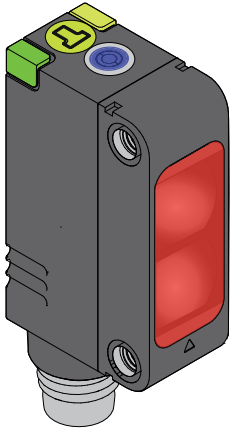


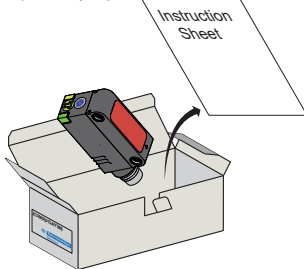
Photo-electric sensors - Miniature design



Contrast



Package Content
(Example)



http://qr.tesensors.com/XU0020

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

WARNING

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.

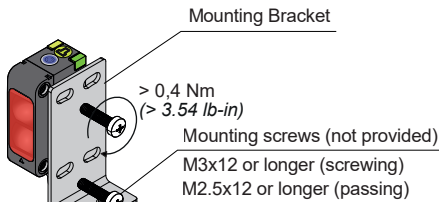
Failure to follow these instructions will result in death or serious injury.

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 device.
- Do not tamper with or make alterations on the device.
- Comply with the wiring and mounting instructions.
- Check the connections and fastening during maintenance operations.
- The proper functioning of the device 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

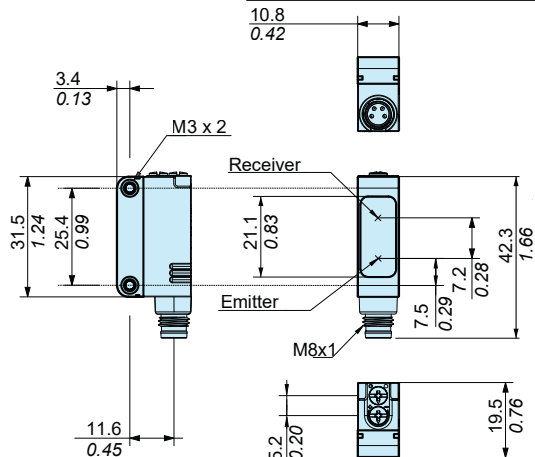


CAUTION

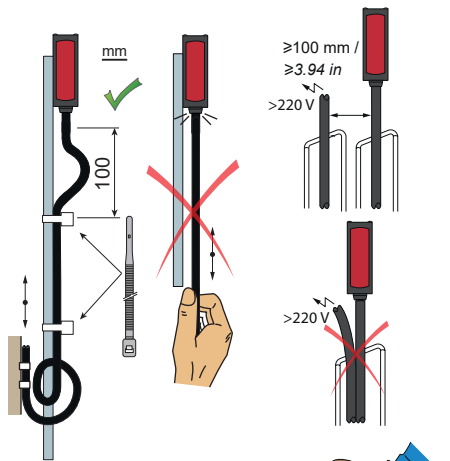
DEGREE OF PROTECTION DETERIORATION
Do not apply excessive torque on the sensor during the installation process.
Failure to follow these instructions can result in injury or equipment damage.

Dimensions

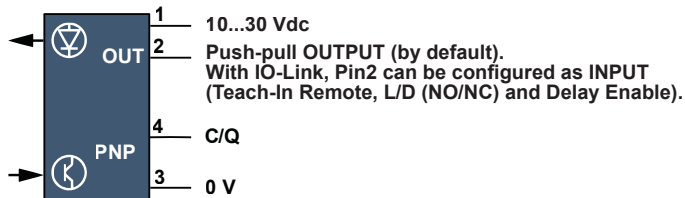
1 mm = 0.0394 in.



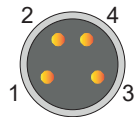
Mounting, wiring and maintenance precautions



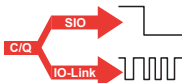
Wiring diagrams



M8 Connector
4 pins

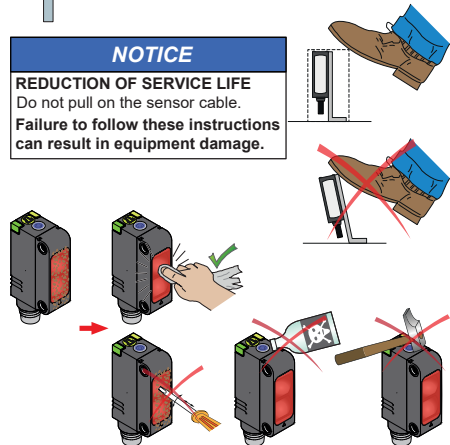


Pin	Signal	Definition
1	+	+ 24 Vdc
2	IN	Teach-in, L/D (NO/NC), Delay enable
	OUT	Push Pull.
3	-	0 Vdc
4	Q	Switching signal (SIO)
	C	Communication IO-Link



NOTICE

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



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.

Our product should be installed, operated and maintained only by qualified personnel. Neither TMSS France nor any of its subsidiaries or other affiliated companies shall be responsible or liable for any consequences arising out of the use of this material. Telemecanique™ Sensors is a trademark of Schneider Electric Industries SAS used under license by TMSS France. Any other brands or trademarks referred to in this document are property of TMSS France or, as the case may be, of its subsidiaries or other affiliated companies. All other brands are trademarks of their respective owners.

Pre-wired connectors (examples)

PVC cable for general use
PUR cable for severe industrial environments

Jumper



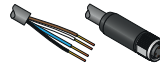
M8 - 4 pins plug
M8 - 4 pins socket
XZCR2705037R1 1m PUR
XZCR2705037R2 2m PUR

Jumper



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

Cable



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

For other cables (angled or length) visit our website: www.telemecaniquesensors.com

Accessories

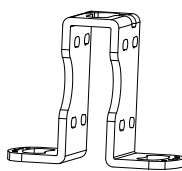
Fixing bracket:



XUZA50



XUZASM02



XUZASM03

LEDs and settings

Power ON LED
(green)

Output status LED
(yellow)

Teach Button

Performs all user interface interactions.

Output status LED

The yellow LED indicates the output status.

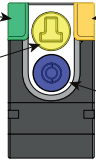
Power On LED

The green LED indicates that the sensor is operating.

IO-Link Activity LED

The blue LED is on during IO-Link data exchange.

Push button
(Teach-in)



IO-Link LED
(blue)

GN: Green
YE: Yellow



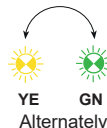
OFF



ON



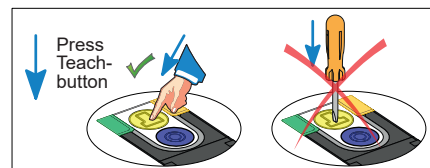
Flashing



YE GN
Alternately

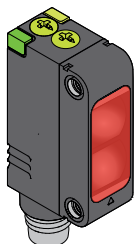
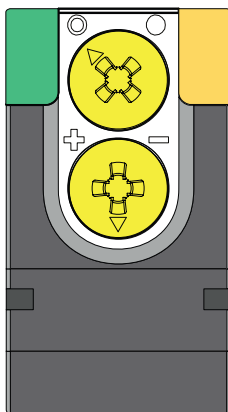


Action duration

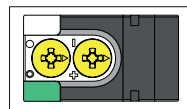


Background

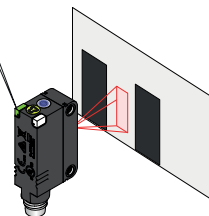
Output mode setting: Light-On or Dark-On (Light-On by default)



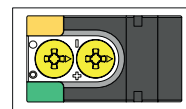
Light-On / Normally Open (NO)



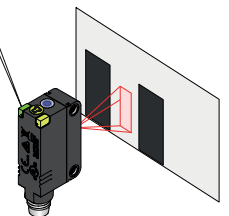
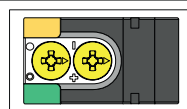
The Output is OFF



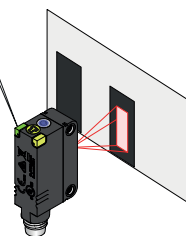
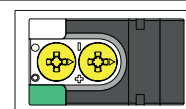
Dark-On / Normally Closed (NC)



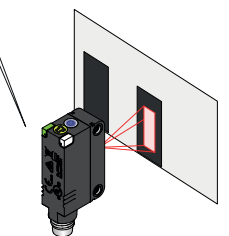
The Output is ON



The Output is ON



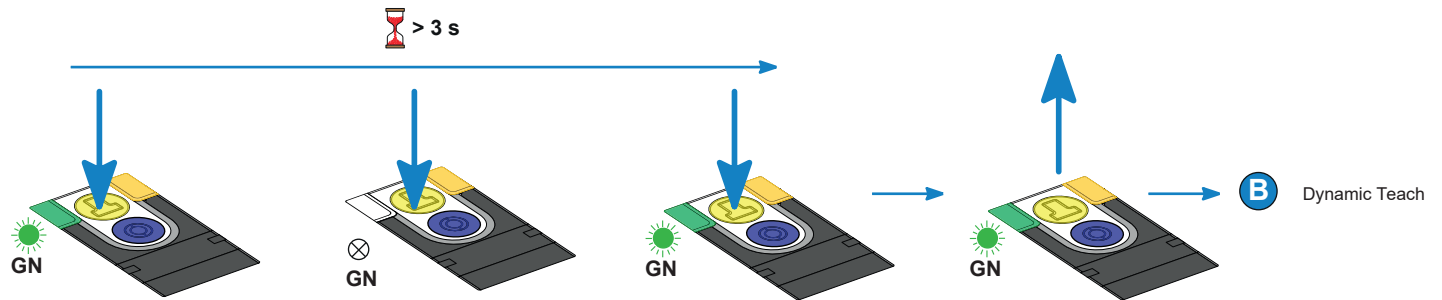
The Output is OFF



Manual Processes

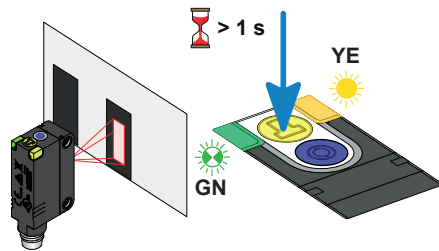
Push and hold for...	 1s	 3s	 6s	 20s
Standard detection mode	A Static Teach	B Dynamic Teach	C L/D Select	Restore factory settings
				

Process example from Standard detection mode to Dynamic Teach-in mode:

**A** Standard teach-in (STI)

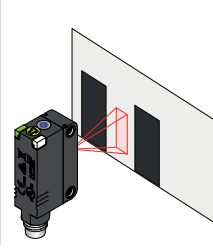
LED status with NO output function

Step 1: Teach-in Mark



Press teach button > 1 s
until green LED turns OFF and yellow LED remains ON
When you release the button, the green LED flashes.

Step 2: Teach-in background

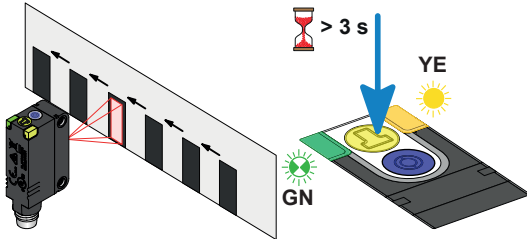


Press teach button < 1 s
The green LED is fixed and the yellow LED
switches off (no mark detected).

B Dynamic Teach-in (DTI)

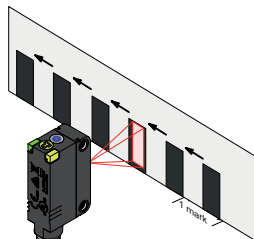
LED status with NO output function

Step 1: During running process



Press teach button > 3 s
until yellow LED stays ON and green LED stays ON at the same time.
When you release the button, the green LED flash, the spot color change
and becomes white.

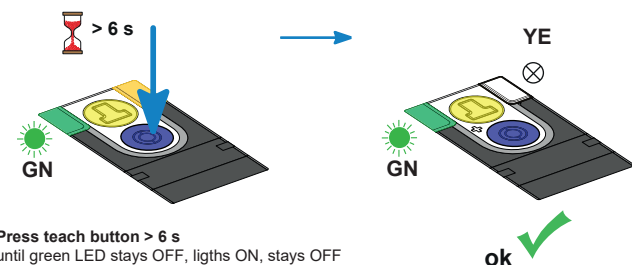
Step 2: Teach-in mark during running process



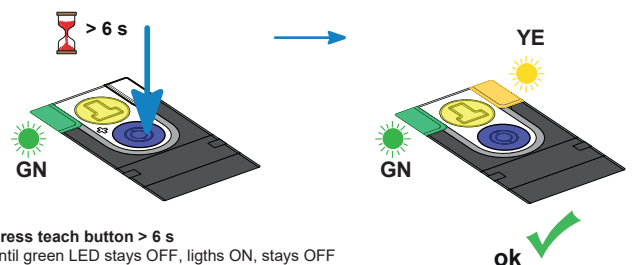
Press teach button > 1 mark
The green LED is fixed and the yellow LED
switches on when the mark is detected.

C Switching NO/NC

LED status with NO output function



Press teach button > 6 s
until green LED stays OFF, lights ON, stays OFF



Press teach button > 6 s
until green LED stays OFF, lights ON, stays OFF

Characteristics

Certification	CE - UKCA - cULus
Operating distance	12 mm
Power Voltage	Operating range: 10...30 Vdc (including ripple p-p 10% maximum) 
Current consumption	≤ 40 mA (≤ 20 mA @24 V)
Output	IO-Link (Pin 4) + configurable I/O (Pin 2)
Output current	100 mA max. short circuit protected
Voltage drop	1 V max.
Response time	Switching signal (SIO) (not in IO-Link): 60 kHz (by default) response time min 8 us (10.5 us in case of single event), jitter 4u 30 kHz (set with IO-Link), response time 16us, jitter 8us IO-Link communication : minimum 2.3 ms (the minimum for COM2)
Switching frequency	30 kHz/60 kHz selectable (default: 60 kHz) by IO-Link parametrization
Indicators	Yellow: output status Green: Power ON Blue: IO-Link activity
Setting	Teach button or IO-Link
Operating temperature	-20...55°C (not condensing)
Storage temperature	-40...70 °C
Depth of field	± 3 mm
Emission type	blue (460 nm) / green (525 nm) / red (633 nm) EN/IEC 62471 EXEMPT RISK GROUP (RG0)
Ambient light rejection	According to EN/IEC 60947-5-2
Vibration	0.5 mm amplitude, 10...55 Hz frequency, for each axis (EN/IEC 60068-2-6)
Shock resistance	11 ms (30 g) 6 shock for each axis (EN/IEC 60068-2-27)
Housing	Body: Glass filled technopolymer Indicators: TPE Actuators: POM
Lenses	PMMA
Protection degree	IP65/IP67 conforming to EN/IEC 60529
Connections	M8 connector 4 pins
Weight	10 g.
Spot size at nominal distance	1.0 mm x 3.5 mm



Manufacturer:
TMSS France
Tour Eghe - 2 avenue Gambetta
92400 Courbevoie
France



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

