring length	64 mm, 256 mm, 997 mm	up to 48 m	up to 8.19 m	
Accuracy class	5 µm	18 µm	40 µm	
Reference points	not relevant	not relevant	not relevant	
Magnetic tape material	Rubber ferrite	Rubber ferrite	Rubber ferrite	
Cover strip and tape carrier material	Stainless steel	Stainless steel	Stainless steel	
Productview	Page 65	Page 65	Page 65	

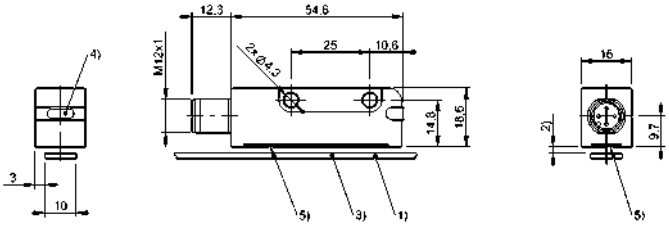



	Magnetic Tape	Magnetic Tape	Magnetic Tape	Magnetic Tape
	BML-S1F	BML SF2	BML-S2B BML-S2E BML-S1C	BML-S2C
	BML-M02-I3_-A_-M_ _ _ _ -R0000	BML TSC-I2__-1_ZZ-M____	BML-M02-I4_-A_-M____-R0000	BML-M07-I68-A_-M_ _ _ _-R0000
	up to 48 m	up to 48 m	up to 48 m	up to 48 m
	up to 48 m	up to 48 m	up to 48 m	up to 48 m
	8 µm, 18 µm	8 µm, 18 µm	18 µm, 50 µm	250 µm
	with/without	with/without	with/without	without
	Rubber ferrite	Rubber ferrite	Rubber ferrite	Rubber ferrite
	Stainless steel	Stainless steel	Stainless steel	Stainless steel
	Page 65	Page 65	Page 65	Page 65



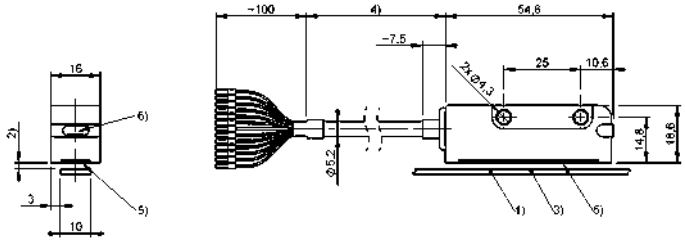
1) Not included in scope of delivery, 2) Distance to tape, 3) Tape, 4) Cable length, 5) Active measuring surface

BML-S1H...



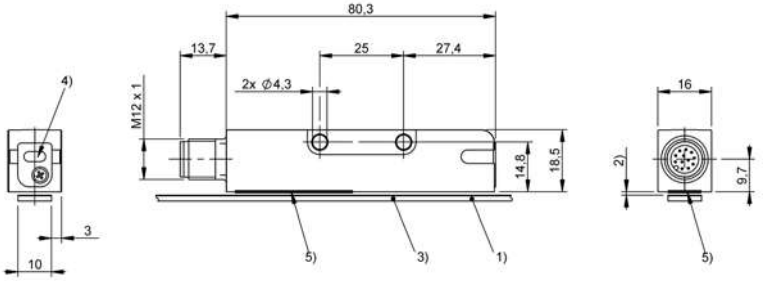
1) Not included in scope of delivery, 2) Distance to tape, 3) Tape, 4) Cable length, 5) Active measuring surface
6) LED function indicator

BML SL1-ALZ1-..., BML06HE, BML06HC



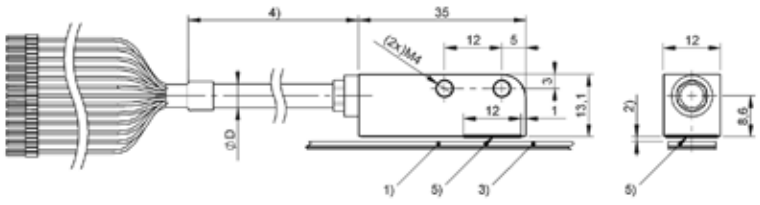
1) Not included in scope of delivery, 2) Distance to tape, 3) Tape, 4) Cable length, 5) Active measuring surface
6) LED function indicator

BML0905



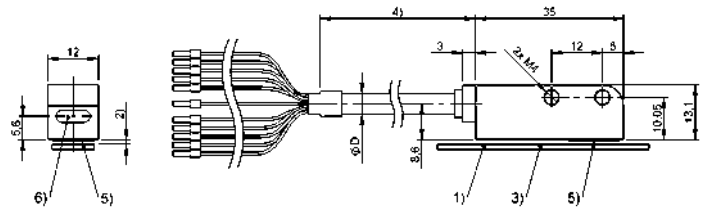
1) Not included in scope of delivery, 2) Distance to tape, 3) Tape, 4) Insulator, 5) Active measuring surface
6) LED function indicator

BML-S1G0...



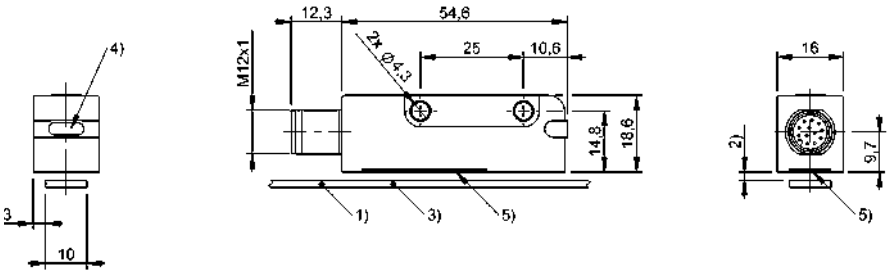
1) Not included in scope of delivery, 2) Distance to tape, 3) Tape, 4) Cable length

BML-S1F...



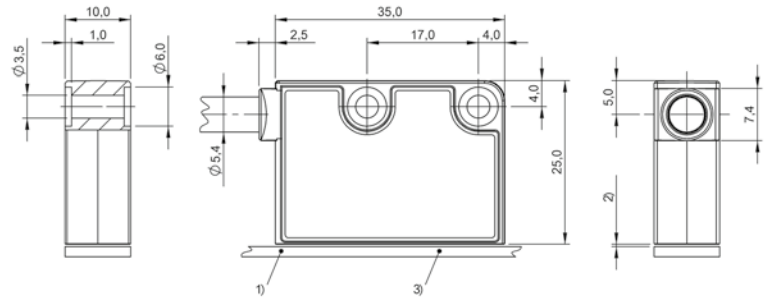
1) Not included in scope of delivery, 2) Distance to tape, 3) Tape, 4) Cable length,
5) Active measuring surface, 6) LED function indicator

BML SF2..



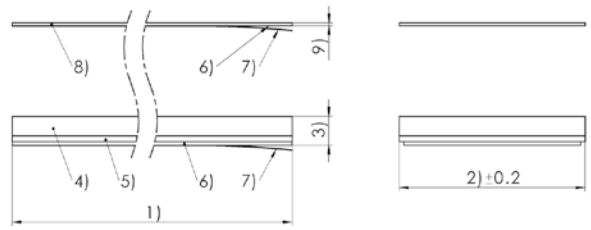
1) not included in delivery, 2) distance to measuring body, 3) measuring body, 4) LED function display,
5) active measuring area

BML085L, BML08MH



1) Not included in scope of delivery, 2) Distance to tape, 3) tape

BML-S1C0-..., BML-S2C0-...

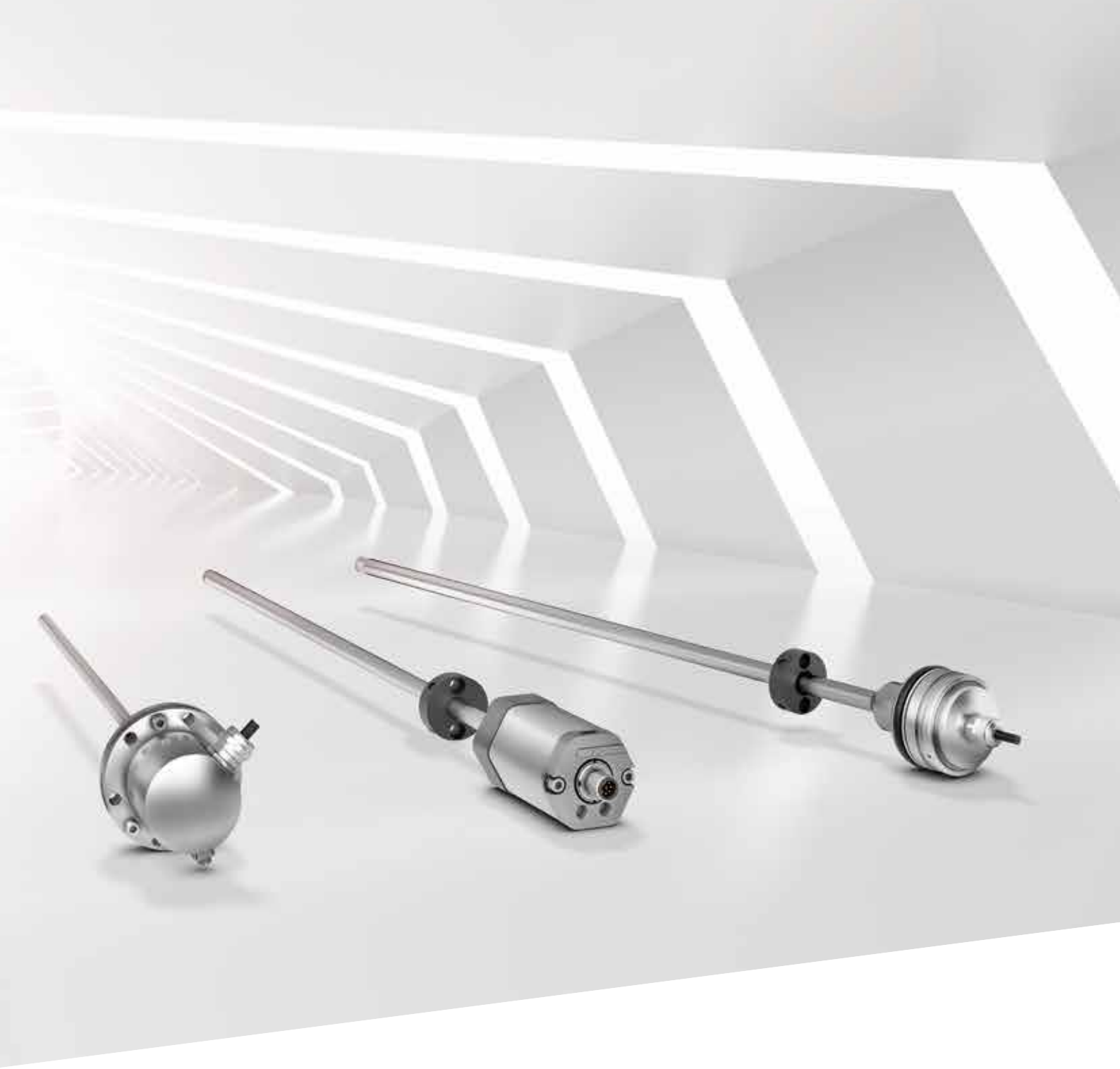


1) Nominal length/order length, 2) Width, 3) Height of tape, 4) Magnetic layer, 5) Carrier tape, 6) Adhesive layer,
7) Protective film for removing, 8) Cover tape, 9) Height of cover tape

MAGNETIC TAPE
BML-S1H, BML-S1G, BML-SL1, BML-S1F, BML SF2, BML-S2B, BML-S2E, BML-S2C, BML-S1C

Reliable even over long stroke lengths and in harsh conditions

MAGNETOSTRICTIVE SENSORS



Magnetostrictive sensors come into use wherever high reliability and precision is demanded in position and speed measurement. Also over long stroke lengths.

Our contact-free and absolute measuring systems are suitable for all industry-standard interfaces for a wide range of applications. Even under extreme surrounding conditions, they guarantee a high machine and system availability.

Features

- Precise, absolute measurement without a reference run
- Contact-free, so wear- and maintenance-free
- Resistant to shock, vibration and contamination
- Hermetically sealed housing
- Highly dynamic control applications through synchronizedeasurement data
- High durability and long service life
- Flexible installation and handling

	BTL7 -P- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable

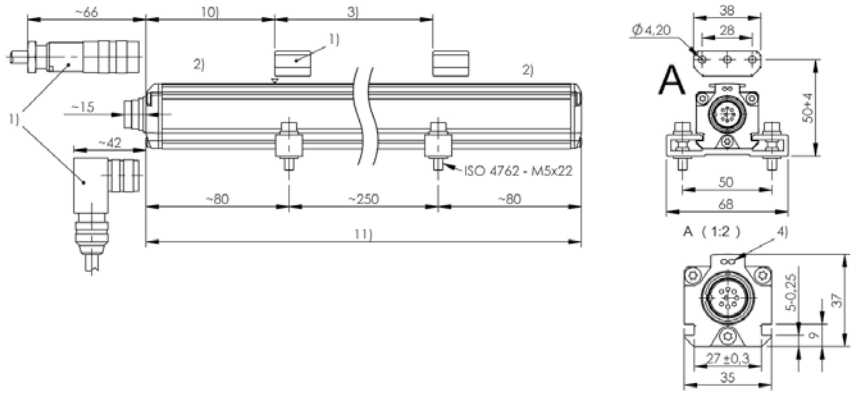
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

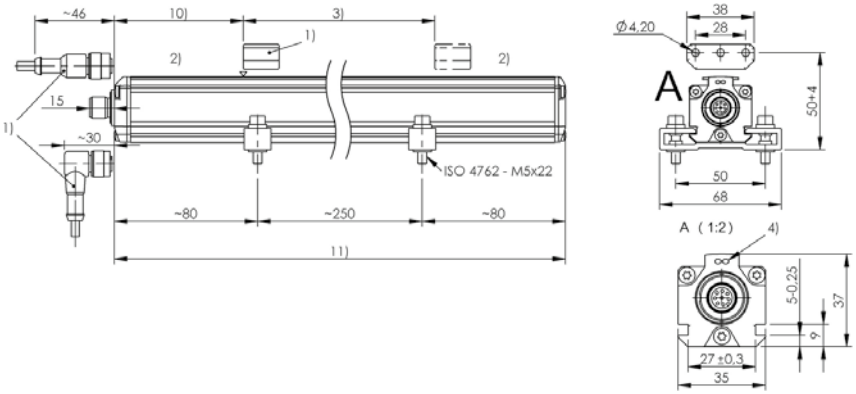
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-P-S32



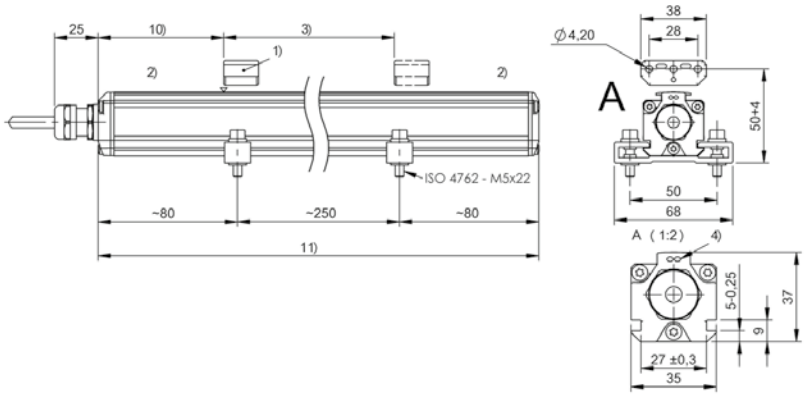
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-G501-Mxxxx-P-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-A501-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL7 -P- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
08 = 1 output, rising, 1 auxiliary output voltage, rising settable/programmable
09 = 1 output, rising, 1 auxiliary output voltage, falling settable/programmable
12 = 1 output, falling, 1 auxiliary output voltage, rising settable/programmable
13 = 1 output, falling, 1 auxiliary output voltage, falling settable/programmable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

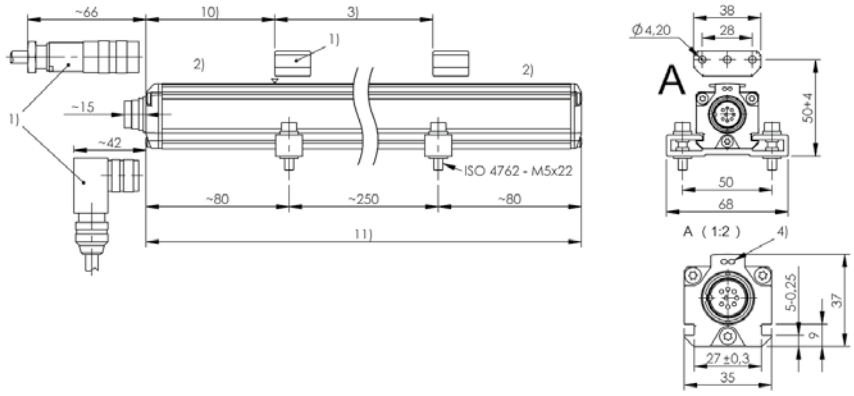
f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins

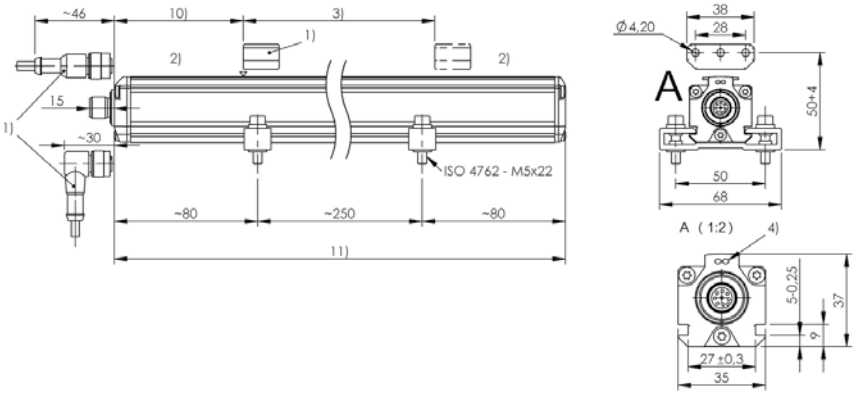
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-P-S32



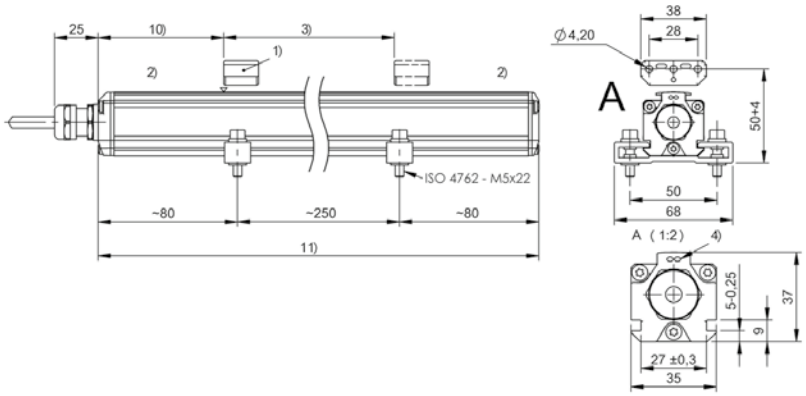
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-C501-Mxxxx-P-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-E508-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL7 -P- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 50 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

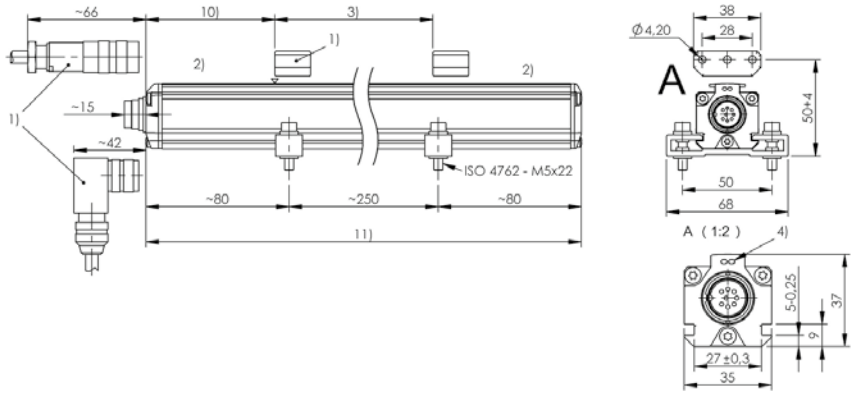
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

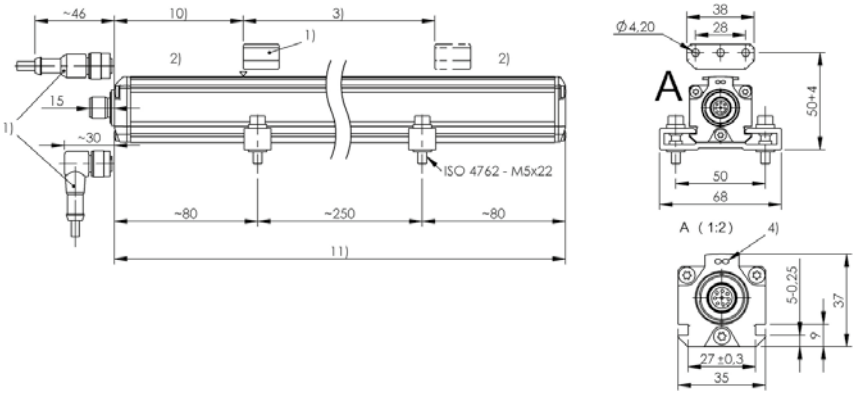
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-P-S32



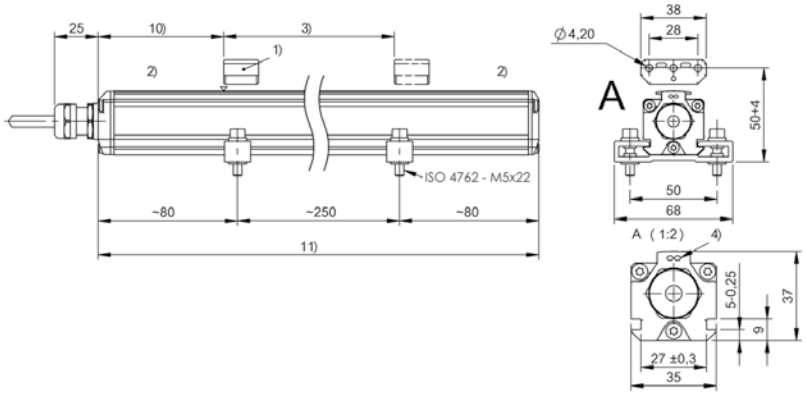
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-P-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL7 -P- SERIES - SSI
Interface	SSI
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcde-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm
9 = 0.5 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

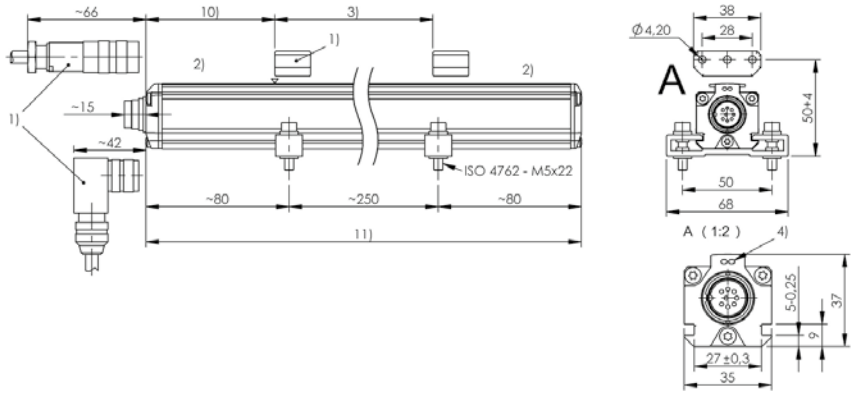
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

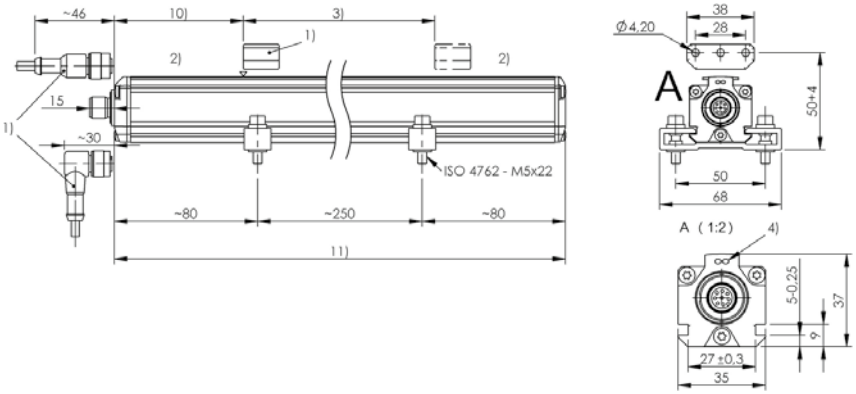
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-P-S32



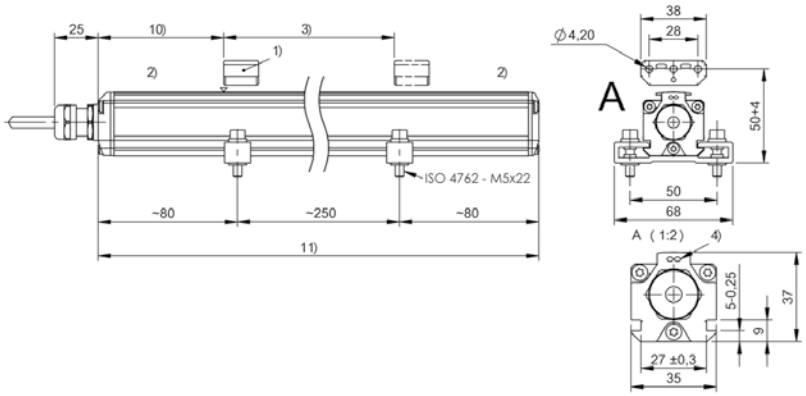
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-P-S115



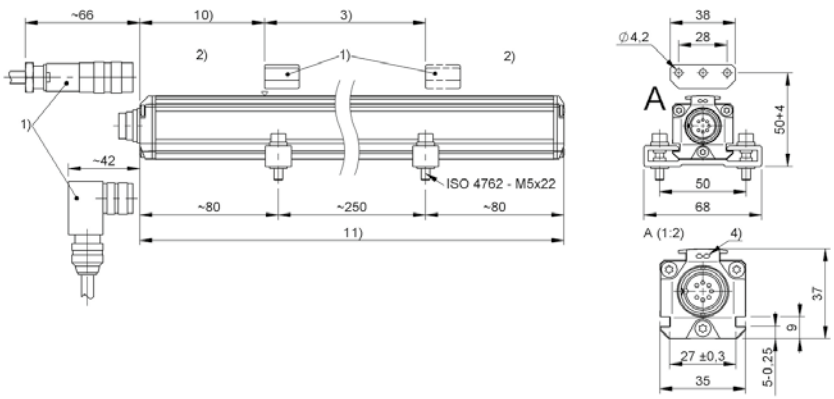
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-P-S147



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL5 -P- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

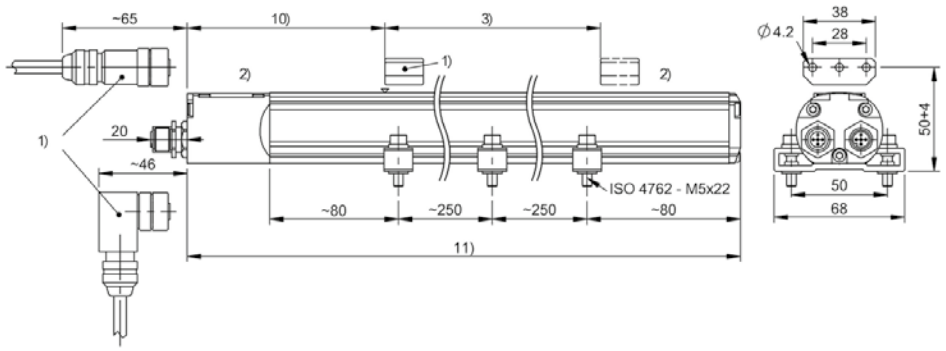
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
P = Profile

l Connection type
S = Connector

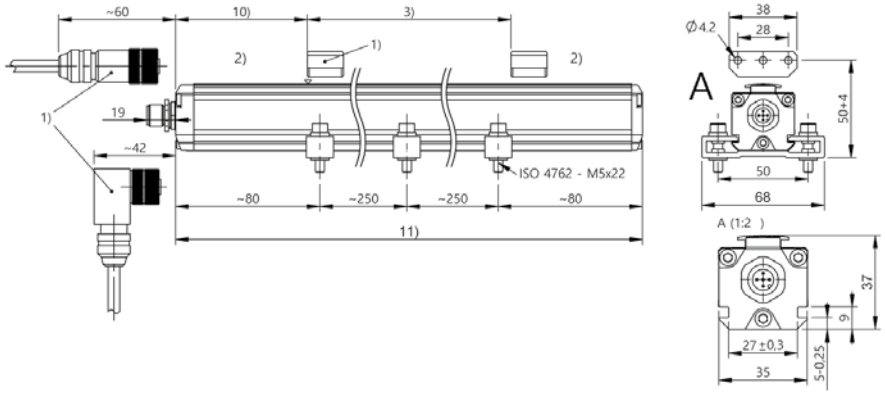
m Connection type characteristic
92 = 1 x M12x1 connector with 5 pins
94 = 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Hxxx-Mxxxx-P-S94



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

BTL5-Hxxx-Mxxxx-P-S92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL7 -P- SERIES - PROFINET
Interface	Profinet
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
T = Profinet

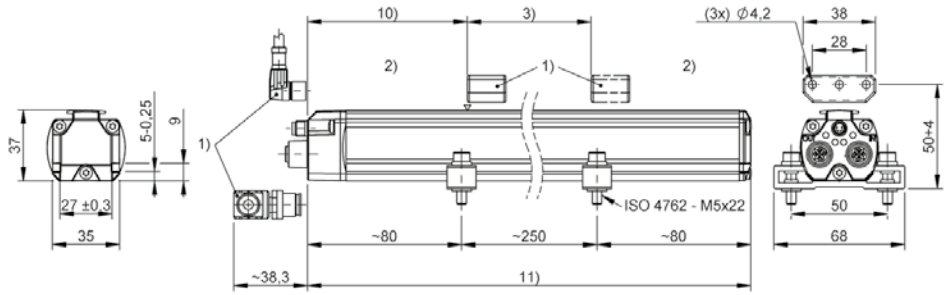
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
C = Connector

m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50T-Mxxxx-P-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL7 -P- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
D = EtherNet IP

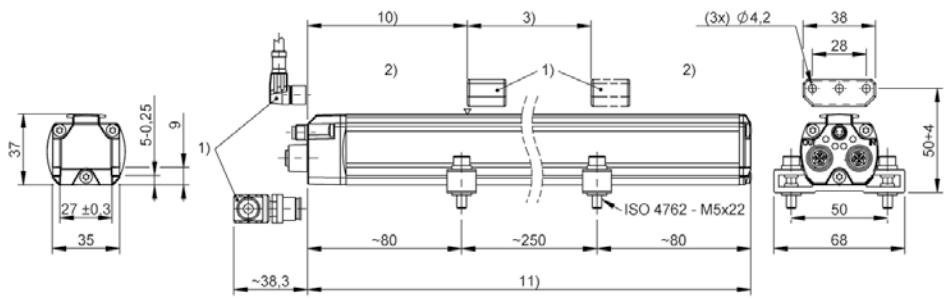
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
C = Connector

m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50D-Mxxxx-P-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL7 -P- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
E = EtherCAT

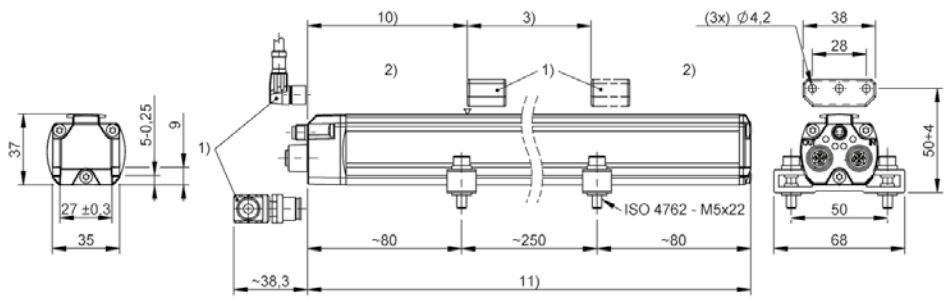
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
C = Connector

m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50E-Mxxxx-P-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL5 -P- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
T = Profibus

b Operating voltage
1 = 20 … 28 V

c + d Interface characteristic 1 + 2
10 = 1 magnet (1 - 4 magnets can be set)

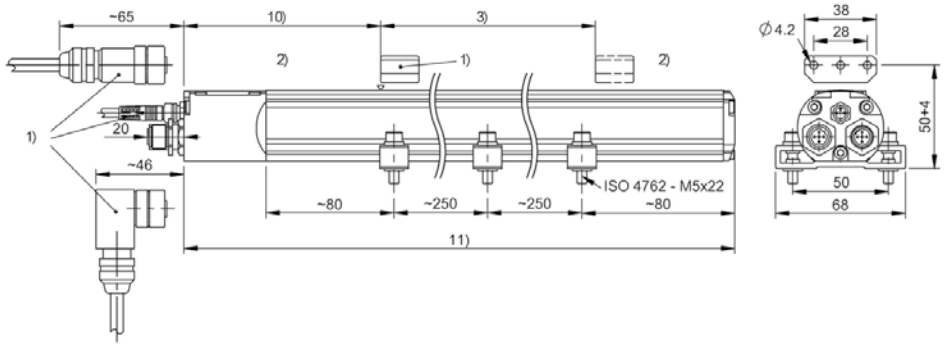
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
P = Profile

l Connection type
S = Connector

m Connection type characteristic
103 = 1 x M8x1 connector with 3 pins
+ 1 x M12x1 connector with 5 pins
+ 1 x M12x1 female with 5 pins

BTL5-Txxx-Mxxxx-P-S103



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL6 -A1- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...4012 mm
Repeat accuracy	—
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 500: ± 0.04% FS
Operating voltage Ub	—
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
3 = 20 … 28 V (if c + d = 10)
3 = 18 … 30 V (if c + d = 01)

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, 1 x rising/1x falling

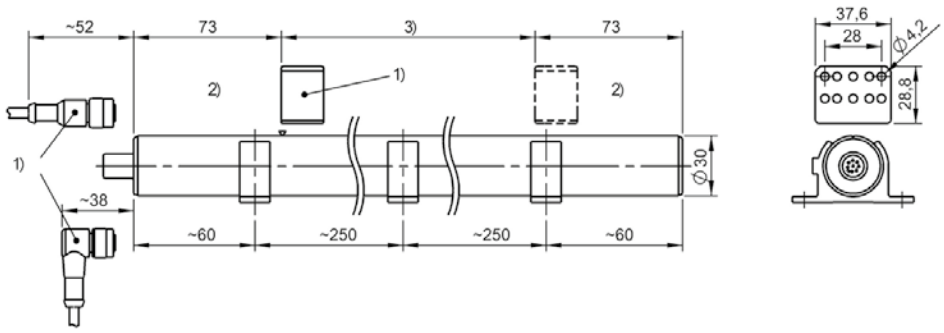
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012 when c+d = 10)
(M0050…M1512 when c+d = 01)

f Style
A1 = Round profile

l Connection type
S = Connector

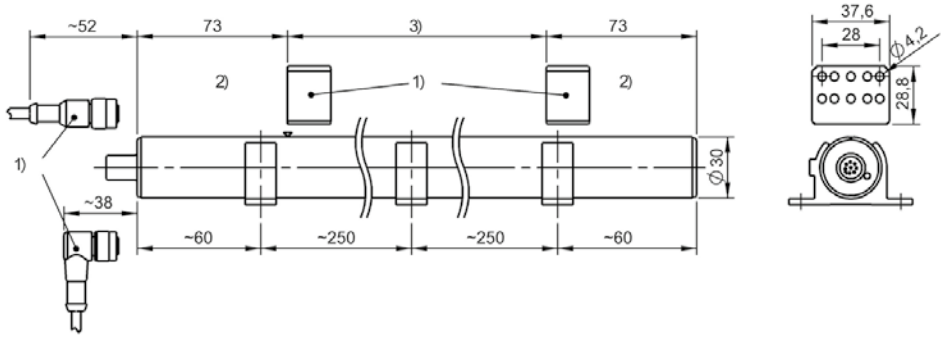
m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-A110-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

BTL6-G301-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -A1- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...4012 mm
Repeat accuracy	≤ 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
P = Digital pulse interface

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
0 = No communication interface
1 = DPI/IP communication interface

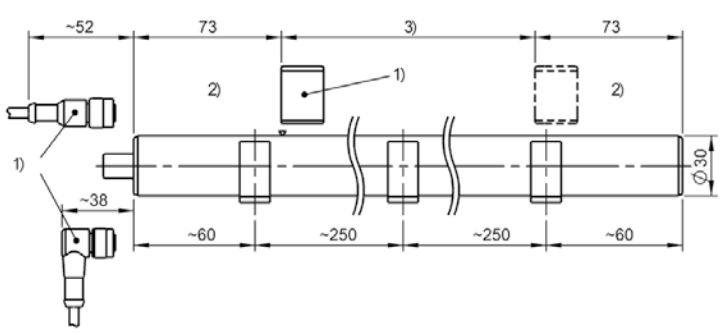
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012)

f Style
A1 = Round profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-P11x-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -A1- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	50...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets

d Interface characteristic 2
E = EtherCAT

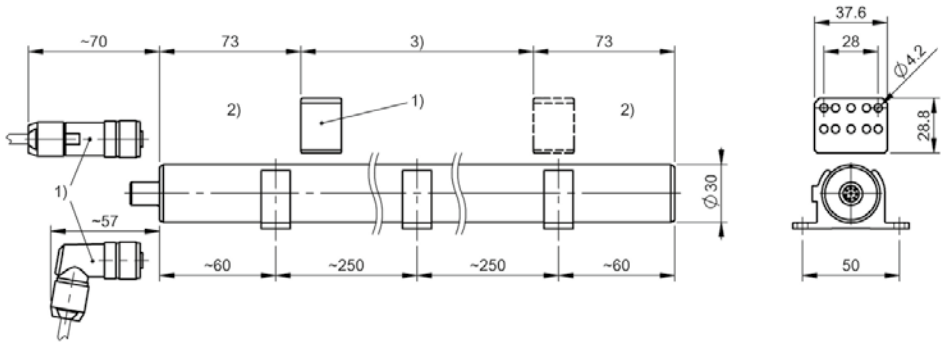
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012)

f Style
A1 = Round profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-V1xE-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -A1- SERIES - VARAN
Interface	Varan
Measuring length	50...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet

d Interface characteristic 2
V = Varan

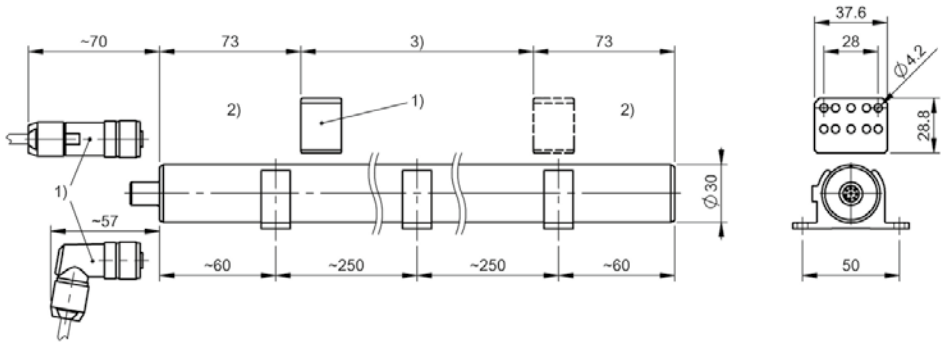
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012)

f Style
A1 = Round profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-V11V-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -PF- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...5080 mm
Repeat accuracy	—
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M5080)

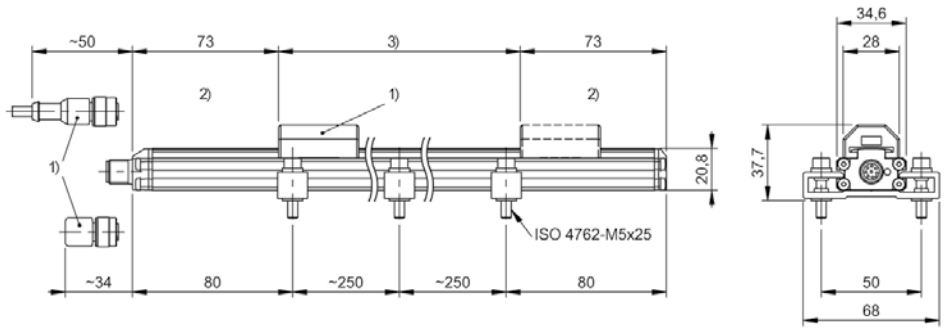
f Style
PF = Flat profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

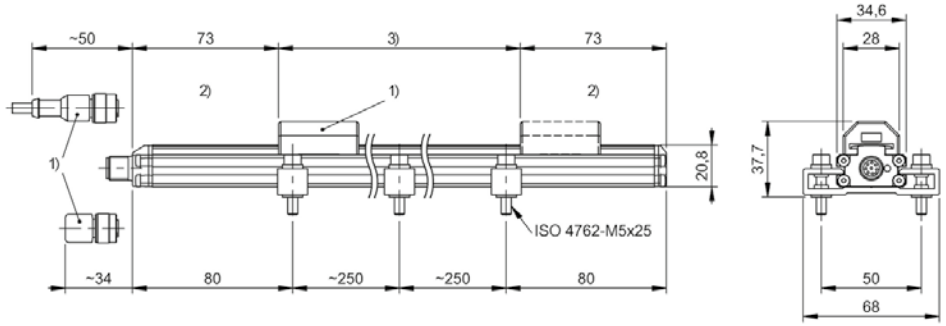
BTL6-A500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



BTL6-G500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



	BTL6 -PF- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...5080 mm
Repeat accuracy	—
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
C = Current output 0.1 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M5080)

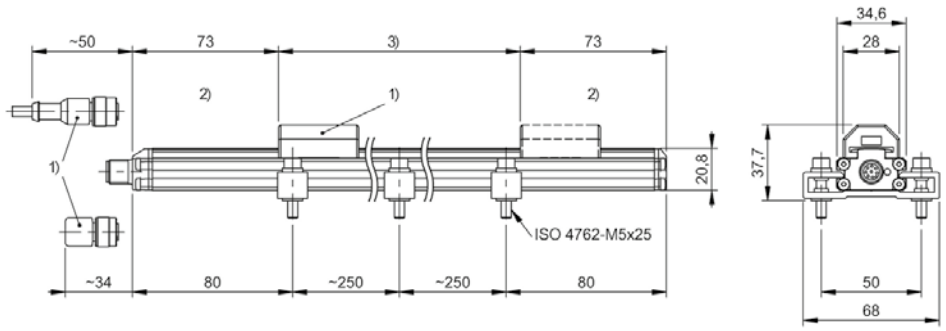
f Style
PF = Flat profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

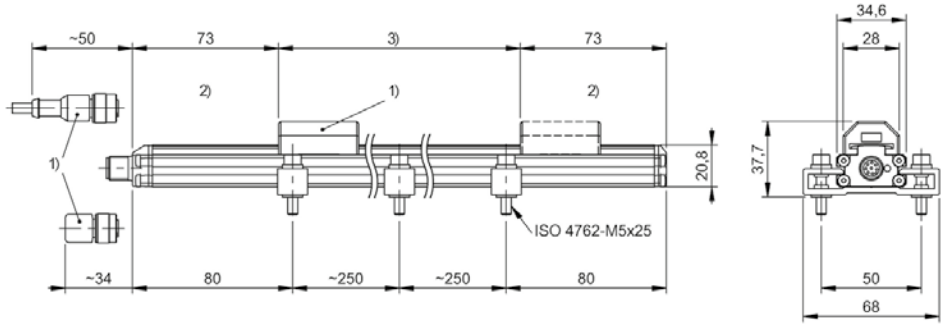
BTL6-E500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



BTL6-C500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



	BTL6 -PF- SERIES - IO-LINK
Interface	IO-Link
Measuring length	50...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	18...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
U = IO-Link

b Operating voltage
1 = 18 … 30 V

c + d Interface characteristic 1 + 2
10 = 1 magnet

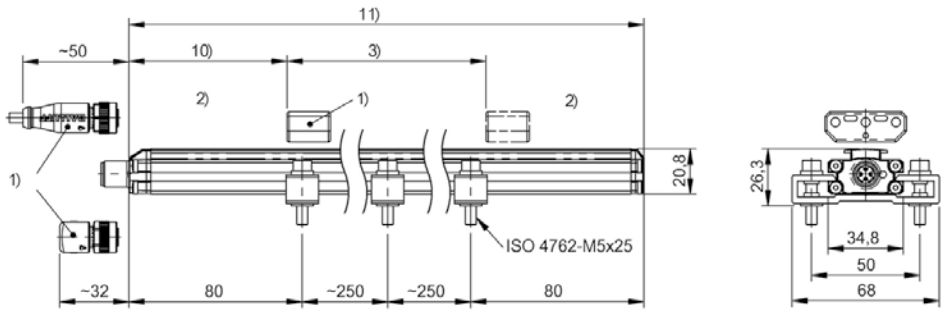
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4572)

f Style
PF = Flat profile

l Connection type
S = Connector

m Connection type characteristic 1
4 = M12x1 connector with 4 pins

BTL6-U110-Mxxxx-PF-S4



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL6 -PF- SERIES - VARAN
Interface	Varan
Measuring length	50...4572 mm
Repeat accuracy	≤ 10 µm
Linearity deviation	nnnn = 0050…0500: ± 150 µm nnnn > 0500: ± 0.03% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	0...85 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Device profile length measuring systems
5 = Device Profile EUROMAP 75

d Interface characteristic 2
V = Varan

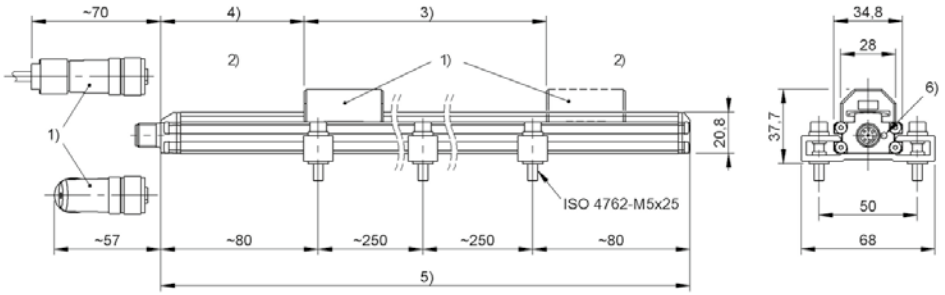
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4572)

f Style
PF = Flat profile

l Connection type
S = Connector

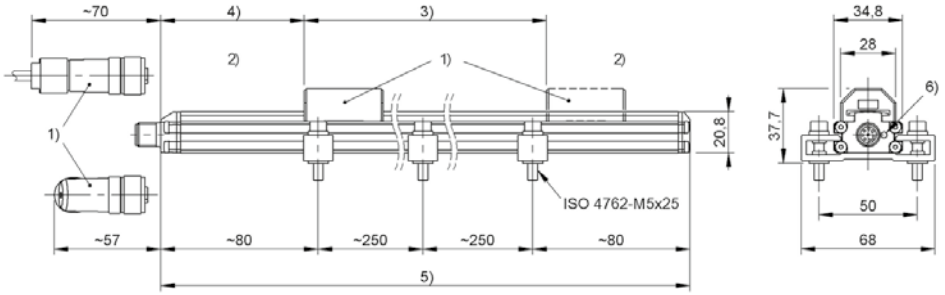
m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-V55V-Mxxxx-PF-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Null point
5) Installation length
6) LED function indicator

BTL6-V51V-Mxxxx-PF-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Null point
5) Installation length
6) LED function indicator

	BTL7 -A/B- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

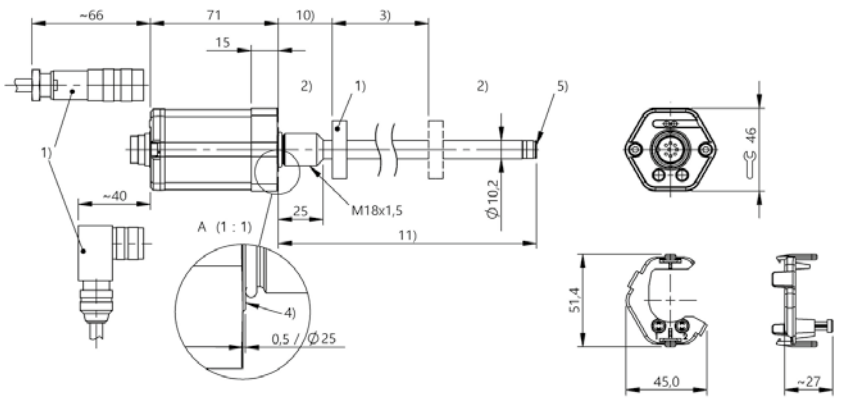
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

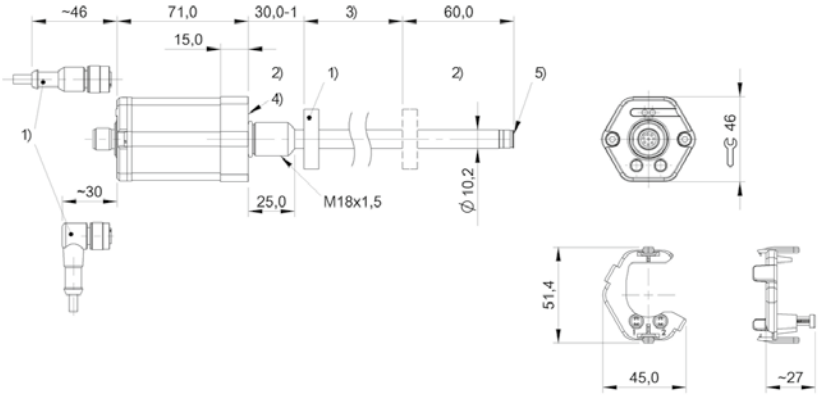
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-B-S32



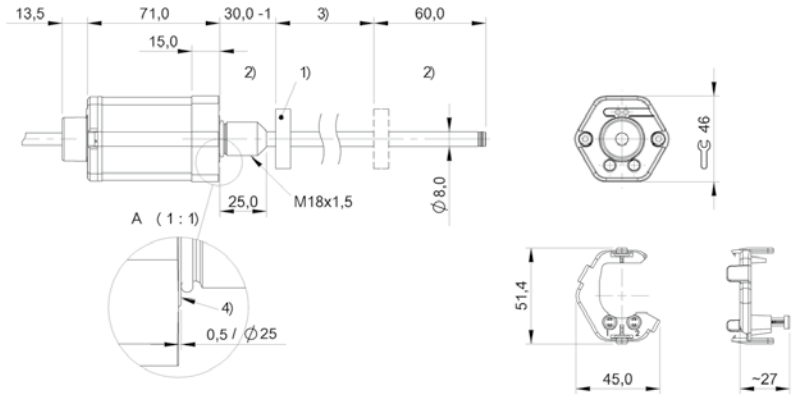
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-A-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-B8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -A/B- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

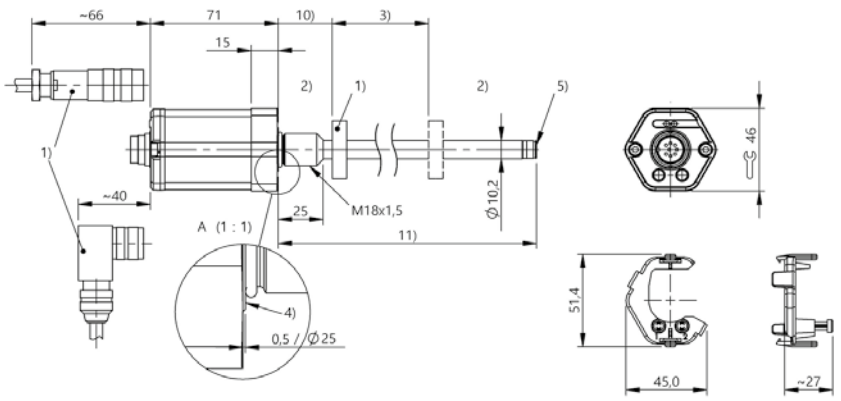
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

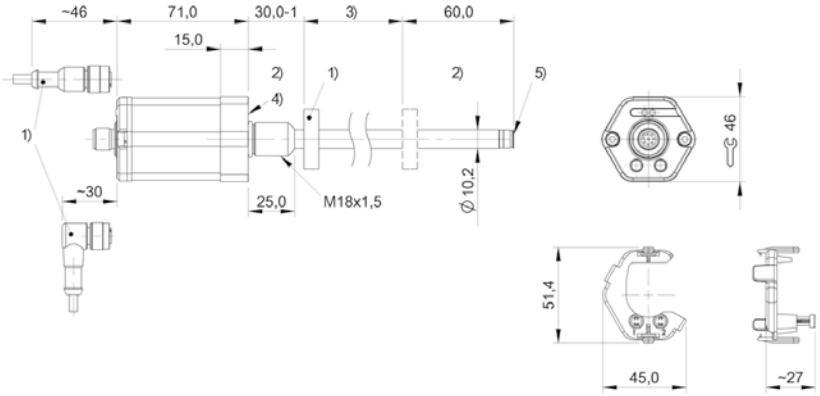
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-B-S32



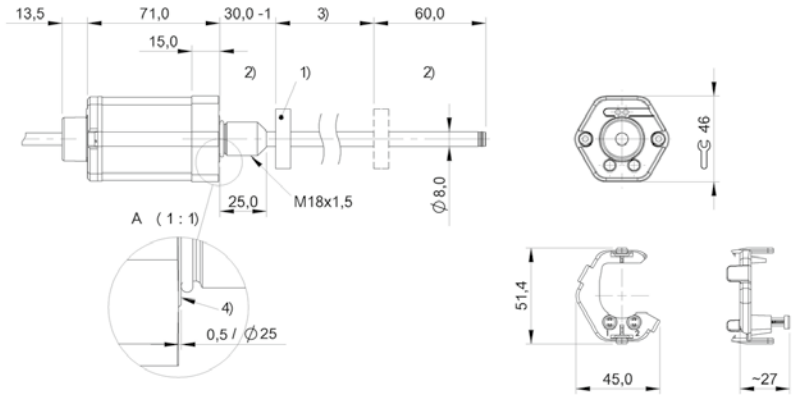
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C500-Mxxxx-A-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-B8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -A/B- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

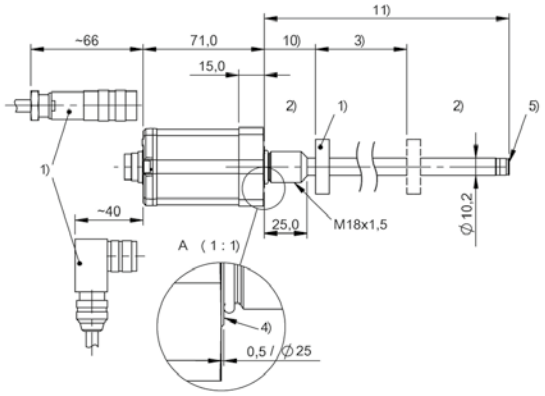
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

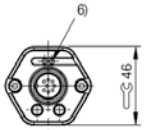
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

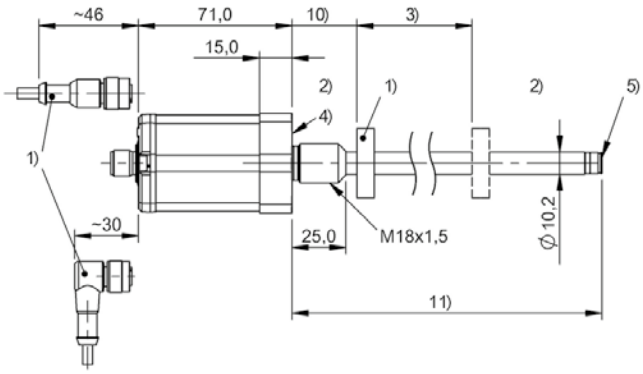
BTL7-P511-Mxxxx-B-S32

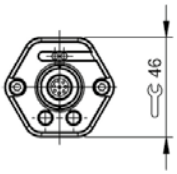




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

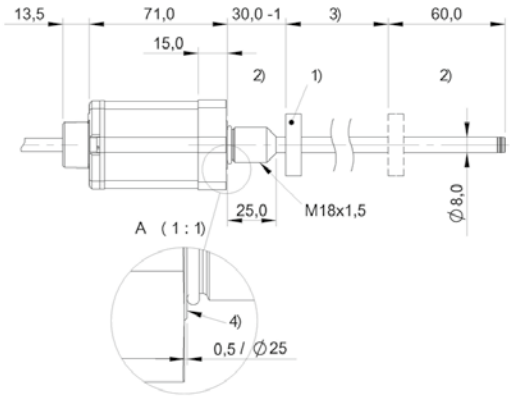
BTL7-P511-Mxxxx-A-S115

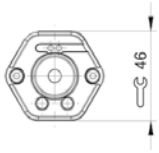




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-B8-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -A/B- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

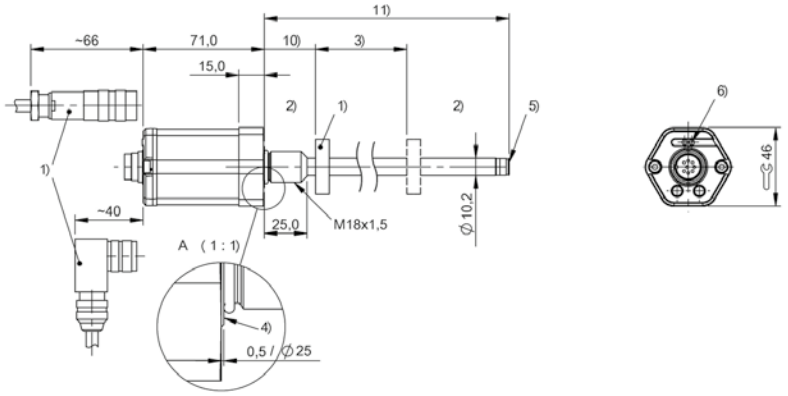
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

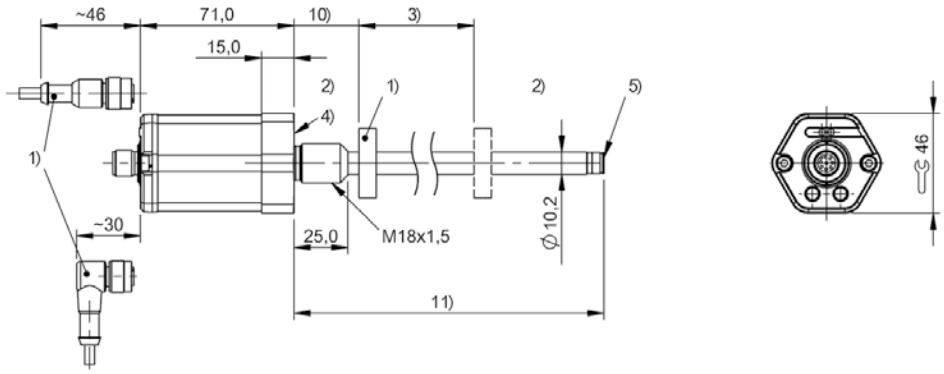
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-B-S32



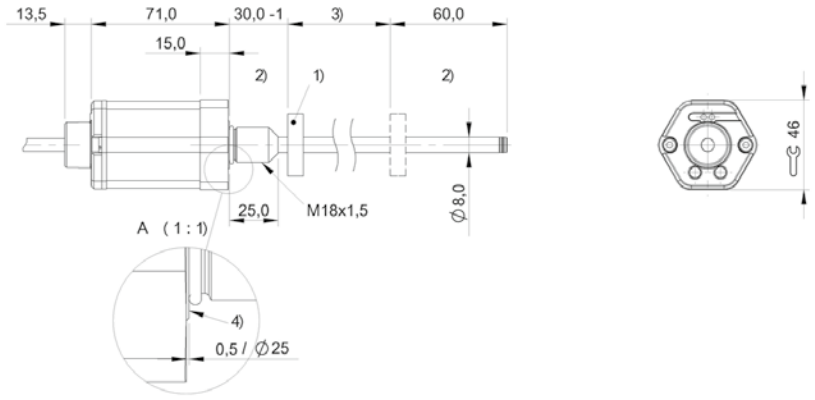
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-A-S115



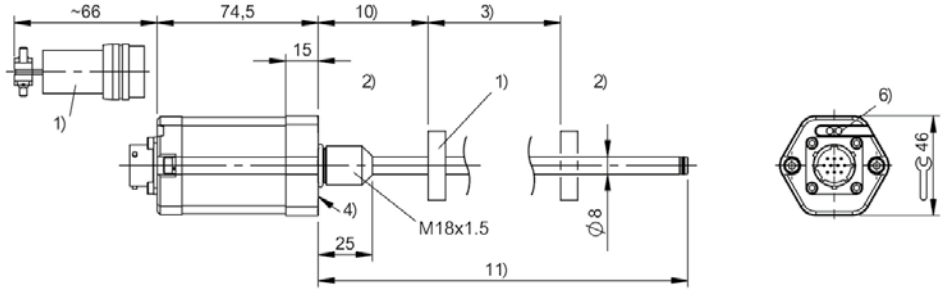
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-B8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

BTL7-S5xxx-Mxxxx-A8-S140



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL6 -A/B- SERIES - IO-LINK
Interface	IO-Link
Measuring length	25...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	± 50 µm
Operating voltage Ub	18...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
U = IO-Link

b Operating voltage
1 = 18 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode

d Interface characteristic 2
1 = COM3, 8 bytes inputs

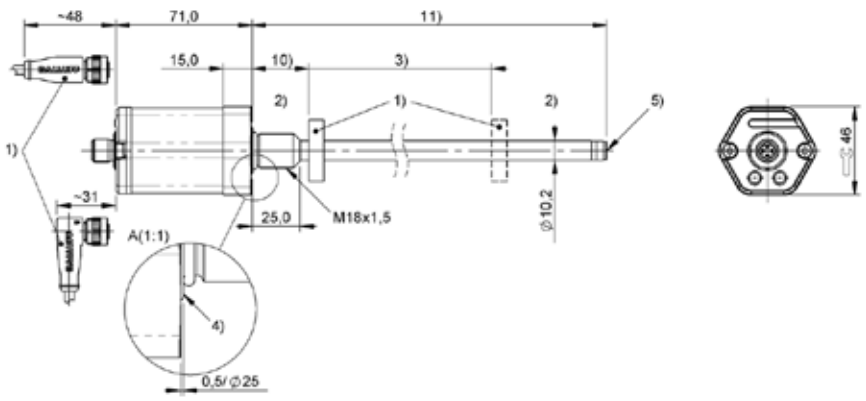
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M4572)

f Style
A = Mounting threads M18x1.5,
for flat seal
B = Mounting threads M18x1.5,
for O-Ring

l Connection type
S = Connector

m Connection type characteristic 1
4 = M12x1 connector with 4 pins

BTL6-U101-Mxxxx-B-S4



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL5 -A/B- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

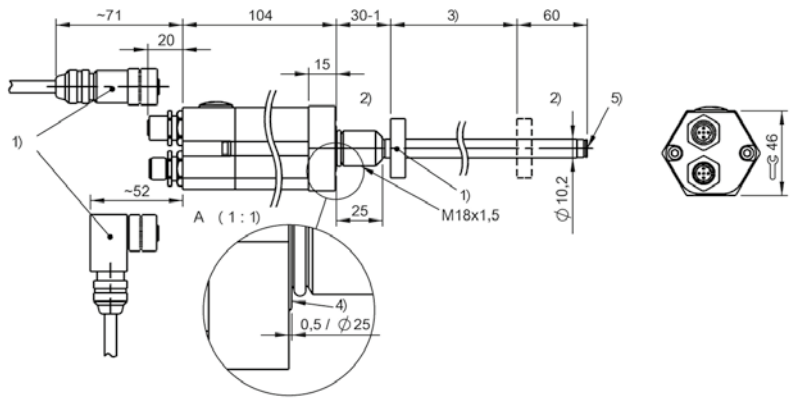
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

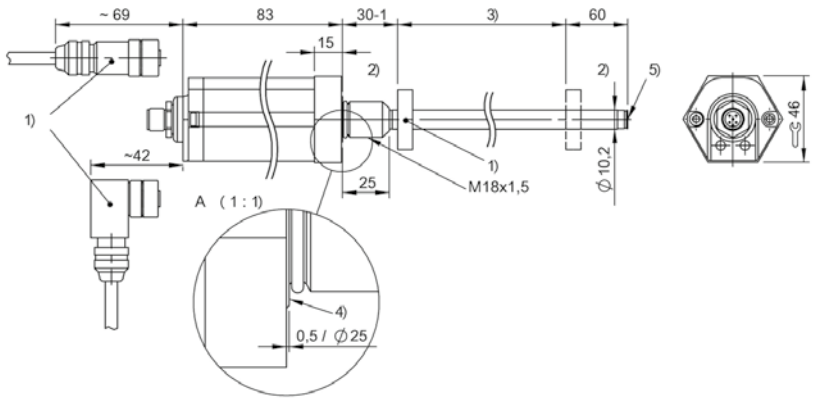
m Connection type characteristic
92 = 1 x M12x1 connector with 5 pins
94 = 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Hxxx-Mxxxx-B-S94



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Hxxx-Mxxxx-B-S92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -A/B- SERIES - PROFINET
Interface	Profinet
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
T = Profinet

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

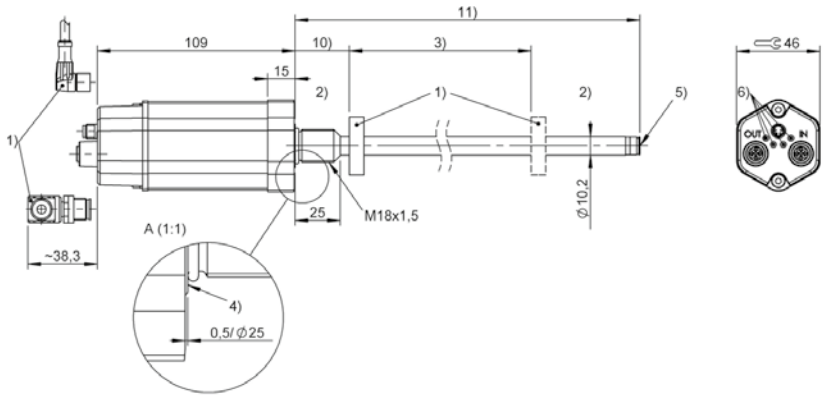
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

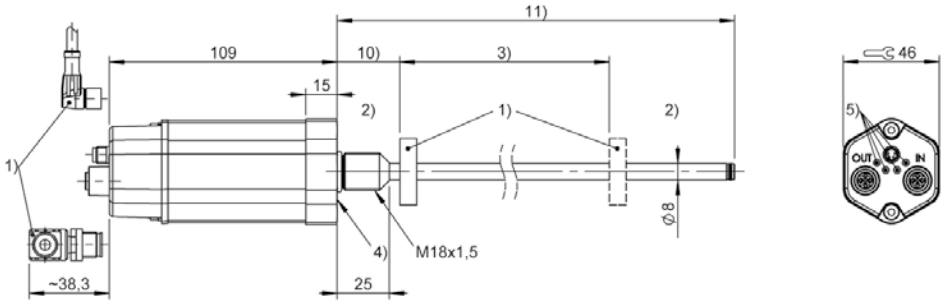
m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50T-Mxxxx-B-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50T-Mxxxx-A8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -A/B- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
D = EtherNet IP

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

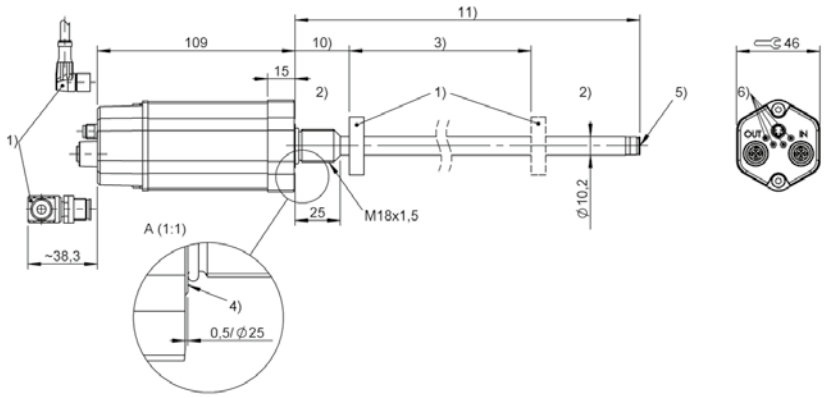
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

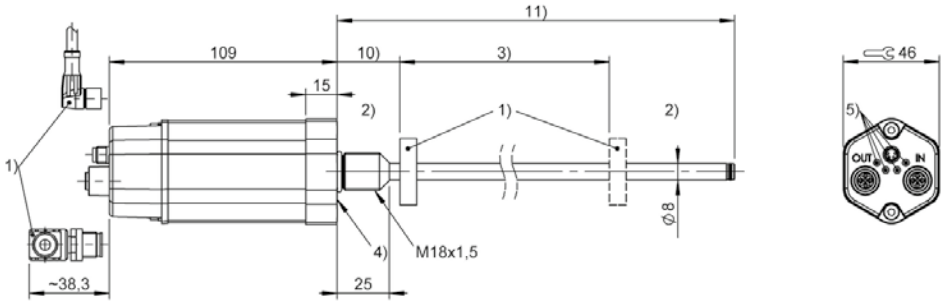
m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50D-Mxxxx-B-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50D-Mxxxx-A8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -A/B- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
E = EtherCAT

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

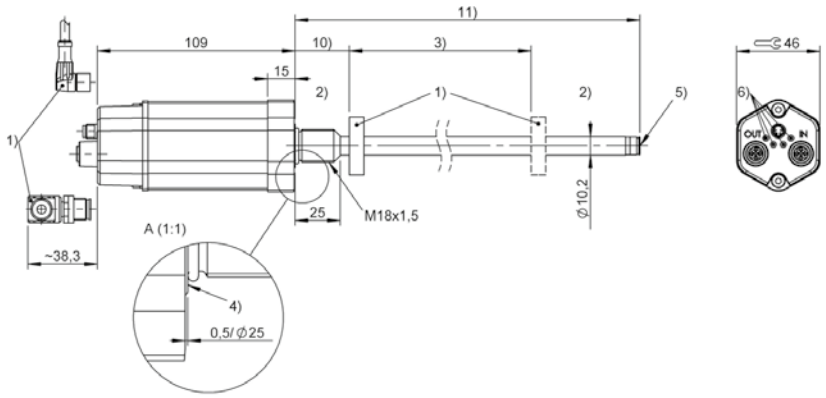
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

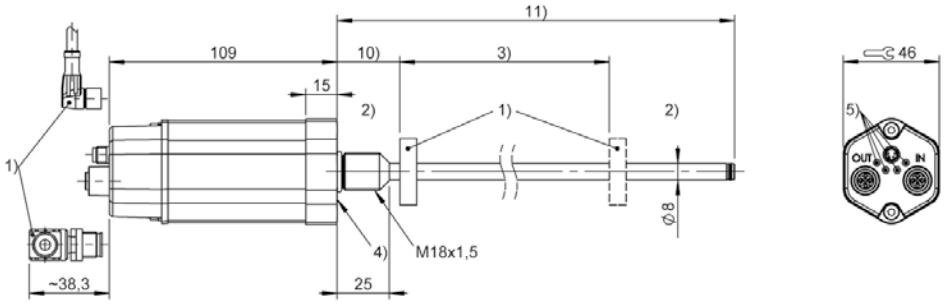
m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50E-Mxxxx-B-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50E-Mxxxx-A8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL5 -A/B- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Repeat accuracy	—
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
T = Profibus

b Operating voltage
1 = 20 … 28 V

c + d Interface characteristic 1 + 2
10 = 1 magnet
(1 - 4 magnets can be set)

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

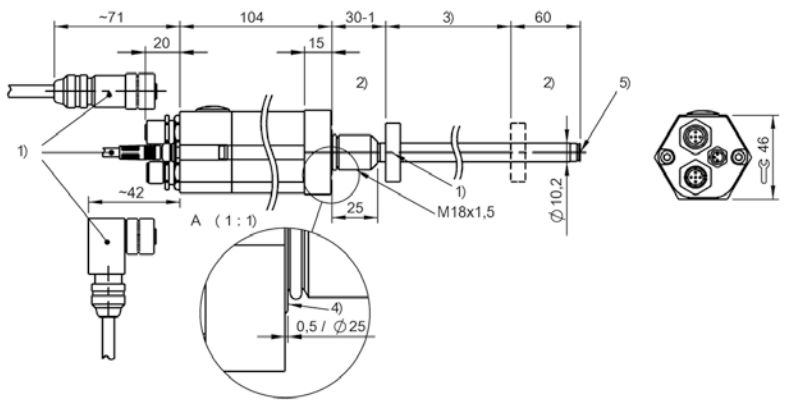
f Style
A = Mounting threads M18x1.5, f or flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic
103 = 1 x M8x1 connector with 3 pins + 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Txxx-Mxxxx-B-S103



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL6 -A/B- SERIES - VARAN
Interface	Varan
Measuring length	25...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet

d Interface characteristic 2
E = Varan

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M4012: for rod diameter 10.2 mm)

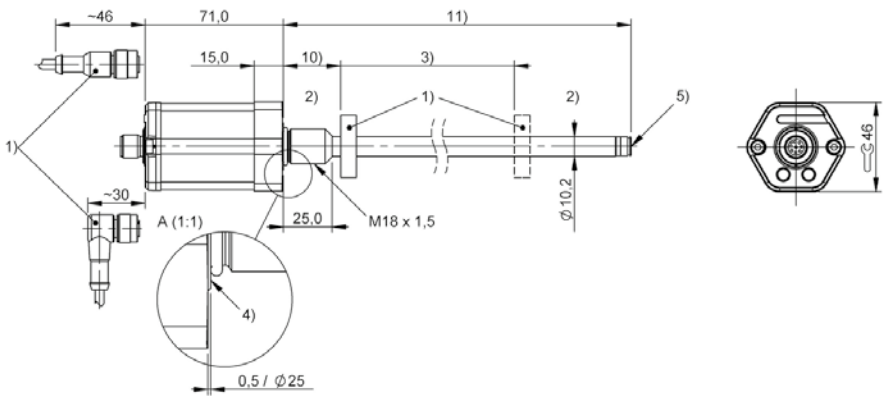
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL-V11V-Mxxxx-B-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -BE/BF- SERIE - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

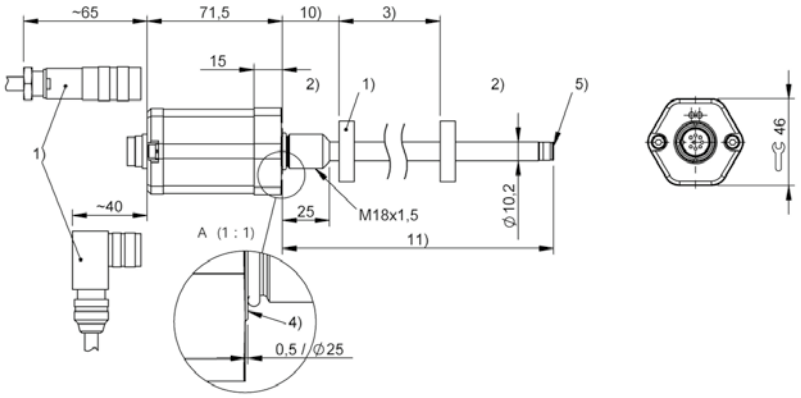
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

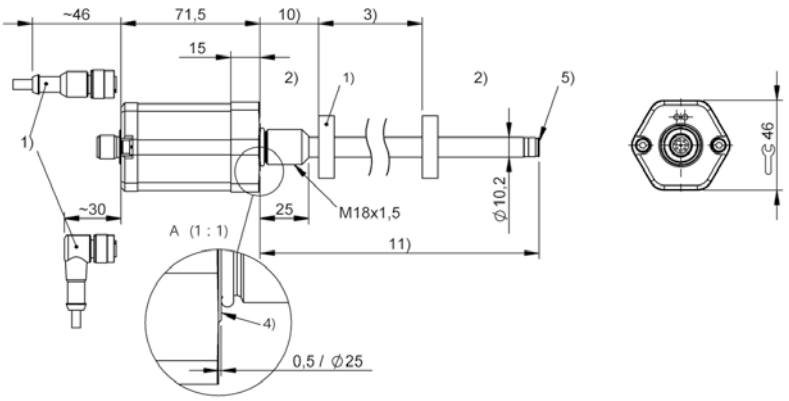
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-BE-S32



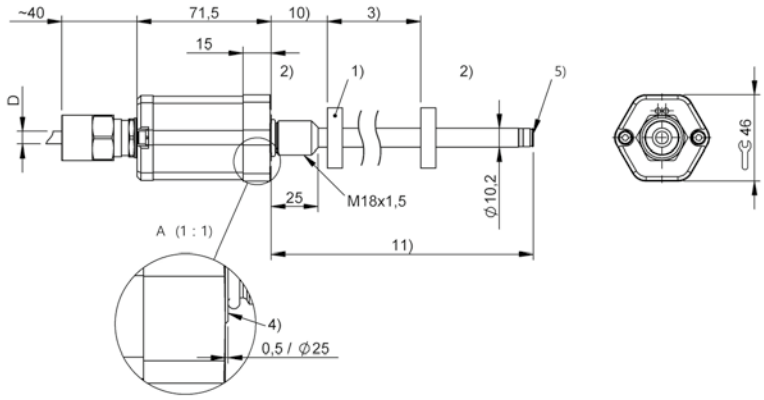
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-BE-S115



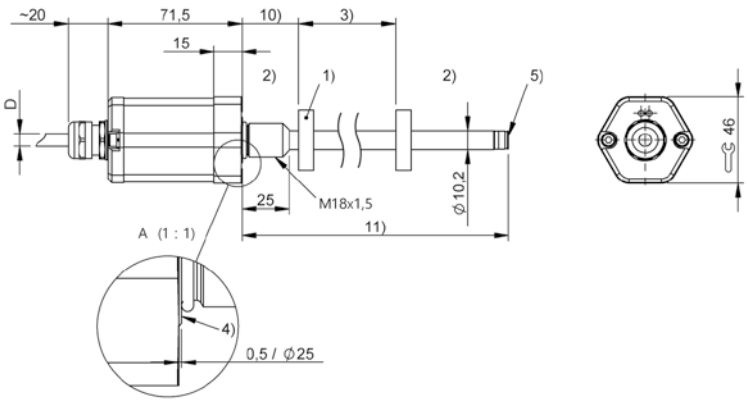
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-BF-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-BE-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -BE/BF- SERIE - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

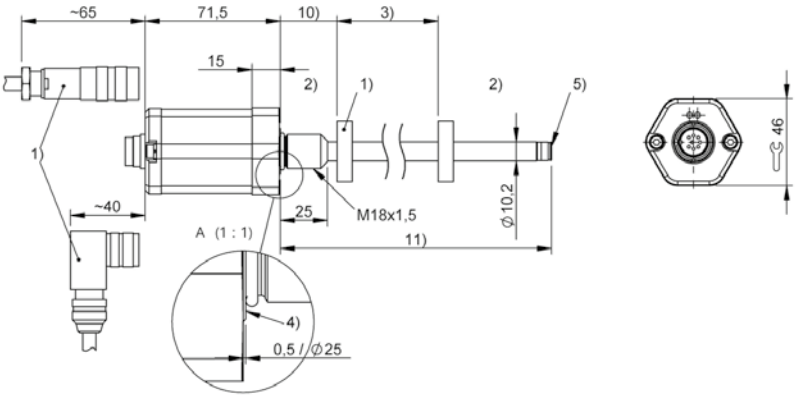
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins

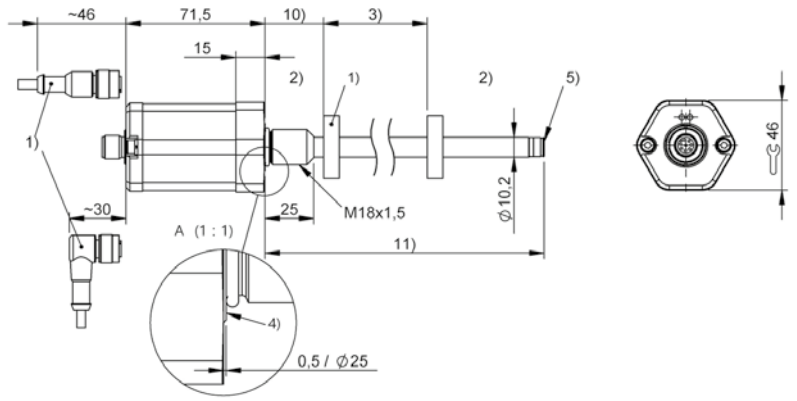
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510-Mxxxx-BE-S32



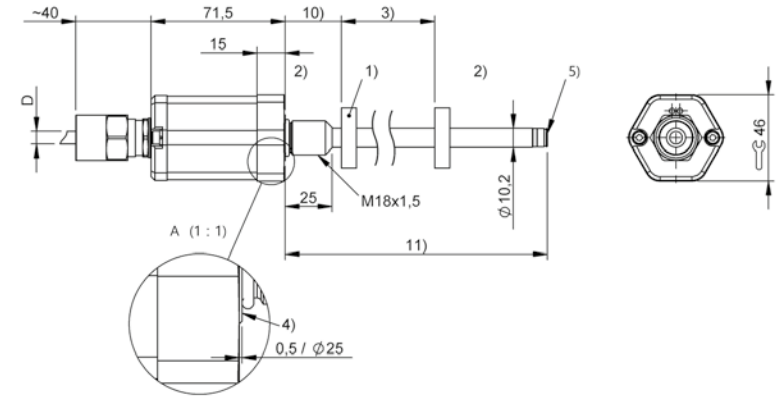
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xx-Mxxxx-BE-S115



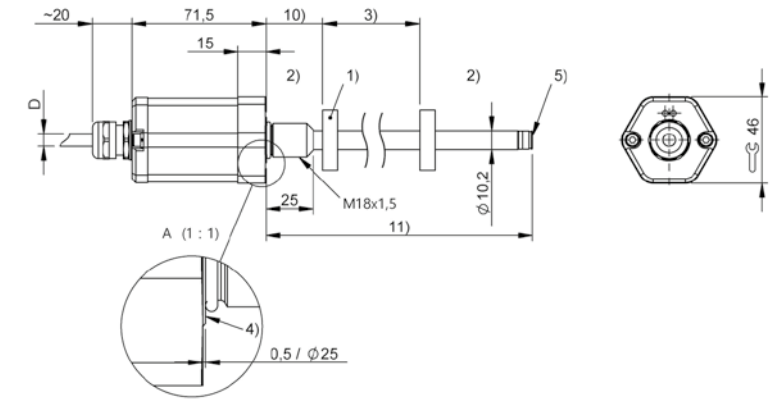
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xx-Mxxxx-BF-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xx-Mxxxx-BE-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -Y/Z- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, 1x each rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

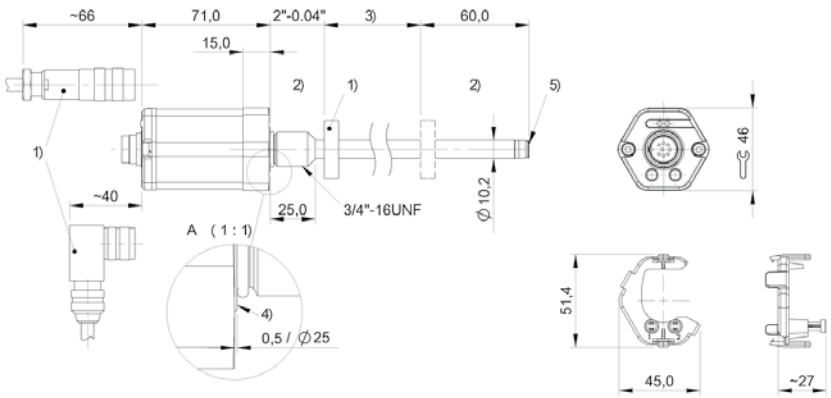
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin

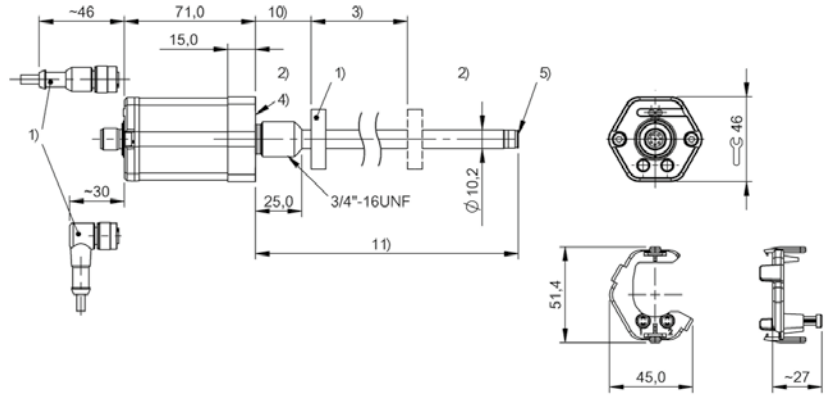
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-Z-S32



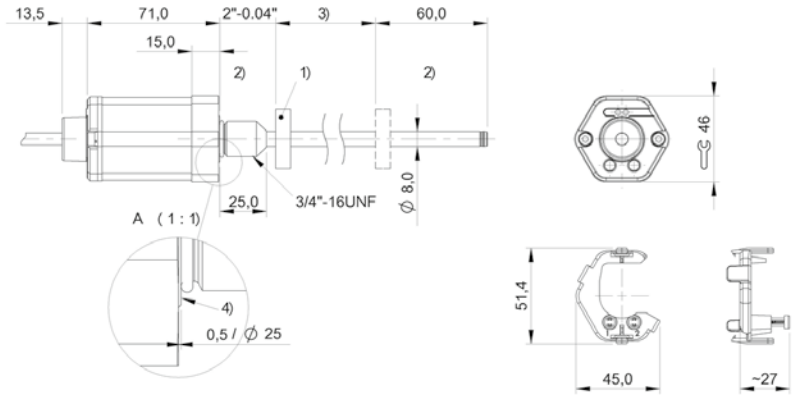
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-G510-Mxxxx-Y-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-Z8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Y/Z- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, 1x each rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

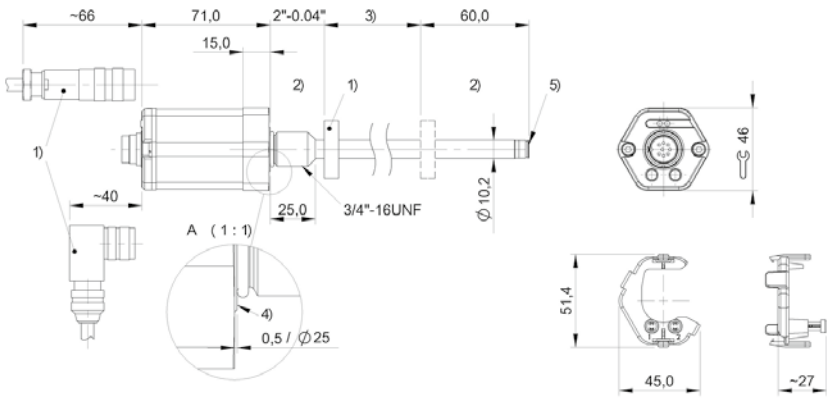
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

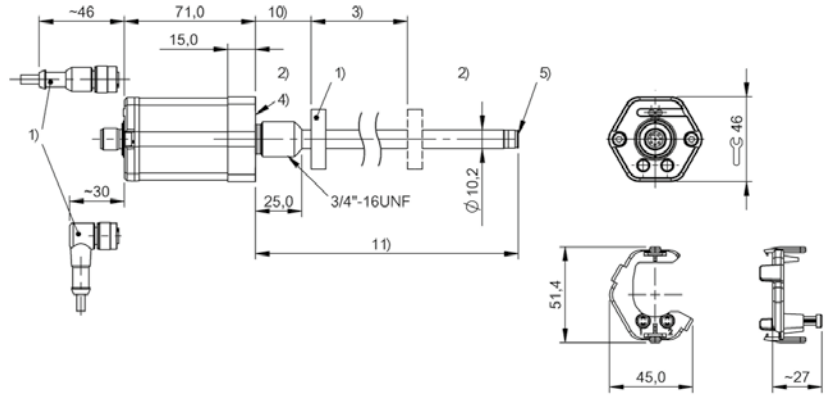
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-Z-S32



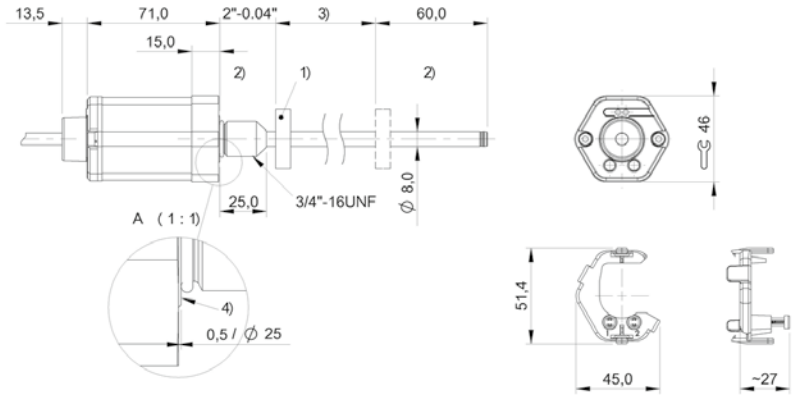
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-C500-Mxxxx-Y-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-Z8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Y/Z- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

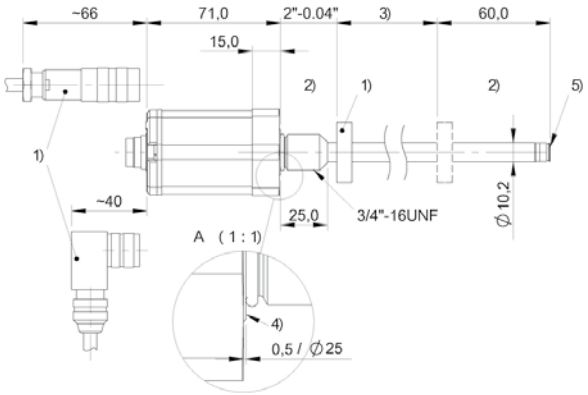
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

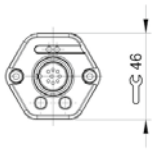
l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins

for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

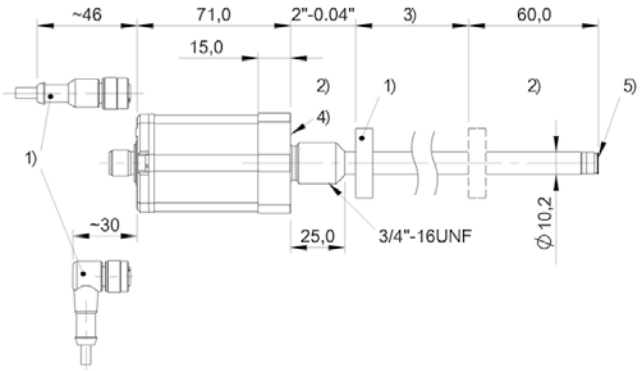
BTL7-P511-Mxxxx-Z-S32

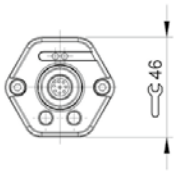




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

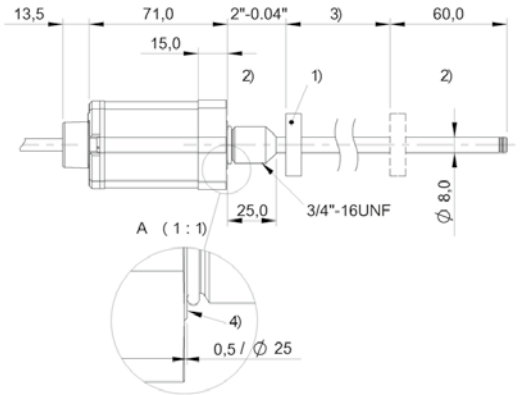
BTL7-P511-Mxxxx-Y-S115

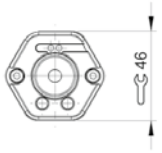




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-Z8-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Y/Z- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 25…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

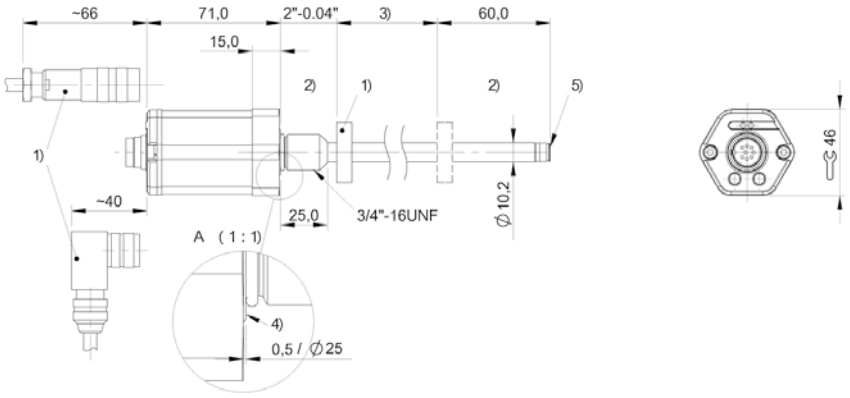
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

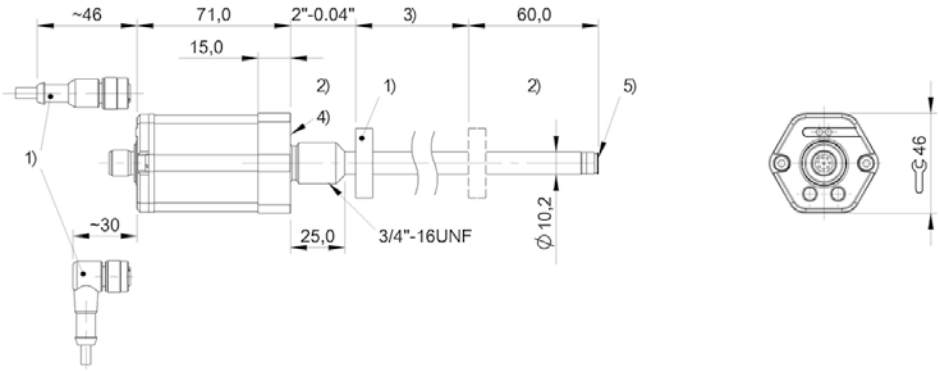
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-Z-S32



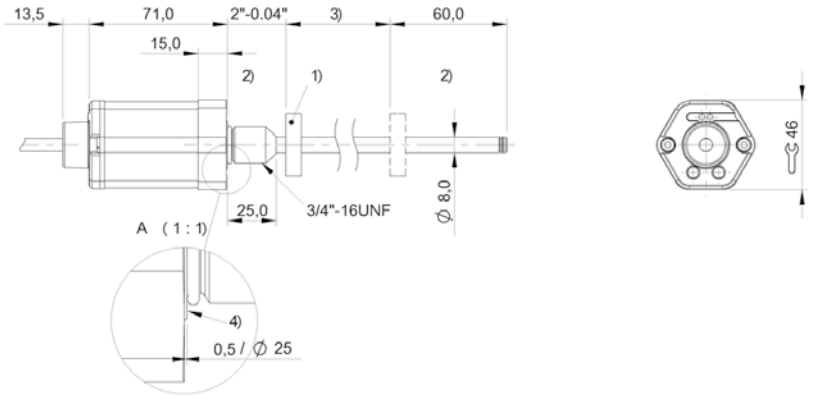
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-Y-S115



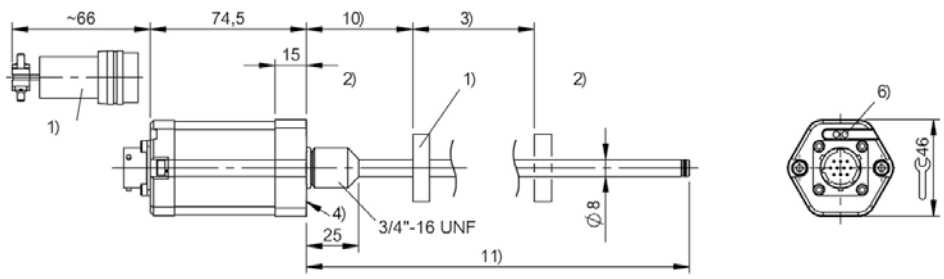
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-Z8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

BTL7-S5xxx-Mxxxx-Y8-S140



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL6 -Y/Z- SERIES - IO-LINK
Interface	IO-Link
Measuring length	25...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	± 50 µm
Operating voltage Ub	18...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
U = IO-Link

b Operating voltage
1 = 18 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode

d Interface characteristic 2
1 = COM3, 8 bytes inputs

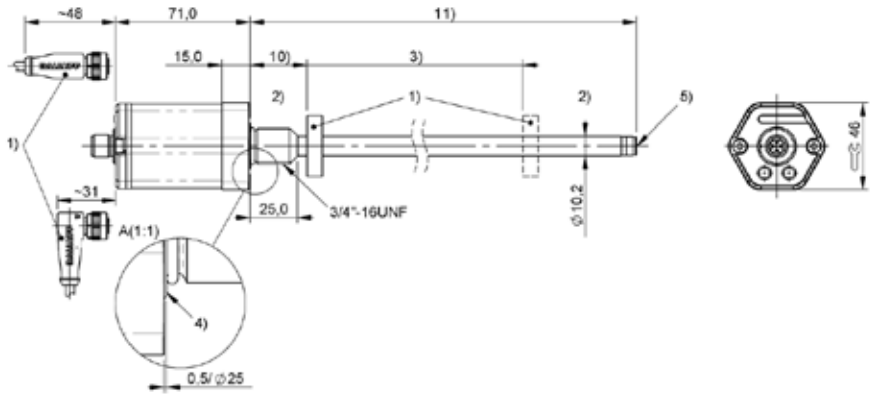
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M4572)

f Style
Y = Inch threads 3/4“-16UNF,
for flat seal
Z = Inch threads 3/4“-16UNF,
for O-Ring

l Connection type
S = Connector

m Connection type characteristic 1
4 = M12x1 connector with 4 pins

BTL6-U101-Mxxxx-Z-S4



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL5 -Y/Z- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	—
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

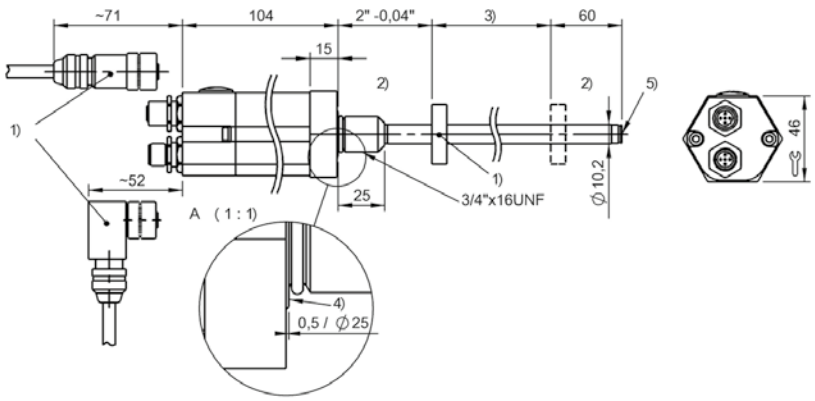
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

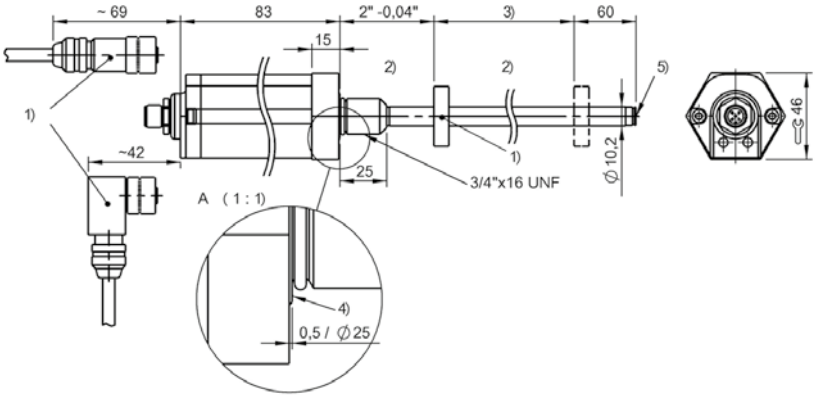
m Connection type characteristic
92 = 1 x M12x1 connector with 5 pins
94 = 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Hxxx-Mxxxx-Z-S94



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Hxxx-Mxxxx-Z-S92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -Y/Z- SERIES - PROFINET
Interface	Profinet
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
T = Profinet

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

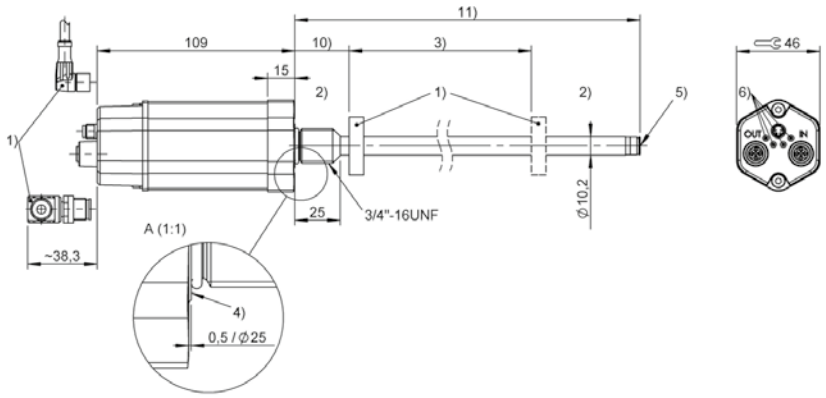
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

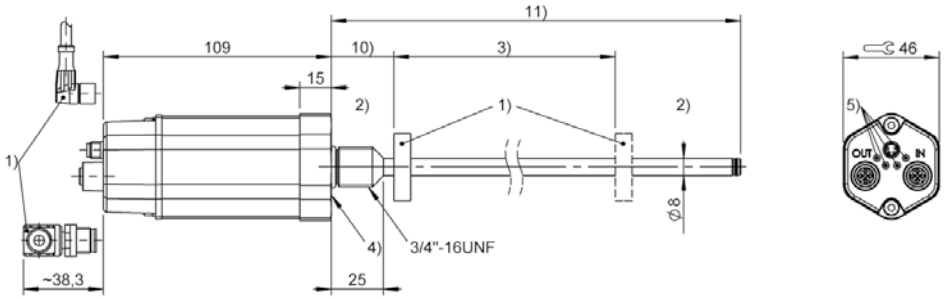
m Connection type characteristic 1
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50T-Mxxxx-Z-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50T-Mxxxx-Y8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -Y/Z- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
D = EtherNet IP

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

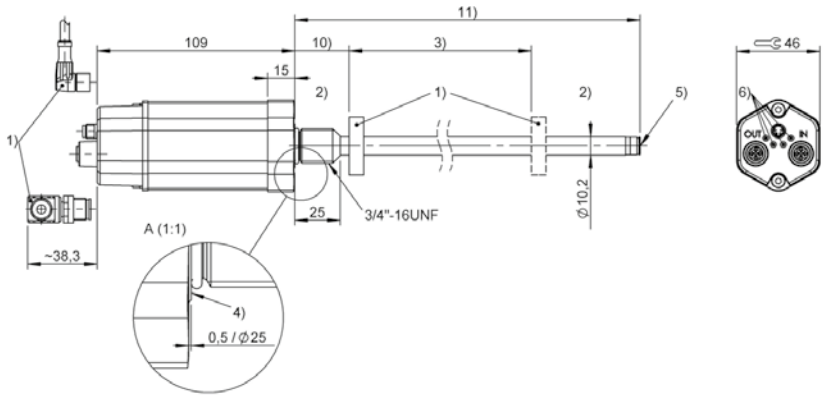
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

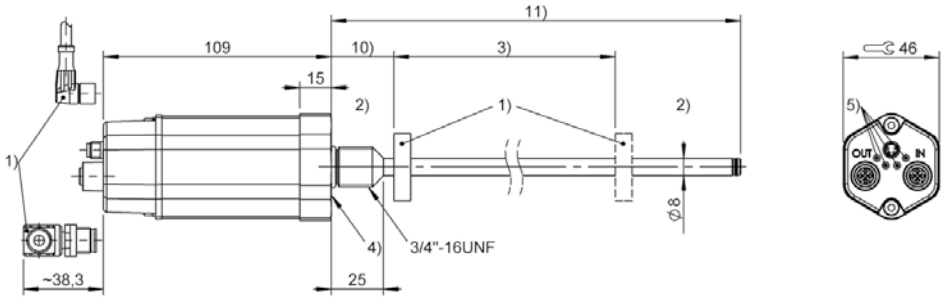
m Connection type characteristic 1
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50D-Mxxxx-Z-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50D-Mxxxx-Y8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -Y/Z- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
E = EtherCAT

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

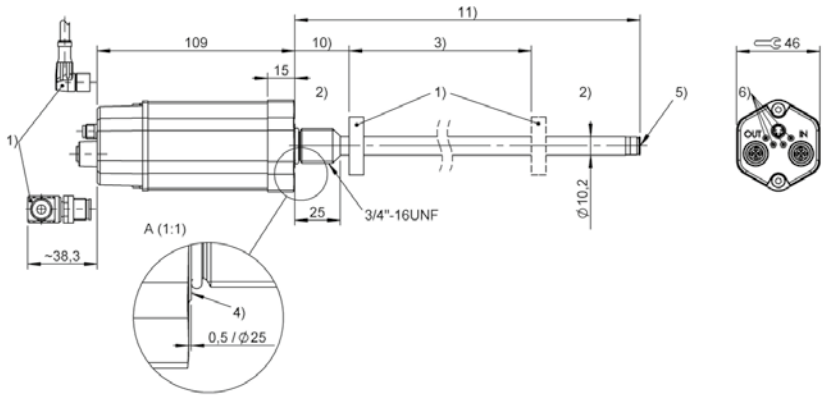
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

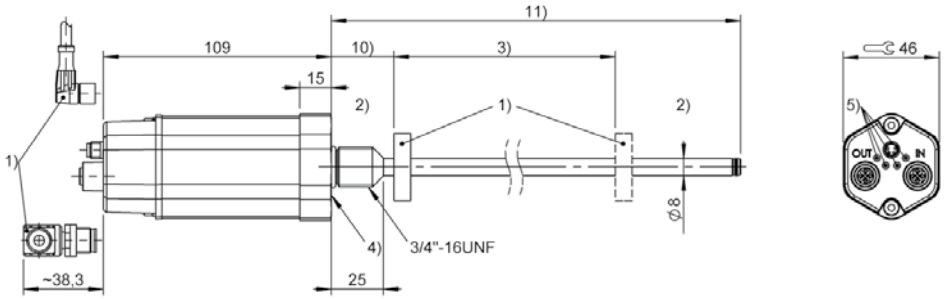
m Connection type characteristic 1
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50E-Mxxxx-Z-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50E-Mxxxx-Y8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL5 -Y/Z- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Repeat accuracy	—
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
T = Profibus

b Operating voltage
1 = 20 … 28 V

c + d Interface characteristic 1 + 2
10 = 1 magnet (1 - 4 magnets can be set)

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

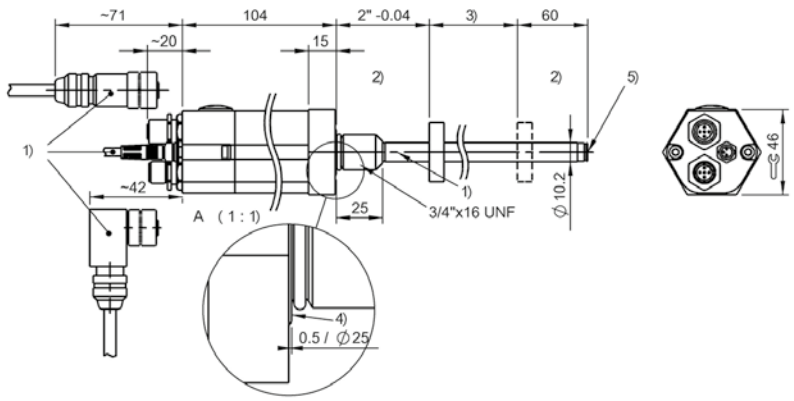
f Style
Y = Inch threads 3/4“-16UNF, f or flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic
103 = 1 x M8x1 connector with 3 pins + 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Txxx-Mxxxx-Z-S103



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL6 -Y/Z- SERIES - VARAN
Interface	Varan
Measuring length	25...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet

d Interface characteristic 2
E = Varan

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M4012: for rod diameter 10.2 mm)

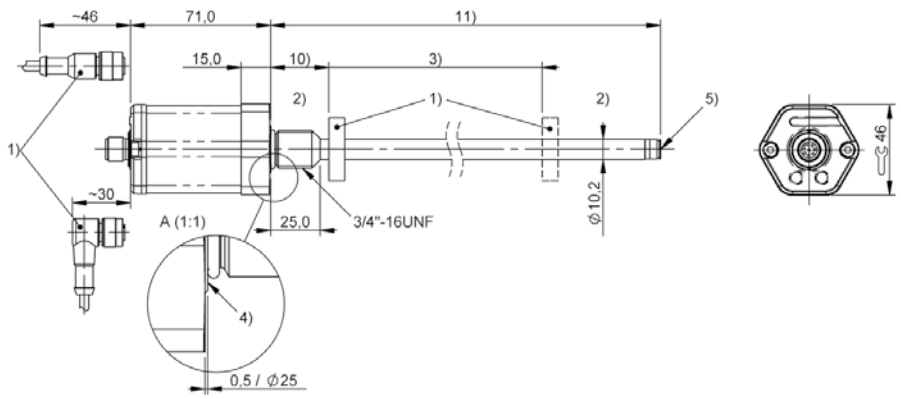
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL-V11V-Mxxxx-Z-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -ZE/ZF- SERIE - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

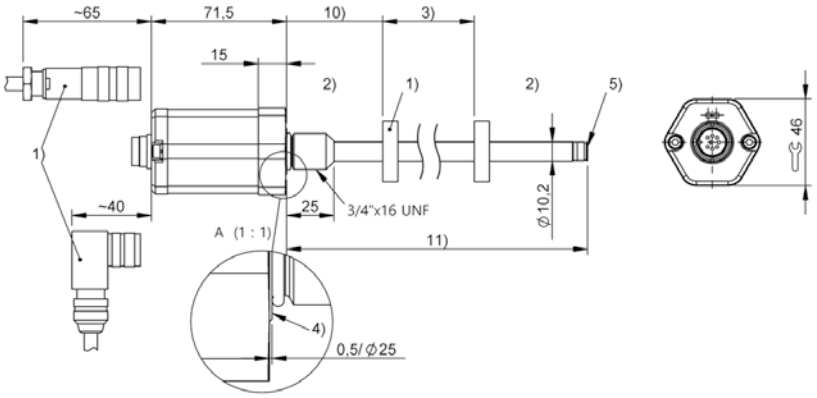
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

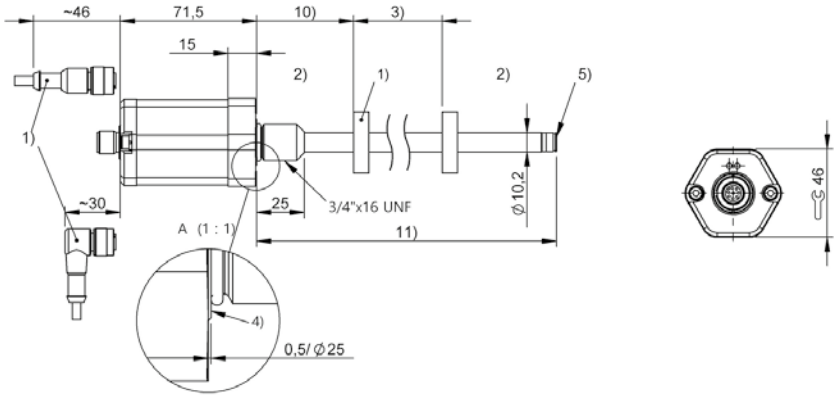
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-ZE-S32



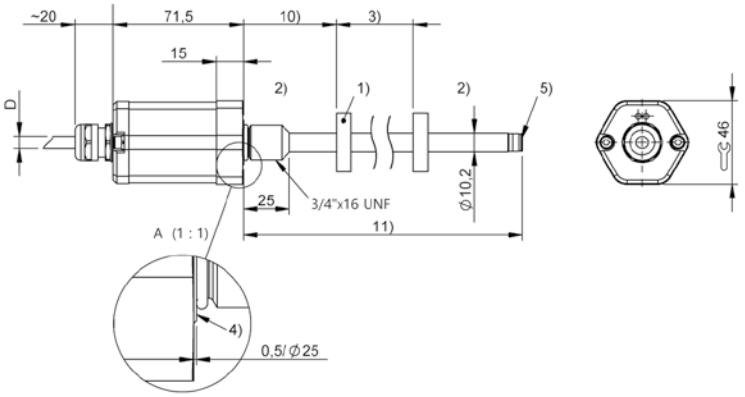
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-ZE-S115



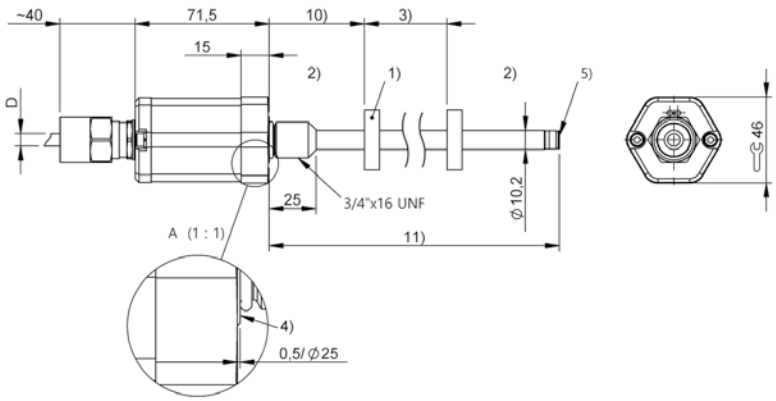
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-ZE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-ZF-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -ZE/ZF- SERIE - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 25…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

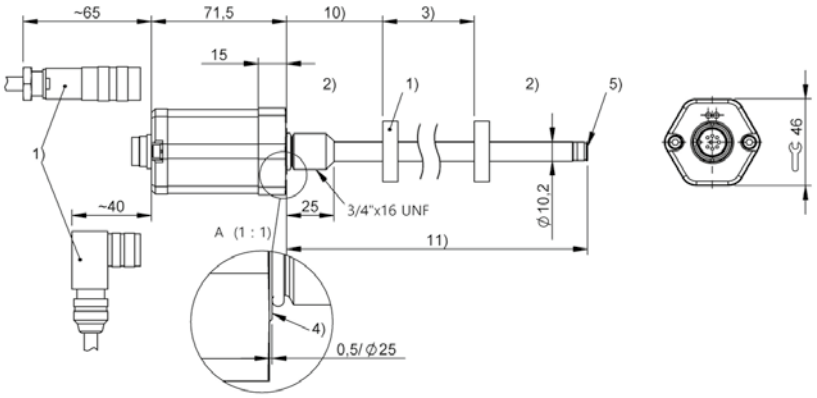
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

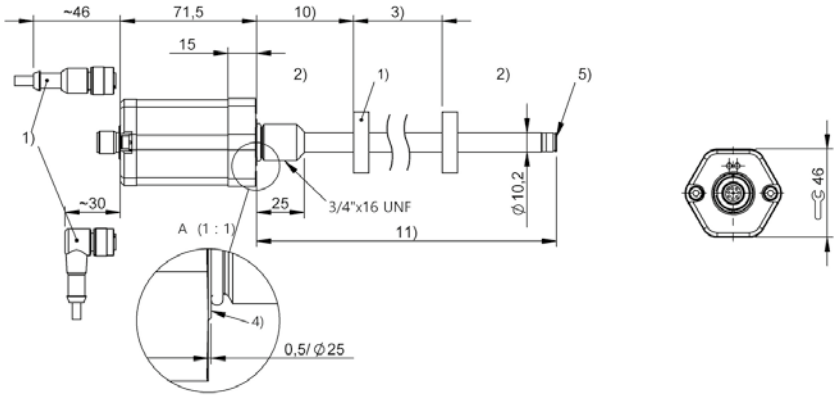
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-ZE-S32



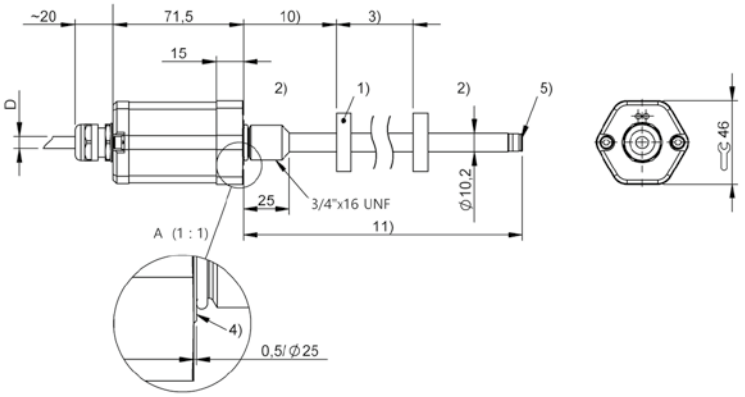
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-ZE-S115



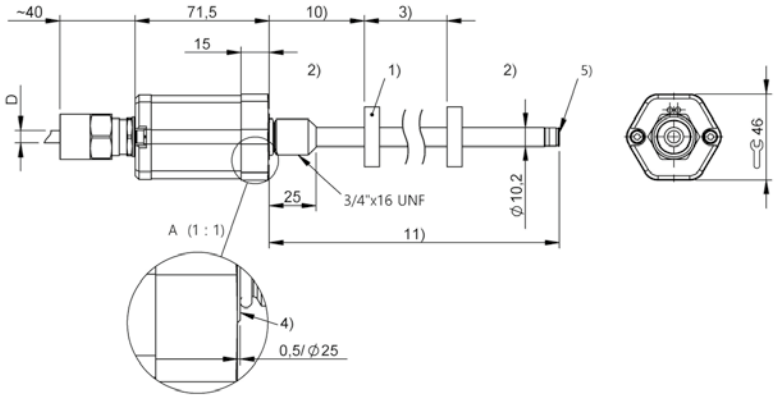
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-ZE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-ZF-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -CD- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...2000 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2000: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

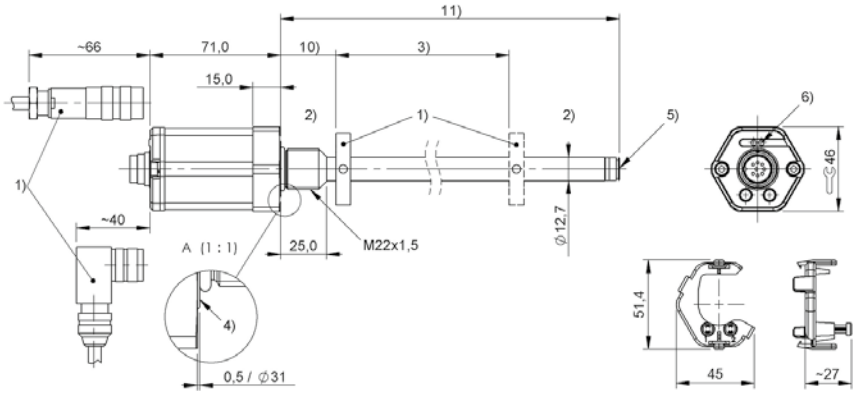
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

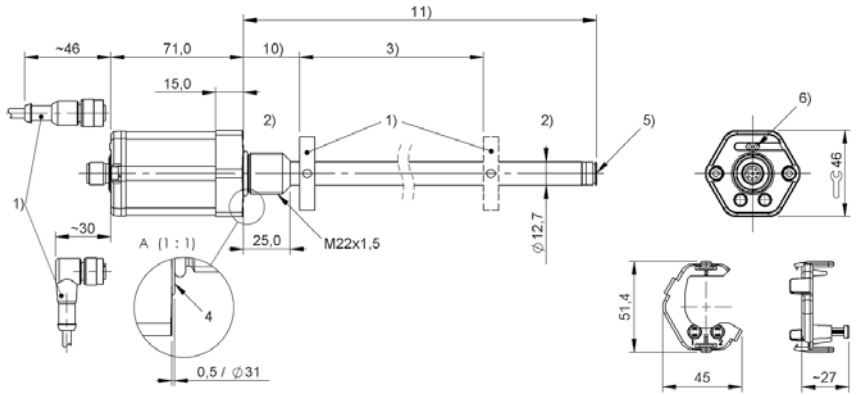
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-CD-S32



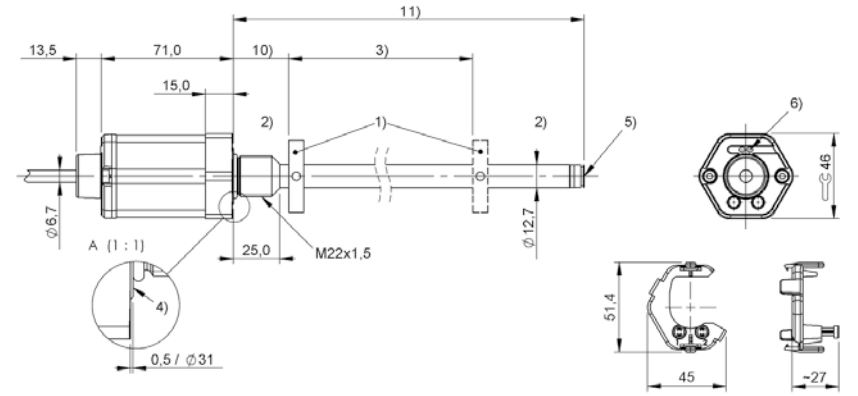
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-G510-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-A510-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...2000 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2000: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

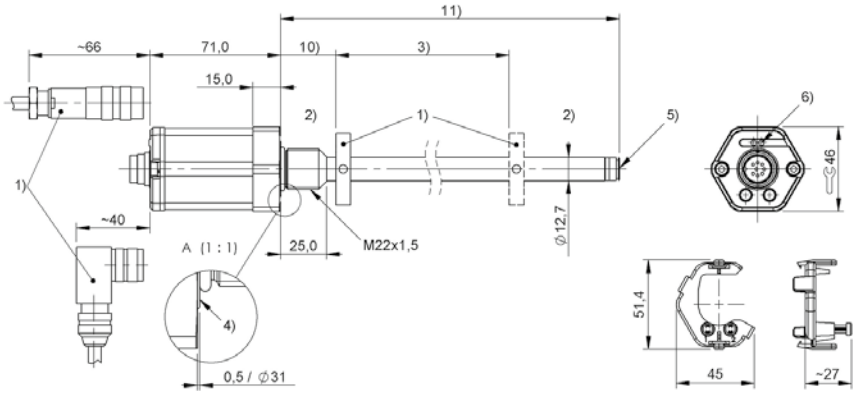
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

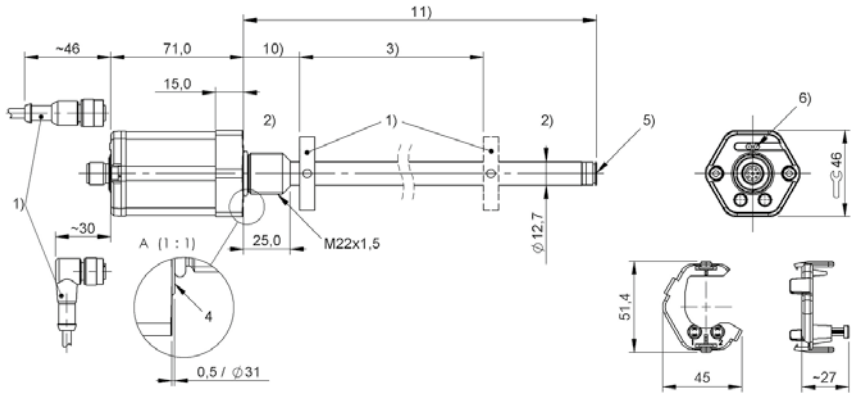
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-CD-S32



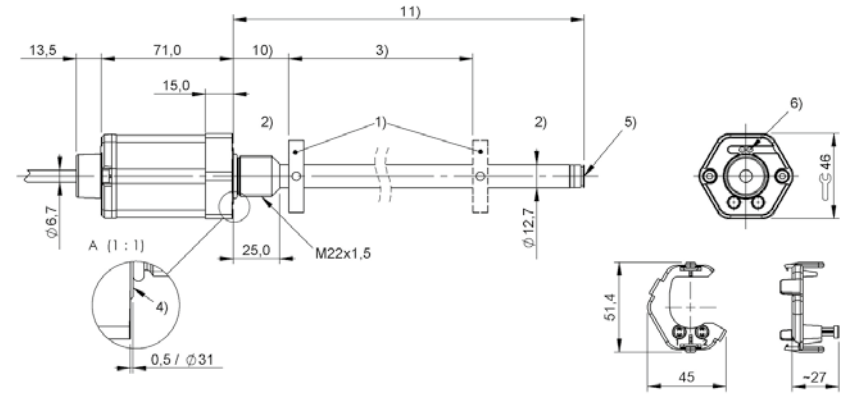
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-C500-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-E570-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…2000: ± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

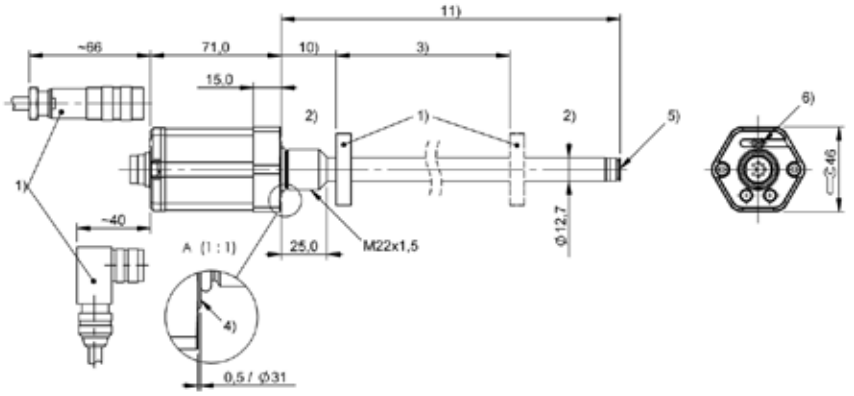
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

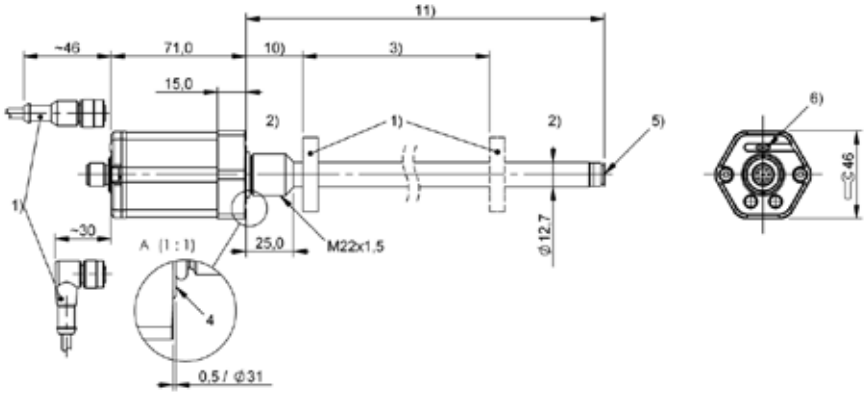
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-CD-S32



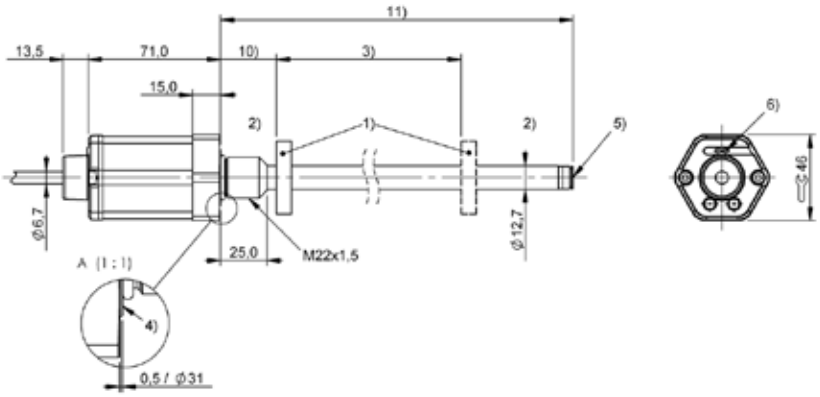
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD- SERIES - SSI
Interface	SSI
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

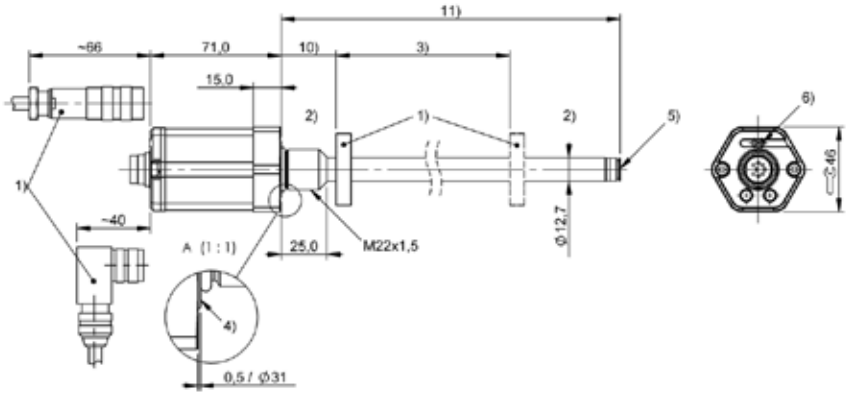
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

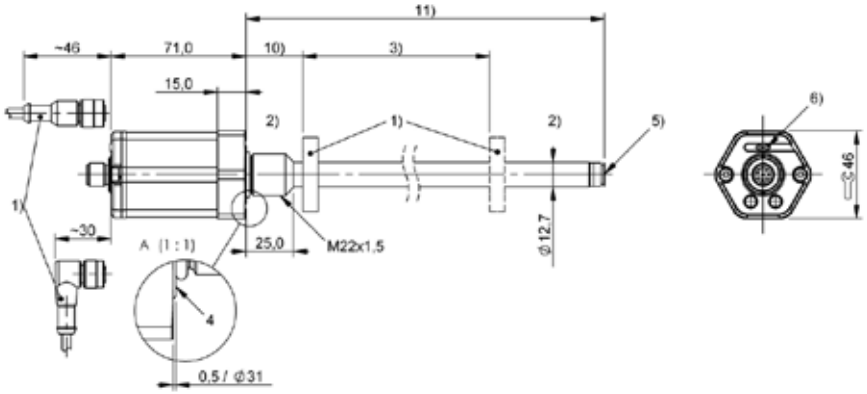
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-CD-S32



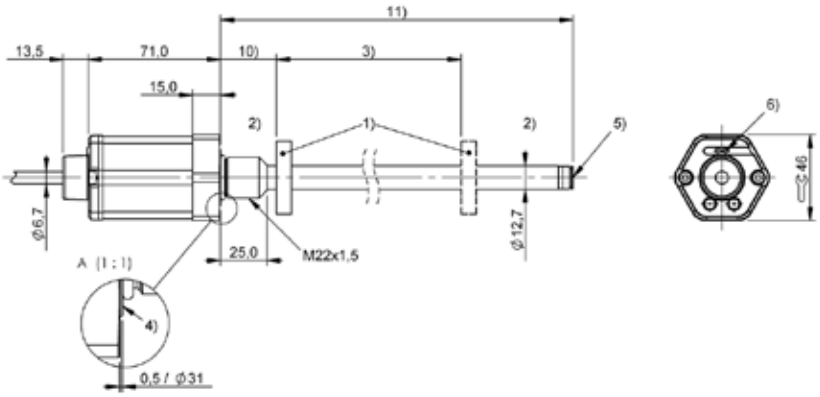
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CE- SERIE - DIGITAL
Interface	Digital pulse
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…2000: ± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

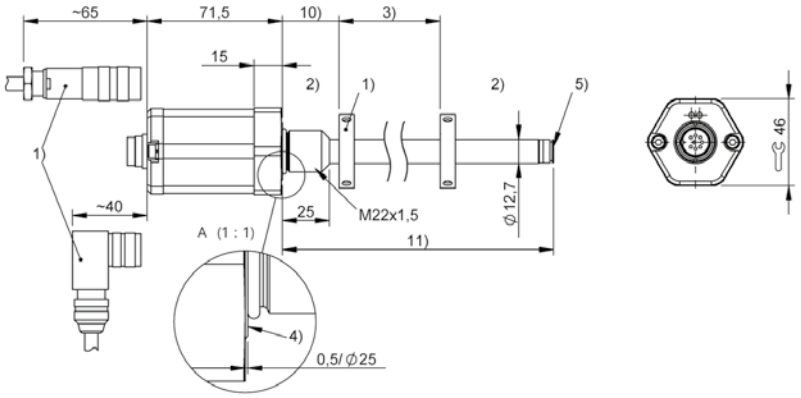
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, f or O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

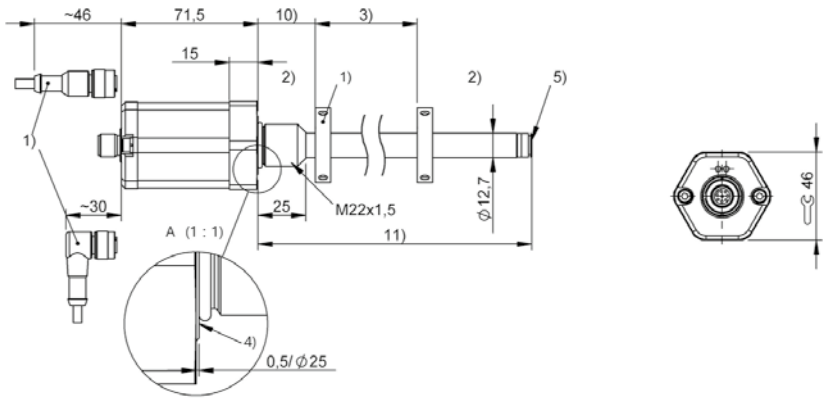
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-CE-S32



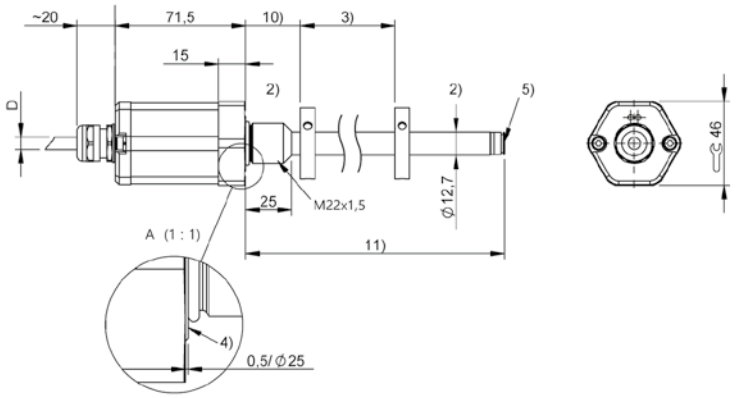
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-CE-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-CE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -CE- SERIE - SSI
Interface	SSI
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

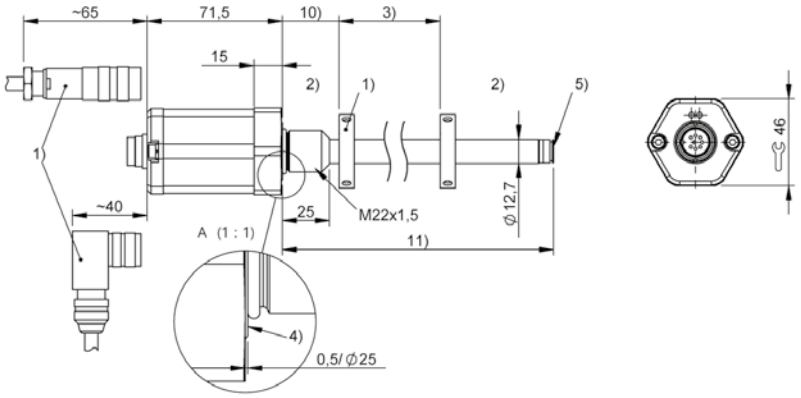
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5,
for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

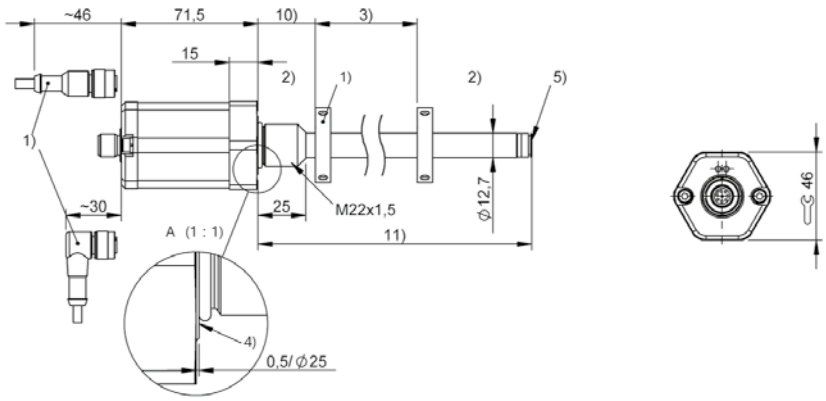
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510-Mxxxx-CE-S32



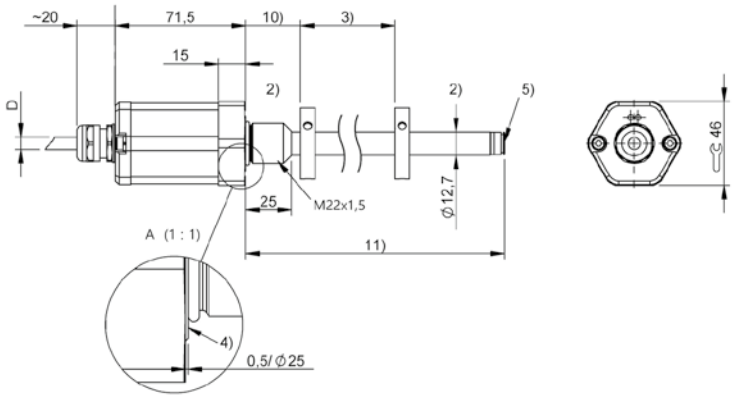
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xx-Mxxxx-CE-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xx-Mxxxx-CE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -H- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

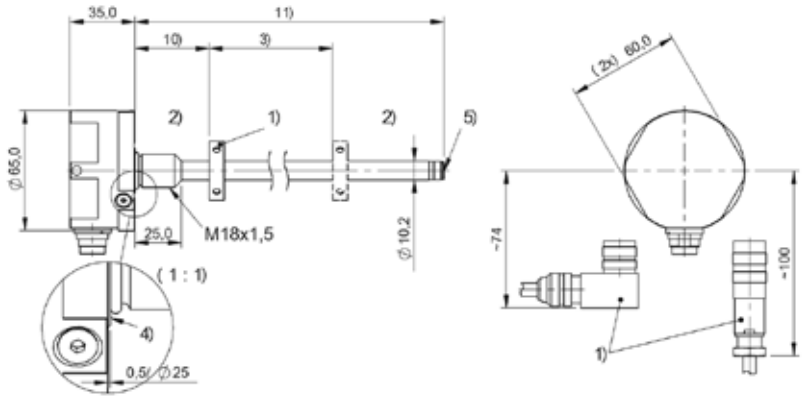
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

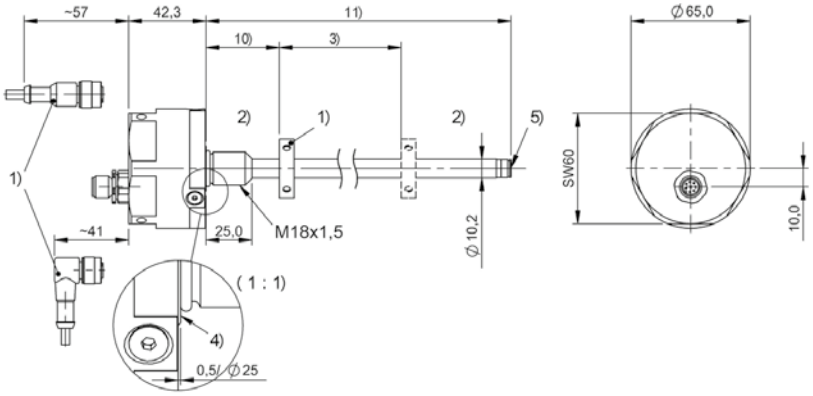
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-H-SR32



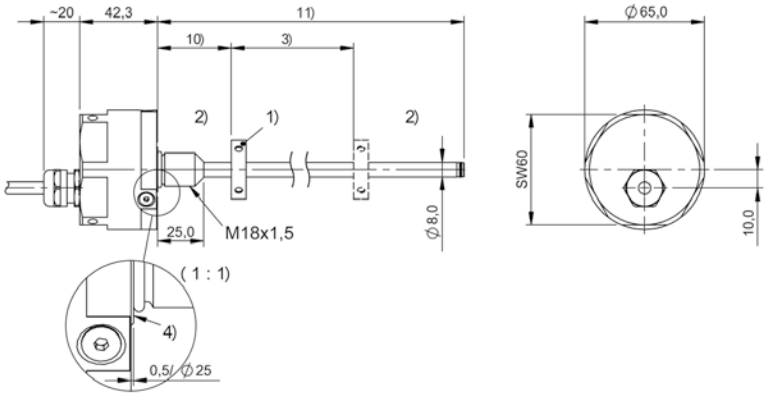
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-H-S115



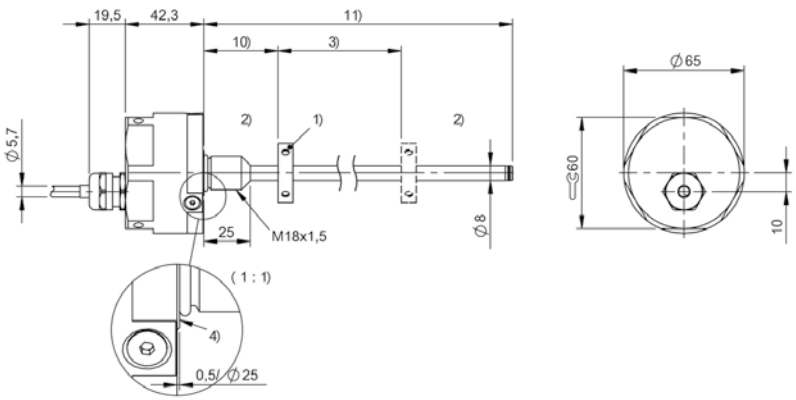
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-H8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-G510-Mxxxx-H8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -H- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

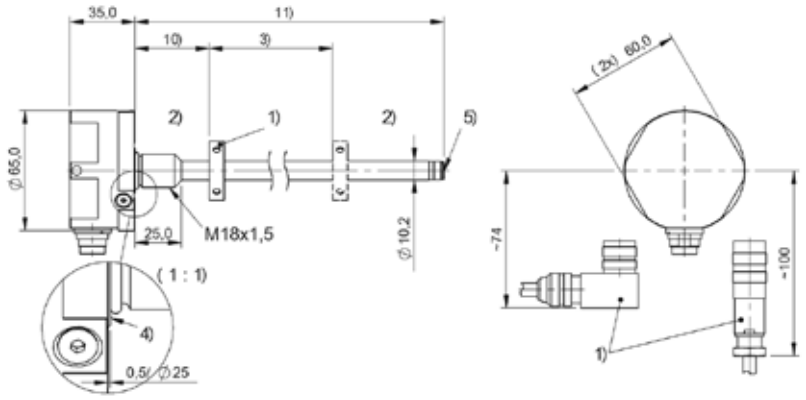
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

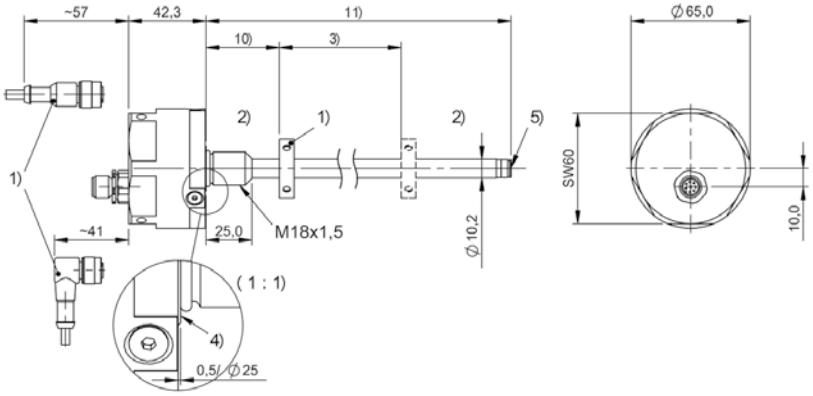
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-H-SR32



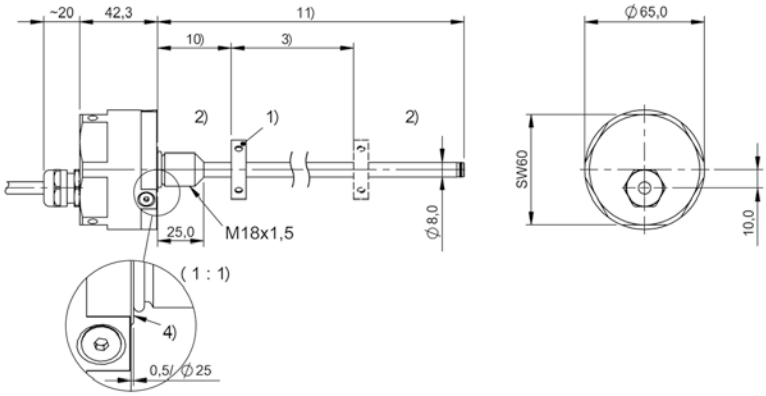
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-H-S115



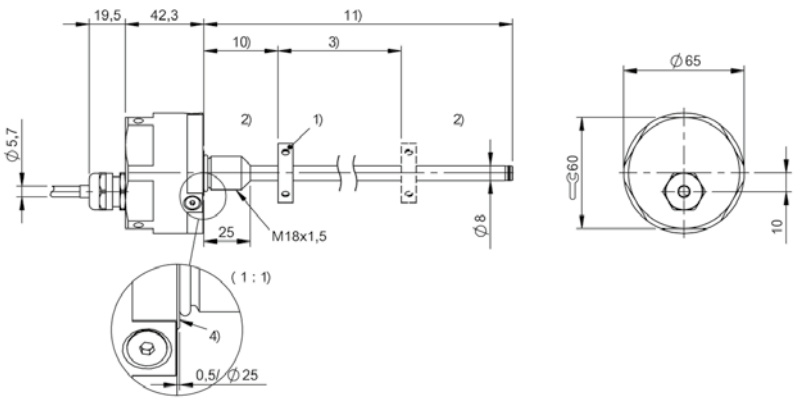
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-H8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-C500-Mxxxx-H8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -H- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

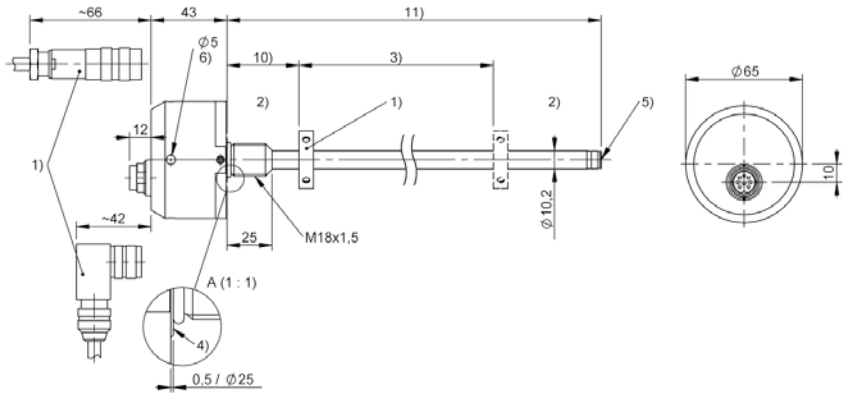
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

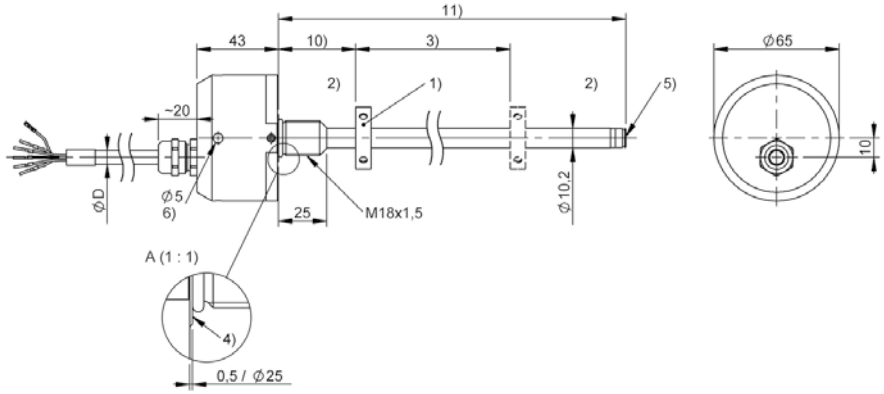
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-H-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-H-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -H- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

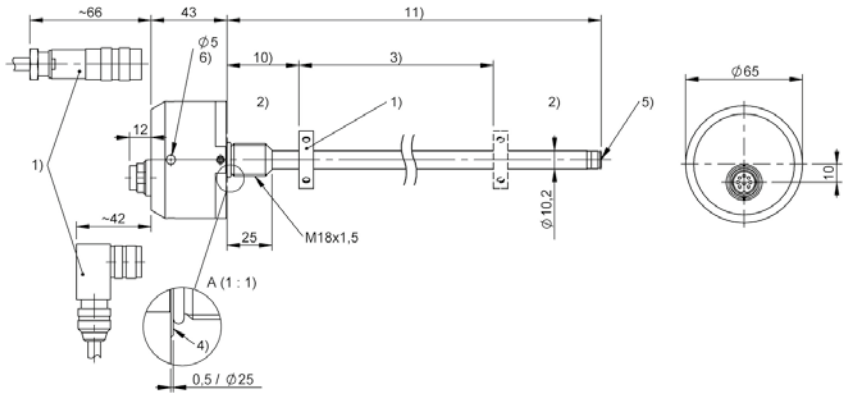
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

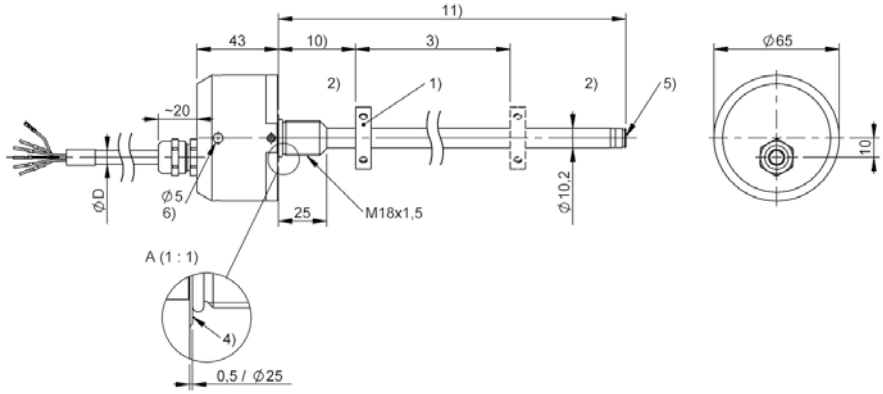
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-H-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-H-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -H- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

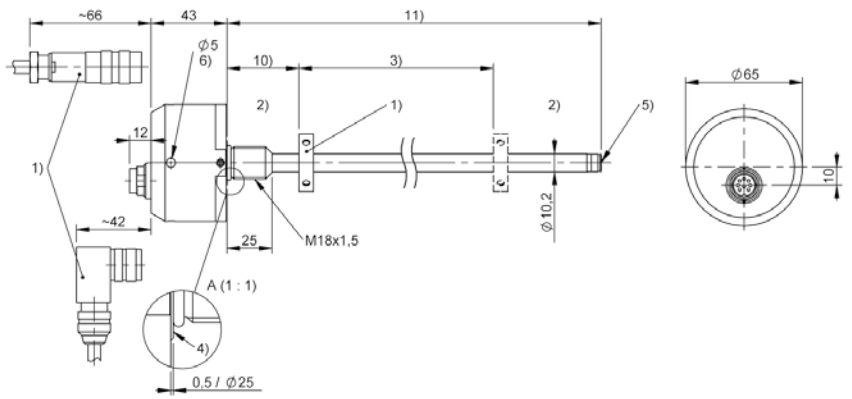
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

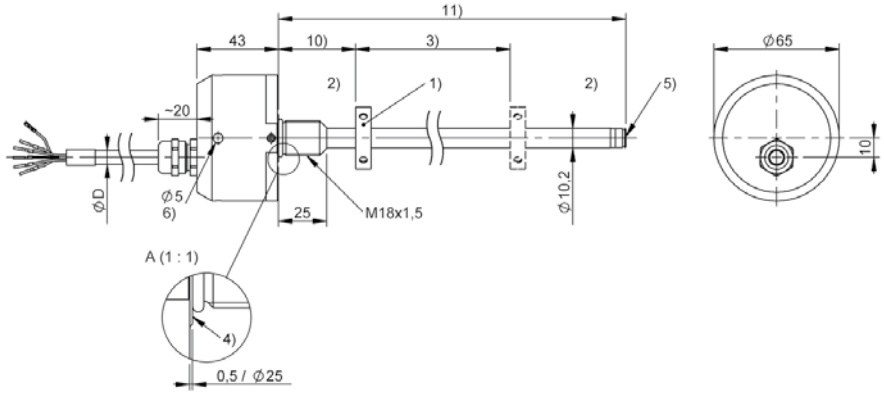
m Connection type characteristic
for connector:
92 = M12x1 connector with 5 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Hxxx-Mxxxx-H-SR92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Hxxx-Mxxxx-H-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -W- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

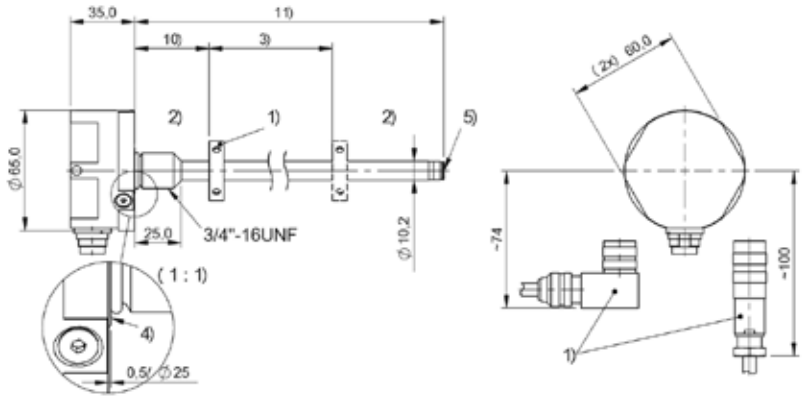
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

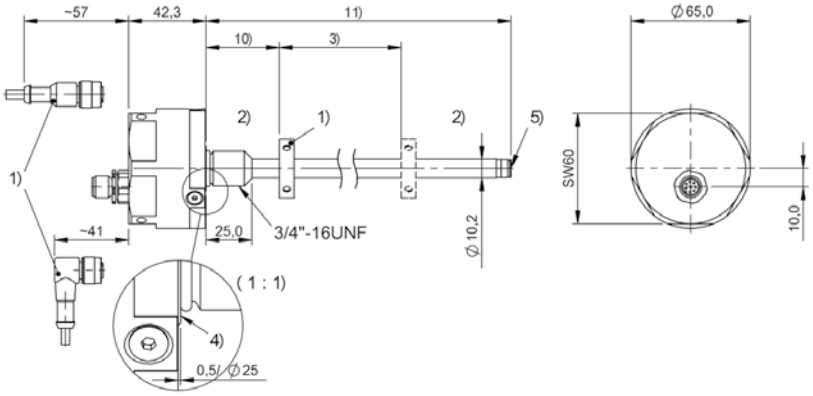
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-W-SR32



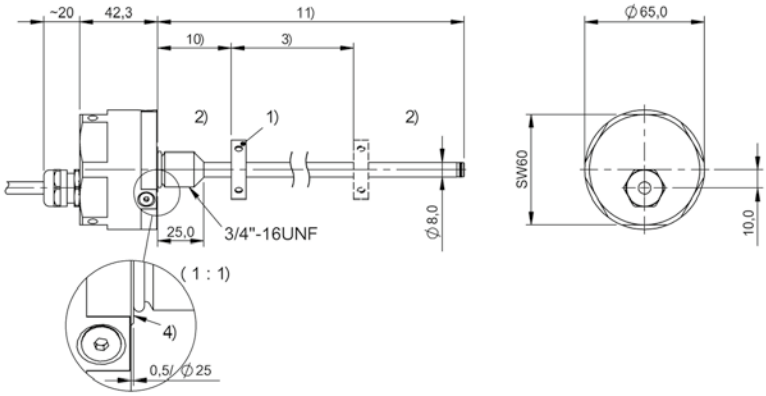
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-W-S115



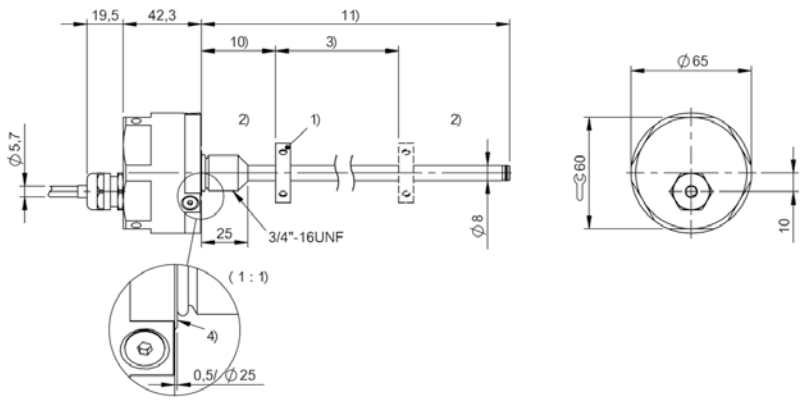
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-W8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-G510-Mxxxx-W8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -W- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

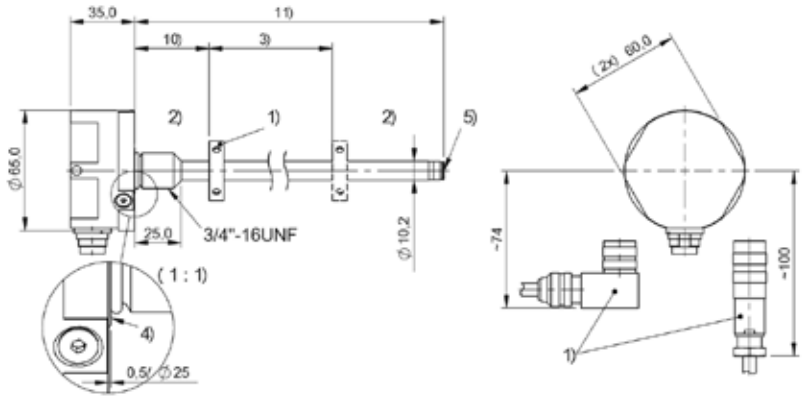
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins

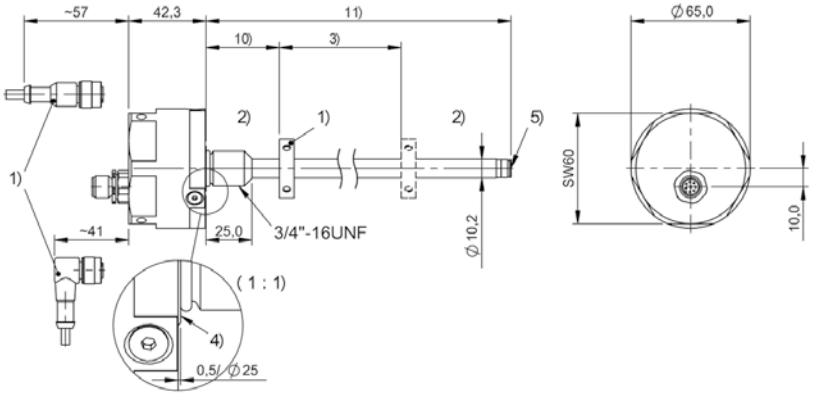
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-W-SR32



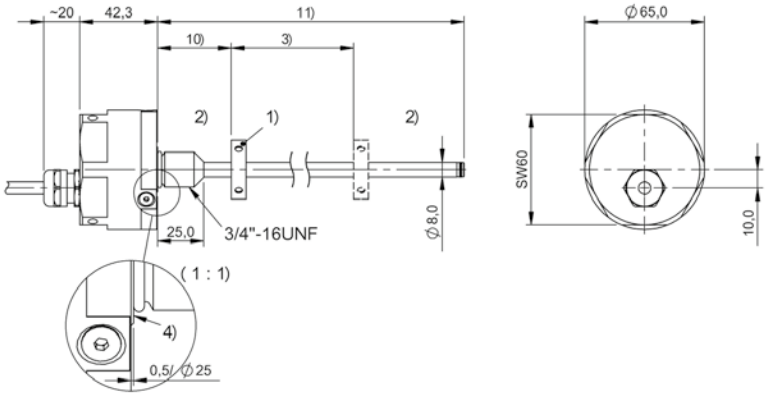
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-W-S115



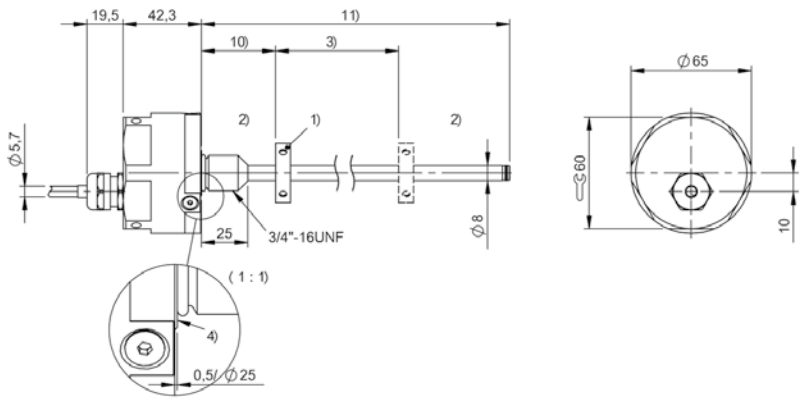
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-W8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-C500-Mxxxx-W8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -W- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

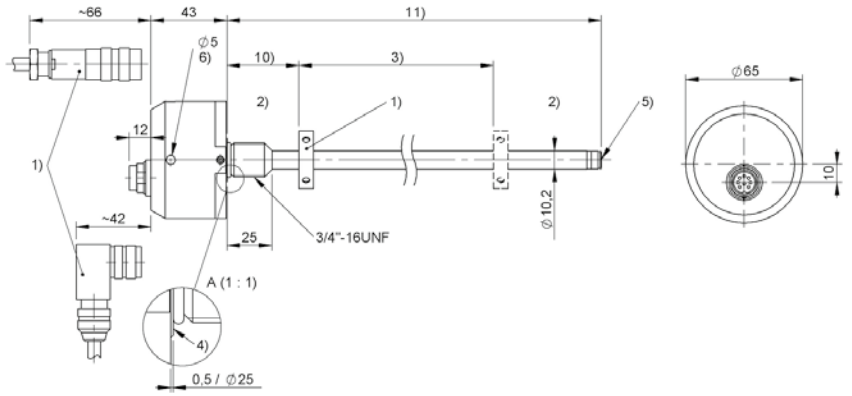
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

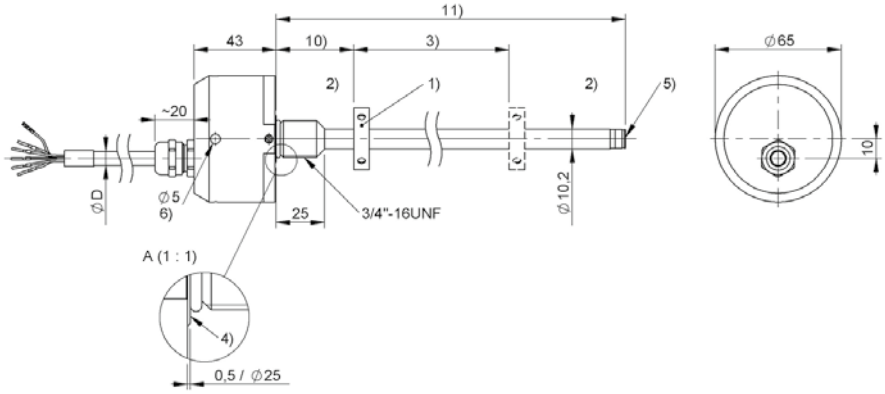
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-W-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-W-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -W- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

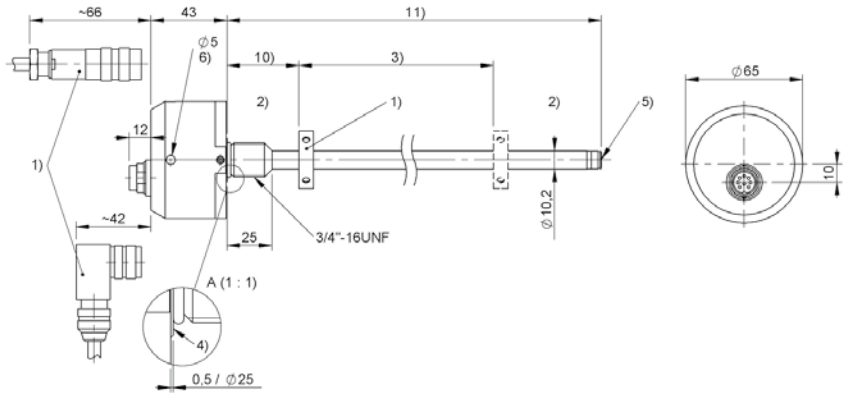
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

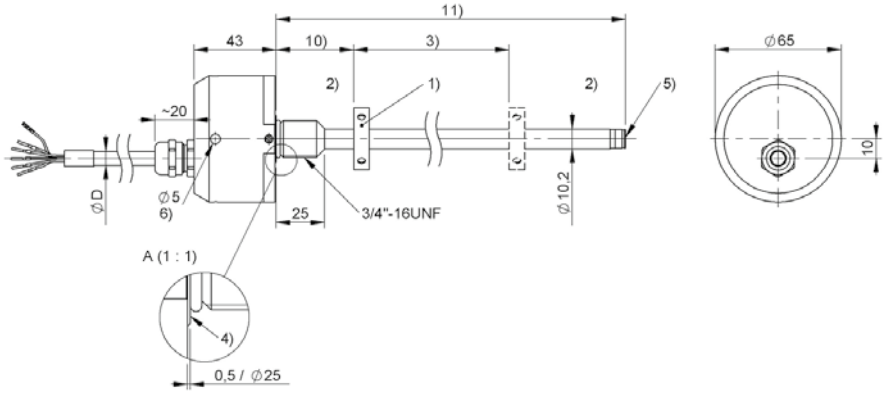
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-W-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-W-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -W- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

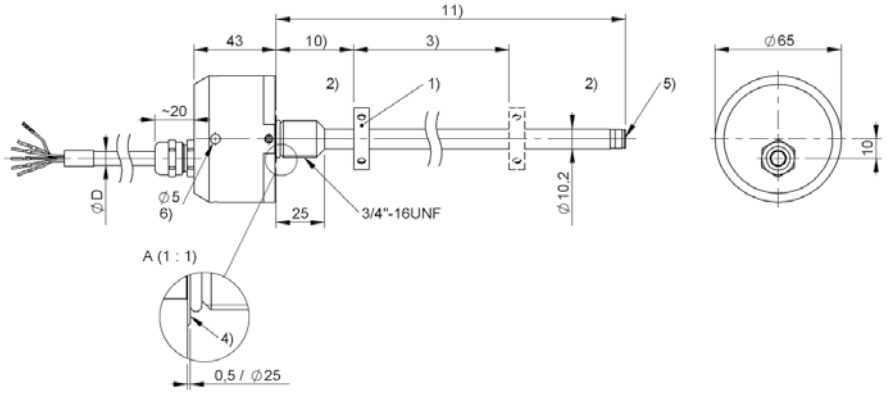
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

m Connection type characteristic 1
for connector:
92 = M12x1 connector with 5 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Hxxx-Mxxxx-W-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -HB- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	I = K, KA: CE + cULus + EAC + WEEE I = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

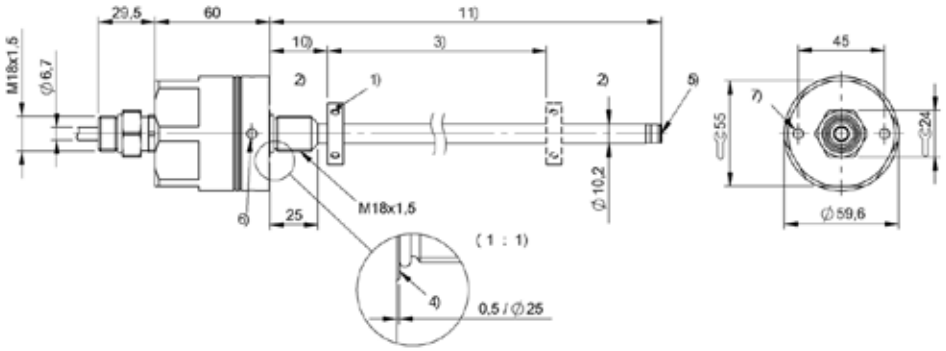
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

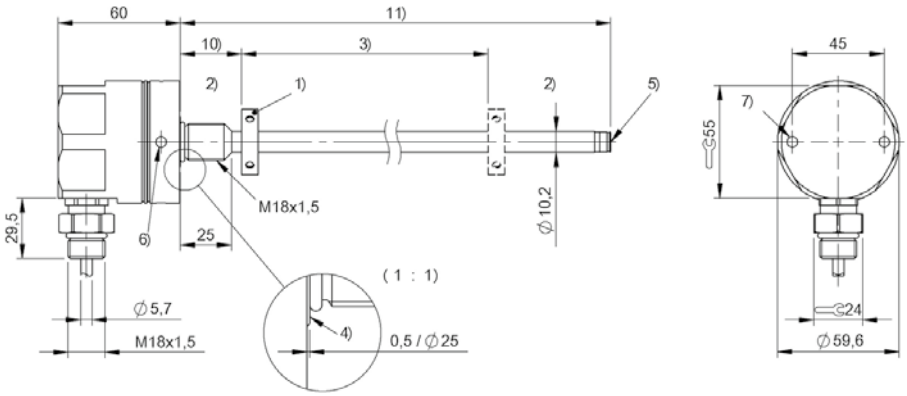
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-HB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-G510-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL7 -HB- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

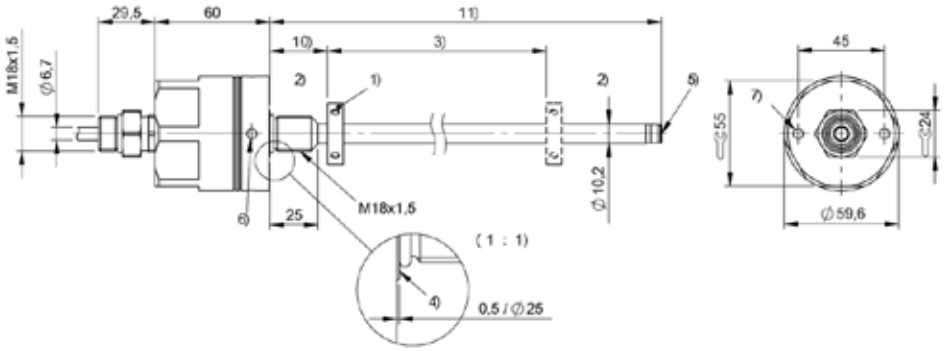
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

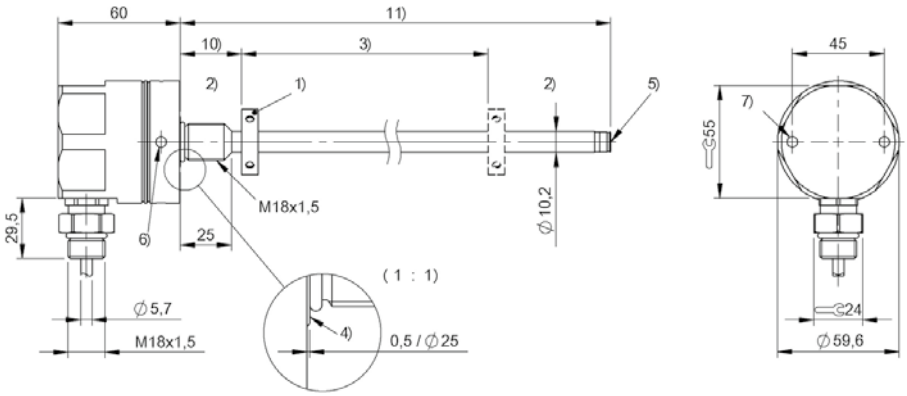
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-HB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-C570-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL5 -HB- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized)

b Operating voltage
1 = 20 … 28 V

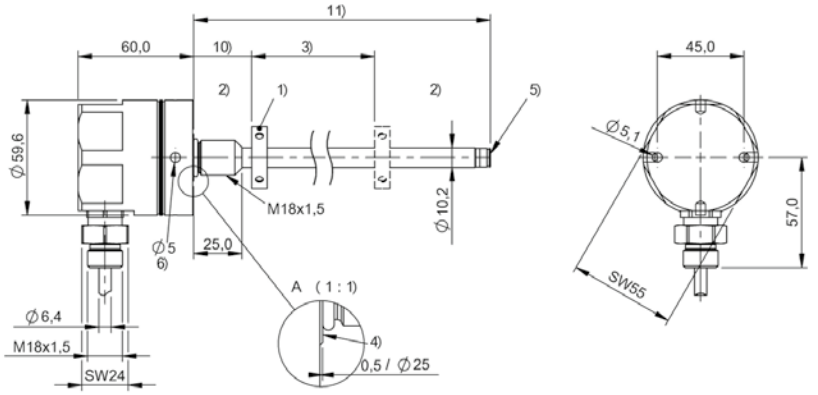
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

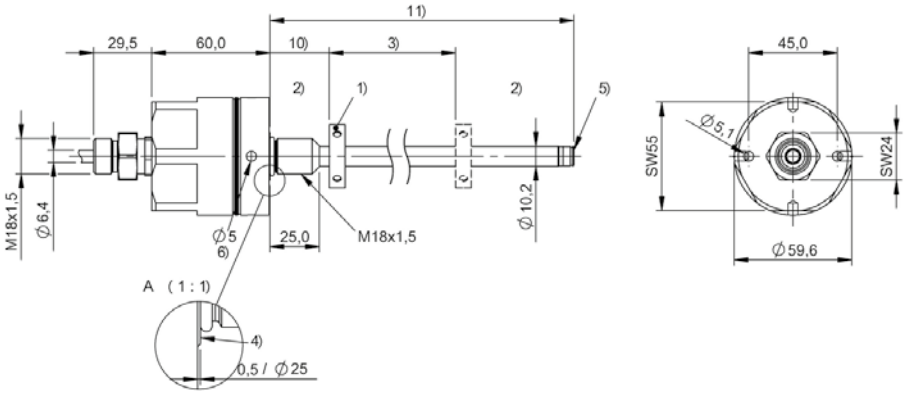
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-HB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -HB- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

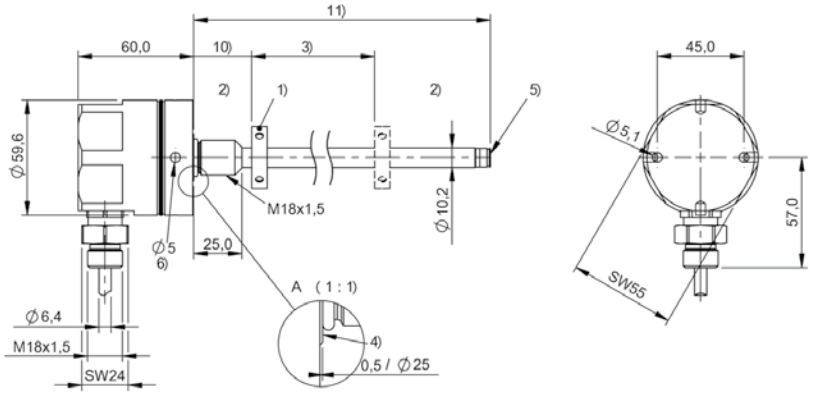
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

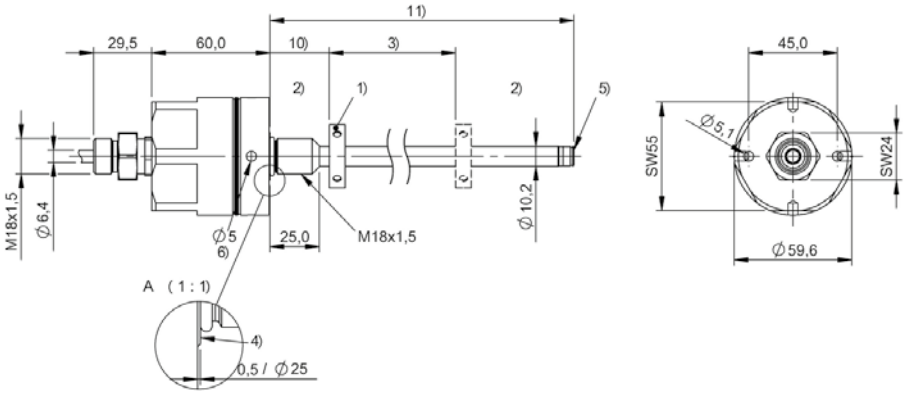
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-HB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -WB- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	I = K, KA: CE + cULus + EAC + WEEE I = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

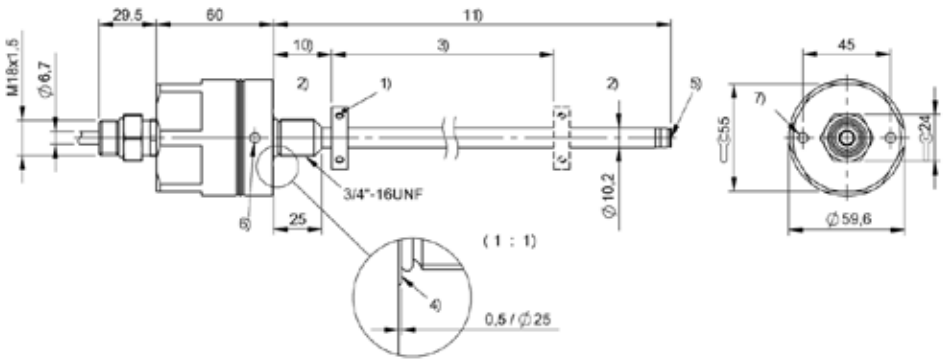
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
WB = Pro Compact inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

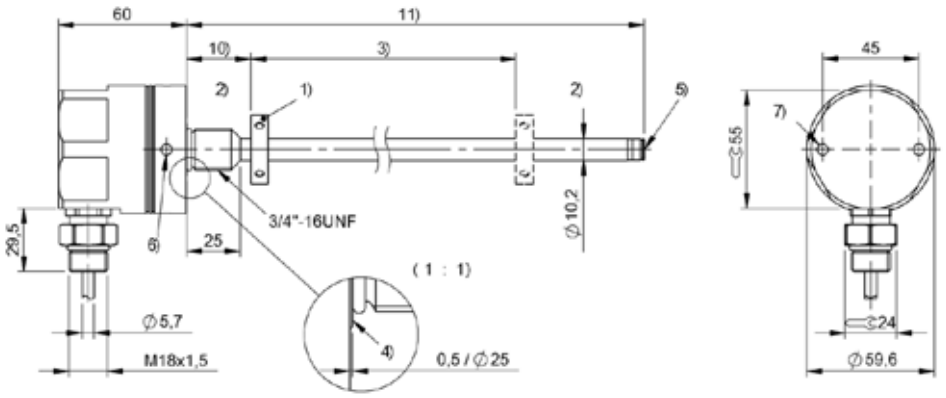
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-WB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-G510-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL7 -WB- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

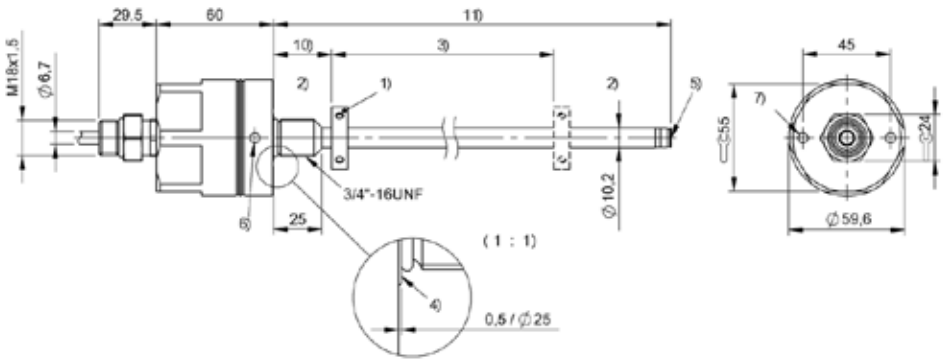
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
WB = Pro Compact, inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

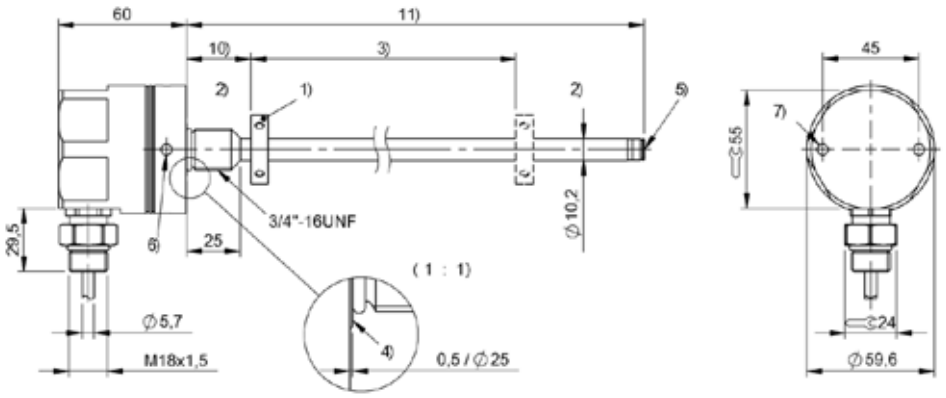
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-WB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-C570-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL5 -WB- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

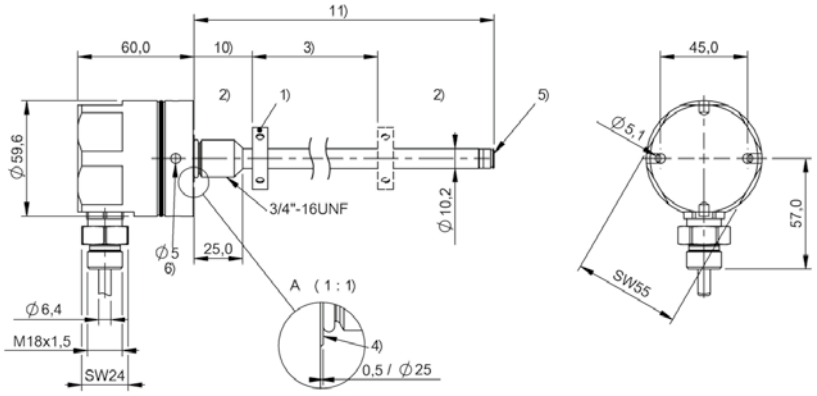
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
WB = Pro Compact, inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

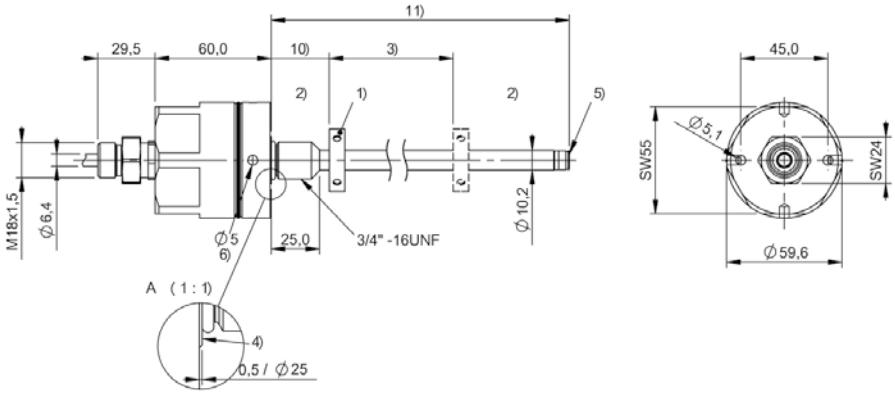
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-WB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -WB- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

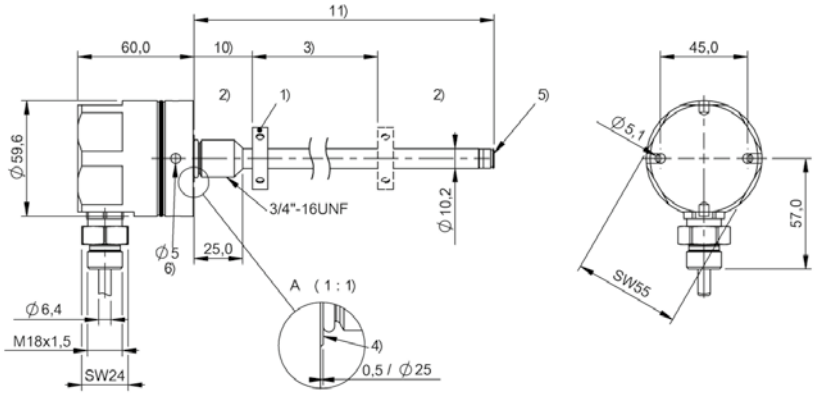
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
WB = Pro Compact, inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

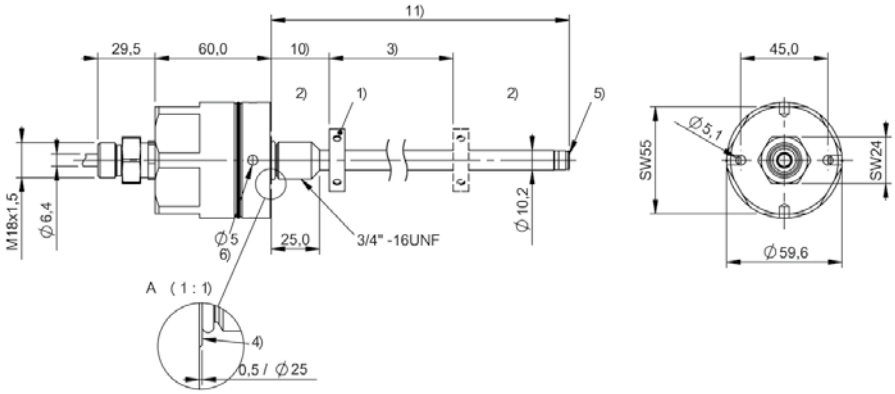
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-WB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -K- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0025…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	l = K: CE + cULus + EAC + WEEE l = F: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

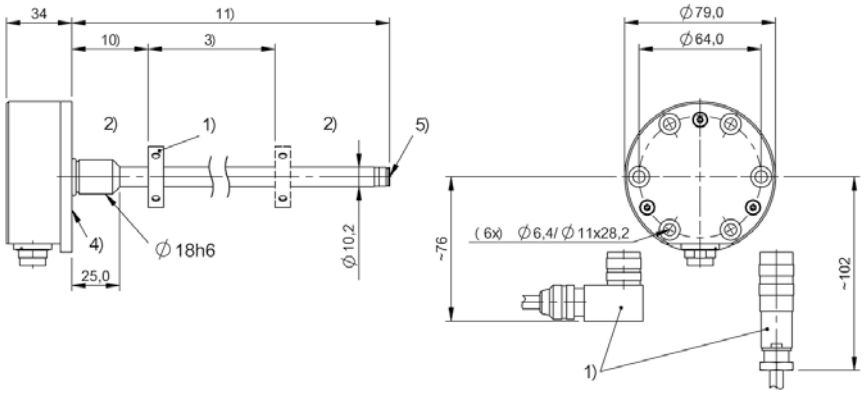
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector
K = Cable out radial (PUR)
F = Cable out radial (PTFE)

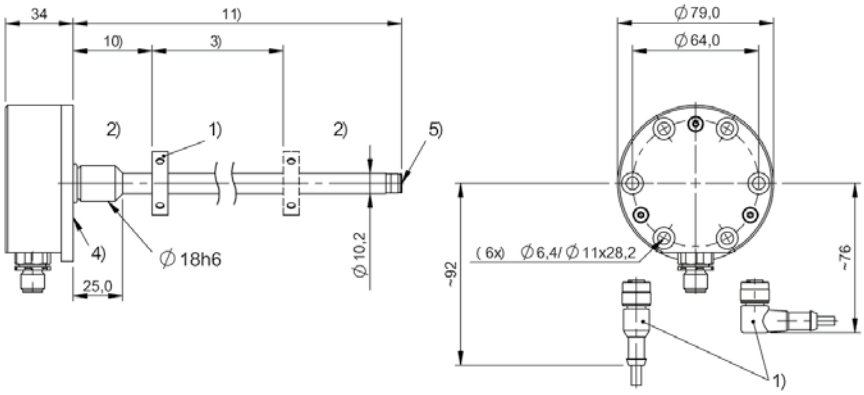
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-K-SR32



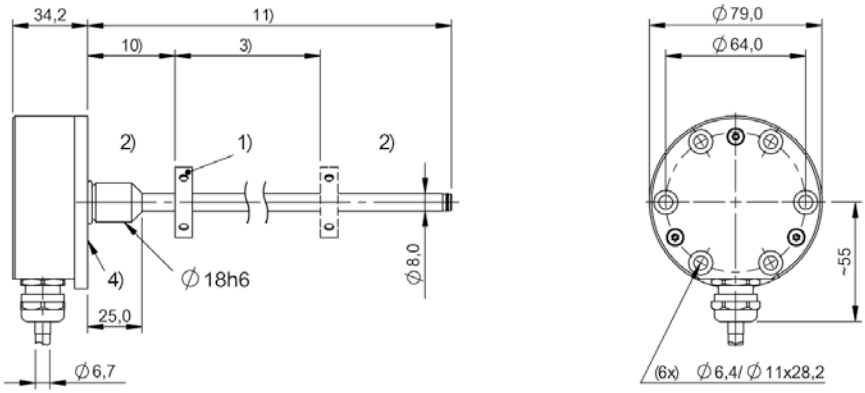
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-K-SR115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-K8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -K- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	l = K: CE + cULus + EAC + WEEE l = F: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

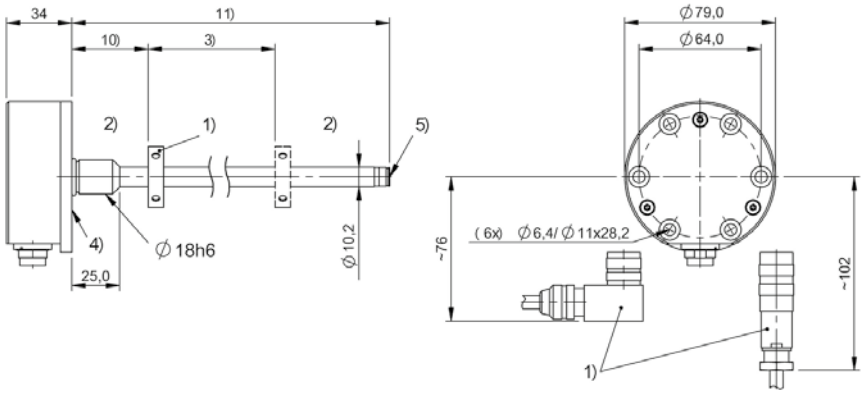
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector
K = Cable out radial (PUR)
F = Cable out radial (PTFE)

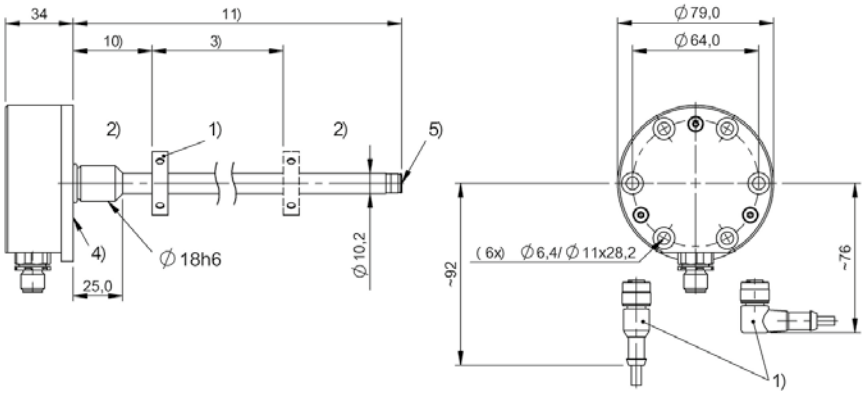
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-K-SR32



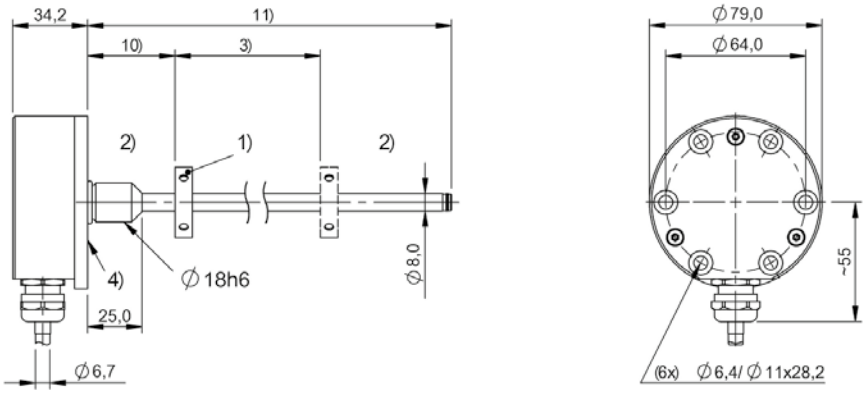
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-K-SR115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-K8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -K- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

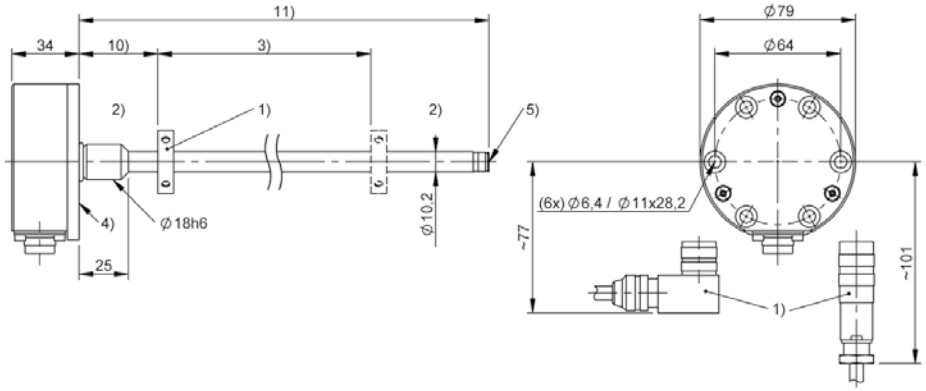
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector, radial
K = Cable out radial (PUR)

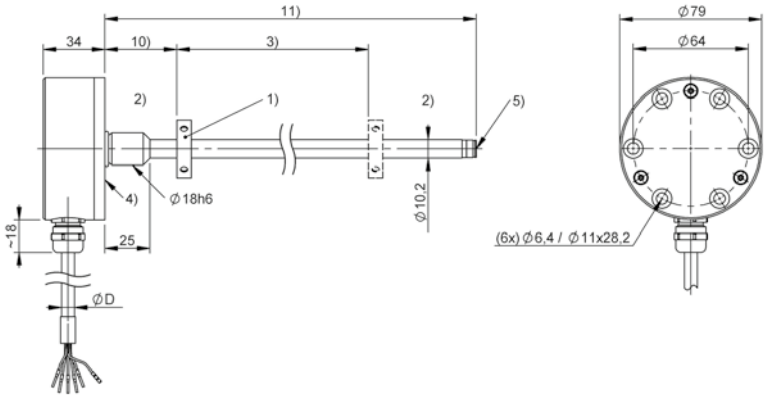
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-A11-Mxxxx-K-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-G11-Mxxxx-K8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL5 -K- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

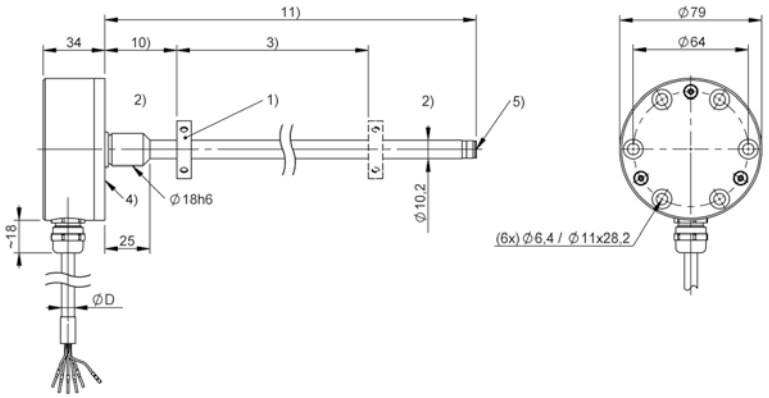
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector, radial
K = Cable out radial (PUR)

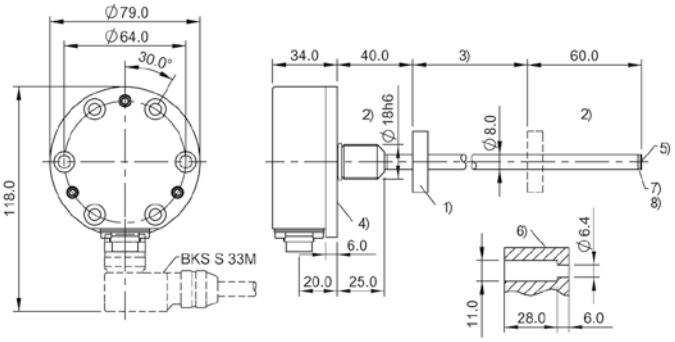
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-K-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-K8-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Detail locating hole. (6x)
7) Lockwasher
8) Ø9 DIN 6799

	BTL7 -SF- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...2500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 1 1/2“ Tri Clamp
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	CE 3-A EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

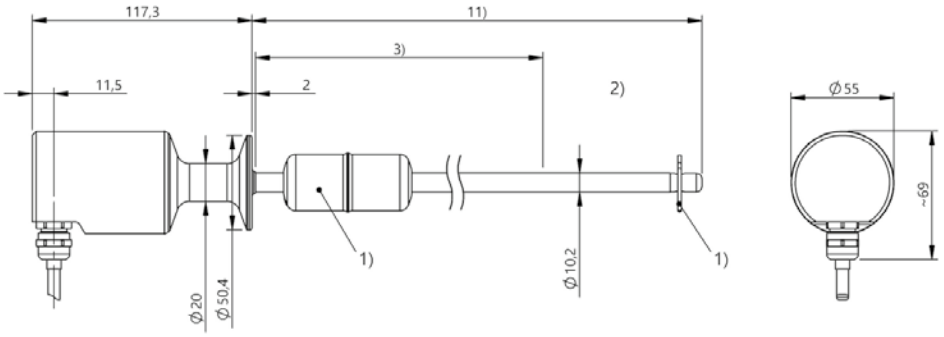
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2500: for rod diameter
10.2 mm)

f Style
SF = Level transducer, 1.5“ Tri-Clamp

l Connection type
F = Cable out radial (PTFE)

m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-SF-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
11) Installation length

	BTL7 -SF- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...2500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 1 1/2“ Tri Clamp
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	CE 3-A EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

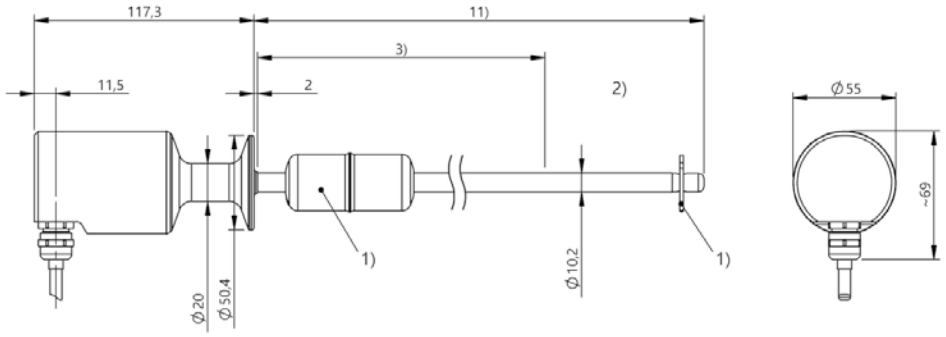
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2500: for rod diameter 10.2 mm)

f Style
SF = Level transducer, 1.5“ Tri-Clamp

l Connection type
F = Cable out radial (PTFE)

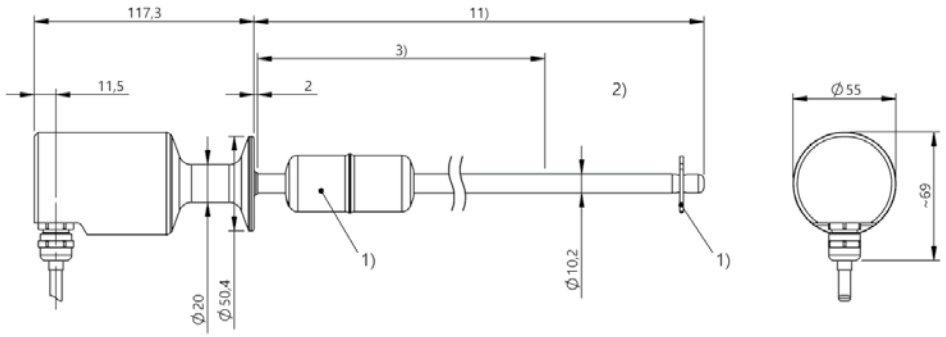
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-SF-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
11) Installation length

BTL7-C570-Mxxxx-SF-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
11) Installation length

	BTL6 -E- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...2000 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS (typ.± 0.02% FS)
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 48h7 fit
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	I = KA: CE + cULus + EAC + WEEE I = LA: CE + EAC + WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
A = Voltage output 0 ... 10 V
B = Voltage output 0 ... 5 V/0.25 ... 4.75 V/0.5 ... 4.5 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
02 = 1 output, only if a = B, then 0.25 ... 4.75 V
03 = 1 output, only if a = B, then 0.5 ... 4.5 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M1016: for rod diameter 8 mm)
(M0050…M2000: for rod diameter 10.2 mm)

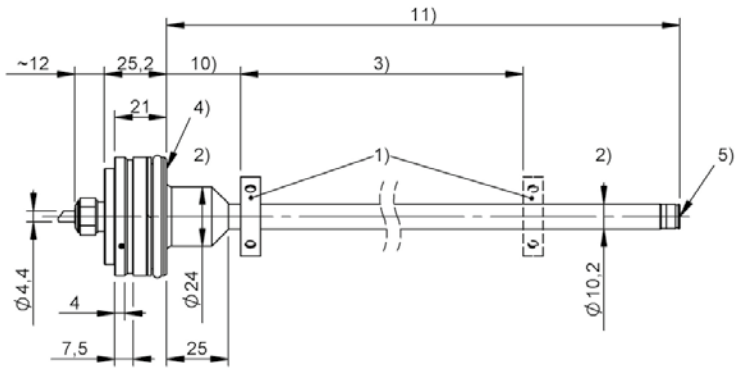
f Style
E2 = Mounting flange 18h6

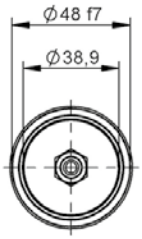
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
KA = Cable (PUR)
LA = Leads (TPE-E)

m Connection type characteristic 1
for leads (length in meters):
0,07, 0,15, 0,20, 0,30
for cable (length in meters):
02, 05, 10, 15, 20

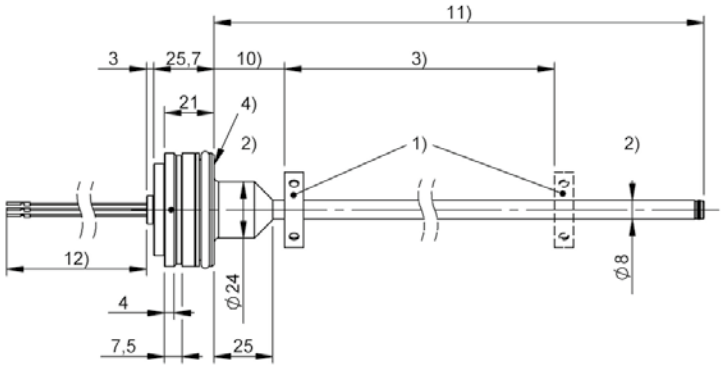
BTL6-A500-Mxxxx-E2-KAxx

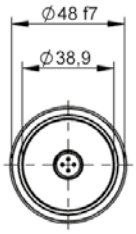




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length
12) Cable length

BTL6-B500-Mxxxx-E28-LAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length
12) Cable length

	BTL6 -E- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...2000 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS (typ.± 0.02% FS)
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 48h7 fit
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	l = KA: CE + cULus + EAC + WEEE l = LA: CE + EAC + WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor Generation 6

a interface
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M1016: for rod diameter 8 mm)
(M0050…M2000: for rod diameter 10.2 mm)

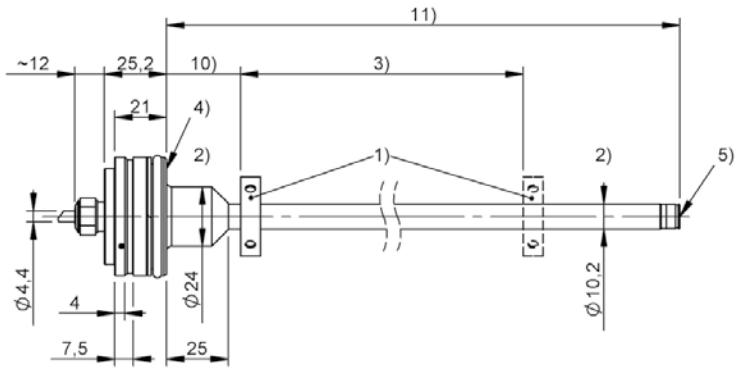
f Style
E2 = Mounting flange 18h6

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
KA = Cable (PUR)
LA = Leads (TPE-E)

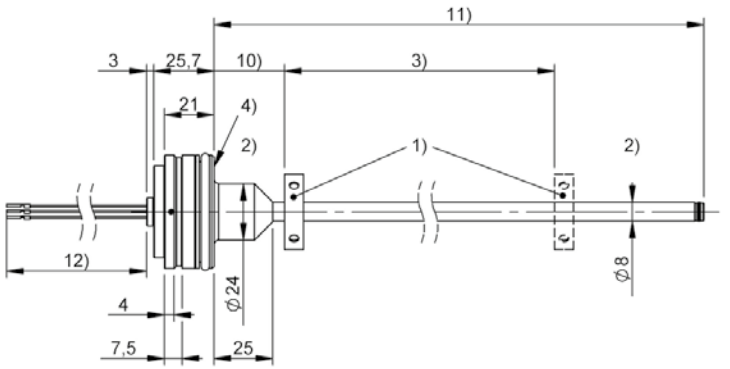
m Connection type characteristic 1
for leads (length in meters):
0,07, 0,15, 0,20, 0,30
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL6-E500-Mxxxx-E2-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length
12) Cable length

BTL6-E500-Mxxxx-E28-LAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length
12) Cable length

	BTL6 -E- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...2000 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS (typ.± 0.02% FS)
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 48h7 fit
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	I = KA: CE + cULus + EAC + WEEE I = LA: CE + EAC + WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor Generation 6

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = Digital start/stop interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M1016: for rod diameter 8 mm)
(M0050…M2000: for rod diameter 10.2 mm)

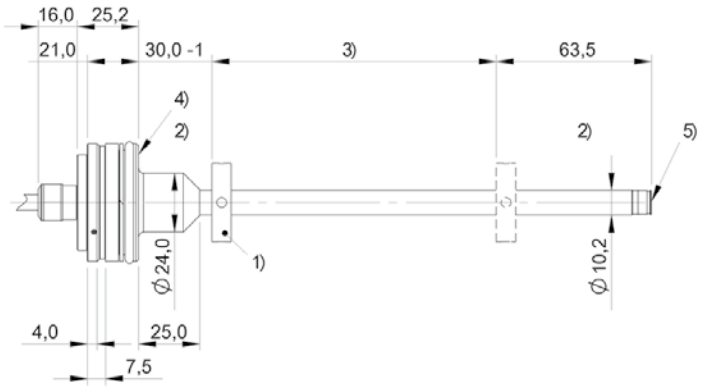
f Style
E2 = Mounting flange 18h6

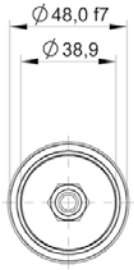
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
KA = Cable (PUR)
LA = Leads (TPE-E)

m Connection type characteristic 1
for leads (length in meters):
0,07, 0,15, 0,20, 0,30
for cable (length in meters):
02, 05, 10, 15, 20, 30

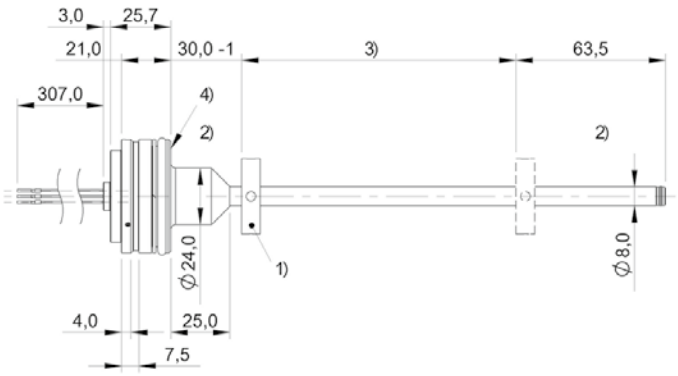
BTL6-P510-Mxxxx-E2-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL6-P510-Mxxxx-E28-LAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -TB- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

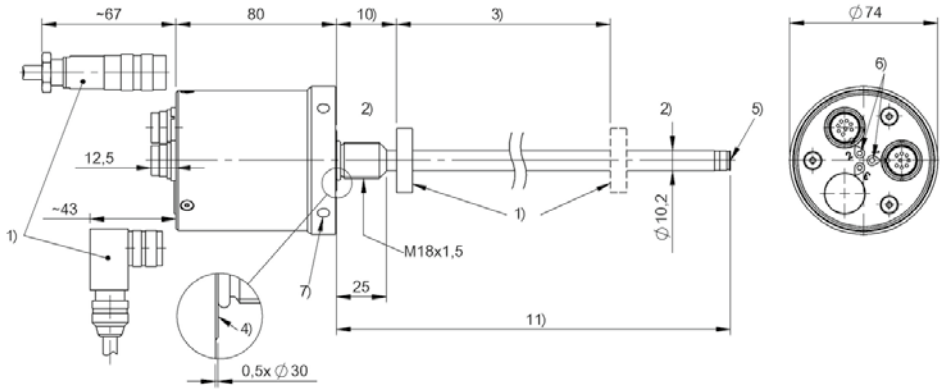
f Form factor
TB = Mounting threads M18x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

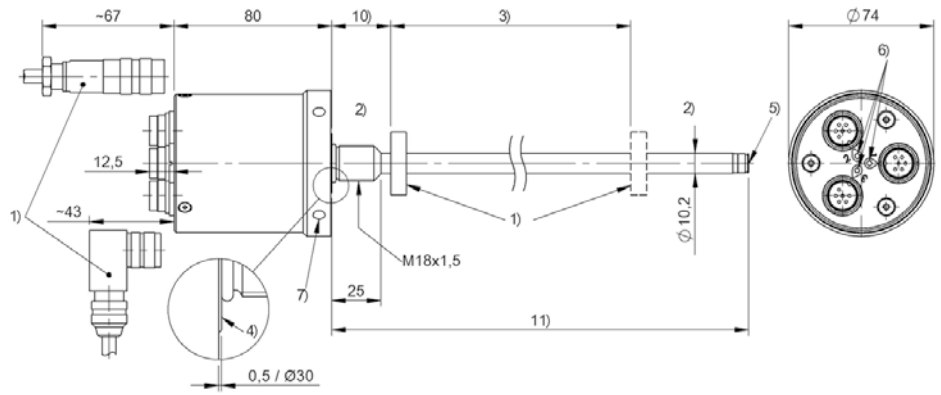
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-A504-Mxxxx-TB2-S32



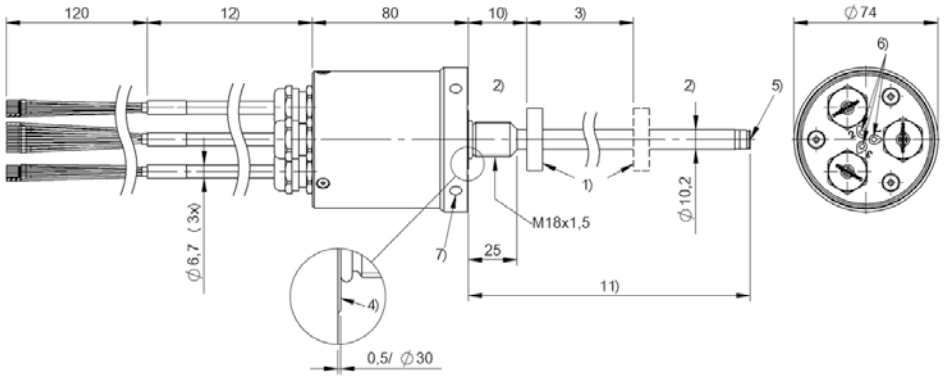
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-G505-Mxxxx-TB3-S135



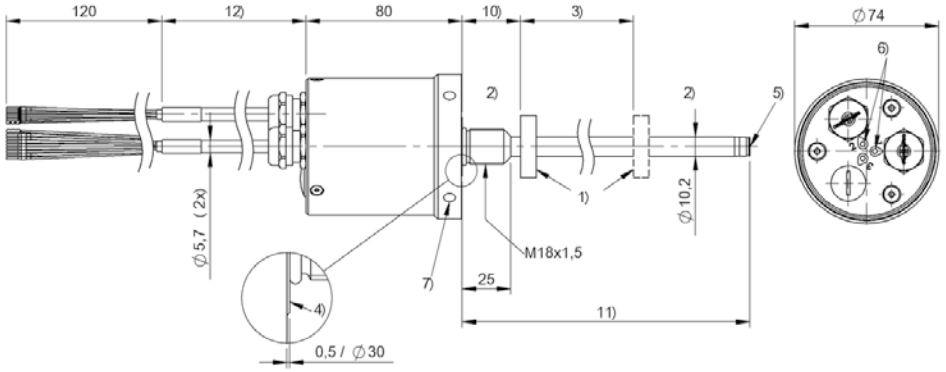
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-A505-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-G504-Mxxxx-TB2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TB- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

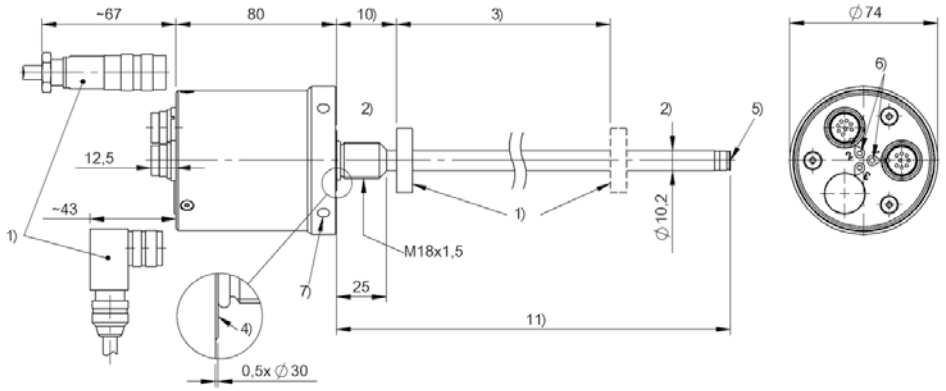
f Form factor
TB = Mounting threads M18x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

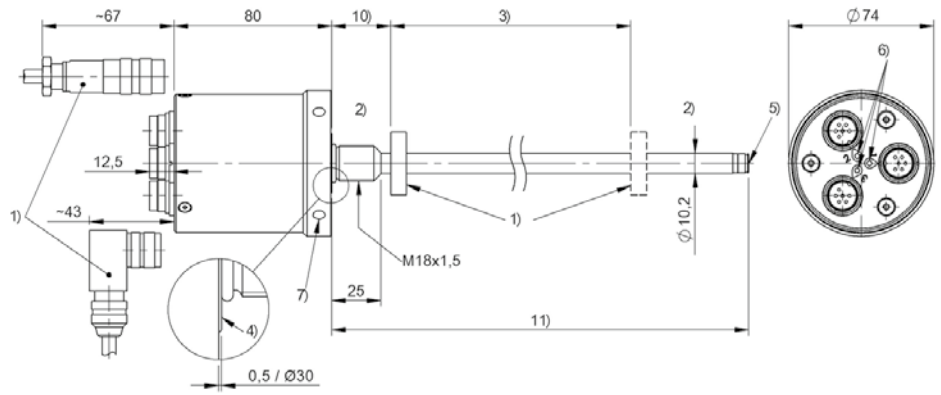
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TB2-S32



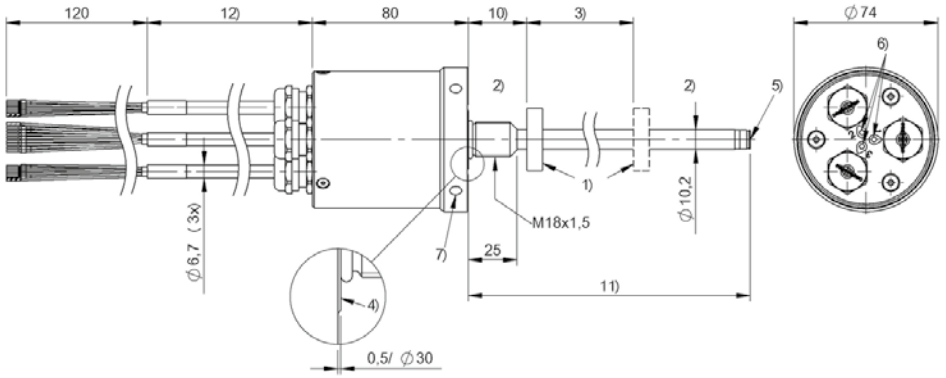
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TB3-S135



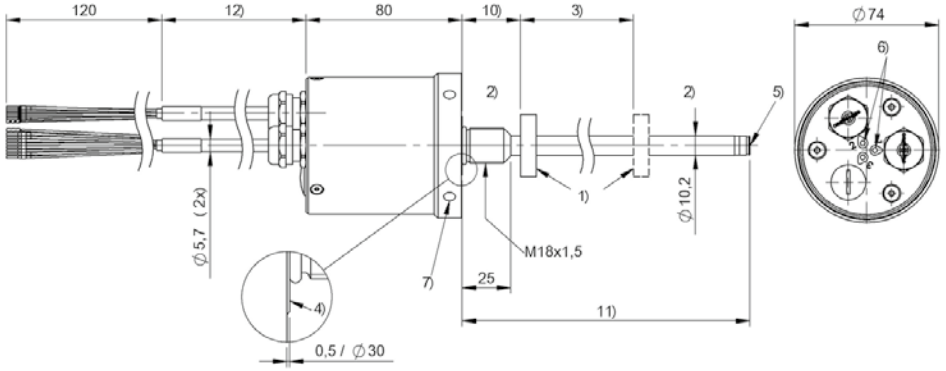
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TB2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TB- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TB = Mounting threads M18x1.5, for O-Ring

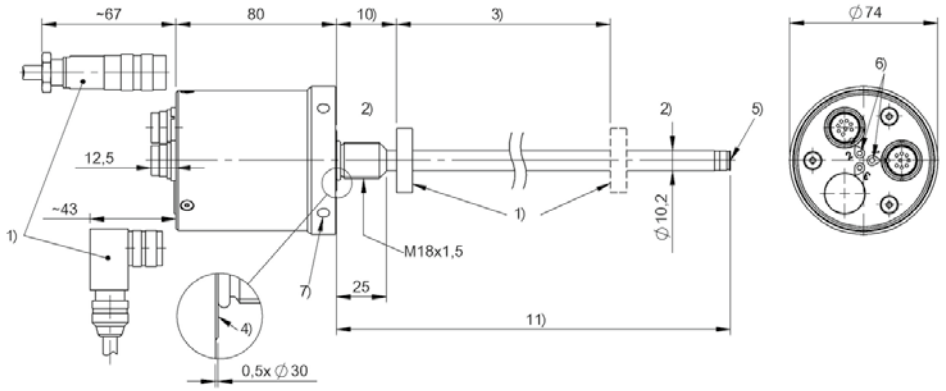
h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

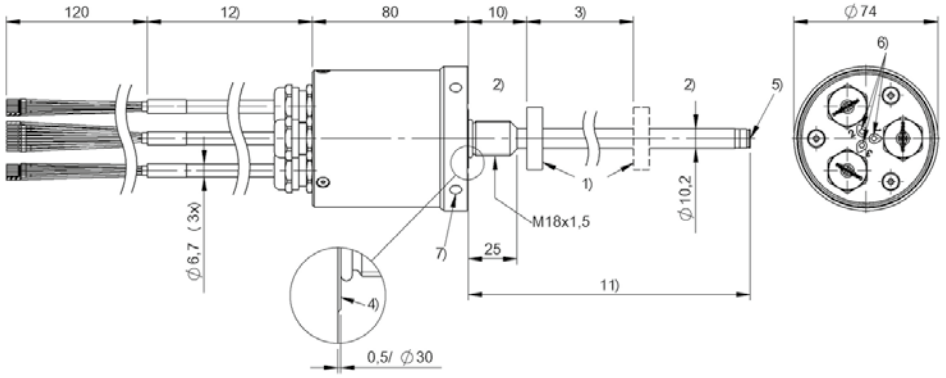
for cable (length in meters):
02, 05, 10,
15, 20 (only when h = 2 and Mnnnn < 2541 mm

BTL7-P511-Mxxxx-TB2-S32



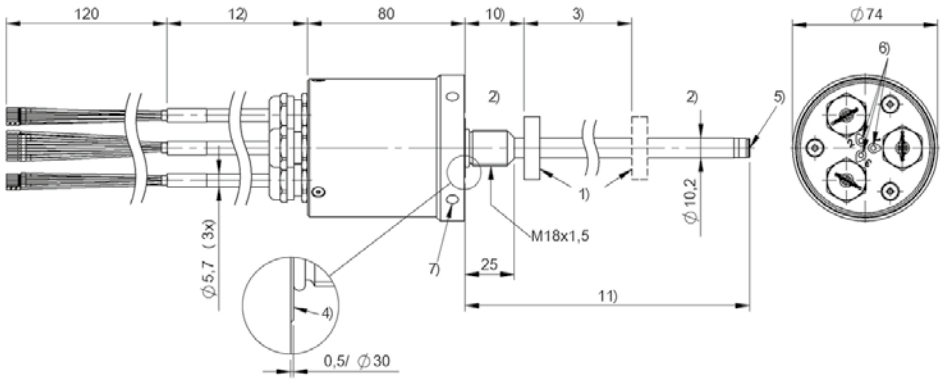
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-P511-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-P511-Mxxxx-TB3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TB- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…5500: ± 200 µm d = 6, 8: nnnn = 25…5500: ± 4 LSB nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SS

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TB = Mounting threads M18x1.5, for O-Ring

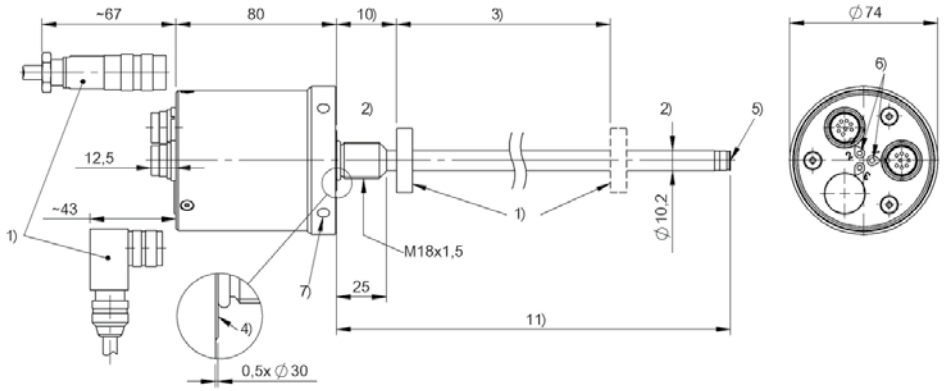
g Form factor characteristic
- = Rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

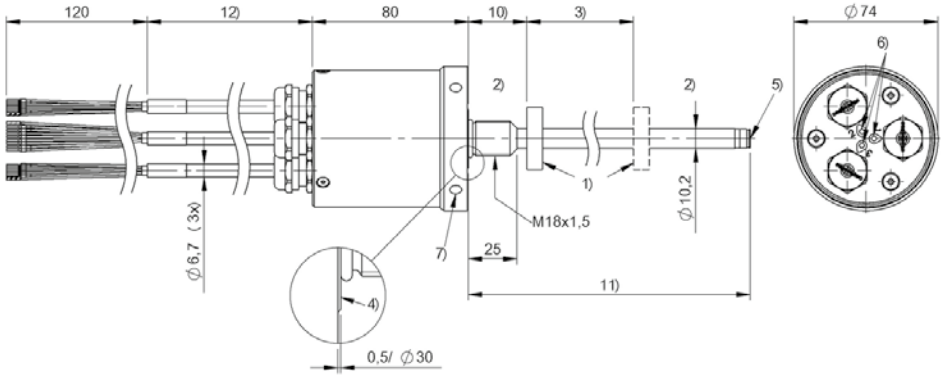
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-S5xxD-Mxxxx-TB2-S32



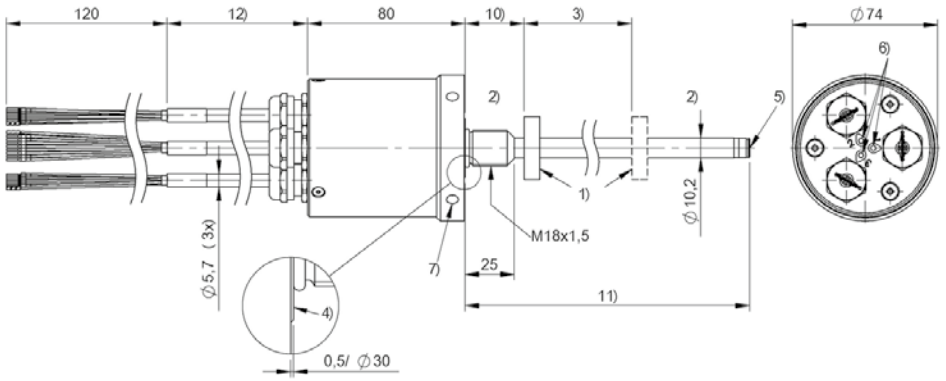
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-S5xxD-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-S5xxD-Mxxxx-TB3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

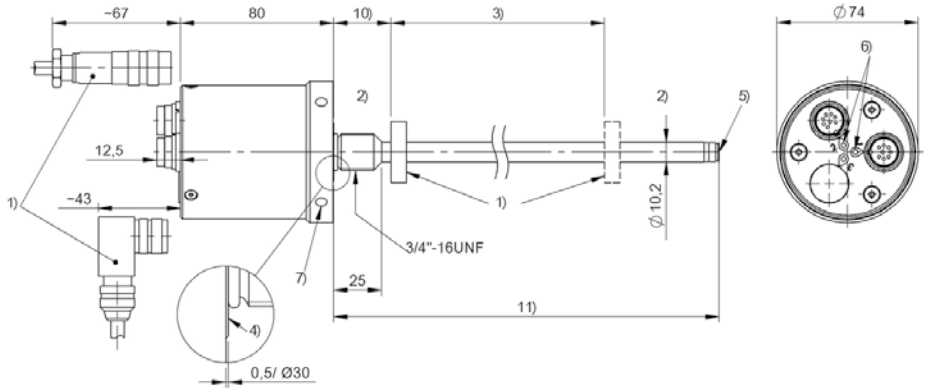
f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

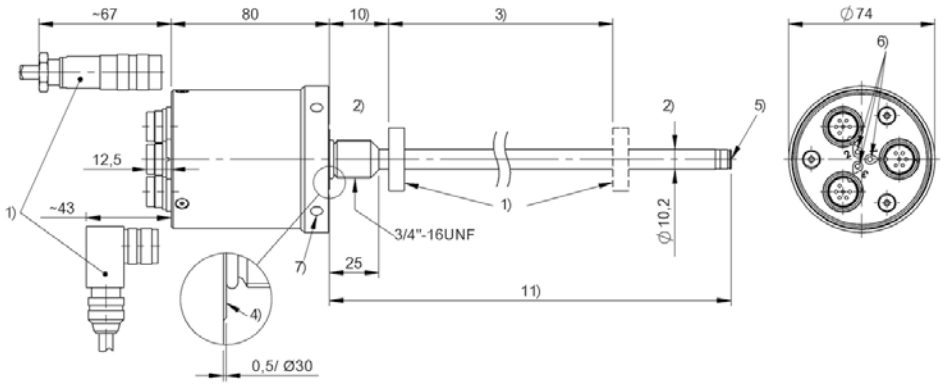
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-A504-Mxxxx-TZ2-S32



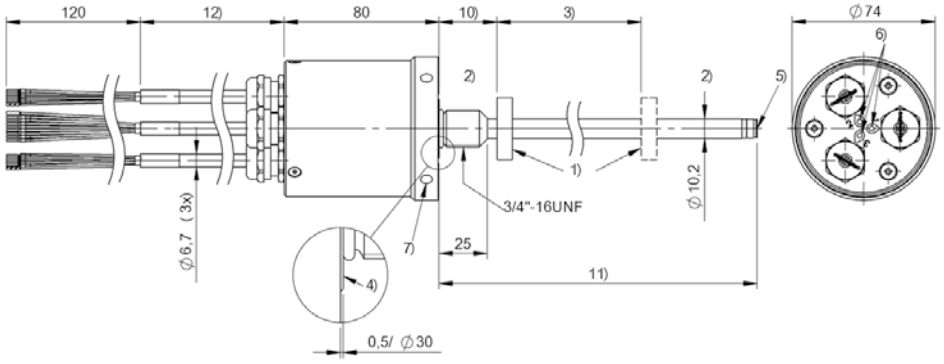
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-G505-Mxxxx-TZ3-S135



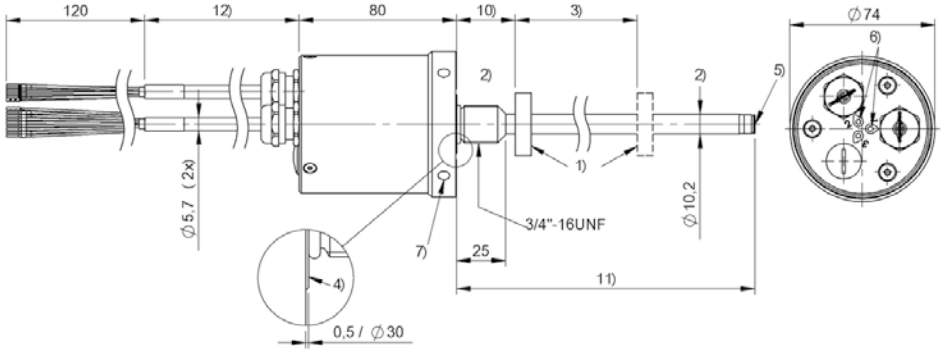
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-A505-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-G504-Mxxxx-TZ2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

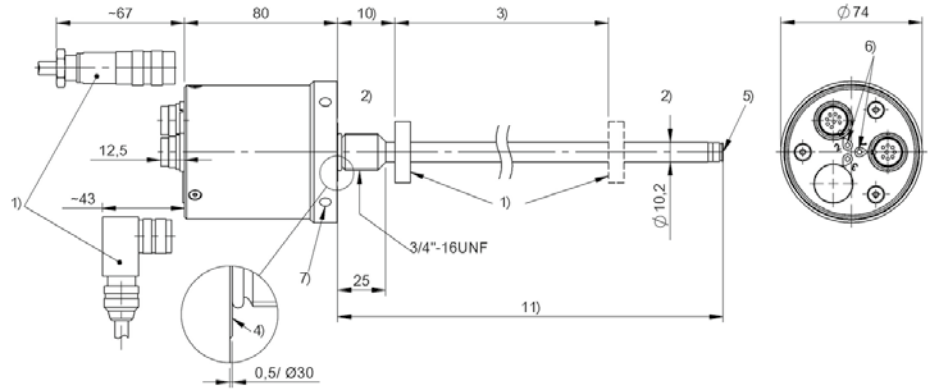
f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

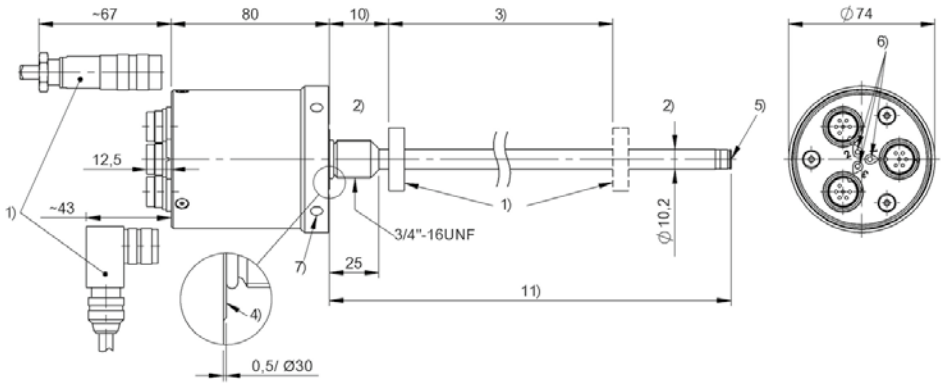
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TZ2-S32



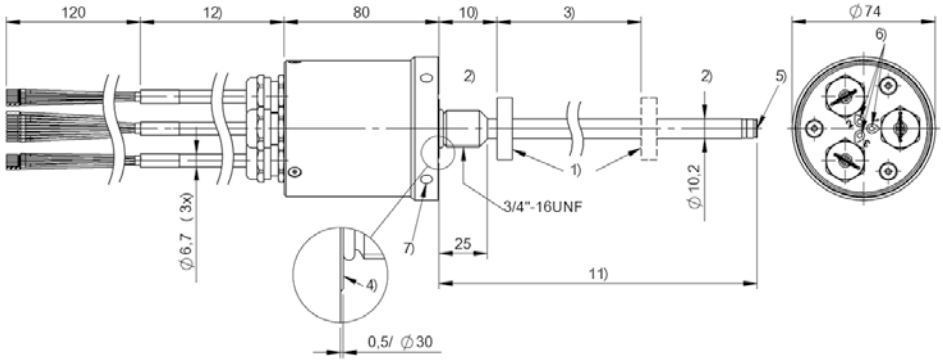
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TZ3-S135



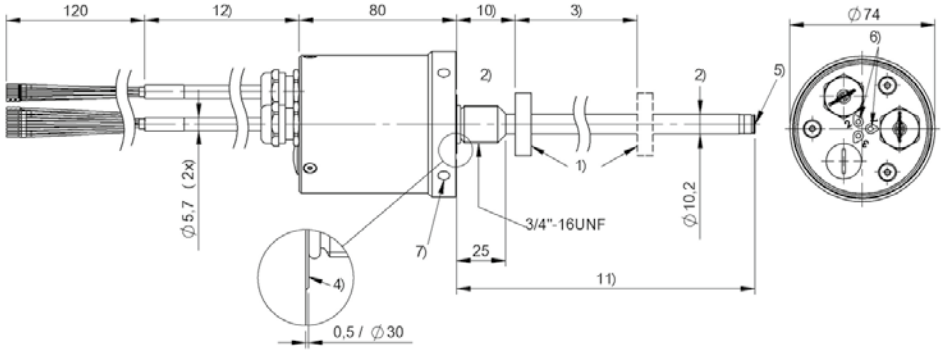
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TZ2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

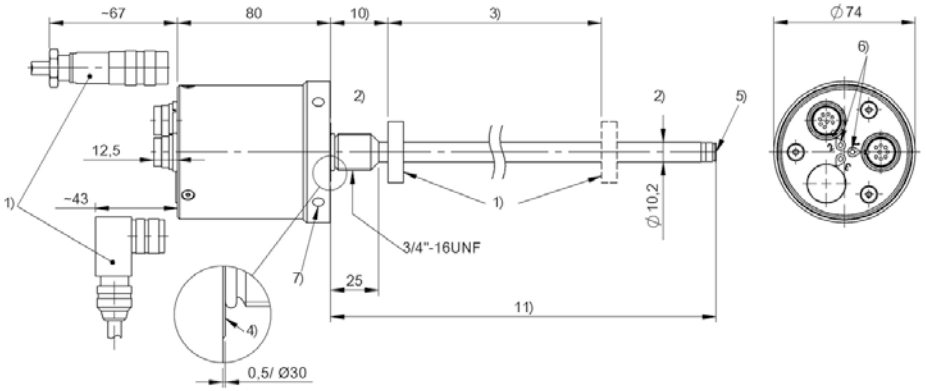
f Form factor
TZ = Threads 3/4““-16UNF, for O-Ring

h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

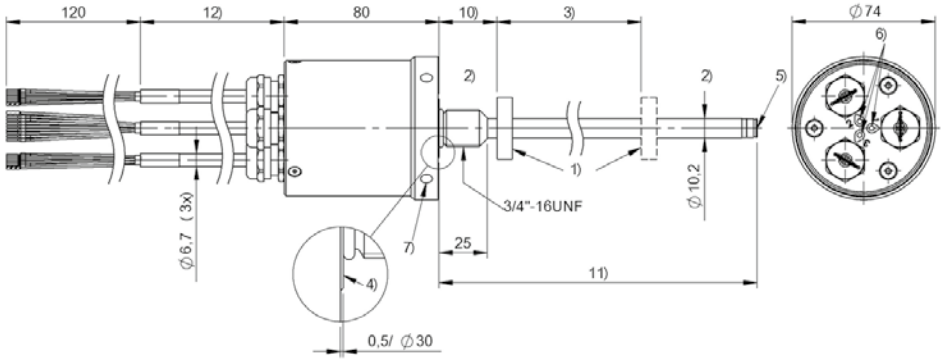
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10,
15, 20 (only when h = 2 and Mnnnn < 2541 mm

BTL7-P511-Mxxxx-TZ2-S32



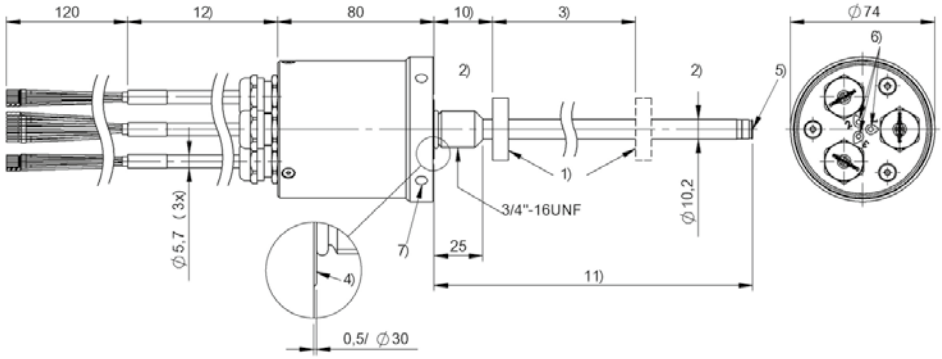
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-P511-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-P511-Mxxxx-TZ3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…5500: ± 200 µm d = 6, 8: nnnn = 25…5500: ± 4 LSB nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

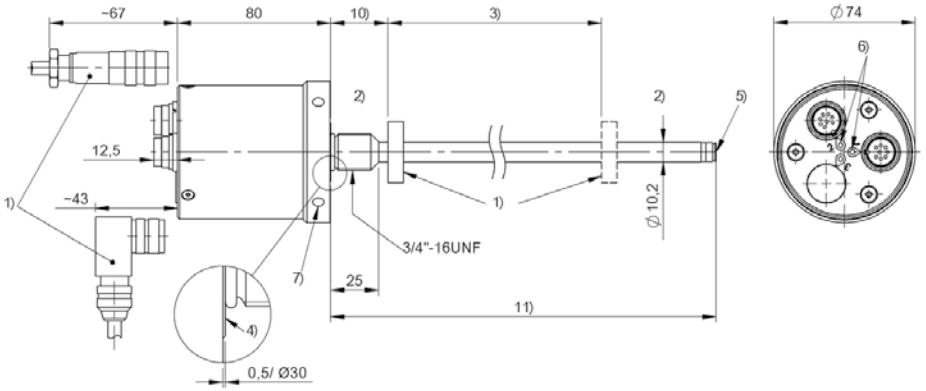
g Form factor characteristic
rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

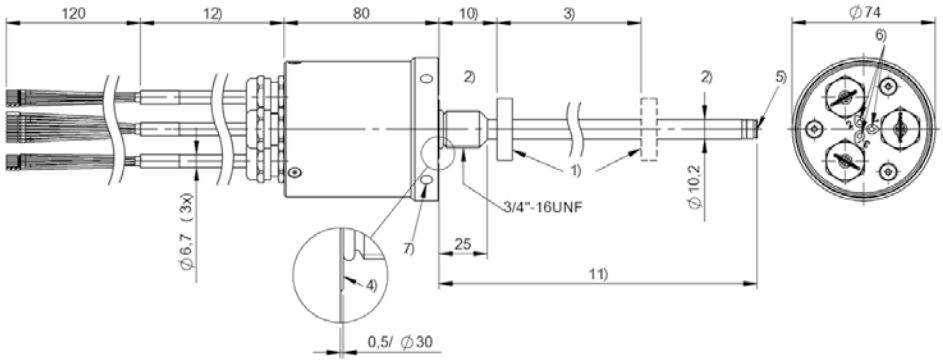
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-S5xxD-Mxxxx-TZ2-S32



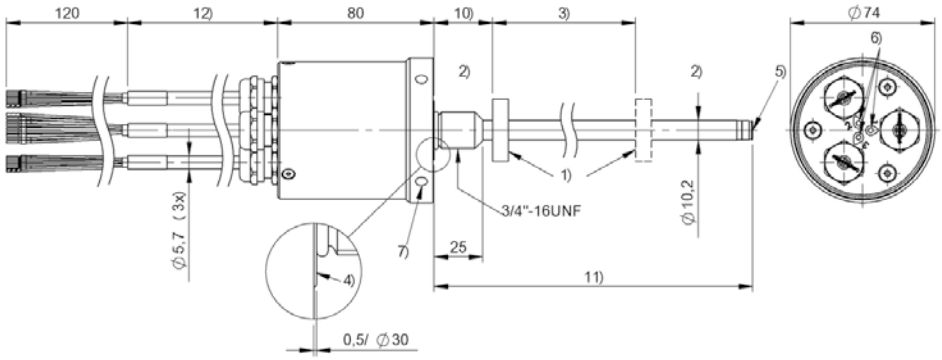
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-S5xxD-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-S5xxD-Mxxxx-TZ3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TK- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	I = S, KA: CE + cULus + EAC + WEEE I = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fgh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TK = plug-in flange 18h6,, for O-Ring

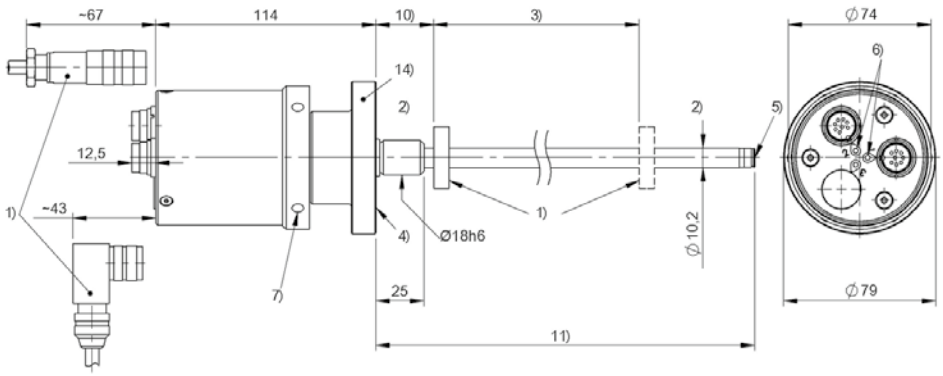
g Form factor characteristic
- = Rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

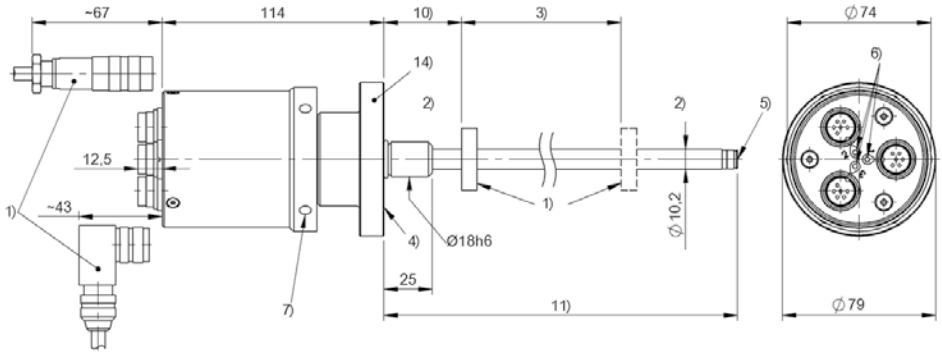
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-A504-Mxxxx-TK2-S32



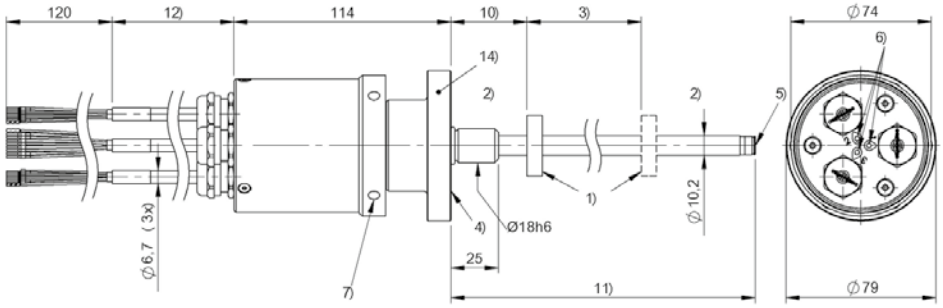
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-G505-Mxxxx-TK3-S135



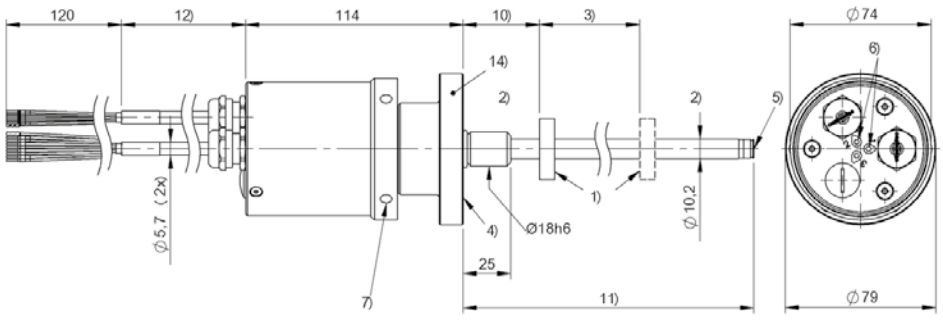
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-A505-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-G504-Mxxxx-TK2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TK- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	I = S, KA: CE + cULus + EAC + WEEE I = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

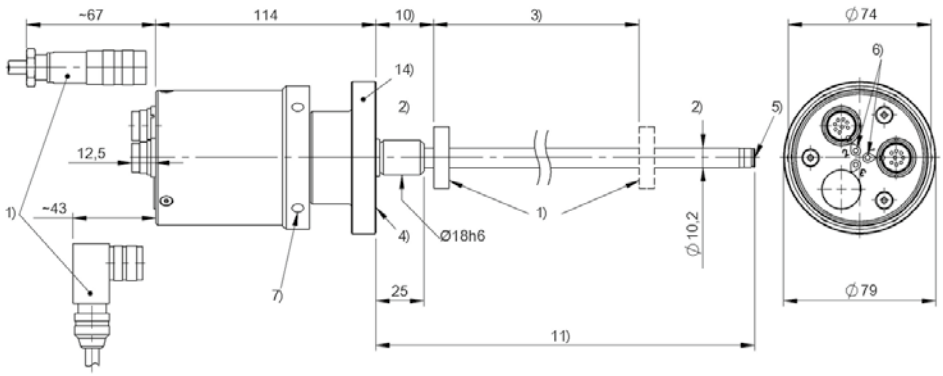
f Form factor
TK = plug-in flange 18h6,, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

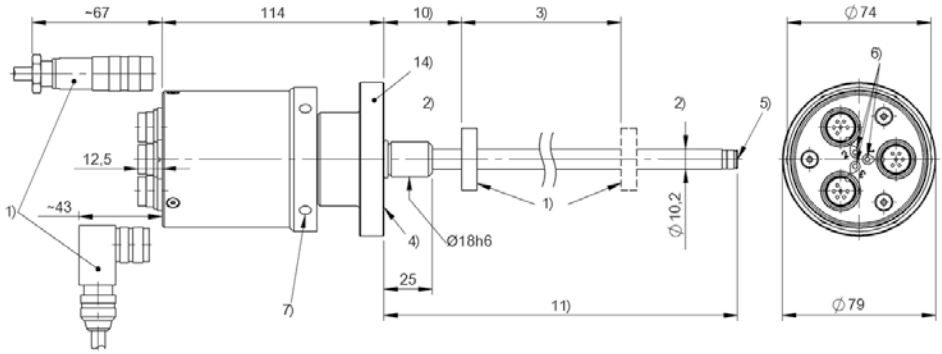
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TK2-S32



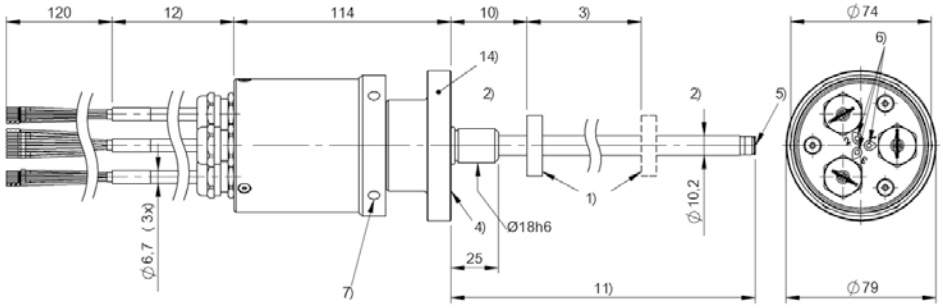
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-C505-Mxxxx-TK3-S135



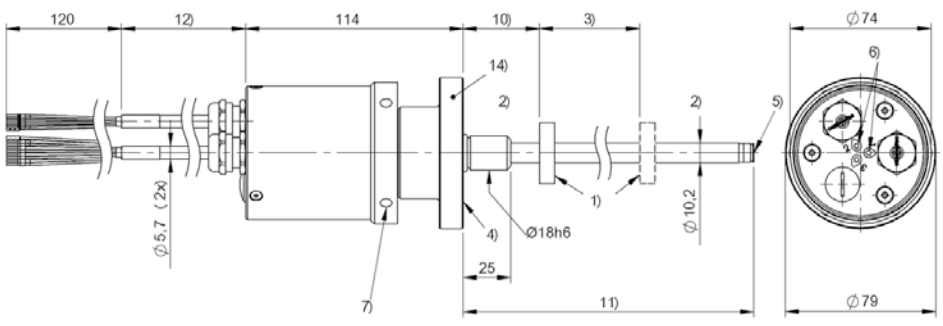
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-E505-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-C504-Mxxxx-TK2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TK- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

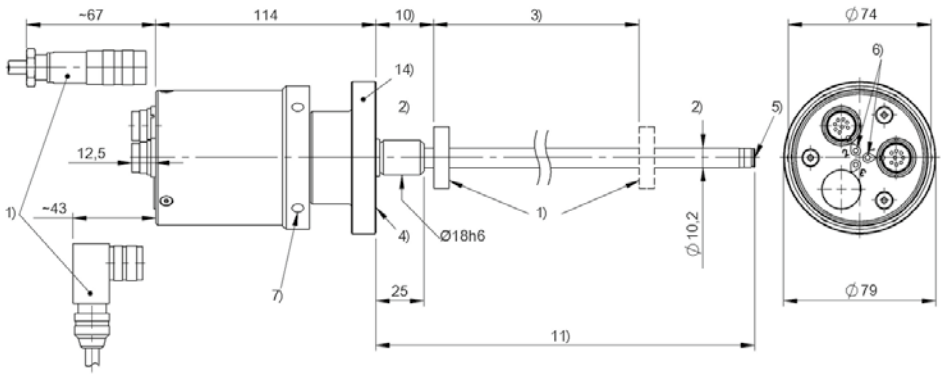
f Form factor
TK = plug-in flange 18h6,, for O-Ring

h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

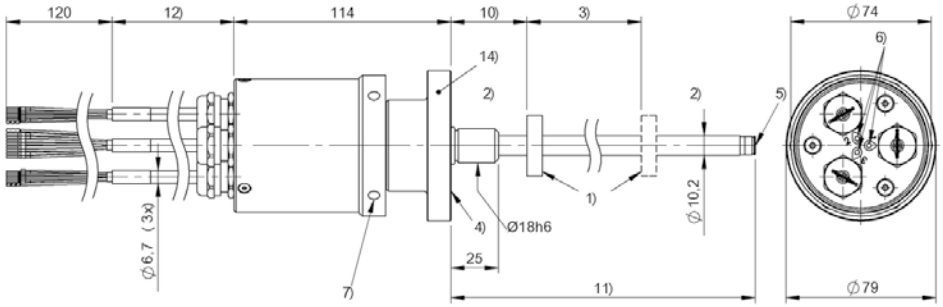
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10

BTL7-P511-Mxxxx-TK2-S32



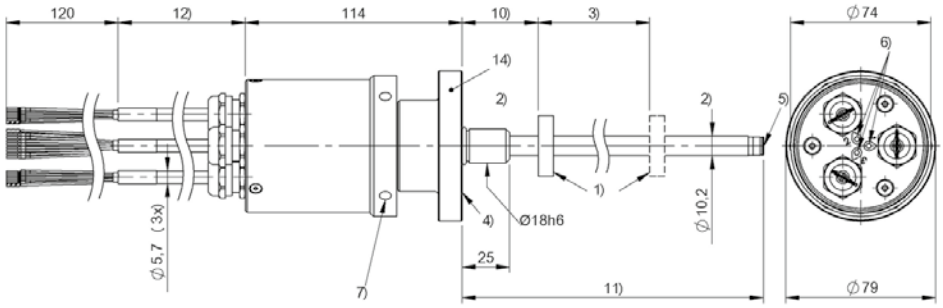
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-P511-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-P511-Mxxxx-TK3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TK- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…5500: ± 200 µm d = 6, 8: nnnn = 25…5500: ± 4 LSB nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TK = plug-in flange 18h6,, for O-Ring

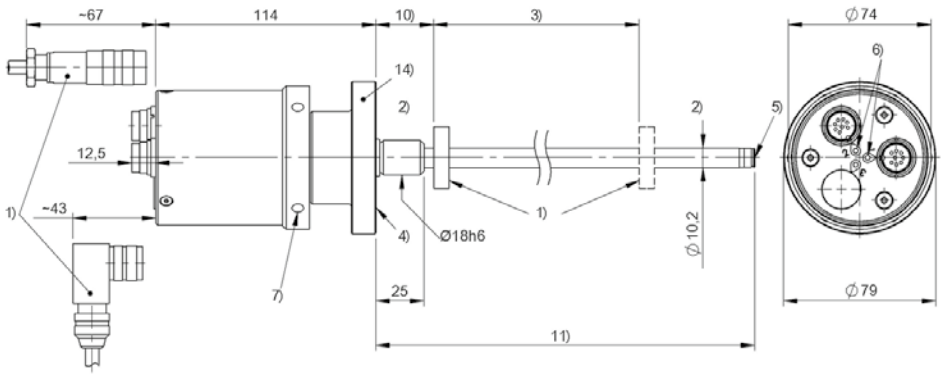
g Form factor characteristic
- = Rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

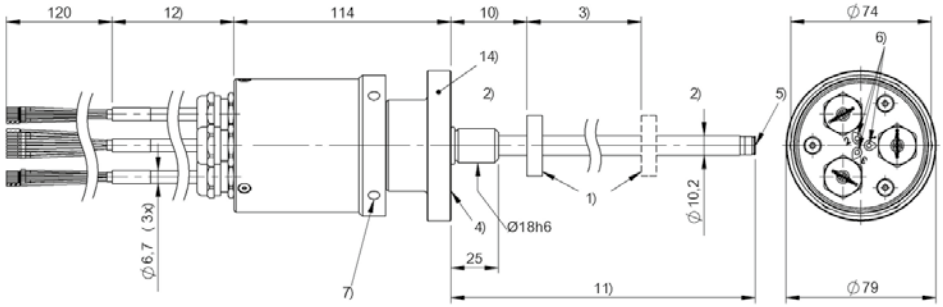
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-S5xxD-Mxxxx-TK2-S32



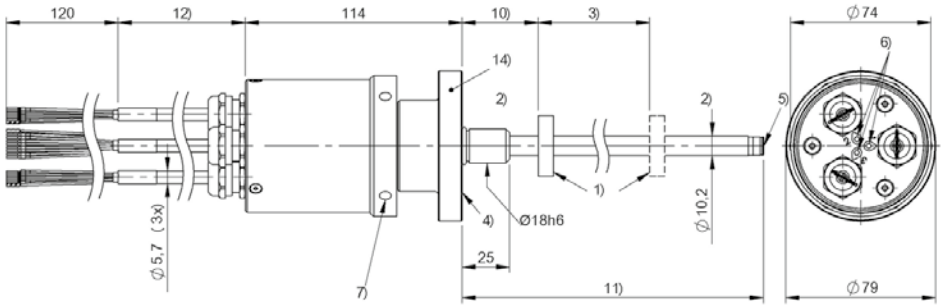
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-S5xxD-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-S5xxD-Mxxxx-TK3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TT- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...3250 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 240: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 240: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fgh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

f Form factor
TT = Mounting threads M30x1.5,
for O-Ring

g Form factor characteristic
- = Rod diameter 21 mm

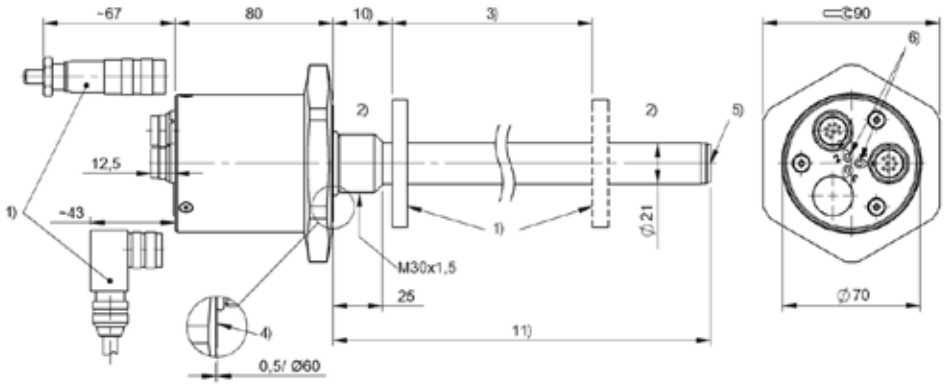
h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

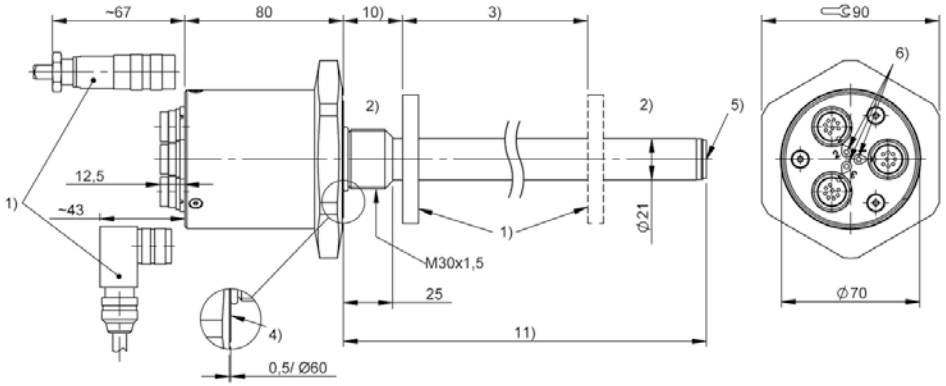
for cable (length in meters):
02, 05, 10

BTL7-A504-Mxxxx-TT2-S32



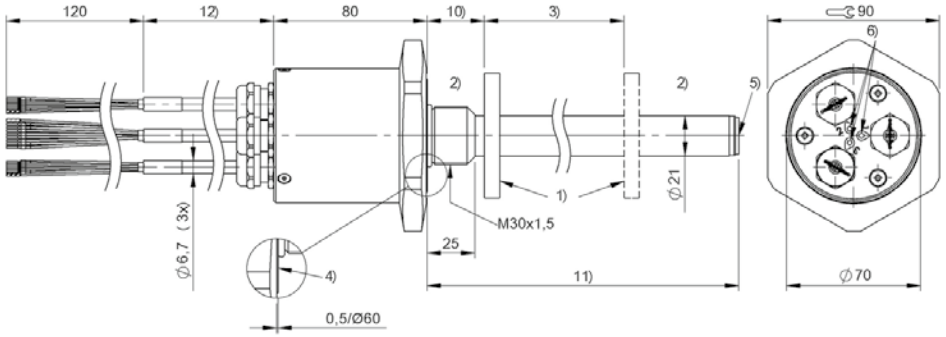
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-G505-Mxxxx-TT3-S32



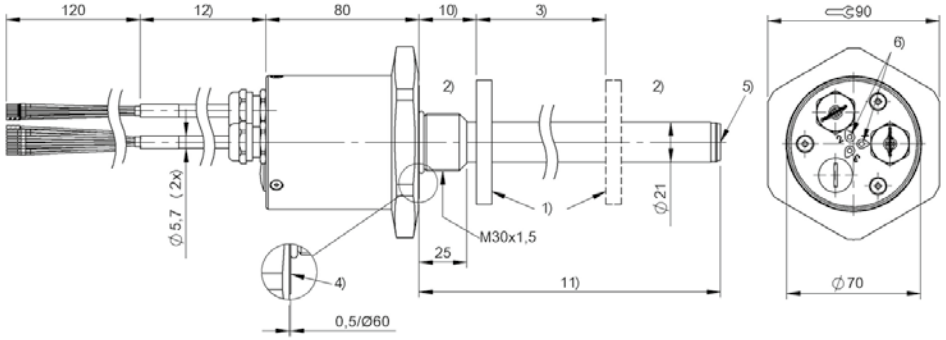
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-A505-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-G504-Mxxxx-TT2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -TT- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...3250 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 240: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 240: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

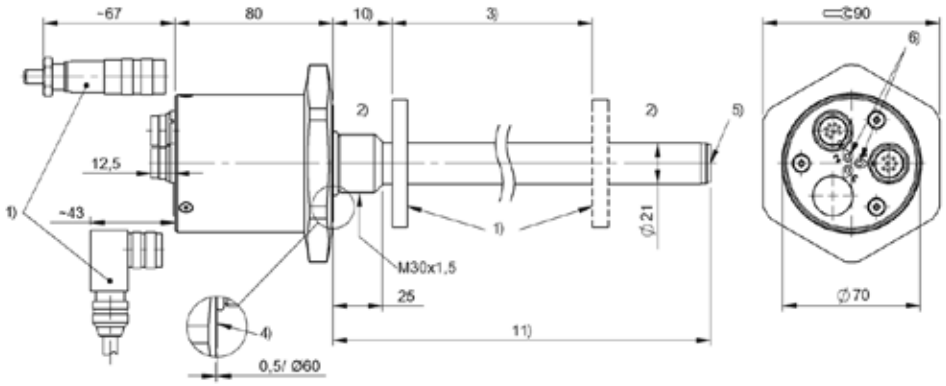
f Form factor
TT = Mounting threads M30x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

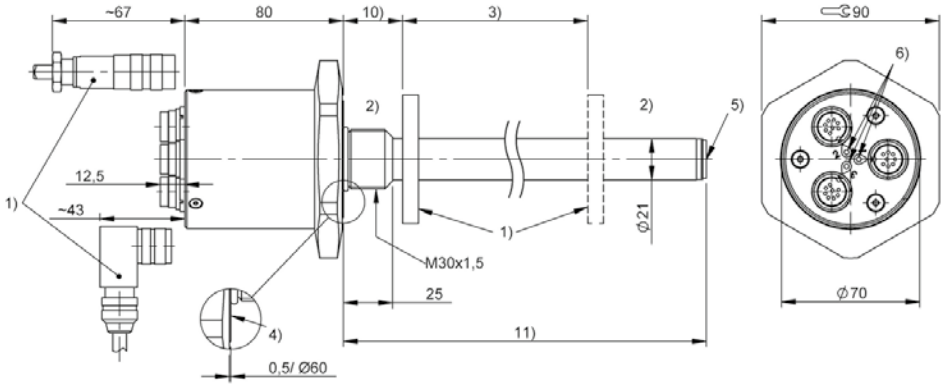
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10

BTL7-E504-Mxxxx-TT2-S32



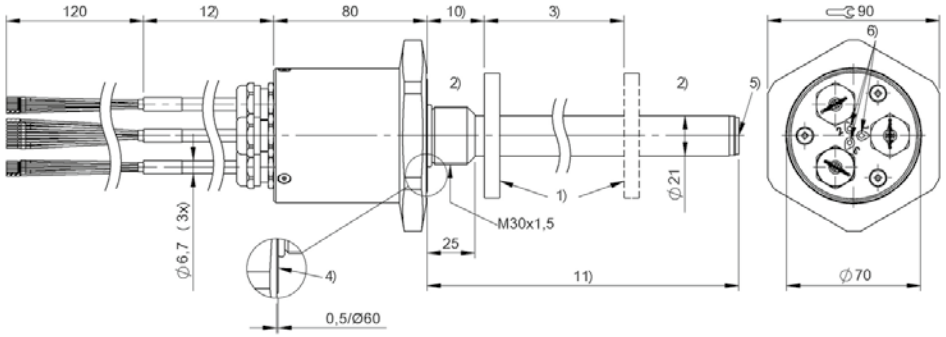
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TT3-S32



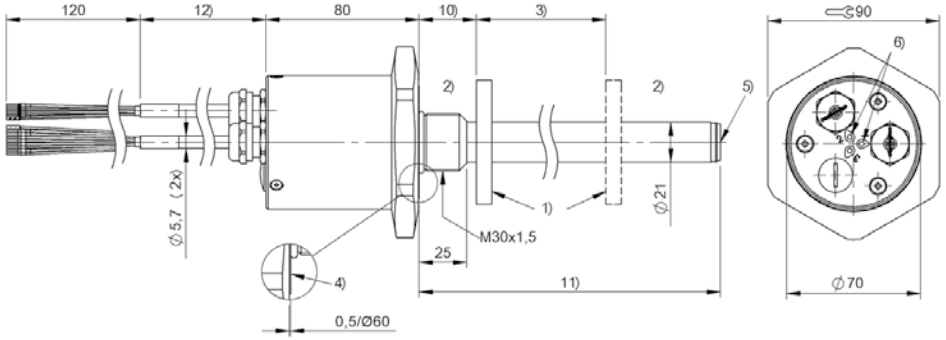
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TT2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -TT- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…3250: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…3250: ± 200 µm d = 6, 8: nnnn = 25…3250: ± 4 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm
9 = 0.5 µm

e Interface characteristic 3
D = Synchronous / configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

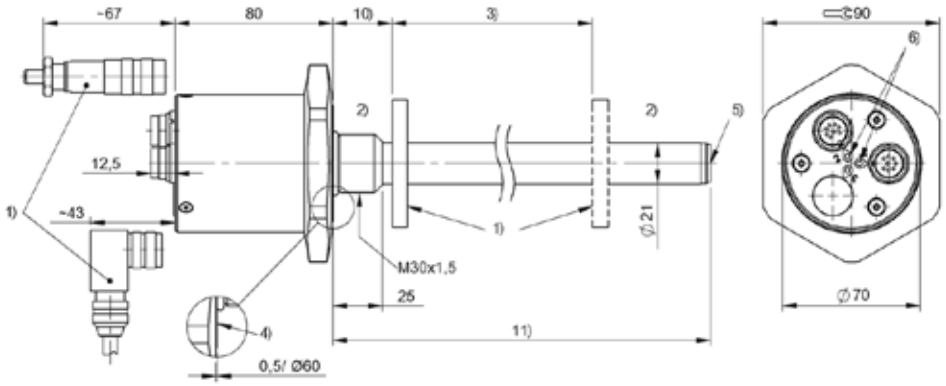
f Form factor
TT = Mounting threads M30x1.5, for O-ring, rod diameter 21 mm

h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

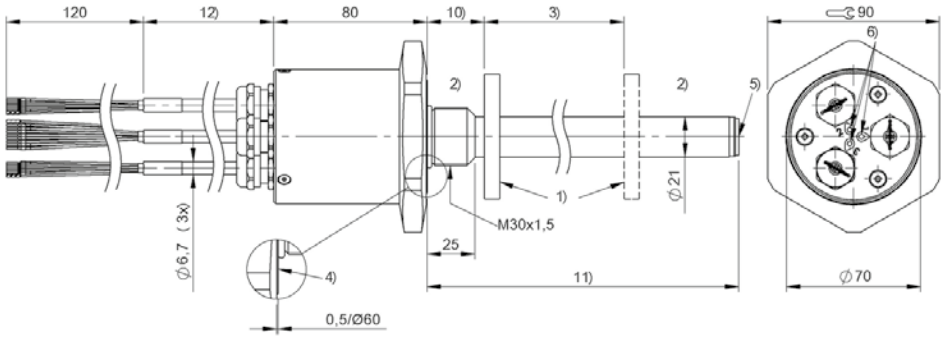
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10

BTL7-S5xxD-Mxxxx-TT2-S32



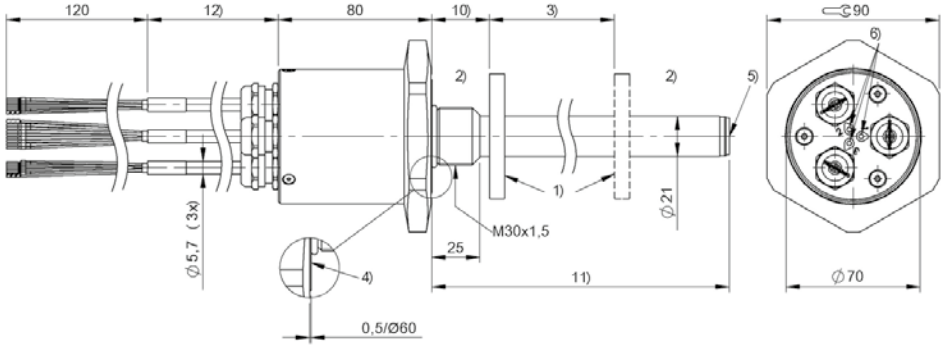
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxD-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-S5xxD-Mxxxx-TT3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -TT- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…2000: ± 60 µm nnnn = 2001…3250: ± 200 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

f Form factor
TT = Mounting threads M30x1.5, for O-ring, rod diameter 21 mm

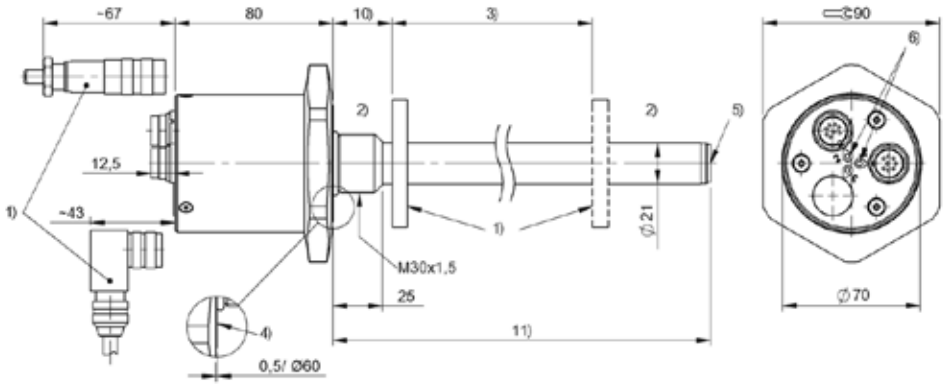
h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

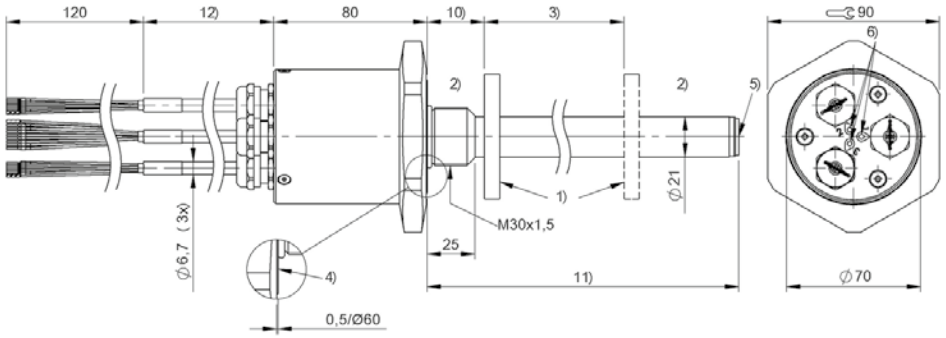
for cable (length in meters):
02, 05, 10

BTL7-P511-Mxxxx-TT2-S32



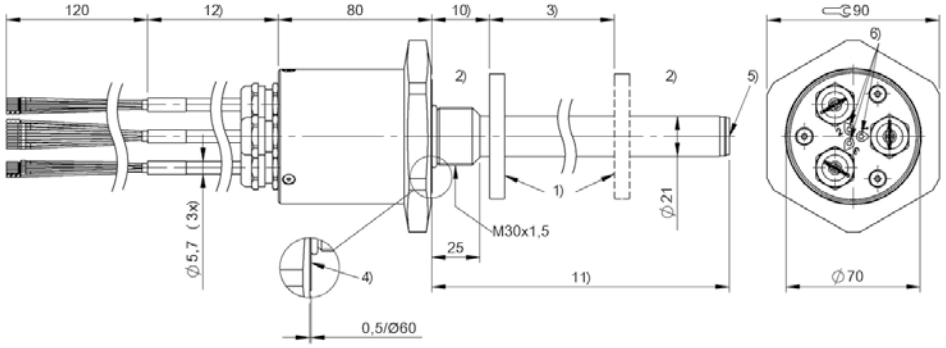
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-P511-Mxxxx-TT3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -B-DEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
B = Mounting threads M18x1.5, for O-Ring

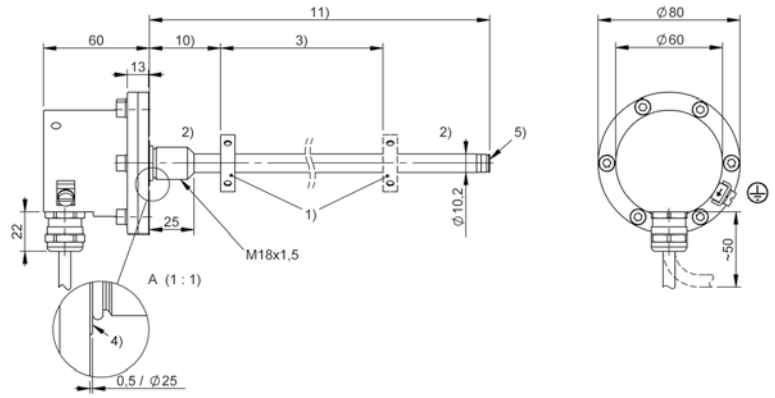
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

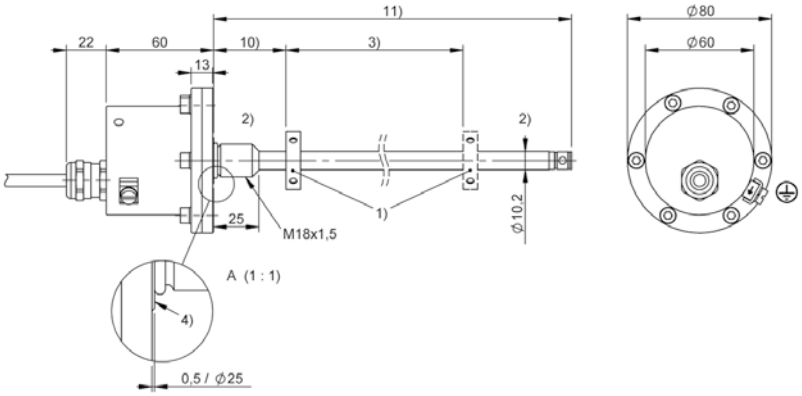
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-B-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-B-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -B-DEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
B = Mounting threads M18x1.5, for O-Ring

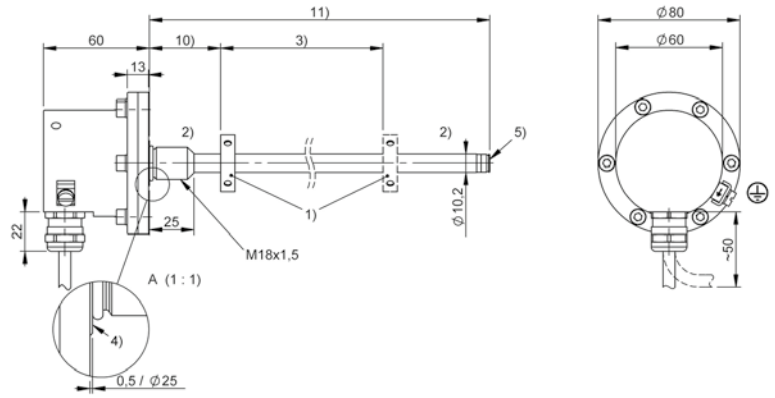
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

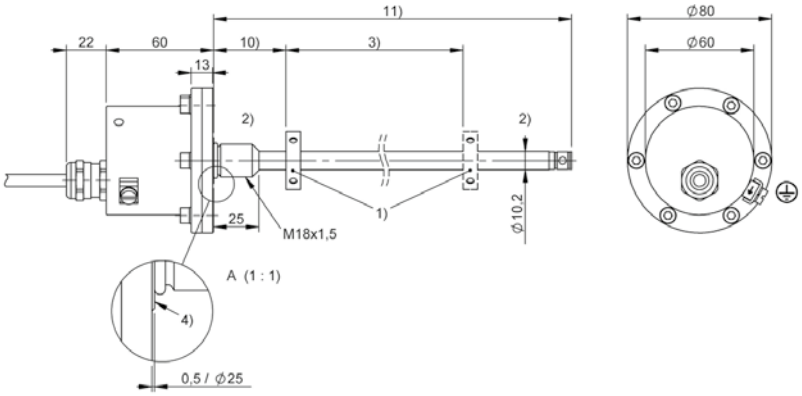
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-B-DEXB-K05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-B-DEXA-KA05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -B-DEX- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-ab-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

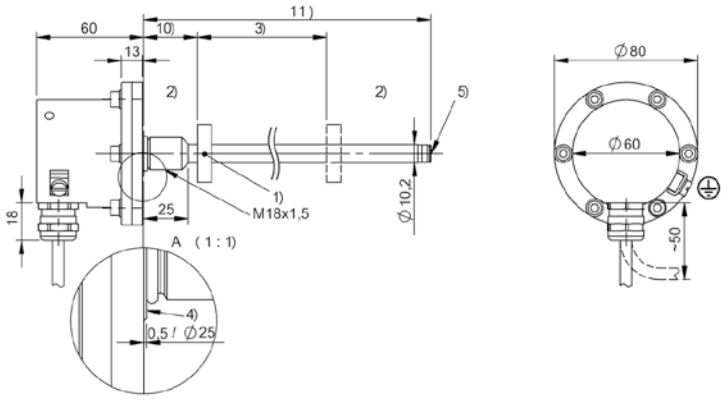
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

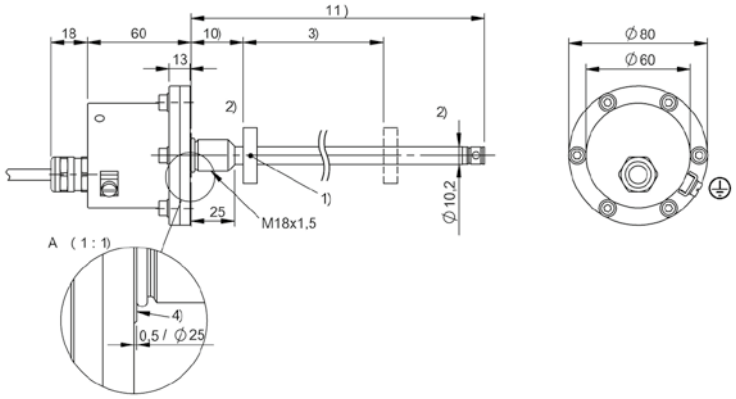
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL5-Px-Mxxxx-B-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-Px-Mxxxx-B-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -B-DEX- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-abcde-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 26 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
B = Mounting threads M18x1.5,
for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

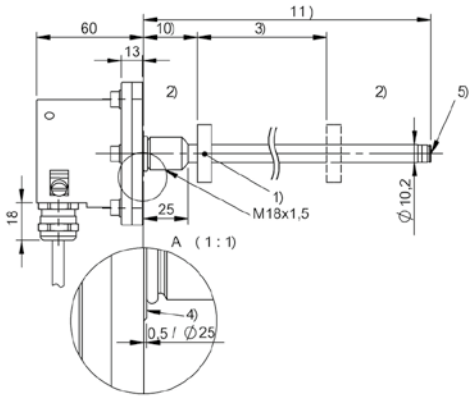
i Variant
DEX = Ignition protection category „d“ /
pressure-proof encapsulation

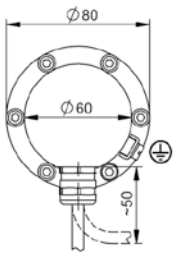
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

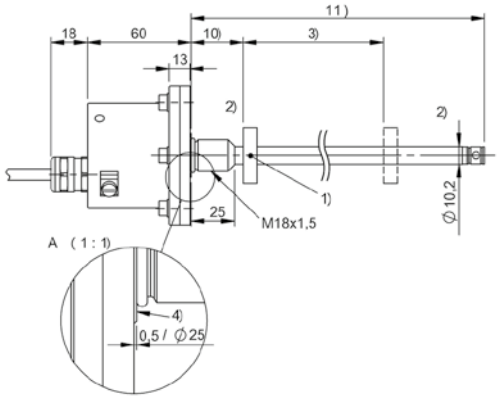
BTL5-Sxxxx-Mxxxx-B-DEXB-Kxx

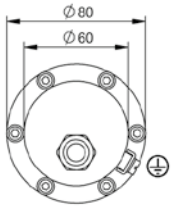




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-B-DEXA-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -B-DEX- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 10 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
T = PROFIBUS DP

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = Flexible number of magnets

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

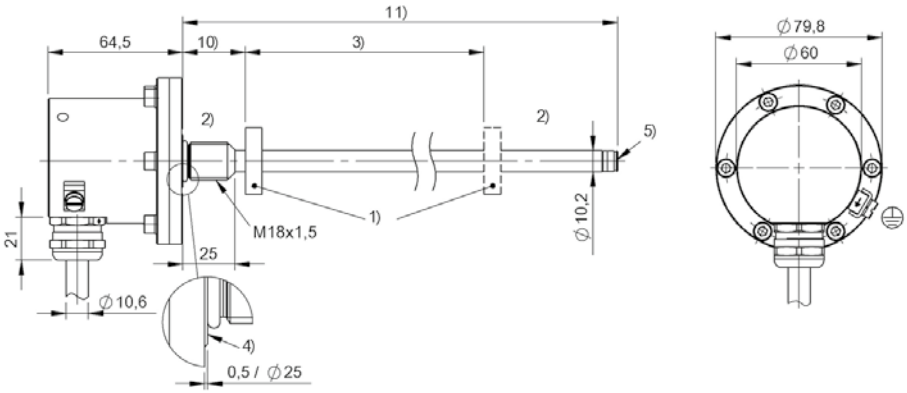
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A/D = float plug
B/E = short plug

l Connection type
K = Cable out radial (PUR) / only for variant characteristic A or B
KA = Cable out axial (PUR) / only for variant characteristic A or B
ZA1K = Wiring chamber for attachment cover / only for variant characteristic D or E

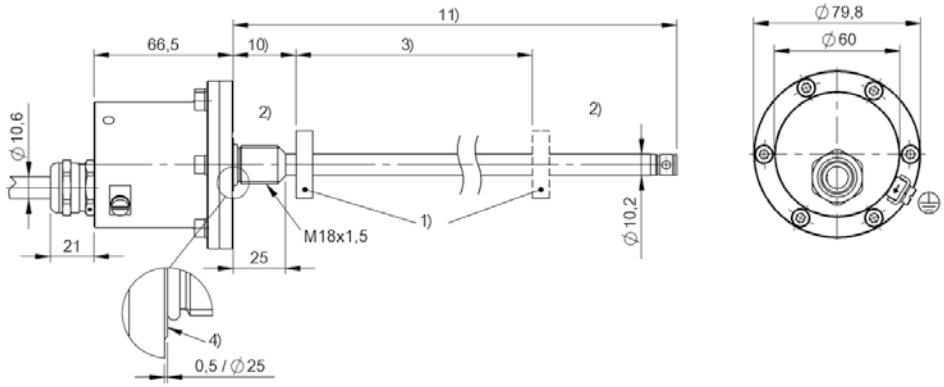
m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50

BTL7-T500-Mxxxx-B-DEXB-Kxx



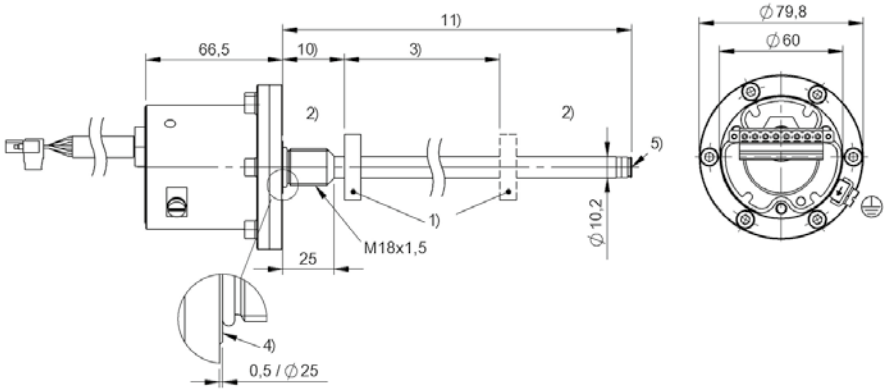
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-B-DEXA-KAxx



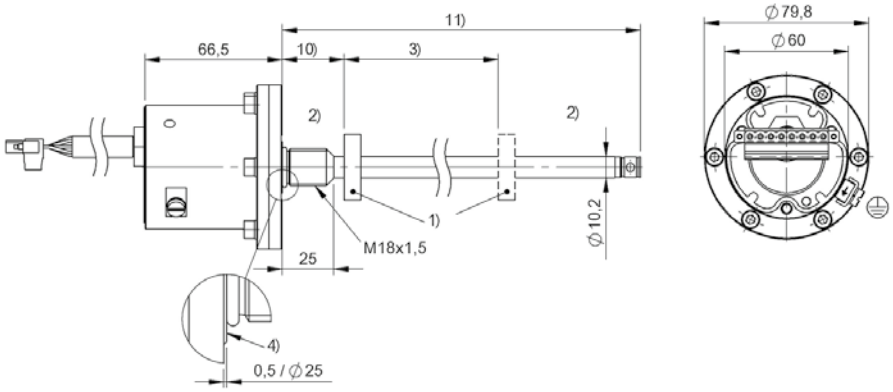
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-T500-Mxxxx-B-DEXE-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-B-DEXD-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -Z-DEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

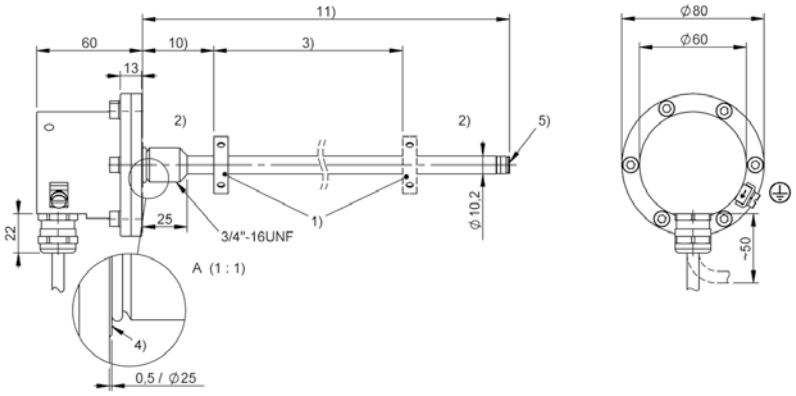
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

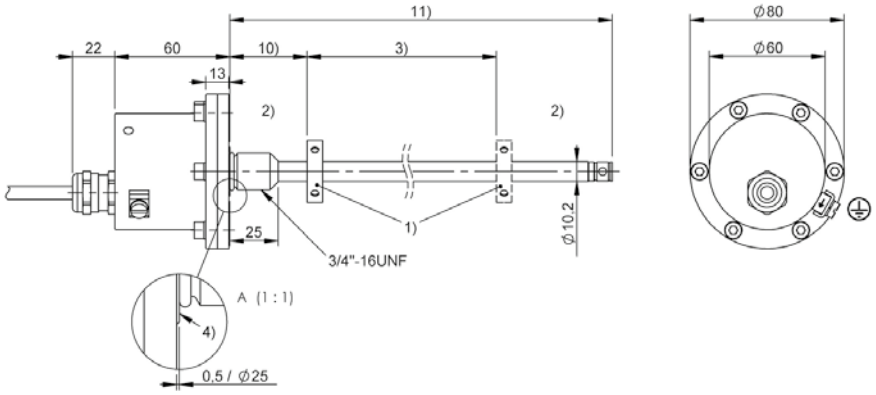
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-Z-DEXB-K05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-Z-DEXA-KA05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -Z-DEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

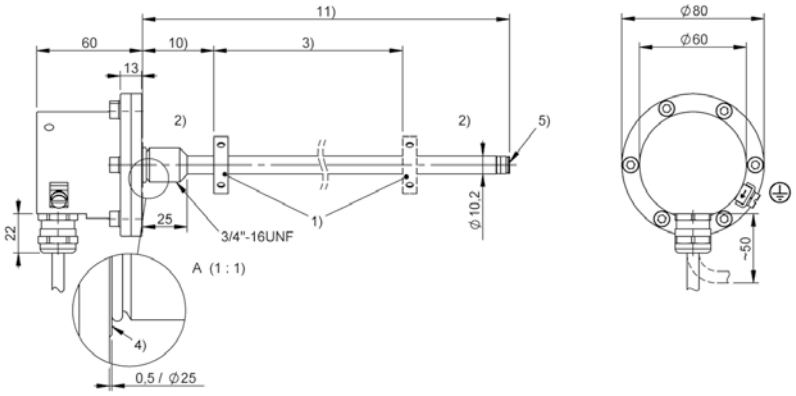
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

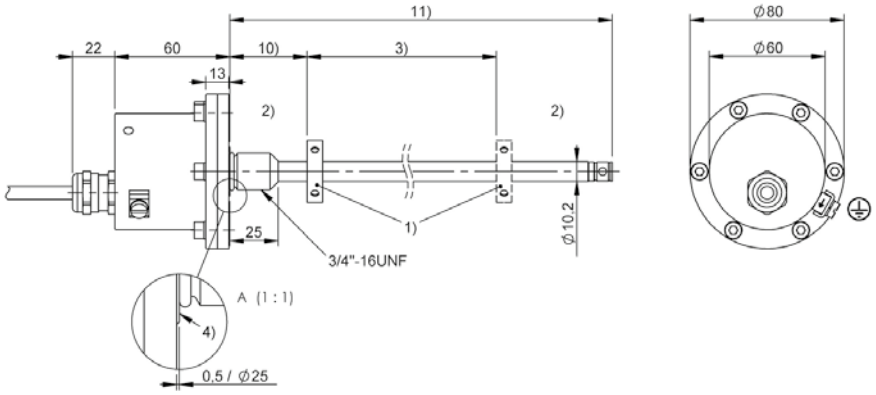
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-Z-DEXB-K05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-Z-DEXA-KA05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -Z-DEX- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-ab-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

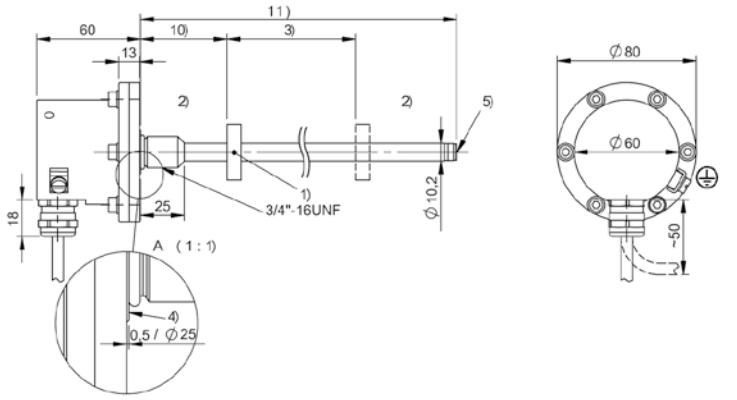
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

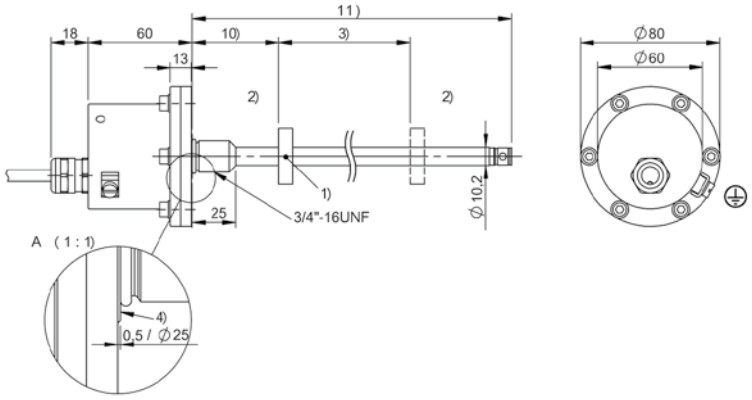
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL5-Px-Mxxxx-Z-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Px-Mxxxx-Z-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL5 -Z-DEX- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-abcde-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

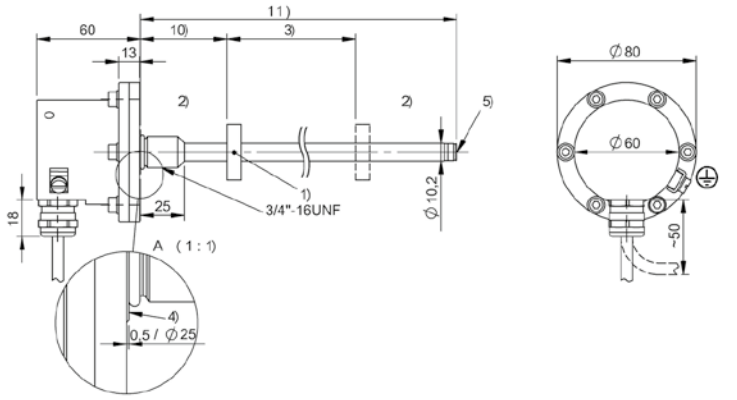
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

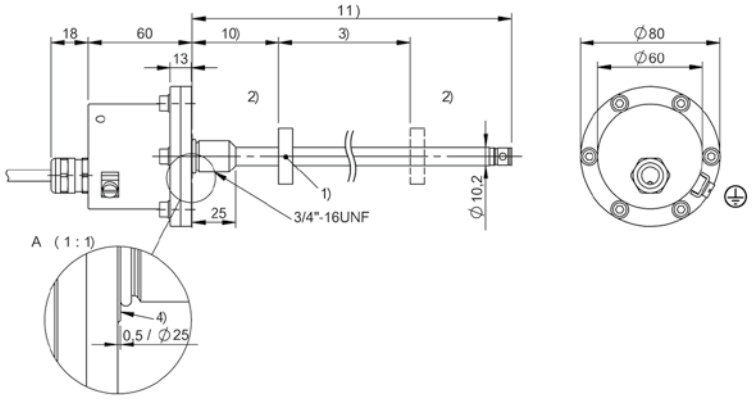
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL5-Sxxxx-Mxxxx-Z-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Sxxxx-Mxxxx-Z-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-DEX- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 10 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
T = PROFIBUS DP

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = Flexible number of magnets

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

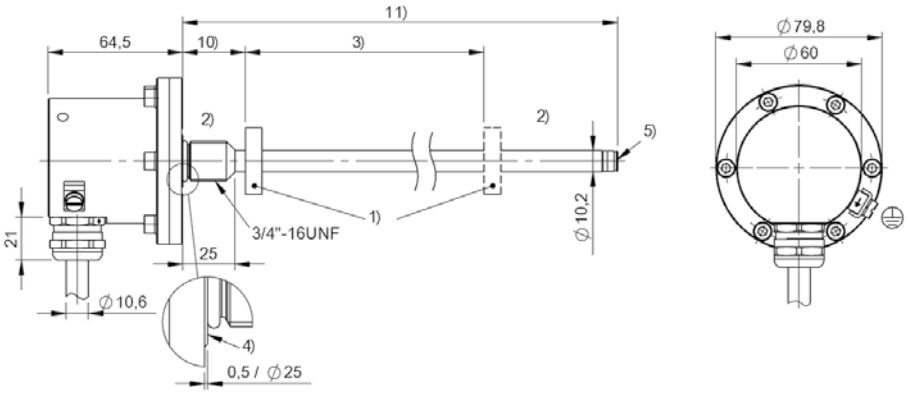
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A/D = float plug
B/E = short plug

l Connection type
K = Cable out radial (PUR) / only for variant characteristic A or B
KA = Cable out axial (PUR) / only for variant characteristic A or B
ZA1K = Wiring chamber for attachment cover / only for variant characteristic D or E

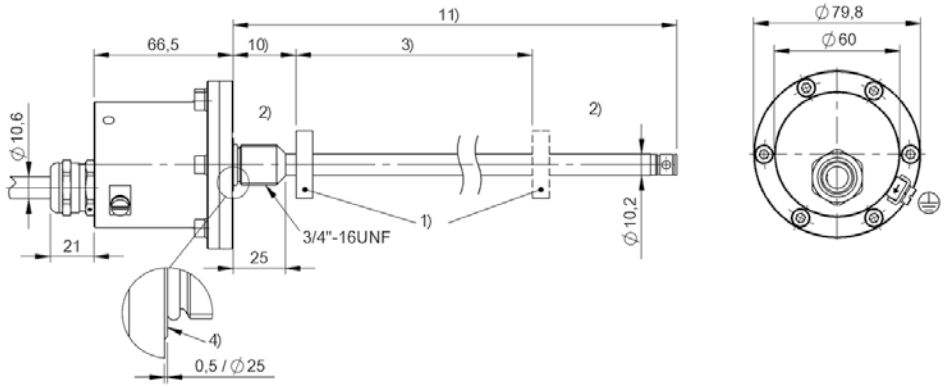
m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50

BTL7-T500-Mxxxx-Z-DEXB-Kxx



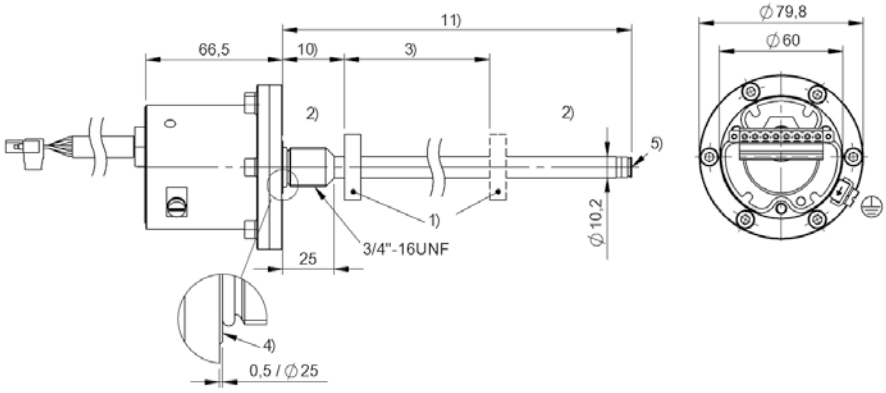
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-Z-DEXA-KAxx



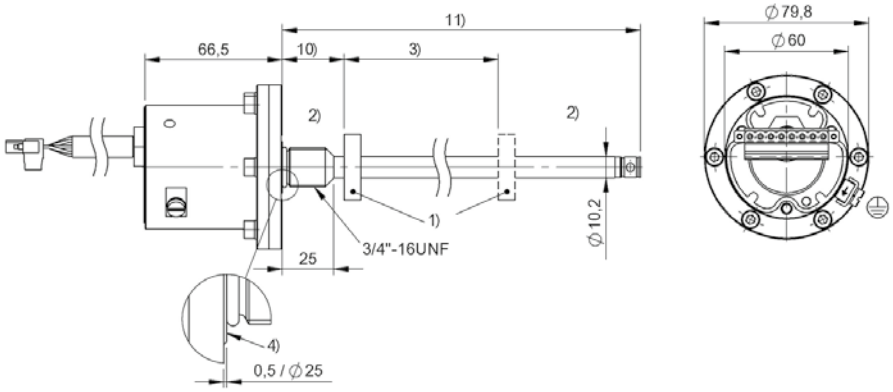
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-T500-Mxxxx-Z-DEXE-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-Z-DEXD-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -J-DEX-A/B- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
J = Flange 18h6

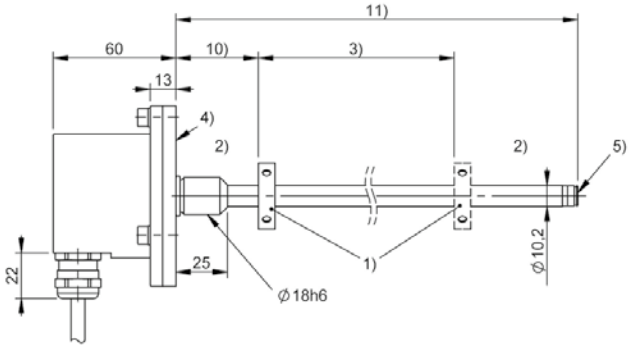
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

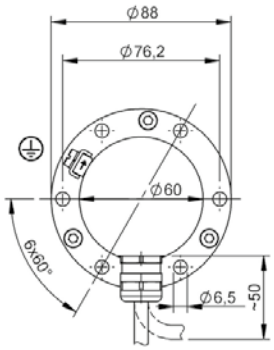
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 30

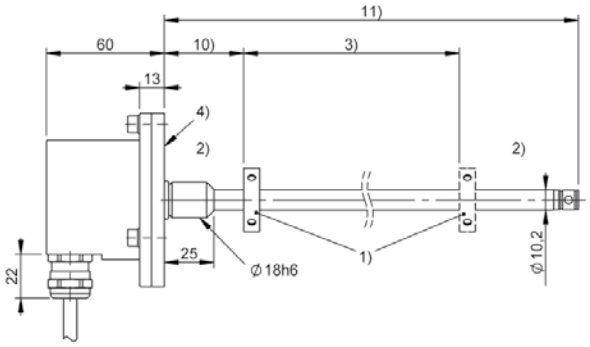
BTL7-A510-Mxxxx-J-DEXB-Kxx

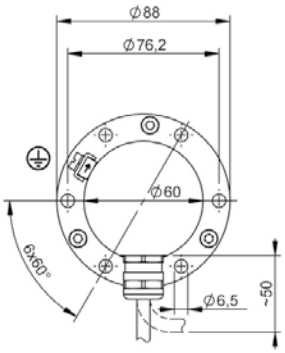




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -J-DEX-A/B- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
J = Flange 18h6

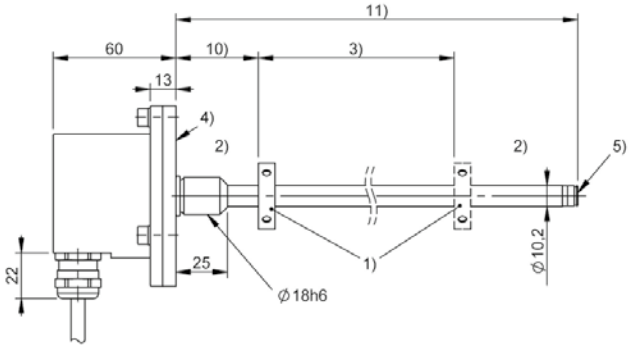
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

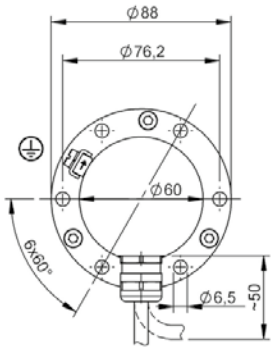
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

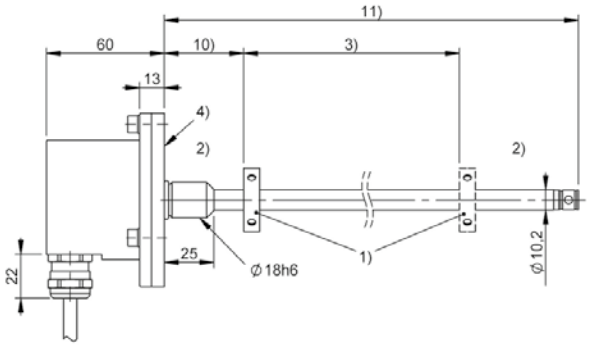
BTL7-E500-Mxxxx-J-DEXB-Kxx

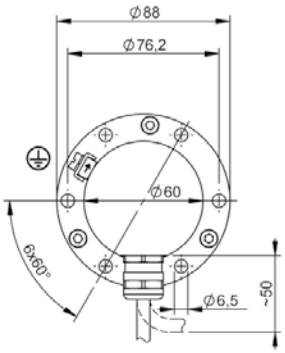




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -J-DEX-A/B- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-abcde-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
J = Flange 18h6

g Form factor characteristic
- = Rod diameter 10.2 mm

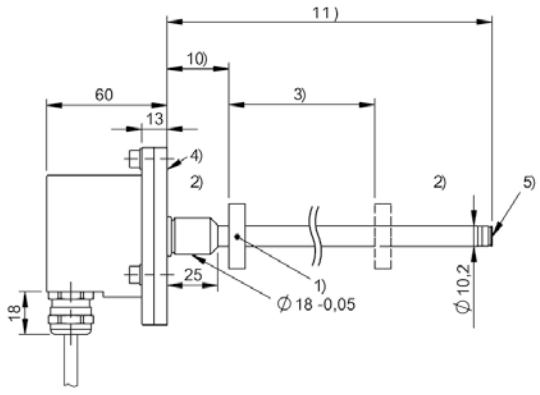
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

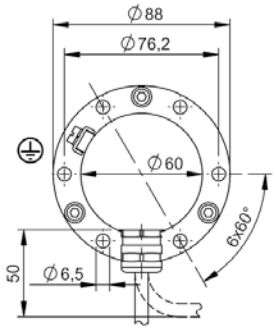
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

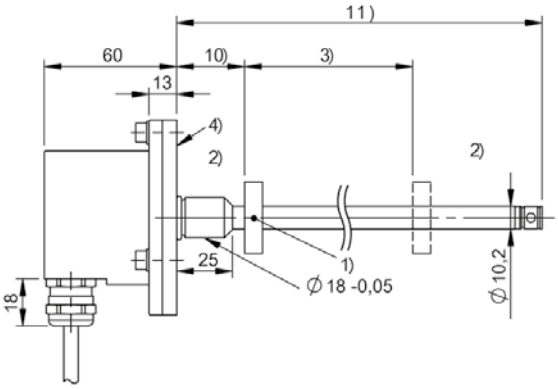
BTL5-Sxxxx-Mxxxx-J-DEXB-Kxx

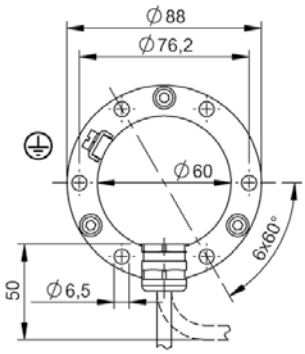




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Sxxxx-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL5 -J-DEX-A/B- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-ab-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
J = Flange 18h6

g Form factor characteristic
- = Rod diameter 10.2 mm

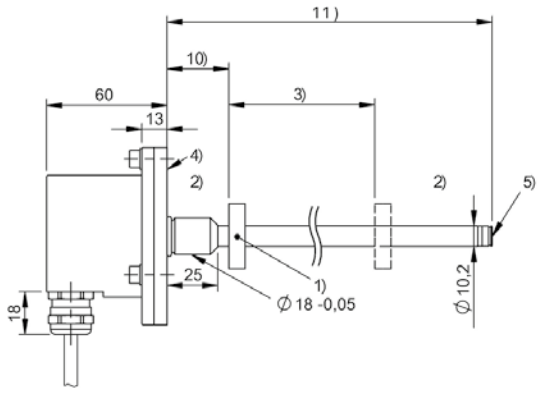
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

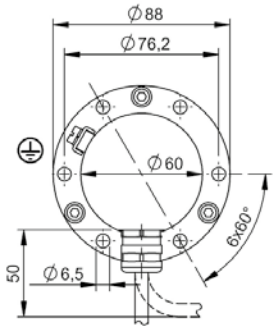
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

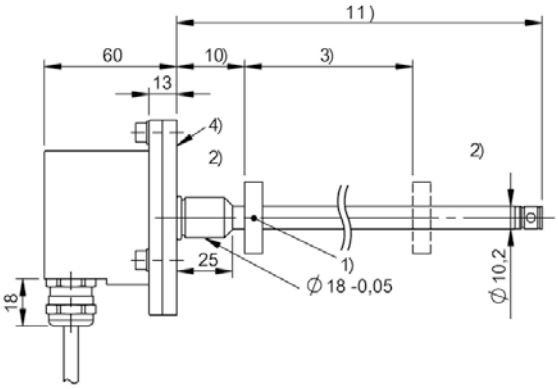
BTL5-Px-Mxxxx-J-DEXB-Kxx

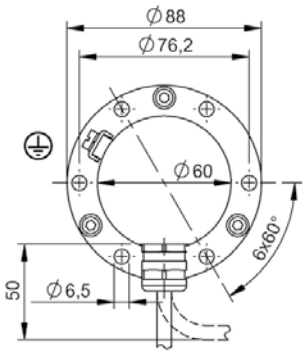




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Px-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -J-DEX-A/B/D/E- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 10 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
T = PROFIBUS DP

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = Flexible number of magnets

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
J = Flange 18h6

g Form factor characteristic
- = Rod diameter 10.2 mm

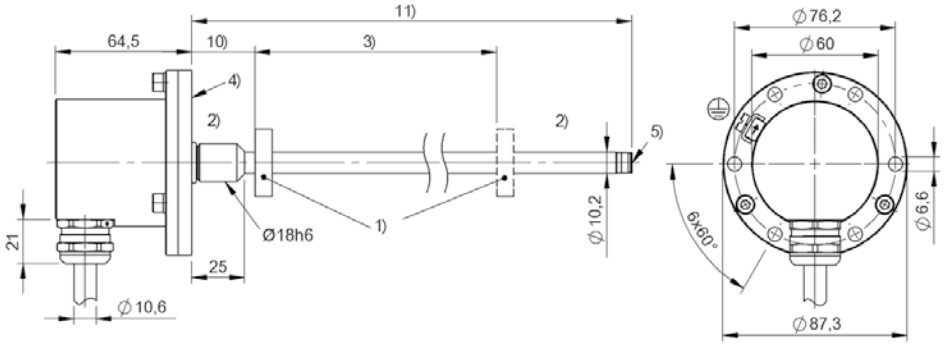
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A/D = float plug
B/E = short plug

l Connection type
K = Cable out radial (PUR) / only for variant characteristic A or B
ZA1K = Wiring chamber for attachment cover / only for variant characteristic D or E

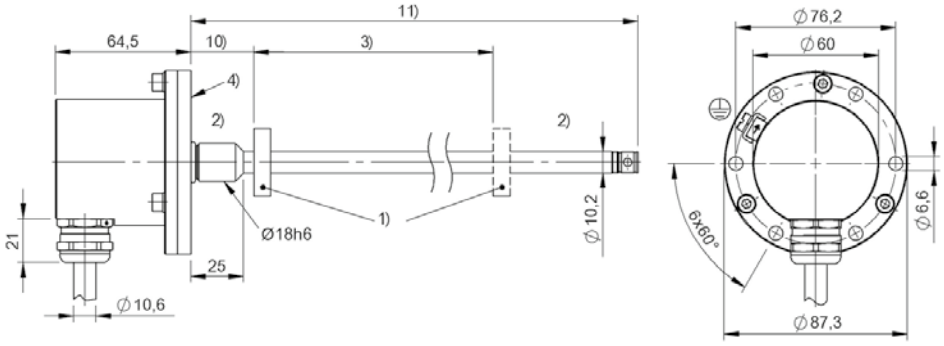
m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50

BTL7-T500-Mxxxx-J-DEXB-Kxx



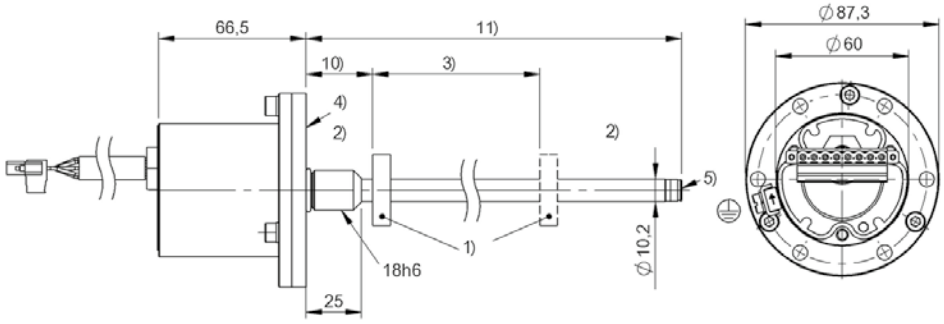
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-J-DEXA-Kxx



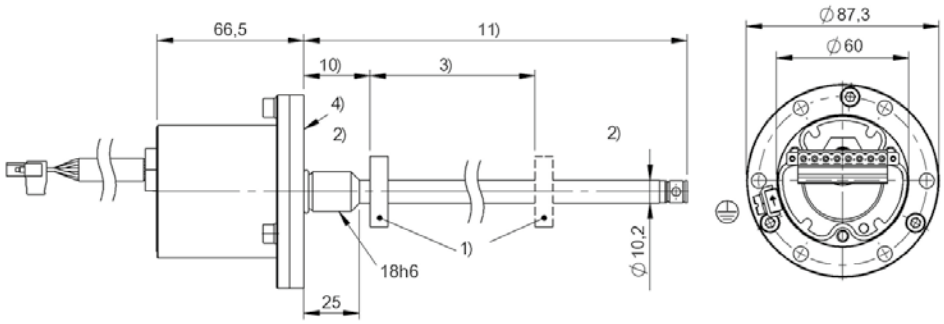
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-T500-Mxxxx-J-DEXE-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-J-DEXD-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -J-DEXC- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

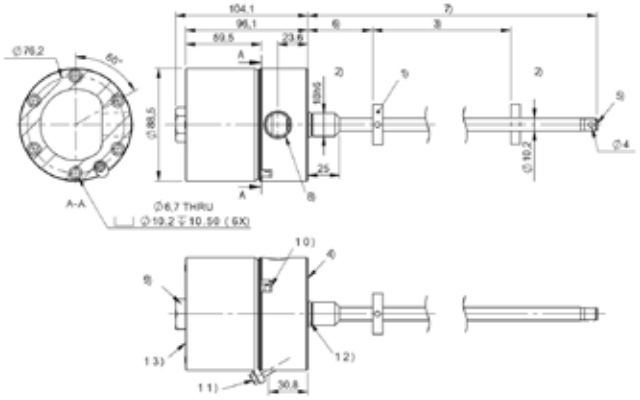
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

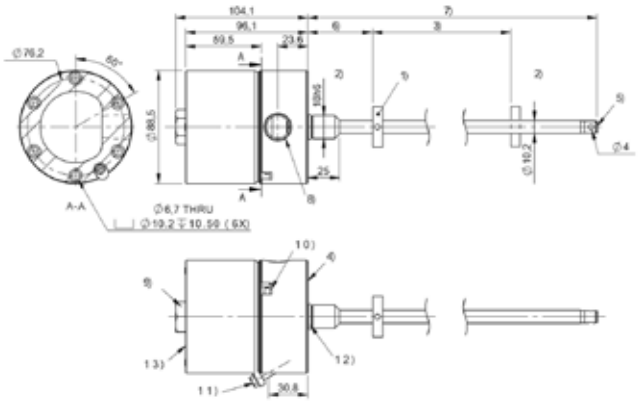
l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-A501-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

BTL7-G510-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -J-DEXC- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

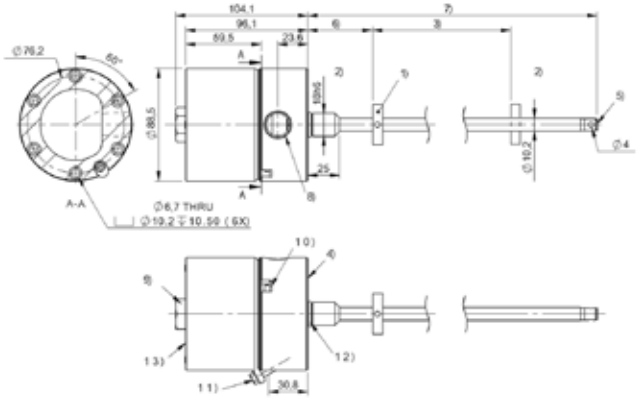
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

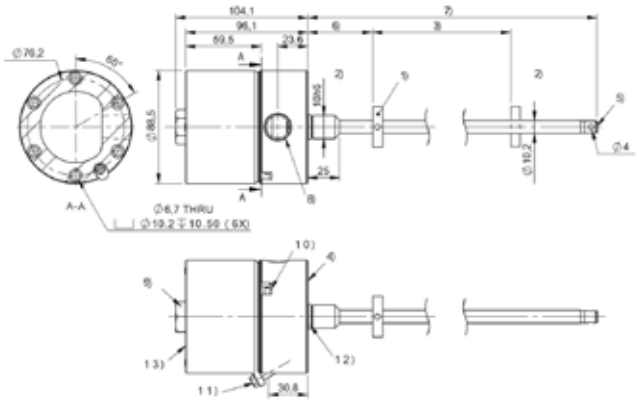
l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-E501-Mxxxx-J-DEXC-TA12



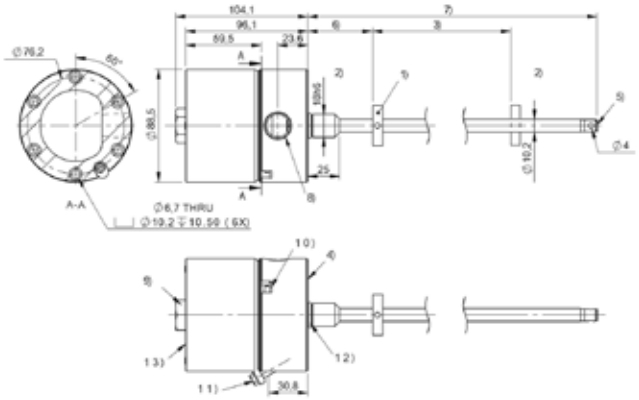
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

BTL7-E500-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

BTL7-E570-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -J-DEXC- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

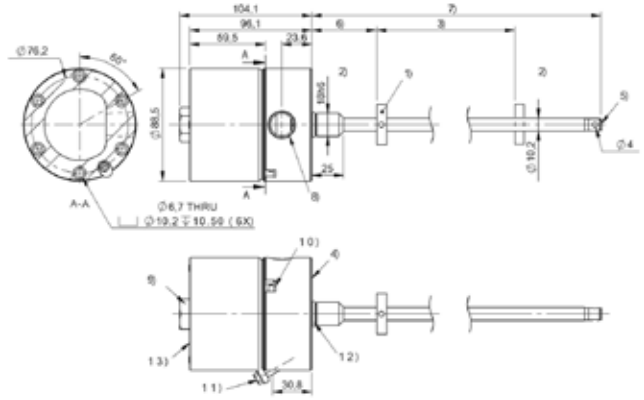
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-P511-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -J-DEXC- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcde-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

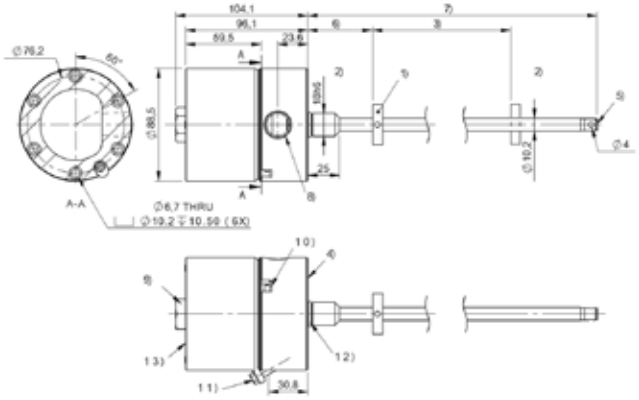
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-S5xxx-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -B-NEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

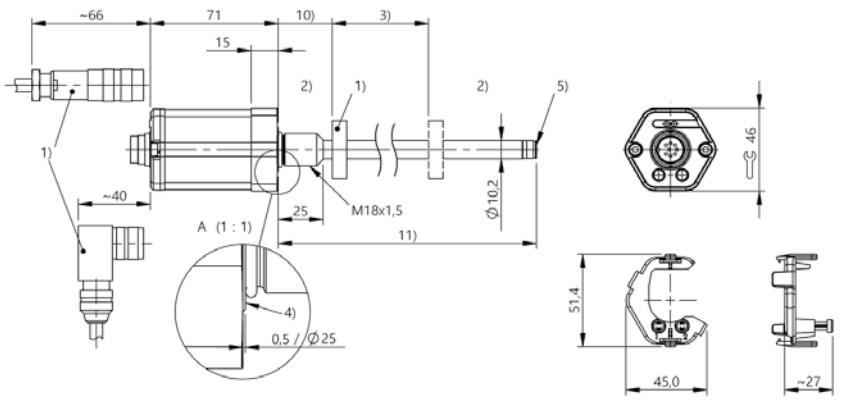
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

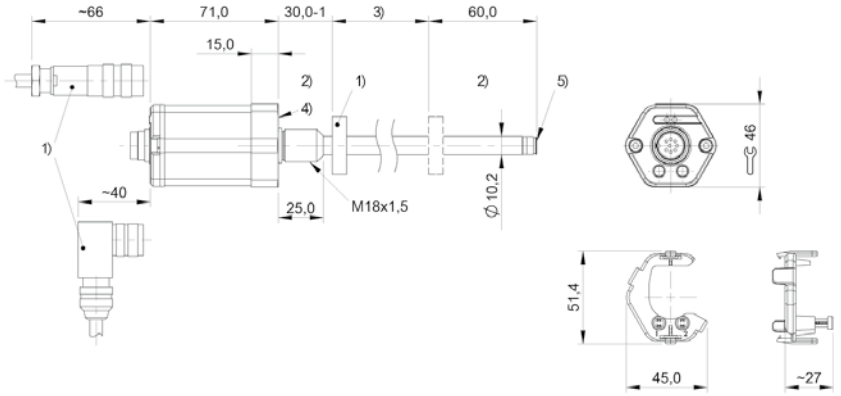
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-B-NEX-S32



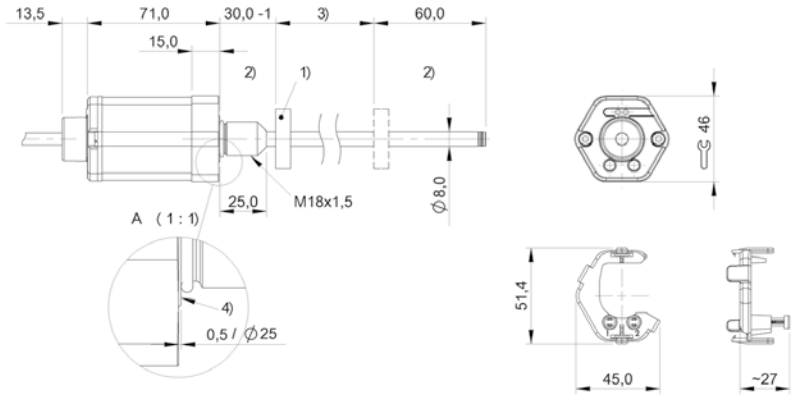
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-A-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-B8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -B-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...5500 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

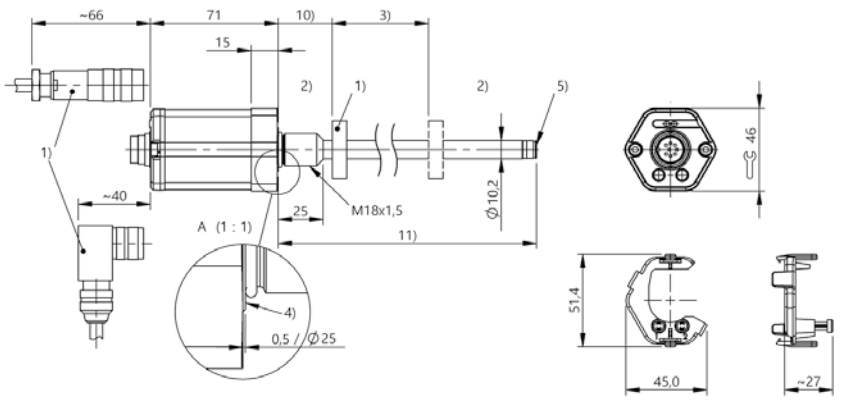
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

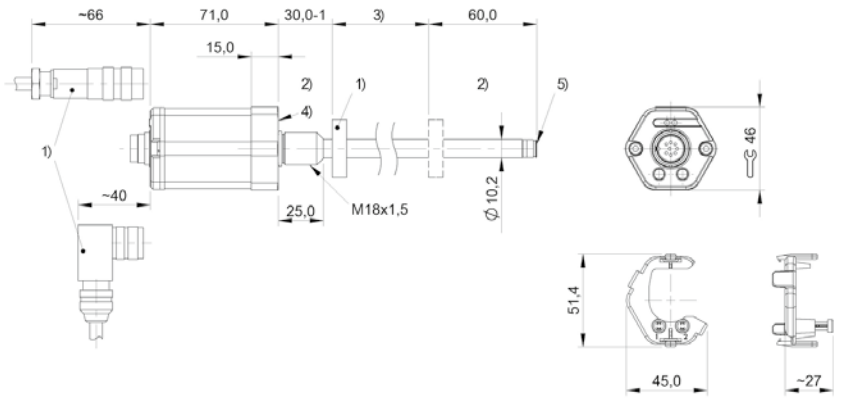
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-B-NEX-S32



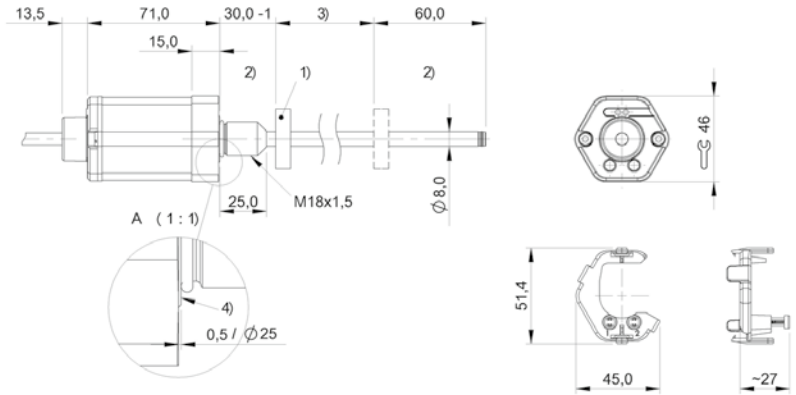
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C500-Mxxxx-A-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-B8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -B-NEX- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

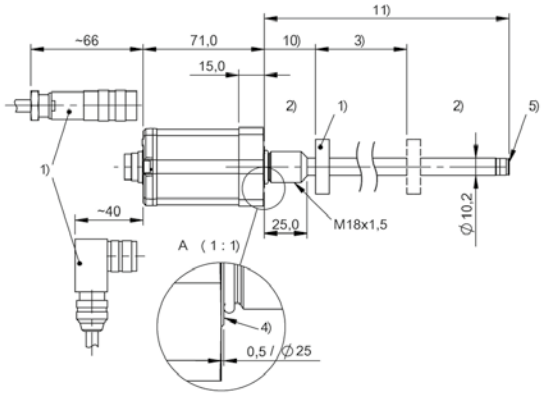
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

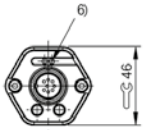
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

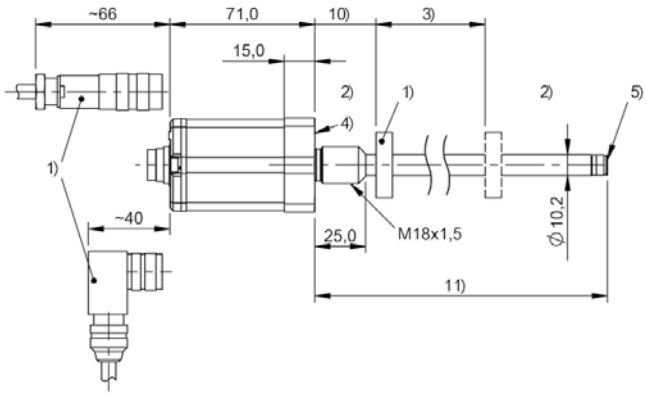
BTL7-P511-Mxxxx-B-NEX-S32

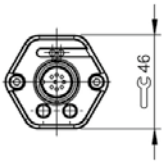




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

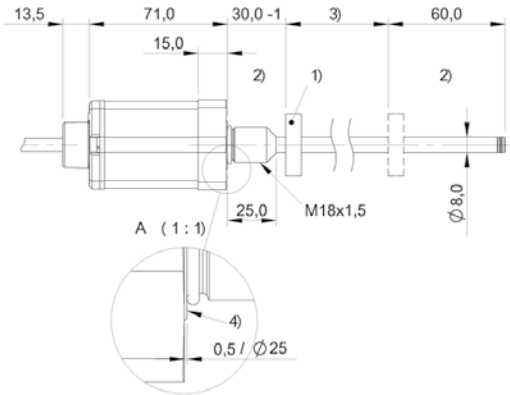
BTL7-P511-Mxxxx-A-NEX-S32

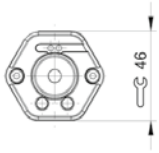




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-B8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -B-NEX- SERIES - SSI
Interface	SSI
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcde-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

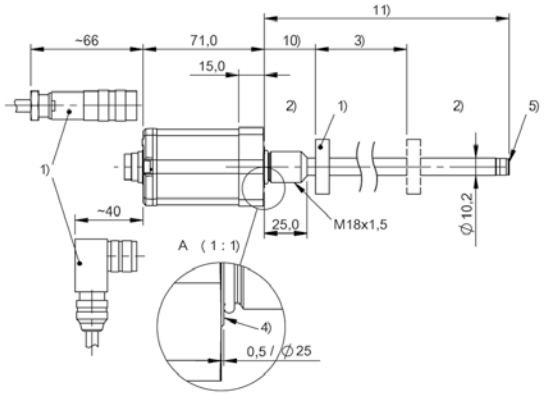
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

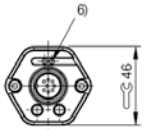
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

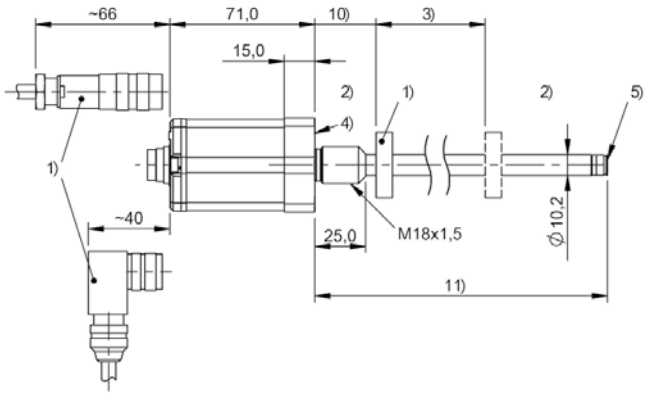
BTL7-S510x-Mxxxx-B-NEX-S32

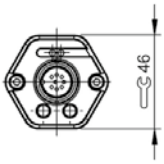




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

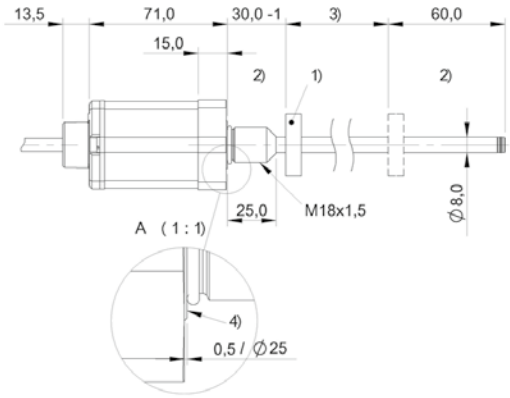
BTL7-S5xxx-Mxxxx-A-NEX-S32

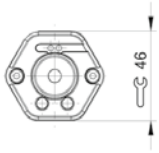




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-B8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, 1x each rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, f or O-Ring

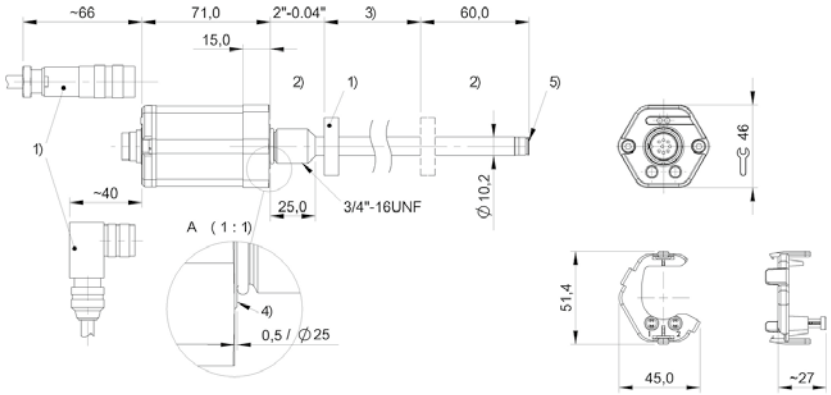
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

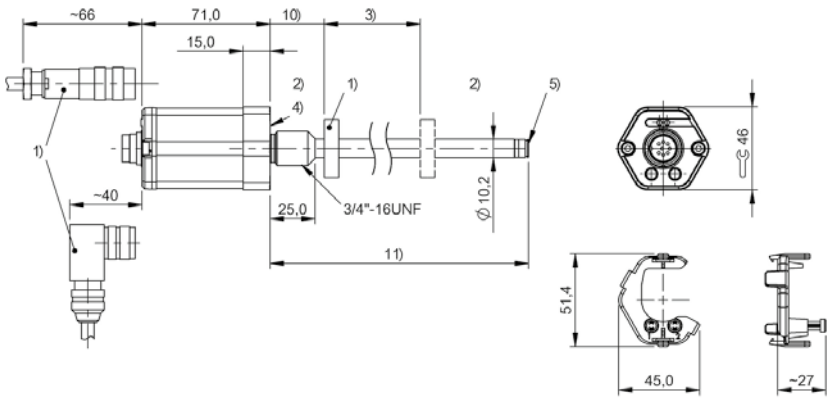
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-Z-NEX-S32



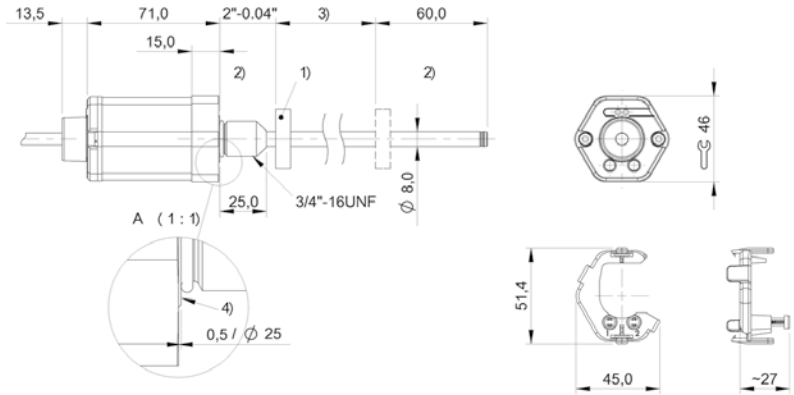
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-G510-Mxxxx-Y-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-Z8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...5500 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, 1x each rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

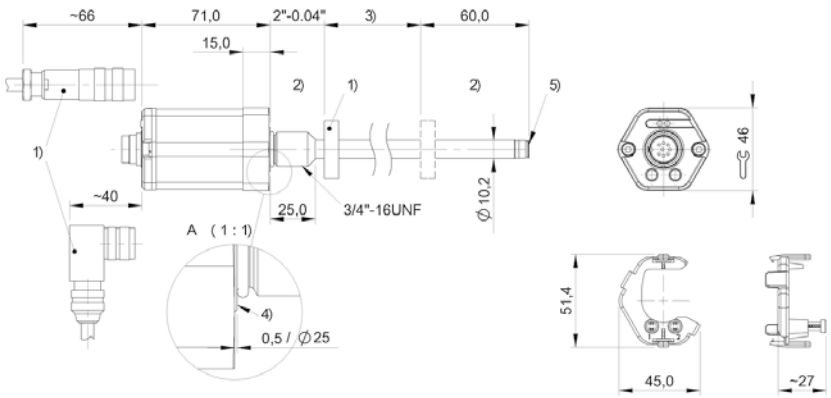
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

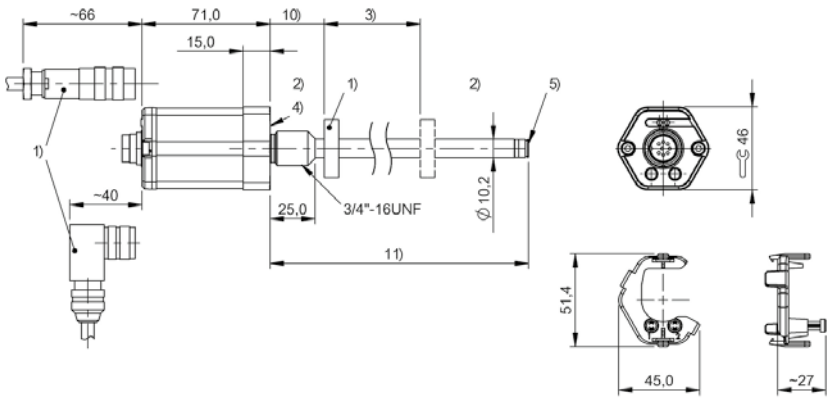
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-Z-NEX-S32



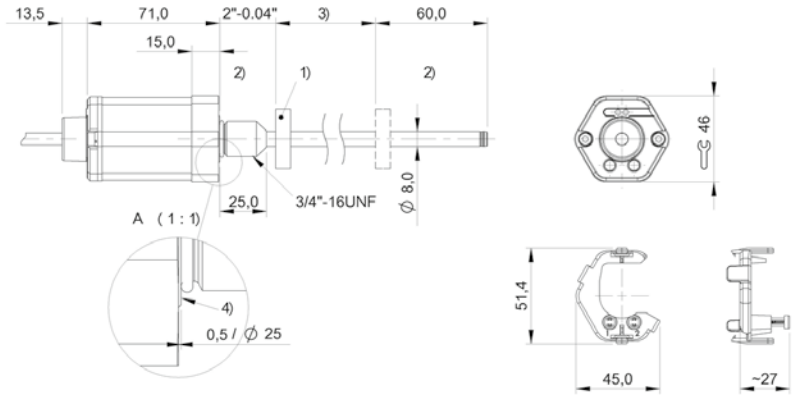
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-C500-Mxxxx-Y-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-Z8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

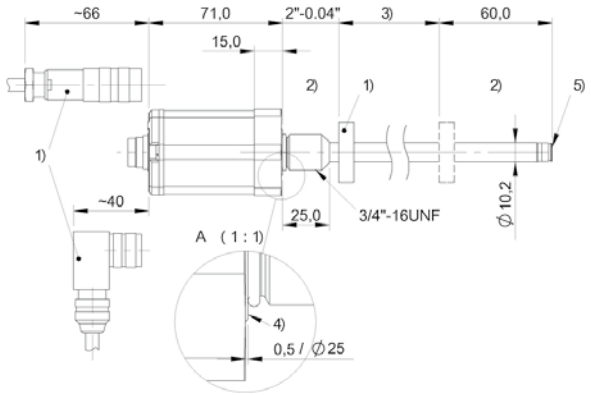
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

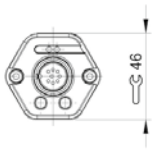
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

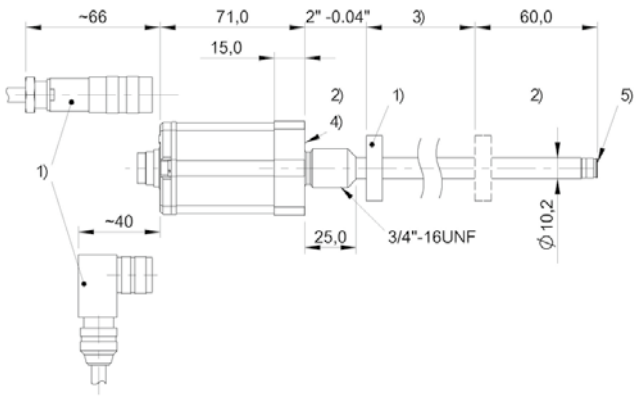
BTL7-P511-Mxxxx-Z-NEX-S32

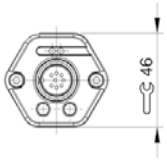




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

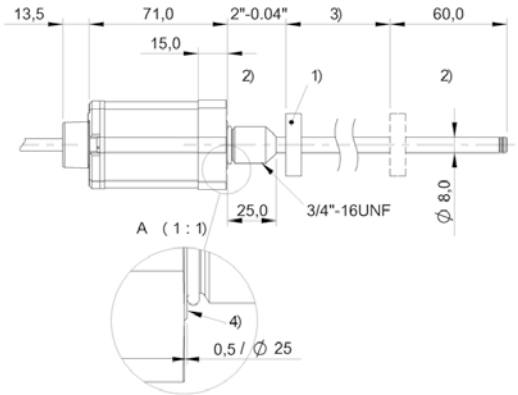
BTL7-P511-Mxxxx-Y-NEX-S32

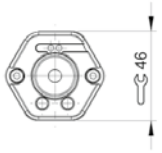




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-Z8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - SSI
Interface	SSI
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcde-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

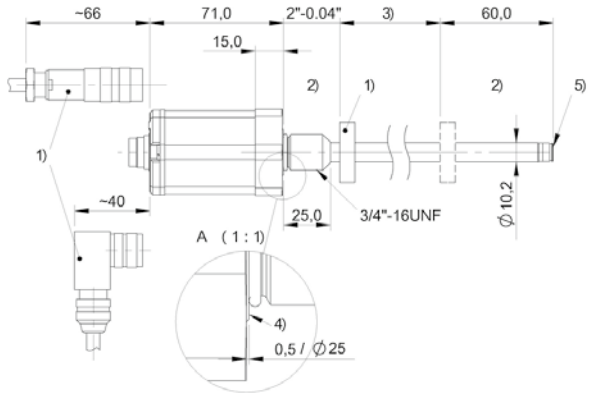
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

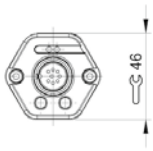
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

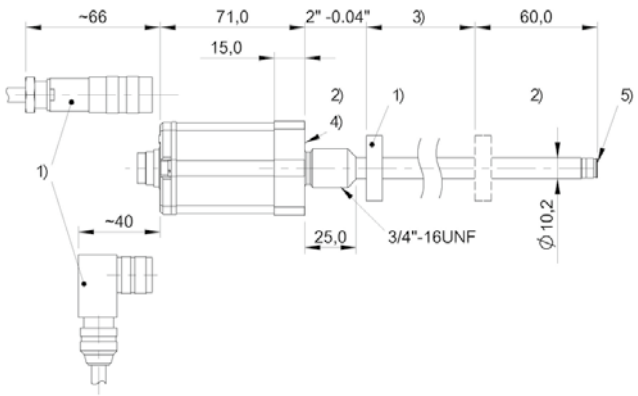
BTL7-S510x-Mxxxx-Z-NEX-S32

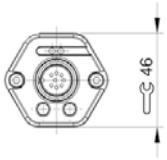




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

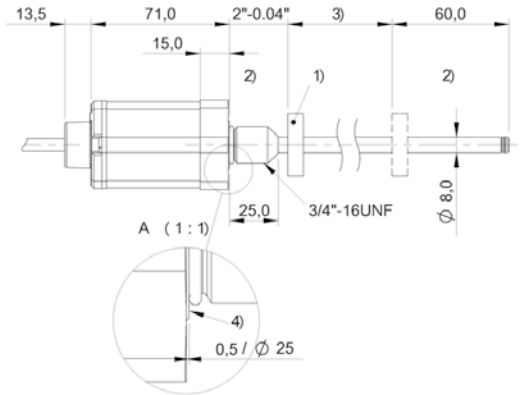
BTL7-S5xxx-Mxxxx-Y-NEX-S32

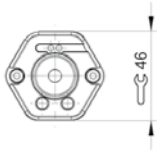




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-Z8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -CD-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...2000 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2000: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

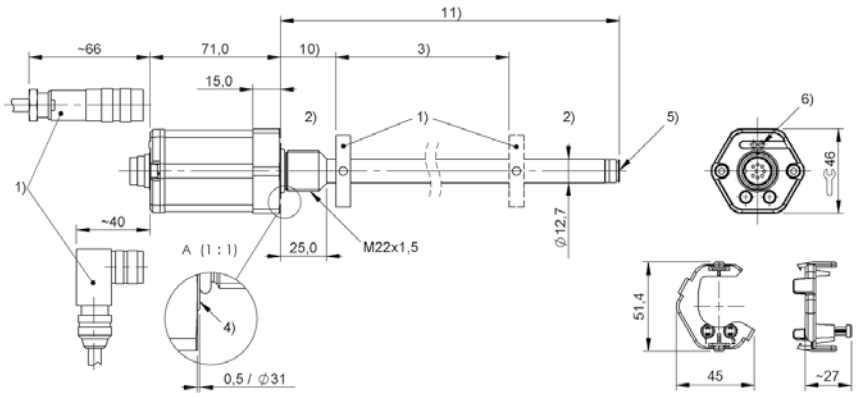
f Style
CD = Mounting threads M22x1.5, for O-Ring

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

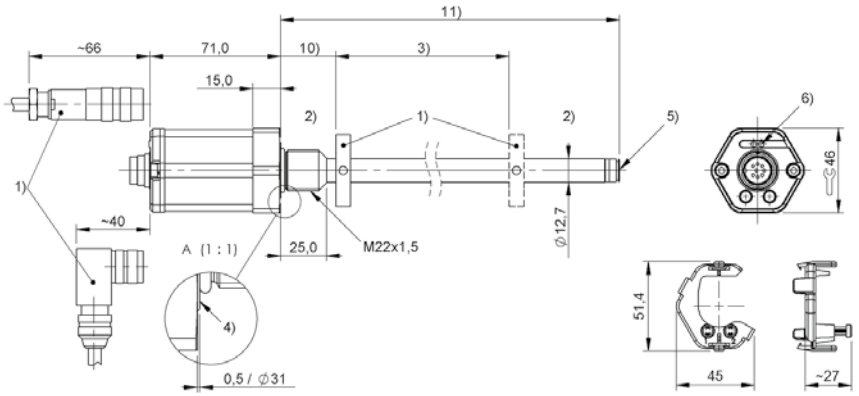
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-CD-NEX-S32



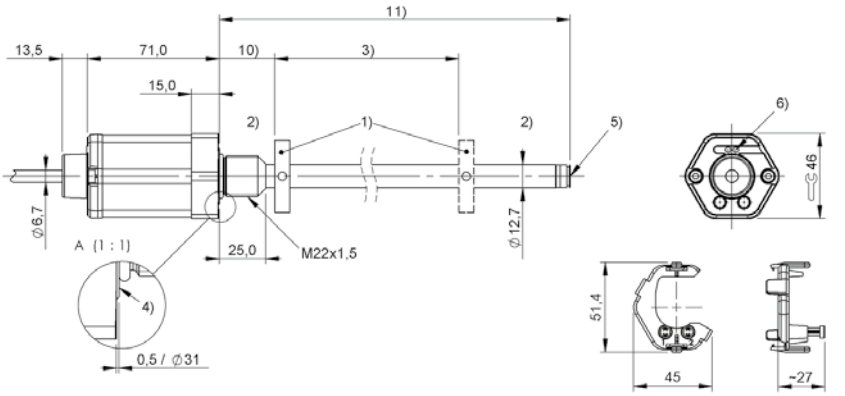
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-C500-Mxxxx-CD-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-E570-Mxxxx-CD-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD-NEX- SERIES - SSI
Interface	SSI
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcde-Mnnnn-f-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

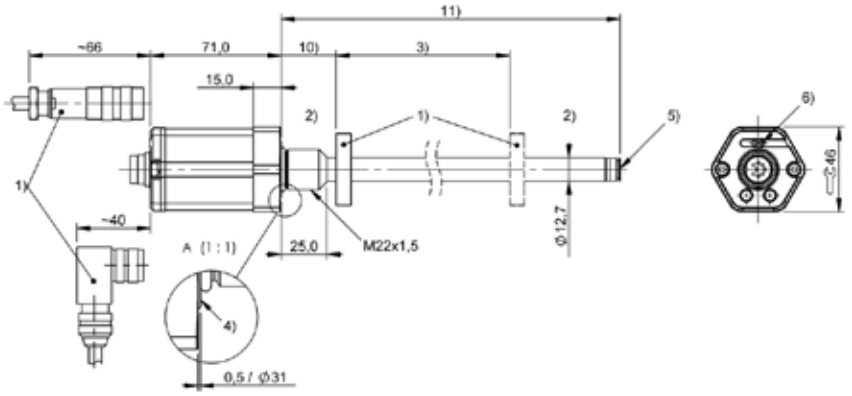
f Style
CD = Mounting threads M22x1.5, for O-Ring

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

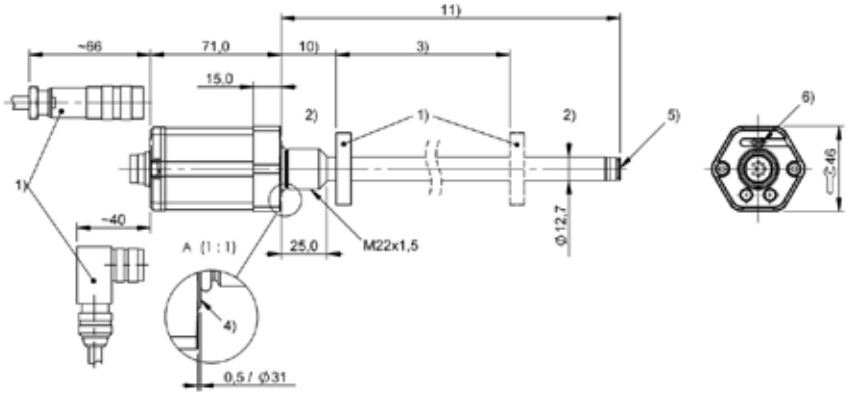
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-CD-NEX-S32



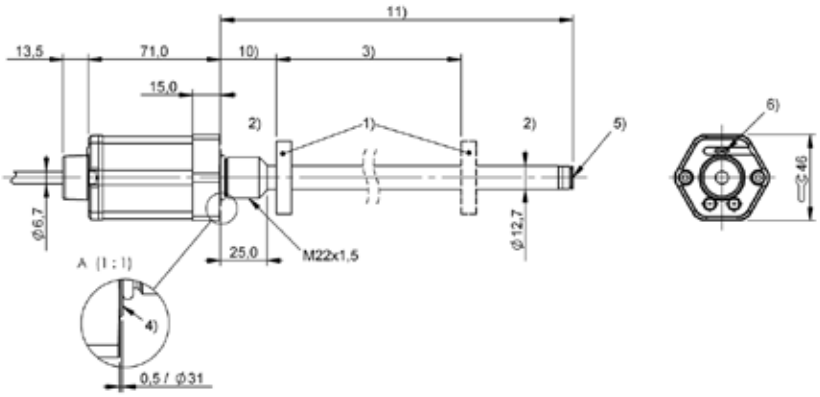
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -K-NEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

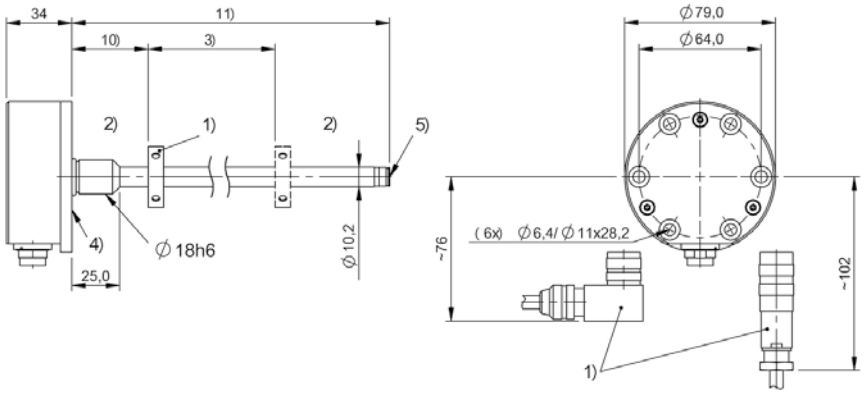
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
SR = Connector
K = Cable out radial (PUR)

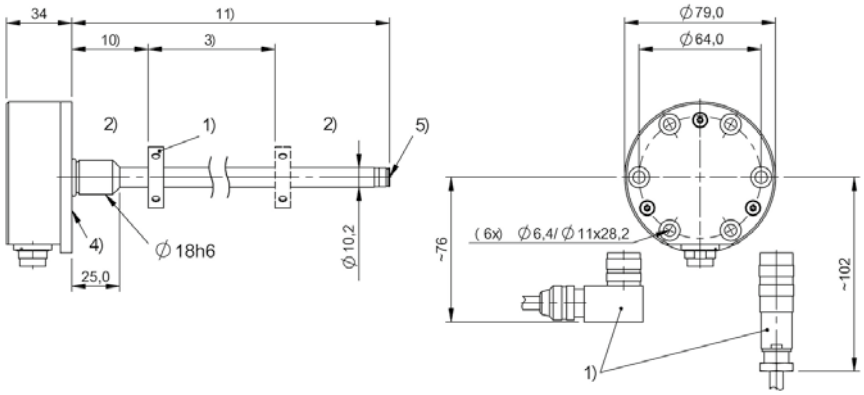
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-K-NEX-SR32



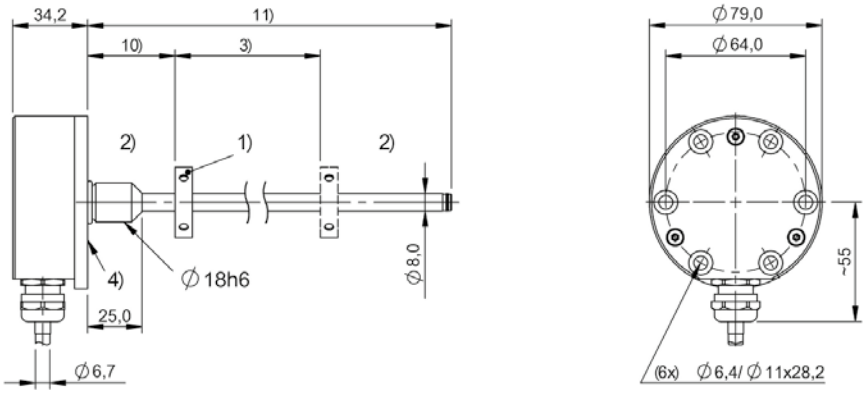
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-K-NEX-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-K8-NEX-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -K-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	I = S: IP67 with connector I = K: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

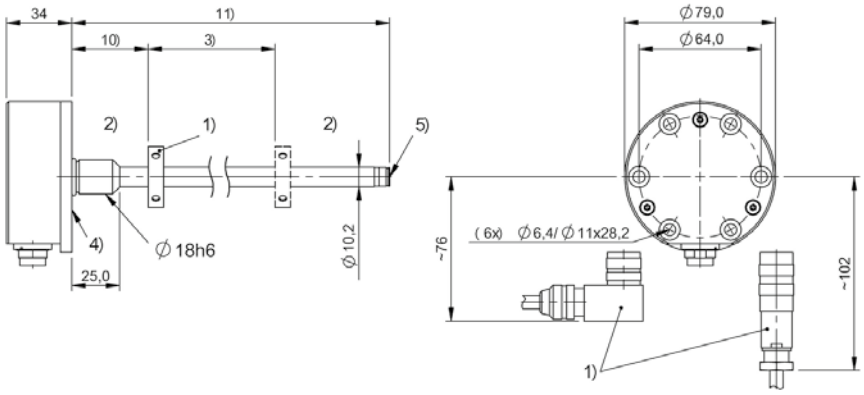
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
SR = Connector
K = Cable out radial (PUR)

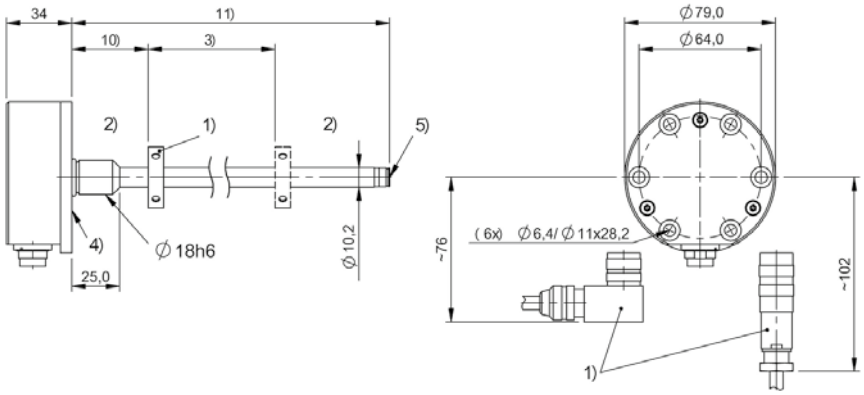
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-K-NEX-SR32



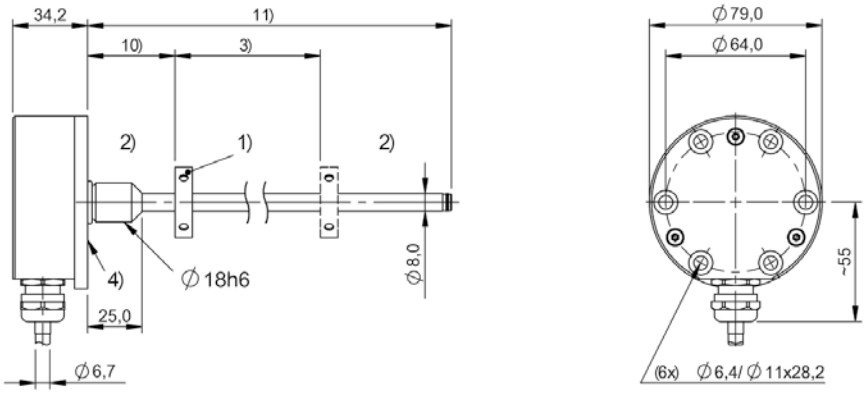
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-K-NEX-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-K8-NEX-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -TB-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fh-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TB = Mounting threads M18x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

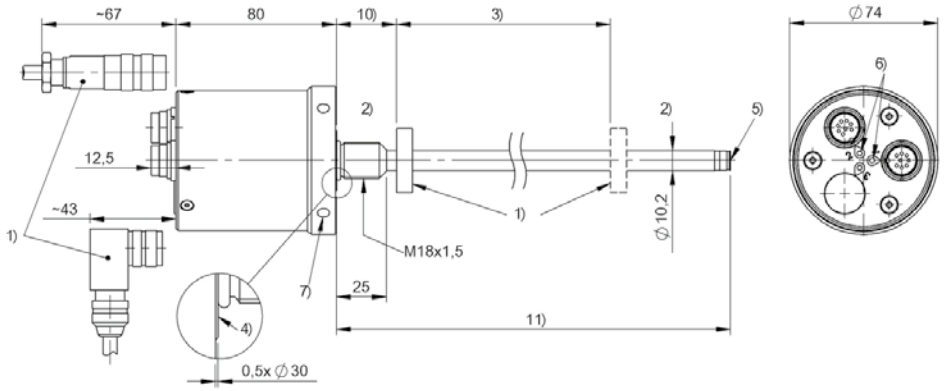
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

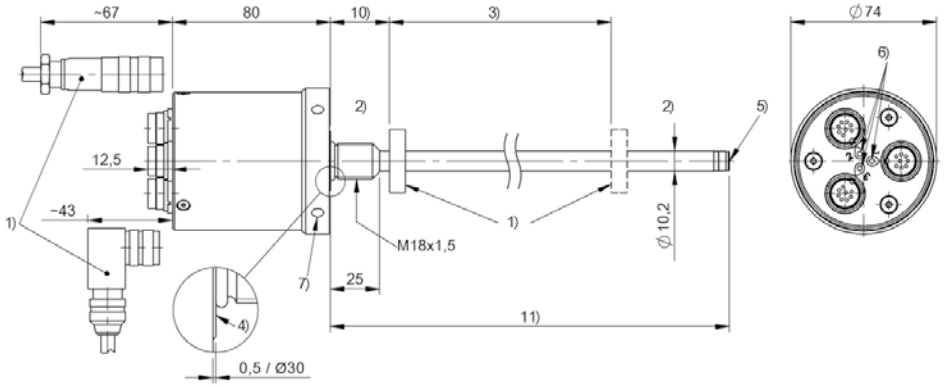
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TB2-NEX-S32



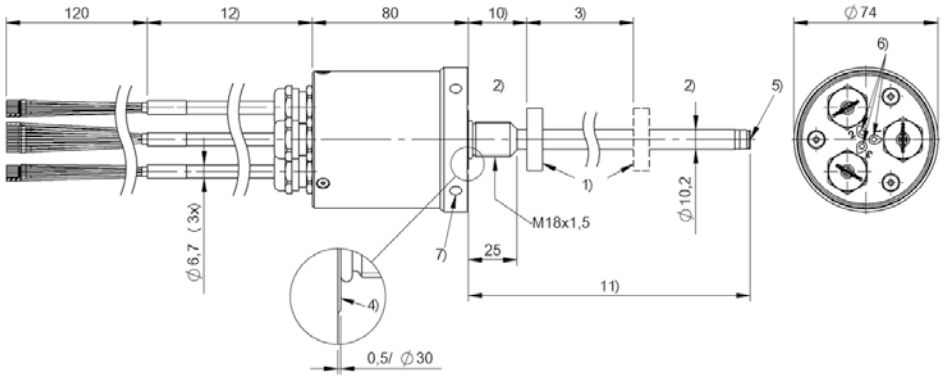
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TB3-NEX-S32



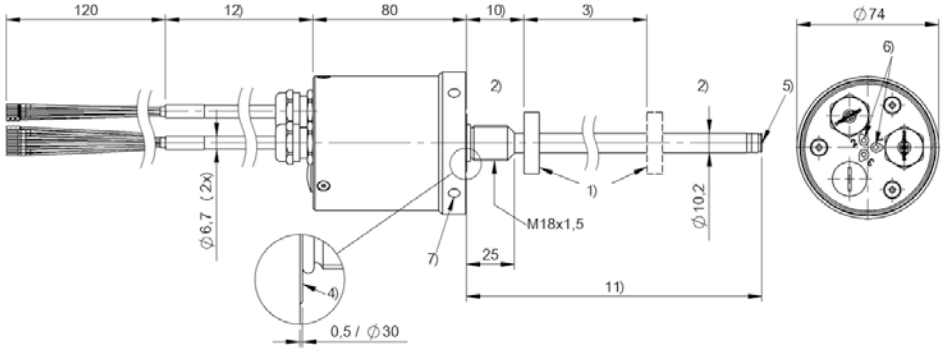
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TB3-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TB2-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fh-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

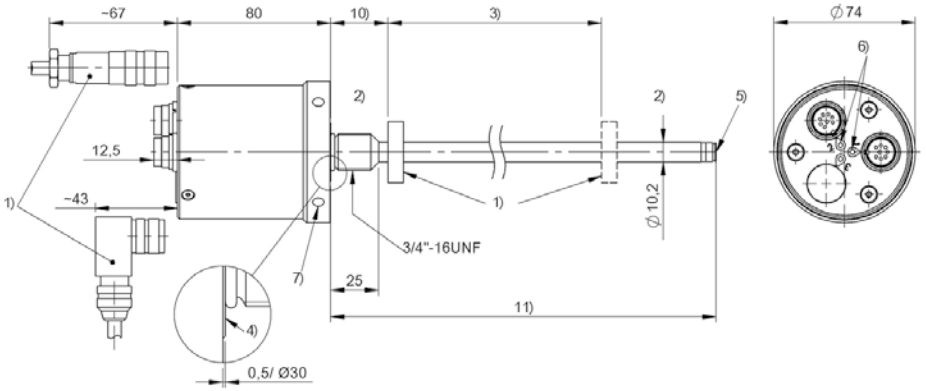
h Redundant
2 = 2 times redundant
3 = 3 times redundant

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

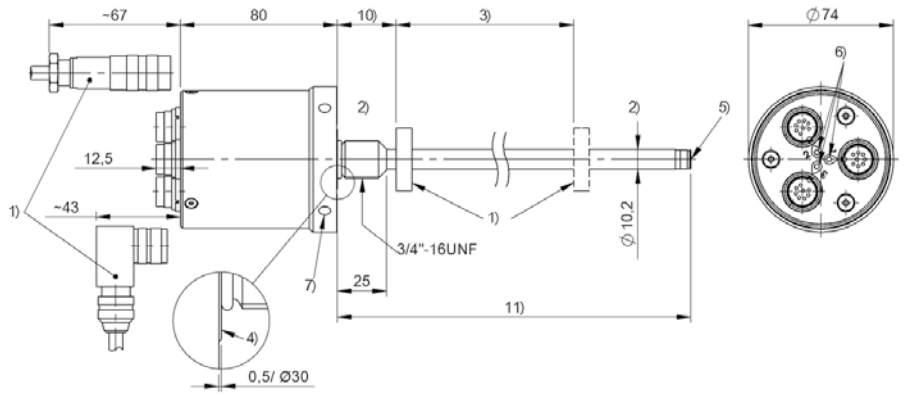
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TZ2-NEX-S32



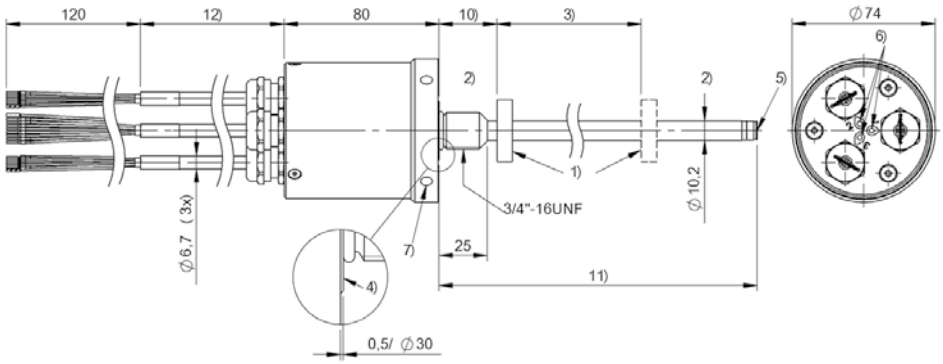
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TZ3-NEX-S32



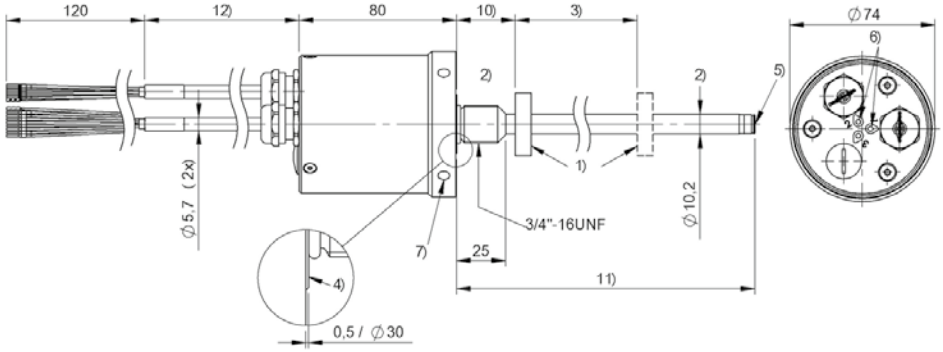
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TZ3-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TZ2-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length


BALLUFF

Precise deviation measurement for numerous industries

INCLINATION SENSORS

Many applications require precise position control as well as continuous guiding and monitoring of rotary movements. Inclination sensors from Balluff measure the deviation from horizontal or vertical axes up to 360°. The sensors are available with two different measuring principles, making them ideal for numerous industries and applications.

The most important benefits

- Contactless and absolute
- Capacitive measuring principle and MEMS
- Direct inclination measurement without costly special constructions
- Interfaces: 4…20 mA, 0…10 V and Modbus
- Appropriate for use in harsh conditions with high protection class IP67
- Measuring range up to 360°
- Simple mounting and integration in your facility
- For use in many industries: factory automation, energy, hydraulics, packaging, plastics, rubber, tires, life sciences



	BSI000M BSI Q41K0-XA-MXS015-S92	**BSI000N** BSI Q41K0-XA-MXS030-S92	**BSI000T** BSI Q41K0-XA-MXS045-S92	
Measuring principle	MEMS	MEMS	MEMS	
Measuring axes	1	1	1	
Measuring range	-15...15°	-30...30°	-45...45°	
Operating voltage Ub	12...30 VDC	12...30 VDC	12...30 VDC	
Interface	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	
Resolution	0.1°	0.1°	0.1°	
Accuracy	1.0°	1.0°	1.0°	
Connection	Connector, M12x1	Connector, M12x1	Connector, M12x1	
Housing material	Plastic	Plastic	Plastic	
Ambient temperature	-40...80 °C	-40...80 °C	-40...80 °C	
Protection degree	IP67, IP69	IP67, IP69	IP67, IP69	
Approval/Conformity	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	
Additional text	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	
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	BSI000U BSI Q41K0-XA-MXS090-S92	BSI000L BSI Q41K0-XA-MXP360-S92	BSI000J BSI Q41K0-XB-MXS015-S92	BSI000K BSI Q41K0-XB-MXS030-S92	BSI000P BSI Q41K0-XB-MXS045-S92
	MEMS	MEMS	MEMS	MEMS	MEMS
	1	1	1	1	1
	-90...90°	0...360°	-15...15°	-30...30°	-45...45°
	12...30 VDC	12...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	0.1°	0.1°	0.1°	0.1°	0.1°
	1.0°	1.0°	1.0°	1.0°	1.0°
	Connector, M12x1	Connector, M12x1	Connector, M12x1	Connector, M12x1	Connector, M12x1
	Plastic	Plastic	Plastic	Plastic	Plastic
	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C
	IP67, IP69	IP67, IP69	IP67, IP69	IP67, IP69	IP67, IP69
	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE
	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position
	Page 326	Page 326	Page 326	Page 326	Page 326



	BSI000R BSI Q41K0-XB-MXS090-S92	**BSI000H** BSI Q41K0-XB-MXP360-S92	**BSI0002** BSI R11A0-XB-CXS045-S75G	
Measuring principle	MEMS	MEMS	Fluid	
Measuring axes	1	1	1	
Measuring range	-90...90°	0...360°	-45...45°	
Operating voltage Ub	10...30 VDC	10...30 VDC	10...30 VDC	
Interface	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Resolution	0.1°	0.1°	≤ 0.01 °	
Accuracy	1.0°	1.0°	±0.1 % FS min. 0.1 °	
Connection	Connector, M12x1	Connector, M12x1	Connector, M8x1	
Housing material	Plastic	Plastic	Aluminum	
Ambient temperature	-40...80 °C	-40...80 °C	-40...85 °C	
Protection degree	IP67, IP69	IP67, IP69	IP67	
Approval/Conformity	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, EAC, WEEE	
Additional text	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	—	
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	BSI0004 BSI R11A0-XB-CXP360-S75G	BSI0003 BSI R11A0-XXR-CXP360-S75G	BSI001C BSI R65K0-XA-MXS015-S115	BSI0017 BSI R65K0-XA-MXS030-S115	BSI001F BSI R65K0-XA-MXS045-S115
	Fluid	Fluid	MEMS	MEMS	MEMS
	1	1	1	1	1
	0...360°	0...360°	-15...15°	-30...30°	-45...45°
	10...30 VDC	10...30 VDC	12...30 VDC	12...30 VDC	12...30 VDC
	Analog, current 4…20 mA	Modbus RTU	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V
	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °
	±0.1 % FS min. 0.1 °	±0.1° (+10…+40 °C), ±0.15° (-40…+10 °C/+40…80 °C)	±0.2°	±0.2°	±0.2°
	Connector, M8x1	Connector, M8x1	Connector, M12x1	Connector, M12x1	Connector, M12x1
	Aluminum	Aluminum	Plastic	Plastic	Plastic
	-40...85 °C	-40...85 °C	-40…80 °C	-40…80 °C	-40…80 °C
	IP67	IP67	IP67	IP67	IP67
	CE, EAC, WEEE	CE, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE
	—	—	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position
	Page 326	Page 326	Page 327	Page 327	Page 327



	BSI0005 BSI R65K0-XA-MXS090-S115	**BSI0016** BSI R65K0-XA-MXP360-S115	**BSI001E** BSI R65K0-XB-MXS015-S115	
Measuring principle	MEMS	MEMS	MEMS	
Measuring axes	1	1	1	
Measuring range	-90...90°	0...360°	-15...15°	
Operating voltage Ub	12...30 VDC	12...30 VDC	10...30 VDC	
Interface	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, current 4…20 mA	
Resolution	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	
Accuracy	±0.2°	±0.25°	±0.2°	
Connection	Connector, M12x1	Connector, M12x1	Connector, M12x1	
Housing material	Plastic	Plastic	Plastic	
Ambient temperature	-40…80 °C	-40…80 °C	-40…80 °C	
Protection degree	IP67	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	
Additional text	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	
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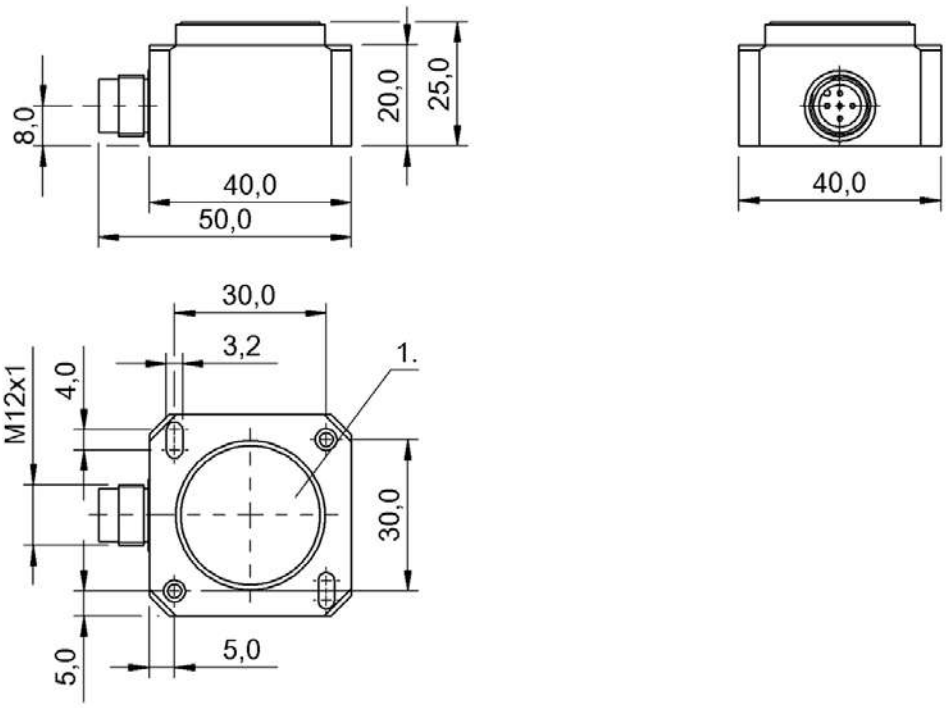
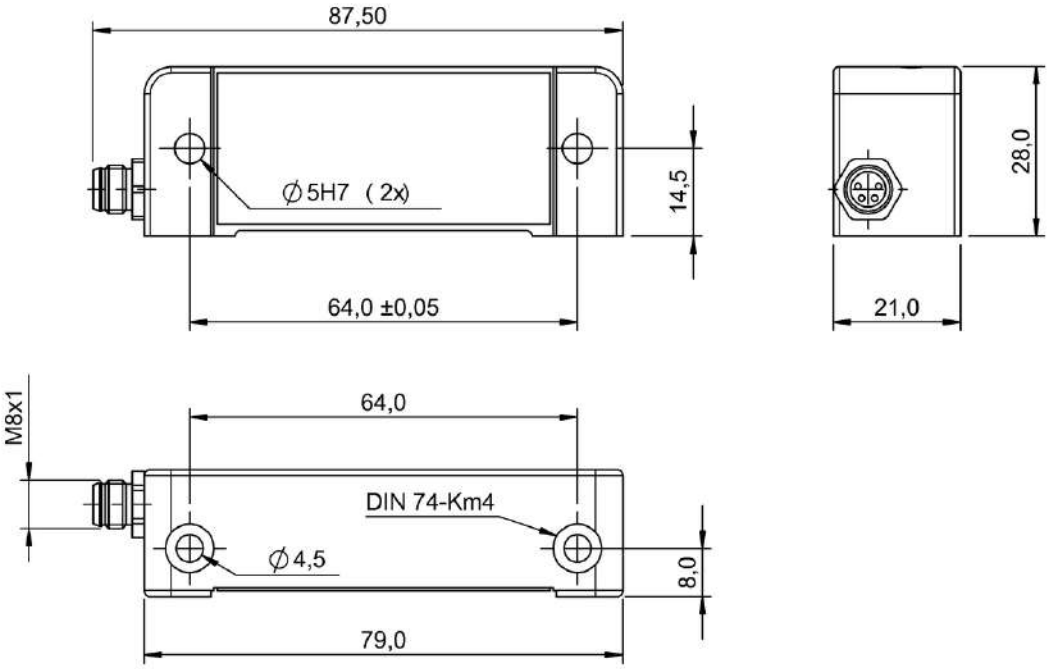
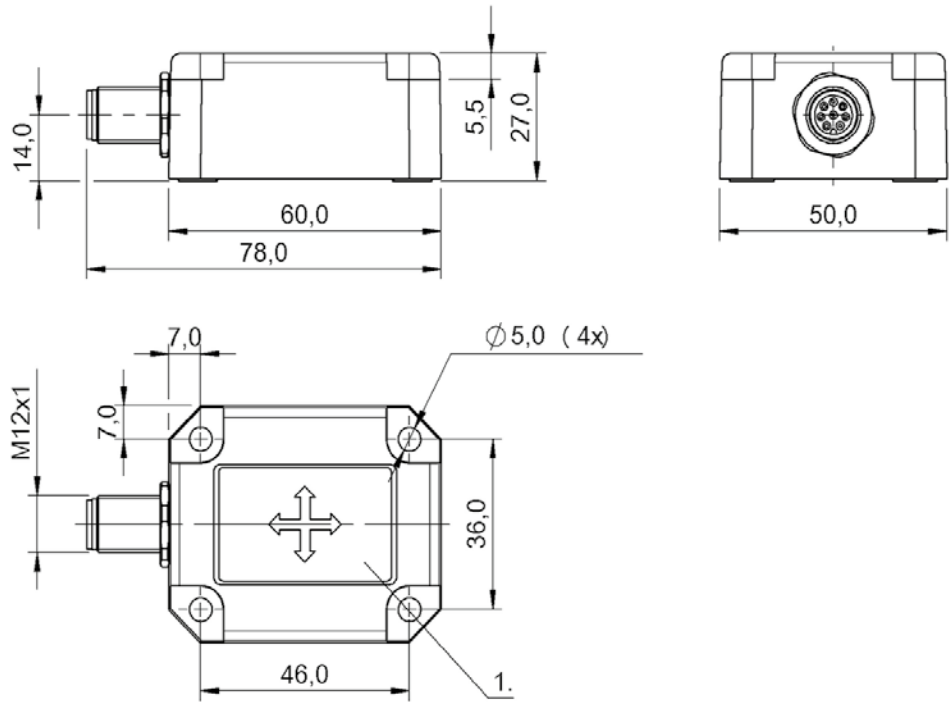
	BSI0018 BSI R65K0-XB-MXS030-S115	BSI0019 BSI R65K0-XB-MXS045-S115	BSI001A BSI R65K0-XB-MXS090-S115	BSI0015 BSI R65K0-XB-MXP360-S115	
	MEMS	MEMS	MEMS	MEMS	
	1	1	1	1	
	-30...30°	-45...45°	-90...90°	0...360°	
	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	
	±0.2°	±0.2°	±0.2°	±0.25°	
	Connector, M12x1	Connector, M12x1	Connector, M12x1	Connector, M12x1	
	Plastic	Plastic	Plastic	Plastic	
	-40…80 °C	-40…80 °C	-40…80 °C	-40…80 °C	
	IP67	IP67	IP67	IP67	
	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	
	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	Can be centered over 360° in the vertical position	
	Page 327	Page 327	Page 327	Page 327	



BSI000M, BSI000N, BSI000T, BSI000U, BSI000L, BSI000J, BSI000K, BSI000P, BSI000R, BSI000H



BSI0002, BSI0004, BSI0003



BSI001C, BSI0017, BSI001F, BSI0005, BSI0016, BSI001E, BSI0018, BSI0019, BSI001A, BSI0015

	BSI000Z BSI Q41K0-XA-MYS015-S92	**BSI0010** BSI Q41K0-XA-MYS030-S92	**BSI0013** BSI Q41K0-XA-MYS045-S92	
Measuring principle	MEMS	MEMS	MEMS	
Measuring axes	2	2	2	
Measuring range	-15...15°	-30...30°	-45...45°	
Operating voltage Ub	12...30 VDC	12...30 VDC	12...30 VDC	
Interface	2x Analog, voltage 0…10 V	2x Analog, voltage 0…10 V	2x Analog, voltage 0…10 V	
Resolution	0.1°	0.1°	0.1°	
Accuracy	1.0°	1.0°	1.0°	
Connection	Connector, M12x1	Connector, M12x1	Connector, M12x1	
Housing material	Plastic	Plastic	Plastic	
Ambient temperature	-40…80 °C	-40…80 °C	-40…80 °C	
Protection degree	IP67, IP69	IP67, IP69	IP67, IP69	
Approval/Conformity	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	
Additional text	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	
Productview	Pager 332	Pager 332	Pager 332	





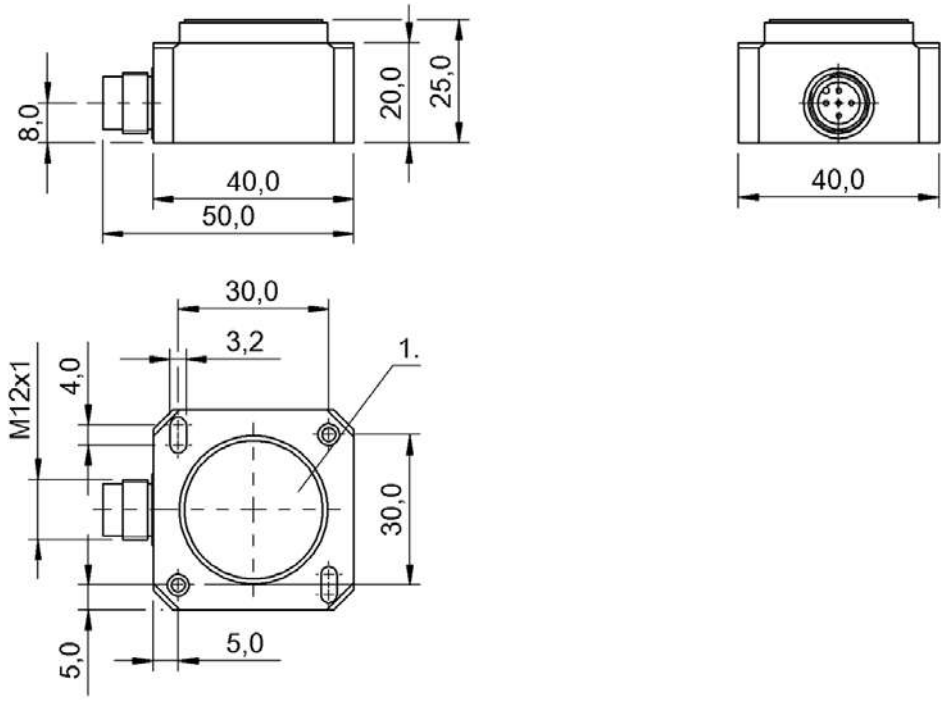
	BSI0014 BSI Q41K0-XA-MYS090-S92	BSI000W BSI Q41K0-XB-MYS015-S92	BSI000Y BSI Q41K0-XB-MYS030-S92	BSI0011 BSI Q41K0-XB-MYS045-S92	BSI0012 BSI Q41K0-XB-MYS090-S92
	MEMS	MEMS	MEMS	MEMS	MEMS
	2	2	2	2	2
	-90...90°	-15...15°	-30...30°	-45...45°	-90...90°
	12...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
	2x Analog, voltage 0…10 V	2x Analog, current 4…20 mA	2x Analog, current 4…20 mA	2x Analog, current 4…20 mA	2x Analog, current 4…20 mA
	0.1°	0.1°	0.1°	0.1°	0.1°
	1.0°	1.0°	1.0°	1.0°	1.0°
	Connector, M12x1	Connector, M12x1	Connector, M12x1	Connector, M12x1	Connector, M12x1
	Plastic	Plastic	Plastic	Plastic	Plastic
	-40…80 °C	-40…80 °C	-40…80 °C	-40…80 °C	-40…80 °C
	IP67, IP69	IP67, IP69	IP67, IP69	IP67, IP69	IP67, IP69
	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE
	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible
	Pager 332	Pager 332	Pager 332	Pager 332	Pager 332

	BSI000A BSI R65K0-XA-MYS015-S115	**BSI000C** BSI R65K0-XA-MYS030-S115	**BSI000E** BSI R65K0-XA-MYS045-S115	
Measuring principle	MEMS	MEMS	MEMS	
Measuring axes	2	2	2	
Measuring range	-15...15°	-30...30°	-45...45°	
Operating voltage Ub	12...30 VDC	12...30 VDC	12...30 VDC	
Interface	2x Analog, voltage 0…10 V	2x Analog, voltage 0…10 V	2x Analog, voltage 0…10 V	
Resolution	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	
Accuracy	±0.08°	±0.12°	±0.2°	
Connection	Connector, M12x1	Connector, M12x1	Connector, M12x1	
Housing material	Plastic	Plastic	Plastic	
Ambient temperature	-40…80 °C	-40…80 °C	-40…80 °C	
Protection degree	IP67	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	
Additional text	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	
Productview	Pager 332	Pager 332	Pager 332	

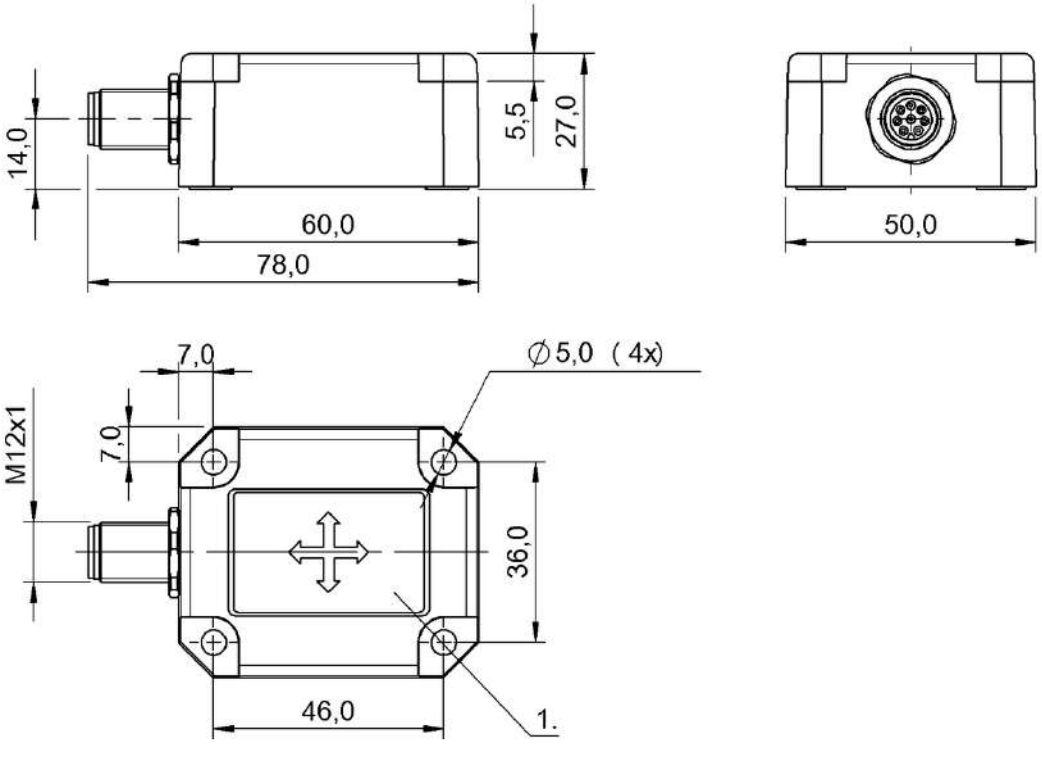




	BSI000F BSI R65K0-XA-MYS090-S115	BSI0006 BSI R65K0-XB-MYS015-S115	BSI0007 BSI R65K0-XB-MYS030-S115	BSI0008 BSI R65K0-XB-MYS045-S115	BSI0009 BSI R65K0-XB-MYS090-S115
	MEMS	MEMS	MEMS	MEMS	MEMS
	2	2	2	2	2
	-90...90°	-15...15°	-30...30°	-45...45°	-90...90°
	12...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
	2x Analog, voltage 0…10 V	2x Analog, current 4…20 mA	2x Analog, current 4…20 mA	2x Analog, current 4…20 mA	2x Analog, current 4…20 mA
	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °	≤ 0.01 °
	±0.2°	±0.08°	±0.12°	±0.2°	±0.2°
	Connector, M12x1	Connector, M12x1	Connector, M12x1	Connector, M12x1	Connector, M12x1
	Plastic	Plastic	Plastic	Plastic	Plastic
	-40…80 °C	-40…80 °C	-40…80 °C	-40…80 °C	-40…80 °C
	IP67	IP67	IP67	IP67	IP67
	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE
	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible	Centering in a range of ±5° from horizontal is possible
	Pager 332	Pager 332	Pager 332	Pager 332	Pager 332



BSI000Z, BSI0010, BSI0013, BSI0014, BSI000W, BSI000Y, BSI0011, BSI0012



BSI000A, BSI000C, BSI000E, BSI000F, BSI0006, BSI0007, BSI0008, BSI0009

Compact and convenient measurement and monitoring

PRESSURE SENSORS

Our high-end pressure transmitters are optimally suited for pressure monitoring and pressure measurement of gaseous, fluid and viscous media. With their rotatable housing and the simple, VDMA-compliant programming, they can be flexibly mounted as well as conveniently serviced. The bright LED display always gives you an overview of the current system pressure.

The most important benefits

- Compact and rugged as a transmitter
- Convenient to operate, with a very legible display
- Pressure range –1…600 bar
- Process connection G½", G½", R¼", NPT¼"
- Flush with the front surface in G½" and Tri-Clamp 1½"
- Output 4…20 mA, 0...10 V, switching points (NPN/PNP) and IO-Link
- Fluid temperature –40…+125 °C
- Enclosure rating IP67
- UL approval
- Compact with M12 connection
- Stainless steel or PVDF process connection
- Dual rotation – easily installed
- Pressure values directly via IO-Link



	BSP00KP BSP B002-HV004-A04A1A-S4	BSP00KM BSP V002-HV004-A04A1A-S4	BSP00KR BSP B005-HV004-A04A1A-S4	
Measuring range	0...2 bar	–1...2 bar	0...5 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	4 bar	4 bar	12 bar	
Burst pressure	10.00 bar	10.00 bar	15.00 bar	
Operating voltage Ub	14...30 VDC	14...30 VDC	14...30 VDC	
Interface	—	—	—	
Analog output	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00KT BSP B010-HV004-A04A1A-S4	BSP00KN BSP V010-HV004-A04A1A-S4	BSP00KU BSP B020-HV004-A04A1A-S4	BSP00KW BSP B050-HV004-A04A1A-S4	BSP00KY BSP B100-HV004-A04A1A-S4
	0...10 bar	–1...10 bar	0...20 bar	0...50 bar	0...100 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	20 bar	20 bar	50 bar	120 bar	200 bar
	35.00 bar	35.00 bar	70.00 bar	150.00 bar	300.00 bar
	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC
	—	—	—	—	—
	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00KZ BSP B250-HV004-A04A1A-S4	**BSP00L0** BSP B400-HV004-A04A1A-S4	**BSP00L1** BSP B600-HV004-A04A1A-S4	
Measuring range	0...250 bar	0...400 bar	0...600 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	400 bar	1200 bar	1200 bar	
Burst pressure	750.00 bar	1500.00 bar	1800.00 bar	
Operating voltage Ub	14...30 VDC	14...30 VDC	14...30 VDC	
Interface	—	—	—	
Analog output	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4571)	Stainless steel (1.4571)	
Gasket, material	Fluoroelastomer	without, welded	without, welded	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00JH BSP B002-DV004-A04A1A-S4	BSP00JE BSP V002-DV004-A04A1A-S4	BSP00JJ BSP B005-DV004-A04A1A-S4	BSP00L8 BSP B006-DV004-A04A1A-S4	BSP00JK BSP B010-DV004-A04A1A-S4
	0...2 bar	–1...2 bar	0...5 bar	0...6 bar	0...10 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	4 bar	4 bar	12 bar	12 bar	20 bar
	10.00 bar	10.00 bar	15.00 bar	18.00 bar	35.00 bar
	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC
	—	—	—	—	—
	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00JF BSP V010-DV004-A04A1A-S4	**BSP00JL** BSP B020-DV004-A04A1A-S4	**BSP00JM** BSP B050-DV004-A04A1A-S4	
Measuring range	–1...10 bar	0...20 bar	0...50 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	20 bar	50 bar	120 bar	
Burst pressure	35.00 bar	70.00 bar	150.00 bar	
Operating voltage Ub	14...30 VDC	14...30 VDC	14...30 VDC	
Interface	—	—	—	
Analog output	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00JN BSP B100-DV004-A04A1A-S4	BSP00JP BSP B250-DV004-A04A1A-S4	BSP00JR BSP B400-DV004-A04A1A-S4	BSP00JT BSP B600-DV004-A04A1A-S4	BSP00JY BSP B002-FV004-A04A1A-S4
	0...100 bar	0...250 bar	0...400 bar	0...600 bar	0...2 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	200 bar	400 bar	1200 bar	1200 bar	4 bar
	300.00 bar	750.00 bar	1500.00 bar	1800.00 bar	10.00 bar
	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC
	—	—	—	—	—
	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	NPT 1/4“
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	without, welded	without, welded	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00JU BSP V002-FV004-A04A1A-S4	**BSP00JZ** BSP B005-FV004-A04A1A-S4	**BSP00K0** BSP B010-FV004-A04A1A-S4	
Measuring range	–1...2 bar	0...5 bar	0...10 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	4 bar	12 bar	20 bar	
Burst pressure	10.00 bar	15.00 bar	35.00 bar	
Operating voltage Ub	14...30 VDC	14...30 VDC	14...30 VDC	
Interface	—	—	—	
Analog output	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	NPT 1/4“	NPT 1/4“	NPT 1/4“	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00JW BSP V010-FV004-A04A1A-S4	BSP00K1 BSP B020-FV004-A04A1A-S4	BSP00K2 BSP B050-FV004-A04A1A-S4	BSP00K3 BSP B100-FV004-A04A1A-S4	BSP00K4 BSP B250-FV004-A04A1A-S4
	–1...10 bar	0...20 bar	0...50 bar	0...100 bar	0...250 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	20 bar	50 bar	120 bar	200 bar	400 bar
	35.00 bar	70.00 bar	150.00 bar	300.00 bar	750.00 bar
	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC
	—	—	—	—	—
	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	NPT 1/4“	NPT 1/4“	NPT 1/4“	NPT 1/4“	NPT 1/4“
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00K5 BSP B400-FV004-A04A1A-S4	**BSP00K6** BSP B600-FV004-A04A1A-S4	**BSP00K9** BSP B002-KV004-A04A1A-S4	
Measuring range	0...400 bar	0...600 bar	0...2 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	1200 bar	1200 bar	4 bar	
Burst pressure	1500.00 bar	1800.00 bar	10.00 bar	
Operating voltage Ub	14...30 VDC	14...30 VDC	14...30 VDC	
Interface	—	—	—	
Analog output	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	NPT 1/4“	NPT 1/4“	R 1/4“	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4301)	
Gasket, material	without, welded	without, welded	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00K7 BSP V002-KV004-A04A1A-S4	BSP00KA BSP B005-KV004-A04A1A-S4	BSP00KC BSP B010-KV004-A04A1A-S4	BSP00K8 BSP V010-KV004-A04A1A-S4	BSP00KE BSP B020-KV004-A04A1A-S4
	–1...2 bar	0...5 bar	0...10 bar	–1...10 bar	0...20 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	4 bar	12 bar	20 bar	20 bar	50 bar
	10.00 bar	15.00 bar	35.00 bar	35.00 bar	70.00 bar
	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC	14...30 VDC
	—	—	—	—	—
	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	R 1/4“	R 1/4“	R 1/4“	R 1/4“	R 1/4“
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00KF BSP B050-KV004-A04A1A-S4	**BSP00KH** BSP B100-KV004-A04A1A-S4	**BSP00KJ** BSP B250-KV004-A04A1A-S4	
Measuring range	0...50 bar	0...100 bar	0...250 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	120 bar	200 bar	400 bar	
Burst pressure	150.00 bar	300.00 bar	750.00 bar	
Operating voltage Ub	14...30 VDC	14...30 VDC	14...30 VDC	
Interface	—	—	—	
Analog output	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, voltage 0…10 V	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	R 1/4“	R 1/4“	R 1/4“	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00KK BSP B400-KV004-A04A1A-S4	**BSP00KL** BSP B600-KV004-A04A1A-S4	**BSP00J4** BSP B002-HV004-A06A1A-S4	**BSP00J2** BSP V002-HV004-A06A1A-S4	**BSP00J5** BSP B005-HV004-A06A1A-S4
	0...400 bar	0...600 bar	0...2 bar	–1...2 bar	0...5 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	1200 bar	1200 bar	4 bar	4 bar	12 bar
	1500.00 bar	1800.00 bar	10.00 bar	10.00 bar	15.00 bar
	14...30 VDC	14...30 VDC	8...32 VDC	8...32 VDC	8...32 VDC
	—	—	—	—	—
	Analog, voltage 0…10 V	Analog, voltage 0…10 V	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	R 1/4“	R 1/4“	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)
	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	without, welded	without, welded	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00J6 BSP B010-HV004-A06A1A-S4	BSP00J3 BSP V010-HV004-A06A1A-S4	BSP00J7 BSP B020-HV004-A06A1A-S4	
Measuring range	0...10 bar	–1...10 bar	0...20 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	20 bar	20 bar	50 bar	
Burst pressure	35.00 bar	35.00 bar	70.00 bar	
Operating voltage Ub	8...32 VDC	8...32 VDC	8...32 VDC	
Interface	—	—	—	
Analog output	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00J8 BSP B050-HV004-A06A1A-S4	BSP00FT BSP B100-HV004-A06A1A-S4	BSP00FU BSP B160-HV004-A06A1A-S4	BSP00J9 BSP B250-HV004-A06A1A-S4	BSP00JA BSP B400-HV004-A06A1A-S4
	0...50 bar	0...100 bar	0...160 bar	0...250 bar	0...400 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	120 bar	200 bar	400 bar	400 bar	1200 bar
	150.00 bar	300.00 bar	500.00 bar	750.00 bar	1500.00 bar
	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC
	—	—	—	—	—
	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4571)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	without, welded
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00JC BSP B600-HV004-A06A1A-S4	**BSP00FZ** BSP B002-DV004-A06A1A-S4	**BSP00FW** BSP V002-DV004-A06A1A-S4	
Measuring range	0...600 bar	0...2 bar	–1...2 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	1200 bar	4 bar	4 bar	
Burst pressure	1800.00 bar	10.00 bar	10.00 bar	
Operating voltage Ub	8...32 VDC	8...32 VDC	8...32 VDC	
Interface	—	—	—	
Analog output	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/2“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	without, welded	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00H0 BSP B005-DV004-A06A1A-S4	BSP00H1 BSP B010-DV004-A06A1A-S4	BSP00FY BSP V010-DV004-A06A1A-S4	BSP00H2 BSP B020-DV004-A06A1A-S4	BSP00H3 BSP B050-DV004-A06A1A-S4
	0...5 bar	0...10 bar	–1...10 bar	0...20 bar	0...50 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	12 bar	20 bar	20 bar	50 bar	120 bar
	15.00 bar	35.00 bar	35.00 bar	70.00 bar	150.00 bar
	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC
	—	—	—	—	—
	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00H4 BSP B100-DV004-A06A1A-S4	**BSP00H5** BSP B250-DV004-A06A1A-S4	**BSP00F3** BSP B400-DV004-A06A1A-S4	
Measuring range	0...100 bar	0...250 bar	0...400 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	200 bar	400 bar	1200 bar	
Burst pressure	300.00 bar	750.00 bar	1500.00 bar	
Operating voltage Ub	8...32 VDC	8...32 VDC	8...32 VDC	
Interface	—	—	—	
Analog output	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4571)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	without, welded	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00H6 BSP B600-DV004-A06A1A-S4	BSP00H9 BSP B002-FV004-A06A1A-S4	BSP00H7 BSP V002-FV004-A06A1A-S4	BSP00HA BSP B005-FV004-A06A1A-S4	BSP00HC BSP B010-FV004-A06A1A-S4
	0...600 bar	0...2 bar	–1...2 bar	0...5 bar	0...10 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	1200 bar	4 bar	4 bar	10 bar	20 bar
	1800.00 bar	10.00 bar	10.00 bar	15.00 bar	35.00 bar
	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC
	—	—	—	—	—
	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	G 1/4“ (DIN 3852)	NPT 1/4“	NPT 1/4“	NPT 1/4“	NPT 1/4“
	Stainless steel (1.4571)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	without, welded	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00H8 BSP V010-FV004-A06A1A-S4	**BSP00HE** BSP B020-FV004-A06A1A-S4	**BSP00HF** BSP B050-FV004-A06A1A-S4	
Measuring range	–1...10 bar	0...20 bar	0...50 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	20 bar	50 bar	120 bar	
Burst pressure	35.00 bar	70.00 bar	150.00 bar	
Operating voltage Ub	8...32 VDC	8...32 VDC	8...32 VDC	
Interface	—	—	—	
Analog output	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	NPT 1/4“	NPT 1/4“	NPT 1/4“	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00HH BSP B100-FV004-A06A1A-S4	BSP00HJ BSP B250-FV004-A06A1A-S4	BSP00HK BSP B400-FV004-A06A1A-S4	BSP00HL BSP B600-FV004-A06A1A-S4	BSP00HP BSP B002-KV004-A06A1A-S4
	0...100 bar	0...250 bar	0...400 bar	0...600 bar	0...2 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	200 bar	400 bar	1200 bar	1200 bar	4 bar
	300.00 bar	750.00 bar	1500.00 bar	1800.00 bar	10.00 bar
	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC
	—	—	—	—	—
	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	NPT 1/4“	NPT 1/4“	NPT 1/4“	NPT 1/4“	R 1/4“
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	without, welded	without, welded	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00HM BSP V002-KV004-A06A1A-S4	**BSP00HR** BSP B005-KV004-A06A1A-S4	**BSP00HT** BSP B010-KV004-A06A1A-S4	
Measuring range	–1...2 bar	0...5 bar	0...10 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	4 bar	12 bar	20 bar	
Burst pressure	10.00 bar	15.00 bar	35.00 bar	
Operating voltage Ub	8...32 VDC	8...32 VDC	8...32 VDC	
Interface	—	—	—	
Analog output	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	R 1/4“	R 1/4“	R 1/4“	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00HN BSP V010-KV004-A06A1A-S4	BSP00HU BSP B020-KV004-A06A1A-S4	BSP00HW BSP B050-KV004-A06A1A-S4	BSP00HY BSP B100-KV004-A06A1A-S4	BSP00HZ BSP B250-KV004-A06A1A-S4
	–1...10 bar	0...20 bar	0...50 bar	0...100 bar	0...250 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	20 bar	50 bar	120 bar	200 bar	400 bar
	35.00 bar	70.00 bar	150.00 bar	300.00 bar	750.00 bar
	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC
	—	—	—	—	—
	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	R 1/4“	R 1/4“	R 1/4“	R 1/4“	R 1/4“
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00J0 BSP B400-KV004-A06A1A-S4	BSP00J1 BSP B600-KV004-A06A1A-S4	BSP00W2 BSP B001-ZT004-A06A1A-S4-006	
Measuring range	0...400 bar	0...600 bar	0...1 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.18 % FSO BFSL	
Overload pressure	1200 bar	1200 bar	5 bar	
Burst pressure	1500.00 bar	1800.00 bar	7.50 bar	
Operating voltage Ub	8...32 VDC	8...32 VDC	8...32 VDC	
Interface	—	—	—	
Analog output	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	R 1/4“	R 1/4“	1 1/2“ Tri Clamp	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4404)	
Gasket, material	without, welded	without, welded	without, welded	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4404)	
Media temperature	-40...125 °C	-40...125 °C	-10...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP69K	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, WEEE, EAC	
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	BSP00W3 BSP B002-ZT004-A06A1A-S4-006	BSP00W4 BSP M100-ZT004-A06A1A-S4-006	BSP00W5 BSP M250-ZT004-A06A1A-S4-006	BSP00W6 BSP M500-ZT004-A06A1A-S4-006	BSP00W7 BSP M750-ZT004-A06A1A-S4-006
	0...2 bar	0 bar...100 mbar	0 bar...250 mbar	0 bar...500 mbar	0 bar...750 mbar
	±0.18 % FSO BFSL	±0.18 % FSO BFSL	±0.18 % FSO BFSL	±0.18 % FSO BFSL	±0.18 % FSO BFSL
	10 bar	0.5 bar	1 bar	5 bar	5 bar
	15.00 bar	1.50 bar	1.50 bar	7.50 bar	7.50 bar
	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC	8...32 VDC
	—	—	—	—	—
	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	1 1/2“ Tri Clamp	1 1/2“ Tri Clamp	1 1/2“ Tri Clamp	1 1/2“ Tri Clamp	1 1/2“ Tri Clamp
	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
	without, welded	without, welded	without, welded	without, welded	without, welded
	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
	-10...125 °C	-10...125 °C	-10...125 °C	-10...125 °C	-10...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP69K
	CE, WEEE, EAC	CE, WEEE, EAC	CE, WEEE, EAC	CE, WEEE, EAC	CE, WEEE, EAC
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	BSP00PL BSP B002-DV004-D06S1A-S4	BSP00PJ BSP V002-DV004-D06S1A-S4	BSP00PM BSP B005-DV004-D06S1A-S4	
Measuring range	0...2 bar	–1...2 bar	0...5 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	5 bar	5 bar	12 bar	
Burst pressure	10.00 bar	10.00 bar	15.00 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	
Analog output	—	—	—	
Switching output	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-25...85 °C	-25...85 °C	-25...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00PN BSP B010-DV004-D06S1A-S4	BSP00PK BSP V010-DV004-D06S1A-S4	BSP00PP BSP B020-DV004-D06S1A-S4	BSP00PR BSP B050-DV004-D06S1A-S4	BSP00PT BSP B100-DV004-D06S1A-S4
	0...10 bar	–1...10 bar	0...20 bar	0...50 bar	0...100 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	20 bar	20 bar	50 bar	120 bar	200 bar
	35.00 bar	35.00 bar	70.00 bar	150.00 bar	300.00 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	—	—	—	—	—
	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-25...85 °C	-25...85 °C	-25...85 °C	-25...85 °C	-25...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00PU BSP B250-DV004-D06S1A-S4	BSP00PW BSP B400-DV004-D06S1A-S4	BSP00PY BSP B600-DV004-D06S1A-S4	
Measuring range	0...250 bar	0...400 bar	0...600 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	400 bar	1200 bar	1200 bar	
Burst pressure	750.00 bar	1500.00 bar	1800.00 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	
Analog output	—	—	—	
Switching output	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4571)	Stainless steel (1.4571)	
Gasket, material	Fluoroelastomer	without, welded	without, welded	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-25...85 °C	-25...85 °C	-25...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00T7 BSP B002-FV004-D06S1A-S4	BSP00T5 BSP V002-FV004-D06S1A-S4	BSP00T8 BSP B005-FV004-D06S1A-S4	BSP00T9 BSP B010-FV004-D06S1A-S4	BSP00T6 BSP V010-FV004-D06S1A-S4
	0...2 bar	–1...2 bar	0...5 bar	0...10 bar	–1...10 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	5 bar	5 bar	12 bar	20 bar	20 bar
	10.00 bar	10.00 bar	15.00 bar	35.00 bar	35.00 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	—	—	—	—	—
	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	NPT 1/4“	NPT 1/4“	NPT 1/4“	NPT 1/4“	NPT 1/4“
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-25...85 °C	-25...85 °C	-25...85 °C	-25...85 °C	-25...85 °C
	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k	IP67, IP69k
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,
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	BSP00TA BSP B020-FV004-D06S1A-S4	BSP00TC BSP B050-FV004-D06S1A-S4	BSP00TE BSP B100-FV004-D06S1A-S4	
Measuring range	0...20 bar	0...50 bar	0...100 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	50 bar	120 bar	200 bar	
Burst pressure	70.00 bar	150.00 bar	300.00 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	
Analog output	—	—	—	
Switching output	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Process connection	NPT 1/4“	NPT 1/4“	NPT 1/4“	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Media temperature	-40...125 °C	-40...125 °C	-40...125 °C	
Ambient temperature	-25...85 °C	-25...85 °C	-25...85 °C	
cal_protection_type_iec_60529	IP67, IP69k	IP67, IP69k	IP67, IP69k	
Approval/Conformity	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	
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	BSP00TF BSP B250-FV004-D06S1A-S4	BSP00TH BSP B400-FV004-D06S1A-S4	BSP00TJ BSP B600-FV004-D06S1A-S4		
	0...250 bar	0...400 bar	0...600 bar		
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL		
	400 bar	1200 bar	1200 bar		
	750.00 bar	1500.00 bar	1800.00 bar		
	18...30 VDC	18...30 VDC	18...30 VDC		
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1		
	—	—	—		
	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)	PNP normally open/normally closed (NO/NC)		
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin		
	NPT 1/4“	NPT 1/4“	NPT 1/4“		
	Stainless steel (1.4301)	Stainless steel (1.4571)	Stainless steel (1.4571)		
	Fluoroelastomer	without, welded	without, welded		
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)		
	-40...125 °C	-40...125 °C	-40...125 °C		
	-25...85 °C	-25...85 °C	-25...85 °C		
	IP67, IP69k	IP67, IP69k	IP67, IP69k		
	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,	CE, cULus, EAC, WEEE,		
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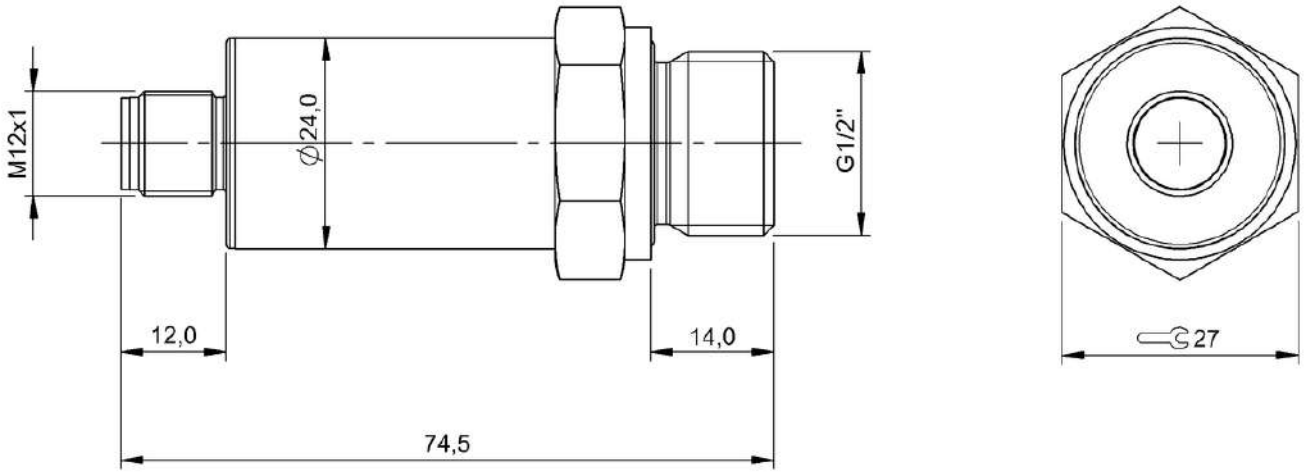

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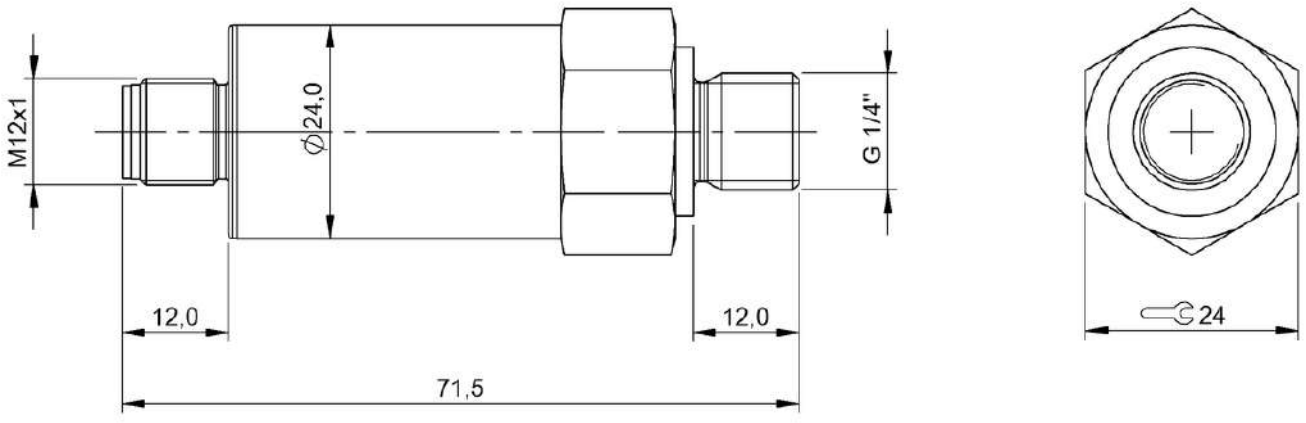

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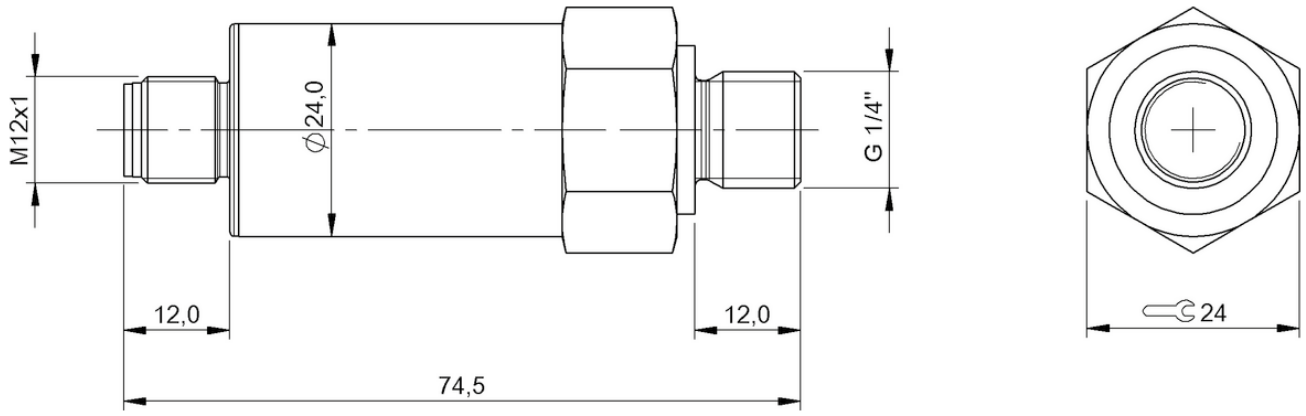

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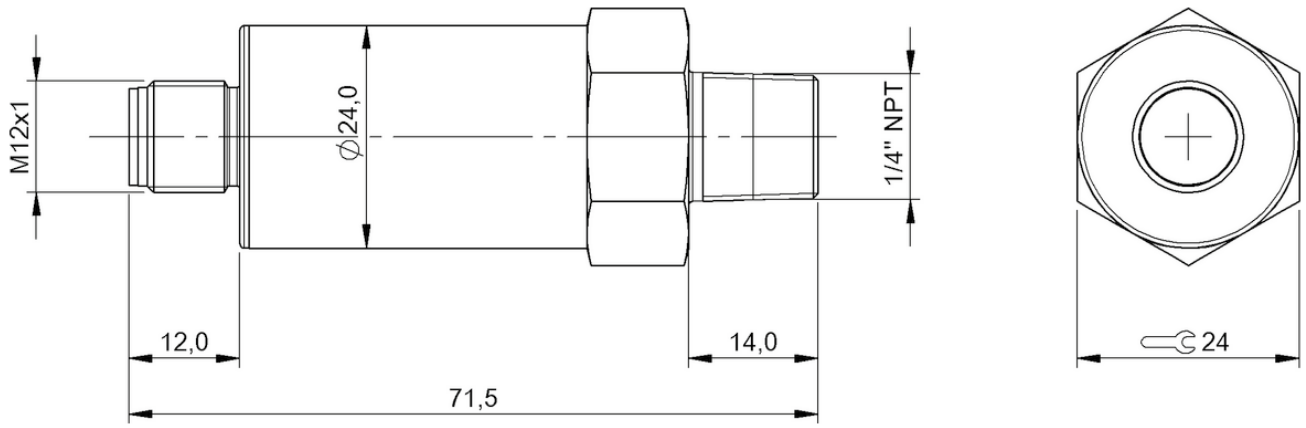
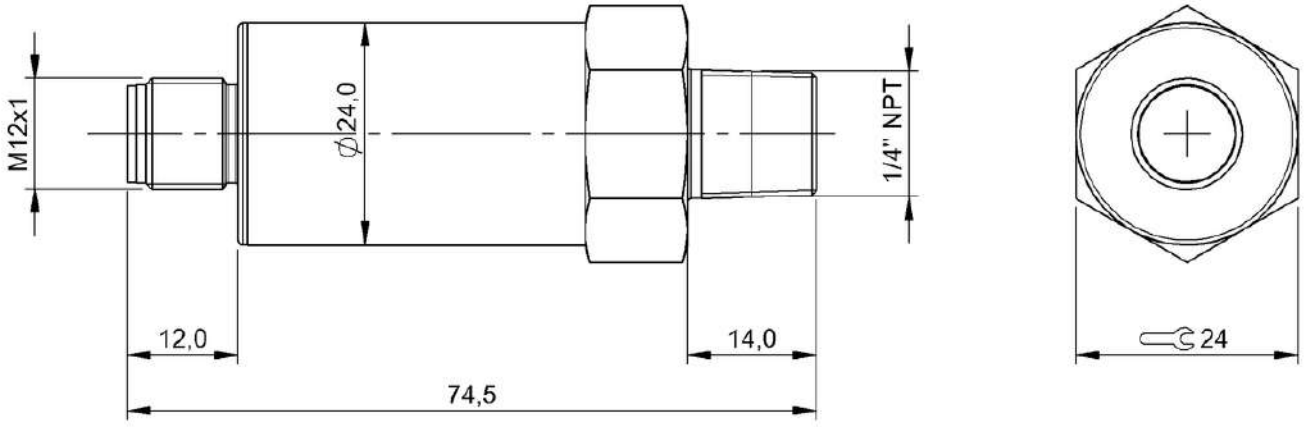
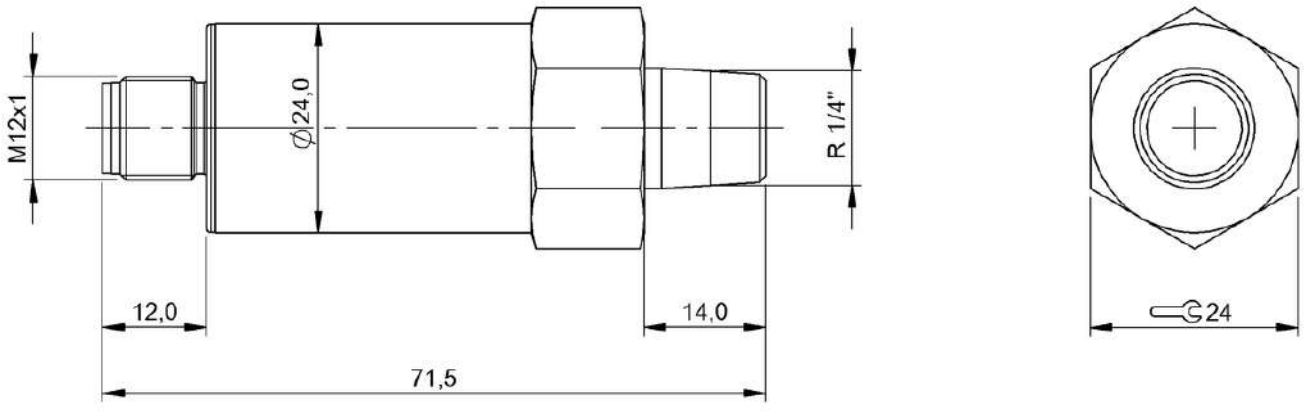


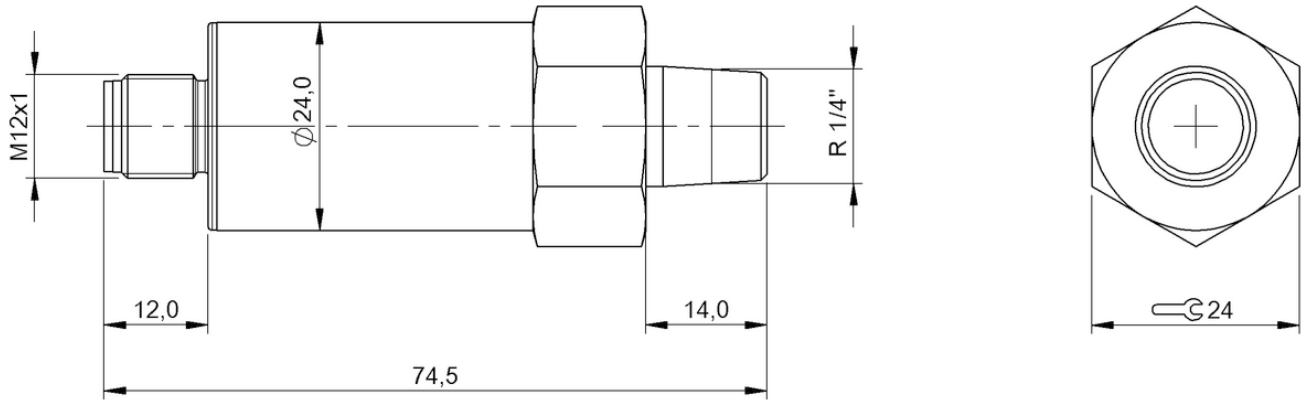
BSP00JY, BSP00JZ, BSP00K0, BSP00K1, BSP00K2, BSP00K3, BSP00K4, BSP00H9, BSP00HA, BSP00HC, BSP00HE, BSP00HF, BSP00HH, BSP00HJ, BSP00T7, BSP00T5, BSP00T8, BSP00T9, BSP00T6, BSP00TA, BSP00TC, BSP00TE, BSP00TF



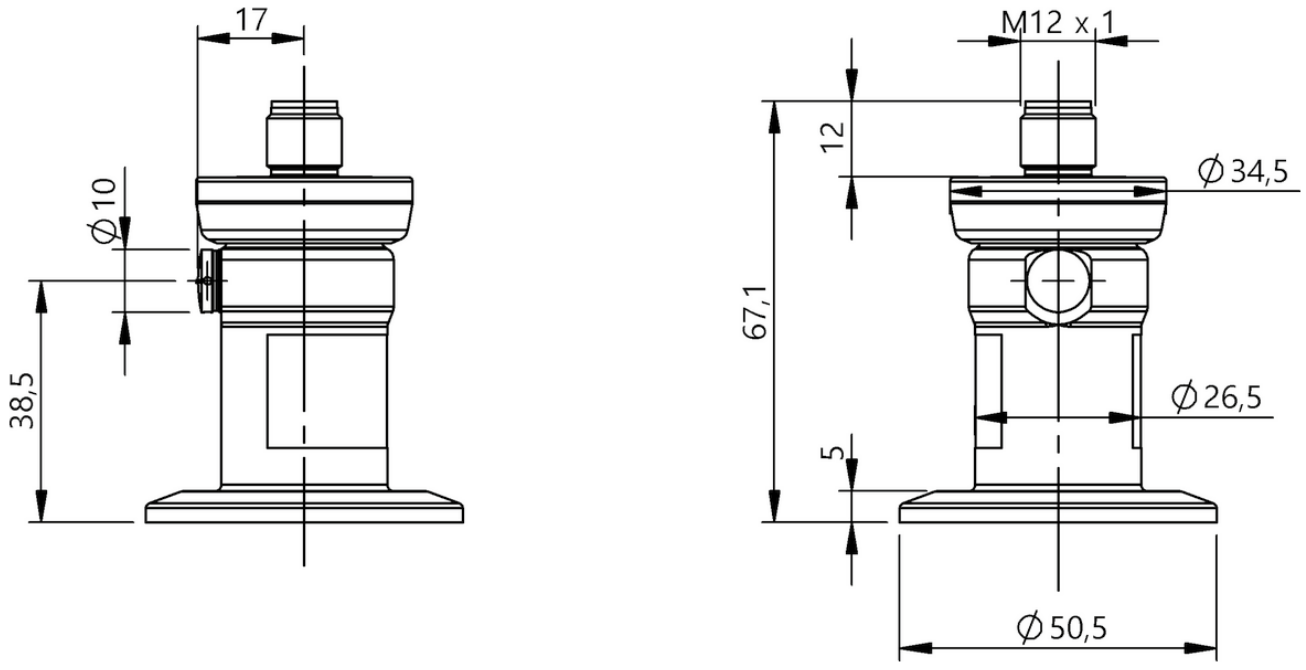
BSP00JU, BSP00JW, BSP00K5, BSP00K6, BSP00H7, BSP00H8, BSP00HK, BSP00HL, BSP00TH, BSP00TJ



BSP00K9, BSP00K7, BSP00KA, BSP00KC, BSP00K8, BSP00KE, BSP00KF, BSP00KH, BSP00KJ, BSP00HP, BSP00HM, BSP00HR, BSP00HT, BSP00HN, BSP00HU, BSP00HW, BSP00HY, BSP00HZ



BSP00KK, BSP00KL, BSP00J0, BSP00J1



BSP00W2, BSP00W3, BSP00W4, BSP00W5, BSP00W6, BSP00W7

	BSP00YZ BSP B010-HV009-P00S2B-S4-001	**BSP00Z0** BSP V050-HV009-P00S2B-S4-001	
Measuring range	0...10 bar	–1...50 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	20 bar	100 bar	
Burst pressure	35 bar	150 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	G 1/2“ (DIN 3852)	G 1/2“ (DIN 3852)	
Process connection material	PVDF	PVDF	
Gasket, material	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-30...125 °C	-30...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	
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	BSP00YN BSP M050-EV009-P00S2B-S4	BSP00Y2 BSP B002-EV009-P00S2B-S4	BSP00YR BSP V002-EV009-P00S2B-S4	BSP00Y3 BSP B005-EV009-P00S2B-S4
	0...0.05 bar	0...2 bar	–1...2 bar	0...5 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	0.5 bar	4 bar	4 bar	10 bar
	0.75 bar	10 bar	10 bar	15 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V
	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67	IP67	IP67	IP67
	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE
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	BSP00YY BSP V050-EV009-P00S2B-S4	BSP00YT BSP V010-EV009-P00S2B-S4	
Measuring range	-1...5 bar	–1...10 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	100 bar	20 bar	
Burst pressure	150 bar	35 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	
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	BSP00Y4 BSP B010-EV009-P00S2B-S4	BSP00Y7 BSP B050-EV009-P00S2B-S4	BSP00Y8 BSP B100-EV009-P00S2B-S4	BSP00Y6 BSP B020-EV009-P00S2B-S4
	0...10 bar	0...50 bar	0...100 bar	0...250 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	20 bar	100 bar	200 bar	40 bar
	35 bar	150 bar	300 bar	70 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V
	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67	IP67	IP67	IP67
	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE
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	BSP00YC BSP B250-EV009-P00S2B-S4	BSP00YH BSP B400-EV009-P00S2B-S4	
Measuring range	0...250 bar	0...400 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	400 bar	650 bar	
Burst pressure	750 bar	1000 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	G 1/4“ (DIN 3852)	G 1/4“ (DIN 3852)	
Process connection material	Stainless steel (1.4301)	Stainless steel (1.4301)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	
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	BSP00YK BSP B600-EV009-P00S2B-S4	BSP00Z3 BSP V010-GV009-P00S2B-S4	BSP00Z1 BSP B100-GV009-P00S2B-S4	BSP00Z2 BSP B250-GV009-P00S2B-S4
	0...600 bar	–1...10 bar	0...100 bar	0...250 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	1000 bar	20 bar	200 bar	400 bar
	1800 bar	35 bar	300 bar	750 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V
	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	G 1/4“ (DIN 3852)	NPT 1/4“	NPT 1/4“	NPT 1/4“
	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67	IP67	IP67	IP67
	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE
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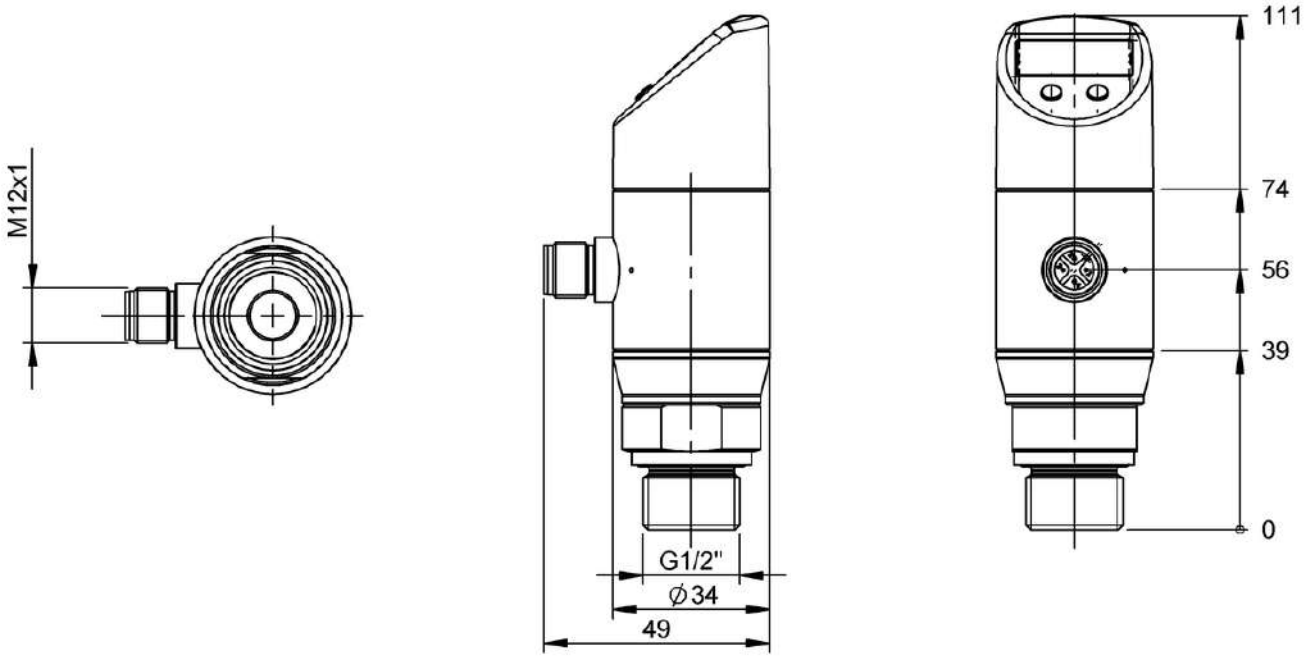
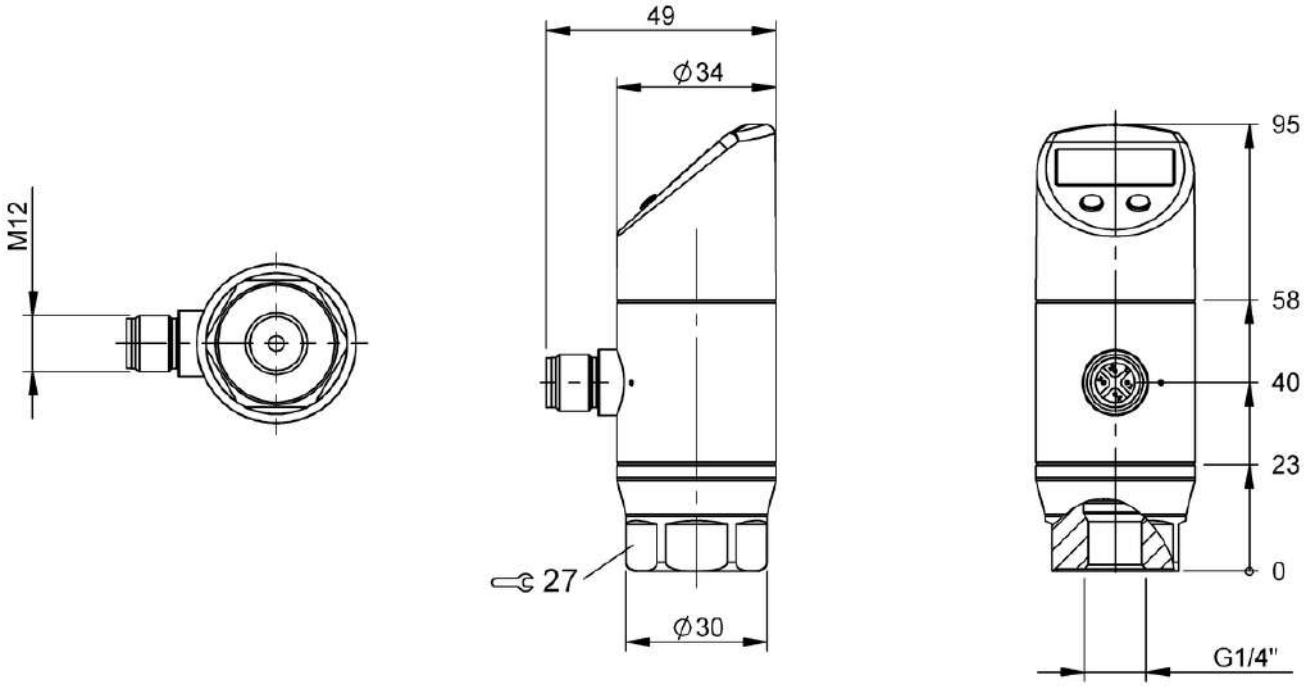


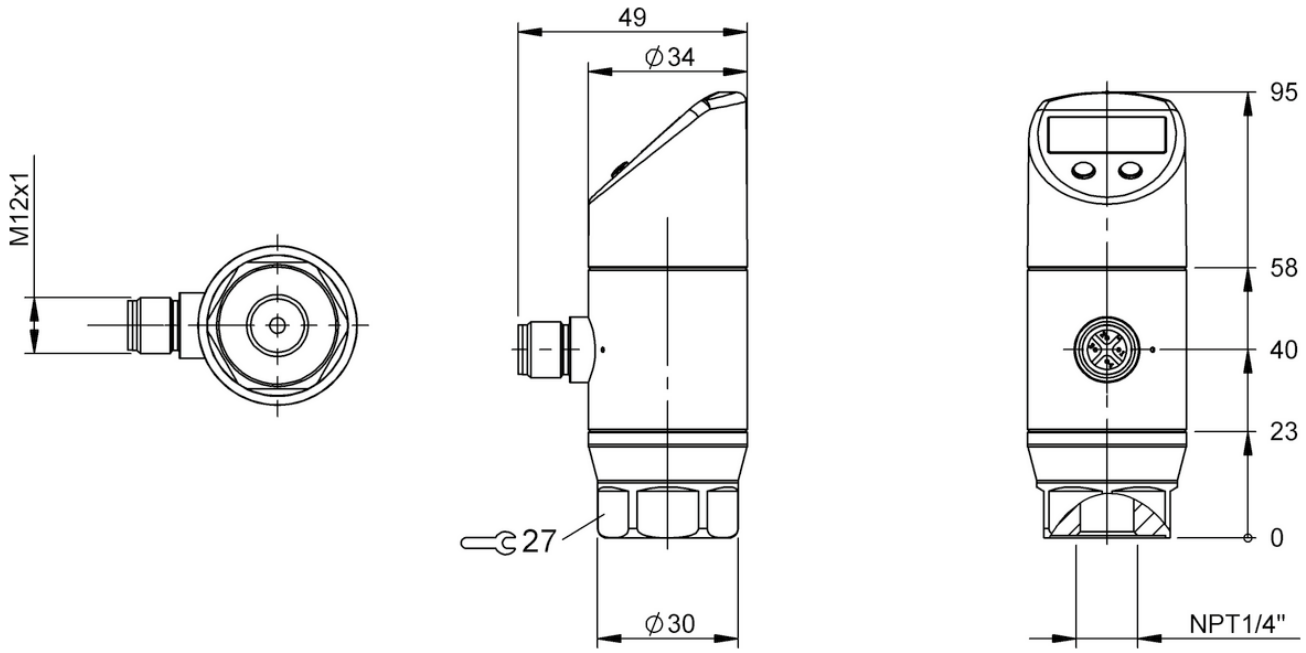
1) Display and control panel, 2) Process connection, 3) Housing rotatable 320°

BSP00YZ, BSP00Z0



1) Display and control panel, 2) Process connection, 3) Housing rotatable 320°

BSP00YN, BSP00Y2, BSP00YR, BSP00Y3, BSP00YY, BSP00YT, BSP00Y4, BSP00Y7, BSP00Y8, BSP00Y6, BSP00YC, BSP00YH, BSP00YK



1) Display and control panel, 2) Process connection, 3) Housing rotatable 320°

BSP00Z3, BSP00Z1, BSP00Z2

	BSP00ZU BSP B002-IV010-P00S2B-S4	**BSP00ZW** BSP B005-IV010-P00S2B-S4	
Measuring range	0...2 bar	0...5 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	10 bar	40 bar	
Burst pressure	15 bar	50 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	
Process connection material	Stainless steel (1.4404)	Stainless steel (1.4404)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67, IP69	IP67, IP69	
Approval/Conformity	CE, cULus, EAC, WEEE, ECOLAB	CE, cULus, EAC, WEEE, ECOLAB	
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	BSP00ZY BSP B010-IV010-P00S2B-S4	BSP00ZZ BSP B020-IV010-P00S2B-S4	BSP0102 BSP M100-ZT010-P00S2B-S4-006	BSP0103 BSP M500-ZT010-P00S2B-S4-006
	0...10 bar	0...20 bar	0...0.1 bar	0...0.5 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	40 bar	80 bar	0.5 bar	5 bar
	50 bar	120 bar	1.5 bar	7.5 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V
	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	1 1/2“ Clamp	1 1/2“ Clamp
	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
	Fluoroelastomer	Fluoroelastomer	—	—
	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene
	-40...125 °C	-40...125 °C	-10...125 °C	-10...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67, IP69	IP67, IP69	IP67, IP69	IP67, IP69
	CE, cULus, EAC, WEEE, ECOLAB	CE, cULus, EAC, WEEE, ECOLAB	CE, cULus, EAC, WEEE, ECOLAB	CE, cULus, EAC, WEEE, ECOLAB
	Pager 389	Pager 389	Pager 389	Pager 389

	BSP0100 BSP B001-ZT010-P00S2B-S4-006	**BSP0101** BSP B002-ZT010-P00S2B-S4-006	
Measuring range	0...1 bar	0...2 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	5 bar	10 bar	
Burst pressure	7.5 bar	15 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	1 1/2“ Clamp	1 1/2“ Clamp	
Process connection material	Stainless steel (1.4404)	Stainless steel (1.4404)	
Gasket, material	—	—	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-10...125 °C	-10...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67, IP69	IP67, IP69	
Approval/Conformity	CE, cULus, EAC, WEEE, ECOLAB	CE, cULus, EAC, WEEE, ECOLAB	
Productview	Pager 389	Pager 389	




	BSP00ZH BSP V002-IV009-P00S2B-S4	BSP00Z4 BSP B002-IV009-P00S2B-S4	BSP00ZJ BSP V003-IV009-P00S2B-S4	BSP00Z5 BSP B005-IV009-P00S2B-S4
	–1...2 bar	0...2 bar	-1...3 bar	0...5 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	10 bar	10 bar	20 bar	40 bar
	15 bar	15 bar	25 bar	50 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V
	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush
	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67	IP67	IP67	IP67
	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE	CE, cULus, EAC, WEEE
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	BSP00Z6 BSP B010-IV009-P00S2B-S4	**BSP00ZK** BSP V010-IV009-P00S2B-S4	
Measuring range	0...10 bar	–1...10 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	40 bar	40 bar	
Burst pressure	50 bar	50 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	
Process connection material	Stainless steel (1.4404)	Stainless steel (1.4404)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	
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	BSP00Z7 BSP B020-IV009-P00S2B-S4	BSP00Z8 BSP B050-IV009-P00S2B-S4	BSP00Z9 BSP B100-IV009-P00S2B-S4	BSP00ZA BSP B120-IV009-P00S2B-S4
	0...20 bar	0...50 bar	0...100 bar	0...120 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	80 bar	100 bar	200 bar	200 bar
	120 bar	180 bar	300 bar	300 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V
	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush
	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer
	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene
	-40...125 °C	-40...125 °C	-40...125 °C	-40...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67	IP67	IP67	IP67
	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE
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	BSP00ZC BSP B250-IV009-P00S2B-S4	**BSP00ZE** BSP B400-IV009-P00S2B-S4	
Measuring range	0...250 bar	0...400 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	400 bar	600 bar	
Burst pressure	750 bar	1000 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	G 1/2“ (DIN 3852) front-flush	G 1/2“ (DIN 3852) front-flush	
Process connection material	Stainless steel (1.4404)	Stainless steel (1.4404)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-40...125 °C	-40...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	
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	BSP00ZF BSP B600-IV009-P00S2B-S4	BSP00ZN BSP M100-ZT009-P00S2B-S4-006	BSP00ZP BSP M250-ZT009-P00S2B-S4-006	BSP00ZR BSP M500-ZT009-P00S2B-S4-006
	0...600 bar	0...0.1 bar	0...0.25 bar	0...0.5 bar
	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL	±0.5 % FSO BFSL
	800 bar	0.5 bar	1 bar	5 bar
	1100 bar	1.5 bar	1.5 bar	7.5 bar
	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V
	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	G 1/2“ (DIN 3852) front-flush	1 1/2“ Clamp	1 1/2“ Clamp	1 1/2“ Clamp
	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
	Fluoroelastomer	—	—	—
	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene
	-40...125 °C	-10...125 °C	-10...125 °C	-10...125 °C
	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
	IP67	IP67	IP67	IP67
	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE
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	BSP00ZT BSP M750-ZT009-P00S2B-S4-006	**BSP00ZL** BSP B001-ZT009-P00S2B-S4-006	
Measuring range	0...0.75 bar	0...1 bar	
Accuracy	±0.5 % FSO BFSL	±0.5 % FSO BFSL	
Overload pressure	5 bar	5 bar	
Burst pressure	7.5 bar	7.5 bar	
Operating voltage Ub	18...30 VDC	18...30 VDC	
Interface	IO-Link 1.1	IO-Link 1.1	
Analog output	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V	
Switching output	2x PNP/NPN NO/NC Switchable	2x PNP/NPN NO/NC Switchable	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Process connection	1 1/2“ Clamp	1 1/2“ Clamp	
Process connection material	Stainless steel (1.4404)	Stainless steel (1.4404)	
Gasket, material	—	—	
Housing material	Stainless steel (1.4301) PE, High-density polyethylene	Stainless steel (1.4301) PE, High-density polyethylene	
Media temperature	-10...125 °C	-10...125 °C	
Ambient temperature	-40...85 °C	-40...85 °C	
Protection degree	IP67	IP67	
Approval/Conformity	CE, cULus, EAC, WEE	CE, cULus, EAC, WEE	
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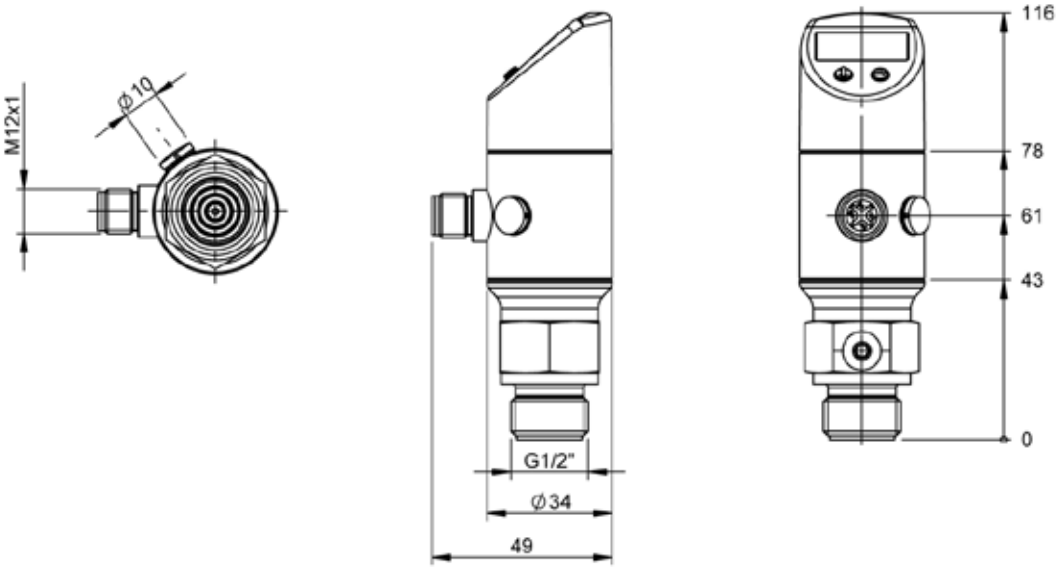
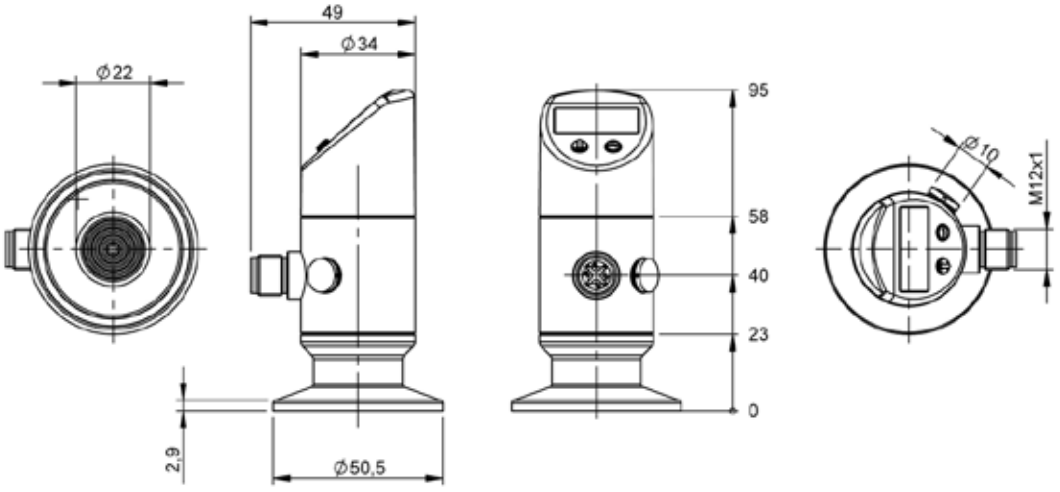
	BSP002M BSP B002-ZT009-P00S2B-S4-006			
	0...2 bar			
	±0.5 % FSO BFSL			
	10 bar			
	15 bar			
	18...30 VDC			
	IO-Link 1.1			
	Analog, voltage/Analog, current selectable 4…20 mA/0…10 V			
	2x PNP/NPN NO/NC Switchable			
	Connector, M12x1 connector, 4-pin			
	1 1/2“ Clamp			
	Stainless steel (1.4404)			
	—			
	Stainless steel (1.4301) PE, High-density polyethylene			
	-10...125 °C			
	-40...85 °C			
	IP67			
	CE, cULus, EAC, WEE			
	Page 399			



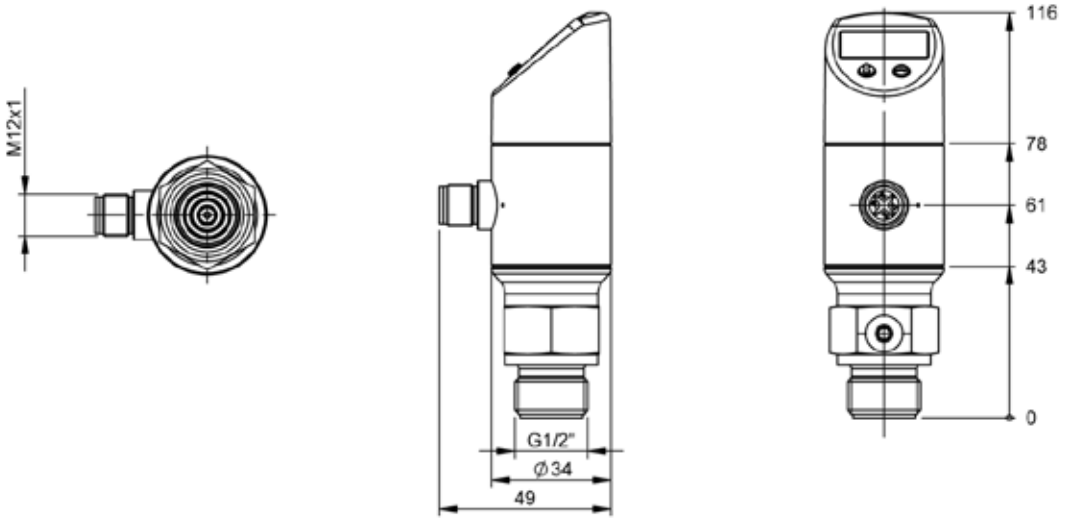
1) Display and control panel, 2) Process connection, 3) Housing rotatable 320°

BSP00ZU, BSP00ZW, BSP00ZY, BSP00ZZ



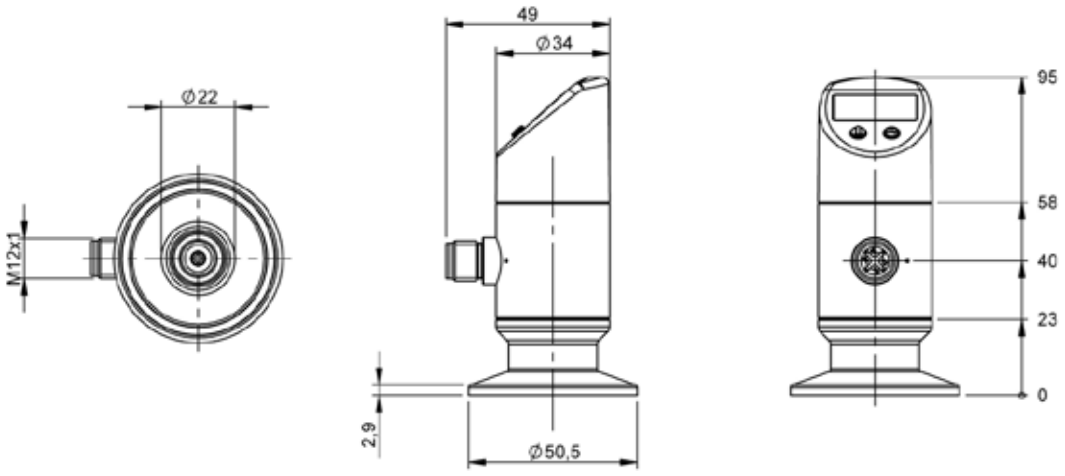
1) Display and control panel, 2) Process connection, 3) Housing rotatable 320°

BSP0102, BSP0103, BSP0100, BSP0101



1) Display and control panel, 2) Process connection, 3) Housing rotatable 320°

BSP00ZH, BSP00Z4, BSP00ZJ, BSP00Z5, BSP00Z6, BSP00ZK, PAGE 390, BSP00Z8, BSP00Z9, BSP00ZA, BSP00ZC, BSP00ZE, BSP00ZF



1) Display and control panel, 2) Process connection, 3) Housing rotatable 320°

BSP00ZN, BSP00ZP, BSP00ZR, BSP00ZT, BSP00ZL, BSP00ZM

Reliably detect and measure hot objects

TEMPERATURE SENSORS

With temperature sensors, you can measure and monitor temperatures by contact or contactlessly in a wide range of applications.

The most important benefits

- Rugged M30 stainless steel housing with IP67 protection
- Temperature range 250…1250 °C
- Numerous functions and settings using the IO-Link interface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	BFT0015 BFT 6025-HV003-A00A0C-S4	**BFT0012** BFT 6025-HV003-A02A0C-S4	**BFT001H** BFT 6025-HV003-D00A0C-S4	
Measuring range	-20...80 °C	-20...80 °C	-20...80 °C	
Measuring element	Pt1000	Pt1000	Pt1000	
Operating voltage Ub	15...35 VDC	15...35 VDC	15...35 VDC	
Analog output	Analog, voltage 0…10 V	Analog, current 4…20 mA	—	
Switching output	PNP	PNP	2x PNP	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Installation length from contact surface	25 mm	25 mm	25 mm	
Process connection	G 1/2“ outer	G 1/2“ outer	G 1/2“ outer	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	
Gasket, material	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	
Housing material	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	
Pressure rating max.	150 bar	150 bar	150 bar	
Ambient temperature	-20...80 °C	-20...80 °C	-20...80 °C	
IP rating	IP65, IP67	IP65, IP67	IP65, IP67	
Approval/Conformity	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	
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	BFT001C BFT 6025-JC003-A00A0C-S4	BFT0018 BFT 6025-JC003-A02A0C-S4	BFT001L BFT 6025-JC003-D00A0C-S4	BFT0016 BFT 6050-HV003-A00A0C-S4	BFT0013 BFT 6050-HV003-A02A0C-S4
	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C
	Pt1000	Pt1000	Pt1000	Pt1000	Pt1000
	15...35 VDC	15...35 VDC	15...35 VDC	15...35 VDC	15...35 VDC
	Analog, voltage 0…10 V	Analog, current 4…20 mA	—	Analog, voltage 0…10 V	Analog, current 4…20 mA
	PNP	PNP	2x PNP	PNP	PNP
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	25 mm	25 mm	25 mm	50 mm	50 mm
	NPT 1/2“ outer	NPT 1/2“ outer	NPT 1/2“ outer	G 1/2“ outer	G 1/2“ outer
	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)
	—	—	—	Fluoroelastomer	Fluoroelastomer
	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)
	150 bar	150 bar	150 bar	150 bar	150 bar
	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C
	IP65, IP67	IP65, IP67	IP65, IP67	IP65, IP67	IP65, IP67
	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC
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	BFT001J BFT 6050-HV003-D00A0C-S4	**BFT001E** BFT 6050-JC003-A00A0C-S4	**BFT0019** BFT 6050-JC003-A02A0C-S4	
Measuring range	-20...80 °C	-20...80 °C	-20...80 °C	
Measuring element	Pt1000	Pt1000	Pt1000	
Operating voltage Ub	15...35 VDC	15...35 VDC	15...35 VDC	
Analog output	—	Analog, voltage 0…10 V	Analog, current 4…20 mA	
Switching output	2x PNP	PNP	PNP	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Installation length from contact surface	50 mm	50 mm	50 mm	
Process connection	G 1/2“ outer	NPT 1/2“ outer	NPT 1/2“ outer	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	
Gasket, material	Fluoroelastomer	—	—	
Housing material	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	
Pressure rating max.	150 bar	150 bar	150 bar	
Ambient temperature	-20...80 °C	-20...80 °C	-20...80 °C	
IP rating	IP65, IP67	IP65, IP67	IP65, IP67	
Approval/Conformity	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	
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	BFT001M BFT 6050-JC003-D00A0C-S4	BFT0017 BFT 6100-HV003-A00A0C-S4	BFT0014 BFT 6100-HV003-A02A0C-S4	BFT001K BFT 6100-HV003-D00A0C-S4	BFT001F BFT 6100-JC003-A00A0C-S4
	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C
	Pt1000	Pt1000	Pt1000	Pt1000	Pt1000
	15...35 VDC	15...35 VDC	15...35 VDC	15...35 VDC	15...35 VDC
	—	Analog, voltage 0…10 V	Analog, current 4…20 mA	—	Analog, voltage 0…10 V
	2x PNP	PNP	PNP	2x PNP	PNP
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	50 mm	100 mm	100 mm	100 mm	100 mm
	NPT 1/2“ outer	G 1/2“ outer	G 1/2“ outer	G 1/2“ outer	NPT 1/2“ outer
	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)
	—	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	—
	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS TPE-E, PC, Stainless steel (1.4301)
	150 bar	150 bar	150 bar	150 bar	150 bar
	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C
	IP65, IP67	IP65, IP67	IP65, IP67	IP65, IP67	IP65, IP67
	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC
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	BFT001A BFT 6100-JC003-A02A0C-S4	**BFT001N** BFT 6100-JC003-D00A0C-S4	**BFT0001** BFT 6025-DX001-R02A0A-S4	
Measuring range	-20...80 °C	-20...80 °C	-50...150 °C	
Measuring element	Pt1000	Pt1000	Pt1000	
Operating voltage Ub	15...35 VDC	15...35 VDC	—	
Analog output	Analog, current 4…20 mA	—	Analog, resistance	
Switching output	PNP	2x PNP	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Installation length from contact surface	100 mm	100 mm	25 mm	
Process connection	NPT 1/2“ outer	NPT 1/2“ outer	G 1/4“ outer	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4305)	
Gasket, material	—	—	—	
Housing material	PC/ABS TPE-E, PC, Stainless steel (1.4301)	PC/ABS PE-E, PC, Stainless steel (1.4301)	—	
Pressure rating max.	150 bar	150 bar	50 bar	
Ambient temperature	-20...80 °C	-20...80 °C	-40...100 °C	
IP rating	IP65, IP67	IP65, IP67	IP66, IP67	
Approval/Conformity	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, WEEE, EAC	
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	BFT0003 BFT 6025-FC001-R02A0A-S4	BFT001P BFT 6025-HX001-R02A0A-S4	BFT0002 BFT 6050-DX001-R02A0A-S4	BFT0004 BFT 6050-FC001-R02A0A-S4	BFT001R BFT 6050-HV001-R02A0A-S4
	-50...150 °C	-50...150 °C	-50...150 °C	-50...150 °C	-50...150 °C
	Pt1000	Pt1000	Pt1000	Pt1000	Pt1000
	—	—	—	—	—
	Analog, resistance	Analog, resistance	Analog, resistance	Analog, resistance	Analog, resistance
	—	—	—	—	—
	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin
	25 mm	25 mm	50 mm	50 mm	50 mm
	NPT 1/4“ outer	G 1/2“ outer	G 1/4“ outer	NPT 1/4“ outer	—
	Stainless steel (1.4305)	Stainless steel (1.4305)	Stainless steel (1.4305)	Stainless steel (1.4305)	Stainless steel (1.4305)
	—	—	—	—	—
	—	—	—	—	—
	50 bar	50 bar	50 bar	50 bar	50 bar
	-40...100 °C	-40...100 °C	-40...100 °C	-40...100 °C	-40...100 °C
	IP66, IP67	IP66, IP67	IP66, IP67	IP66, IP67	IP66, IP67
	CE, WEEE, EAC	CE, WEEE, EAC	CE, WEEE, EAC	CE, WEEE, EAC	CE, WEEE, EAC
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	BFT0005 BFT 6025-DX002-A06A1A-S4	**BFT0008** BFT 6025-FC002-A06A1A-S4	**BFT0006** BFT 6050-DX002-A06A1A-S4	
Measuring range	-30...150 °C	-30...150 °C	-30...150 °C	
Measuring element	Pt1000	Pt1000	Pt1000	
Operating voltage Ub	10...30 VDC	10...30 VDC	10...30 VDC	
Analog output	Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA	
Switching output	—	—	—	
Connection	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	
Installation length from contact surface	25 mm	25 mm	50 mm	
Process connection	G 1/4“ outer	NPT 1/4“ outer	G 1/4“ outer	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	
Gasket, material	—	—	—	
Housing material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	
Pressure rating max.	270 bar	270 bar	270 bar	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
IP rating	IP67, IP69, IP69K	IP67, IP69, IP69K	IP67, IP69, IP69K	
Approval/Conformity	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	
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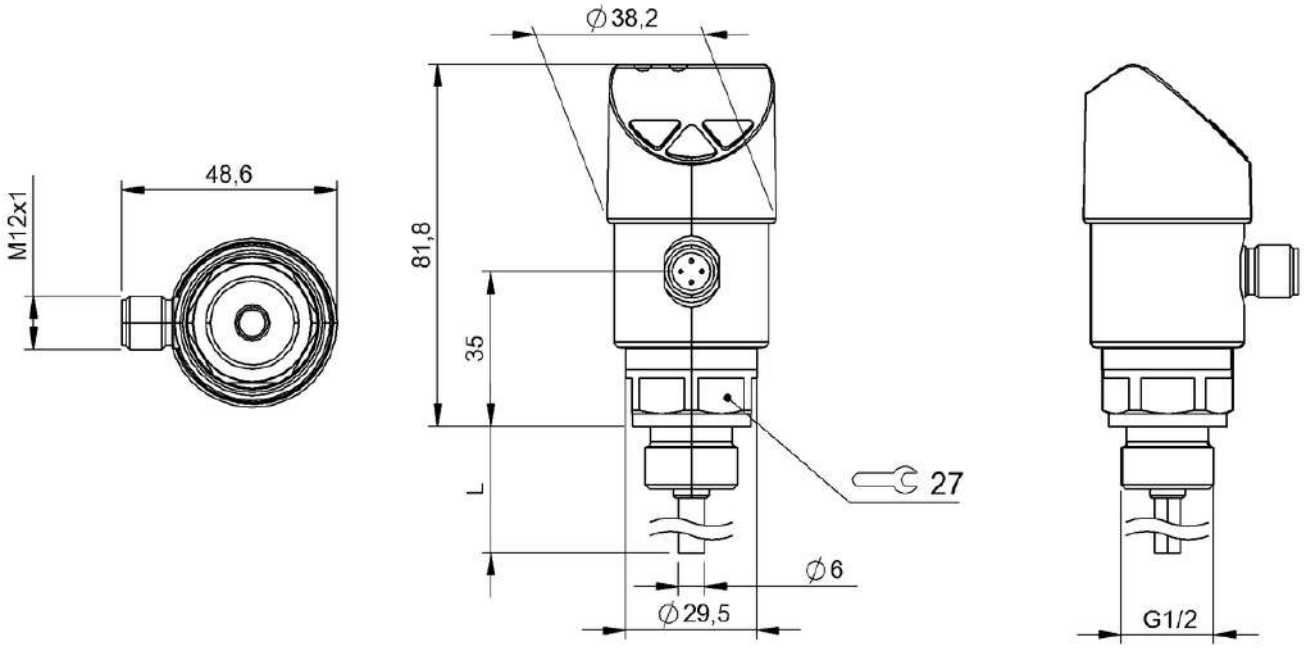
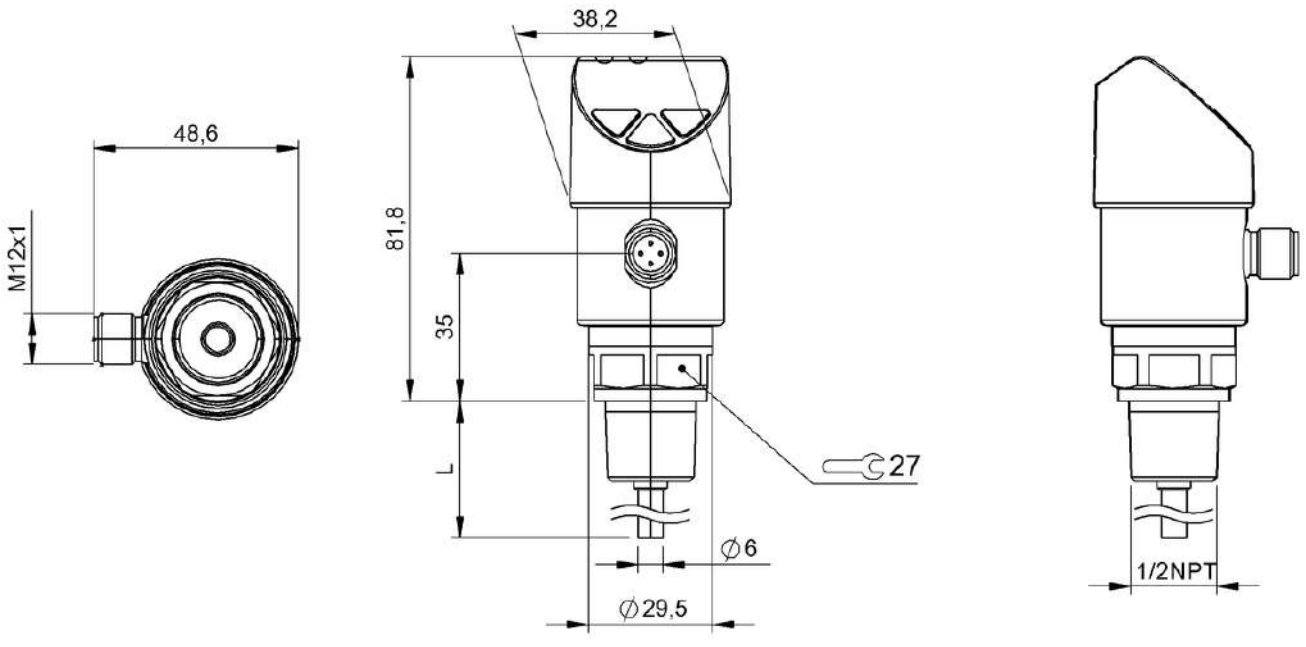
BFT0009 BFT 6050-FC002-A06A1A-S4	**BFT0007** BFT 6100-DX002-A06A1A-S4	**BFT000A** BFT 6100-FC002-A06A1A-S4		
-30...150 °C	-30...150 °C	-30...150 °C		
Pt1000	Pt1000	Pt1000		
10...30 VDC	10...30 VDC	10...30 VDC		
Analog, current 4…20 mA	Analog, current 4…20 mA	Analog, current 4…20 mA		
—	—	—		
Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin	Connector, M12x1-Male, 4-pin		
50 mm	100 mm	100 mm		
NPT 1/4“ outer	G 1/4“ outer	NPT 1/4“ outer		
Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)		
—	—	—		
Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)		
270 bar	270 bar	270 bar		
-40...85 °C	-40...85 °C	-40...85 °C		
IP67, IP69, IP69K	IP67, IP69, IP69K	IP67, IP69, IP69K		
CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC		
Page 403	Page 403	Page 403		



BFT0015, BFT0012, BFT001H, BFT0016, BFT0013, BFT001J, BFT0017, BFT0014, BFT001K



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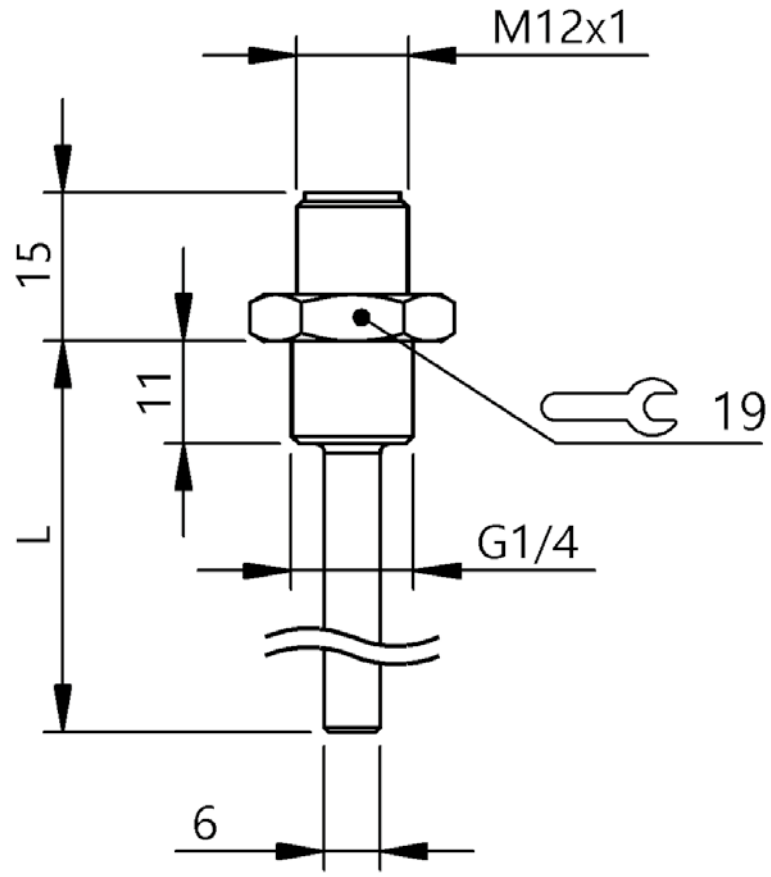
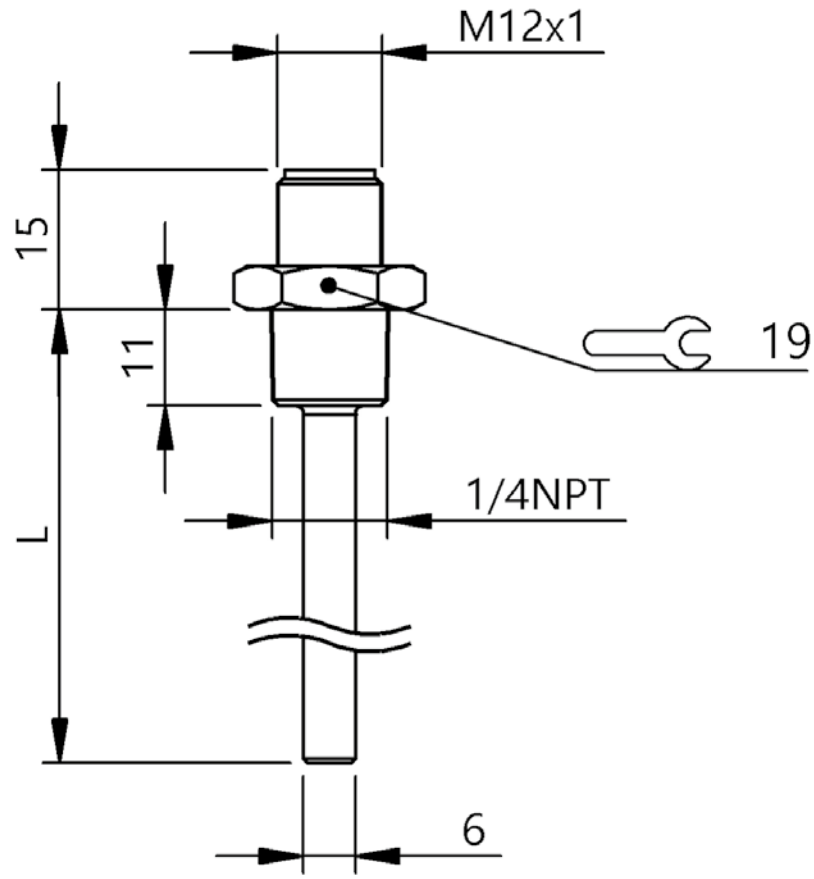
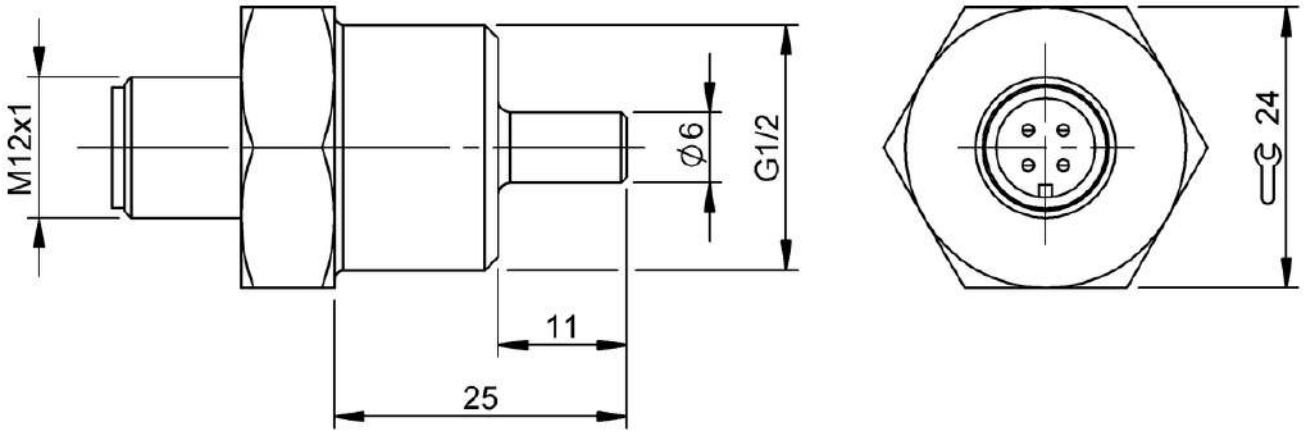


BFT0001, BFT0002



BFT0003, BFT0004



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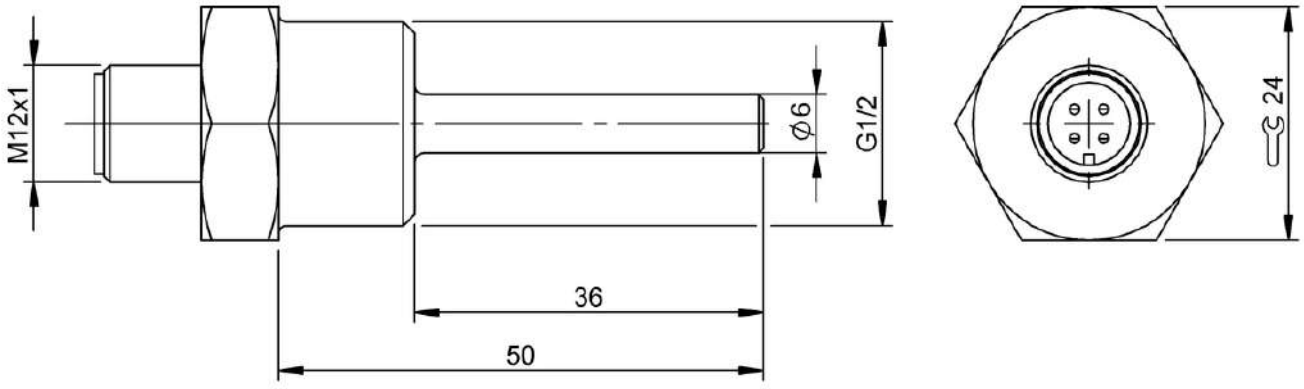

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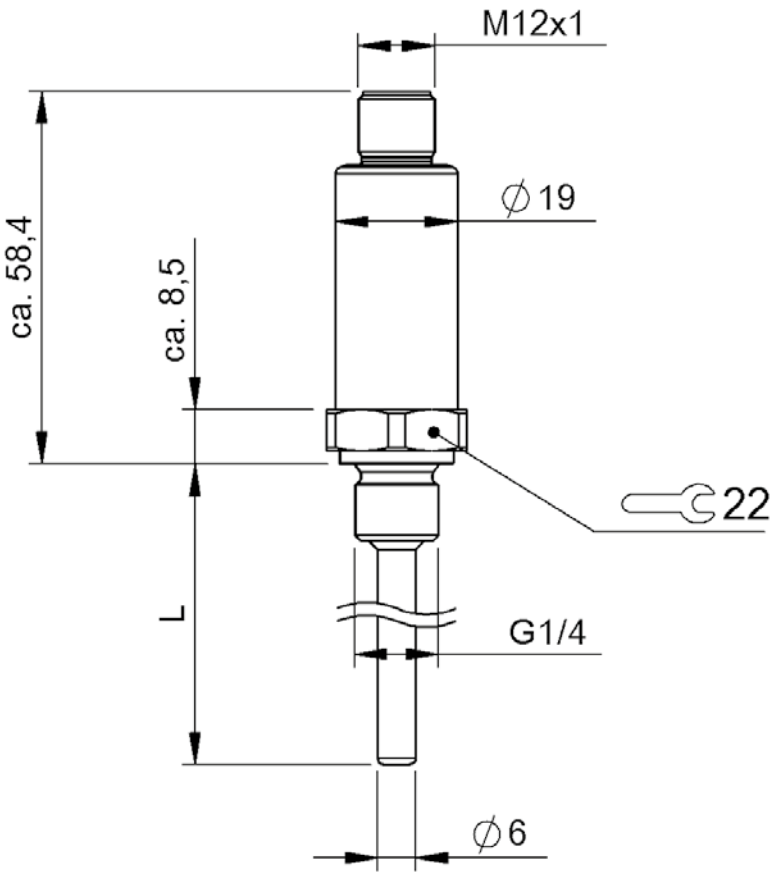
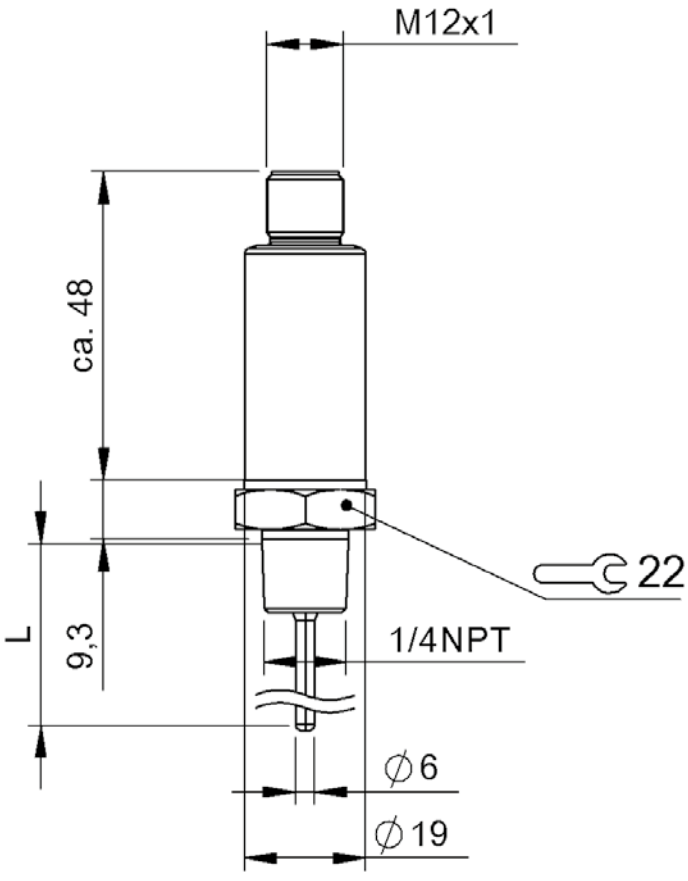


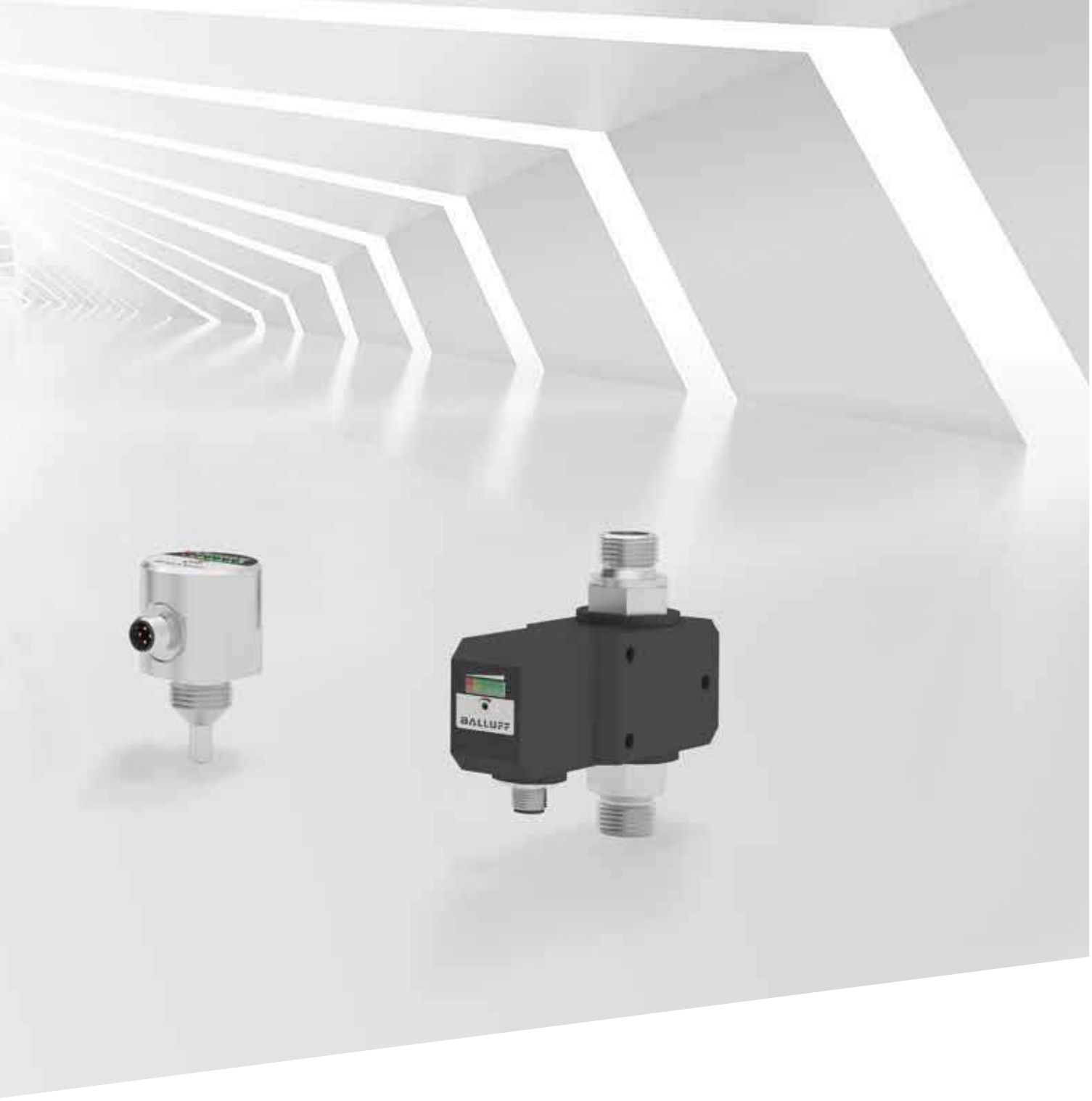
BFT0005, BFT0006, BFT0007



BFT0008, BFT0009, BFT000A

Process security written large

FLOW SENSORS



Flow sensors let you measure and monitor the flow of process media in a wide range of applications. For example the lubricant flow or reliable circulation of cooling water. Now you can detect a pump failure early and prevent an unplanned machine or even system stop.

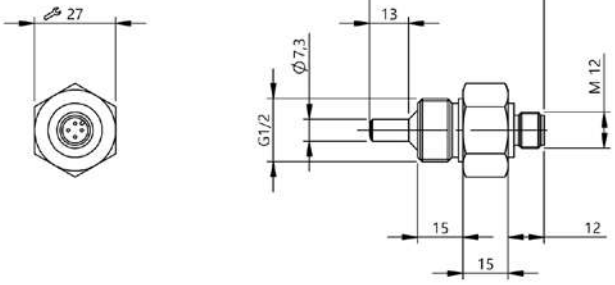
This is how flow sensors as well as pressure or temperature sensors contribute to process security.

	BFF0004 BFF T7031-HA002-R03A0A-S4	BFF0006 BFF T7040-JA002-R03A0A-S4	
Working range	1...150 cm/s aqueous media, 3...300 cm/s oil	1...150 cm/s aqueous media, 3...300 cm/s oil	
Operating voltage Ub	—	—	
Switching output	—	—	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Installation length from contact surface	31 mm	40 mm	
Inside diameter	—	—	
Process connection	G 1/2“ outer	NPT 1/2“ outer	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	
Gasket, material	AFM 34	—	
Housing material	Stainless steel (1.4571)	Stainless steel (1.4571)	
Media temperature	-20...80 °C	-20...80 °C	
Pressure rating max.	100 bar	100 bar	
Ambient temperature	-20...80 °C	-20...80 °C	
Protection degree	IP67	IP67	
Approval/Conformity	CE	CE	
Additional text	Required accessories: Signal converter BAE00ZZ	Required accessories: Signal converter BAE00ZZ	
Productview	Pager 410	Pager 410	

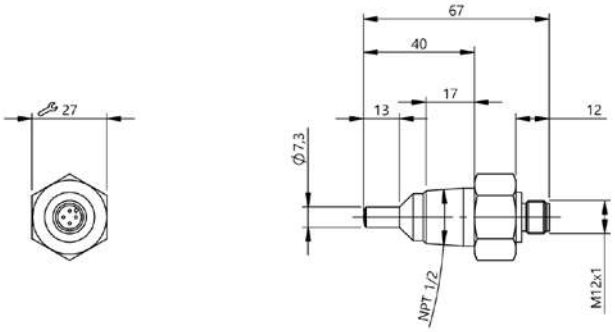
	BFF0005 BFF T7048-HA002-R03A0A-S4	**BFF0001** BFF T7031-HA001-D06A2A-S4	**BFF0003** BFF T7040-JA001-D06A2A-S4	**BFF0002** BFF T7048-HA001-D06A2A-S4
	1...150 cm/s aqueous media, 3...300 cm/s oil	1...150 cm/s aqueous media, 3...300 cm/s oil	1...150 cm/s aqueous media, 3...300 cm/s oil	1...150 cm/s aqueous media, 3...300 cm/s oil
	—	20...28 VDC	20...28 VDC	20...28 VDC
	—	PNP	PNP	PNP
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin
	48 mm	31 mm	40 mm	48 mm
	—	—	—	—
	G 1/2“ outer	G 1/2“ outer	NPT 1/2“ outer	G 1/2“ outer
	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)
	AFM 34	AFM 34	—	AFM 34
	Stainless steel (1.4571)	Stainless steel (1.4571) Stainless steel (1.4305)	Stainless steel (1.4571) Stainless steel (1.4305)	Stainless steel (1.4571) Stainless steel (1.4305)
	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C
	100 bar	100 bar	100 bar	100 bar
	-20...80 °C	-20...80 °C	-20...80 °C	-20...80 °C
	IP67	IP67	IP67	IP67
	CE	CE, cULus	CE, cULus	CE, cULus
	Required accessories: Signal converter BAE00ZZ	—	—	—
	Pager 410	Pager 410	Pager 410	Pager 410

	BFF000A BFF TX006-DA004-D00A2C-S4	**BFF0008** BFF TX010-HA004-D00A2C-S4	
Working range	0.1...2 l/min water	1...10 l/min aqueous media	
Operating voltage Ub	22...26 VDC	22...26 VDC	
Switching output	2x PNP normally open/normally closed (NO/NC)	2x PNP normally open/normally closed (NO/NC)	
Connection	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin	
Installation length from contact surface	—	—	
Inside diameter	6 mm	10 mm	
Process connection	G 1/4“ outer	G 1/2“ outer	
Process connection material	Stainless steel (1.4571)	Stainless steel (1.4571)	
Gasket, material	AFM 34	AFM 34	
Housing material	PBT	PBT	
Media temperature	0...60 °C	-10...80 °C	
Pressure rating max.	10 bar	20 bar	
Ambient temperature	0...60 °C	0...60 °C	
Protection degree	IP54	IP54	
Approval/Conformity	CE	CE	
Additional text	—	—	
Productview	Pager 410	Pager 410	

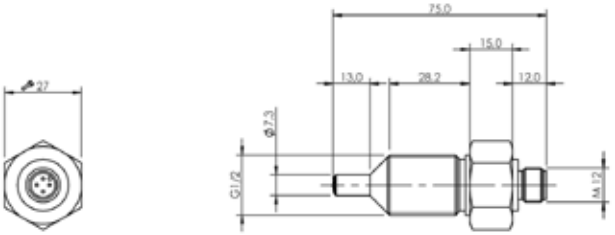
	BFF0009 BFF TX015-HA004-D00A2C-S4	BFF0007 BFF TX015-HA003-D06A2A-S4		
	1...20 l/min aqueous media	2...25 l/min aqueous media		
	22...26 VDC	20...28 VDC		
	2x PNP normally open/normally closed (NO/NC)	PNP		
	Connector, M12x1 connector, 4-pin	Connector, M12x1 connector, 4-pin		
	—	—		
	15 mm	15 mm		
	G 1/2“ outer	G 1/2“ outer		
	Stainless steel (1.4571)	Stainless steel (1.4571)		
	AFM 34	AFM 34		
	PBT	PBT		
	-10...80 °C	0...80 °C		
	20 bar	20 bar		
	0...60 °C	0...60 °C		
	IP54	IP67		
	CE	CE, cULus		
	—	—		
	Pager 410	Pager 410		



BFF0004



BFF0006



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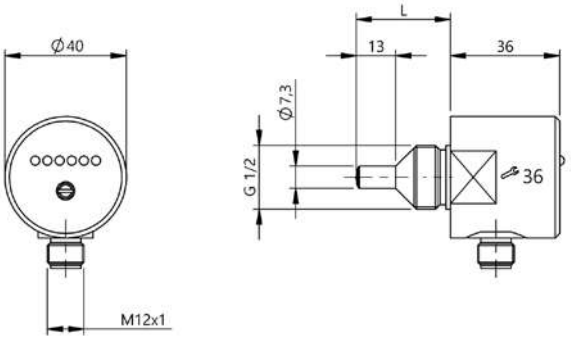
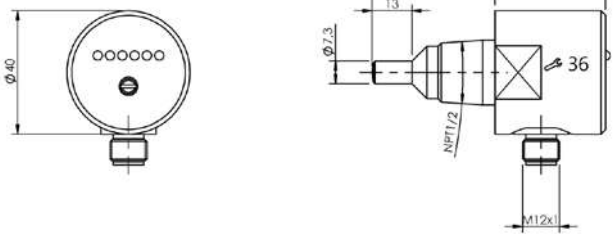


BFF0001, BFF0002



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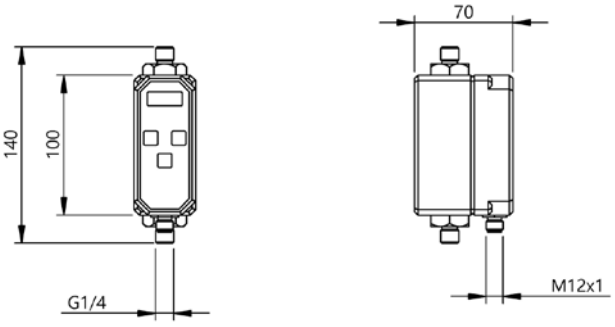
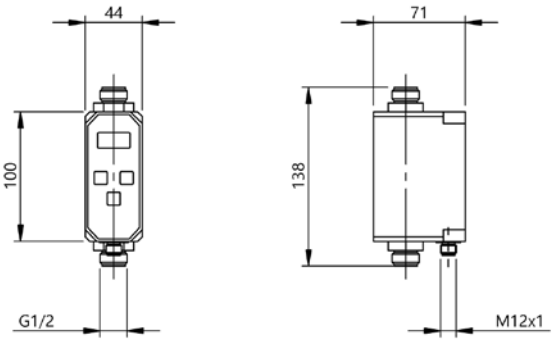
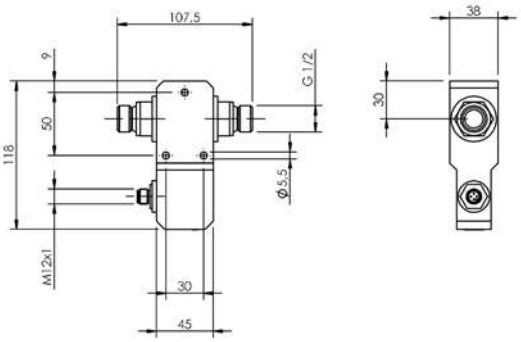


BFF000A



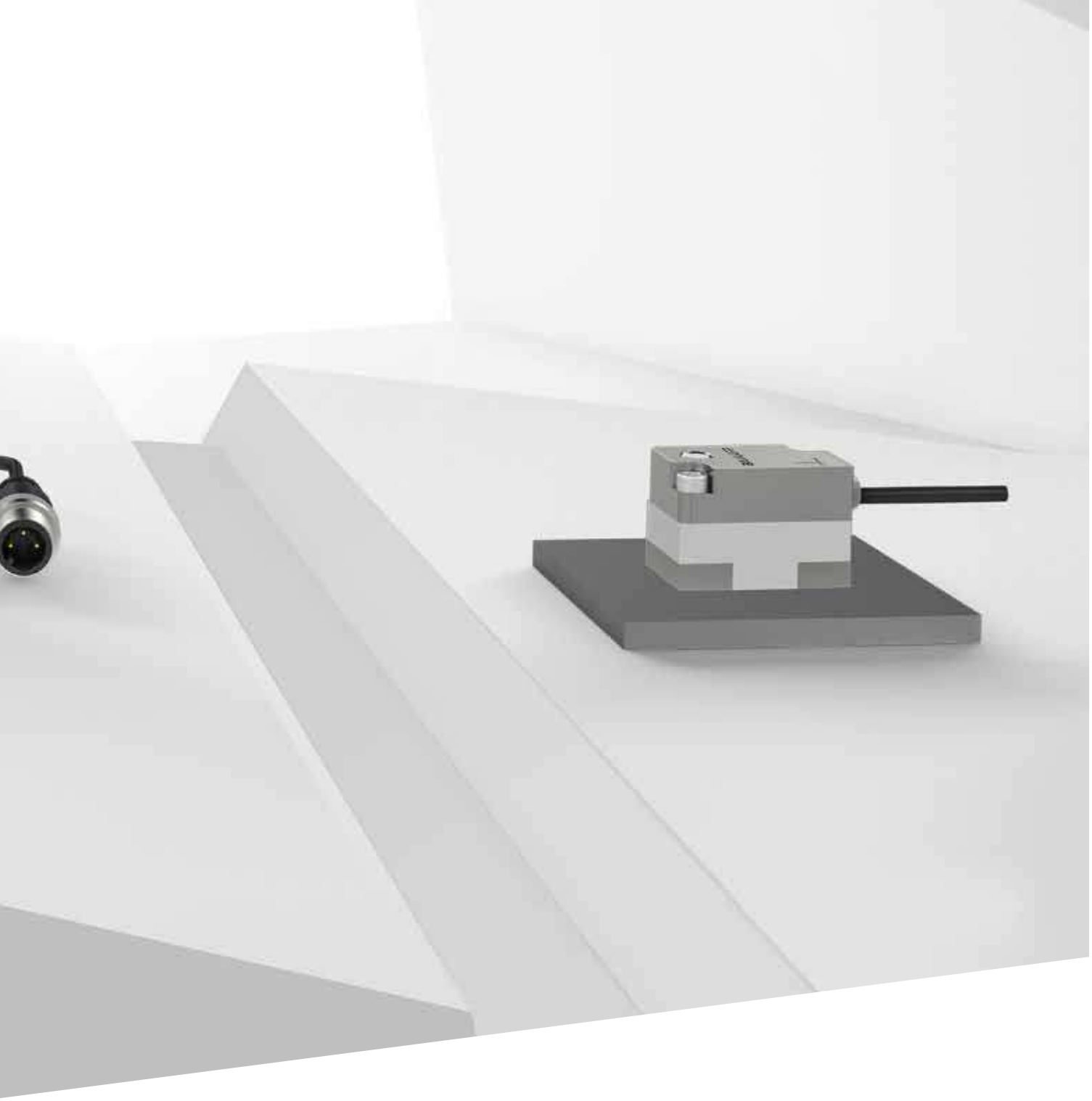
BFF0008, BFF0009



BFF0007

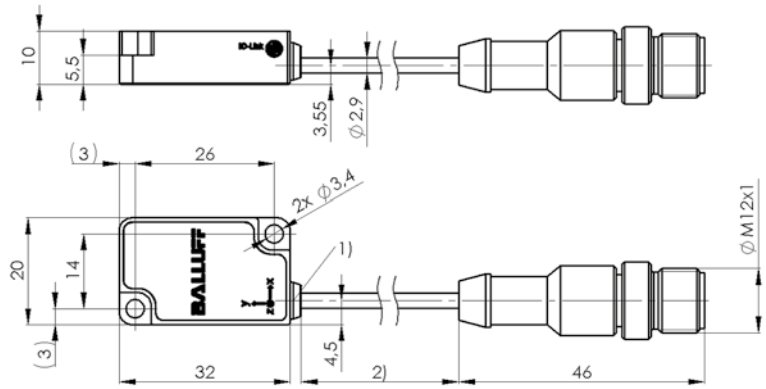
With integrated data pre-processing

CONDITION MONITORING SENSORS



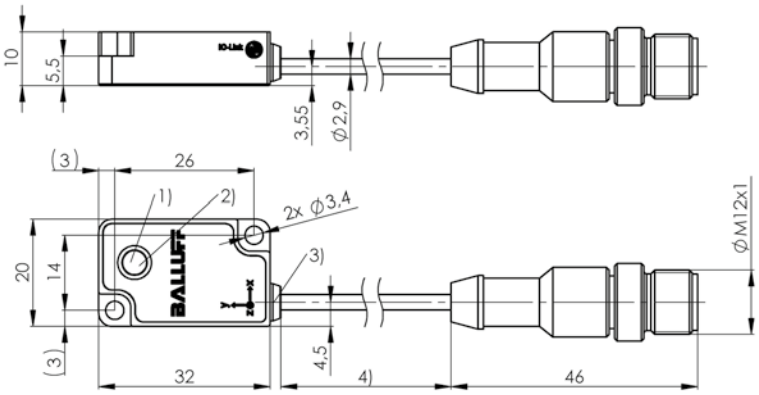
BCM multi-functional condition monitoring sensors support the efficient and fault-free operation of any equipment and significantly enhance the efficiency of the overall plant. Unplanned stoppages and interruptions in the production process can now be prevented because these intelligent sensors provide you with condition information which you can use for planning predictive maintenance and repair and automating cost-intensive manual inspections. Being able to detect, process and interpret the condition of machines and equipment as well as their associated components is also essential for the Industrial Internet of Things.

	BCM0001 BCM R15E-001-DI00-01,5-S4	**BCM0002** BCM R15E-002-DI00-01,5-S4
Function	Vibration Velocity, Vibration Acceleration, Vibration Severity Zone, Contact Temperature, Sensor Self-Awareness	Vibration Velocity, Vibration Acceleration, Vibration Severity Zone, Contact Temperature, Relative Humidity, Ambient Pressure, Sensor Self-Awareness
Vibration, frequency range	2...3200 Hz	2...3200 Hz
Vibration, number of measuring axes	3	3
Vibration velocity, measuring range RMS	0…220 mm/s @79.4 Hz	0…220 mm/s @79.4 Hz
Vibration acceleration, measuring range RMS	0…16 g	0…16 g
bas_contact_temperature_range	0…70 °C	0…70 °C
Relative humidity, measuring range	—	5…95 %rF
Ambient pressure, measuring range	—	300…1100 hPa
Rated operating voltage Ue DC	24 V	24 V
Interface	IO-Link 1.1	IO-Link 1.1
Interface setting option	Flexible process data configuration, Vibration measurement based on ISO 10816-3, Data preprocessing (statistics), Events (pre-alarms and main alarms), Delay times for alarms, Search function with LED display (ping)	Flexible process data configuration, Vibration measurement based on ISO 10816-3, Data preprocessing (statistics), Events (pre-alarms and main alarms), Delay times for alarms, Search function with LED display (ping)
Connection	Cable with connector, M12x1-Male, 3-pin, 1.5 m, PUR	Cable with connector, M12x1-Male, 3-pin, 1.5 m, PUR
Housing material	Stainless steel (1.4404)	Stainless steel (1.4404), Membrane: ePTFE with nylon fleece
IP rating	IP67, IP68, IP69K	IP67
Ambient temperature	0...70 °C	0...70 °C



1) LED, 2) Cable length

BCM0001



1) Membrane, 2) LED orange, 3) LED green, 4) Cable length

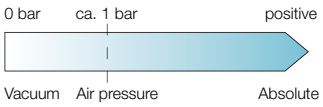
BCM0002

Absolute

Characteristic of a magnetic coded measuring system whereby the measured value for the current position is available as soon as the device is powered up. Each position, e.g. a measurement section, is assigned an absolute, coded digital signal or an analog value. A reference run is not required.

Absolute pressure

Pressure with respect to zero pressure (vacuum). The value range of absolute pressure is always positive.

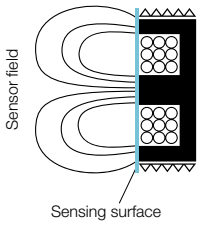


Distance sensor with analog output

A sensor which generates a continuously varying output signal which is a function of the distance between the sensing surface and the actuation element.

Sensing surface

Actively measuring area and thereby the externally sensitive electrode/plate of the electrode system. It is generally somewhat smaller than the surface of the cover.

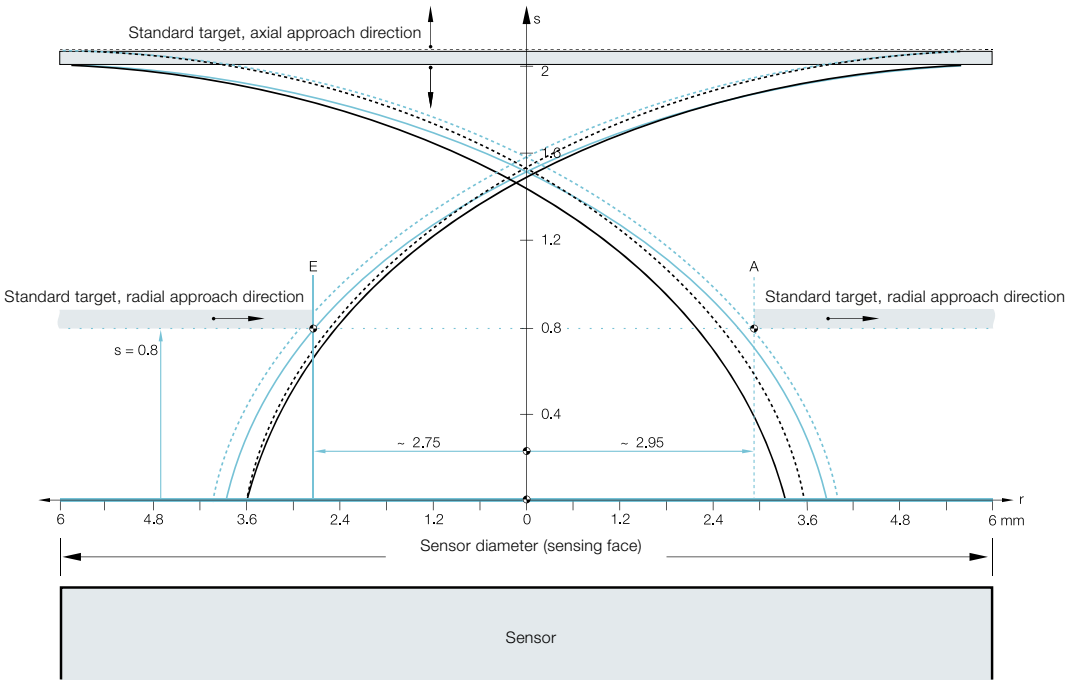


Analog sensor

A sensor whose output signal is represented as a continuously varying analog value (e.g. 0...10 V, 4...20 mA).

Approach direction

Direction of an object as it enters the detection range/active range of a sensor.



Response time

The time between the change in pressure and the change in the switching output state.

Non-equivalence

Switching function whereby a sensor provides two signals at the same time when it switches, the normally open (NO) and the normally closed (NC) function. When an object is detected, both outputs are switched.

Working range S_a

The travel distance available for position detection.

Resolution (sensor technology)

The minimum "movement increment" in a measuring system which can trigger a change in the output signal (for distance measuring systems) or how finely incremented an analog variable can be represented in binary (for network modules).

Output signal

Signal that a sensor sends to the controlling unit. Both sensor versions determine the type of output signal. Switching sensors work with a digital signal (switching state 0 or 1), measuring sensors with an analog signal or a digital count value.

Output current I_e

The maximum current with which the output of the sensor may be loaded in continuous operation. Also referred to as operating current.

Output current max.

The maximum current with which the switching output of the sensor may be loaded in continuous operation.

Output resistance

Resistance (Ra) at the output of a circuit or component. The output resistance is generally a frequency-dependent, complex resistance with amount and phase and is referred to as output resistance.

Turn-off time

The time a sensor requires to respond when the target leaves the detection range at a factor of 0.5 of the radiant power.

Limited rated short-circuit current

Value of the unaffected short circuit current which the short circuit protected circuit can withstand during the entire turn-off time (duration of current flow) of the device under specified conditions. This current is prescribed in the standard in order to test the short-circuit protection of sensors.

Effective distance s_e

Point in the middle of a sensor's range of linearity s_l. Serves as a reference point for further specifications.

Rated operating voltage

The maximum voltage at which the sensor can be used in normal use.
Indicated by U_e. DC switches: U_e = 24 V DC; AC and AC/DC switches: U_e = 110 V AC.

Rated operating current

The permissible output current which flows through the load R_L.

Rated supply frequency

Frequency of the operating voltage when using alternating current

Rated isolation voltage

The voltage to which the insulation checks and the air and creepage distances refer. For sensors, the highest rated operating voltage is considered the rated insulation voltage.

Rated operating distance S_n

Switching distance not taking into account manufacturing tolerances, sample deviations and external effects such as temperature and voltage.

Time delay before availability

Duration between the application of power and the availability of a sensor.

Burst pressure

Pressure in the medium which the pressure sensor must withstand without being destroyed. If this pressure is exceeded, it is certain that pressurized components will burst, the device will begin to leak or be mechanically destroyed.

Operating voltage U_B

Voltage range (V) n which flawless functioning of the sensor is assured.
It includes all voltage tolerances and ripple.

Operating current

The maximum current with which the output of the sensor may be loaded in continuous operation. Also referred to as output current.

Blind zone

Area between the active surface and minimum switching distance within which a target cannot be detected.

Flush installation

Installation type in which a proximity switch can be embedded in metal up to its active surface.

Distance sensor with analog output

A sensor which generates a continuously varying output signal which is a function of the distance between the sensing surface and the target point. It generates a linear output signal within a certain range (measuring range).

Flameproof encapsulation "d“ designation "Ex d“

Feature of parts which could ignite a potentially explosive atmosphere and which must therefore be housed in a special enclosure. This housing must withstand the pressure inside the housing if there is an explosion from an explosive mixture and must prevent transfer of the explosion to the explosive atmosphere surrounding the housing.

Pressure peak

An abrupt pressure load which can be magnitudes greater than the normal pressure. Pressure peaks are caused for example by rapidly closing valves. The pressure rises in a very short time to high values. Pressure peaks can cause lasting damage to the sealing system and the measuring cell of the pressure sensor as well as pressure carrying lines and other system components.

On delay

Time a sensor requires to be ready when an object enters the capture range.

Electromagnetic Compatibility (EMC)

The property of a sensor to neither interfere with or be interfered by undesired electrical or electromagnetic effects or by other devices.

Receiver lobe

Area in front of the receiver of a photoelectric sensor in which it can recognize the object.

Detection range

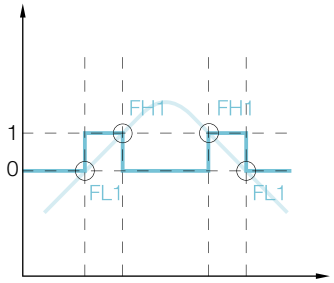
Range in which the switching distance of a sensor from the standard target can be adjusted.

Ex-Zone

Areas with high requirements for safety and reliability of sensors, since they may cause explosions. These areas are divided up by zones, each based on the frequency and duration of the occurrence of hazardous explosive atmosphere.

Window, adjustable

The output function is activated when the measured value falls between the preset switching and return point. Window function: The range between a defined lower pressure limit and a defined upper limit is known as a window. A switching operation is initiated as soon as the upper or lower limit of the programmed pressure range is exceeded.



Food and Drug Administration

Regulatory body for the US American food and drug industry. It certifies devices, materials and equipment in these sectors. Product designations of this kind make your system eligible for FDA approval.

Clear zone (sensor technology)

Installation area in which no material is permitted which could affect the characteristic values.

Full Scale (FS, end value)

Maximum measuring variable to which a device is adjusted, e.g. 20 mA.

Full Scale Output (FSO)

Difference between the upper and lower limit of the output. Example: A pressure sensor with a measuring range of 0...6 bar and a corresponding output signal of 4…20 mA has an FSO of 16 mA.

Magnetic coded function principle

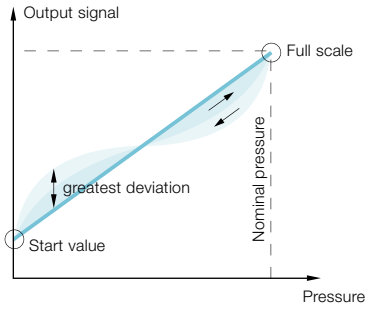
Technical procedure for determining the position using magnetic coding. A tape or disk with alternately polarized magnetic coding is read by a suitable read head passing over the tape. From the location of the read head from the individual magnetic codes the position information can be obtained.

Magnetostrictive function principle

Technical procedure for determining the position of a magnetic target by means of a torsional wave. The interaction of a moving magnetic target with an electrically stimulated magnetostrictive waveguide results in a torsional wave which propagates on the waveguide at a known velocity. By measuring the time until the torsional wave passes through a receiver coil the position of the target is determined.

Accuracy

Indicates how much the actual characteristic can deviate from the ideal characteristic (according to IEC 60770 non-linearity, hysteresis and repeatability). Accuracy specifications represent a percentage value of the measurement range (FSO) and never include dimensions. Nominal pressure 50 bar, output 4...20 mA, accuracy 0.5 % results in a maximum deviation of 0.08 mA (equivalent to a pressure value of 0.25 bar).

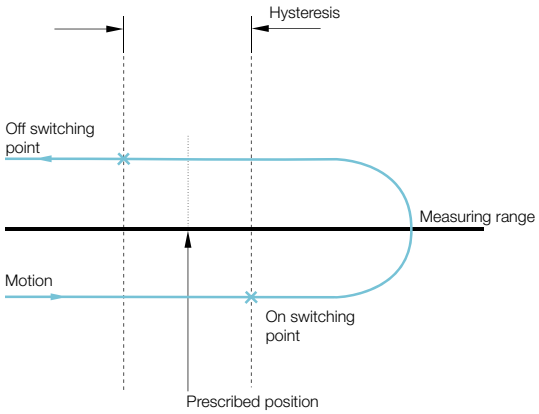


Assured switching distance S_a

Switching distance within which assured operation of the sensor at a specified voltage and temperature range is given ($0 \leq s_a \leq 0.81\ s_n$).

Hysteresis

Signal difference resulting for measurement sensors when a mechanically prescribed position is approached from one side, then crosses this point and afterwards approaches this same position from the other direction. Position difference between switching point (object approaches) and switch-back point (object travels away) for switching sensors.



Incremental

Characteristic of a measuring system whereby after the system is switched on, the current measured value is not available immediately. A reference run to a defined point, a reference point, is necessary in order to obtain a position value. The position value is calculated by adding or subtracting individual, equal increments from the reference point.

Characteristic curve

Dependency of the output signal on the input signal. The greater the effect of the input signal on the output signal, the more sensitive the measuring device is.
The sensitivity of a measuring device is indicated by the slope of the curve.

Minimum operating current

Minimum current (mA) required when energizing the output to maintain operation.

Short-circuit rating

Characteristic of components or assemblies which indicates the short-circuit current which the component or assembly can withstand.

Short-circuit protection

Protective device for overload and short-circuit. Present in all our DC sensors. In the event of overload or short-circuit at the output, the output transistor is automatically switched off. As soon as the malfunction has been corrected, the output stage is reset to normal functioning.

Short-term current carrying capacity I_k

For an AC device the short-term permissible current I_k $(_{eff})$ during a specified turn-on duration t_k (ms) and repetition rate f (Hz).

No-load current

The maximum internal current consumption with no load connected to the switching output (in general at $U_{B\ max.}$ and actuated).

Cable break protection

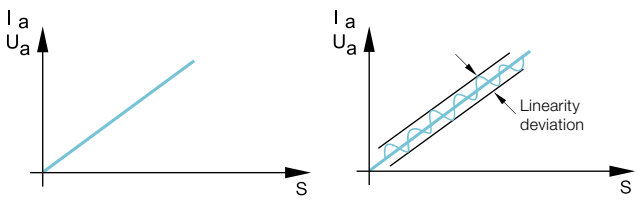
Characteristic of 3-wire switches which prevent malfunction when there is a cable break.
A built-in diode prevents the current from flowing via the output line A.

Reading distance (sensor technology)

The permissible working distance between sensor head and tape.

Non-linearity

Maximum deviation from the straight line that connects the zero point of the measuring range to the end point or full extension. There is a linear relationship between the position or path to be measured and the output signal for a voltage, current or digitized output information. This feature may be restricted to a defined linearity range.



Linear function

Linearity deviation of a linear function

Linearity range

Working range in which the sensor has defined linearity.

Linearity error

Maximum deviation from the straight line that connects the zero point of the measuring range to the end point or full extension. There is a linear relationship between the position or path to be measured and the output signal for a voltage, current or digitized output information. This feature may be restricted to a defined linearity range.

Magnetic function principle

Sensor principle based on detection of a magnetic field or its change. The sensitivity to the magnetic field can be set on the sensor.

Measurement speed

Speed with which changes to the active surface of a sensor are registered, processed and outputted. Up to the specified measuring speed the distance to a linear moving object can be reliably detected. The direction of movement of the object is parallel to the sensing face of the sensor.

Measuring length

Usable travel distance, i.e. the available distance/length measuring range of a measuring system

Sampling rate

The frequency at which the output distance/travel information is updated. It can be the same as the number of measurements per second. A high measurement rate for rapidly changing positions is important if a process is time-critical.

Nominal pressure

The maximum design pressure.

Rated operating distance S_n

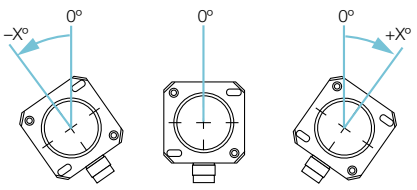
Maximum achievable switching distance from the standard target under device specification (generally with s_n as shipped from the factory).

Unusable area

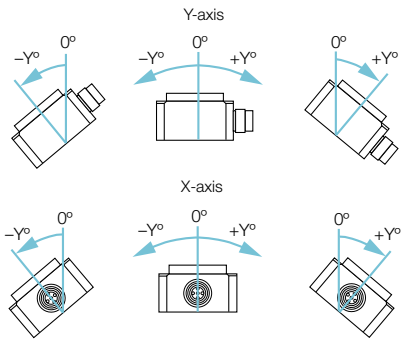
Area in which undesirable reflections are attenuated. This area is always outside of the measuring range. Depending on the transducer model, either an erroneous output signal or an error signal will be output if the encoder is allowed to travel into this zone, which must not be considered valid information.

Inclination axis

1-axis (vertical installation)



2-axis (horizontal installation)



Normally closed (NC)

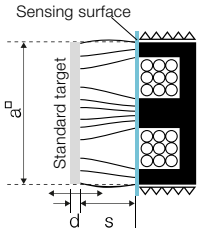
Also "Normally closed" – sensor principle/output function in which the switching output is inactive (not energized) when the sensor detects an object. The switching output is energized when no object is present.

Normally open (NO)

Also "Normally open" – sensor principle/output function in which the switching output is active (energized) when the sensor detects an object. The switching output is not energized when no object is present. This principle is the most commonly used in automation technology.

Standard target

A square plate made of Fe 360 (ISO 630), used to define sensing distances per EN 60947-5-2. Thickness is 1 mm; the side length "a" corresponds to the diameter of the inscribed circle of the active surface or 3 s_n, if the value is larger than the named diameter.



NPN output

An output type such that the load on the switching output is connected to the supply voltage (+ U_S as a reference point. When a threshold value is reached the ground (GND) is switched and the current can flow from + U_B through the load across the transistor to GND. The output switches to – U_B. Also referred to as a sinking output. This type of output is common in Asia.

Zero point

Position of the lowest value of the measuring range. The zero point can be custom set for some transducer models. The zero point must lie within the measuring range.

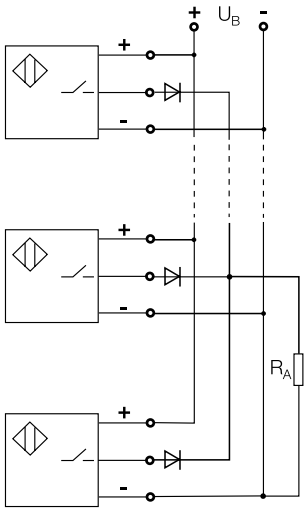
Usable operating distance

The permissible operating distance is the permitted switching distance within fixed voltage and temperature limits (0.81 $s_n \leq s_u \leq 1.21\ s_n$).

Parallel circuit

Electrical circuit type in which all the switching elements and their same named poles are connected in common to each other, so that multiple current paths result.

3-wire DC-switch



2-wire DC-switch

Parallel wiring of 2-wire-sensors is not recommended, since missed pulses can be caused by the ready delay as the oscillator begins to oscillate.

PNP output

An output type such that the load is connected on the switching output to GND as a reference point. When a threshold value is reached the supply voltage (+ U_B) is switched and the current can flow from + U_B through the load across the transistor to GND. The output switches to + U_B . Also referred to as a sourcing output. This type of output is common in Europe and North America.

Response time

The time which a sensor requires in order to reliably and steadily change the output signal. The specified time, which was determined at the maximum measuring speed, includes both the electrical response time of the sensor and the time for the mechanical change of the damping state.

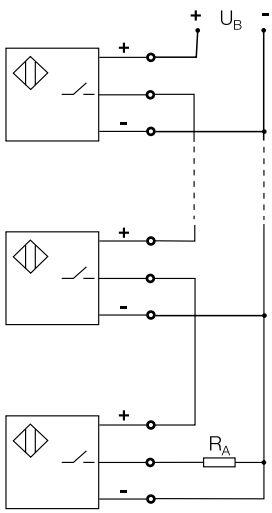
Effective operating distance S_r

The switching distance of a single proximity switch measured under specified conditions, e.g. flush mountable, rated operating voltage U_e, temperature T_a.

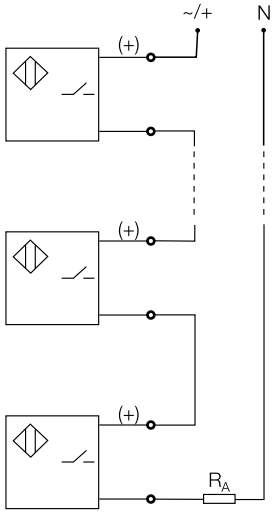
Series connection

Electrical circuit type in which the components are connected to each other in a string so that they form a single current path.

3-wire DC-switch

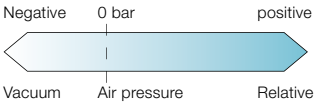


2-wire DC-switch (AC/DC)



Relative pressure

The pressure as a ratio to atmospheric air pressure (ambient pressure).
Measuring pressures greater than air pressure always produces positive values. Pressures lower than air pressure produce negative values.



Repeatability

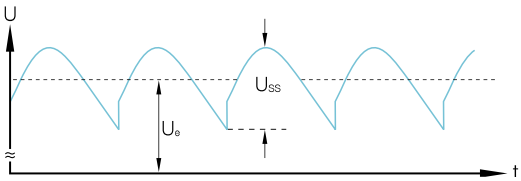
Measurement deviation when approaching a certain position from different directions. Reproducibility is the sum of the hysteresis and the resolution.

Off-state current

The current which flows in the load circuit when a sensor is not conducting (open).

Ripple

The maximum permissible AC voltage (peak-to-peak of U_e) which may be superimposed on the operating voltage U_S without affecting the function of the sensor.



Ue = Rated operating voltage
Uss = Oscillation width

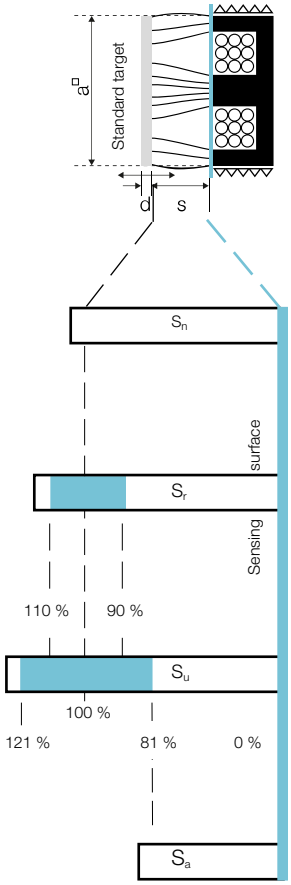
$$\text{Ripple } \sigma = \frac{U_{pp}}{U_e} \times 100\ [\%]$$

Sound deflection

Direction change/diversion of the sound beam which is caused by a smooth mechanical reflective surface. Used for example in tight mounting conditions or for protecting against contamination from the environment.

Switching distance

The distance between the standard target and the sensing surface of the sensor at which a signal change is triggered as per EN 60947-5-2. For a normally open switch this means from OFF to ON and for normally closed from ON to OFF.



Switching output

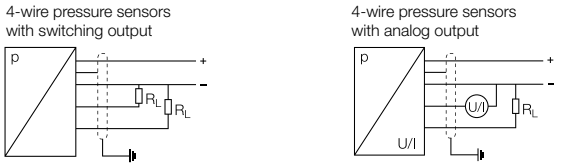
Electrical connection of a sensor by which the state (active/inactive) is indicated.

Switching sensor

A sensor with binary output signal which changes when a threshold is exceeded or under-shot (1 or 0, high/low, active/inactive). This indicates the switching status of the sensor.

Switching function

Output characteristic of a sensor. For example pressure sensors use the switching function to switch an output on or off depending on the pressure value and the set switching threshold. The switching threshold can be configured for example over IO-Link.



Sensor

"Sensory organ" of a machine which transforms the physical variable of an object to be measured into an electrical variable.

Voltage drop U_d

The maximum voltage loss of the switching final stage between switching output and $+U_B$ (PNP) or $–U_B$ (NPN) at the maximum specified load current.

Slope

The slope is a measure of the sensitivity of the sensor with respect to a distance change. This physical relationship can be calculated for travel sensors as follows:

$$\text{Slope S [V/mm]} = \frac{U_a \text{ max} - U_a \text{ min}}{s_a \text{ max} - s_a \text{ min}}$$

or

$$\text{Slope S [mA/mm]} = \frac{I_a \text{ max} - I_a \text{ min}}{s_a \text{ max} - s_a \text{ min}}$$

SYNC mode

Procedure for determining and transmitting the absolute positioning information of the position measurement system, e.g. an axis controller or regulating controller. This takes place synchronously with the processing electronics. It ensures that the time offset for the measurement is minimal. SYNC mode is meaningful for sensors which operate synchronously.

System accuracy

Deviation of the system measured value from the actual value for the object. It includes the position deviations within any given meter of the measuring range for linear measurements or one rotation for rotary measurements. Indicates the linearity class of a distance measuring system. The accuracy of the sensor head depends largely on mechanical manufacturing tolerances and component tolerances; the accuracy of the tape is determined by the material quality and the magnetization grade.

Teach-in

Method for setting sensors by pressing a button. No potentiometers or slide switches are used. Because there are defined setting increments, the advantage is that the sensor cannot be set in an unreliable range. The microcontroller also assumes control of the contamination indicator and the contamination output.

Temperature coefficient

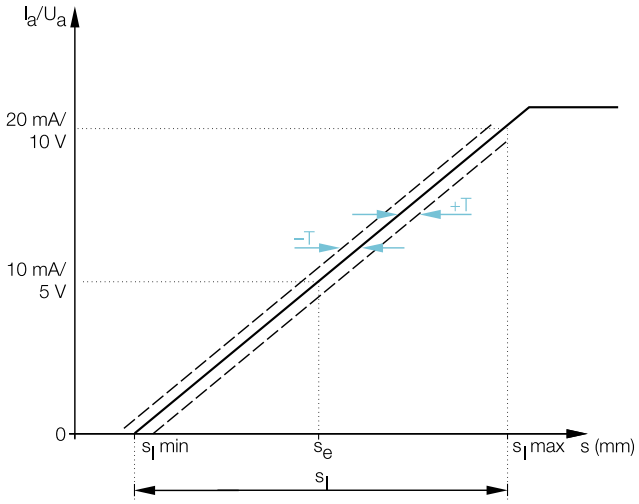
Describes the deviation of the sensor output signal under the effect of a temperature change, and thus represents a quality criterion for the sensor also.

Temperature drift

The temperature drift is the shift a point experiences on the actual output curve at different temperatures. The temperature drift is described by the temperature coefficient.

Tolerance T

A variable which defines the manufacturing tolerance band of the output curve, thereby determining the maximum sample deviation.



Ultrasonic function principle

Detection of objects using sound waves which are reflected directly back from a target.

Ambient temperature T_a

The maximum permissible temperature range at which a sensor may be operated while ensuring reliable functioning of the sensor.

Reverse polarity protection

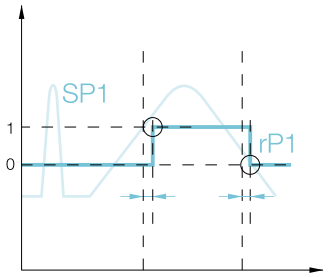
Also called polarity reversal protection. This sensor technology protects against reversal of the supply voltage (plus and minus) and reversal of the connection wires (brown and blue).

Contamination

Dirt and dust particles which collect on a sensor and reduce the range of photoelectric sensors and fiber objects compared with pure air. Deposits on the lens reduce its light transmission. The light is absorbed and scattered in the beam path. An oil-free source of compressed air can be used to prevent the effects of dirt and contamination due to impure air.

Delay time

Time until a sensor function is ready. This time function can be set. With a pressure sensor for example rapid pressure fluctuations can be reliably filtered out. When there is a pressure change in the medium the changed state is not compared with the set switching threshold until after the delay time has expired. If the switching event no longer exists by the time the delay has elapsed, the switching output does not change.



Displacement sensors with analog output

Displacement sensors with analog output are sensors that generate a continually varying output signal that depends on the distance between its sensing surface and the location of the position encoder relative to the sensor.

Repeat accuracy

Variance in the output values when approaching a mechanically prescribed position repeatedly from the same direction.

Ignition protection category "n" Designation "Ex n"

Feature of devices which are intended for use in areas where an explosive atmosphere is not expected. Even if the atmosphere were to become explosive, in all probability it would be infrequent and only for a short period of time. A manufacturer's declaration confirms that the product satisfies requirements for the use of electrical equipment in potentially explosive areas according to EN 60079-15. This designation combines multiple methods of ignition protection.

Reverse protected

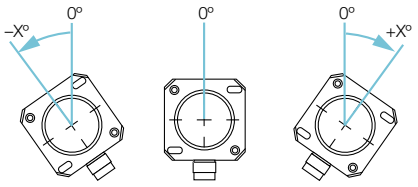
The sensor electronics is protected against any possible reversal combination of all the leads.

Centering function with MEMS-based inclination sensors

1- and 2-axis: factory calibrated – can be individually centered

Available are 1- and 2-axis versions which are factory calibrated to the perfect vertical or horizontal. The maximum deviation for each is 0.2°. If the current installation position deviates from these perfect vertical and horizontal alignments, the sensor can be centered. The single-axis version can be centered in a vertical position over 360° (see illustrations), whereas the dual axis version can only be set in a range of ±5° from the horizontal.

Starting position – working range (±x°) as factory set



New position – working range (±x°) after centering