BX04 & BX10
Medium Resolution Area Sensors

- IP67 protection degree (IP69K special model)
- Complete protection against electrical damages
- Detection of objects with irregular shape
- LED indicators
- Crossed beam detection

Options & Ordering Codes

BX	04	S	/	0	0	-	H	B	B

Series

Compact area sensor	BX

Optics

4 optics, 90mm area height 30mm optic step	04
10 optics, 90mm area height 10mm optic step	10

Emitter / Receiver

Emitter with sensitivity adjustment	S
Receiver	R
Kit emitter plus receiver	SR

Emitter / Receiver

Emitter	0
Emitter with check	X
Receiver NO (Dark ON)	A
Receiver NC (Light ON)	C

Emitter / Receiver

0	Emitter
D	Receiver NPN + PNP

Cable Exit

H	M12 plug cable exit
A	Cable exit

Distance

B	Sensing distance 0.3 ... 2m (standard version)

Version

	Standard version
6X	4m sensing distance
6A	6m sensing distance
79	with aluminium enclosure & air cooling inlet
DA	with glass optic window
70	with reduced sensing distance 100 ... 350mm
SY	with impulse synchronisation
9K	with IP69K protection

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Available Models

Number of Beams	Distance (mm)	Resolution (mm)	Model	Output	NPN+PNP NO	NPN+PNP NC
4	0.3 ... 2	Ø 35 (1) Ø 25 (2) Ø 15 (3)	emitter	M12	BX04S/00-HB	
				cable	BX04S/00-AB	
			emitter & check	M12	BX04S/X0-HB	
				cable	BX04S/X0-AB	
			receiver	M12	BX04R/AD-HB	-
				cable	BX04R/AD-AB	-
10		Ø 15 (1) Ø 7.55 (2) Ø 5 (3)	emitter	M12	BX10S/00-HB	
				cable	BX10S/00-AB	
			emitter & check	M12	BX10S/X0-HB	
				cable	BX10S/X0-AB	
			receiver	M12	BX10R/AD-HB	BX10R/CD-HB
				cable	BX10R/AD-AB	BX10R/CD-AB
	0.3 ... 4		emitter	M12	BX10S/00-HB6X	
			receiver		BX10R/AD-HB6X	-
	0.3 ... 6		emitter		BX10S/00-HB6A	
			receiver		BX10R/AD-HB6A	-

KIT					
Number of Beams	**Distance (mm)**	**Resolution (mm)**	**Model**	**Output**	**NPN+PNP NO**
4	0.3 ... 2	Ø 35 (1) Ø 25 (2) Ø 15 (3)	emitter & receiver	M12	BX04SR/0A-HB
				cable	BX04SR/0A-AB
				M12	BX04SR/XA-HB
				cable	BX04SR/XA-AB
10		Ø 15 (1) Ø 7.55 (2) Ø 5 (3)		M12	BX10SR/0A-HB
				cable	BX10SR/0A-AB
				M12	BX10SR/XA-HB
				cable	BX10SR/XA-AB
	0.3 ... 4			M12	BX10SR/0A-HB6X
	0.3 ... 6				BX10SR/0A-HB6A

(1) Guaranteed resolution everywhere in the detection area
(2) Guaranteed resolution in the central part of the detection area with exclusion of the dark zones
(3) As note (2), but with sensivity adjustment
(4) NC output models available on request

Dark zones are parts of the detection area close to the emitter and receiver, their amplitude X is proportional to the distance D between the emitter and the receiver.
BX04 => X = 0,17D
BX10 => X = 0,06D

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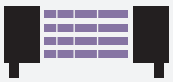
Technical Specifications

	BX04	BX10
Nominal Sensing Distance	 0.3...2 m (standard model) 0.3...1,5 m (model DA) 0.3...4 m (model 6X) 0.3...6 m (model 6A)	
Controlled Height	90mm	
Number of Beams	4	10
Beam Space	30mm	10mm
Minimum Detectable Object	Ø 35 (1) Ø 25 (2) Ø 15 (3)	Ø 15 (1) Ø 7.55 (2) Ø 5 (3)
Emission	Infrared	
Hysteresis	≤ 10%	
Supply Voltage	10 ... 26 VAC/DC	
Ripple	≤ 10%	
No-Load Supply Current	50 mA (emitter) 25 mA (receiver)	
Load Current	≤ 100 mA	
Leakage Current	≤ 10 μA	
Voltage Drop	≤ 2 V @ IL = 100 mA	
Output Type	NPN + PNP NO or NC	
Response Time (Light/Dark)	500 μs (800 μs models 6X and 6A)	
Response Time (Dark/Light)	5 ms (8 ms models 6X and 6A)	
Power On Delay	≤ 85 ms	
Power Supply Protections	polarity reversal, transient	
Output Protections	short circuit (autoreset)	
Sensitivity Adjustment	trimmer	
Operative Temperature Range	0 ... +50°C (without freeze)	
Temperature Drift	≤ 10%	
Interference to External Light	1000 lux (incandescent lamp) 1500 lux (sunlight)	
IP Mechanical Protection Degree	IP67 (IP69K 9K version)	
LED Indicators	green (emitter) red, yellow (receiver)	
Housing Materials	PBT (PC 9K version)	
Optic Materials	PC	
Tightening Torque	25 Nm	
Weight	230 g connector / 300 g cable	

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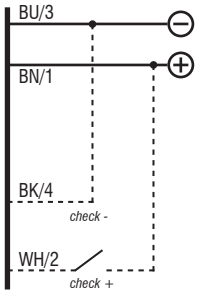
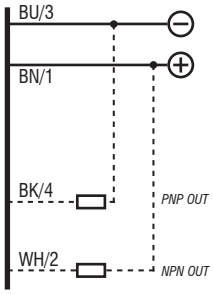
Wiring Diagrams

BX04 - BX10 Emitter



BX04 - BX10 Receiver

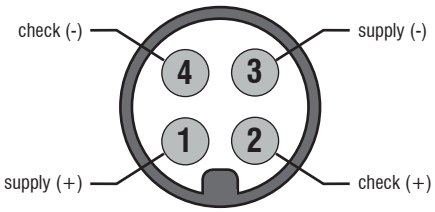


LEGEND

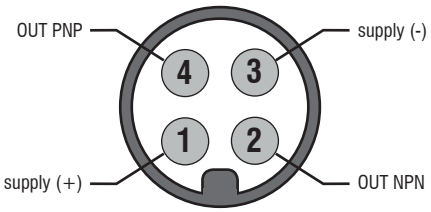
BN - Brown
BU - Blue
BK - Black
WH - White

Plug Pin Connections

BX04 - BX10 Emitter

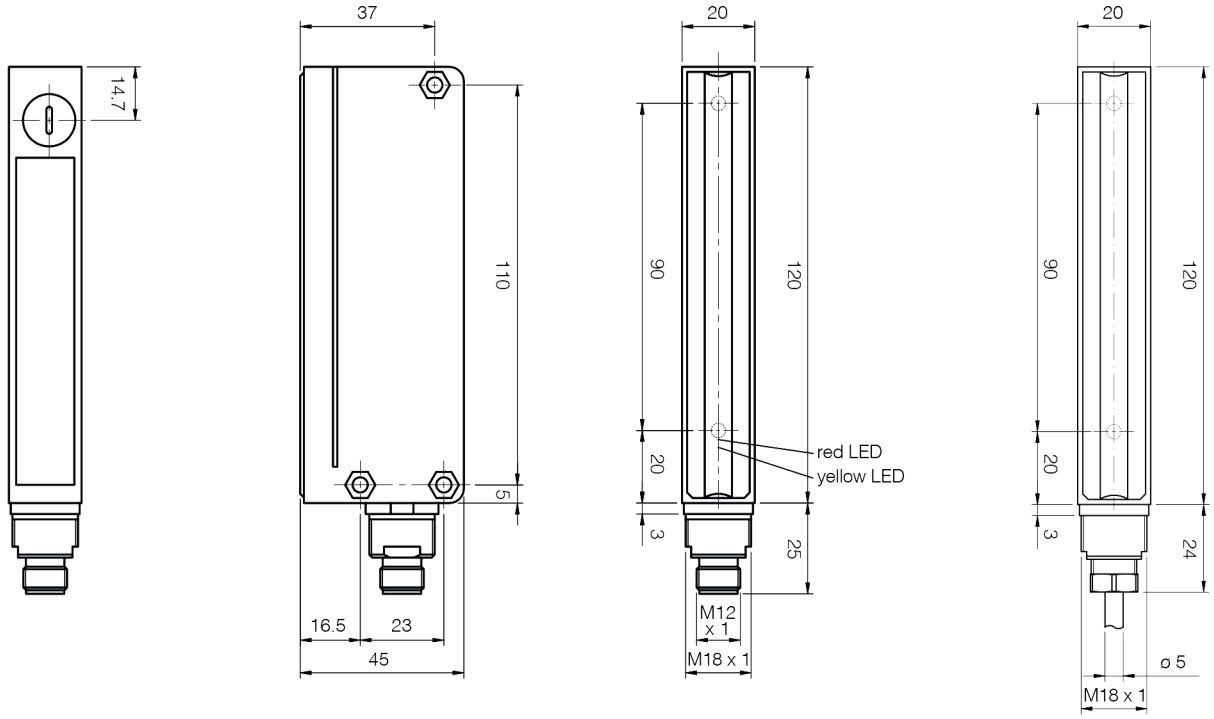


BX04 - BX10 Receiver



Dimensions (mm)

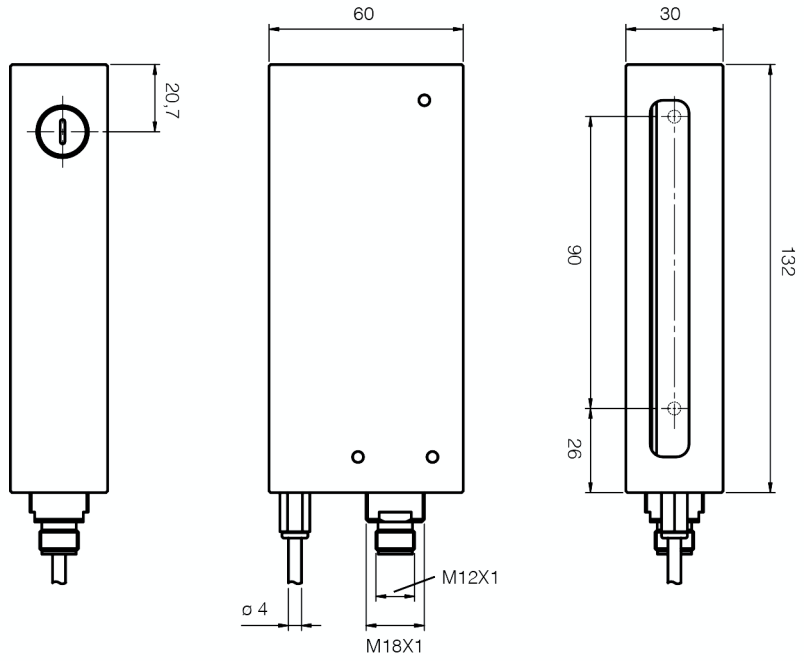
BX04*/-**, BX10*/**-****



BX04 & BX10
Medium Resolution Area Sensors

Dimensions (mm)

BX10*/-**79**



BX04*/-**9K, BX10*/**-0H9K**