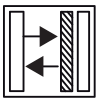
XUM8ALAYM8 / XUM8ALAYP015 / XUM8ALAYL2 (34 x 12 x 20)

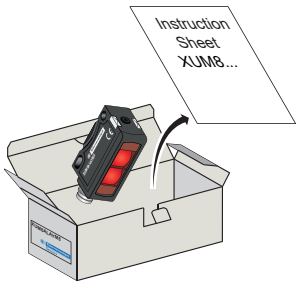
Photo-electric sensors - Miniature design

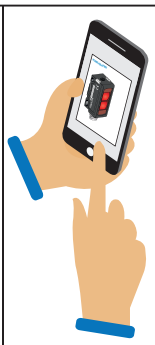
XUM8ALAYM8

Background suppression (BGS)



Package Content *(Example)*





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

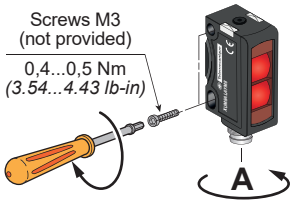
WARNING

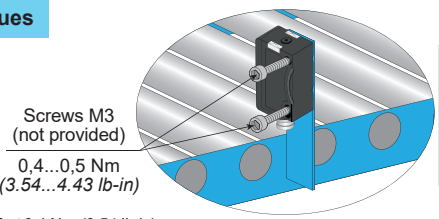
IMPROPER SETUP OR INSTALLATION

- This equipment must only be installed and serviced by qualified personnel.
- Read, understand, and follow the compliance below, before installing the XUM 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 photoelectric 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





A ≤ 0,4 Nm *(3.54 lb-in)*

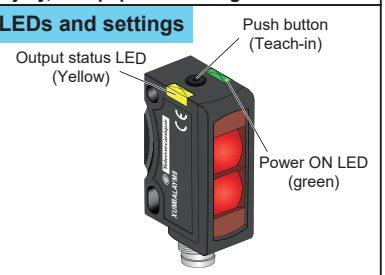
CAUTION

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.

LEDs and settings

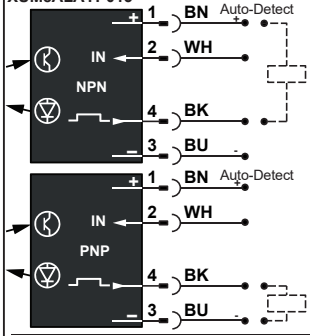


Wiring diagrams

M8 Connector
4 pins

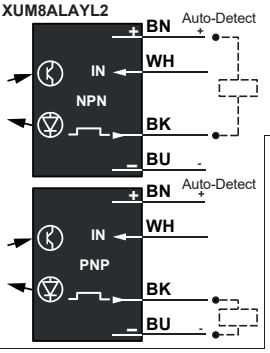
1: (+)
2: IN
3: (-)
4: Q/IO-Link

XUM8ALAYM8
XUM8ALAYP015

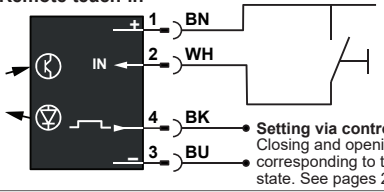


2 m Cable - 4 wires

XUM8ALAYL2

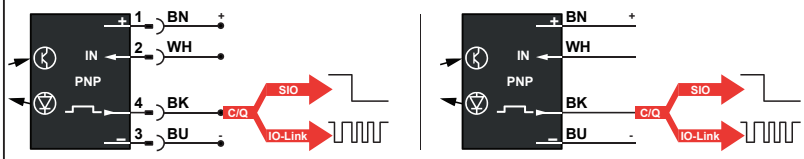


Remote teach-in



Setting via control input IN:
Closing and opening time corresponding to the button state. See pages 2 and 3.

IO-Link



CAUTION

INOPERABLE EQUIPMENT DUE TO CYBER ATTACK ON IO-LINK

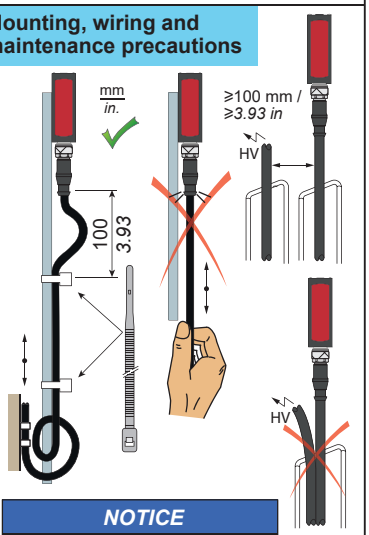
- Apply external cybersecurity protection on IO-Link Master device.
- Download IO-Link Description files only from these web servers: https://tesensors.com/global/en/support/iolink or https://ioddfinder.io-link.com/#/

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

Pin	Wire	Signal	Definition
1	BN	+	+ 24 Vdc
2	WH	IN	+ = NO - = NC Open = NO
3	BU	-	0 Vdc
4	BK	Q	Switching signal (SIO)
		C	Communication IO-Link

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

Mounting, wiring and maintenance precautions

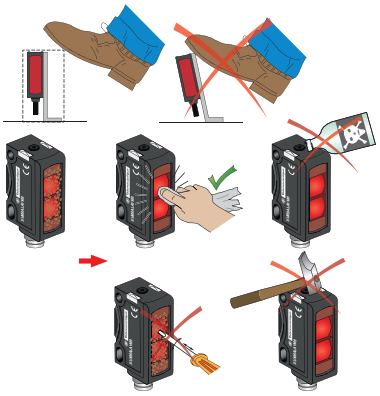


NOTICE

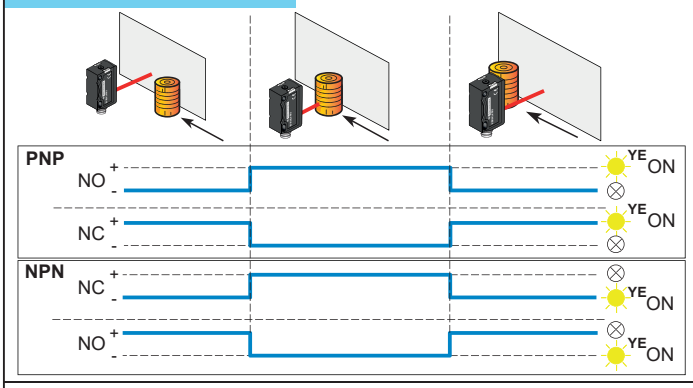
REDUCTION OF SERVICE LIFE

Do not pull on the sensor cable.

Failure to follow these instructions can result in equipment damage.

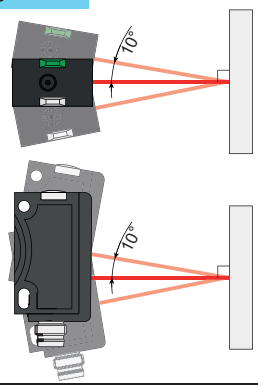


Switching mode for object



Alignment

Maximum angle tolerance



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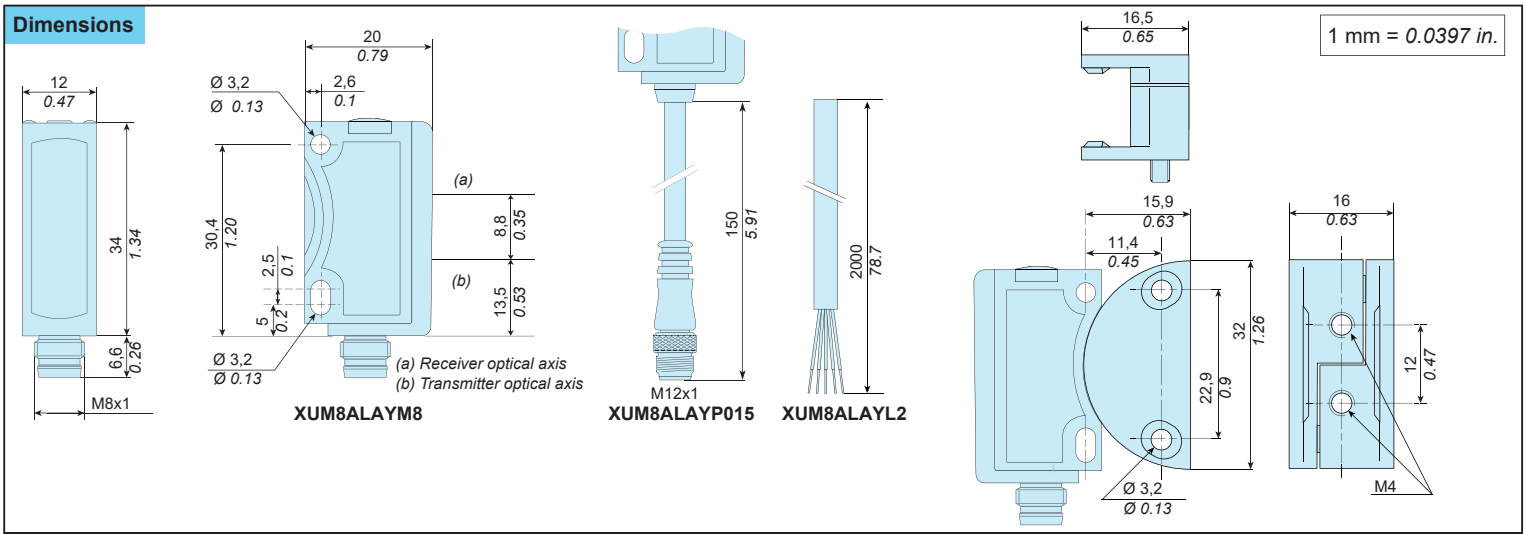
Telemecanique Sensors

XUM8ALAYM8 / XUM8ALAYP015 / XUM8ALAYL2 (34 x 12 x 20)

Dimensions

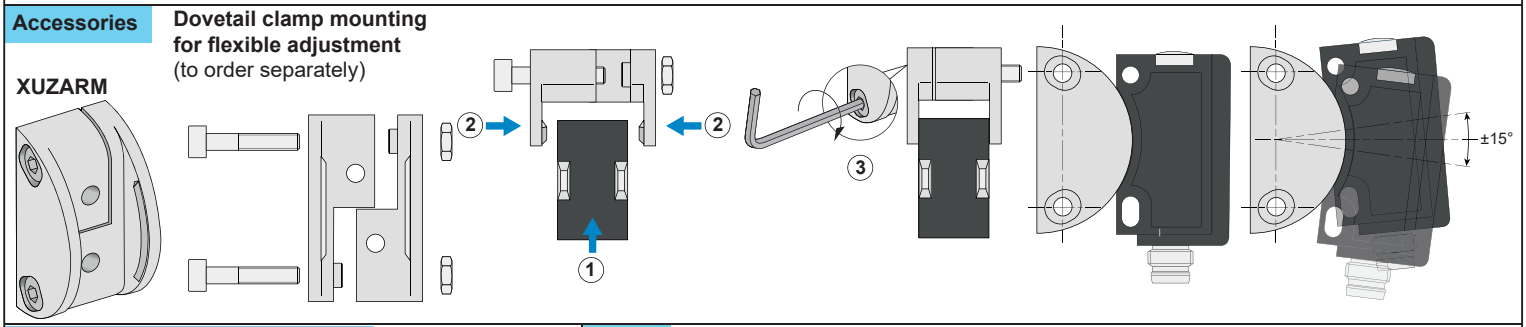
1 mm = *0.0397 in.*



Accessories

Dovetail clamp mounting for flexible adjustment
(to order separately)

XUZARM



Pre-wired connectors (examples)

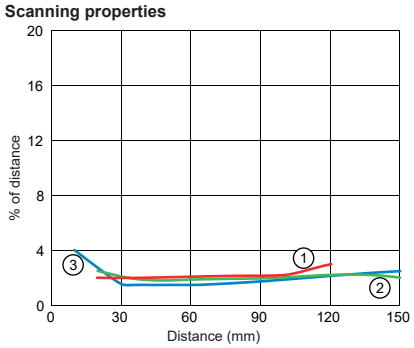
PVC cable for general use
PUR cable for severe industrial environments

Jumper M8 - 4 pins plug M8 - 4 pins socket	Jumper M12 - 4 pins plug M8 - 4 pins socket	M8 - 4 pins socket 4 wires
		
XZCPB1141L2 2m PUR **XZCPB1141L5** 5m PUR	**XZCR2711037T1** 1m PUR **XZCR2711037T2** 2m PUR	**XZCR2705037R1** 1m PUR **XZCR2705037R2** 2m PUR

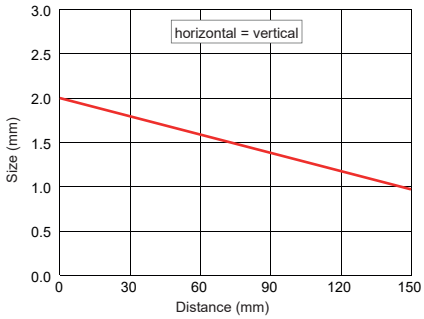
For other cables (angled or length) visit our website: Tesensors.com

Curves

Scanning properties



Light spot size



1 Min distance white object (90%) / white background (90%) (mm)

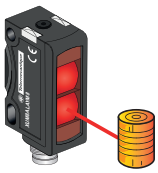
2 Min distance grey object (18%) / white background (90%) (mm)

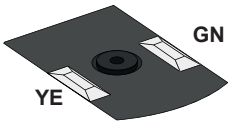
3 Min distance black object (6%) / white background (90%) (mm)

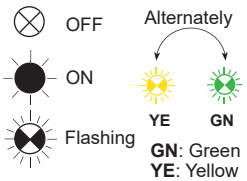
Setting

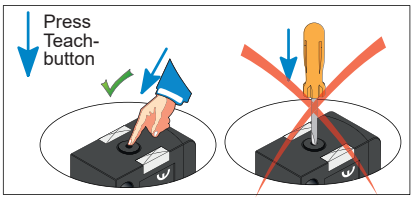
The sensor has 3 different Teach-in modes.
A-Standard Teach-in (STI): is suited for nearly all applications. Setting is made on object and background (see illustration A).
B-Object-Object Teach-in (OTI): is suited for applications where the background cannot be taught in. Setting is made 2x on the object (see illustration B).
C-Dynamic Teach-in (DTI): is suited for setting the sensor in the running process, particularly for small objects (see illustration C).

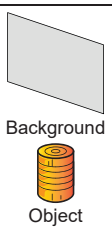
The sensor has 3 different **Switching NO/NC** settings:
1: NO/NC via teach-in in series
2: Sensor always NC
3: Sensor always NO





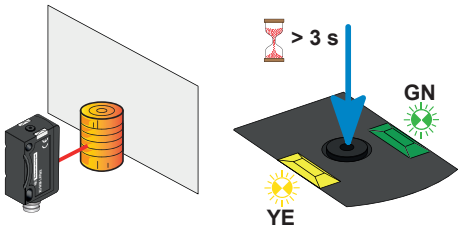






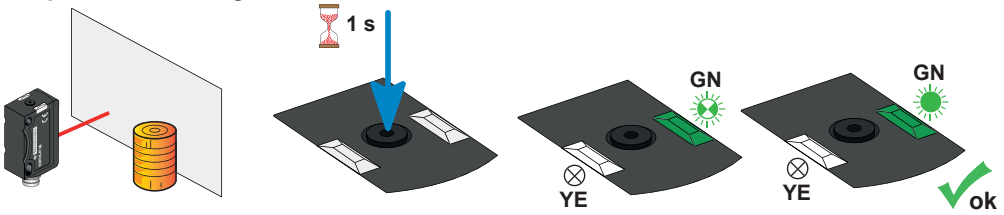
A Standard teach-in (STI)

Step 1: Teach-in object



Press teach button > 3 s
until green and yellow LED flash at the same time.

Step 2: Teach-in background



Press teach button 1 s
The green LED flashes

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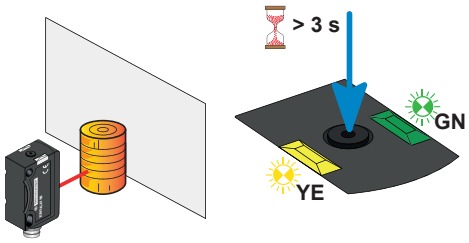
Telemecanique Sensors

XUM8ALAYM8 / XUM8ALAYP015 / XUM8ALAYL2 (34 x 12 x 20)

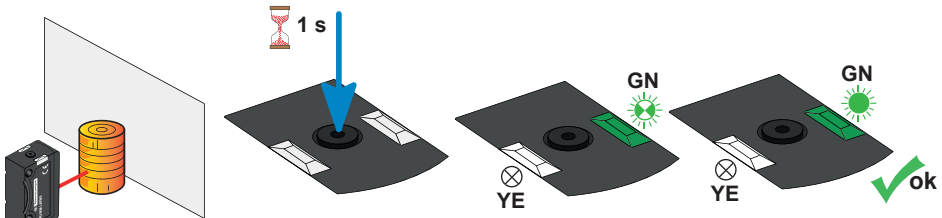
B Object-Object Teach-in (OTI)

Step 1: Teach-in object



Press teach button > 3 s
until green and yellow LED flash at the same time.

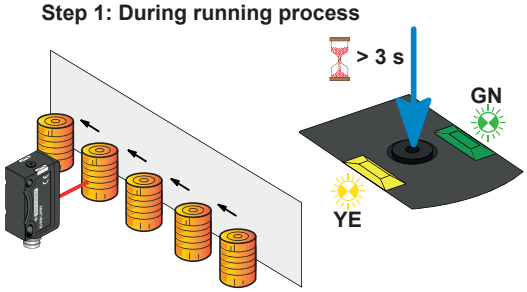
Step 2: Teach-in Object



Press teach button 1 s
The green LED flashes

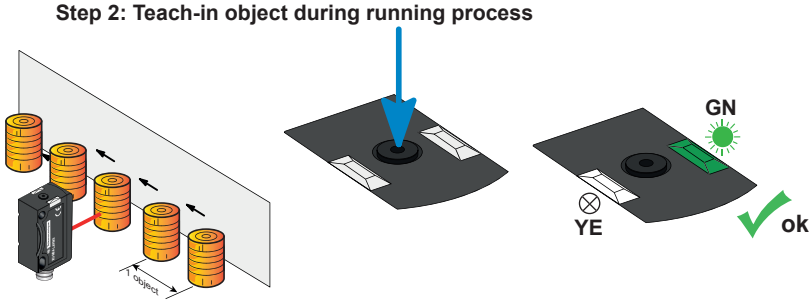
C Dynamic Teach-in (DTI)

Step 1: During running process



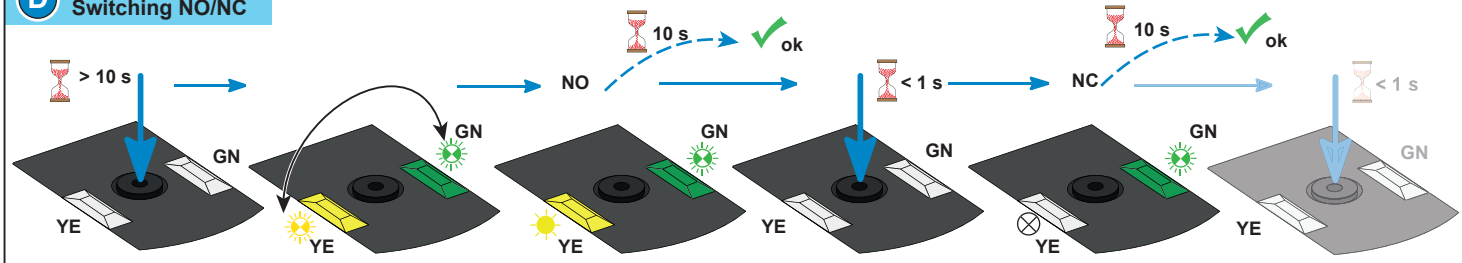
Press teach button > 3 s
until green and yellow LED flash at the same time.

Step 2: Teach-in object during running process

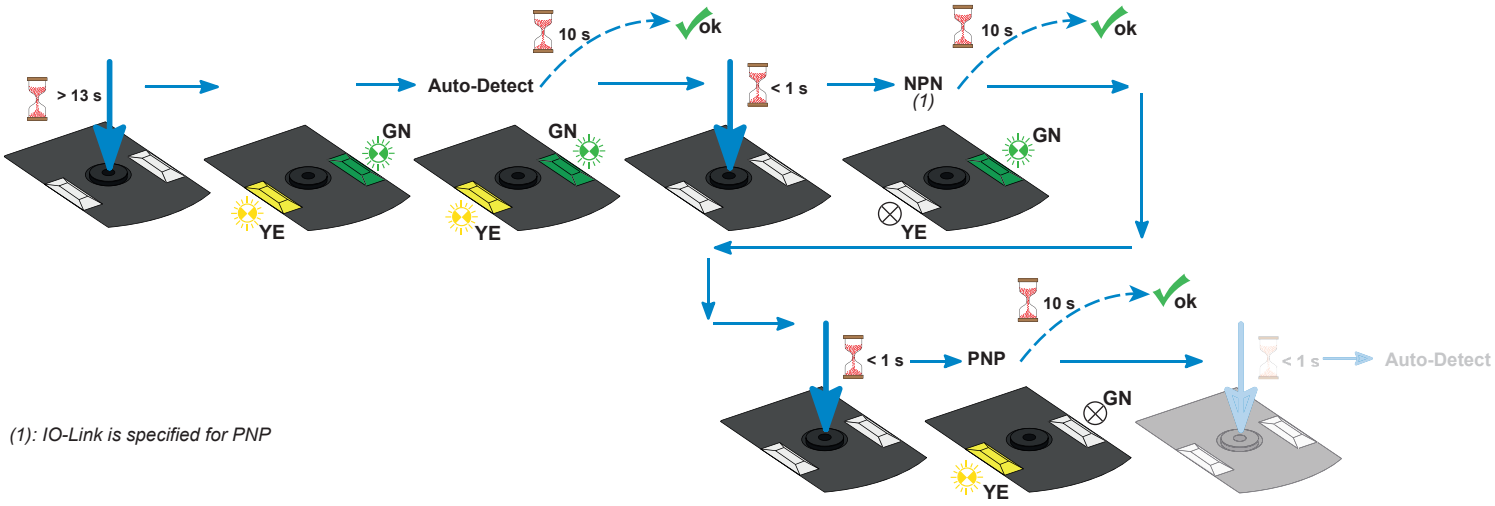


Press teach button > 1 Object

D Switching NO/NC



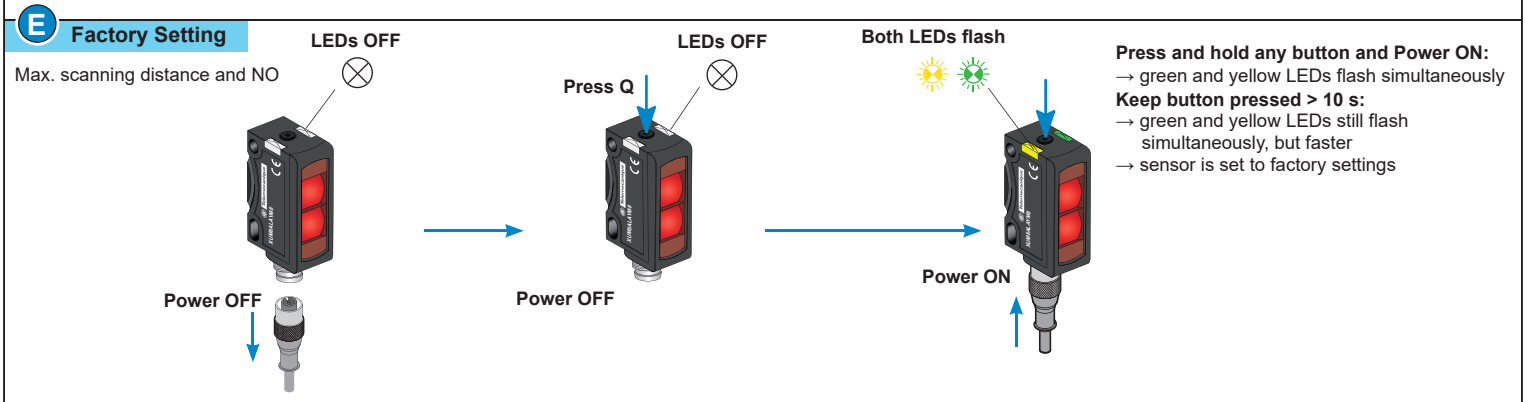
E SWITCHING AUTO-DETECT / NPN / PNP



(1): IO-Link is specified for PNP

XUM8ALAYM8 / XUM8ALAYP015 / XUM8ALAYL2 (34 x 12 x 20)

Factory Setting



Press and hold any button and Power ON:
→ green and yellow LEDs flash simultaneously
Keep button pressed > 10 s:
→ green and yellow LEDs still flash simultaneously, but faster
→ sensor is set to factory settings

Characteristics

Certification	CE - UKCA - cULus - Ecolab
Sensing distance	4...150 mm / *0.16...5.91 in.*
Adjustment range	12...150 mm / 0.47...5.91 in. (Reference material: white, 90 % reflectivity)
Setting	Teach button
Color of detection light beam	Laser class 1, red, 650 nm
Wavelength	λ = 650 nm
Puls duration	t = 3.75 µs
Frequency	f = 4.5 kHz
Limit of radiant power pulse	Pp ≤ 2,5 mW
Light spot size	See spot size curve
Switching output Q	Auto-Detect - PNP/NPN (NO or NC) - IO-LINK
Control input IN (switching function Q):	**(+)** = Teach-in **(-)** = button locked Open = normal function
Current consumption	≤ 30 mA
Switching capacity	≤ 100 mA
Switching frequency	≤ 1000 Hz
First-up delay	< 300 ms
Response time	≤ 500 µs
Recovery time	< 300 ms
Ambient Temperature	Operating : - 20...+60 °C *(-4...+140 °F)* - UL : - 20...+50 °C *(-4...+122 °F)* Storage : - 20...+80 °C *(-4...+176 °F)*
Power Voltage	Rated operational voltage: 12...24 Vdc Operating range: 10...30 Vdc (including ripple p-p 10% maximum)
Product protection	Power supply : Reverse polarity protection Output: Short circuit protection
Protection against electric shocks	Protection class II
Degree of protection	IP67 conforming to **IEC 60529,** IP69K conforming to **DIN 40050-9**
Vibration resistance	Conforming to **EN 60947-5-2**
Shock resistance	Conforming to **EN 60947-5-2**
Material	Housing: ABS, Front and Lens: PMMA

Class 1
(IEC 60825-1)