BX04 e BX10 series

Medium resolution area sensors

features

- **IP67 protection degree (IP69K special model)**
- **Complete protection against electrical damages**
- **Detection of objects with irregular shape**
- **ATEX models, cat. 2 and cat. 3, available on request**
- **LED indicators**
- **Crossed beams detection**



web contents

- **Application notes**
- **Photos**
- **Catalogue / Manuals**

code description

BX 04 S / 0 0 - H B

series	BX	Compact area sensor
optics	04	4 optics, 90 mm area height, 30 mm optic step
	10	10 optics, 90 mm area height, 10 mm optic step
emitter / receiver	S	Emitter with sensitivity adjustment
	R	Receiver
	SR	Kit emitter + receiver
emitter / receiver	0	Emitter
	X	Emitter with check
	A	Receiver NO (Dark ON)
	C	Receiver NC (Light ON)
emitter / receiver	0	Emitter
	D	Receiver NPN + PNP
cable exit	H	M12 plug cable exit
	A	Cable exit
distance	B	Sensing distance 0.3 ... 2 m (standard version)
version		Standard version
	6X	Models with 4 m sensing distance
	6A	Models with 6 m sensing distance
	79	Models with aluminium enclosure and air cooling inlet
	DA	Models with glass optic window
	70	Models with reduced sensing distance 100...350 mm
	SY	Models with impulse synchronisation
	9K	Models with IP69K protection
	AN	ATEX models 3 GD
	AT	ATEX models 2 GD

available models

area (mm)	n° of beams	distance (m)	resolution (mm)	model	output	NPN + PNP NO	NPN + PNP NC
90	4	0.3...2	Ø 35 (1) Ø 25 (2) Ø 15 (3)	emitter	M12	BX04S/00-HB	
					cable	BX04S/00-AB	
				emitt. + check	M12	BX04S/X0-HB	
					cable	BX04S/X0-AB	
				receiver	M12	BX04R/AD-HB	-
					cable	BX04R/AD-AB	-
	10		Ø 15 (1) Ø 7.5 (2) Ø 5 (3)	emitter	M12	BX10S/00-HB	
					cable	BX10S/00-AB	
				emitt. + 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					
area (mm)	n° of beams	distance (m)	resolution (mm)	model	output	NPN + PNP NO
90	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 7.5 (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

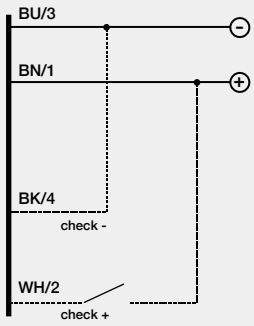
technical specification

	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	90 mm	
n° of beams	4	10
beams space	30 mm	10 mm
minimum detectable object	Ø 35 mm (1) Ø 25 mm (2) Ø 15 mm (3)	Ø 15 mm (1) Ø 7.5 mm (2) Ø 5 mm (3)
emission	infrared	
hysteresis	≤ 10%	
supply voltage	10 ... 26 V cc/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	

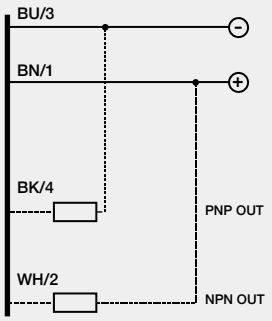
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electrical diagrams of the connections

BX04 - BX10 emitter



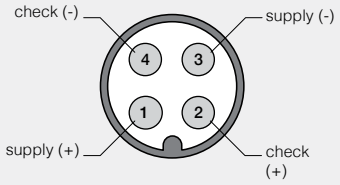
BX04 - BX10 receiver



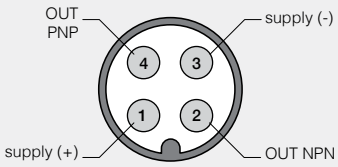
BN	brown
BU	blue
BK	black
WH	white

plug

BX04 - BX10 emitter

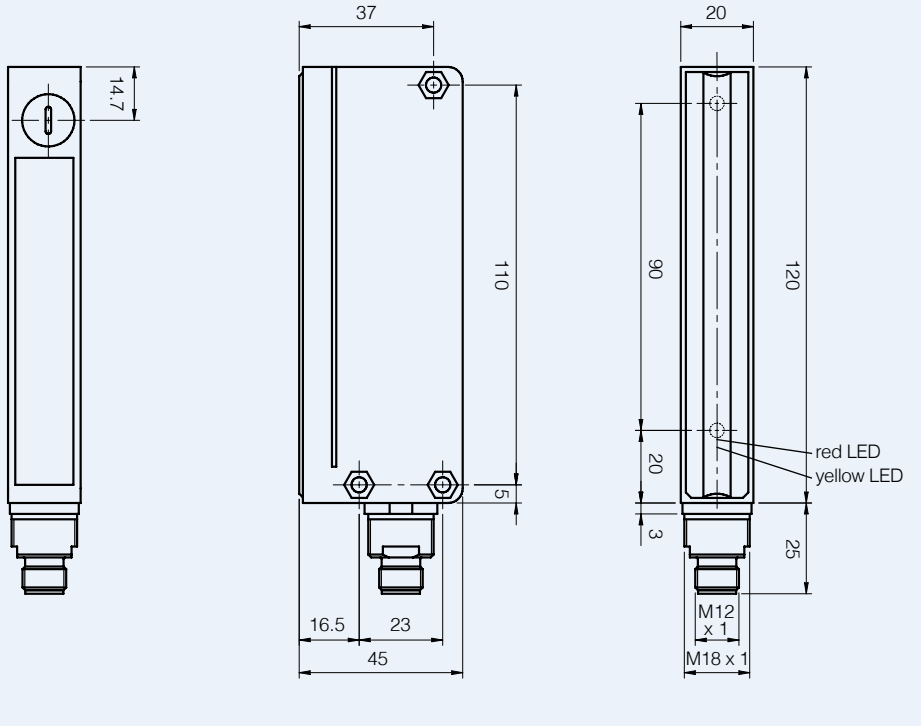


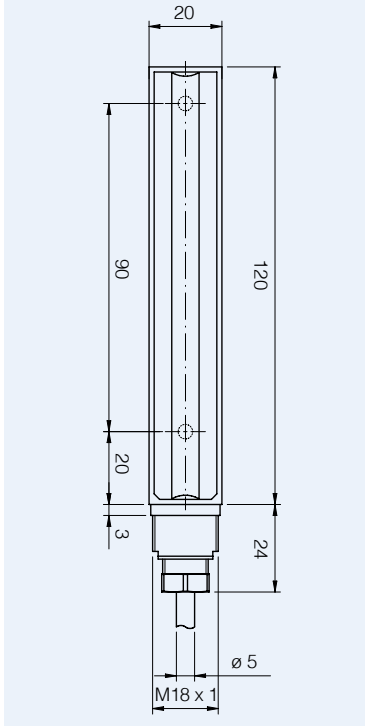
BX04 - BX10 receiver



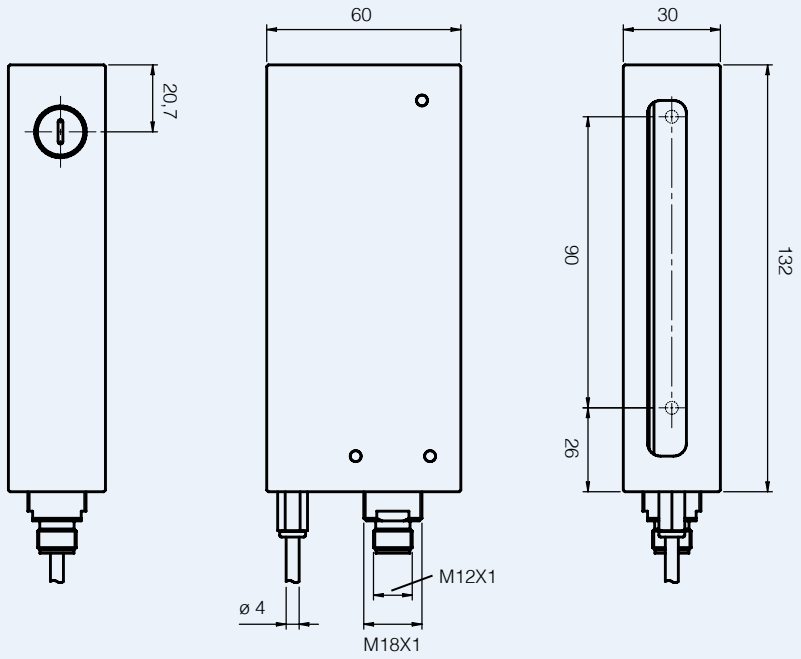
dimensions (mm)

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

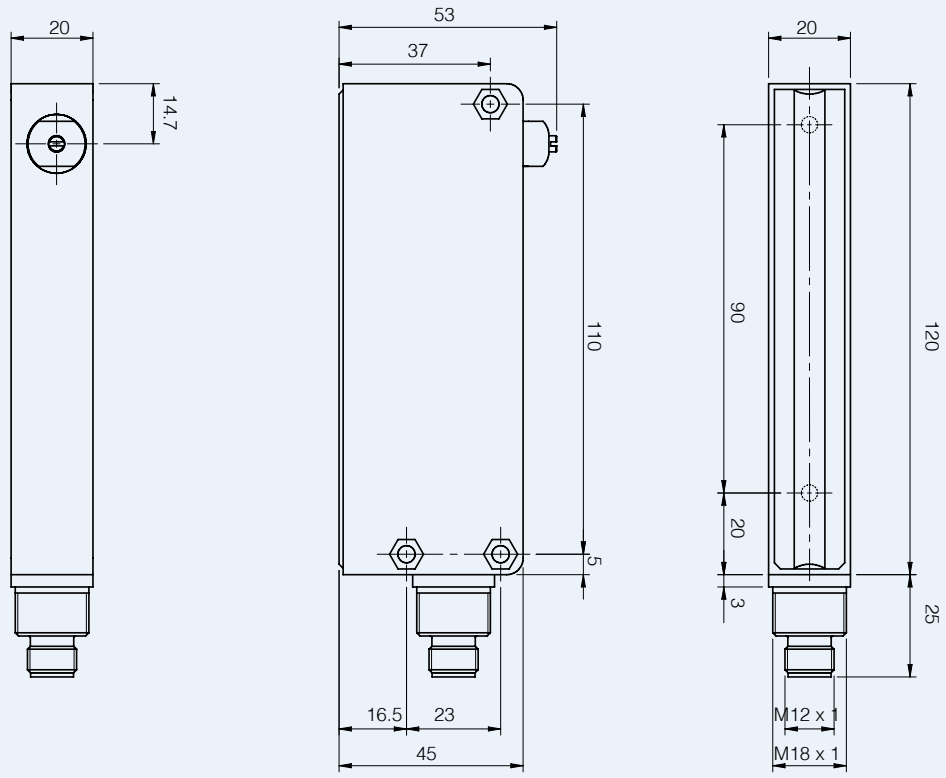




BX10*/**-**79



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



dimensions (mm)

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

