MD special

M.D. Micro Detectors Customizations 2014 - English edition - updated to 31- 01-15

Micro Detectors

Italian Sensors Technology

The customized product for you.

One of the activity characterizing M.D. Micro Detectors, compared to the most sensors' supplier of Automation Market, is the capability to offer a customized product, according to Customer specifications.
This specific activity highlights the great care and aptitude of M.D. Micro Detectors to attend its Customers' needs, making it the ideal partner for your automation system.
Fast response time and high product quality make it one of the most qualified Company, able to offer customized solutions on the industrial market panorama.

Available customizations

customizable sensors
photoelectric cylindric
photoelectric cubic
proximity
ultrasonic

customizations
PUR cable
free cable from 100 mm to 10 m
M12 pig-tail, 4 pins
M8 pig-tail, 3 pins
M8 pig-tail, 4 pins
superseal AMP connector
deutsch connector
MTA/MTE connector
JST connector
Molex connector
RJ11 connector
UP connector
wieland connector
customized connectors
customized labels and packaging

available model variants

Photoelectric sensors

	model	product	variant	page
	MQC/C0-0A86		5 m cable	
	FAI7/BP-2EAN	M18 DC cylindric	ATEX model cat.3	
	FALN/BP-1AAN	cylindrical M18 DC, LASER emission	ATEX model cat.3	
	SS8/0N-1A86	M18 DC, DC lateral adjustment	5 m cable	
	SSC/0P-1A86	M18 DC, DC lateral adjustment	5 m cable	
	FQI2/LN-1EFJ	M18 Photoelectric Sensor	flush mounting by only one nut	11
	FQI5/LN-1EFJ	M18 Photoelectric Sensor	flush mounting by only one nut	11
	FQI7/BP-0EIT	Special M18 short housing	High interference: sw. Freq. 2 Hz	
	FQI8/BN-0E	Special M18 short housing		
	FFRL/BP-1EV5	IP69K harsh environment M18	smooth body	
	QMIS/0*-0A**80	Cubic miniaturized with high performances	200 mm pig-tail (M8 3 pins, and M8 4 pins)	
	CF/CB2-20	Optical fiber	New mechanic	
	FC5R/DP-0816-1F	Forks	80 mm, slot 160 mm depth	
	FC5R/DP-1812-1F	Forks	FC5R NO PNP, 180 mm large, 120 mm depth	
	TS10-A			
	TS10-B			
	TS10-D	Analog sensor for slim cigarettes		9
	CST566	Direct diffuse,1 m distance		7

available model variants

Ultrasonic Sensors

	model	product	variant	page
	UK1A/E7-0E1T	M18 Teach-in button	NC digital output, adjustable analog output slope	
	UK1C/E7-0E1HUL	M18 Teach-in button	70...700 mm sensing distance, without Teach-in	13
	UK1D/E1-0E1MUL	M18 Teach-in button		
	UK6C/D2-0AULAN	M18 short housing	ATEX version	
	UT1B/E2-0A8ZUL	M30	1 m cable	

available model variants

Proximity Sensors

model	product	variant	page
AE6/AP-1AAN	Miniaturized inductive sensors	ATEX version	
AE6/AP-3A8R	Miniaturized inductive sensors	10 m cable	
AE6/CP-1A85	Miniaturized inductive sensors	4 m cable	
AM6/AN-3A87AN	Miniaturized inductive sensors	ATEX version, 6 m cable	
AM6/AP-3AAN	Miniaturized inductive sensors	ATEX version	
AE1/AP-3A84	M8 inductive sensors	3 m cable	
AE1/AP-3A8R	M8 inductive sensors	10 m cable	
AE1/AP-4AVF81	M8 inductive sensors	300 mm pig-tail	
AK1/AP-1AVEEY	Inductive sensors	50 mm pig-tail, M12	
AK1/AP-3H4W	Inductive sensors	Inox AISI303 tube	
AK1/BP-3AFG8R	Inductive sensors	50 V power supply, 10 m cable	
AM1/AN-3A8F	M12 inductive sensors	PUR cable	
AM1/AP-1A864W	M12 inductive sensors	5 m cable, AISI303 housing	
AM1/CP-1A86	M12 inductive sensors	5 m cable	
AT1/AN-3AVE80	M30 inductive sensors	2,5 m cable	
AT1/AP-3A83	M30 inductive sensors	2,5 m cable	
AT1/AP-3A878F4W	M30 inductive sensors	6 m cable, PUR, AISI303 housing	
AT1/BP-3A8R	M30 inductive sensors	10 m cable	
IL1/AN-3AVF80	Cubic inductive sensors	200 mm pig-tail, M8	
CST717	Inductive sensors couple		15
AK6/AP-3A0FL	Inductive sensors couple		17

available model variants

Area Sensors

model	product	variant	page
BX10R/AD-HBDA6A79 BX10S/00-HBDA6A79	Area Sensors with middle resolution	Glass optic, 6 m sensing range, with aluminium protection	
BX10R/AD-HB6A BX10S/00-HB6A	Area Sensors with middle resolution	6 m sensing range	
BX10SR/0C-HB	Area Sensors with middle resolution		
BX10SR/0C-HB6A	Area Sensors with middle resolution	kit BX10 NPN + PNP NC Sn = 6 m	
BX80B/1P-1H28	Area Sensors with high resolution in parallelepiped body	high immunity to sunlight	
BX80B/4N-0H	Area Sensors with high resolution in parallelepiped body		
BX	IP69K model for food industry		19
NX14SR/XAN-A010	Area Sensors with middle resolution without housing	14 optics, emitter with check, NO, NPN, axial, 100 ms delay	
NX14SR/XAN-C010	Area Sensors with middle resolution without housing	14 optics, emitter with check, NO, NPN, radial, 100 ms delay	
NX14SR/XAN-CT10	Area Sensors with middle resolution without housing	14 optics, emitter with check, NO, NPN, radial, 100 ms tropicalised delay	
NX14SR/XAP-A00020	Area Sensors with middle resolution without housing	16 optics, emitter with check, NC, NPN, radial, no delay	
NX16SR/XAN-C000	Area Sensors with middle resolution without housing	14 optics, emitter with check, NO, PNP, axial, no delay, Sn min = 200 ms	
NX16SR/XCN-A010	Area Sensors with middle resolution without housing	16 optics, emitter with check, NC, NPN, axial, 100 ms delay	
NX16SR/XCN-C010	Area Sensors with middle resolution without housing	16 optics, emitter with check, NC, NPN, radial, 100 ms delay	
NX16SR/XCN-CT10	Area Sensors with middle resolution without housing	14 optics, emitter with check, NO, NPN, radial, 100 ms tropicalised delay	

available model variants

Accessories

model	product	variant	page
CD08/0A-050B1	M8 connectors	3 pins, axial, radial	
CD08/0B-300A	M8 connectors	10 m cable	
CD08/0B-300A1	M8 connectors	4 m cable	
CD08/0B-300C1	M8 connectors	ATEX version, 6 m cable	
CDP08/AA-0025AA	M8 connectors	ATEX version	
CD12F/LB-050C1	M12 connectors	M12 radial connector, 3 LED, 5 m, PVC, IP69K	
CD12M/0B-300A1	M12 connectors	M8 and M12 connectors, axial and radial, 30 m cable lenght	
CD12M/0B-300C1	M12 connectors	M8 and M12 connectors, axial and radial, 30 m cable lenght	
CD12M/0E-400A1	M12 connectors	8 pins cable, 40 m lenght	
CD12M/LB-050C5	M12 connectors	M12 radial connector, 3 LED, 5 m and 10 m lenght, PUR	
CD12M/LB-100C5	M12 connectors	M12 radial connector, 3 LED, 5 m and 10 m lenght, PUR	
Cavi CD12M/LB-***C5 e CD12F/LB-050C1	cables with LED indicators		**25**
CDP	extension cable		**27**


AF 2050
3156
U101

CST 566A sensor

Diffused up to 1 meter

Main characteristics

- Easy to install
- Molex Picoblade connector
- 3 status LEDs:
  1. Power ON
  2. NO output
  3. NC output
- PNP output

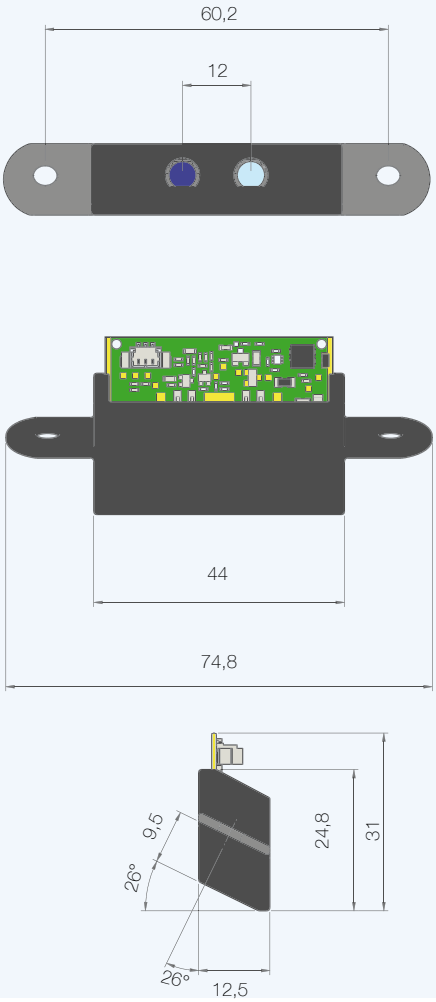
technical specifications

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

	CST566
type	direct diffuse
sensing distance (sn)	> 1 m (white) > 0,6m (gray)
emission	infrared (880 Nm)
operating voltage ue	5 Vcc
no load supply current	≤ 5 mA
load current max	50 mA
leakage current	≤ 10 µA (Vcc max)
output voltage drop	2 V max (50 mA)
output type	NPN Lo (NO)
output impedance	100 Ω
response time	≤ 200 ms
switching frequency	10 Hz
ambient light immunity	3.000 lux (incandescent lamp); 10.000 lux (sunlight)
operation temperature range	-25°C….+ 70°C (without freeze)
led	Molex Picoblade optic step 1,25 mm (4 contacts)

dimensions (mm)

CST566A



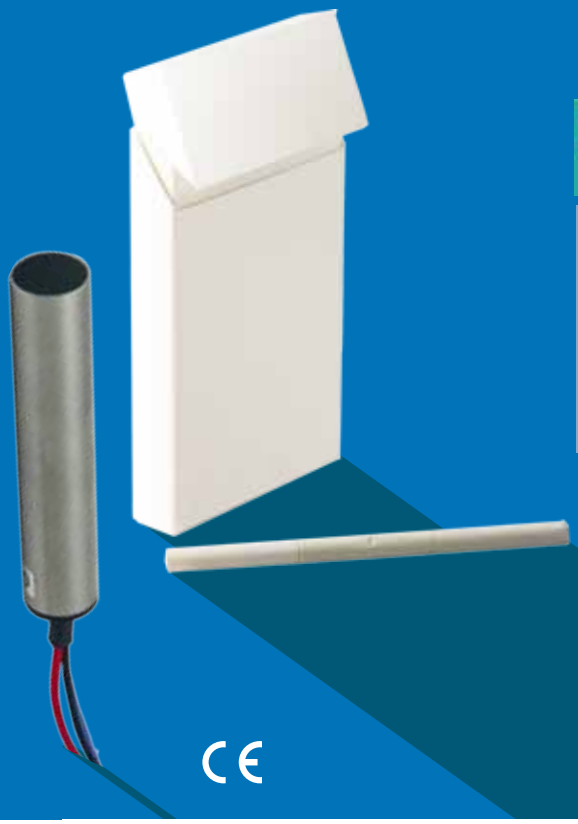

F14376OWR0102SAB
1409
PASSED

TS01D series

Analog sensor for slim cigarettes detection

main characteristics

- Tubular sensor with analog output
- Housing completely filled with resin
- Collimated IR LED emission
- 4 optic fiber receivers
- Short DOF



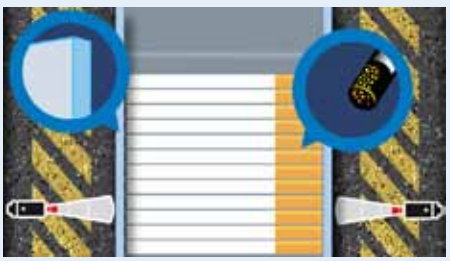
technical specifications

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

	TS01D
emitter	
Max continuous led current	90 mA
Max.Impulse Led Current	800 mA @ T = 10 ms & T_w = 10 µs
Led voltage drop	1,5 V @ 50 mA
Led Reverse Voltage	0,6 V (Reverse voltage protected by parallel diode)
Emitted wavelength	880 nm
receiver	
Maximum Applicable Voltage	30 Vcc
Current Sensibility	130µA/mm@ white target (90% reflective)
Peak sensibility distance (with 2 mm of frontal glass thickness)	< 1 mm
housing	
Cylindrical shape	Ø = 9,4 mm L = 49,5 mm
Housing Body	Stainless Steel AISI 303
temperature	
Operative temperature range	0 °C ... 50 °C
Storage temperature	-40 °C ...70 °C

Application overview

-

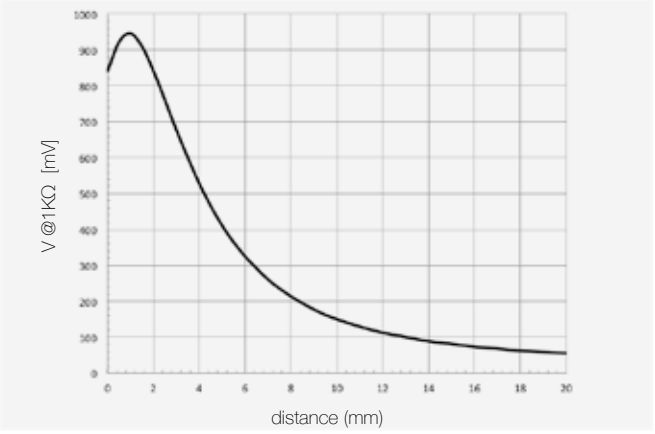


Application field: Tobacco

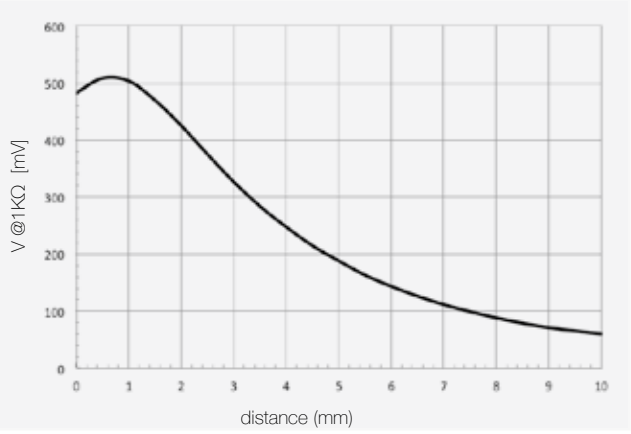
For tobacco level detection in slim cigarettes we used a fiber optic system based on a collimated IR emission combined to 4 receivers; this solution allows a high detection accuracy, with an extremely limited deep of field.
The detection is carried out by the glass sides and the analog output informs the system about the quality of the tobacco filling level into the slim cigarettes.

response curves

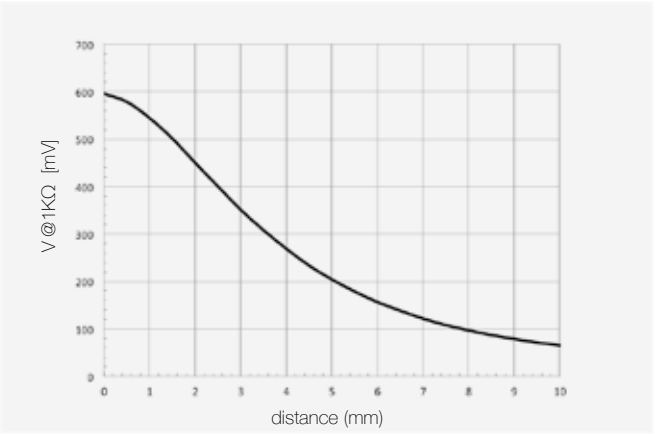
CST568 @ glass 2mm, white paper (90% reflectivity)



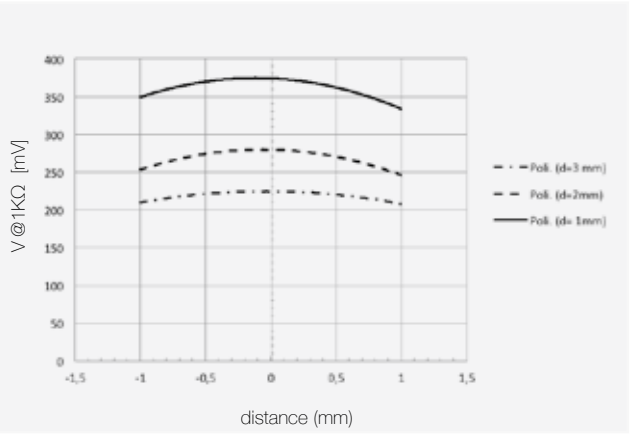
CST568 @ glass 2mm, tobacco target Ø=4,6mm



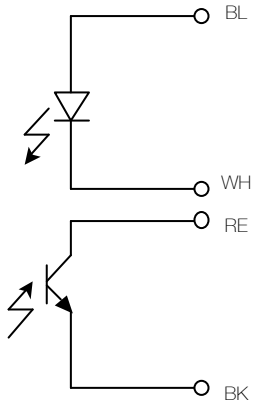
CST568 @ glass 2mm, filter target Ø=4,6mm



Parallel Displacement with tobacco



wiring diagrams



BL: BLUE wire - LED anode, to be connected to current generator

WH: WHITE wire - LED cathode, to be connected to current generator

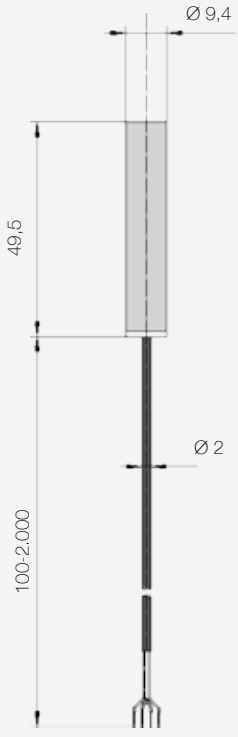
RE: RED wire - Current output, to be connected to a voltage generator through a load resistor

BK: BLACK wire – Ground

Note: The LED emitter must be driven by a current generator, direct voltage application should be avoided in order to prevent the emitter destruction

dimensions (mm)

CST568



FQI2/LN-1EFJ; FQI5/LN-1EFJ models

M18 tubular sensor with quick mounting system

Main characteristic

- IP67 mechanical protection
- Protected against electrical damages
- Flush mounting by only one nut
- Quick installation without any adjustment
- Housing completely filled with resin
- Nickel brass housing

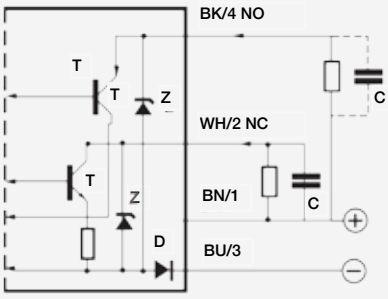
code description

FQ I 2 / L N - 1 E FJ

series	FQ	M18 photoelectric sensor shor housing
emission	I	Infrared emission
diffusion	2	100 mm direct diffuse without adjustment
	5	200 mm direct diffuse without adjustment
output	L	NO + NC complementary output
logic	N	NPN output
housing	1	Metal housing, axial housing
connection	E	Plastic M12 connector output
variant	FJ	Fast installation system

electrical diagrams of the connections

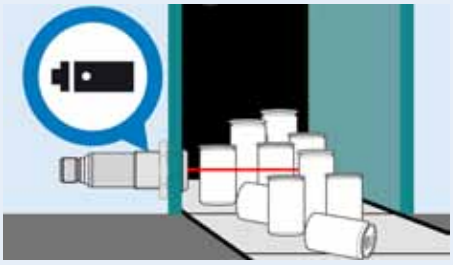
NPN model - NO + NC



BN	brown
BU	blue
BK	black
WH	white

application overview

-



Application field: sorting systems

To simplify and speed up the installation phases, we used a photoelectric M18 sensor FQ series with a quick mounting system for flush mounting is provided. In this way to mount the optical sensor it is necessary to use only one nut, placed on the back sensor side.

technical specifications

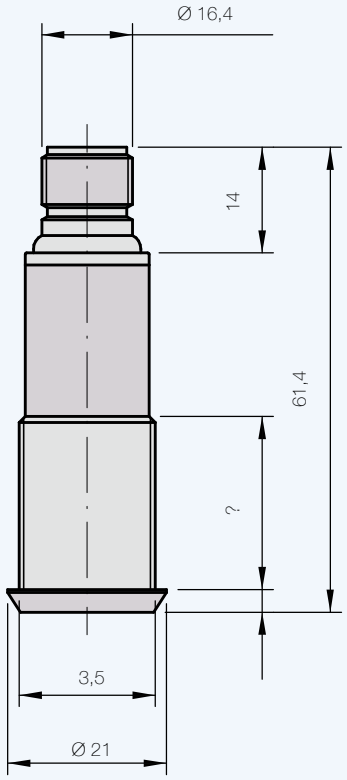
according to IEC EN 60947-5-2 and ICE EN 60947-5-7

	FQI2/LN-1EFJ	FQI5/LN-1EFJ
type	direct diffuse	
nominal sensing distance (sn)	100 mm (1)	200 mm (2)
tolerance	+15 /-5% Sn	
emission	infrared (880 nm)	
repeat accuraty	5%	
operating voltage	10-30 Vcc	
ripple content	≤ 10%	
no load supply current	< 30 mA	
load current	≤ 50 mA	
leakage current	10 µA	
output voltage drop	2 V I_L=50mA	
output type	NPN	
switching frequency	250 Hz	
time delay before available	200 ms	
operative temperature range	-25°C... + 70°C	
interference external light	3.000 lux (incandescent lamp); 10.000 (sunlight)	
protection degree	IP 67 (EN60529)	
led indicator	yellow (output activeted)	
housing material	nichel brass	
optical material	PMMA	
output state	complementary output (NO+NC)	

dimensions (mm)

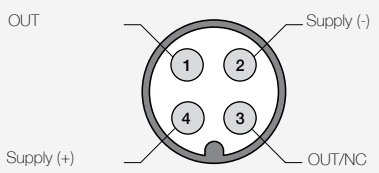
metal models

FQI2/LN-1EFJ; FQI5/LN-1EFJ



connectors

M12 FQI2/LN-1EFJ
FQI5/LN-1EFJ

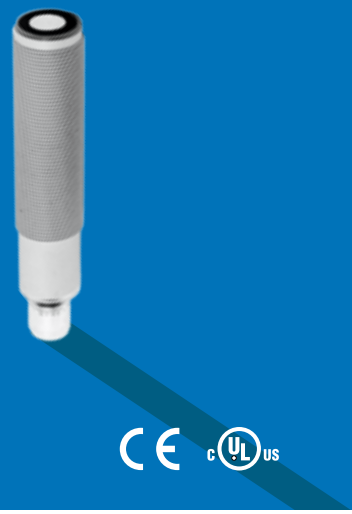


UK1C/E7-0E1HUL model

M18 Ultrasonic Sensor with fixed 70/700 mm sensing range and customized software to detect wooden chips/wooden pellets

main characteristics

- M18 ultrasonic sensor
- Sn = 70…700 mm
- No adjusting



download area (standard models)

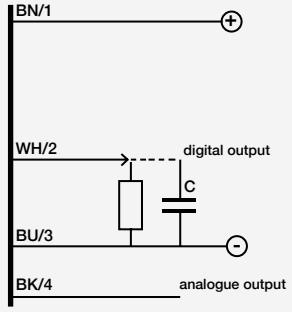
- Application notes
- Photographs
- Catalogues/ Manuals

code structure

	UK		1	C	/	E	7	-	0	E	1H	UL
series	UK	M18 ultrasonic sensor										
function		Direct diffuse										
housing	1	Standard housing										
nominal sensing distance Sn	C	100 - 900 mm										
adjustment	E	Sensivity adjustment by Teach-in button										
output	7	PNP - NO/NC + one voltage analogue output 0...10 V										
housing material	0	Axial plastic housing										
plug/cable connection	E	M12 plug output										
variation	1H	Sensing distance 70 … 700 mm - response time 500 ms - no regulation										
cULus	UL	cULus certified										

electrical diagrams of the connections

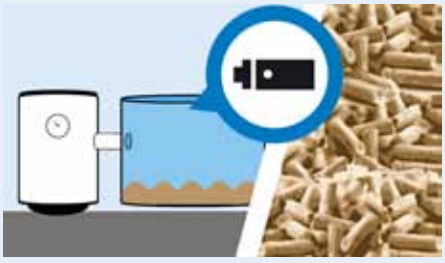
PNP - NO/NC models + 1 voltage analogue output



BN	brown
BU	blue
BK	black
WH	white

application overview

wooden chips/wooden pellets level detection inside the burner storage



Application field: WOODEN PELLETS

Our sensor UK1C/E7-0E1HUL with fixed sensing range makes the installation easier; moreover this sensor is equipped with a special software allowing to work stably with materials such as wooden chips.

technical specifications

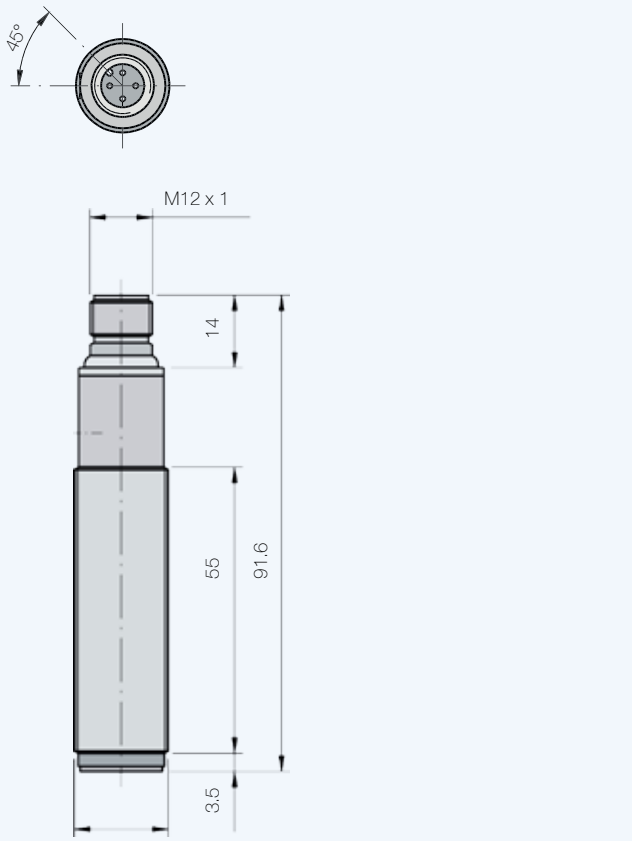
according to IEC EN 60947-5-2 and ICE EN 60947-5-7

	UK1C/E7-0E1HUL
	
nominal sensing distance Sn	700 mm
minimum working distance	70 mm
ultrasonic beam angle	± 7°
response time (digital output)	500 ms
hysteresis	1% max. value
repeat accuracy	1% max. value
errore di linearità	2 % max. value
supply voltage range	15 - 30 Vdc
ripple content	≤ 5%
no load supply current	≤ 50 mA
output current (analogic output)	0...10 V
min. load resistor	3 k Ω
leakage current	10 µA
switching frequency	1 Hz
time delay before availability	≤ 900 ms
ambient temperature range	-20 °C... + 60°C
temperature drift of Sr	≤ 7%
temperature compensation	●
short circuit protection	autoreset
induction protection	●
voltage reversal protection	●
shocks and vibrations	IEC EN 60947-5-2 / 7.4
LED indicators	yellow (output state)/ green (echo)
protection degree	IP67 (EN60529) - NEMA 4X
EMC protection	according to IEC EN 60947-5-2
housing material	PBT
sensing face	epoxy resin glass reinforced
connection	M12 plug cable exit

dimensions (mm)

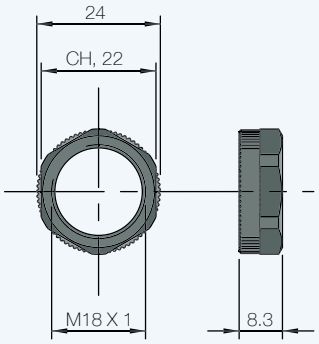
plastic models

UK1C/E7-0E1HUL

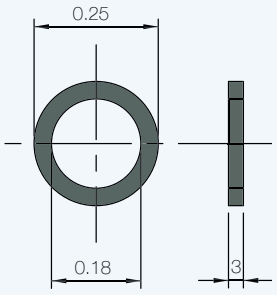


dimensions (mm)

accessories included with all plastic models



plastic tightening nut (2 x)



flexible washer (2 x)

CST717 model

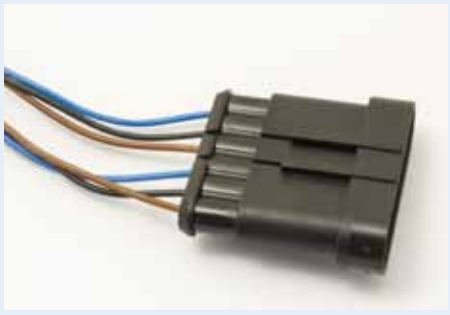
Inductive sensors kit based on 2 inductive sensors with short body for forklifts

Main characteristics

- 2 different inductive sensors wired on the same connector for a quick and easy mounting
- M12 tubular inductive sensor short body
- M18 tubular inductive sensor short body
- Sn = 4 mm for M12 inductive sensor
- Sn = 8 mm for M18 inductive sensor
- PNP outputs

Two inductive sensors with short body for forklifts

product details



technical specifications

according to IEC EN 60947-5-2 and ICE EN 60947-5-7

	AM6/AP-3A	AK6/AP-3A
nominal sensing distance sn	4 mm	8 mm
operating distance	0...3,2 mm	0...6,4 mm
hysteresis	1...20%	
standard target	12 x 12 mm FE360	24 x 24 mm FE360
repeat accuracy	5% Ub 20-30 V Ta = 23°C ±5°C	
supply voltage range	10...30 Vcc	
max. ripple content	≤ 10%	
output current	≤ 200 mA	
output voltage drop	≤ 1,8 V @ 200 mA	≤ 1,5 V @ 200 mA
no load supply current	≤ 10 mA	
logic output	PNP	
output state	NO	
leakage current	10 µA	
switching frequency	2 KHz	
time delay before availability	≤ 50 ms	
ambient temperature range	-25 °C... + 70°C	
temperature drift of sr	≤ 10%	
short circuit protection	● (autoreset)	
induction protection	●	
voltage reversal protection	●	
shocks and vibrations	IEC EN 60947-5-2 / 7.4	
led indicators	yellow (output state)	
protection degree	IP67	
EMC protection	according to IEC EN 60947-5-2	
housing material	nickel-plated brass	
sensing face	PBT	
connection	6 poles plug exit	

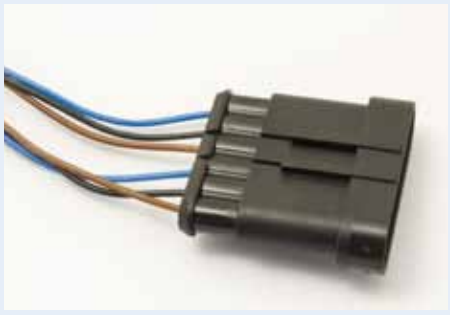
AK6/AP-3AFL model

Inductive sensors kit based on 2 inductive sensors with short body for forklifts

Main characteristics

- 2 different inductive sensors wired on the same connector for a quick and easy mounting
- 2x M18 tubular inductive sensor short body
- Sn = 8mm for M18 inductive sensor
- PNP outputs

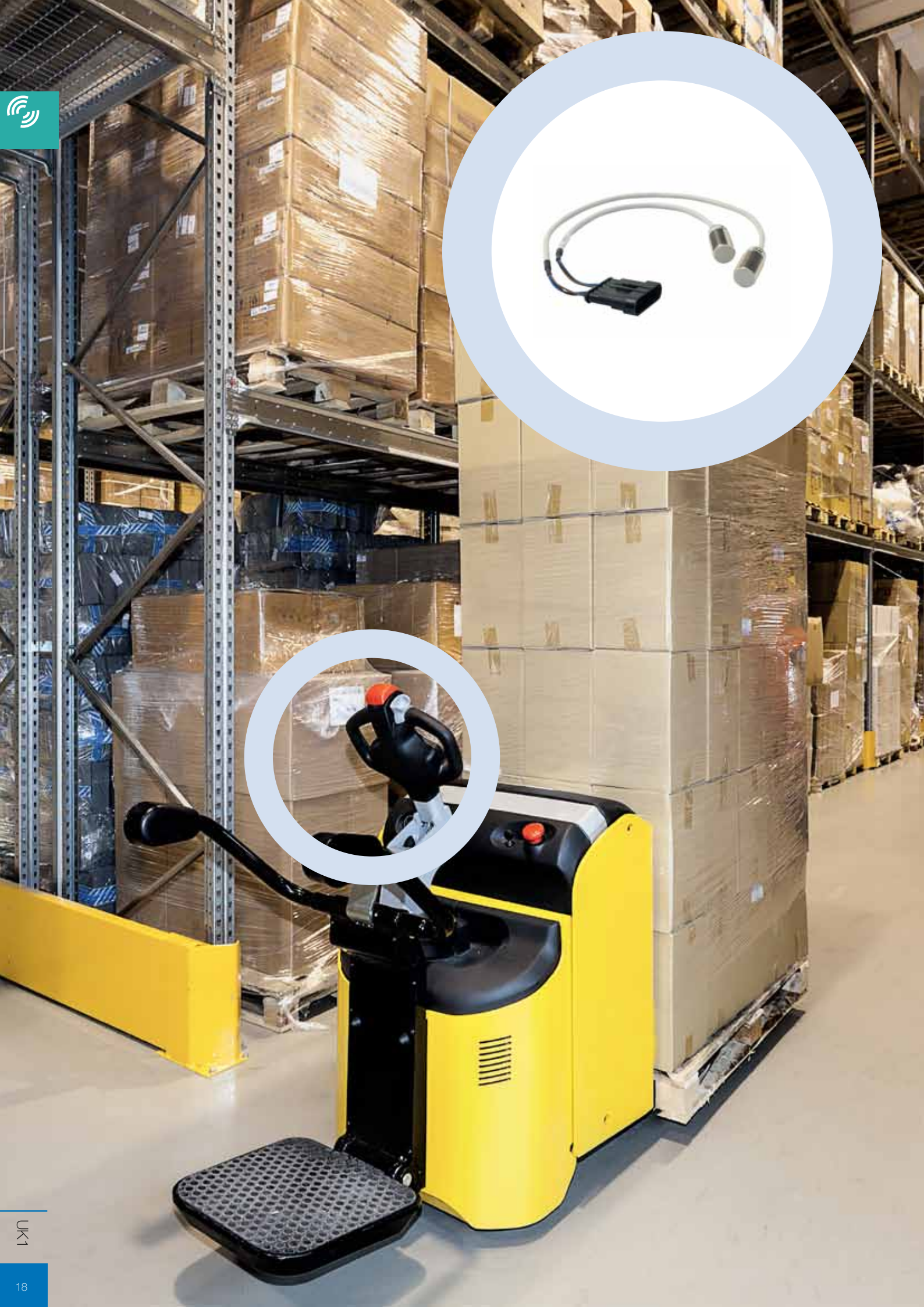
connector details



technical specifications

according to IEC EN 60947-5-2 and ICE EN 60947-5-7

	AK6/AP-3AFL
nominal sensing distance sn	8 mm
operating distance	0...6,4 mm
hysteresis	1...20%
standard target	24 x 24 mm FE360
repeat accuracy	5% Ub 20-30 V Ta = 23°C ±5°C
supply voltage range	10...30 Vcc
max. ripple content	≤ 10%
output current	≤ 200 mA
output voltage drop	≤ 1,5 V @ 200 mA
no load supply current	≤ 10 mA
logic output	PNP
output state	NO
leakage current	10 µA
switching frequency	2 KHz
time delay before availability	≤ 50 ms
ambient temperature range	-25 °C... + 70°C
temperature drift of sr	≤ 10%
short circuit protection	● (autoreset)
induction protection	●
voltage reversal protection	●
shocks and vibrations	IEC EN 60947-5-2 / 7.4
led indicators	yellow (output state)
protection degree	IP67
emc protection	secondo IEC EN 60947-5-2
housing material	nickel-plated brass
sensing face	PBT
connection	6 poles plug exit



BX04; BX10, BX80 models

BX series, IP69K models for FOOD Industry

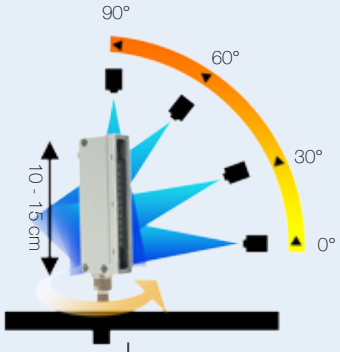
Main characteristic

- Protection degree IP69K
- Laser marking
- Available models:
  - BX04SR/0A-HB9K
  - BX10SR/0A-HB9K
  - BX80A/1P-0H9K
  - BX80S/10-0H9K

technical specifications

The tightness is granted from the ultrasonic welding of the PBT body and polycarbonate optical part.

Laser marking guarantees a perfect hygienisation of the body.



- 30-second cylce
- 14 - 16 liter per minut
- water at 80 °C
- 80-100 bar

This AreaSensor is used on the packaging line to detect fresh food plastic boxes in the FOOD Industry. .
The sensors can resist to the water jets with pressure of 100 bar and temperatures up to 80°C, that makes the product particularly sturdy and suitable for applications in harsh environments.
2 containers:

- Water @ 80 ° C
- Water @ 5 ° C.

We immerse the sensor in hot water for 10 minutes and then immediately for another 10 minutes in the cold water. This cylce has been performed for 5 times.

code description

BX 04 S / 0 0 - H B 9K

series	BX	Compact Area Sensor
type	04	4 optical elements, 30mm element spacing, area height 90 mm
	10	10 optical elements, 10 mm element spacing, area height 90 mm
emitter receiver	SR	Emitter/receiver NO
emitter	0	Emitter
receiver	A	Receiver NO (impulso buio)
output	H	Cable exit
range	B	Range 0,3...2 m
variant	9K	IP69K protection degree

BX80 A / 1 P - 0 H 9K

series	BX80	High resolution Area Sensor
receiver	A	Receiver for object detection with limited crossed beam, logic output, NO/NC selectable
	S	Sender with sensitivity adjstment
series details	1	Range 2 m, resolution ø 5-6 mm, response time10 ms
output	P	PNP output
housing	0	PBT standard body with PC optic window + aluminium 1 enclosure with air cooling system
connector	H	M12 male connector
variant	9K	IP69K protection degree

technical specifications

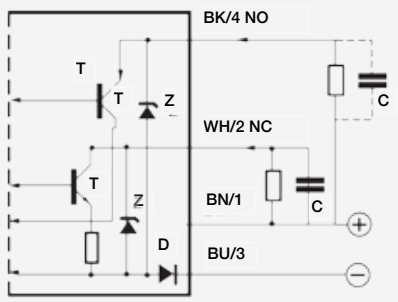
according to IEC EN 60947-5-2 and ICE EN 60947-5-7

	BX04SR/0A-HB9K	BX10SR/0A-HB9K	BX80A/1P-0H9K	BX80S/10-0H9K
nominal sensing distance sn	2 m			
minimum operating distance	300 mm		0 mm	-
controlled area height	90 mm		70 mm	
beams quantity	4	10	12	
beam's pitch	30 mm	10 mm	6 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]	ø 6 mm	-
emission	infrared			
histeresys	≤ 10%		≤ 15%	
operating voltage	10...26 Vcc		12...24 Vcc	
repeat accuracy	-		5 %	
tolerance	-		0/20% of the nominal sensing distance Sn	
ripple	≤ 10%			
output current (no load)	50 mA (receiver), 25 mA (emitter),		50 mA (receiver), 100 mA (emitter),	
load current	≤ 100 mA			
leakage current	≤ 10 µA			
output voltage	≤ 2 V @ I_L = 100 mA		≤ 1,2 V @ I_L = 100 mA	
output	NPN + PNP NO or NC		NPN or PNP - NO/NC (selectable)	
connections	M12 connector, 4 pins			
excess gain	-		2° (at nominal distance Sn)	
aperture angle	-		3° (sender) - 6° (receiver) at Sn distance	
response time (light/dark)	500 µs		-	
response time (dark/light)	5 ms		-	
time delay before availability	≤ 85 ms		500 ms	
power supply protection	polarity reversal, transient		reversal polarity and voltage transient	
output protection	short cuircuit (auto reset)			
sensitivity adjustment	trimmer		-	trimmer
operating temperature	0...+50°C (no freeze)		-25...+50°C (no freeze)	
storage temperature	-40...+80°C			
temperature drift	≤ 10%			
ambient light	1.000 lux (incandescent lamp), 1.500 lux (sunlight)		1.500 lux max. (incandescent lamp), 4.500 lux max. (sunlight)	
protection degree	IP67 / IP69K			
emitter leds	green		green (supply), red (syncronization alarm), yellow (area state)	
receiver leds	red/yellow		green (supply), red (alignment), yellow (output state)	
housing material	PC			
lens material	PC			
tightening torque	25 Nm			
weight (approx)	0,26...0,30 Kg			

[1] Granted resolution everywhere in the detection area.
[2] Granted resolution in the central part of the detection area with exclusion of the dark zones
[3] Granted resolution in the central part of the detection area with exclusion of the dark zones, but with sensivitvty adjustment
[4] NC output models available on requestDark zones are parts of the detection area close to the emitter and the receiver, their amplitude X is proportional to the distance D between the emitter and the receiver. (BX04: X = 0,17 D; BX10 = 0,06 D)

electrical diagrams of the connections

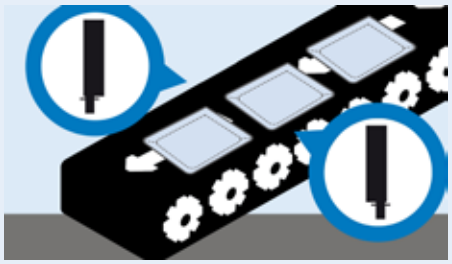
**PNP - NO/NC models +
voltage analogue output**



BN	brown
BU	blue
BK	black
WH	white

application overview

PCB detection



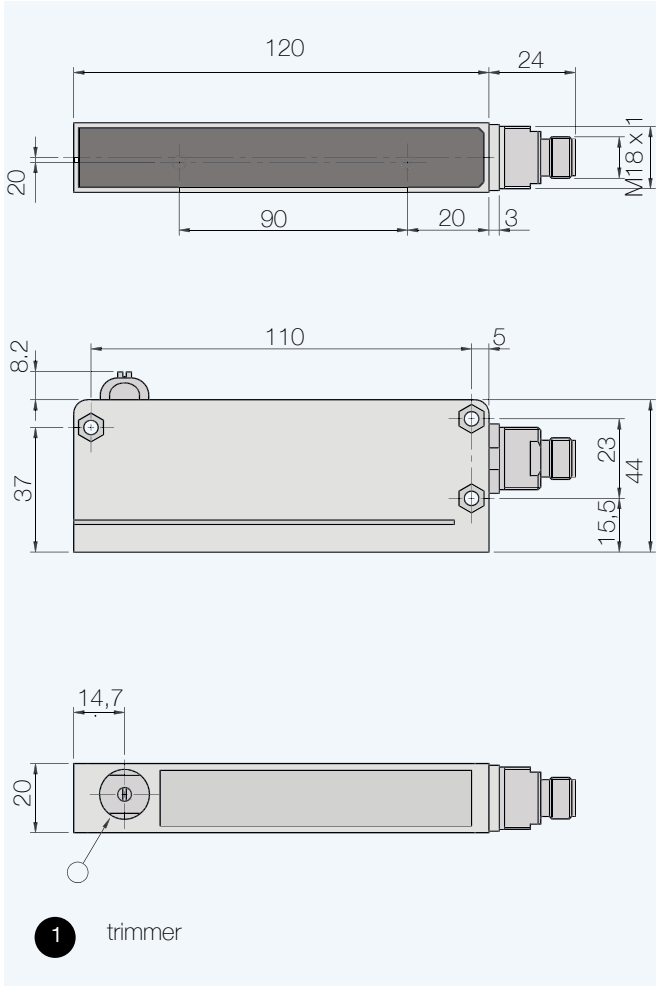
Application field: PCB PRODUCTION

The sensor is installed below the conveyors and it can accurately detect the presence of PCB despite its color.

dimensions (mm)

emitter

BX04SR-A-AT

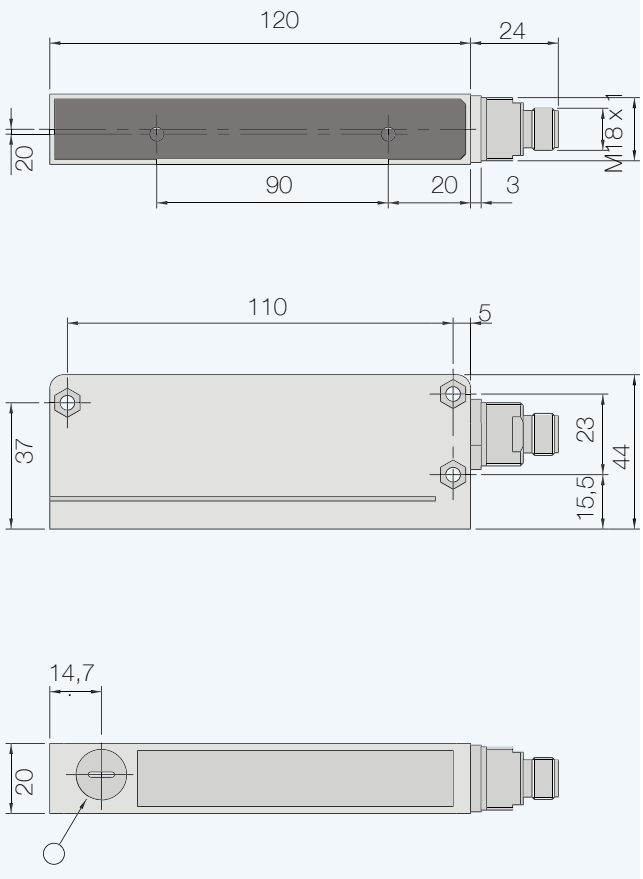


1 trimmer

dimensions (mm)

receiver

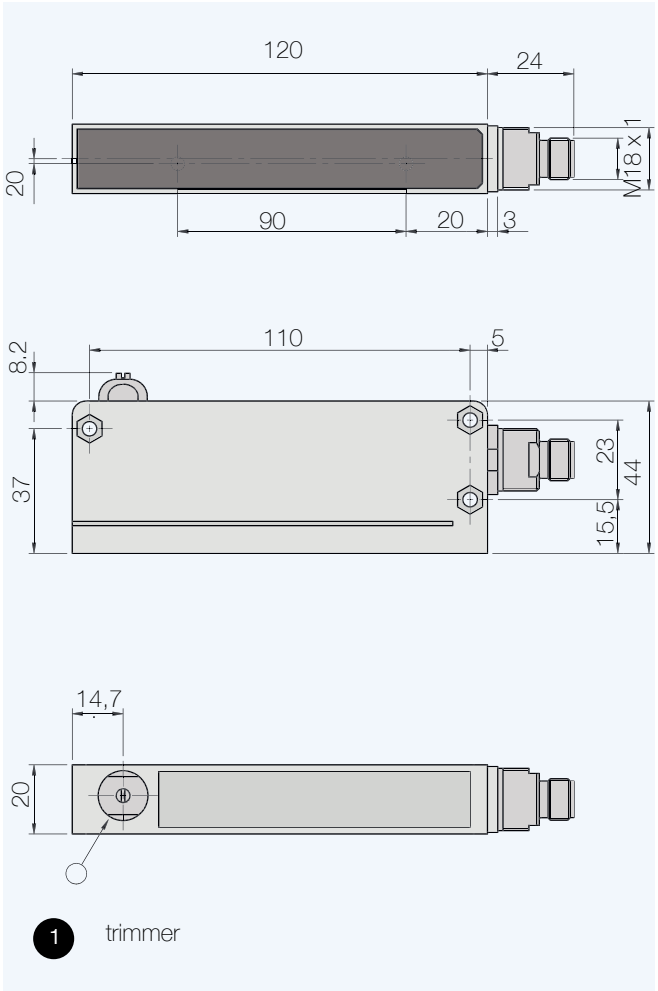
BX04R-A-AT



dimensions (mm)

emitter

BX104R-A-AT

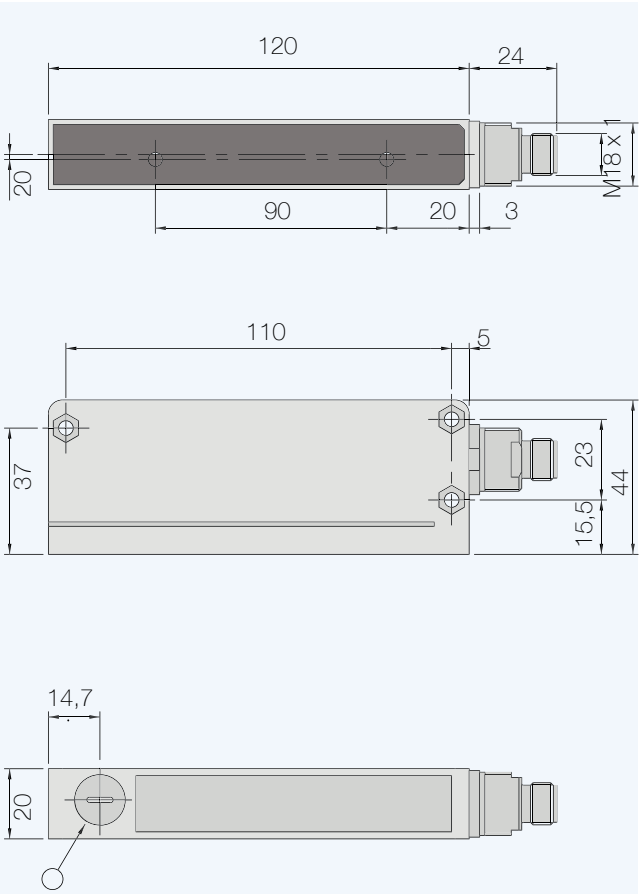


1 trimmer

dimensions (mm)

receiver

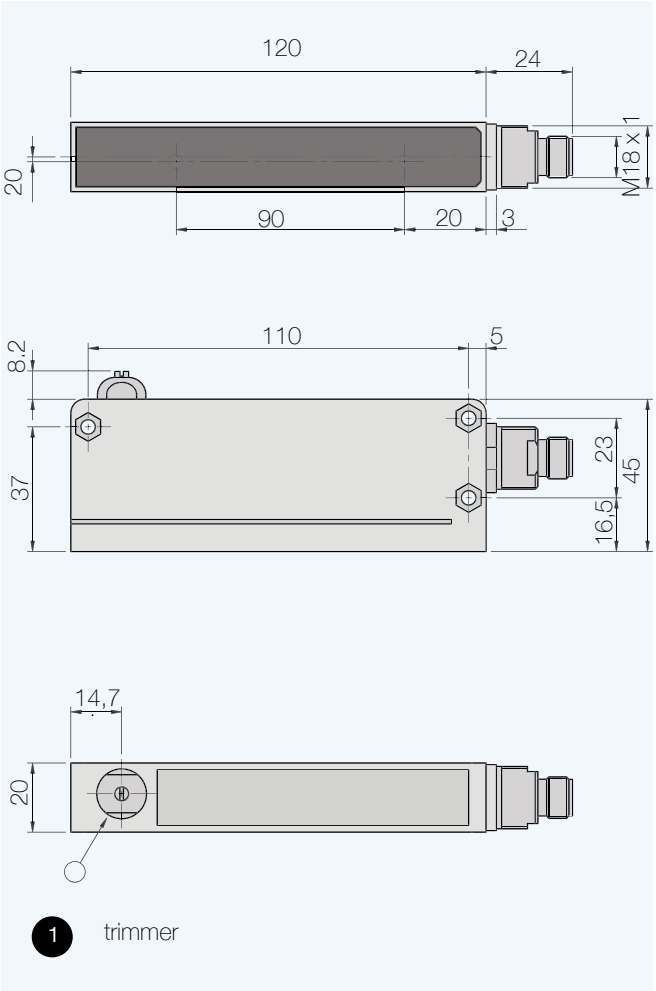
BX104R-A-AT



dimensions (mm)

emitter

BX80*/1*-0H9K

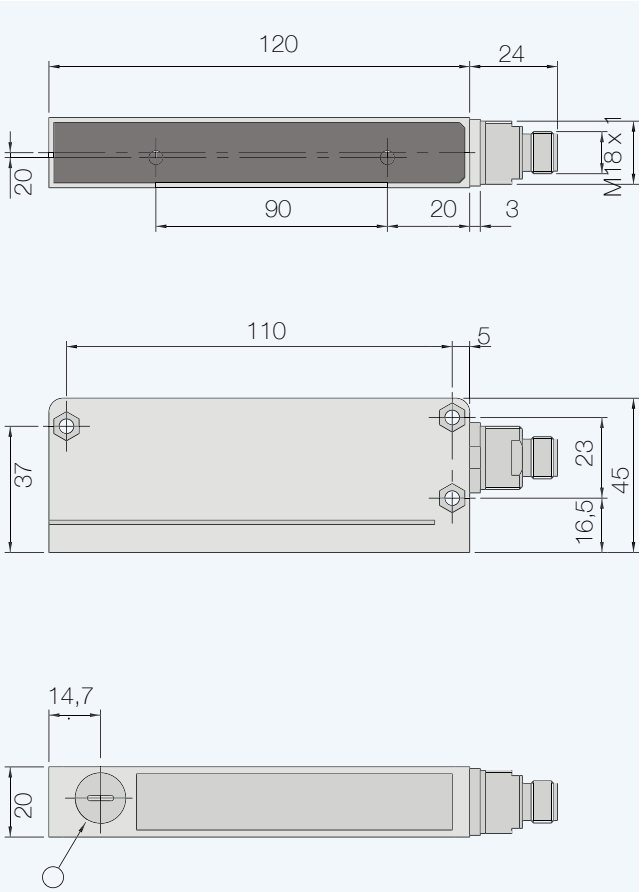


1 trimmer

dimensions (mm)

receiver

BX80*/1*-0H9K



CD12M/LB-***C5 and CD12F/LB-050C1 cables

Connection cables with indicators status LEDs

Main characteristics

- 3 indicator status LEDs on M12 connector
- 3 LED:
  1. Power ON
  2. NO output
  3. NC output
- PNP output

available models

connector	n° pins	LED	axial/radial	lenght (m)	model
M12	4	3	axial	5 m	CD12F/LB-050C1
					CD12M/LB-050C5
				10	CD12M/LB-100C5

technical specifications

according to IEC EN 60947-5-2 and ICE EN 60947-5-7

- PUR model: CD12M/LB-***C5
- cable lenght: 5 m (*** = 050), 10 m (*** = 100)
- protection degree: IP67

PVC model: CD12F/LB-050C1

- cable lenght: 5 m
- protection degree: IP67, IP69K

application overview

NO output

NC output

The 3 LEDs mounted on the M12 connector allow the user to easily verify:

- if the sensor is powered
- which NC and/or NO output is activated.

CDP extension cable

Main characteristics

- Female M8 connector 3 poles
- Male M8PNP output
- PVC cable length of 250 mm

technical specifications

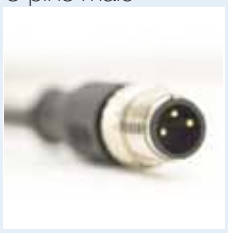
- Connections:

  1. 1 pin female and 1 pin male
  2. 3 pins female and 3 pins male
  1. 4 pins female and 4 pins male
  2. 2 pins female no connected
  3. 250 mm PVC cable lenght

- With slot sensor FCx series, the valid output configuration is PNP.

application overview

Machine side
3 pins male



Sensor side
4 pins female

Micro Detectors

Italian Sensors Technology

M.D. Micro Detectors S.p.A. has been designing and manufacturing a wide range of industrial sensors since 1971. Our company's strong commitment to future developments and innovations is based on over 40 years of knowledge.

Our product portfolio is the following:

- Photoelectric Sensors
- Proximity Sensors
- Ultrasonic Sensors
- Area Sensors
- Safety Devices
- Accessories.

Variation and customization of catalogue products are also an important part of our activity, as well as products specifically developed to satisfy our customers' needs. Moreover, we develop innovative solutions for industrial applications using our technology.

Our organization and competences allow us to manufacture our products quickly and with guaranteed results for our customers. Fast deliveries is one of our biggest strengths.

Over 1.3 million pieces are entirely manufactured in our Modena plant. Our Made in Italy production is synonymous for quality, accuracy, experience and reliability.

Since the beginning, our products have been renowned on the market for their quality, robustness, ease of use and for outstanding performance. This is the result of a manufacturing process carried out at the highest level of capacity, quality, efficiency and flexibility.

All processes, from research and development of new products to manufacturing and final shipment, are carried out by our personnel at our site. This allows us to keep all of our processes completely under control and to be flexible and reactive to customers' needs.

We are organized according to the principles of Lean Thinking. All products manufactured in our plant undergo constant controls and they are always double-checked.

The human and material assets of our Company guarantee the best results and a constant support at all times. Work ethic, customer orientation and continuous improvement, passion and commitment to excellence, search for professional challenges: the professional background of our people is made of this and more.

The quality of M.D. Micro Detectors S.p.A. has also been certified throughout the years: our Quality Management System has been certified ISO 9001:2008 and several products have obtained the CE, ATEX, UL, cULus, Diversey, TÜV and ECOLAB certification.

M.D. Micro Detectors S.p.A.
Strada S. Caterina 235
41122 Modena - Italy

tel. + 39 059 420411
fax + 39 059 253973
info@microdetectors.com
www.microdetectors.com

Micro Detectors Ibérica S.A.U.
c/. Antic Camí ral de València, 38
08860 - Castelldefels (Barcelona)

Tel.: +34 93 448 66 30
Fax: + 34 93 645 28 15
info@microdetectors.es
www.microdetectors.es

M.D. Micro Detectors (Tianjin) Co, LTD.
XEDA International Industry
area B2-3 Xiqing District
300385 - Tianjin (China)
Tel.: +86 022 23471915
Fax: +86 022 23471913
info@microdetectors.com
www.microdetectors.com