



Reliable signal transmission,
even under extreme conditions

I/O MODULES



I/O modules from Balluff connect binary and analog sensors and actuators to the control level via a bus. By using our modules you can significantly reduce the number of cables required. The Balluff I/O modules also offer additional functions for signal preprocessing and expanded diagnostic options. Various form factors and connection technologies provide solutions for a wide range of requirements – even under extreme ambient conditions.

Features

- Simple to install
- Efficient configuration
- Continuous diagnostics
- Individual solutions through a variety of designs and connection techniques
- Suitable for use under extreme conditions



	BNI0093 BNI IOL-309-002-Z019	BNI0099 BNI IOL-102-002-Z019	BNI00AU BNI IOL-302-002-Z046	
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 (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	
Connection (supply voltage IN)	—	—	—	
Connection slots	8x M8x1-Female, 3-pole	8x M8x1-Female, 3-pole	16x M8x1-Female, 3-pole	
Digital inputs	8x PNP, Type3	8x PNP, Type3	16x PNP, Type3	
Digital outputs	8x PNP	—	16x PNP	
Analog inputs	—	—	—	
Configurable inputs/outputs	yes	no	yes	
Additional function	Extension port	Extension port	Extension port	
Output current max.	300 mA	—	300 mA	
Housing material	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast	
Dimension	30 x 32.5 x 132 mm	30 x 32.5 x 132 mm	30 x 32.8 x 220 mm	
Ambient temperature	-5...70 °C	-5...70 °C	-5...70 °C	
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	3.5 ms	3.2 ms	4.0 ms	
Process data in	1 bytes	1 bytes	2 bytes	
Process data out	1 bytes	—	2 bytes	
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	BNI00AY BNI IOL-104-002-Z046	BNI000R BNI IOL-102-000-K019	BNI001Y BNI IOL-102-S01-K019	BNI0021 BNI IOL-104-000-K021	BNI0022 BNI IOL-104-S01-K021
Interface	IO-Link 1.1	IO-Link 1.0	IO-Link 1.0	IO-Link 1.0	IO-Link 1.0
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage IN)	—	—	—	—	—
Connection slots	16x M8x1-Female, 3-pole	8x M8x1-Female, 3-pole	8x M8x1-Female, 3-pole	8x M8x1-Female, 4-pole	8x M8x1-Female, 4-pole
Digital inputs	16x PNP, Type3	8x PNP, Type2	8x PNP, Type2	16x PNP, Type 2	16x PNP, Type 2
Digital outputs	—	—	—	—	—
Analog inputs	—	—	—	—	—
Configurable inputs/outputs	no	no	no	no	no
Additional function	Extension port	—	Single-channel monitoring	—	Single-channel monitoring
Output current max.	—	—	—	—	—
Housing material	Zinc, die-cast	PBT, GF	PBT, GF	PBT, GF	PBT, GF
Dimension	30 x 32.8 x 220 mm	30 x 24 x 129.5 mm	30 x 24 x 129.5 mm	30 x 24 x 129.5 mm	30 x 24 x 129.5 mm
Ambient temperature	-5...70 °C	-5...55 °C	-5...55 °C	-5...55 °C	-5...55 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	3.5 ms	2.5 ms	2.5 ms	2.5 ms	10 ms
Process data in	2 bytes	1 bytes	2 bytes	2 bytes	3 bytes
Process data out	—	—	—	—	—
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	BNI000P BNI IOL-101-000-K018	BNI001W BNI IOL-101-S01-K018	BNI00CN BNI IOL-302-S02-Z012
Interface	IO-Link 1.0	IO-Link 1.0	IO-Link 1.1
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage I _N)	—	—	—
Connection slots	4x M8x1-Female, 3-pole	4x M8x1-Female, 3-pole	8x M12x1-Female, 5-pole, A-coded
Digital inputs	4x PNP, Type2	4x PNP, Type2	16x PNP, Type3
Digital outputs	—	—	16x PNP
Analog inputs	—	—	—
Configurable inputs/outputs	no	no	yes
Additional function	—	Single-channel monitoring	Extension port, Single-channel monitoring
Output current max.	—	—	500 mA
Housing material	PBT, GF	PBT, GF	Zinc, die-cast
Dimension	30 x 24 x 85.5 mm	30 x 24 x 85.5 mm	68 x 31.8 x 181.5 mm
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	2.5 ms	2.5 ms	6.2 ms
Process data in	1 bytes	2 bytes	8 bytes
Process data out	—	—	2 bytes
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	BNI00CR BNI IOL-104-S02-Z012	BNI0063 BNI IOL-106-000-Z012	BNI0062 BNI IOL-106-S01-Z012	BNI0061 BNI IOL-106-S01-Z012-C01	BNI00AJ BNI IOL-719-002-Z012
Interface	IO-Link 1.1	IO-Link 1.1	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	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage I _N)	—	—	—	—	—
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded
Digital inputs	16x PNP, Type3	16x NPN, Type2	16x NPN, Type2	16x NPN, Type2	—
Digital outputs	—	—	—	—	—
Analog inputs	—	—	—	—	8x Analog, voltage/ANalog, current/analog, temperature (0...10 V/-10...10 V/0...5 V/-5...5 V/5...10 V/4...20 mA/0...20 mA/Pt100/Pt1000/Thermocouple Type J/Thermocouple Type K)
Configurable inputs/outputs	no	no	no	no	no
Additional function	Extension port, Single-channel monitoring	—	Single-channel monitoring	Single-channel monitoring, Identification 2 bytes	—
Output current max.	—	—	—	—	—
Housing material	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast
Dimension	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm
Ambient temperature	-5...55 °C	-5...70 °C	-5...70 °C	-5...70 °C	-5...70 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	4.4 ms	3.0 ms	3.5 ms	4.0 ms	55 ms
Process data in	4 bytes	2 bytes	4 bytes	6 bytes	22 bytes
Process data out	—	—	—	—	1 bytes
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	BNI003U BNI IOL-302-000-Z012	BNI0032 BNI IOL-104-000-Z012	BNI003T BNI IOL-104-S01-Z012-C01	
Interface	IO-Link 1.0	IO-Link 1.0	IO-Link 1.0	
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	
Connection (supply voltage IN)	—	—	—	
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	
Digital inputs	16x PNP, Type 2	16x PNP, Type 2	16x PNP, Type 2	
Digital outputs	16x PNP	—	—	
Analog inputs	—	—	—	
Configurable inputs/outputs	yes	no	no	
Additional function	—	—	Single-channel monitoring, Identification 2 bytes	
Output current max.	500 mA	—	—	
Housing material	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast	
Dimension	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	
Ambient temperature	-5...70 °C	-5...70 °C	-5...70 °C	
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	12 ms	3.0 ms	18 ms	
Process data in	2 bytes	2 bytes	6 bytes	
Process data out	2 bytes	—	—	
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	BNI005P BNI IOL-104-S01-Z012-C02	BNI0031 BNI IOL-102-000-Z012	BNI0043 BNI IOL-205-000-Z012	BNI00CM BNI IOL-302-002-Z042	BNI0046 BNI IOL-302-502-Z013
Interface	IO-Link 1.0	IO-Link 1.0	IO-Link 1.0	IO-Link 1.1	IO-Link 1.1
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage IN)	—	—	—	—	7/8"-Male, 5-pole
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded
Digital inputs	16x PNP, Type 2	8x PNP, Type2	—	16x PNP, Type3	16x PNP, Type3
Digital outputs	—	—	16x PNP	16x PNP	16x PNP
Analog inputs	—	—	—	—	—
Configurable inputs/outputs	no	no	no	yes	yes
Additional function	Single-channel monitoring, Identification 4 bytes	—	—	Extension port	Extension port, Single-channel monitoring
Output current max.	—	—	500 mA	2 A	2 A
Housing material	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast
Dimension	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	68 x 31.8 x 181.5 mm	68 x 32.4 x 181.5 mm
Ambient temperature	-5...70 °C	-5...70 °C	-5...70 °C	-5...55 °C	-5...55 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	24 ms	3.0 ms	3.0 ms	4.4 ms	6.2 ms
Process data in	8 bytes	1 bytes	—	2 bytes	8 bytes
Process data out	—	—	2 bytes	2 bytes	2 bytes
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	BNI0035 BNI IOL-302-000-Z013	BNI0048 BNI IOL-302-S01-Z013-C01	BNI00CP BNI IOL-302-S02-Z026	
Interface	IO-Link 1.0	IO-Link 1.0	IO-Link 1.1	
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	
Connection (supply voltage I _N)	7/8"-Male, 5-pole	7/8"-Male, 5-pole	7/8"-Male, 4-pole	
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	
Digital inputs	16x PNP, Type 2	16x PNP, Type 2	16x PNP, Type3	
Digital outputs	16x PNP	16x PNP	16x PNP	
Analog inputs	—	—	—	
Configurable inputs/outputs	yes	yes	yes	
Additional function	—	Single-channel monitoring, Identification 2 bytes	Extension port, Single-channel monitoring	
Output current max.	2 A	2 A	2 A	
Housing material	Zinc, die-cast	Zinc, die-cast	Zinc, die-cast	
Dimension	68 x 32.4 x 181.5 mm	68 x 32.4 x 181.5 mm	68 x 32.4 x 181.5 mm	
Ambient temperature	-5...70 °C	-5...70 °C	-5...55 °C	
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	12 ms	30 ms	5.6 ms	
Process data in	2 bytes	10 bytes	6 bytes	
Process data out	2 bytes	2 bytes	2 bytes	
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	BNI0050 BNI IOL-302-000-Z026	BNI00AR BNI IOL-302-002-E012	BNI00AP BNI IOL-104-002-E012	BNI00AT BNI IOL-302-002-E013	BNI0090 BNI IOL-104-S02-R012
Interface	IO-Link 1.0	IO-Link 1.1	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	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage I _N)	7/8"-Male, 4-pole	—	—	7/8"-Male, 5-pole	—
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded
Digital inputs	16x PNP, Type 2	16x PNP, Type3	16x PNP, Type3	16x PNP, Type3	16x PNP, Type3
Digital outputs	16x PNP	16x PNP	—	16x PNP	—
Analog inputs	—	—	—	—	—
Configurable inputs/outputs	yes	yes	no	yes	no
Additional function	—	Extension port	Extension port	Extension port	Extension port, Single-channel monitoring
Output current max.	2 A	2 A	—	2 A	—
Housing material	Zinc, die-cast	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)	PPS
Dimension	68 x 32.4 x 181.5 mm	70 x 37.9 x 185.6 mm	70 x 37.9 x 185.6 mm	70 x 38.5 x 185.6 mm	68 x 36.8 x 183.5 mm
Ambient temperature	-5...70 °C	-5...70 °C	-5...70 °C	-5...70 °C	-5...70 °C
Protection degree	IP67 when threaded in	IP69 when threaded in	IP69 when threaded in	IP69 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	12 ms	4.0 ms	3.5 ms	4.0 ms	4.5 ms
Process data in	2 bytes	2 bytes	2 bytes	2 bytes	4 bytes
Process data out	2 bytes	2 bytes	—	2 bytes	—
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	BNI0091 BNI IOL-302-S02-R026	BNI005L BNI IOL-302-000-K006	BNI005U BNI IOL-302-000-K006-C01
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 (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage I _N)	7/8"-Male, 4-pole	—	—
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded
Digital inputs	16x PNP, Type3	16x PNP, Type3	16x PNP, Type3
Digital outputs	16x PNP	16x PNP	16x PNP
Analog inputs	—	—	—
Configurable inputs/outputs	yes	yes	yes
Additional function	Extension port, Single-channel monitoring	—	Identification 2 bytes
Output current max.	2 A	350 mA	350 mA
Housing material	PPS	PA, Transparent	PA, Transparent
Dimension	68 x 37.6 x 183.5 mm	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm
Ambient temperature	-5...70 °C	-5...55 °C	-5...55 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	6.0 ms	3.5 ms	4.0 ms
Process data in	6 bytes	2 bytes	4 bytes
Process data out	2 bytes	2 bytes	2 bytes
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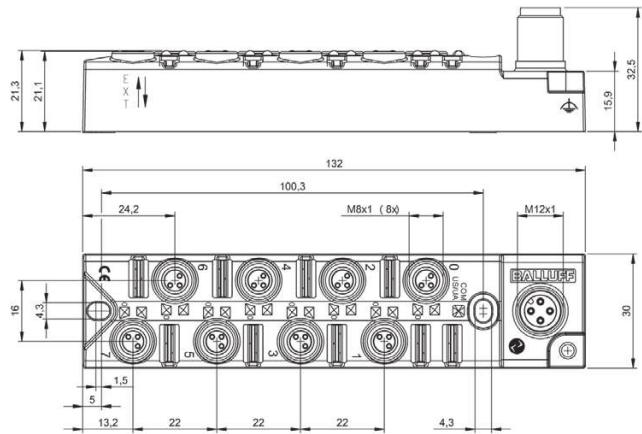
	BNI007Z BNI IOL-302-002-K006	BNI005T BNI IOL-302-S01-K006	BNI005W BNI IOL-302-S01-K006-C01	BNI00AF BNI IOL-311-002-K006	BNI00AW BNI IOL-311-S02-K006-C01
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage I _N)	—	—	—	—	—
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded
Digital inputs	16x PNP, Type3	16x PNP, Type3	16x PNP, Type3	16x NPN, Type3	16x NPN, Type3
Digital outputs	16x PNP	16x PNP	16x PNP	16x NPN	16x NPN
Analog inputs	—	—	—	—	—
Configurable inputs/outputs	yes	yes	yes	yes	yes
Additional function	Extension port	Single-channel monitoring	Single-channel monitoring, Identification 2 bytes	Extension port	Extension port, Single-channel monitoring, Identification 2 bytes
Output current max.	300 mA	350 mA	350 mA	350 mA	350 mA
Housing material	PA, Transparent	PA, Transparent	PA, Transparent	PA, Transparent	PA, Transparent
Dimension	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C	-5...55 °C	-5...55 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	3.5 ms	5.0 ms	5.5 ms	3.5 ms	6.0 ms
Process data in	2 bytes	8 bytes	10 bytes	2 bytes	10 bytes
Process data out	2 bytes	2 bytes	2 bytes	2 bytes	2 bytes
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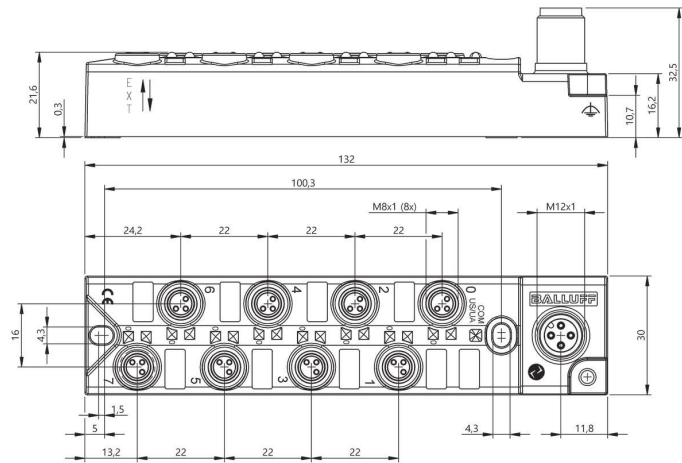
	BNI0074 BNI IOL-106-000-K006	BNI0075 BNI IOL-106-S01-K006	BNI0076 BNI IOL-106-S01-K006-C01
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded
Connection (supply voltage I _N)	—	—	—
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded
Digital inputs	16x NPN, Type2	16x NPN, Type2	16x NPN, Type2
Digital outputs	—	—	—
Analog inputs	—	—	—
Configurable inputs/outputs	no	no	no
Additional function	—	Single-channel monitoring	Single-channel monitoring, Identification 2 bytes
Output current max.	—	—	—
Housing material	PA, Transparent	PA, Transparent	PA, Transparent
Dimension	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	3.0 ms	3.5 ms	4.0 ms
Process data in	2 bytes	4 bytes	6 bytes
Process data out	—	—	—
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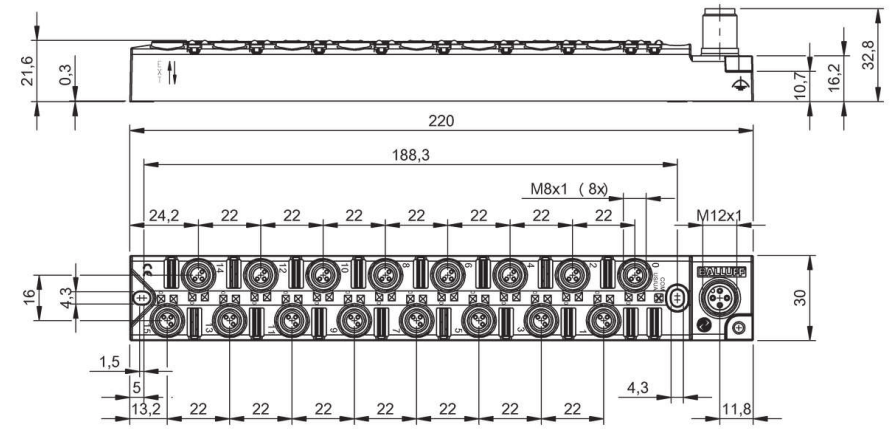
	BNI0006 BNI IOL-104-000-K006	BNI0005 BNI IOL-102-000-K006	BNI0007 BNI IOL-709-000-K006	BNI0008 BNI IOL-710-000-K006	BNI007P BNI IOL-309-000-K024-001
Interface	IO-Link 1.0	IO-Link 1.0	IO-Link 1.0	IO-Link 1.0	IO-Link 1.0
Operating voltage U _b	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	Pluggable without terminals
Connection (supply voltage I _N)	—	—	—	—	Pluggable without terminals
Connection slots	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded	Pluggable without terminals
Digital inputs	16x PNP, Type 2	8x PNP, Type2	8x PNP, Type2	8x PNP, Type2	8x PNP, Type2
Digital outputs	—	—	—	—	8x PNP
Analog inputs	—	—	4x Analog, current (4...20 mA)	4x Analog, voltage (0...10 V)	—
Configurable inputs/outputs	no	no	no	no	yes
Additional function	—	—	—	—	—
Output current max.	—	—	—	—	350 mA
Housing material	PA, Transparent	PA, Transparent	PA, Transparent	PA, Transparent	PA 6.6, UL94V-0
Dimension	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm	50 x 30.8 x 115 mm	48.6 x 33.6 x 84 mm
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C	-5...55 °C	-5...50 °C
Protection degree	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP67 when threaded in	IP20
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	3.0 ms	3.0 ms	30 ms	30 ms	3.0 ms
Process data in	2 bytes	1 bytes	10 bytes	10 bytes	1 bytes
Process data out	—	—	—	—	1 bytes
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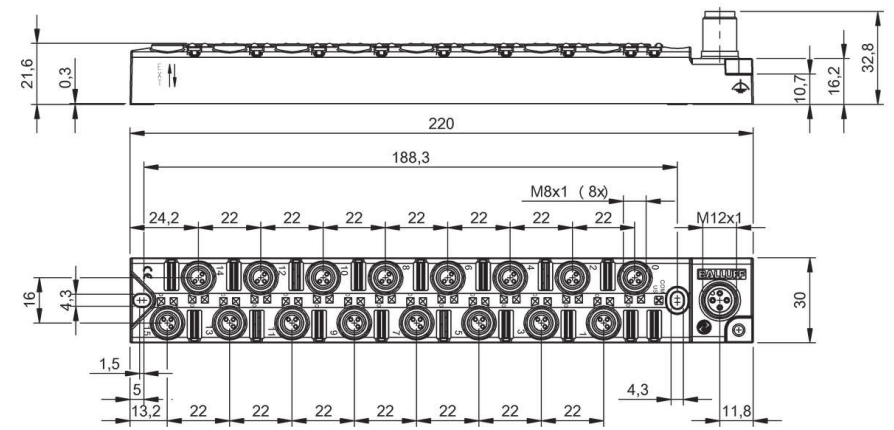
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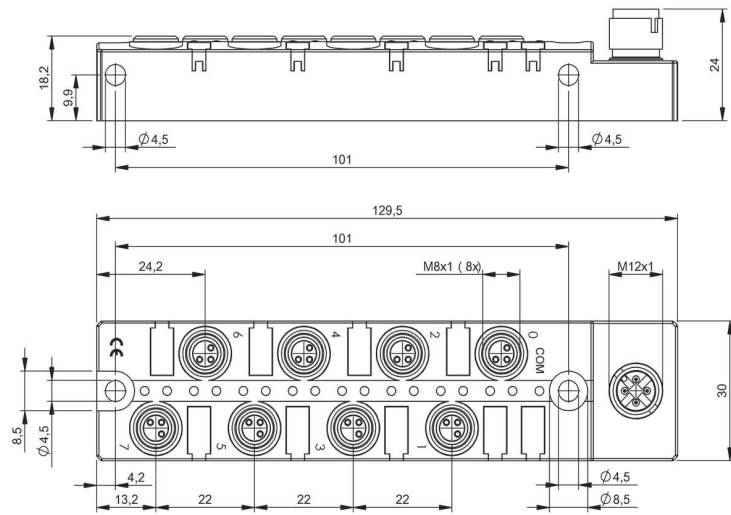
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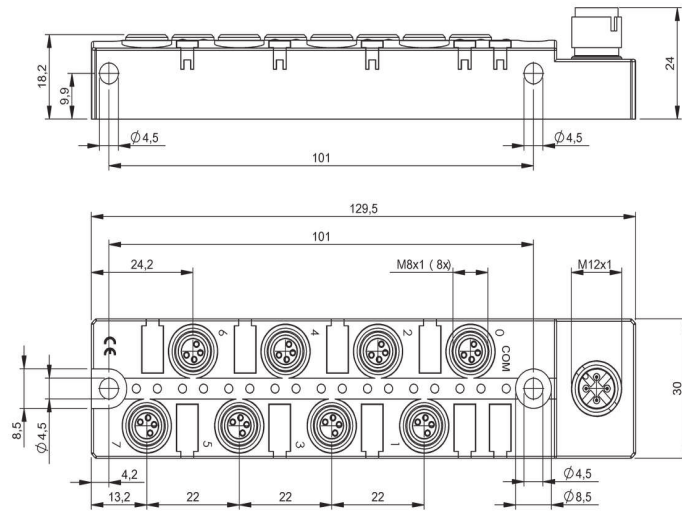
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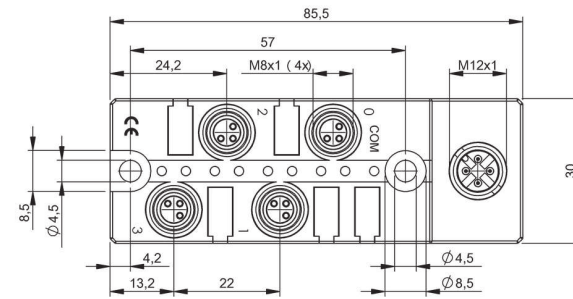
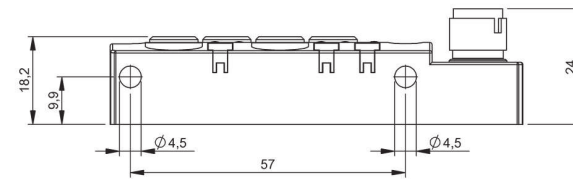
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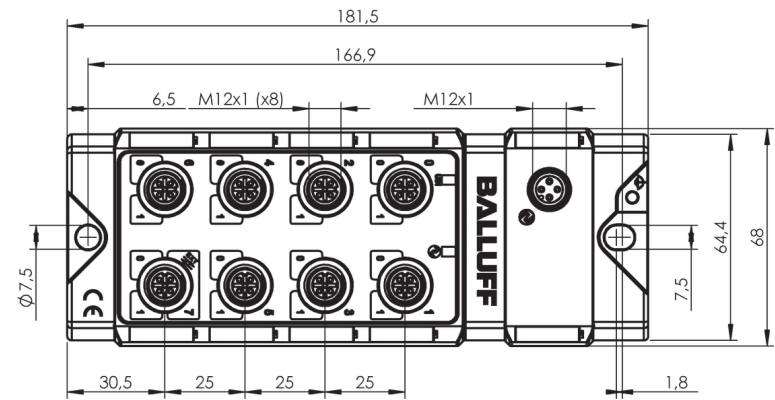
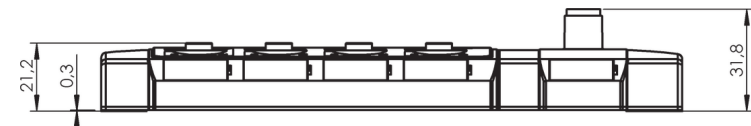
BNI000R, BNI001Y



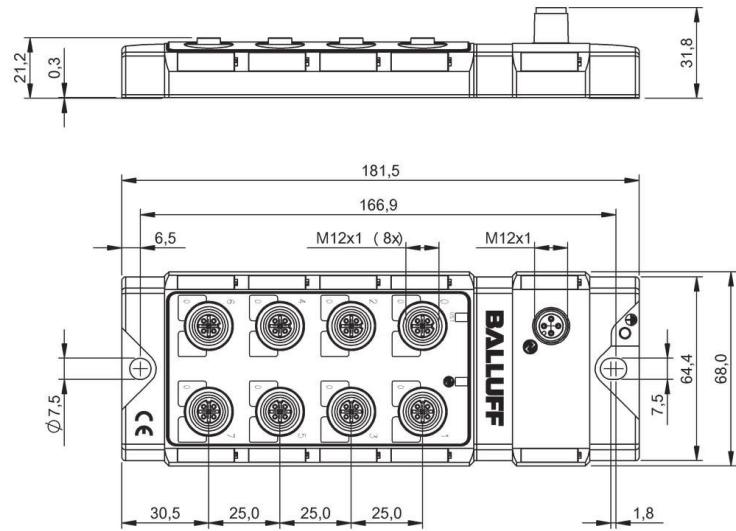
BNI0021, BNI0022



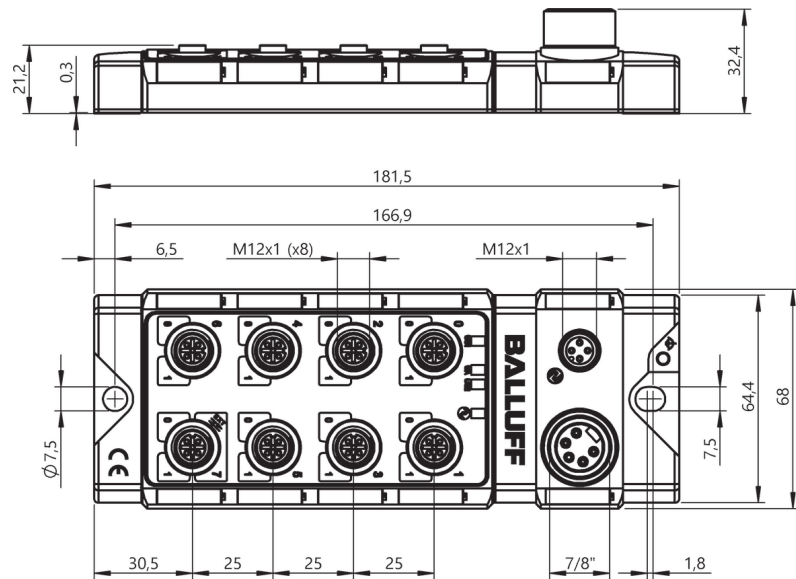
BNI000P, BNI001W



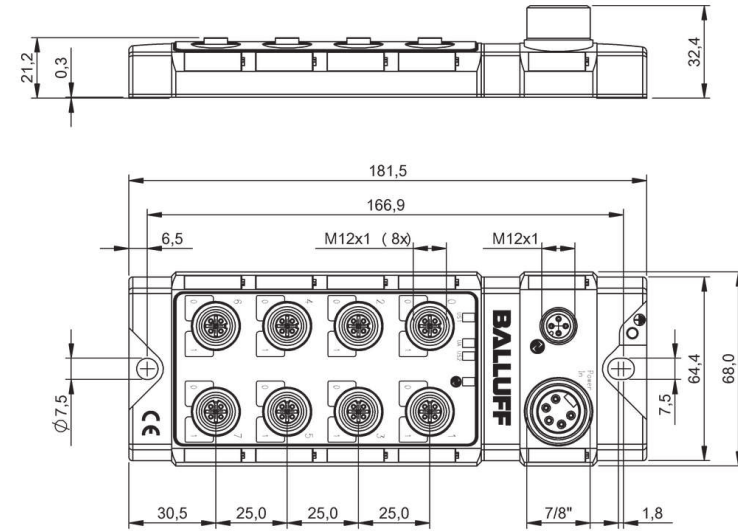
BNI000CN, BNI000CR, BNI000CM



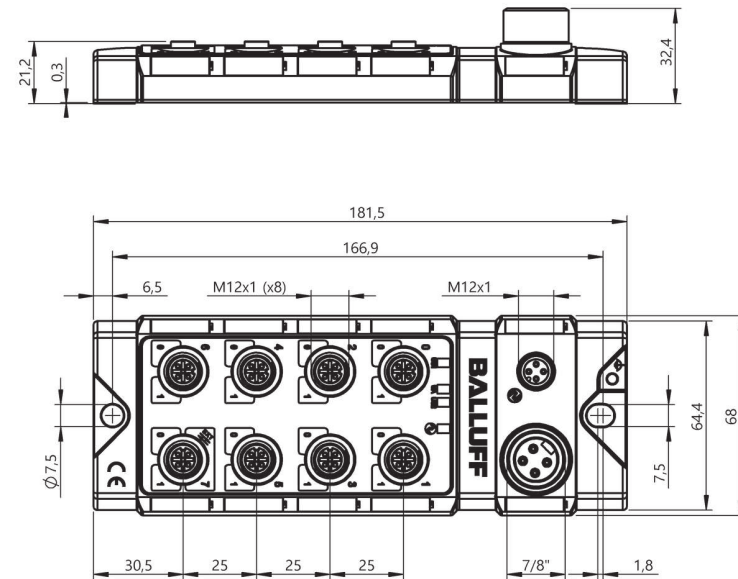
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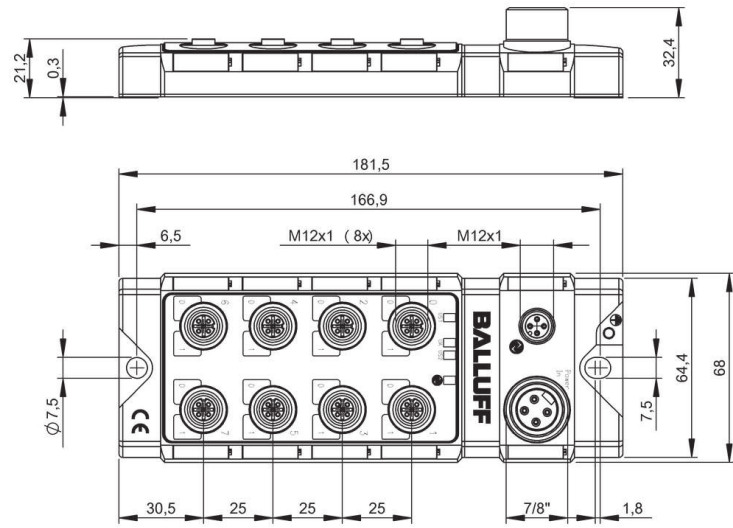
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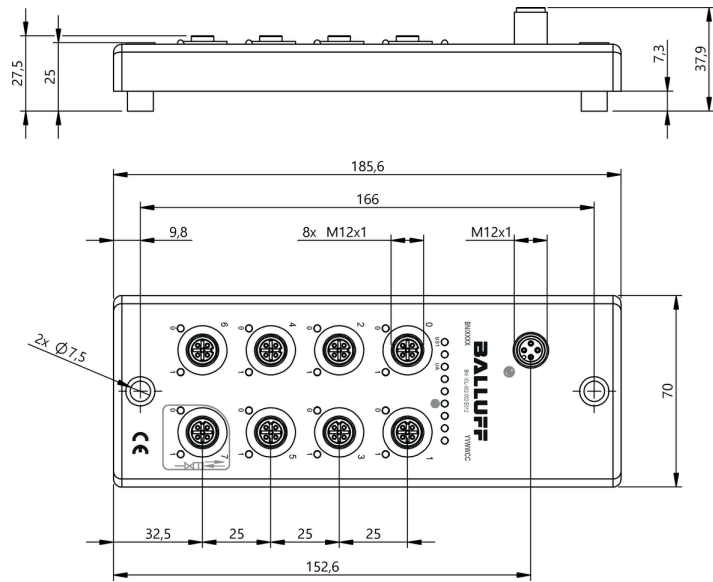
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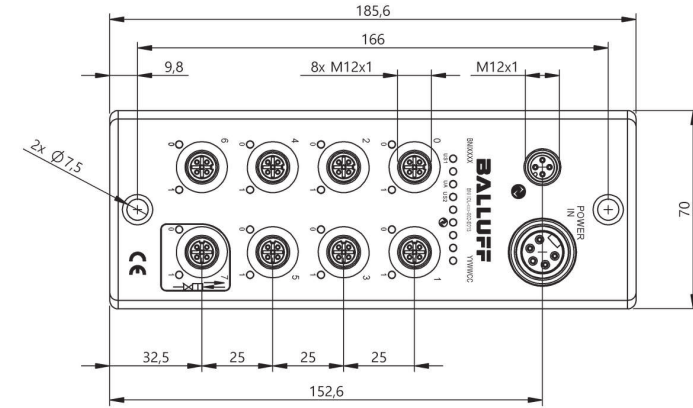
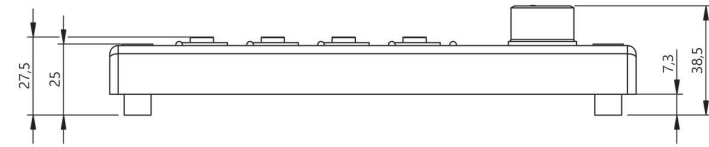
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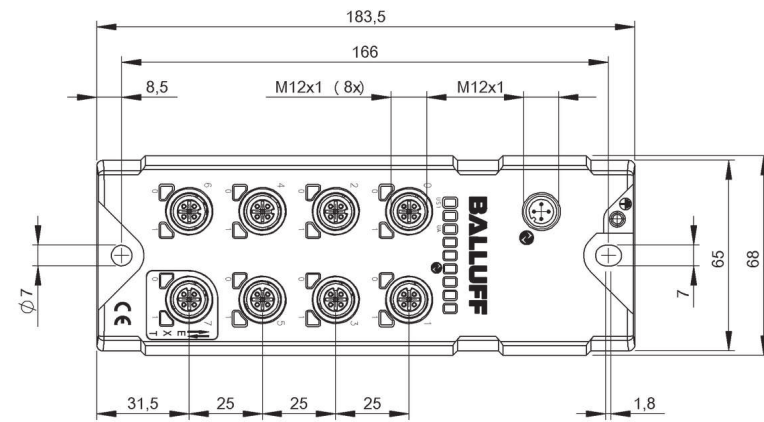
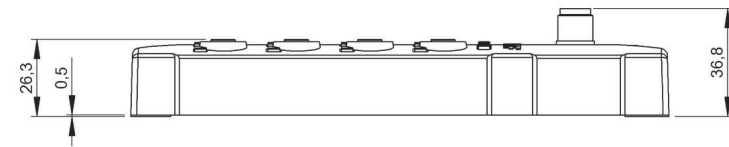
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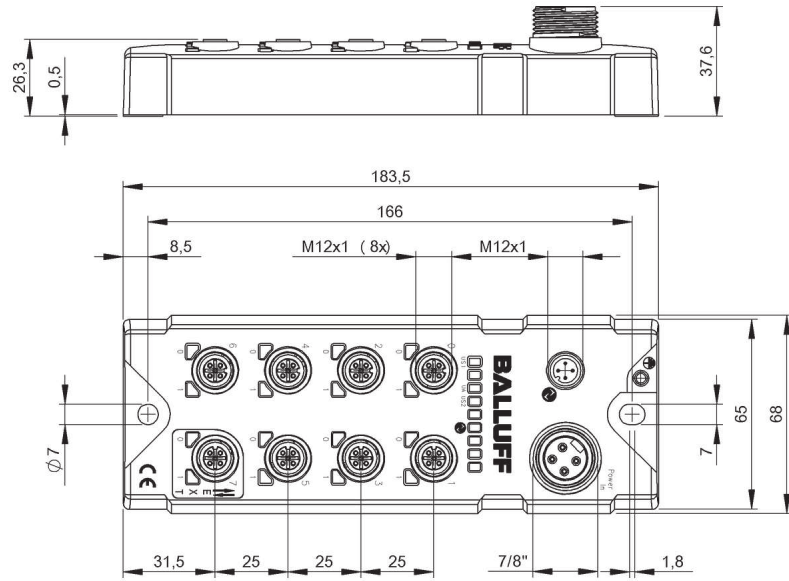
BNI00AR, BNI00AP



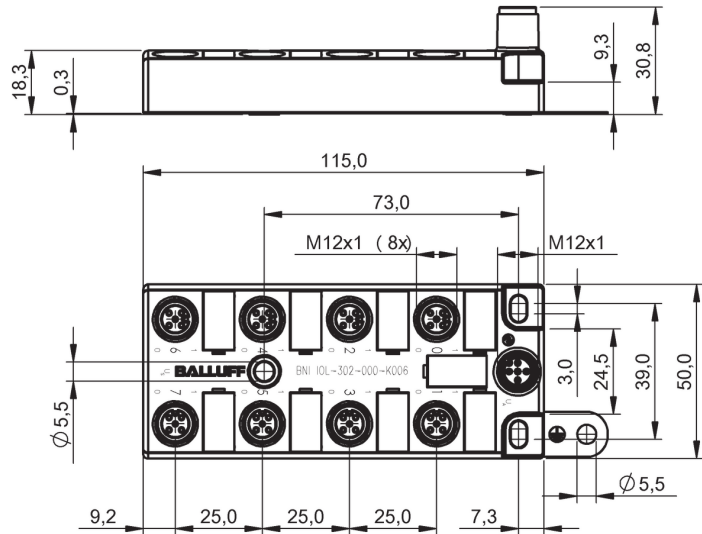
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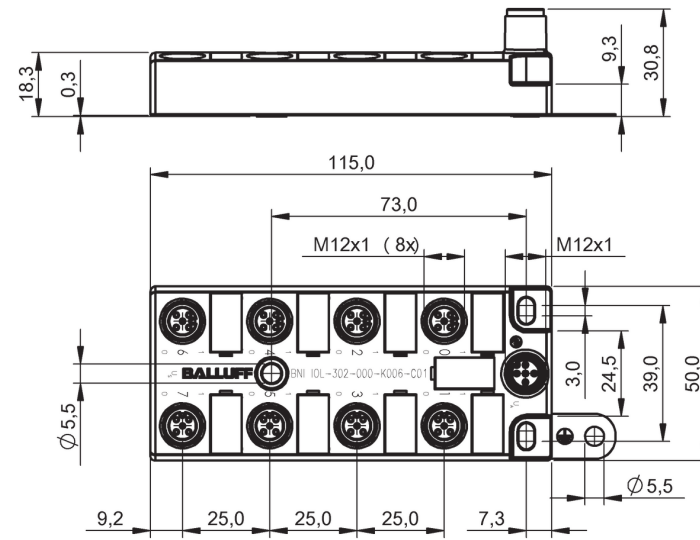
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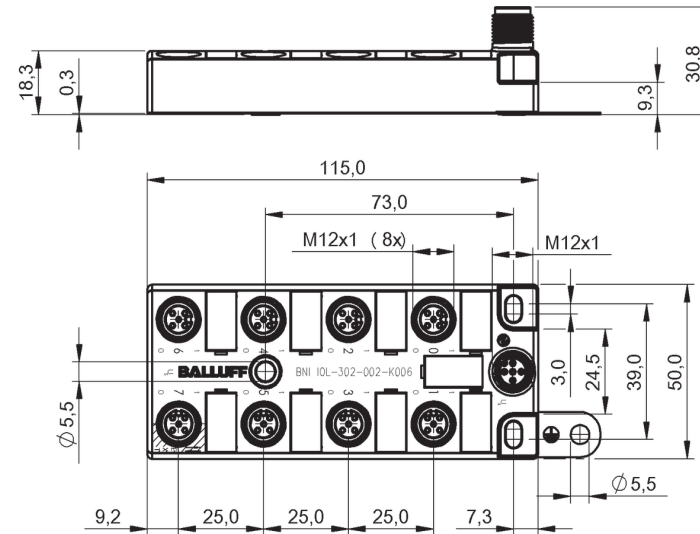
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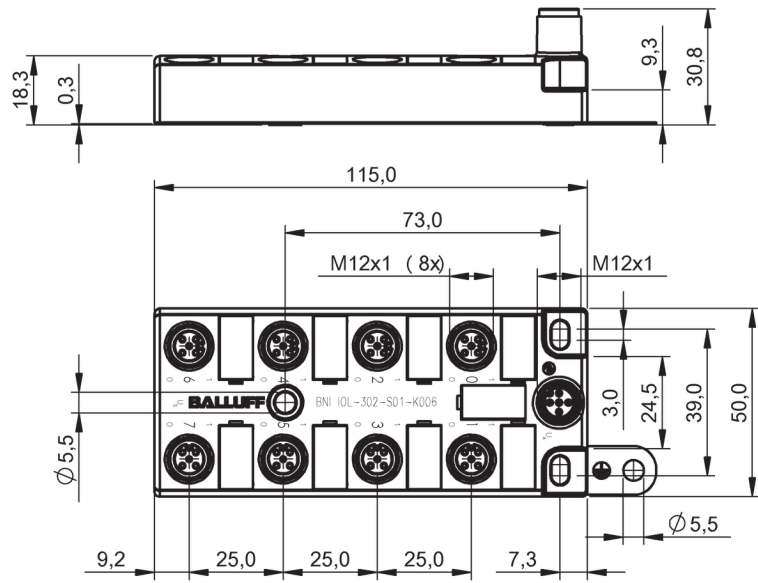
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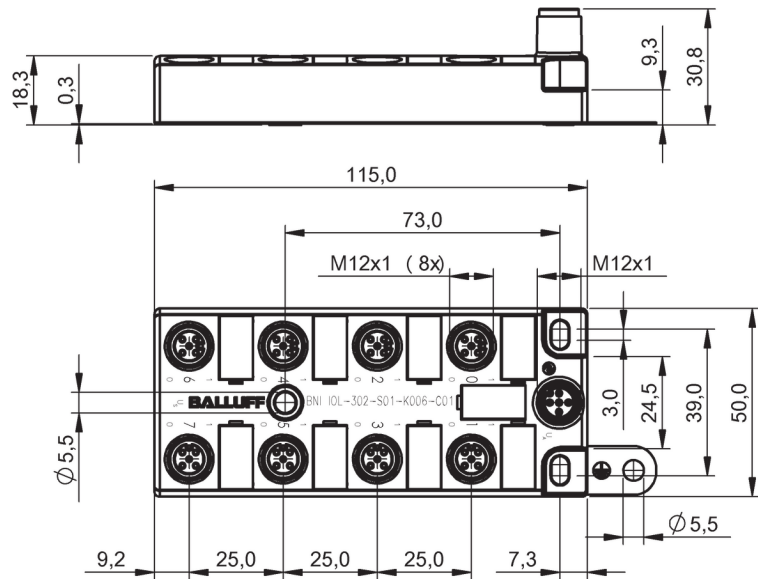
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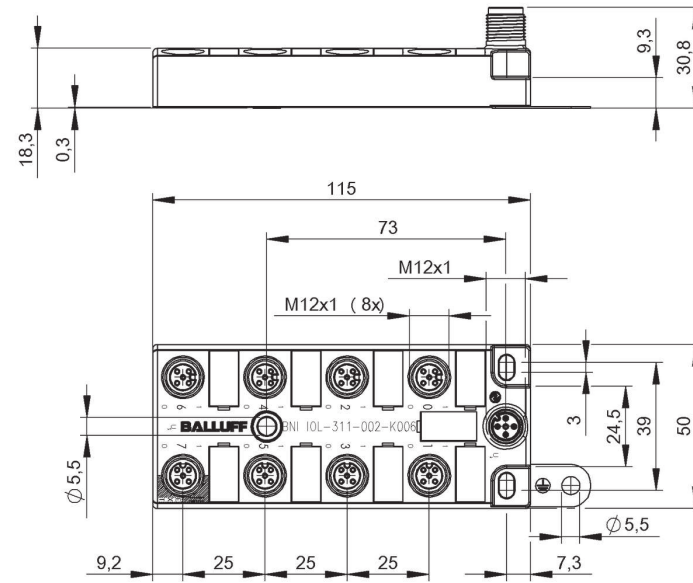
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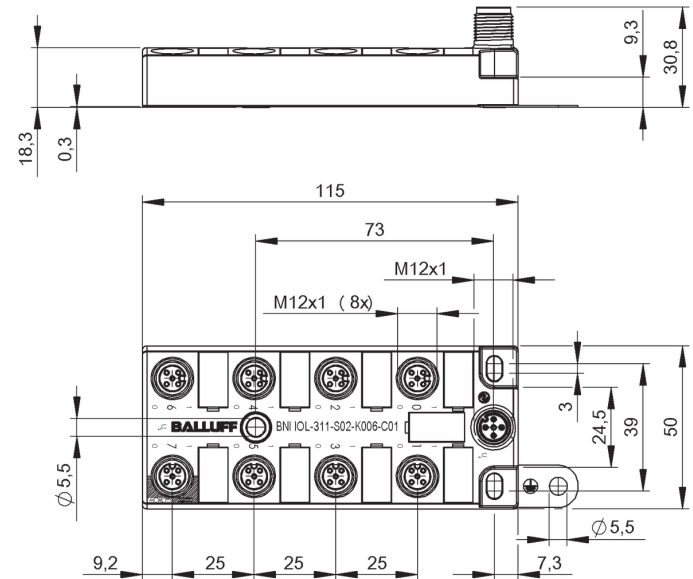
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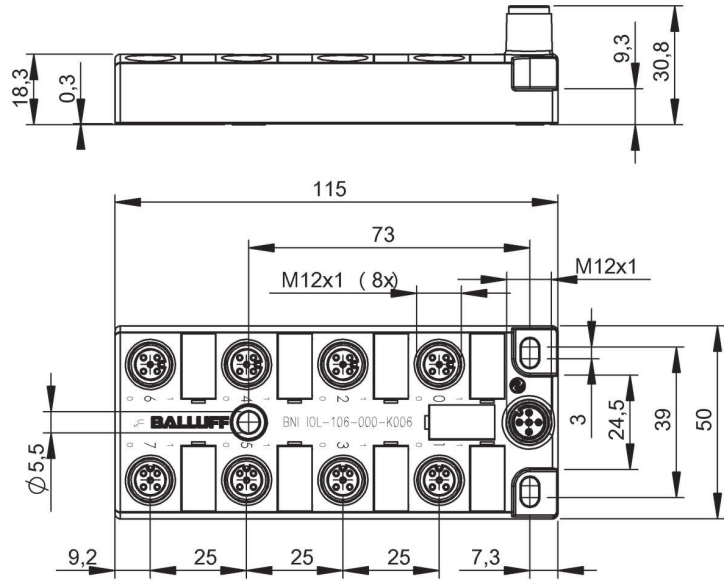
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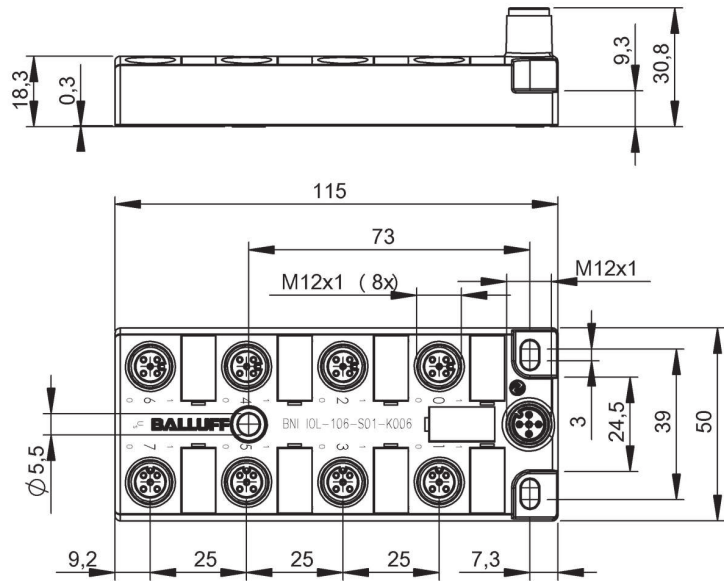
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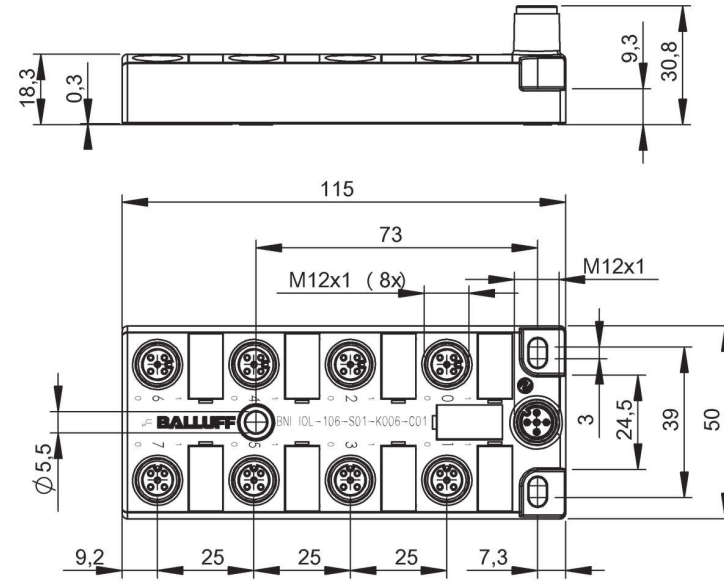
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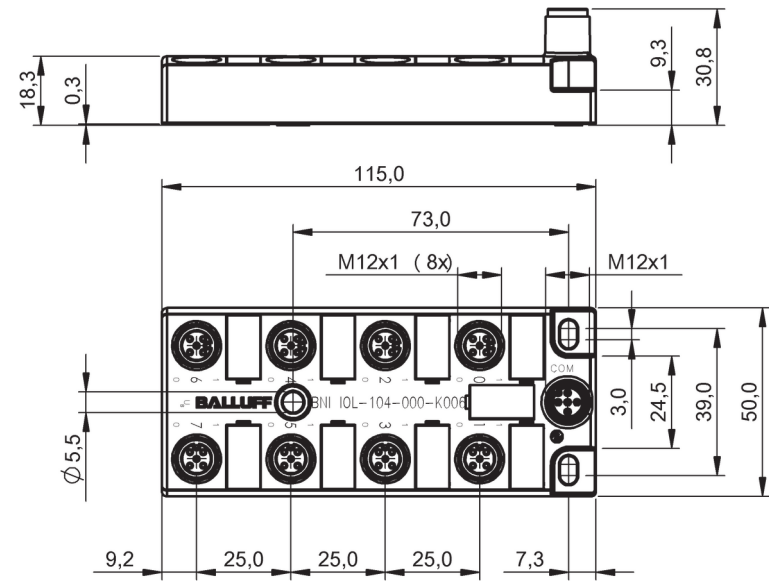
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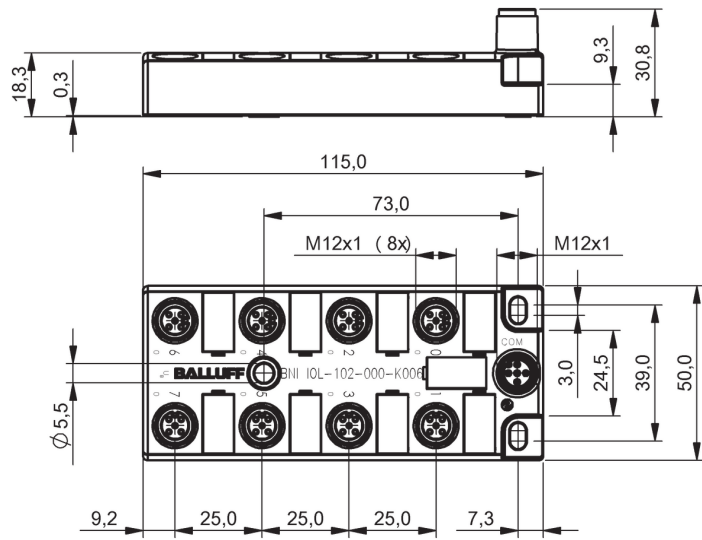
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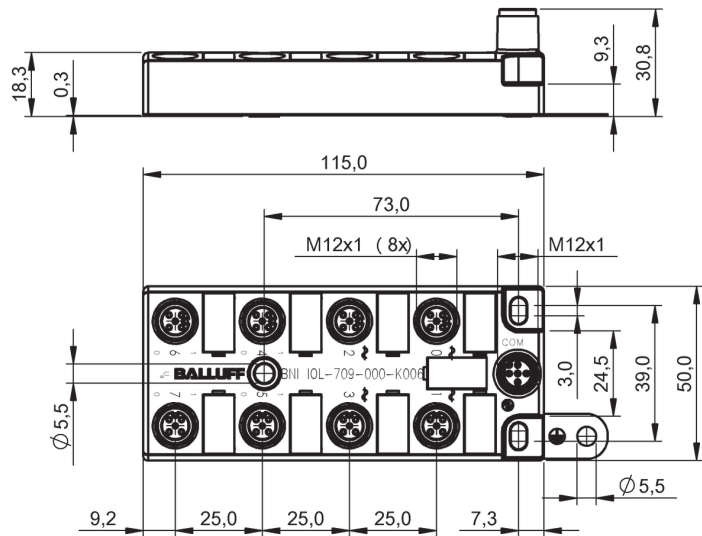
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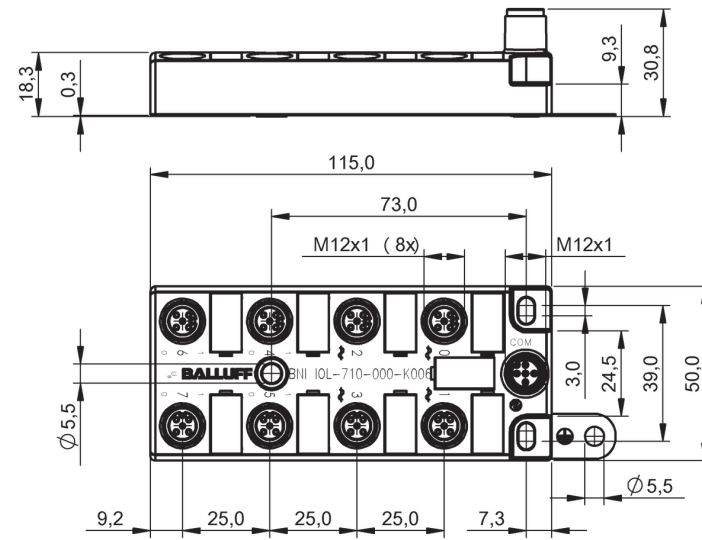
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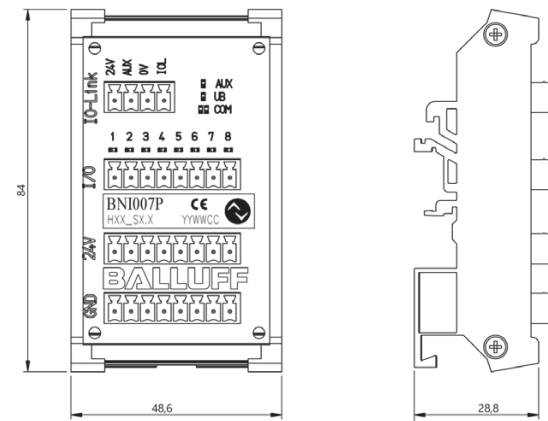
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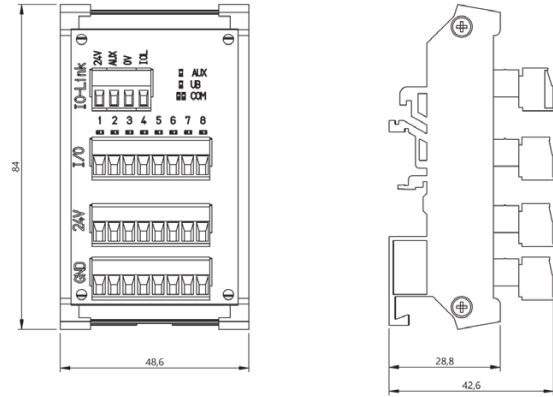
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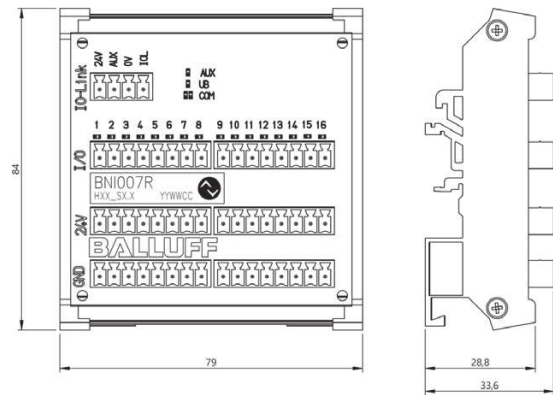
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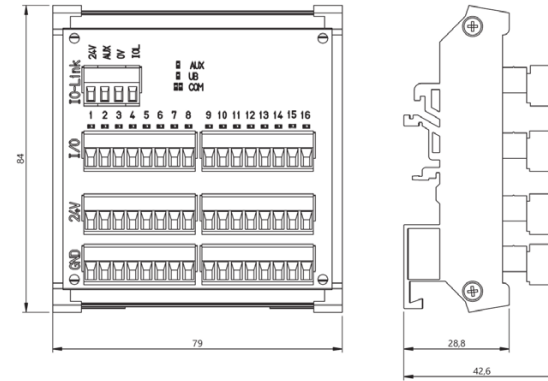
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BNI004K



BNI007R



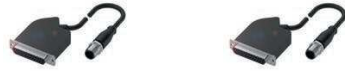
BNI004L



	BNI006J BNI IOL-750-V08-K007	BNI006E BNI IOL-750-V09-K007	
Version	Valve interface	Valve interface	
Application	Festo with D-Sub female, 25-pin, GND in Pin 25, Bosch Rexroth LS04, Bürkert Typ 8640	Festo with D-Sub female, 25-pin, GND in Pin 25, Bosch Rexroth LS04	
Interface	IO-Link 1.1	IO-Link 1.1	
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	
Valve terminal connection	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole	
Cable length L	0.6 m	0.6 m	
Outputs, number	24	16	
Output current max. UA, actuator	400 mA	400 mA	
Current sum UA, actuator	1.2 A	1.2 A	
Function	3-pin connection, Actuator supply on Pin 1	3-pin connection, Actuator supply on Pin 1	
Housing material	PA	PA	
Dimension	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm	
Ambient temperature	-5...55 °C	-5...55 °C	
Protection degree	IP40 plugged in	IP40 plugged in	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	3.5 ms	3.0 ms	
Process data in	—	—	
Process data out	4 bytes	2 bytes	
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	BNI006K BNI IOL-750-V10-K007	BNI006H BNI IOL-750-V11-K007	BNI006L BNI IOL-751-V13-K007	BNI006N BNI IOL-751-V08-K007
Version	Valve interface	Valve interface	Valve interface	Power Aux valve terminal connector
Application	SMC VQC 1000/2000/4000	SMC VQC 1000/2000/4000	Numatics	Festo with D-Sub female, 25-pin, GND in Pin 25, Bosch Rexroth LS04, Bürkert Typ 8640
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded
Valve terminal connection	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole
Cable length L	0.6 m	0.6 m	0.6 m	0.6 m
Outputs, number	24	16	22	24
Output current max. UA, actuator	400 mA	400 mA	400 mA	400 mA
Current sum UA, actuator	1.2 A	1.2 A	1.2 A	1.2 A
Function	3-pin connection, Actuator supply on Pin 1	3-pin connection, Actuator supply on Pin 1	3-pin connection, Actuator supply on Pin 1	4-pin connection, Power Aux on Pin 2
Housing material	PA	PA	PA	PA
Dimension	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C	-5...55 °C
Protection degree	IP40 plugged in	IP40 plugged in	IP40 plugged in	IP40 plugged in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	3.5 ms	3.0 ms	3.5 ms	3.5 ms
Process data in	—	—	—	—
Process data out	4 bytes	2 bytes	4 bytes	4 bytes
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	BNI006M BNI IOL-751-V09-K007	BNI006P BNI IOL-751-V10-K007	
Version	Power Aux valve terminal connector	Power Aux valve terminal connector	
Application	Festo with D-Sub female, 25-pin, GND in Pin 25, Bosch Rexroth LS04	SMC VQC 1000/2000/4000	
Interface	IO-Link 1.1	IO-Link 1.1	
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	
Valve terminal connection	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole	
Cable length L	0.6 m	0.6 m	
Outputs, number	16	24	
Output current max. UA, actuator	400 mA	400 mA	
Current sum UA, actuator	1.2 A	1.2 A	
Function	4-pin connection, Power Aux on Pin 2	4-pin connection, Power Aux on Pin 2	
Housing material	PA	PA	
Dimension	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm	
Ambient temperature	-5...55 °C	-5...55 °C	
Protection degree	IP40 plugged in	IP40 plugged in	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	3.0 ms	3.5 ms	
Process data in	—	—	
Process data out	2 bytes	4 bytes	
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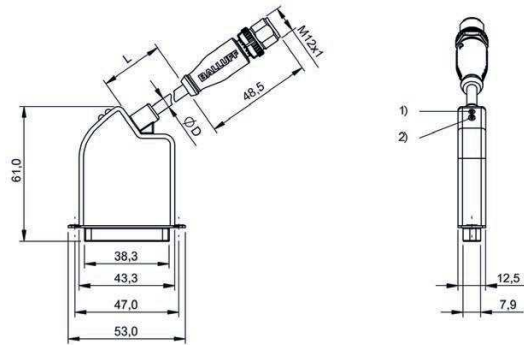
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Version	Power Aux valve terminal connector	Power Aux valve terminal connector	Power Aux valve terminal connector	Power Aux valve terminal connector
Application	SMC VQC 1000/2000/4000	Numatics	Festo with D-Sub female, 25-pin, GND in Pin 25, Bosch Rexroth LS04, Bürkert Typ 8640	Festo with D-Sub female, 25-pin, GND in Pin 25, Bosch Rexroth LS04
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded
Valve terminal connection	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole
Cable length L	0.6 m	0.6 m	0.6 m	0.6 m
Outputs, number	16	22	24	16
Output current max. UA, actuator	400 mA	400 mA	400 mA	400 mA
Current sum UA, actuator	1.2 A	1.2 A	1.2 A	1.2 A
Function	4-pin connection, Power Aux on Pin 2	4-pin connection, Power Aux on Pin 2	5-pin connection, Power Aux on Pin 2, also 0V on Pin 5	5-pin connection, Power Aux on Pin 2, also 0V on Pin 5
Housing material	PA	PA	PA	PA
Dimension	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C	-5...55 °C
Protection degree	IP40 plugged in	IP40 plugged in	IP40 plugged in	IP40 plugged in
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)
Process data cycle min.	3.0 ms	3.5 ms	3.5 ms	3.0 ms
Process data in	—	—	—	—
Process data out	2 bytes	4 bytes	4 bytes	2 bytes
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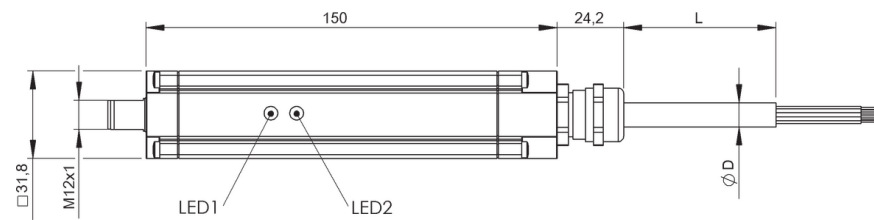
	BNI006Z BNI IOL-752-V10-K007	BNI006W BNI IOL-752-V11-K007	
Version	Power Aux valve terminal connector	Power Aux valve terminal connector	
Application	SMC VQC 1000/2000/4000	SMC VQC 1000/2000/4000	
Interface	IO-Link 1.1	IO-Link 1.1	
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	
Valve terminal connection	D-Sub-Female, 25-pole	D-Sub-Female, 25-pole	
Cable length L	0.6 m	0.6 m	
Outputs, number	24	16	
Output current max. UA, actuator	400 mA	400 mA	
Current sum UA, actuator	1.2 A	1.2 A	
Function	5-pin connection, Power Aux on Pin 2, also 0V on Pin 5	5-pin connection, Power Aux on Pin 2, also 0V on Pin 5	
Housing material	PA	PA	
Dimension	53 x 61 x 12.5 mm	53 x 61 x 12.5 mm	
Ambient temperature	-5...55 °C	-5...55 °C	
Protection degree	IP40 plugged in	IP40 plugged in	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	3.5 ms	3.0 ms	
Process data in	—	—	
Process data out	4 bytes	2 bytes	
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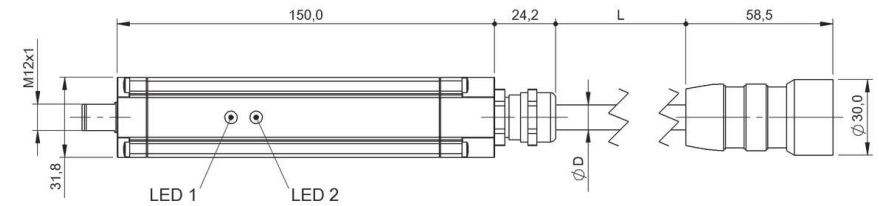
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Version	Power Aux valve terminal connector	Power Aux valve terminal connector	Power Aux valve terminal connector	
Application	Numatics	open cable end	SMC VQC 1000/2000/4000	
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	M12x1-Male, 5-pole, A-coded	
Valve terminal connection	D-Sub-Female, 25-pole	—	M27-Female, 26-pole, A-coded	
Cable length L	0.6 m	0.5 m	0.5 m	
Outputs, number	22	24	24	
Output current max. UA, actuator	400 mA	400 mA	400 mA	
Current sum UA, actuator	1.2 A	1.2 A	1.2 A	
Function	5-pin connection, Power Aux on Pin 2, also 0V on Pin 5	4-pin connection, Power Aux on Pin 2, Diagnostics	4-pin connection, Power Aux on Pin 2, Diagnostics	
Housing material	PA	Aluminum	Aluminum	
Dimension	53 x 61 x 12.5 mm	31.8 x 31.8 x 185 mm	31.8 x 31.8 x 185 mm	
Ambient temperature	-5...55 °C	-5...70 °C	-5...70 °C	
Protection degree	IP40 plugged in	IP67 plugged in	IP67 plugged in	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	3.5 ms	5.5 ms	5.5 ms	
Process data in	—	9 bytes	9 bytes	
Process data out	4 bytes	4 bytes	4 bytes	
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BN1006J, BN1006E, BN1006K, BN1006H, BN1006L, BN1006N, BN1006M, BN1006P, BN1006T, BN1006R, BN1006Y, BN1006U, BN1006Z, BN1006W, BN1006F



BN1007E



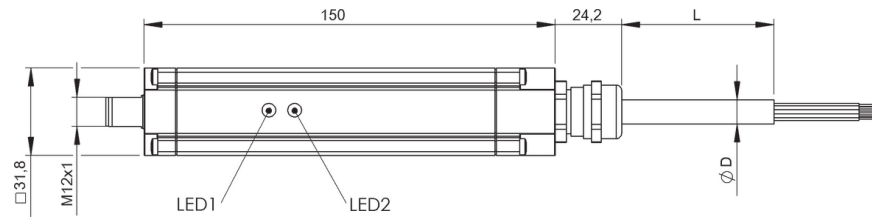
BN1004W



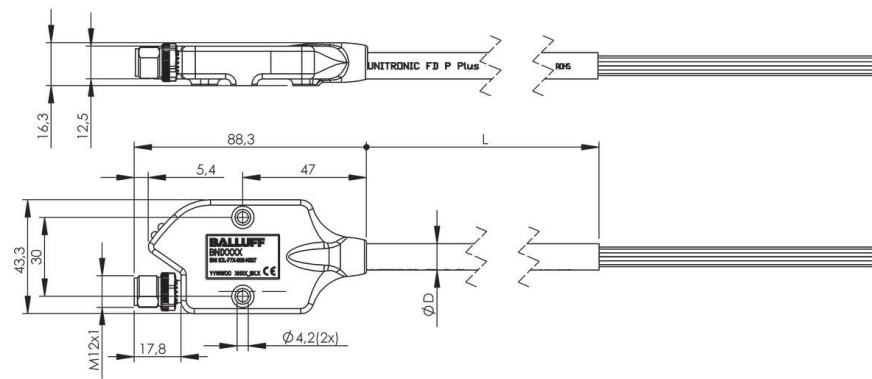
	BNI005Z BNI IOL-771-000-A027	BNI005M BNI IOL-771-000-K027	BNI00CA BNI IOL-771-002-K027-003	
Version	Universal cable I/O interface	Universal cable I/O interface	Universal cable I/O interface	
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	
Connection for sensor	Leads	Leads	Leads	
Cable length L	0.5 m	0.5 m	3 m	
Digital inputs	16x PNP, Type3	16x PNP, Type3	16x PNP, Type3	
Digital outputs	16x PNP	16x PNP	16x PNP	
Configurable inputs/outputs	yes	yes	yes	
Output current max.	400 mA	400 mA	400 mA	
Additional function	Diagnostics (under-current, coil wire break), Output voltage on Pin 2	—	—	
Housing material	Aluminum	PA	PA	
Dimension	31.8 x 31.8 x 193.2 mm	43.3 x 16.3 x 88.3 mm	43.3 x 16.3 x 88.3 mm	
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C	
Protection degree	IP67 when threaded in	IP54 up to open cable end	IP54 up to open cable end	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	4 ms	4 ms	4 ms	
Process data in	2 bytes	2 bytes	2 bytes	
Process data out	2 bytes	2 bytes	2 bytes	
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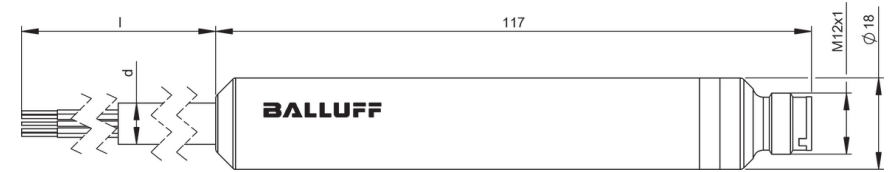
	BNI005Y BNI IOL-772-000-A027	BNI005N BNI IOL-772-000-K027	BNI00CC BNI IOL-772-002-K027-003	BNI00AE BNI IOL-772-002-E032	
Version	Universal cable I/O interface	Universal cable I/O interface	Universal cable I/O interface	Universal cable I/O interface	
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	
Operating voltage Ub	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC	
Connection (COM 1)	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	M12x1-Male, 4-pole, A-coded	
Connection for sensor	Leads	Leads	Leads	Leads	
Cable length L	0.5 m	0.5 m	3 m	1.3 m	
Digital inputs	8x PNP, Type3	8x PNP, Type3	8x PNP, Type3	8x PNP, Type3	
Digital outputs	8x PNP	8x PNP	8x PNP	8x PNP	
Configurable inputs/outputs	yes	yes	yes	yes	
Output current max.	400 mA	400 mA	400 mA	400 mA	
Additional function	Diagnostics (under-current, coil wire break), Output voltage on Pin 2	—	—	—	
Housing material	Aluminum	PA	PA	Stainless steel (1.4305)	
Dimension	31.8 x 31.8 x 193.2 mm	43.3 x 16.3 x 88.3 mm	43.3 x 16.3 x 88.3 mm	Ø 18 x 117 mm	
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C	-5...60 °C	
Protection degree	IP67 when threaded in	IP54 up to open cable end	IP54 up to open cable end	IP69K, IP68	
Transfer rate	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	COM2 (38.4 kBaud)	
Process data cycle min.	3 ms	3.2 ms	3.2 ms	8.5 ms	
Process data in	1 bytes	1 bytes	1 bytes	1 bytes	
Process data out	1 bytes	1 bytes	1 bytes	1 bytes	
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BNI005Z, BNI005Y



BNI005M, BNI00CA, BNI005N, BNI00CC



BNI00AE