

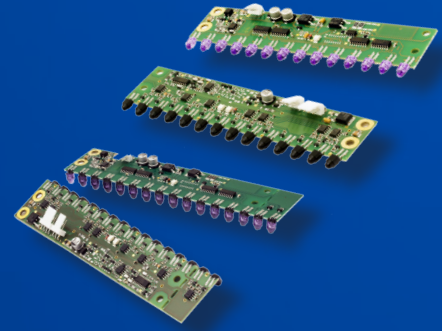


NX series

Medium resolution area sensors
without housing



Special Area Sensors



features

- Complete protection against electrical damages
- LED indicators
- Crossed beams detection
- Without housing
- 16 or 14 optics
- Detection of goods in automatic vending machines
- Detection of objects with irregular shape

web contents



- Application notes
- Photos
- Catalogue / Manuals

code description

NX 16SR / X A N - A 0 00

series	NX	Area sensor without housing
optics	16	16 optics (150 mm area height)
	14	14 optics (132 mm area height)
emitter / receiver	S	Emitter with sensitivity adjustment
	R	Receiver
	SR	Emitter + receiver kit
emitter / receiver	0	Emitter without check
	X	Emitter with check
	R	Receiver
output	0	Emitter
	A	NO output
	C	NC output
output	0	Emitter
	P	PNP output
	N	NPN output
optics	A	Axial optics
	C	Right angle optics
model	0	Standard model
	T	Moisture resistant model
output	00	Output without delay off
	10	100 ms output delay off
distance	-	Sensing distance 0,5...2 m
	20	Sensing distance 0,25...0,7 m

available models

Special Area Sensors

function	optics	adjust.	check	output	moisture resistant	delay (ms)	distance (m)	model	
emitter + receiver	14 axial	●	●	NPN - NO		100	0,5...2	NX14SR/XAN-A010	
								NX14SR/XAP-A000	
	14 right angle			PNP - NO	-	-		NX14SR/XAP-C000	
								NX14SR/XAP-C010	
	14 axial				●	100		NX14SR/XCN-AT10	
								NX14SR/XCN-C010	
	14 right angle				●			NX14SR/XCN-CT10	
				PNP - NC		-		NX14SR/XCP-C000	
	16 axial					-		100	NX16SR/XAN-A010
								-	NX16SR/XAN-C000
	16 right angle				●			NX16SR/XAN-C010	
								NX16SR/XAN-CT10	
	16 axial					PNP - NO			NX16SR/XAP-A010
	16 right angle						-		NX16SR/XAN-C010
									NX16SR/XCN-A010
	16 axial						●	100	NX16SR/XCN-AT10
						NPN - NC		-	NX16SR/XCN-C010
	16 right angle						●		NX16SR/XCN-CT10
									NX16SR/XAN-A01020
	axial					NPN - NO		●	0.25...0.7
right angle			PNP - NO			NX16SR/XAP-C01020			
						NX16SR/XCN-AT1020			
axial			NPN - NC		-				

	NX**SR/***_*****20	NX**SR/***_*****
type	medium resolution area sensor with 16/14 optics, step 10 mm	
nominal sensing distance	0.25...0.7 m 880 nm (beam pitch ≥10mm)	0.5...2 m 880 nm (beam pitch ≥10mm)
emission	infrared (880 nm), modulated	
controlled height	150 mm (16 optics) ; 132 mm (14 optics)	
minimum sensing distance	0.25 m	0.5 m
minimum detectable object	∅15 ⁽¹⁾ / ∅ 7.5 ⁽²⁾ / ∅ 5 ⁽³⁾ mm	
hysteresis	< 10%	
supply voltage	10 – 26 Vdc	
ripple	10%	
no-load supply current	150 mA (emitter) – 25 mA (receiver)	
output current	100 mA	
leakage current	< 10 µA (a Vdc max.)	
voltage drop	2 V a 100 mA	
output type	NPN or PNP open collector, NO or NC	
input	check input	
response time (Light/Dark)	500 µsec	
response time (Light/Dark)	7 ms	
power on delay	< 85 ms (switch on delay)	
output delay	100 ms (according to models)	
power supply protections	polarity reversal - transient	
output protection	short circuit (autoreset)	
temperature range	-0 /+ 55 °C (without freeze)	
interference to external light	1000 lux (incandescent lamp) 1500 lux (sunlight)	
IP mechanical protection	not defined	
emitter LED	yellow (supply and emission active)	
receiver LED	red (signal level) – Yellow (output state active)	
housing material	No housing. Mechanical and electrical protections of the PCB have to be submitted to the machine structure	
connections	With PCB connectors / Emitter, Conn. 3 MOLEX 22-05-7038 - Positive, Check, Common / Receiver, Conn. 1 MOLEX 22-05-7038 - Positive, Check, Common / Receiver, Conn. 2 MOLEX 22-05-7048 Positive, Check, Output, Common	
dimensions	157 x 36 x 18 mm (16 optics) - 140 x 36 x 18 mm (14 optics)	
weight (approximate)	104 g	

⁽¹⁾ Guaranteed resolution everywhere in the detection area

⁽²⁾ Guaranteed resolution in the central part of the detection

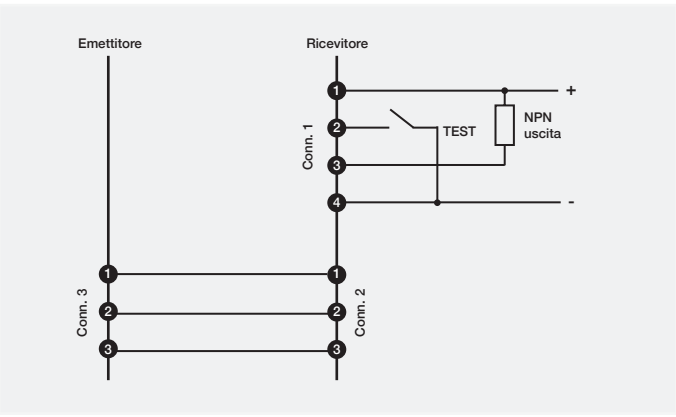
⁽³⁾ As note (2), but with sensivity adjustment

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. X=0.06D.

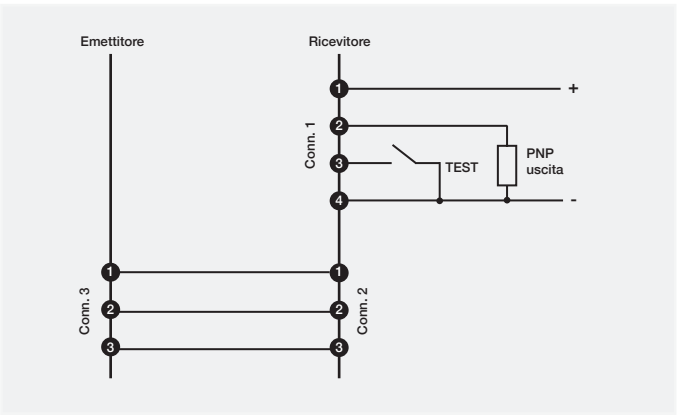


electrical diagrams of the connections

NPN output



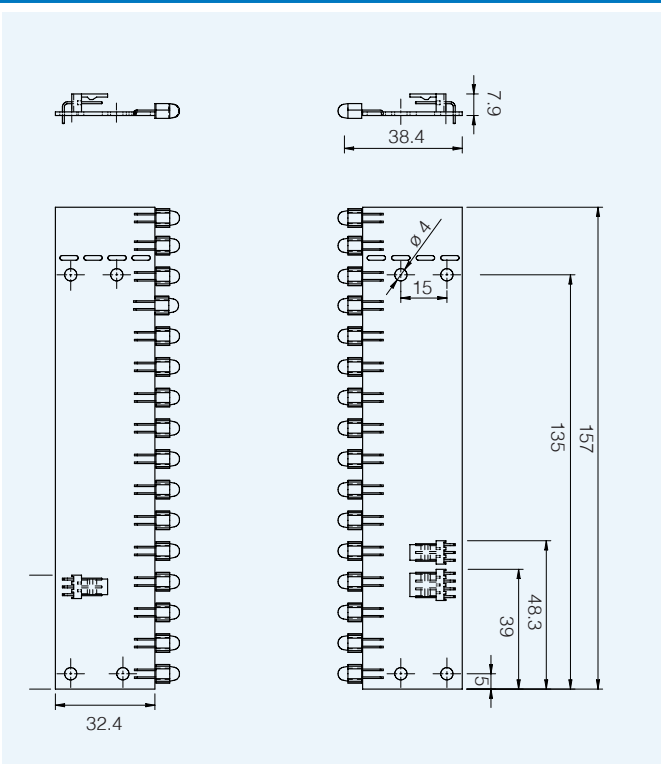
PNP output



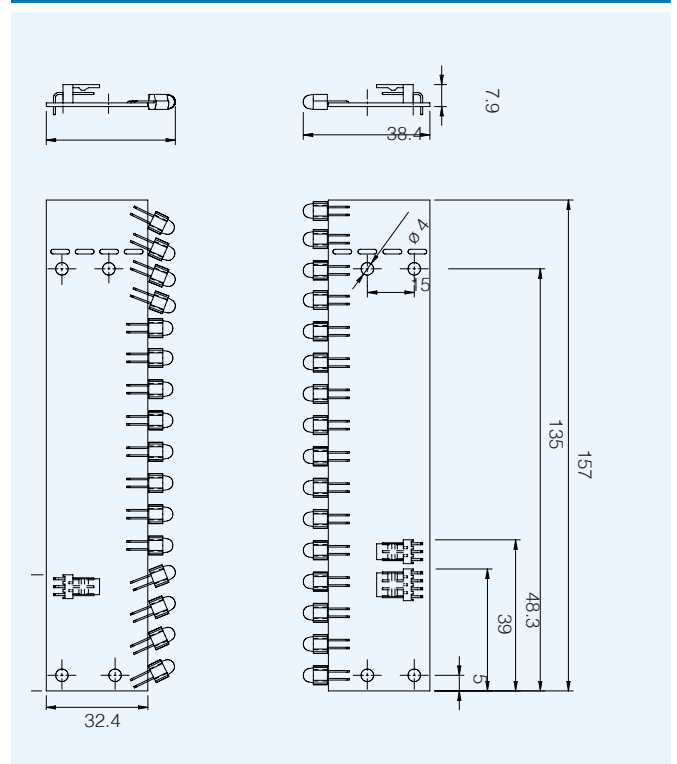
- Warnings regarding to electrostatic discharge (ESD)
- disconnect the supply voltage before touching the device
 - discharge the electrostatic charges before touching the device
 - use metallic screws to install the device

dimensions (mm)

NX16SR/**-A***

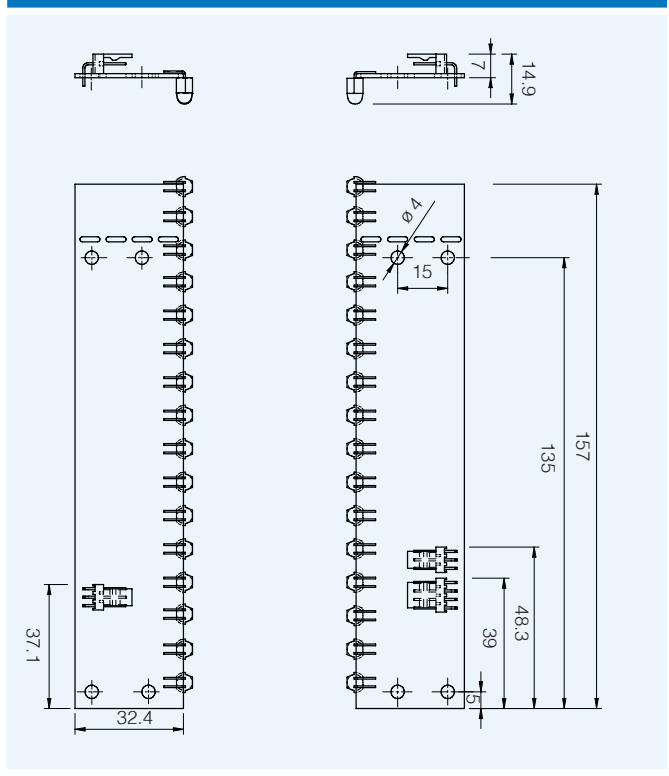


NX16SR/**-A***20

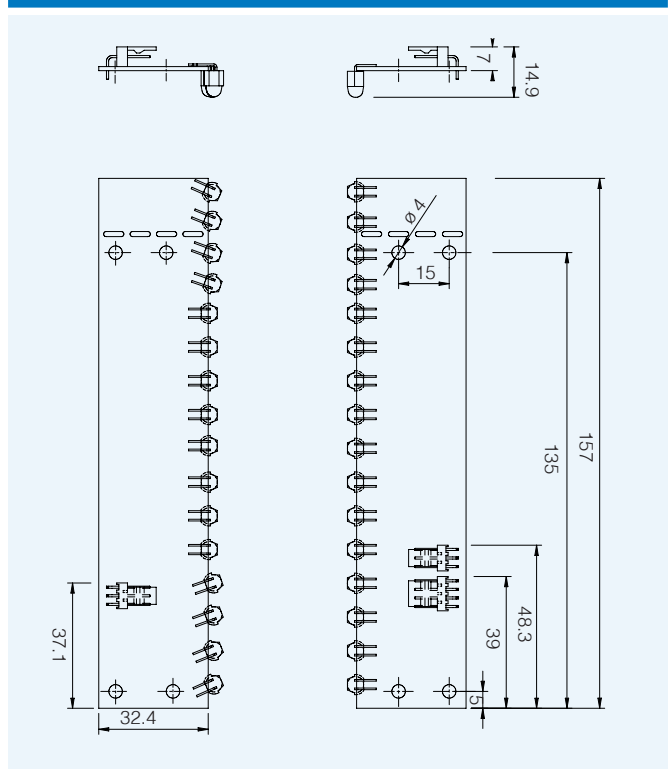




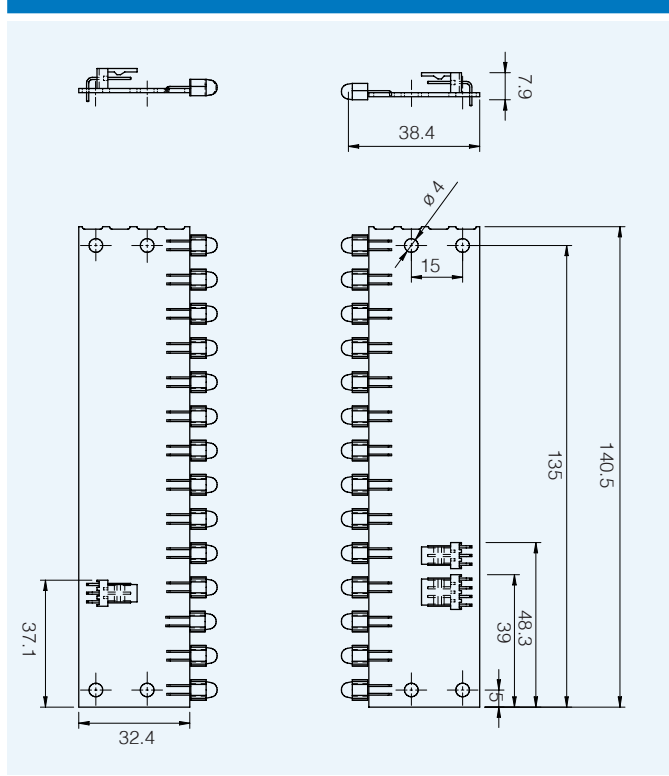
NX16SR/***-C***



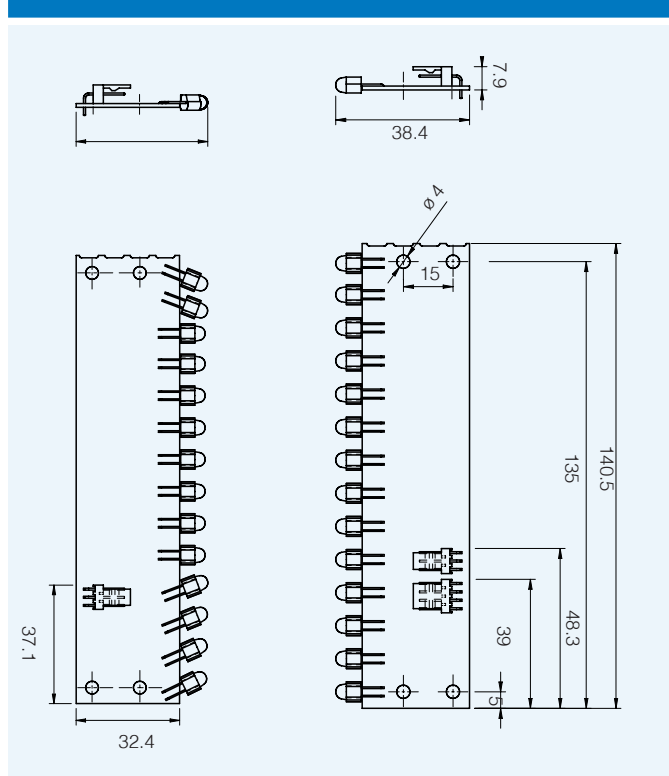
NX16SR/***-C***20



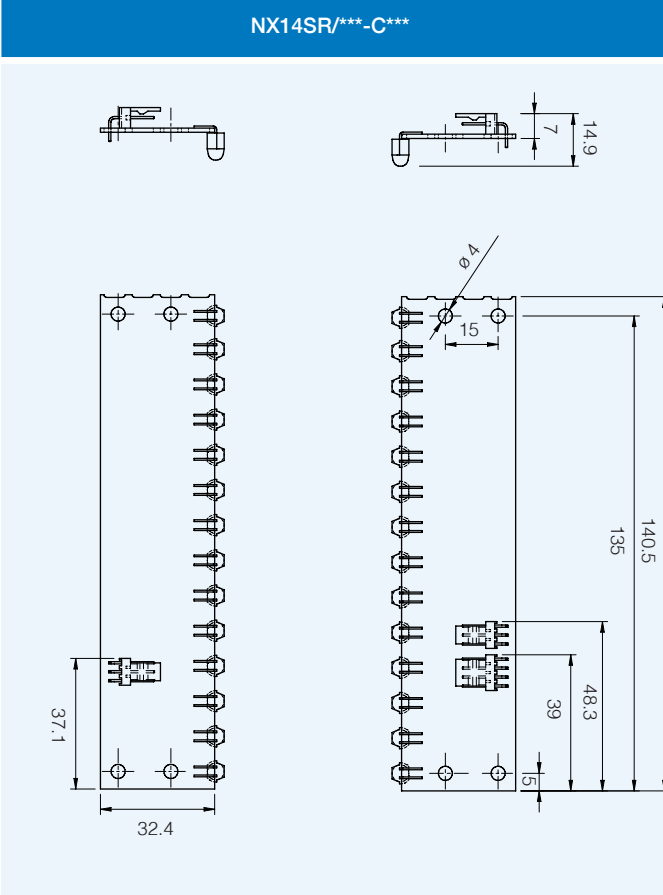
NX14SR/***-A***



NX14SR/***-A***20



NX14SR/**-C***



NX14SR/**-C***20

