

The background of the entire page is a composite image. The top half shows a city skyline at night with several tall buildings and a river. The bottom half shows a highway interchange with light trails from cars. Overlaid on both images are numerous white, glowing arcs that connect various points, suggesting a network or data flow.

# CX0 Serie

## DATASHEET

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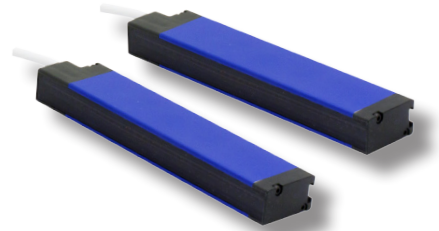
🌐 [sensorpartners.com](http://sensorpartners.com)

# CX0 series

Area sensors with high resolution and compact housing

## features

- Total crossbeam through all the optics
- Crossed area 160 and 320mm
- Pitch 5mm and 10mm
- Operating distance up to 3m (for 5mm pitch) and 6m (for 10mm pitch)
- 2 digital NPN and PNP outputs (teach-in model available only with PNP logic)  
NO/NC configurable
- Available with Teach in adjustment or with external trimmer
- High switching frequency to detection
- Intrinsic synchronism by cable (Teach-in models)



## code description


	CX0	E	1	R	P	/	05	-	016	V	
series	CX0	Area Sensor cubic section									
emitter	E	Emitter									
emitter type	0	Emitter with I/O standard configuration									
	1	Emitter with special I/O configuration: input Teach-in instead of test									
receiver	R	Receiver									
receiver type	P	Receiver with PNP output									
	B	Receiver with two digital outputs (NPN / PNP)									
pitch	05	Pitch 5 mm									
	10	Pitch 10 mm									
height	016	Controlled height 160 mm									
	032	Controlled height 320 mm									
output	V	Output cable length 220 mm with M12 pigtail									
special function		Standard version									
	1	Emitter and receiver with CX0 common wire and Teach-in emitter									

## available models

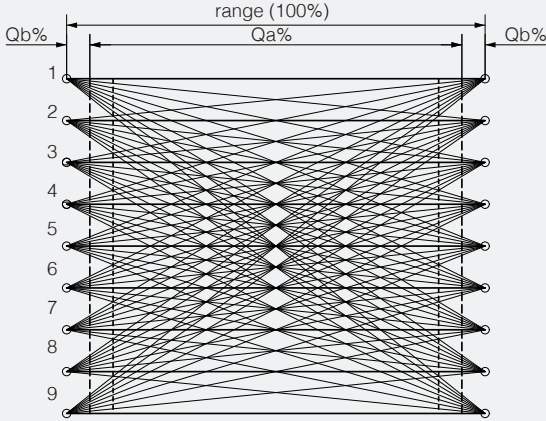
OUTPUT			INPUT			beams number	pitch (mm)	plot (P/I) <sup>(3)</sup>	working range (m)	detection height (h)	KIT (E + R) <sup>(2)</sup>
state	logic	output	blanking	test	adjustment						
NO/NC	NPN + PNP	2	-	●	External Trimmer <sup>(1)</sup>	32	5	I	0.3...3	160 mm	CX0E0RB/05-016V
					17	10	0.5...6		320 mm		CX0E0RB/10-016V
					32	5	1...6		160 mm	CX0E0RB/10-032V	
	PNP	1		-	Teach-In	17	10		0.3...3	160 mm	CX0E1RP/05-016V
						32	10		0.5...6		320 mm
						32	10		1...6	320 mm	CX0E1RP/10-032V

<sup>(1)</sup> External trimmer ST 140 sold separately <sup>(2)</sup> Sales code; single code (emitter or receiver) not available <sup>(3)</sup> Plot: P = parallel beams, I = crossed beams

## technical specifications

	CX0E*R*/**_***
	
nominal sensing distance	0.3 ... 3 m (beam pitch 5 mm, detection height 160 mm) 0.5 ... 6 m (beam pitch 10 mm, detection height 160 mm) 1 ... 6 m (beam pitch 10 mm, detection height 320 mm)
emission	850 nm (beam pitch 5 mm) 880 nm (beam pitch ≥10 mm)
operating voltage	16.8...30 Vdc
ripple	< 1.2 Vpp
power consumption (receiver)	1...1.5 W
power consumption (emitter)	1...1.5 W
outputs	1 x PNP, 1 x NPN (CX0RB); 1 x PNP (CX0RP)
output current	< 100 mA
output voltage drop	< 1.5 V @ 100 mA
minimum load resistance	280 Ω
leakage current	≤ 10 µA
tolerated capacitive load	< 0.7 µF
power on delay	200 ms
Teach-In	< 15 s
response time	< 6.6 ms Dark On; < 11 ms Light On
operating temperature	-10°C...55°C
storage temperature	-25°C...60°C
artificial light rejection	IEC EN 60947-5-2
ambient light rejection	IEC EN 60947-5-2
IP mechanical protection	IP67
humidity	95% max (no condensation)
vibrations	IEC EN 60947-5-2
shocks	IEC EN 60947-5-2
cable length	< 20 m
connectors / cables	1 x M12, 4 poles, male (CX0E), 1 x M12, 5 poles, male (CX0R)
housing material	painted alluminium RAL5002
optic materials	PMMA

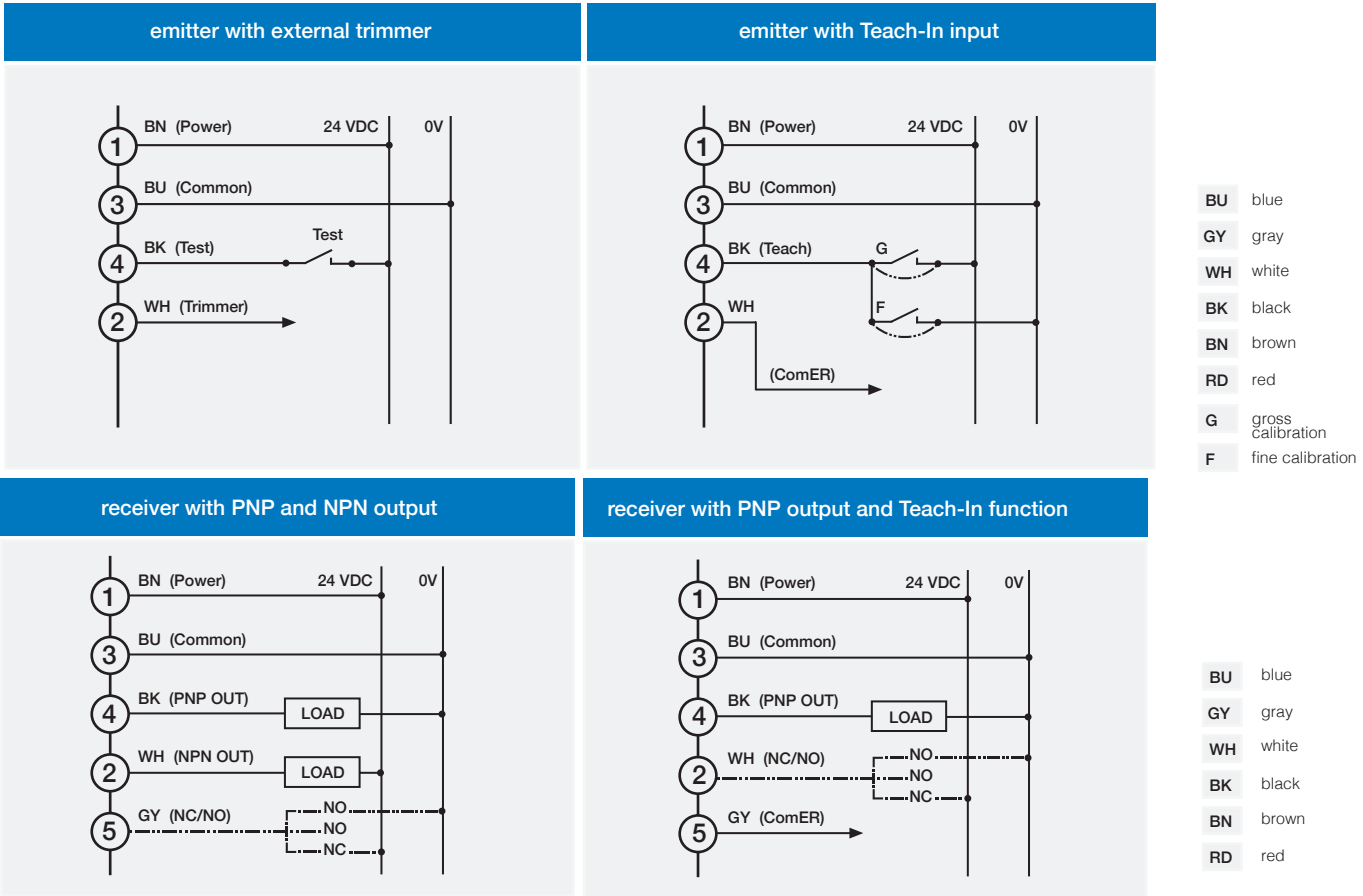
## MDO (Minimum Detectable Object)

beams	step (mm)	resolution <sup>(1)</sup> (mm)	Qa 17 beams	Qa 32 beams	total crossed-beam
crossed <sup>(2)</sup>	5	2,5	-	96%	
	10	5	93%		

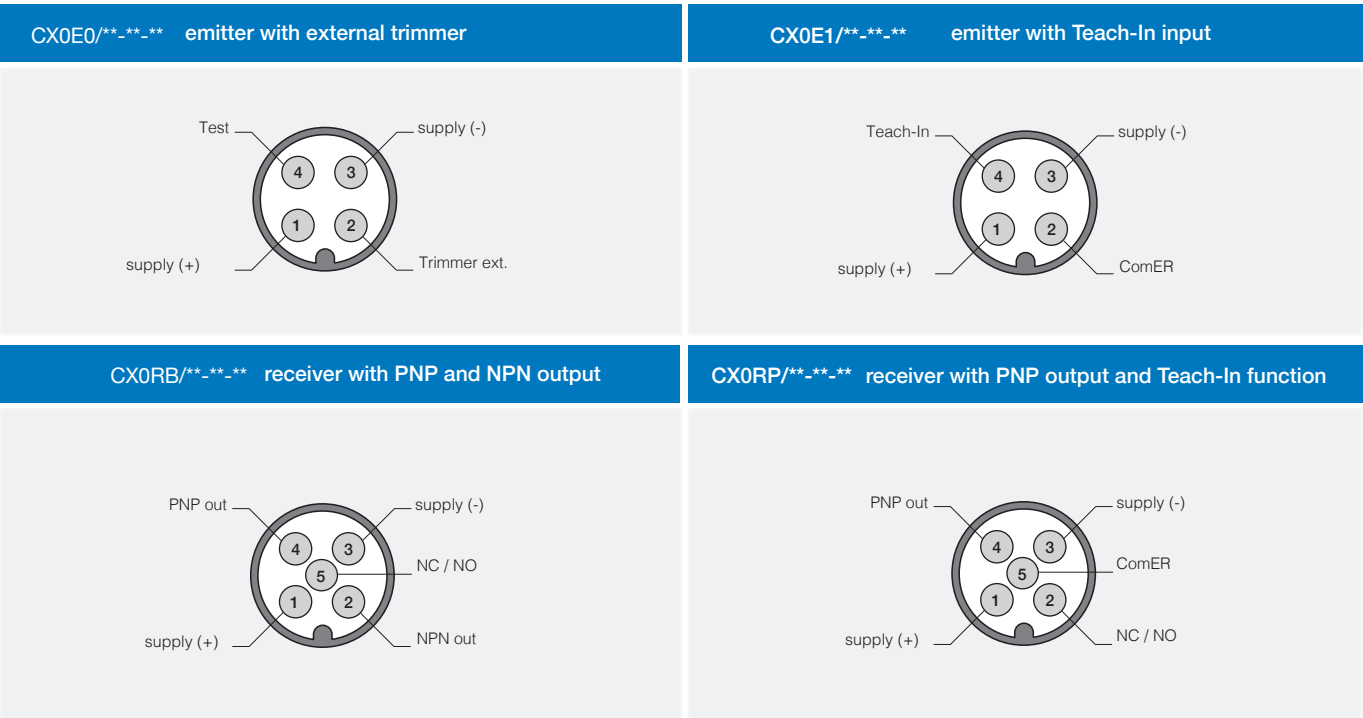
<sup>(1)</sup> = Resolution detected with ST140 or with Teach Gross

<sup>(2)</sup> = The optics cross beam allows detection of objects with a very small diameter or very thin (such as a sheet of paper or an envelope). For those targets with small diameter, the detecting resolution is less effective exactly in the centre between Emitter and Receiver (see Resolution) as well as at the ends of detection area (near to the sensors); the mentioned detection is obtained in the central area Qa with a width equal to a certain % of the distance between the 2 sensors.

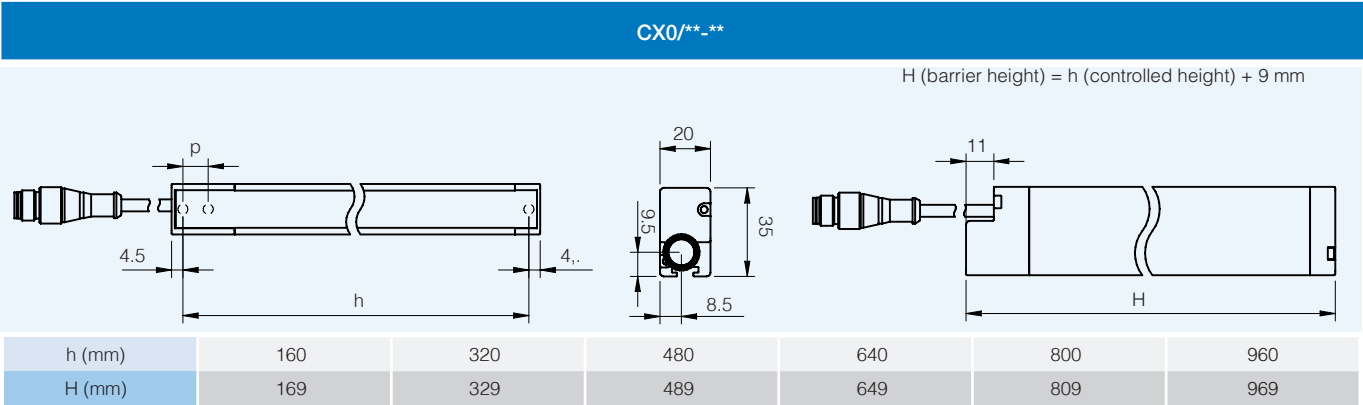
electric diagrams of the connections



plugs

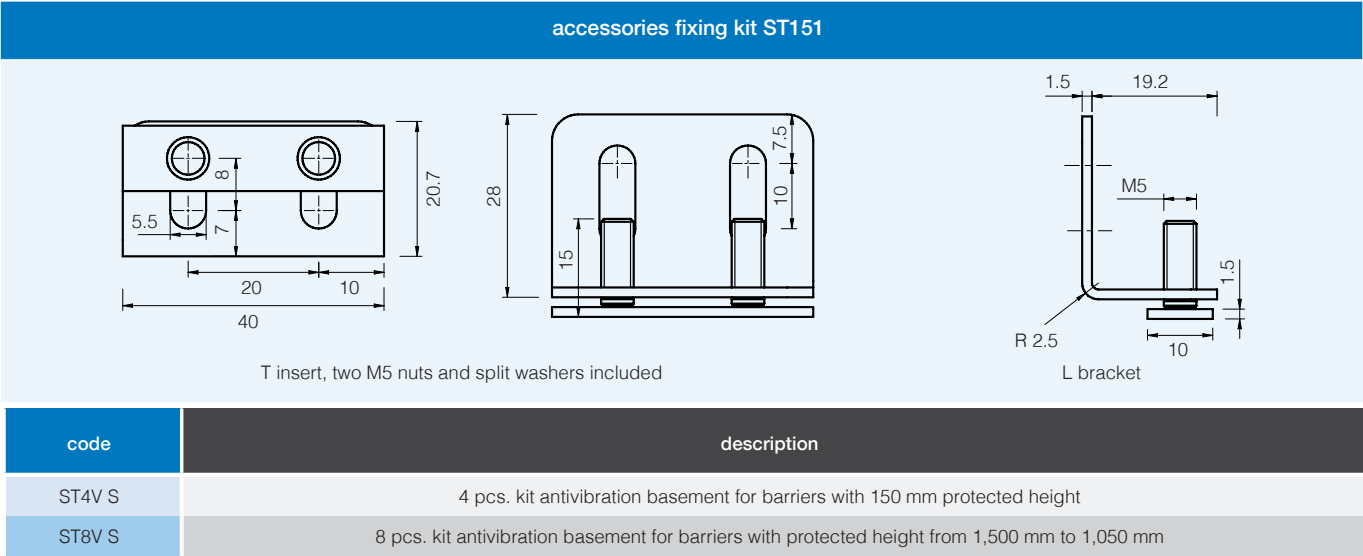


dimensions (mm)



dimensions (mm)

accessories included with all models



accessories

not included

