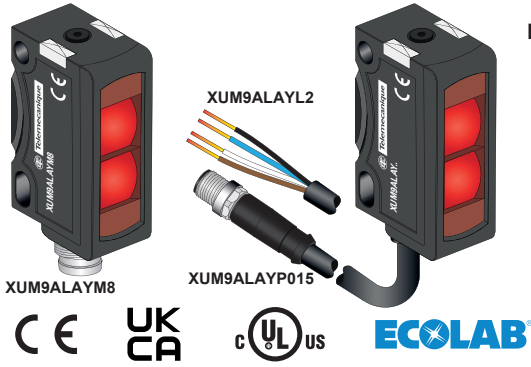
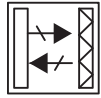


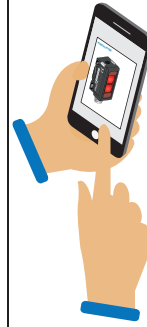
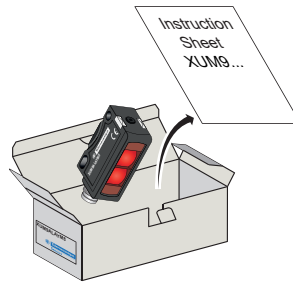
Photo-electric sensors - Miniature design



Polarised reflex



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

WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

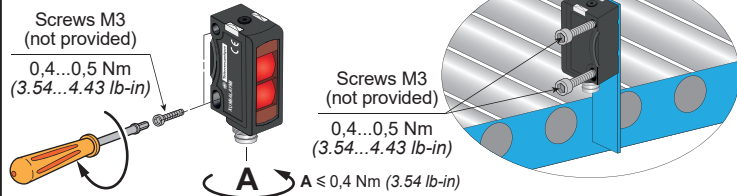
- Disconnect all power before servicing equipment.
- Do not connect this device to AC power.
- The power voltage must not exceed the rated range.

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 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.

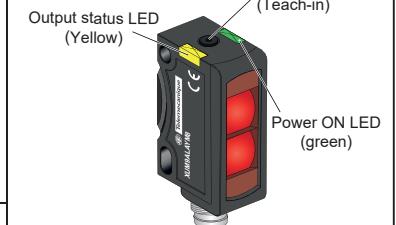
Mounting and tightening torques



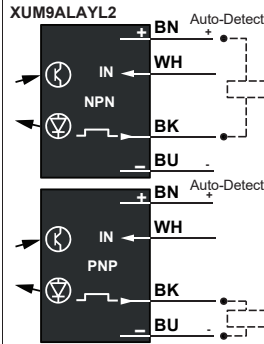
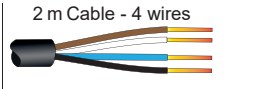
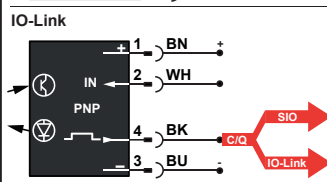
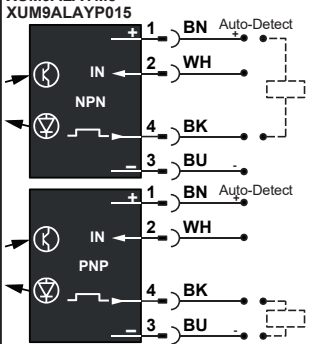
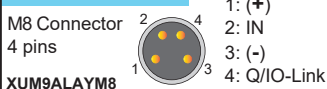
CAUTION

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.

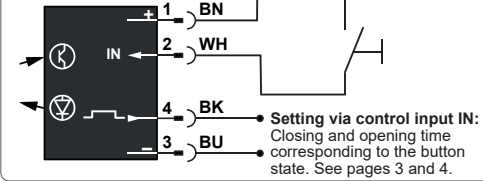
LEDs and settings



Wiring diagrams



Remote teach-in



CAUTION

INOPERABLE EQUIPMENT DUE TO CYBER ATTACK ON IO-LINK

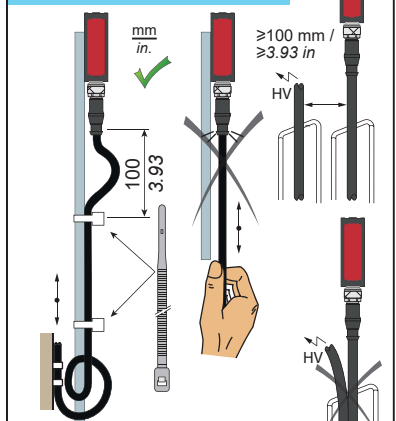
- Apply external cybersecurity protection on IO-Link Master device.
- Download IO-Link Description files only from these web servers:
<https://tesensors.com/global/en/support/iolink> or
<https://ioddfinder.io-link.com/#/>

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) Communication IO-Link

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

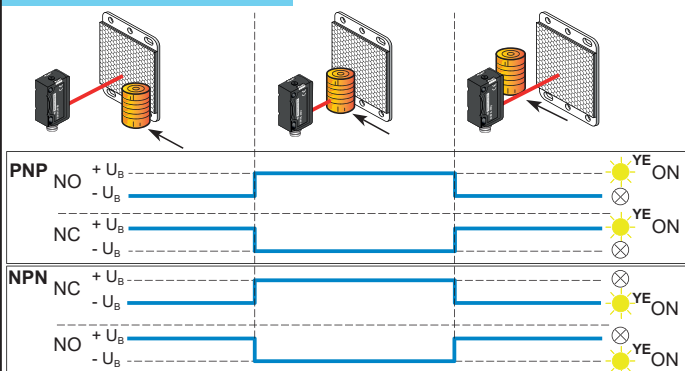
Mounting, wiring and maintenance precautions



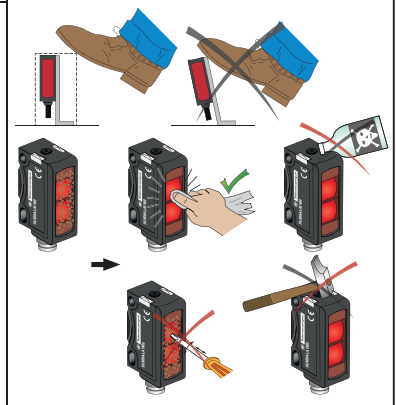
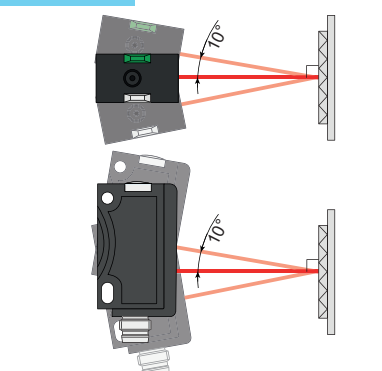
NOTICE

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

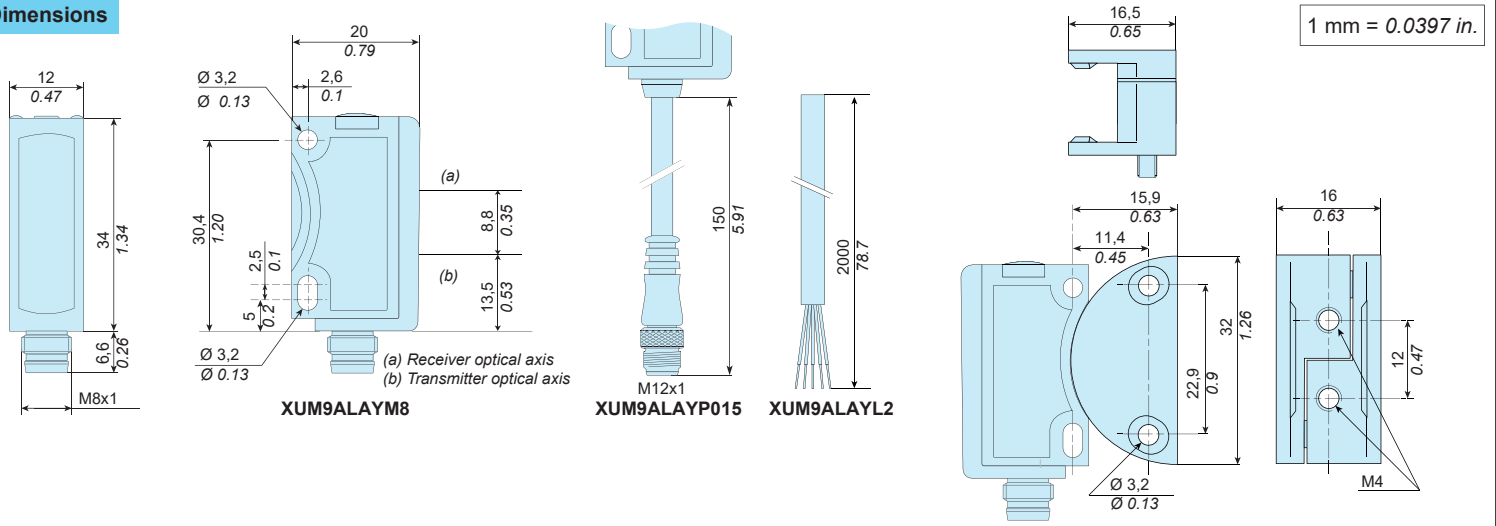


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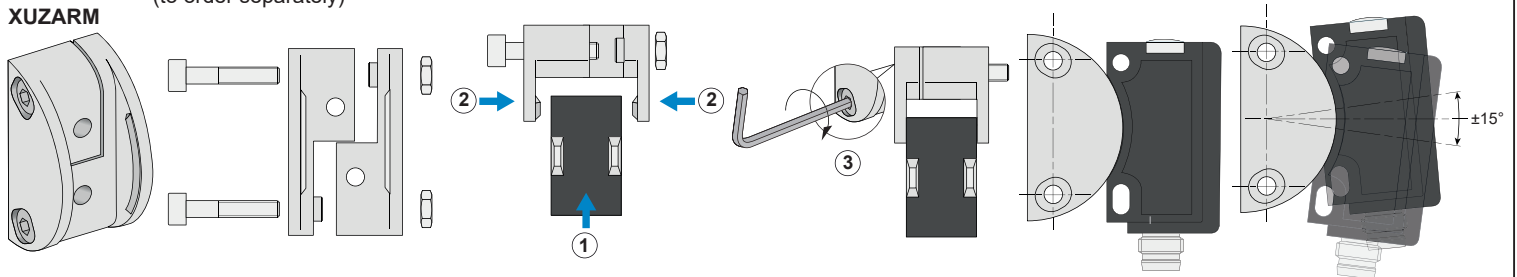
XUM9ALAYM8 / XUM9ALAYP015 / XUM9ALAYL2 (34 x 12 x 20)

Dimensions

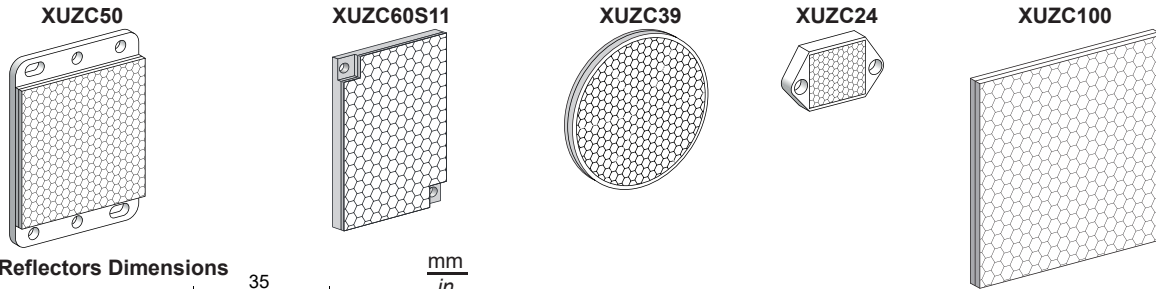


Accessories

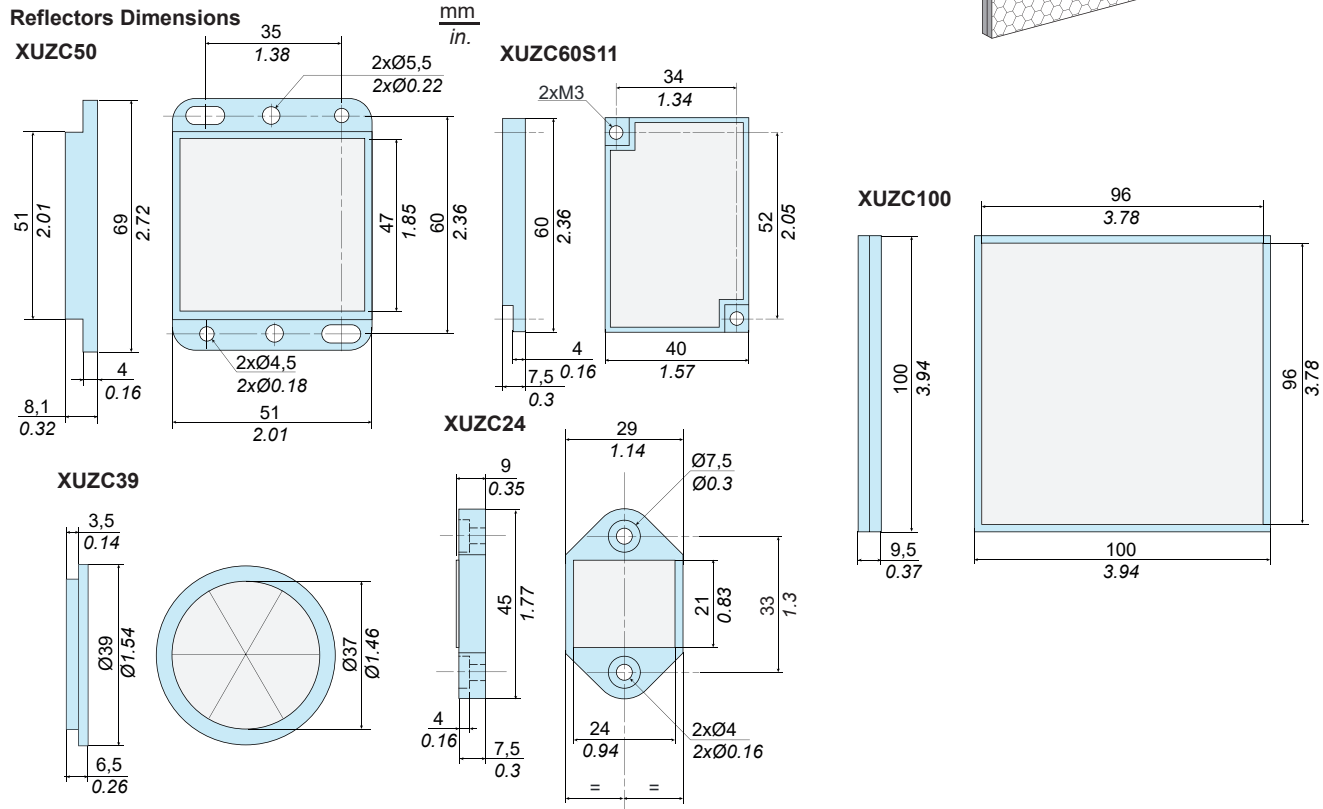
Dovetail clamp mounting for flexible adjustment
 (to order separately)



Reflector examples (to order separately)



Reflectors Dimensions



XUM9ALAYM8 / XUM9ALAYP015 / XUM9ALAYL2 (34 x 12 x 20)

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



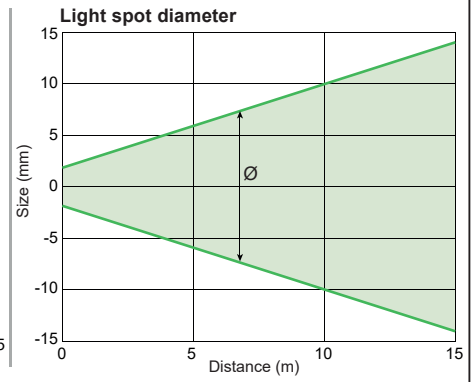
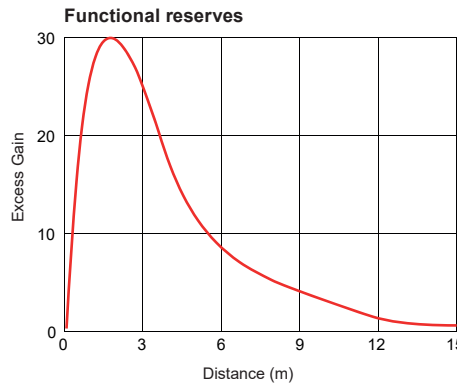
M8 - 4 pins socket
4 wires



XZCPB1141L2 2m PUR XZCR2711037T1 1m PUR XZCR2705037R1 1m PUR
XZCPB1141L5 5m PUR XZCR2711037T2 2m PUR XZCR2705037R2 2m PUR

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

Curves



Reference material: XUZC50 reflector

Setting

The sensor has 2 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-Dynamic Teach-in (DTI): is suited for setting the sensor in the running process, particularly for small objects (see illustration B).

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

OFF
ON
Flashing
Action duration

Alternately
YE: Green
GN: Yellow

Press Teach-button

Reflector
Object

A Standard teach-in (STI)

Step 1: Teach-in object

$> 3\text{ s}$

GN
YE

Press teach button $> 3\text{ s}$ until green and yellow LED flash at the same time.

Step 2: Teach-in background

1 s

GN
YE

ok

Press teach button 1 s The green LED flashes

B Dynamic Teach-in (DTI)

Step 1: During running process

$> 3\text{ s}$

GN
YE

Press teach button $> 3\text{ s}$ until green and yellow LED flash at the same time.

Step 2: Teach-in object during running process

GN
YE

ok

Press teach button $> 1\text{ Object}$

C Switching NO/NC

$> 10\text{ s}$

NO

10 s

ok

$< 1\text{ s}$

NC

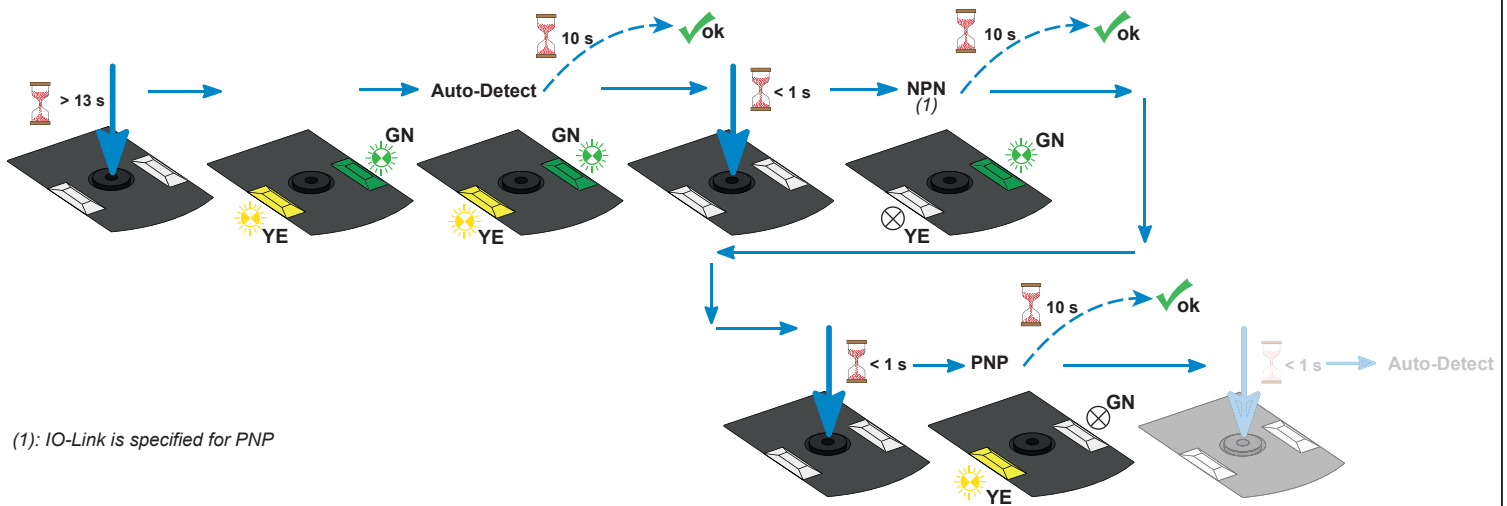
10 s

ok

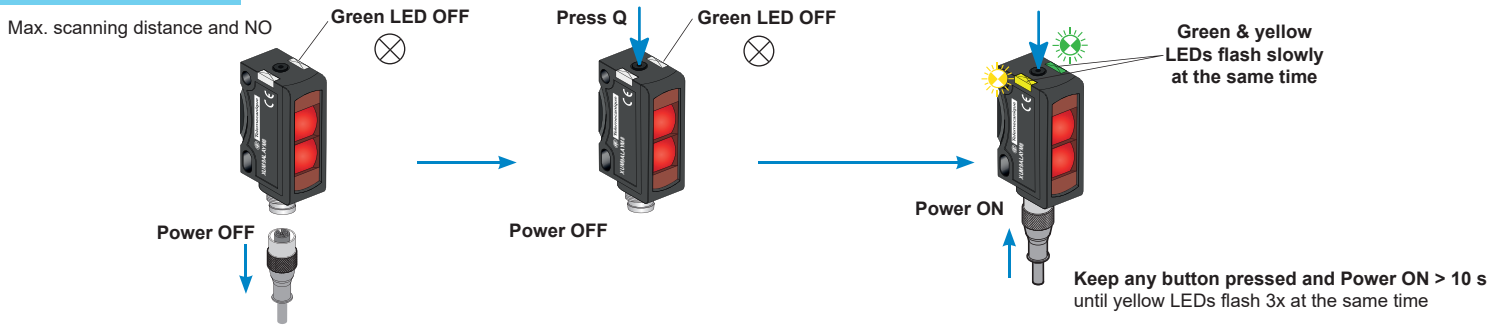
$< 1\text{ s}$

GN
YE

D SWITCHING AUTO-DETECT / NPN / PNP



E Factory Setting



Characteristics

Certification	CE - UKCA - cULus - Ecolab
Sensing distance (Using reflector XUZC50)	Nominal sensing distance: 0,1...13 m / 0,33...42,7 ft. Maximum sensing distance: 0,1...15 m / 0,33...49,2 ft.
Setting	Teach button
Color of detection light beam	Laser class 1, red, 650 nm
Wavelength	$\lambda = 650 \text{ nm}$
Puls duration	$t = 0,7 \mu\text{s}$
Frequency	$f = 11,7 \text{ kHz}$
Limit of radiant power pulse	$P_p \leq 8,5 \text{ mW}$
Light spot size	See spot diameter 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	$\leq 30 \text{ mA}$
Switching capacity	$\leq 100 \text{ mA}$
Switching frequency	$\leq 4000 \text{ Hz}$
First-up delay	$< 300 \text{ ms}$
Response time	$125 \mu\text{s}$
Recovery time	$< 300 \text{ ms}$
Ambient Temperature	Operating : $-20...+60 \text{ }^\circ\text{C}$ ($-4...+140 \text{ }^\circ\text{F}$) - UL : $-20...+50 \text{ }^\circ\text{C}$ ($-4...+122 \text{ }^\circ\text{F}$) Storage : $-20...+80 \text{ }^\circ\text{C}$ ($-4...+176 \text{ }^\circ\text{F}$)
Power Voltage	Rated operational voltage: 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
Protection against electric shocks	<input type="checkbox"/> 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

