

# 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

	<b>BX</b>	<b>04</b>	<b>S</b>	/	<b>0</b>	<b>0</b>	-	<b>H</b>	<b>B</b>	<b>B</b>	
<b>Series</b>	Compact area sensor										<b>Version</b>
	<b>BX</b>										Standard version
<b>Optics</b>											<b>6X</b> 4m sensing distance
4 optics, 90mm area height 30mm optic step		<b>04</b>									<b>6A</b> 6m sensing distance
10 optics, 90mm area height 10mm optic step		<b>10</b>									<b>79</b> with aluminium enclosure & air cooling inlet
											<b>DA</b> with glass optic window
											<b>70</b> with reduced sensing distance 100 ... 350mm
											<b>SY</b> with impulse synchronisation
											<b>9K</b> with IP69K protection
<b>Emitter / Receiver</b>											<b>Distance</b>
Emitter with sensitivity adjustment			<b>S</b>								<b>B</b> Sensing distance 0.3 ... 2m (standard version)
Receiver			<b>R</b>								
Kit emitter plus receiver			<b>SR</b>								
											<b>Cable Exit</b>
<b>Emitter / Receiver</b>											<b>H</b> M12 plug cable exit
Emitter											<b>A</b> Cable exit
Emitter with check											
Receiver NO (Dark ON)											
Receiver NC (Light ON)											
											<b>Emitter / Receiver</b>
											<b>0</b> Emitter
											<b>D</b> Receiver NPN + PNP

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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	$\varnothing$ 35 <sup>(1)</sup> $\varnothing$ 25 <sup>(2)</sup> $\varnothing$ 15 <sup>(3)</sup>	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	0.3 ... 2	$\varnothing$ 15 <sup>(1)</sup> $\varnothing$ 7.55 <sup>(2)</sup> $\varnothing$ 5 <sup>(3)</sup>	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	M12	BX10S/00-HB6A	
					receiver	BX10R/AD-HB6A

KIT						
Number of Beams	Distance (mm)	Resolution (mm)	Model	Output	NPN+PNP NO	
4	0.3 ... 2	$\varnothing$ 35 <sup>(1)</sup> $\varnothing$ 25 <sup>(2)</sup> $\varnothing$ 15 <sup>(3)</sup>	emitter & receiver	M12	BX04SR/0A-HB	
				cable	BX04SR/0A-AB	
				M12	BX04SR/XA-HB	
				cable	BX04SR/XA-AB	
10	0.3 ... 2	$\varnothing$ 15 <sup>(1)</sup> $\varnothing$ 7.55 <sup>(2)</sup> $\varnothing$ 5 <sup>(3)</sup>		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	

<sup>(1)</sup> Guaranteed resolution everywhere in the detection area

<sup>(2)</sup> Guaranteed resolution in the central part of the detection area with exclusion of the dark zones

<sup>(3)</sup> As note (2), but with sensitivity adjustment

<sup>(4)</sup> 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 <sup>(1)</sup> Ø 25 <sup>(2)</sup> Ø 15 <sup>(3)</sup>	Ø 15 <sup>(1)</sup> Ø 7.55 <sup>(2)</sup> Ø 5 <sup>(3)</sup>
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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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

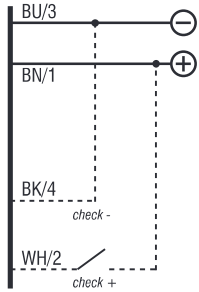
BX10 => X = 0,06D

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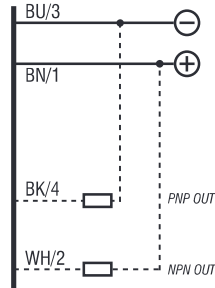
## Medium Resolution Area Sensors

### Wiring Diagrams

**BX04 - BX10 Emitter**



**BX04 - BX10 Receiver**

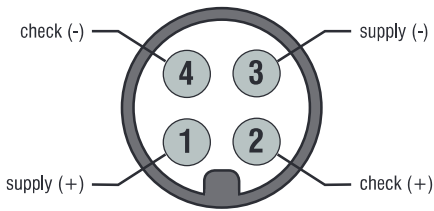


**LEGEND**

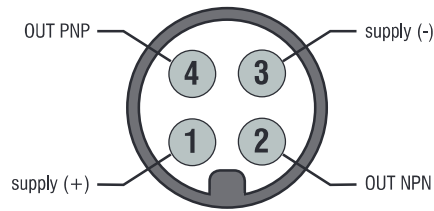
- BN - Brown
- BU - Blue
- BK - Black
- WH - White

### Plug Pin Connections

**BX04 - BX10 Emitter**

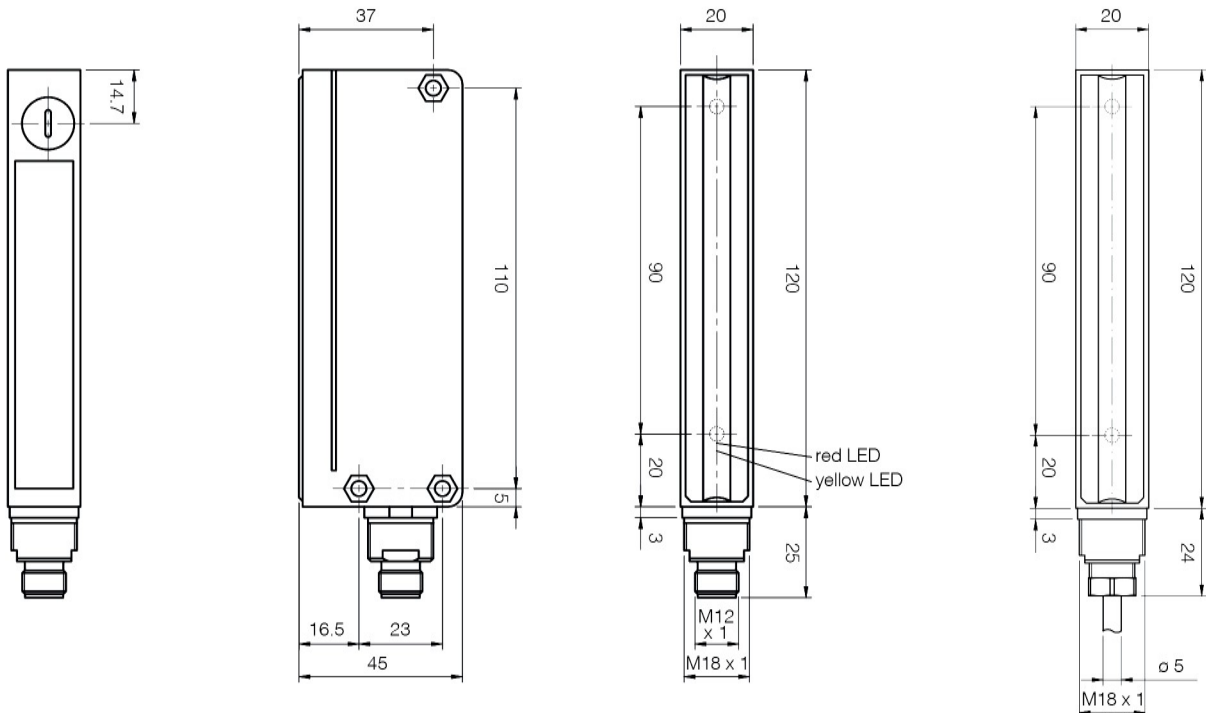


**BX04 - BX10 Receiver**



### Dimensions (mm)

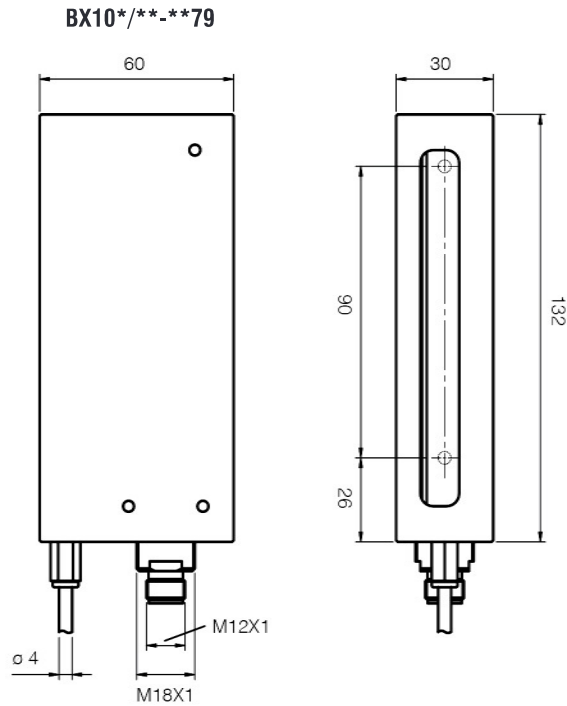
**BX04\*/\*\*-\*\*, BX10\*/\*\*-\*\***



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## Medium Resolution Area Sensors

Dimensions (mm)



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

