



# Human Machine Interfaces

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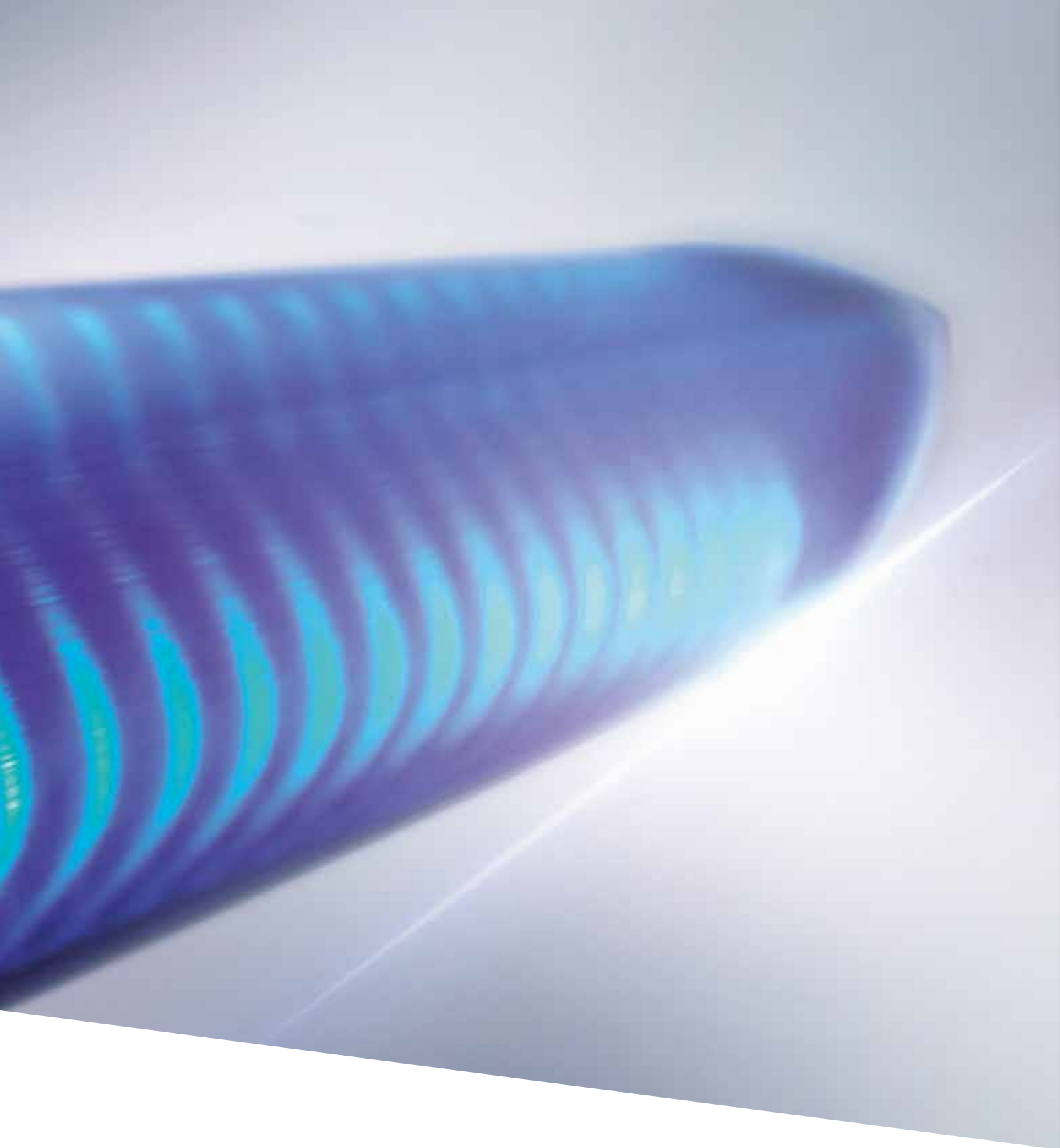
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All the information you need at a glance

# HUMAN MACHINE INTERFACES

 *innovating automation*



With our signaling and display devices, you know at all times what/where things stand with production and exactly where a tool is located. You can reliably monitor the state of machines and systems and display the sensor output signals.

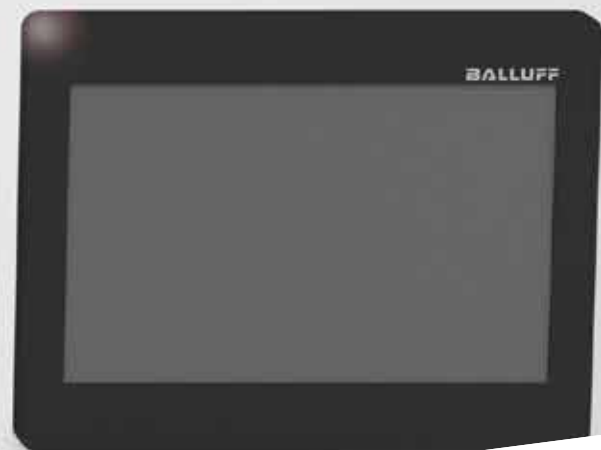
#### **Your Balluff solutions**

- Signaling and display devices
- Monitors
- Displays



Capture operating status with displays and SmartLight

# SIGNALING AND DISPLAY DEVICES



Our displays and the SmartLight LED stack light display physical variables. They allow you to know the operating status of your machine at a glance. The displays give you the choice between analog, SSI and pulse inputs. The SmartLight visualizes progressions and trends, with the special advantage that you can correlate different colors and modes without any mechanical modifications. Through the IO-Link interface, it is easy to install and configure.

#### The most important benefits

- Flexible
- Easy to install
- Displays for analog, SSI or pulse input signal
- SmartLight with IO-Link and individually correlated colors and modes



	<b>BNI007T</b> BNI IOL-800-000-Z036	<b>BNI0087</b> BNI IOL-800-000-Z037	<b>BNI007F</b> BNI IOL-801-000-Z036	
Principle of operation	Indicator light	Indicator light with sound module	Indicator light	
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	
Operating voltage $U_b$	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	
Connection	M12x1 connector, 4-pin	M12x1 connector, 4-pin	M12x1 connector, 4-pin	
Segments, number max.	1	1	3	
Predefined colors	Yellow, white, Green, Blue, Red, Orange, configurable	Yellow, white, Green, Blue, Red, Orange, configurable	Yellow, white, Green, Blue, Red, Orange, configurable	
Function indicator	Runlight Mode, Segment Mode, Flexi-Mode	Runlight Mode, Segment Mode, Flexi-Mode	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode	
Volume max.	—	95 dB/m	—	
Setting	Function indicator	Function indicator, Volume	Function indicator	
Additional function	—	—	—	
Dimension	60 x 60 x 117 mm	60 x 60 x 138.5 mm	60 x 60 x 213 mm	
Housing material	PC, Transparent Die-cast zinc	PC, Transparent Die-cast zinc	PC, Transparent Die-cast zinc	
Mounting	Screws M18	Screws M18	Screws M18	
Ambient temperature	-5...50 °C	-5...50 °C	-5...50 °C	
Protection degree	IP65	IP30	IP65	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	5 ms	5 ms	5 ms	
Process data in	—	—	—	
Process data out	1 bytes	1 bytes	2 bytes	
Productview	Page 570	Page 570	Page 570	





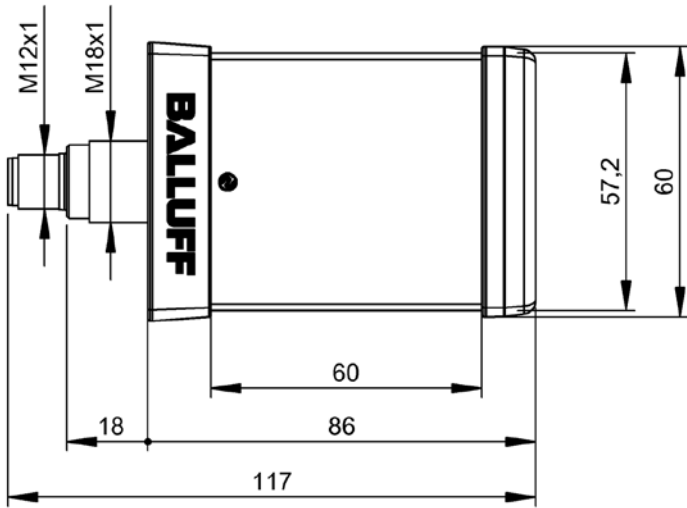
	<b>BNIO088</b> BNI IOL-801-102-Z036	<b>BNIO086</b> BNI IOL-801-000-Z037	<b>BNIO08A</b> BNI IOL-801-102-Z037	<b>BNIO072</b> BNI IOL-802-000-Z036	<b>BNIO082</b> BNI IOL-802-102-Z036
	Indicator light	Indicator light with sound module	Indicator light with sound module	Indicator light	Indicator light
	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
	M12x1 connector, 4-pin	M12x1 connector, 4-pin	M12x1 connector, 4-pin	M12x1 connector, 4-pin	M12x1 connector, 4-pin
	3	3	3	5	5
	Yellow, white, Green, Blue, Red, Orange, configurable	Yellow, white, Green, Blue, Red, Orange, configurable	Yellow, white, Green, Blue, Red, Orange, configurable	Yellow, white, Green, Blue, Red, Orange, configurable	Yellow, white, Green, Blue, Red, Orange, configurable
	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode
	—	95 dB/m	95 dB/m	—	—
	Function indicator	Function indicator, Volume	Function indicator, Volume	Function indicator	Function indicator
	Expanded process data	—	Expanded process data	—	Expanded process data
	60 x 60 x 213 mm	60 x 60 x 234.5 mm	60 x 60 x 234.5 mm	60 x 60 x 309 mm	60 x 60 x 309 mm
	PC, Transparent Die-cast zinc	PC, Transparent Die-cast zinc	PC, Transparent Die-cast zinc	PC, Transparent Die-cast zinc	PC, Transparent Die-cast zinc
	Screws M18	Screws M18	Screws M18	Screws M18	Screws M18
	-5...50 °C	-5...50 °C	-5...50 °C	-5...50 °C	-5...50 °C
	IP65	IP30	IP30	IP65	IP65
	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
	7.2 ms	5 ms	7.2 ms	5 ms	7.2 ms
	1 bytes	—	1 bytes	—	1 bytes
	8 bytes	3 bytes	8 bytes	3 bytes	8 bytes
	Page 571	Page 571	Page 571	Page 571	Page 571



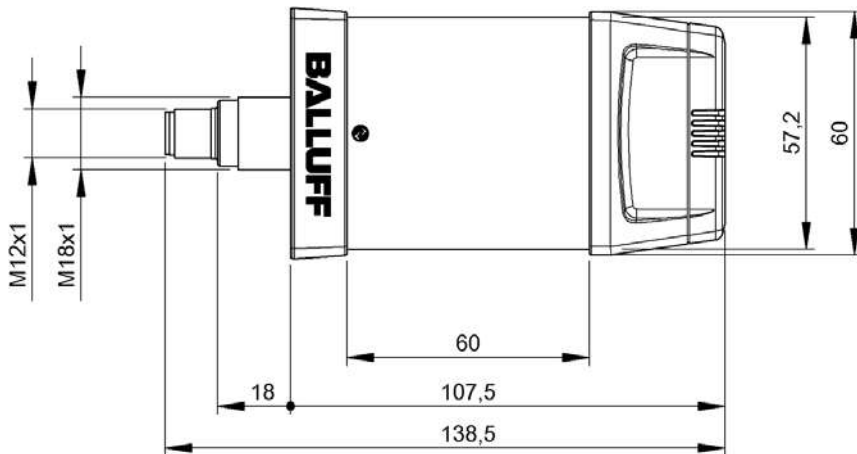
	<b>BNI0083</b> BNI IOL-802-000-Z037	<b>BNI0085</b> BNI IOL-802-102-Z037		
Principle of operation	Indicator light with sound module	Indicator light with sound module		
Interface	IO-Link 1.1	IO-Link 1.1		
Operating voltage $U_b$	18...30.2 VDC	18...30.2 VDC		
Connection	M12x1 connector, 4-pin	M12x1 connector, 4-pin		
Segments, number max.	5	5		
Predefined colors	Yellow, white, Green, Blue, Red, Orange, configurable	Yellow, white, Green, Blue, Red, Orange, configurable		
Function indicator	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode	Runlight Mode, Level Mode, Segment Mode, Flexi-Mode		
Volume max.	95 dB/m	95 dB/m		
Setting	Function indicator, Volume	Function indicator, Volume		
Additional function	—	Expanded process data		
Dimension	60 x 60 x 330.5 mm	60 x 60 x 330.5 mm		
Housing material	PC, Transparent Die-cast zinc	PC, Transparent Die-cast zinc		
Mounting	Screws M18	Screws M18		
Ambient temperature	-5...50 °C	-5...50 °C		
Protection degree	IP30	IP30		
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)		
Process data cycle min.	5 ms	7.2 ms		
Process data in	—	1 bytes		
Process data out	3 bytes	8 bytes		
Productview	Page 572	Page 572		



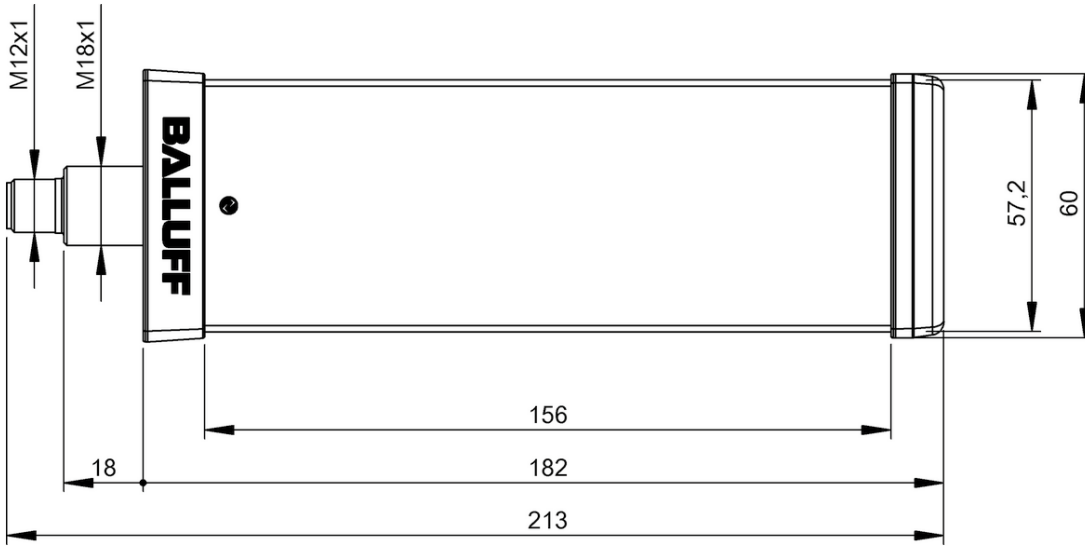




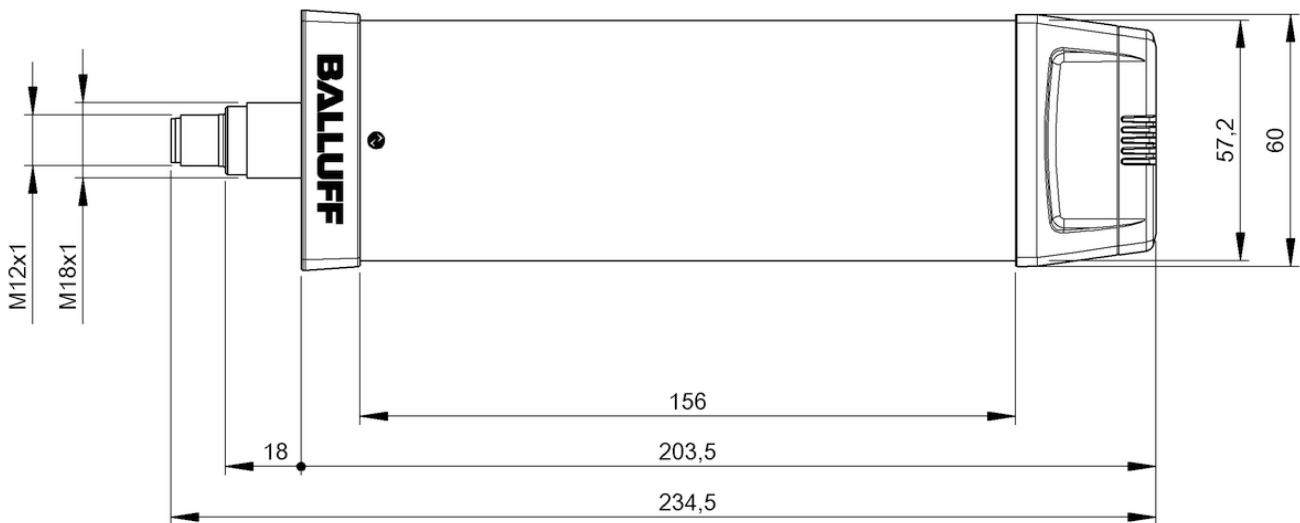
BNI007T



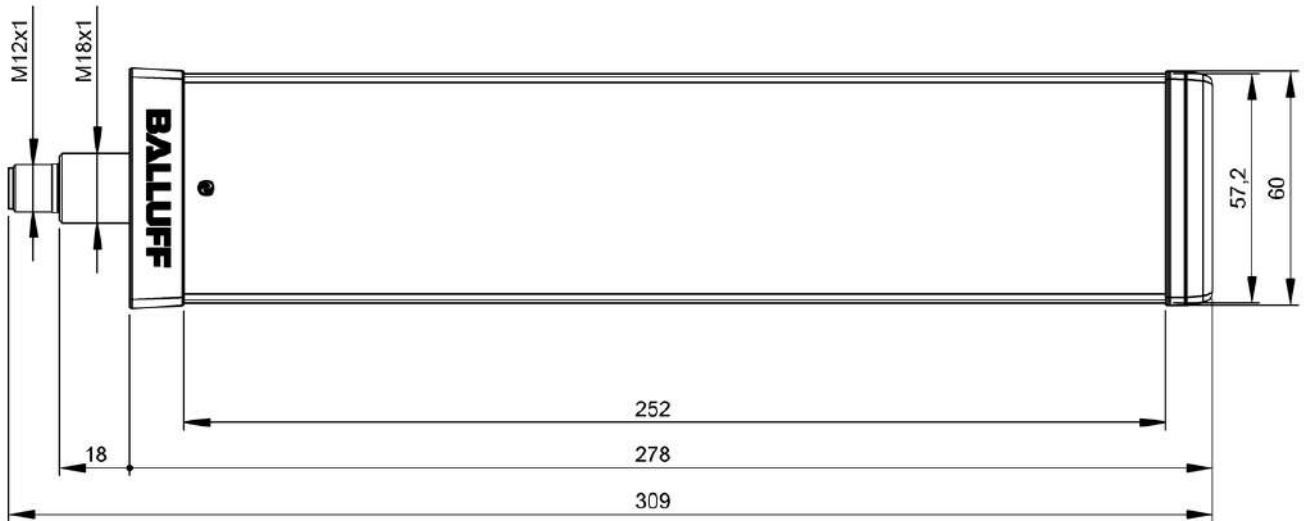
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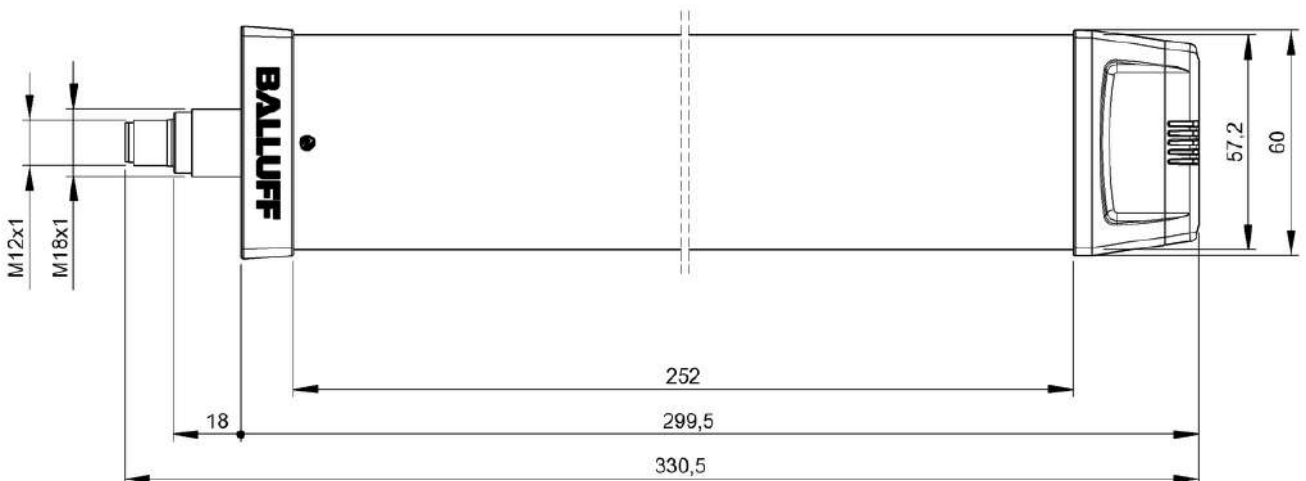
BNi007F, BNi0088



BNi0086, BNi008A



BNI0072, BNI0082



BNI0083, BNI0085

BNIO0CZ, BNIO0EO

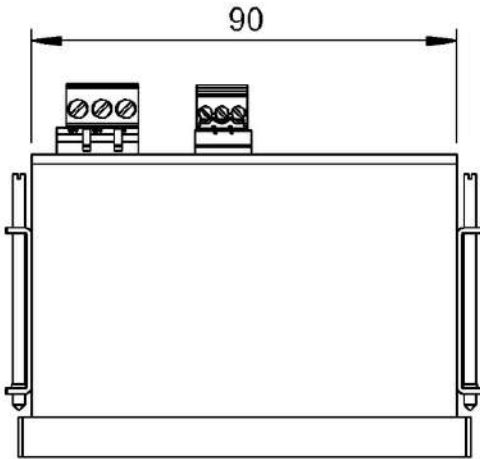
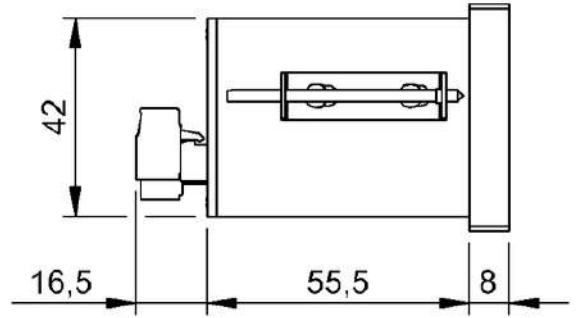
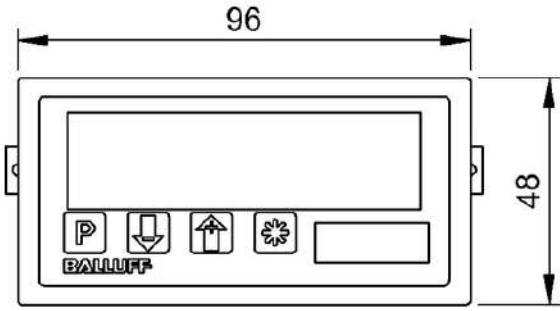


	<b>BAE006K</b> BDD-UM 3023	<b>BAE0067</b> BDD-AM 10-1-P	<b>BAE0069</b> BDD-AM 10-1-SSD	
Function	Analog value display	display module	display module	
Display	4 characters, red, LED 7-segment	7 1/2 characters, red, LED 7-segment	7 1/2 characters, red, LED 7-segment	
Dimension	72 x 48 x 96 mm	112 x 72 x 144 mm	112 x 72 x 144 mm	
Principle of operation	Display unit	Display unit	Display unit	
Rated input voltage	18...36 V DC	10...32 V DC	10...32 V DC	
Inputs, number	1	2	2	
Analog inputs	Analog, voltage/ Analog, current (0...10 V/ 0...20 mA/4...20 mA)	—	—	
Interface port 01	—	Digital pulse	SSI	
Interface, note Port 01	—	—	—	
Resolution	≤ 12 bits	—	—	
Cycle time min.	200 ms	—	—	
Digital outputs	—	2x Relay	2x Relay	
Analog output	Analog, voltage/Analog, current	—	—	
Rated output voltage DC	—	24 V	24 V	
Output current max.	—	2 A	2 A	
Encoder supply	—	5 V/24 V, max 300 mA	5 V/24 V, max 300 mA	
Housing material primary	Plastic	Plastic	Plastic	
Ambient temperature	0...60 °C	0...50 °C	0...50 °C	
IP rating of housing front	IP54	IP64	IP64	
Approval/Conformity	CE	CE	CE	
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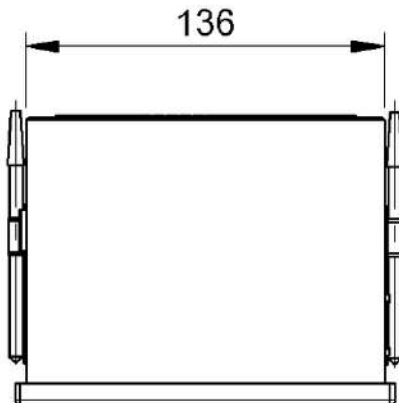
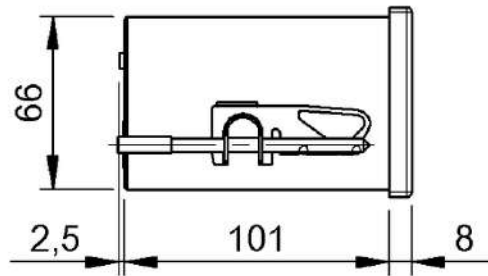
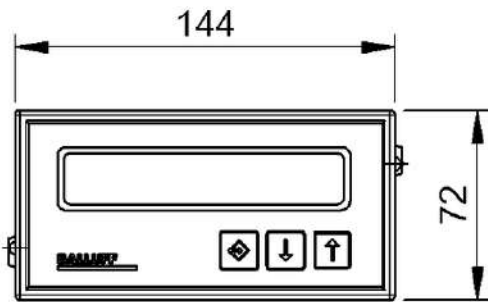


BAE004H BDD 610-R3Q3-0-51-N-00	BAF004J BDD 610-R3Q3-0-53-N-00	BAE004K BDD 611-R3Q4-0-52-N-00	BAE00EH BAE PD-VS-002-E	
Single-axis counter	Single-axis counter	Single-axis counter	Data transfer to/from PC, Manage user profiles, Manage sensor data, Find sensors in the network, Manage inspections, Ch- ange inspections, display inspections	
6 characters, red, LED 7-segment	6 characters, red, LED 7-segment	6 characters, red, LED 7-segment	Software menus- LCD sensor images - LCD inspections - LCD sensor data - LCD Output 1 active - LED orange Output 2 active - LED orange supply voltage - LED green connection with LAN - LED green sensor search - LED green system menu - LED green setup menu - LED green monitor mode - LED green	
76 x 73 x 97 mm	76 x 73 x 97 mm	76 x 73 x 97 mm	96 x 104 x 42.5 mm	
Display unit	Display unit	Display unit	Programming Device	
24 V DC ± 10 %	24 V DC ± 10 %	24 V DC ± 10 %	24 V DC ± 10 %	
2	2	4	—	
—	—	—	—	
—	—	—	Ethernet 10/100 Base T	
A, B	A, B	A, $\bar{A}$ , B, $\bar{B}$ , Z, $\bar{Z}$ , A, B, Z	Ethernet Rx+/Ethernet Rx-	
—	—	—	—	
—	10 $\mu$ s	250 ns	—	
—	2x PNP	2x PNP	—	
—	—	—	—	
—	24 V	24 V	—	
—	600 mA	450 mA	—	
24 V, max 500 mA	24 V, max 500 mA	5 V/24 V, max 150 mA	—	
Plastic	Plastic	Plastic	ABS	
0...40 °C	0...40 °C	0...40 °C	-10...55 °C	
IP42	IP42	IP42	IP40	
CE	CE	CE	CE	
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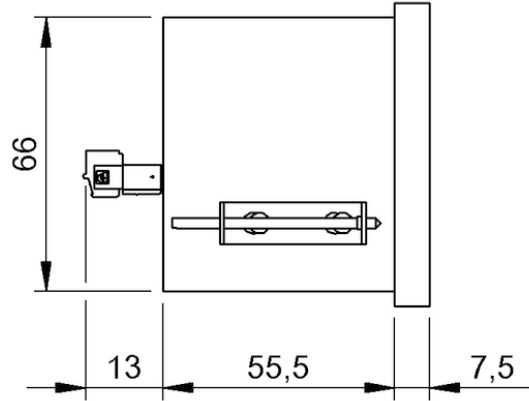
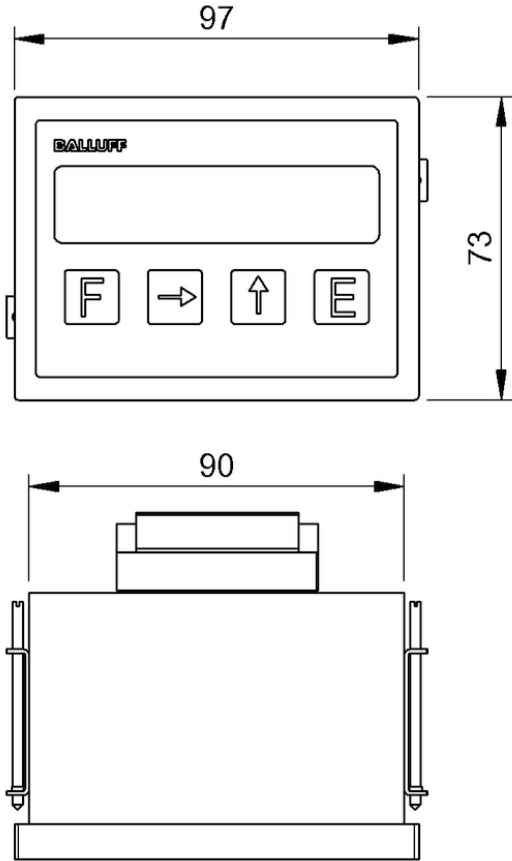




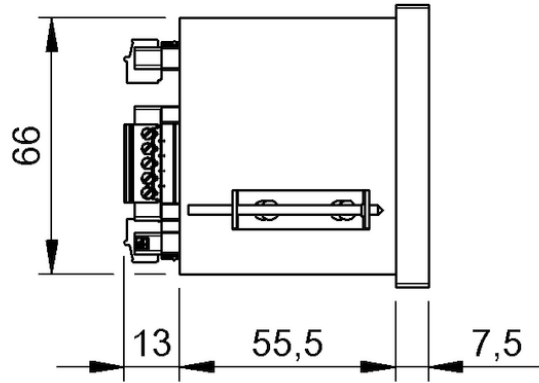
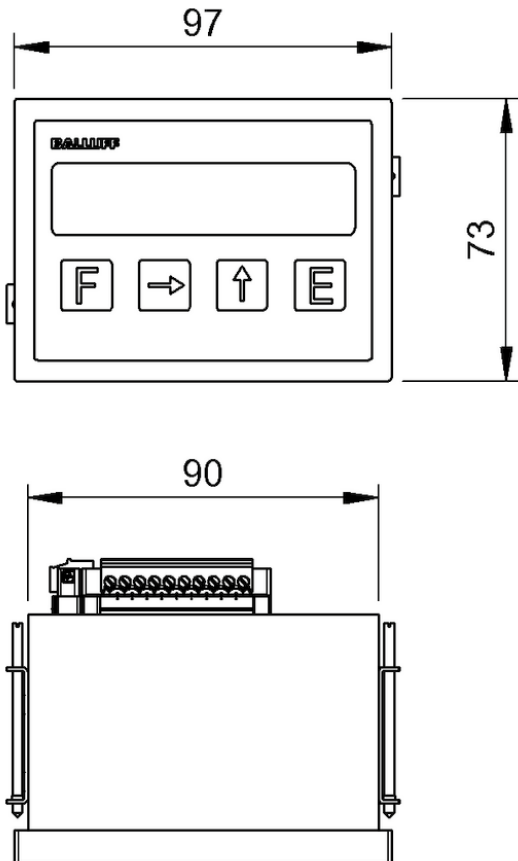
BAE006K



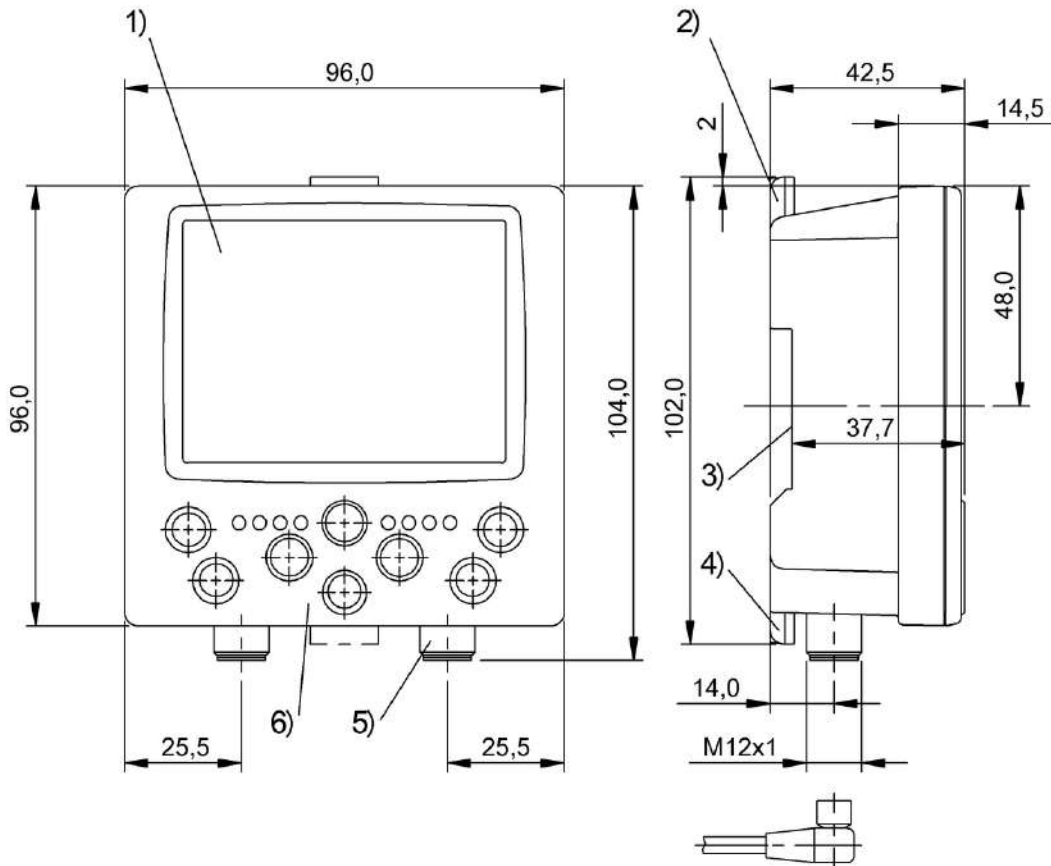
BAE0067, BAE0069



BAE004H, BAE004J



BAE004K



1) Color screen 3.5", 2) Latch, 3) For DIN rail 35mm, 4) Latch, 5) Connection BVS/LAN, 6) Display and control panel

**BAE00EH**

Accessories

Connectivity

Power Supply

Software and System Solutions

Industrial Networking

Safety

**Human Machine Interfaces**

Machine Vision and Optical Identification

RFID

Sensors



	<b>BAE00WC</b> BAE PD-VS-011-01
Short description	Touchpanel PC
Supported operating systems	Windows 10 (32/64 bit)
CPU	—
Working memory	—
Hard drive	—
Dimension	310 x 56 x 240 mm
Mounting	VESA 100 mm
Display	12.1"
Ambient temperature	10...40 °C
Approval/Conformity	CE

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