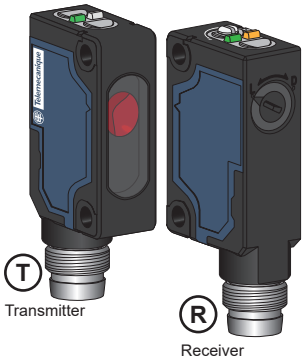
Photo-electric sensors - Miniature design



NPN: **XUM2ANXBM8** *(*)*
PNP: **XUM2APXBM8** *(*)*
IO-Link: **XUM2APYBM8** *(*)*
(*): Sold by pair (1 Transmitter + 1 Receiver)



NPN: **XUM2ANXBL2** *(*)*
PNP: **XUM2APXBL2** *(*)*

XU●●●●T = Transmitter alone
XU●●●●R = Receiver alone

Thru-beam

IO-Link

Model	Sensing distance **D**
XUM2•	30 m / *98.4 ft*

Package Content
(Example)





http://qr.tesensors.com/XU0007

Scan the code to access this Instruction Sheet and all product information in different languages or you can visit our website at:
www.telemecaniquesensors.com

We welcome your comments about this document. You can reach us through the customer support page on your local website.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before servicing equipment.
- Do not connect this device to AC power.
- The power voltage must not exceed the rated range.

Failure to follow these instructions will result in death or serious injury.

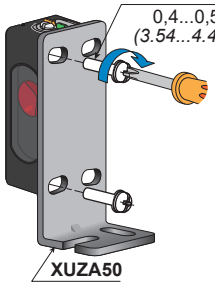
WARNING

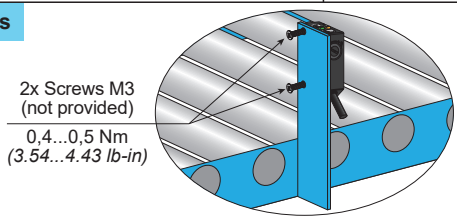
IMPROPER SETUP OR INSTALLATION

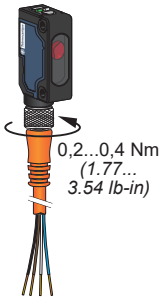
- This equipment must only be installed and serviced by qualified personnel.
- Read, understand, and follow the compliance below, before installing the XU Photo-electric sensor.
- Do not tamper with or make alterations on the unit.
- Comply with the wiring and mounting instructions.
- Check the connections and fastening during maintenance operations.
- The proper functioning of the XU Photo-electric sensor and its operating line must be checked regularly and according to the application (for example number of operations, level of environmental pollution, etc.).

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Mounting and tightening torques



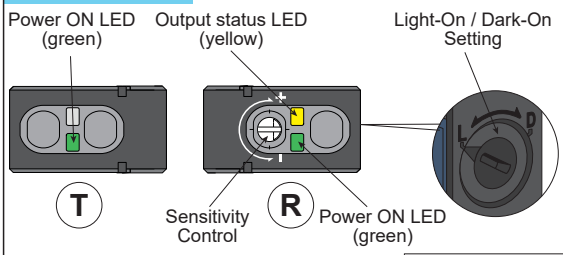


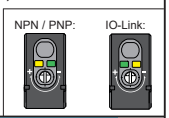


CAUTION

DEGREE OF PROTECTION DETERIORATION
Do not apply excessive tightening torque on the sensor during the installation process.
Failure to follow these instructions can result in injury or equipment damage.

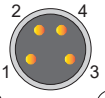
LEDs and Setting





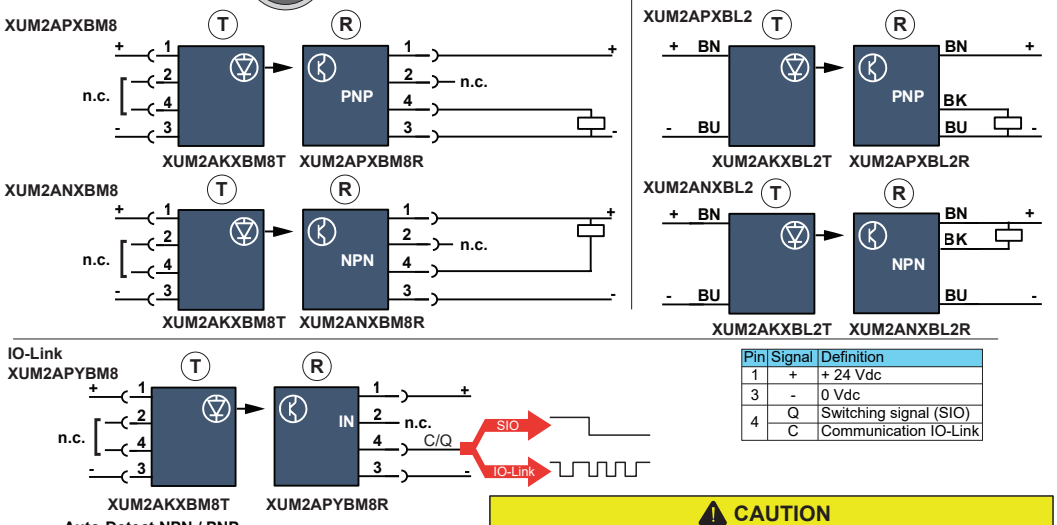
Wiring diagrams

M8 Connector - 4 pins



2 m Cable - 3 wires





Pin	Signal	Definition
1	+	+ 24 Vdc
3	-	0 Vdc
4	Q	Switching signal (SIO)
	C	Communication IO-Link

CAUTION

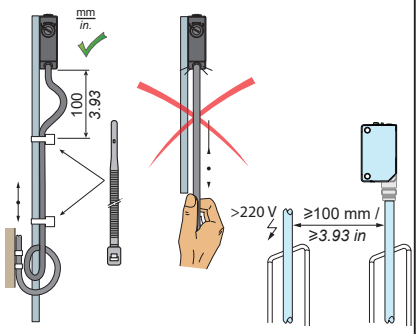
INOPERABLE EQUIPMENT DUE TO CYBER ATTACK ON IO-LINK
- Apply external cybersecurity protection on IO-Link Master device.
- Download IO-Link Description files only from these web servers: https://telemecaniquesensors.com/global/en/support/iolink or https://ioddfinder.io-link.com/#/

Failure to follow these instructions can result in injury or equipment damage.

N.C. (Not Connected)

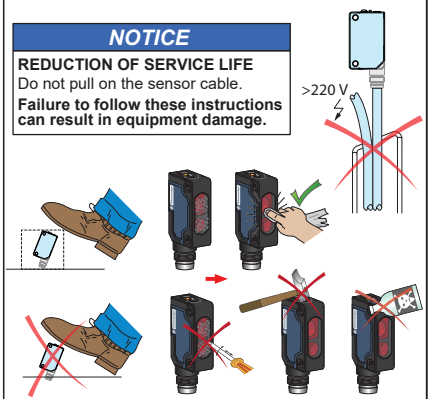
IO-Link data tables and IODD files are online : Scan the 2D code, above

Mounting, wiring and maintenance precautions



NOTICE

REDUCTION OF SERVICE LIFE
Do not pull on the sensor cable.
Failure to follow these instructions can result in equipment damage.



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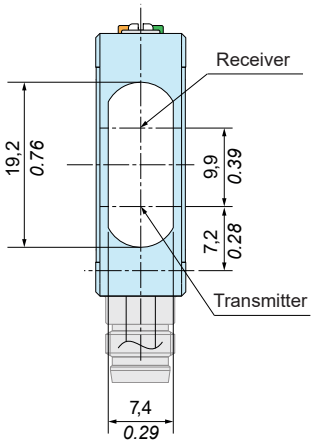
© 2025 TMSS France. "All Rights Reserved."

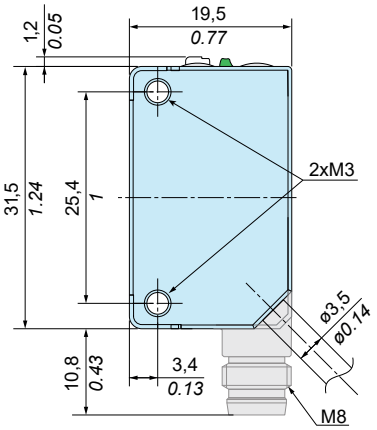
Telemecanique Sensors

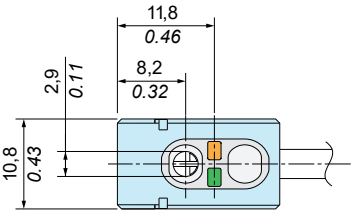
Dimensions

1 mm = *0.0394 in.*

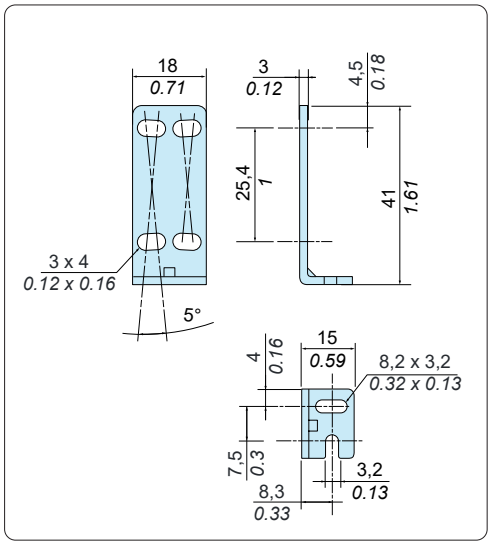
mm / *in.*



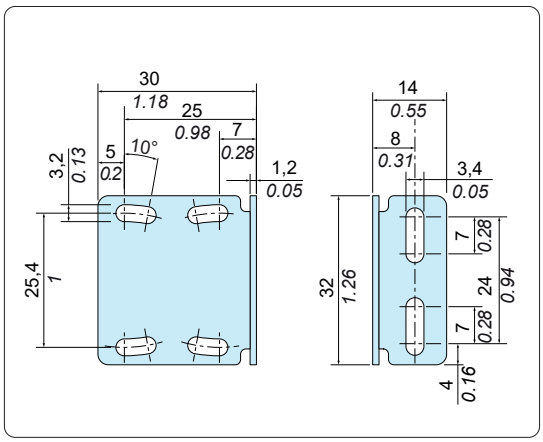




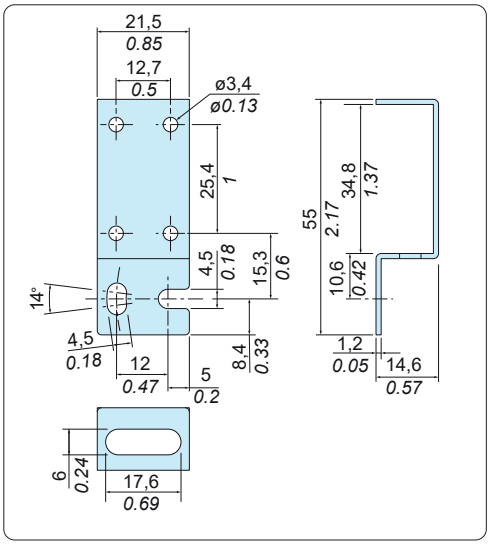
XUZA50



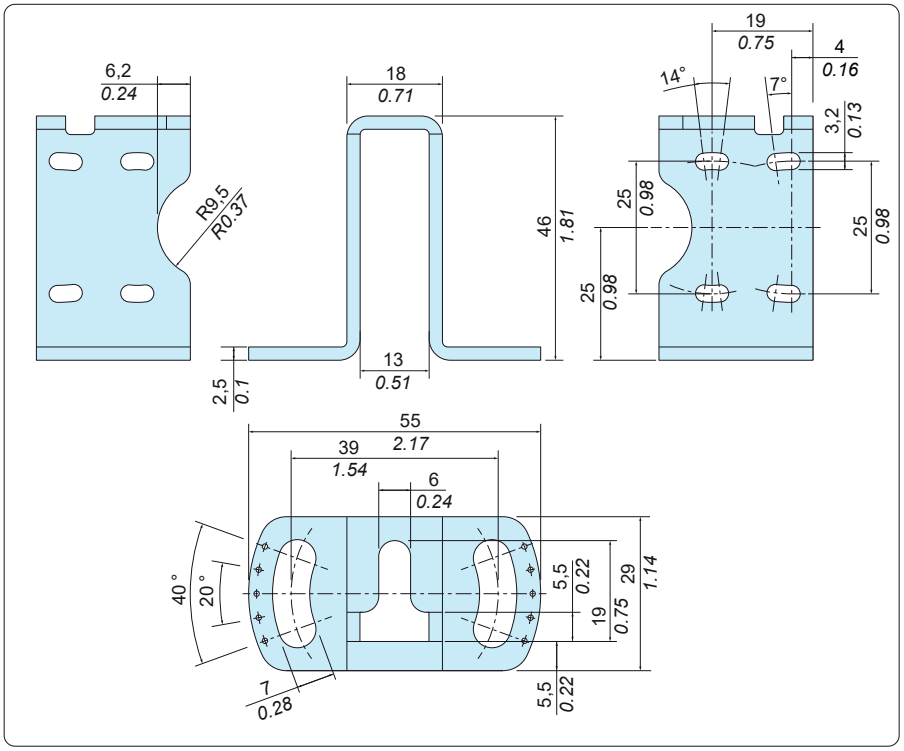
XUZASM04



XUZASM02



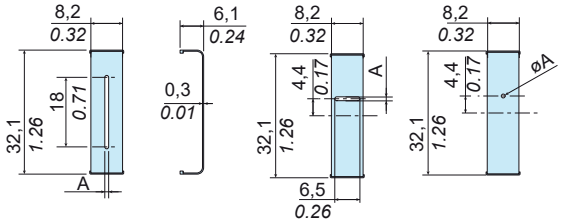
XUZASM03



XUZDVM05
XUZDVM10
XUZDVM20

XUZDHM05
XUZDHM10
XUZDHM20

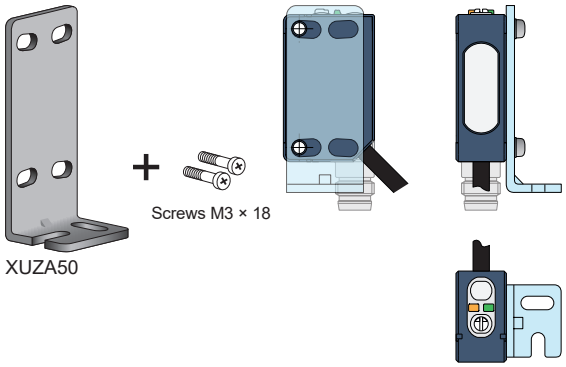
XUZDRM05
XUZDRM10
XUZDRM20

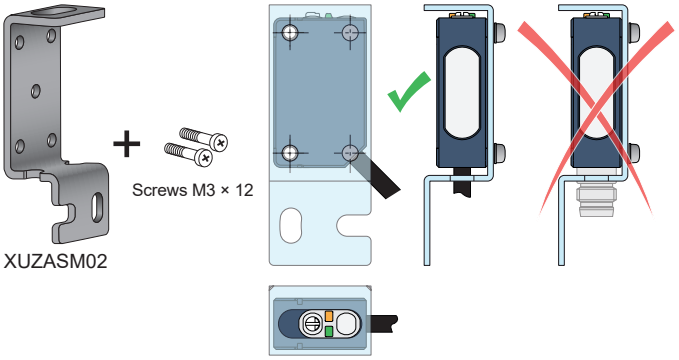


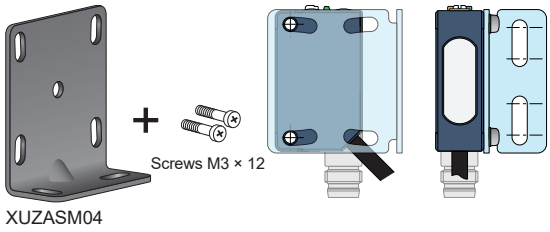
Width "A" mm	Width "A" *in.*	Vertical slit	Horizontal slit	Round slit
0,5	*0.02*	XUZDVM05	XUZDHM05	XUZDRM05
1	*0.04*	XUZDVM10	XUZDHM10	XUZDRM10
2	*0.08*	XUZDVM20	XUZDHM20	XUZDRM20

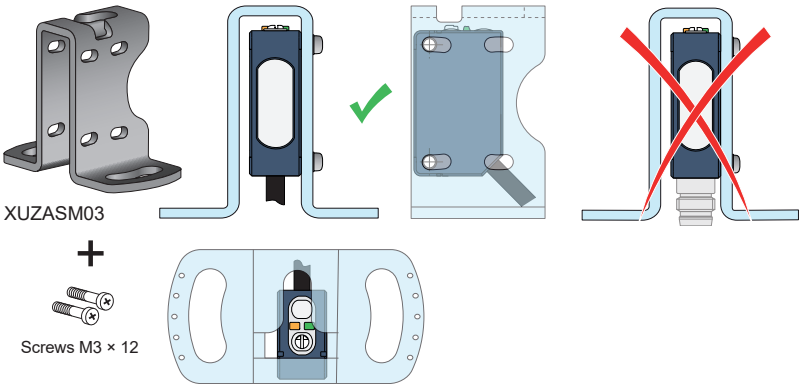
Accessories

Mounting brackets (to order separately)

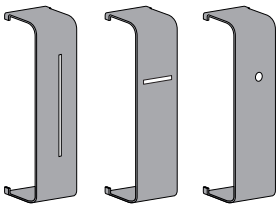


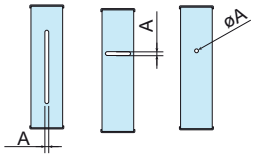






Slits for thru-beam model (to order separately)





Ⓣ : Transmitter
Ⓡ : Receiver

Slit and Sensing Range

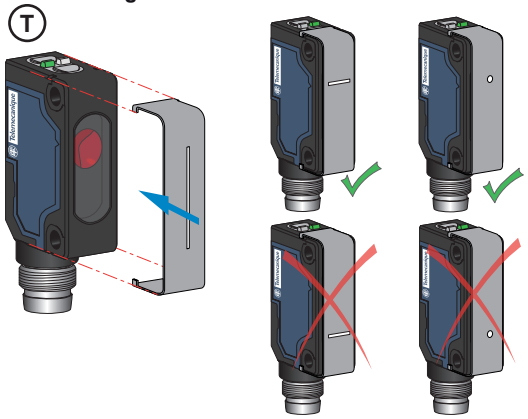
A slit, which changes the beam size of through-beam sensors, can easily be attached to the sensing side of the through-beam transmitter and receiver.

Slit			Sensing Range				Minimum Detectable Object Width			
Commercial reference	Width: A		Used on Ⓡ		Used on Ⓡ + Ⓣ		Used on Ⓡ		Used on Ⓡ + Ⓣ	
	mm	*in.*	m	*ft.*	m	*ft.*	mm	*in.*	mm	*in.*
XUZDVM05	0,5	*0.02*	2,5	*8.2*	1	*3.28*	0,5	*0.02*	0,5	*0.02*
XUZDVM10	1	*0.04*	3,5	*11.5*	1,5	*4.92*	1	*0.04*	1	*0.04*
XUZDVM20	2	*0.08*	6	*19.7*	3,5	*11.5*	2	*0.08*	2	*0.08*
XUZDHM05	0,5	*0.02*	2	*6.56*	0,7	*2.3*	0,5	*0.02*	0,5	*0.02*
XUZDHM10	1	*0.04*	3	*9.84*	1,5	*4.92*	1	*0.04*	1	*0.04*
XUZDHM20	2	*0.08*	5,5	*18*	3	*9.84*	2	*0.08*	2	*0.08*
XUZDRM05	ø0,5	*ø0.02*	0,8	*2.62*	0,08	*0.26*	0,5	*0.02*	0,5	*0.02*
XUZDRM10	ø1	*ø0.04*	1,5	*4.92*	0,3	*0.98*	1	*0.04*	1	*0.04*
XUZDRM20	ø2	*ø0.08*	2,5	*8.2*	1,2	*3.94*	2	*0.08*	2	*0.08*

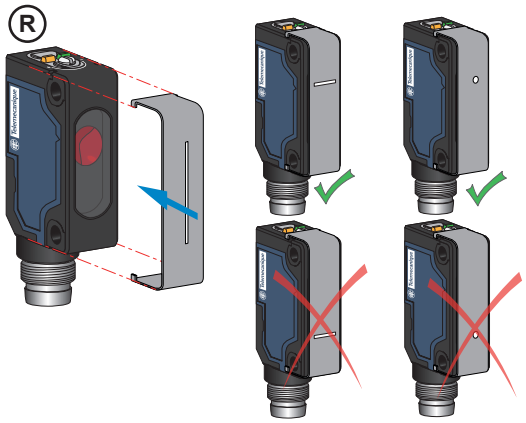
Note: Used on one side: Slit is attached to the receiver only.

Slit mounting

Ⓣ



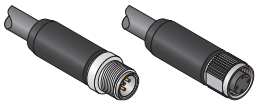
Ⓡ



Pre-Wired connectors (examples)

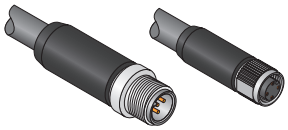
PVC cable for general use
PUR cable for severe industrial environments

Jumper



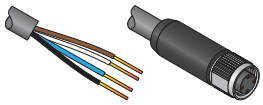
M8 - 4 pins plug
M8 - 4 pins socket
XZCR2609P2Y1 1m PUR
XZCR2609P2Y2 2m PUR

Jumper



M12 - 4 pins plug
M8 - 4 pins socket
XZCR1509041J1 1m PUR
XZCR1509041J2 2m PUR

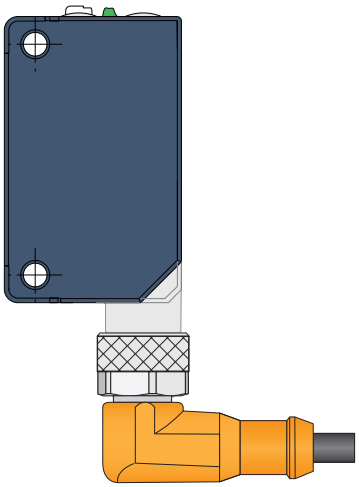
Cable



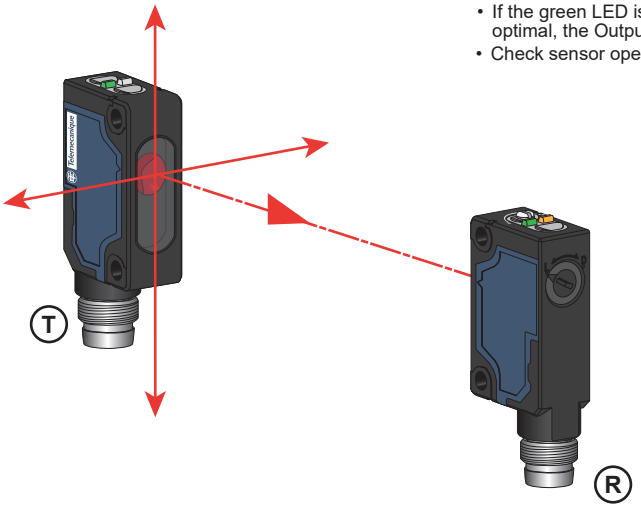
M8 - 4 pins socket
4 wires
XZCP0941L2 2m PUR
XZCP0941L5 5m PUR

Other cable references are available in our online catalog. Please visit our website at: **www.telemecaniquesensors.com**
Or you can ask us through the customer support page on your local website.

Cable direction with angled connector

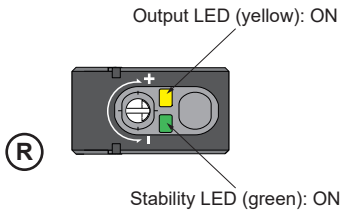


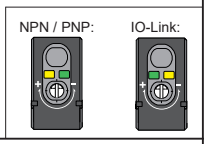
Sensor Position Adjustment



- For a stable detection, verify on the receiver if the green LED is on.
- If the green LED is Dim, translate the receiver up/down and left/right. When the setting is optimal, the Output LED (yellow) is On (Light-on mode) and the Stability LED (green) is Bright.
- Check sensor operation with the object and adjust the sensor, if necessary.

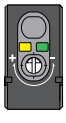
LED status with LO output function





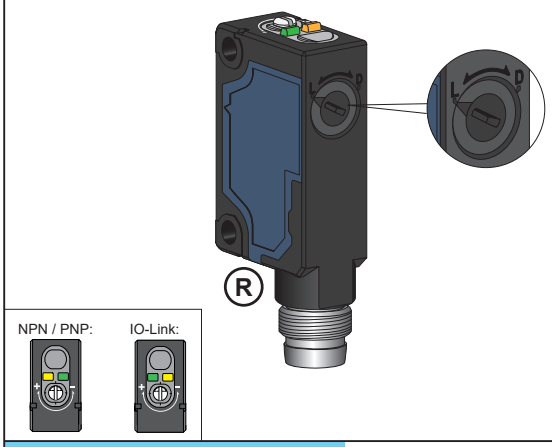
Diagnostic LEDs

[1]: Only for IO-Link version



	LED		Description	Corrective Action
Output LED (yellow)	Blinking[1]	1 Hz	Communication issue detected	Perform a Power Off/Power On cycle. The sensor restarts with factory settings.
		3 Hz	Output short-circuit Output overload Undervoltage Overtemperature	Remove the short circuit Verify that the load current is < 100 mA Verify that the sensor power voltage is 12...24 Vdc Reduce ambient temperature of the sensor or replace the sensor.
	ON		Sensor output is ON	-
	OFF		Sensor output is OFF	
Stability LED (green)	OFF		Inconsistent quality of detection	Check the sensor sensitibity adjustment (See next page).
	Dim			
	Bright		Consistent quality of detection	-

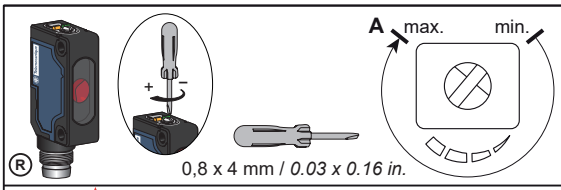
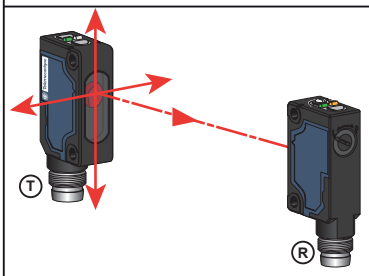
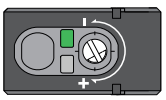
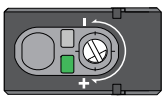
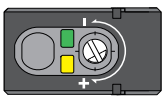
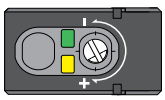
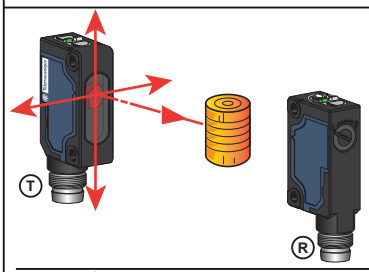
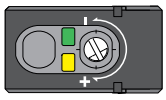
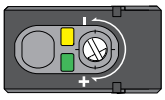
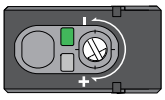
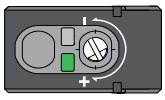
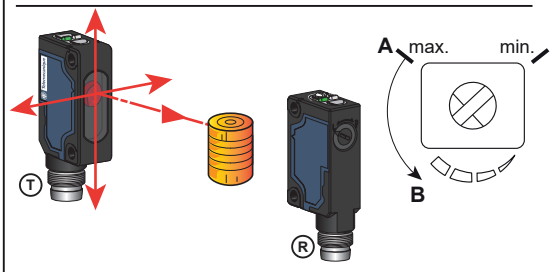
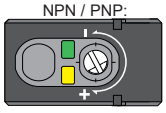
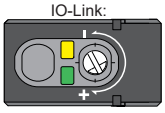
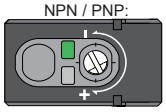
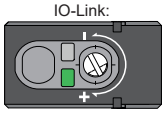
Output mode setting: Light-On or Dark-On (Dark-On by default)



Dark-On / Normally Open (NO)	Light-On / Normally Closed (NC)
Transmitter → Receiver **The Output is OFF**	Transmitter → Receiver **The Output is ON**
Transmitter → Opaque object → Receiver **The Output is ON**	Transmitter → Opaque object → Receiver **The Output is OFF**

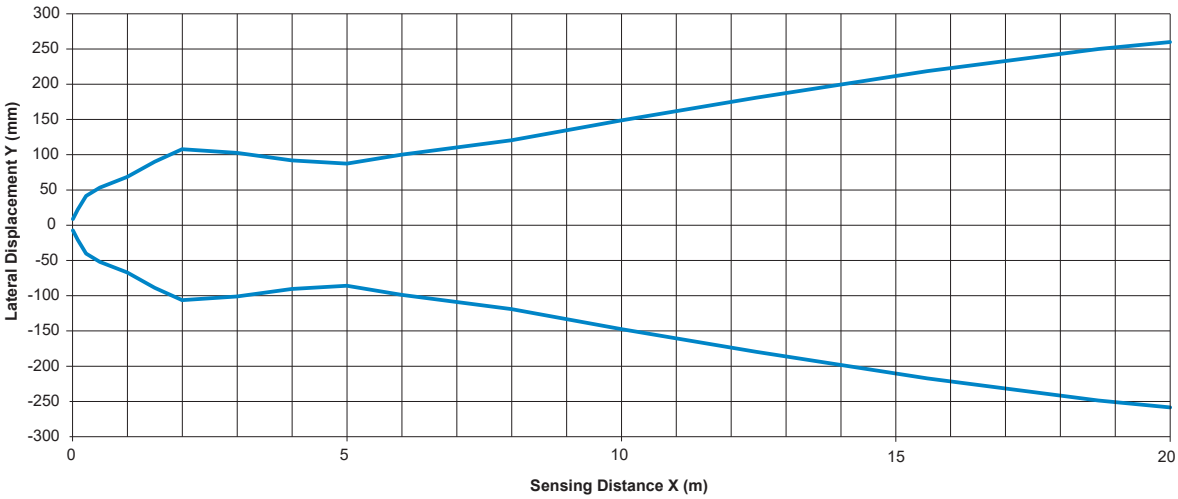
Sensor Sensitivity Adjustment

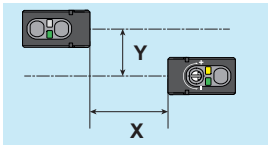
For accurate detection, follow the configuration below. (eg. Objects with holes or small size to obstruct the light beam).

	Dark-On / Normally Open (NO)	Light-On / Normally Closed (NC)
	1-Before settings, start with the receiver potentiometer at the maximum position (resulting to point A).	1-Before settings, start with the receiver potentiometer at the maximum position (resulting to point A).
	2-Connect the two sensors to the power supply (see page 1 for the wire connection & page 7 for the power voltage), the power ON / Stability LED (green) switches on. Align the two sensors, as shown on the picture, until seeing the Output LED (yellow) switches off. Keep the two sensors within the sensing distance described in page 6. NPN / PNP:  IO-Link: 	2-Connect the two sensors to the power supply (see page 1 for the wire connection & page 7 for the power voltage), the power ON / Stability LED (green) switches on. Align the two sensors, as shown on the picture, until seeing the Output LED (yellow) switches on. Keep the two sensors within the sensing distance described in page 6. NPN / PNP:  IO-Link: 
	3-Put the object to detect between the 2 sensors. • If the receiver Output LED (yellow) switches on, the object detection is set correctly. NPN / PNP:  IO-Link: 	3-Put the object to detect between the 2 sensors. • If the receiver Output LED (yellow) switches off, the object detection is set correctly. NPN / PNP:  IO-Link: 
	• If the receiver doesn't detect the object (Output LED remained off), turn the potentiometer anticlockwise until the Output LED (yellow) switches on (resulting to point B). NPN / PNP:  IO-Link: 	• If the receiver doesn't detect the object (Output LED remained on), turn the potentiometer anticlockwise until the Output LED (yellow) switches off (resulting to point B). NPN / PNP:  IO-Link: 
	4-The sensor is set and ready to detect ✓	4-The sensor is set and ready to detect ✓

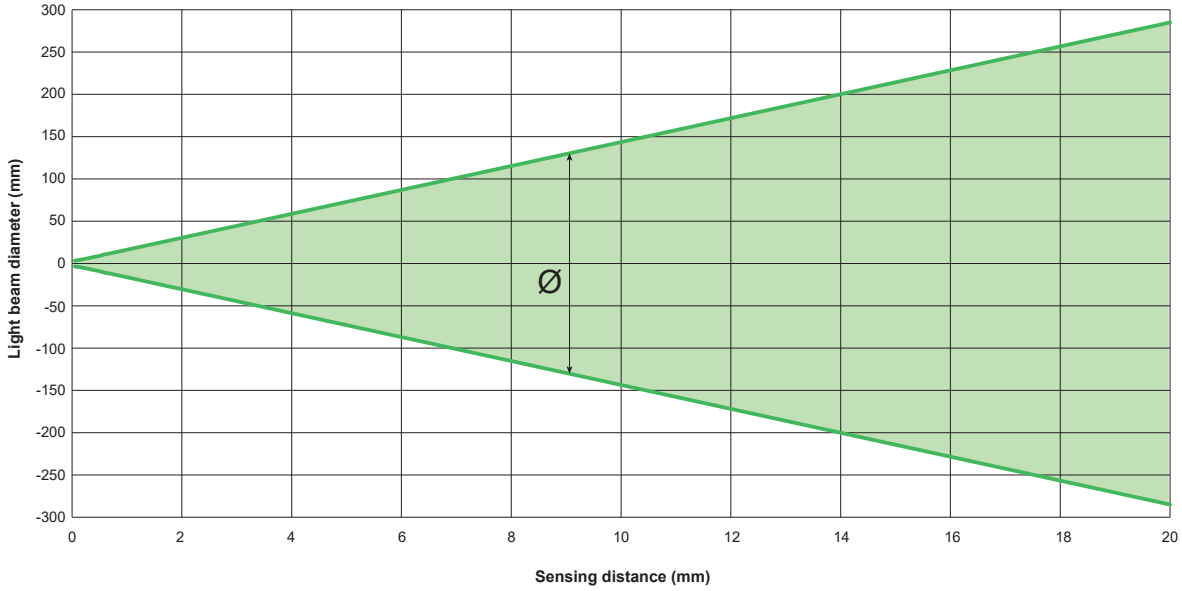
Detection curves

Lateral Displacement

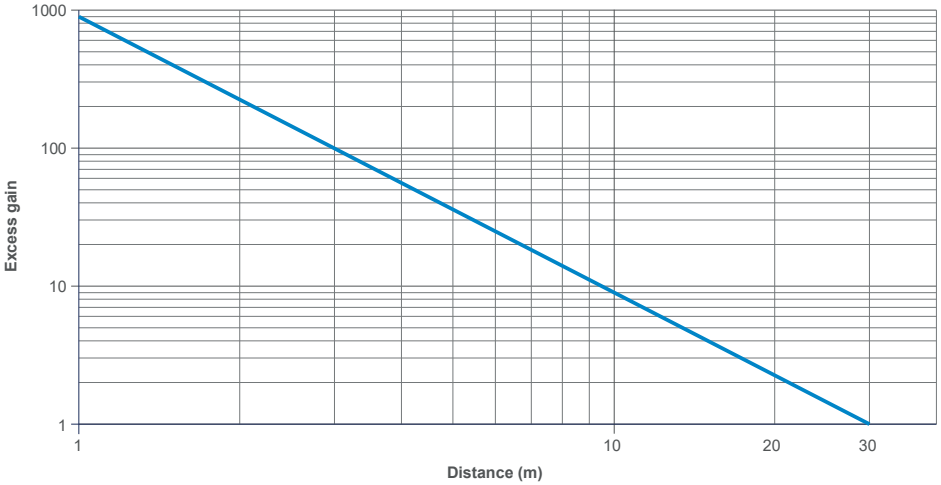




Light beam diameter



Excess gain



Characteristics

1 mm = *0.0394 in.*

Certification	CE - UKCA - cULus
Sensing Range (using a white paper 200 x 200) Max. sensing distance (excess gain=1)	24m = Excess gain 2 30m = Excess gain 1
Color of detection light beam	Red
Spot size of the light beam on the target See light beam diameter curve	288 mm at 10 m 571 mm at 20 m
Hysteresis	2% < H < 20%
Sensing distance setting	Potentiometer 1 turn (~ 240 degrees) on the receiver
Light-On/Dark-On selection	Switch (~ 120 degrees) on the receiver
Output type	PNP / NPN or Autodetect PNP / NPN (with IO-Link)
ON Voltage drop	2 V max. (30 Vdc 100 mA) / 1,2 V max. (30 Vdc 10mA)
Current consumption	Transmitter < 20 mA Receiver < 20 mA / IO-Link: < 30 mA
Switching capacity	100 mA
First-up delay	< 100 ms / IO-Link: < 300 ms
Response time	0,5 ms max.
Recovery time	0,5 ms max.
Switching frequency	1000 Hz (In SIO Mode for IO-Link)
Electrostatic discharge immunity	4 kV (Contact), 8 kV (Air) conforming to **IEC 61000-4-2**
Electromagnetic field immunity	10 V/m conforming to **IEC 61000-4-3**
Fast transients immunity	Burst 5 kHz - 2 kV conforming to **IEC 61000-4-4**
Conducted disturbances immunity	10 V conforming to **IEC 61000-4-6**
Emissivity Radiated disturbances	Class A conforming to **EN 55011 / CISPR 11**
Power Voltage	Rated operational voltage: 12...24 Vdc Ripple p-p 10% maximum Operating range: 10...30 Vdc (including ripple)
Product Protection	Power supply : Reverse polarity protection Output: Short circuit protection Reverse polarity protection
Light Immunity	Sunlight 40 kLx max. Incandescent light 10 kLx max. (at the receiver surface)
Ambient temperature	Operating : - 30...+55 °C, Storage : - 40...+70 °C
Ambient Humidity	Operating : 35...95% RH, Storage : 35...95% RH
Degree of protection	IP65, IP67 conforming to **IEC 60529**
Vibration resistance	Frequency range: 10 Hz to 500 Hz Acceleration: 9 g_n
Shock resistance	Peak acceleration: 100 g_n Duration of the pulse: 11 ms
Material	Housing: PBT, Lens: PMMA, Operation cover: PC, Adjustment potentiometer: PBT

Manufacturer :
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Tour Eqho - 2 avenue Gambetta
92400 Courbevoie
France

UK Representative :
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2 North Park Road
Harrogate, HG1 5PA
United Kingdom