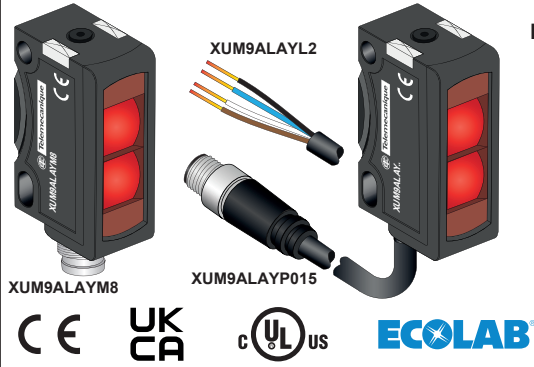
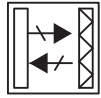


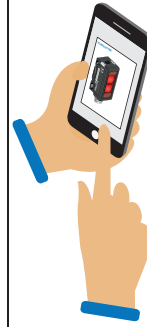
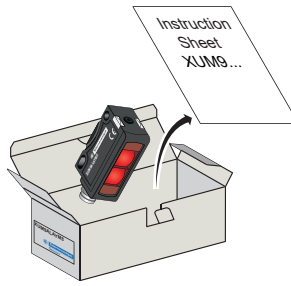
Photo-electric sensors - Miniature design



Polarised reflex



Package Content (Example)



http://qr.tesensors.com/XU0020

Scan the code to access this Instruction Sheet in different languages and all the product information 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.

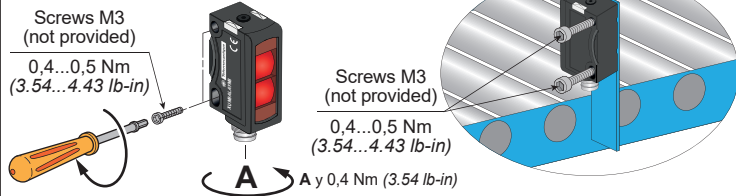
Failure to follow these instructions will result in death or serious injury.

WARNING

IMPROPER SETUP OR INSTALLATION

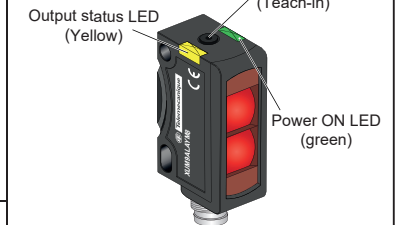
- This equipment must only be installed and serviced by qualified personnel.
 - Read, understand, and follow the compliance below, before installing the XUM Photo-electric sensor.
 - Do not tamper with or make alterations on the unit.
 - Comply with the wiring and mounting instructions.
 - Check the 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

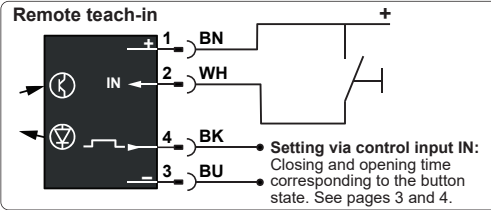
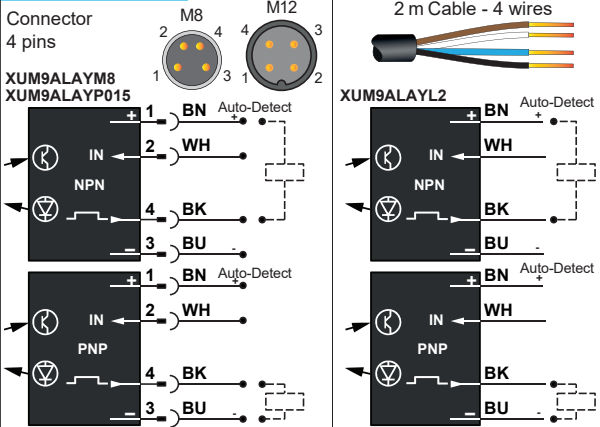


CAUTION
 DEGREE OF PROTECTION DETERIORATION
 Do not apply excessive torque on the sensor during the installation process.
 Failure to follow these instructions can result in injury or equipment damage.

LEDs and settings



Wiring diagrams

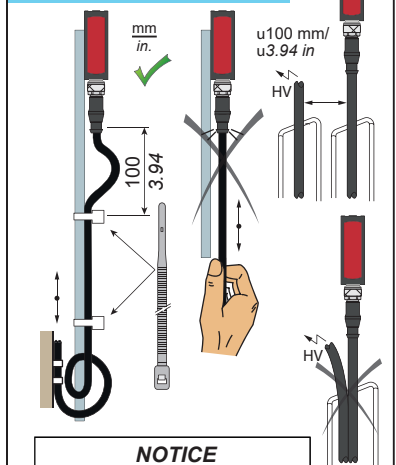


CAUTION
 INOPERABLE EQUIPMENT DUE TO CYBER ATTACK ON IO-LINK
 • Apply external cybersecurity protection on IO-Link Master device.
 • Download IO-Link Description files only from these web servers:
<https://tesensors.com/global/en/support/iolink> or
<https://ioddfinder.io-link.com/#/>
 Failure to follow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

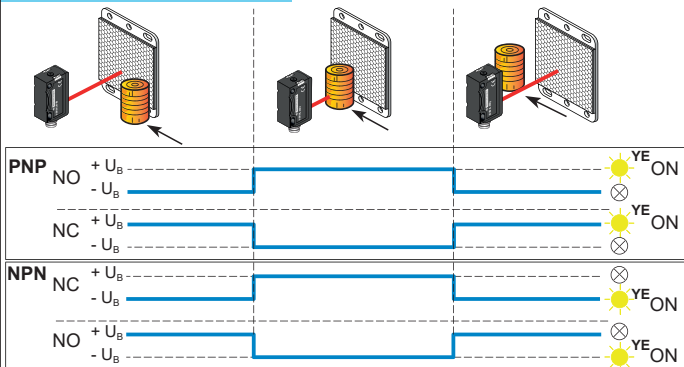
IO-Link data tables and IODD files are online:
 Scan the 2D code, above

Mounting, wiring and maintenance precautions

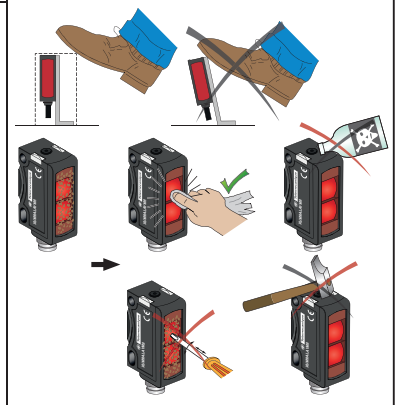
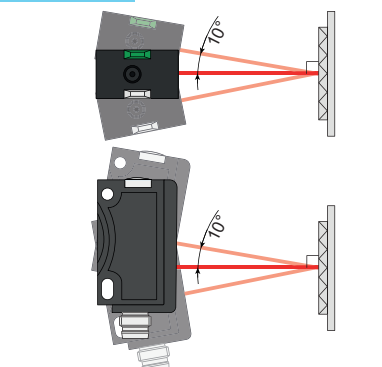


NOTICE
 REDUCTION OF SERVICE LIFE
 Do not pull on the sensor cable.
 Failure to follow these instructions can result in equipment damage.

Switching mode for object



Alignment

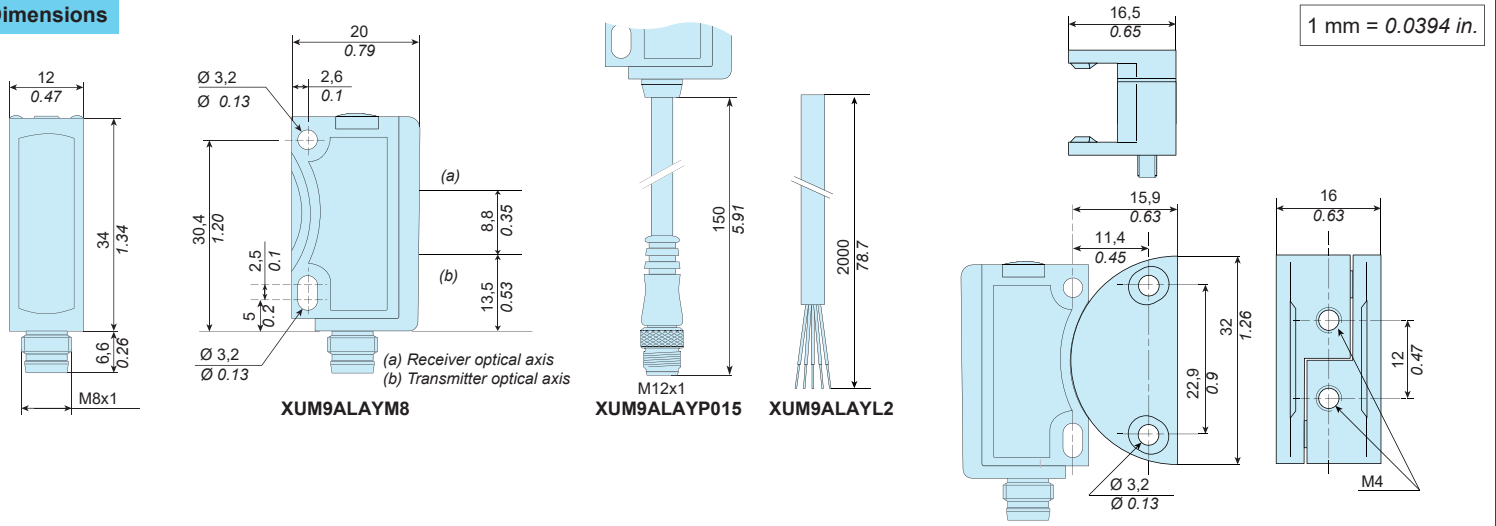


Electrical equipment should be installed, operated and maintained only by qualified personnel. Neither TMSS France nor any of its subsidiaries or other affiliated companies shall be responsible or liable for any consequences arising out of the use of this material. Telemecanique™ Sensors is a trademark 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.

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

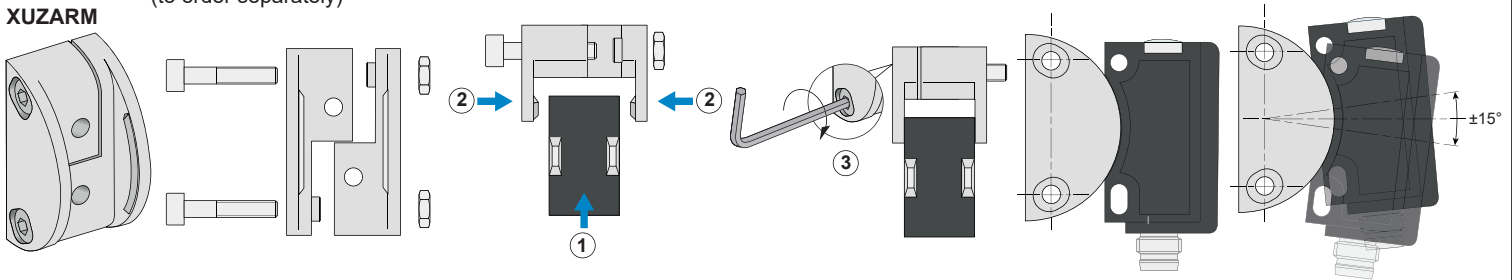
UK Representative :
 Yageo TMSS UK Limited
 2 North Park Road
 Harrogate, HG1 5PA
 United Kingdom

Dimensions

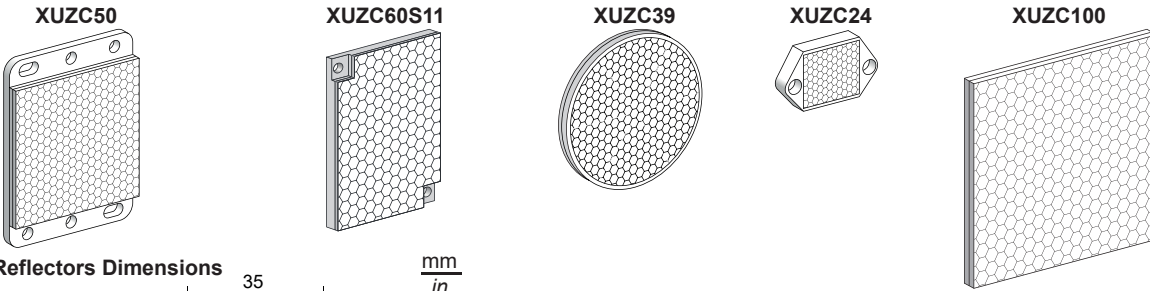


Accessories

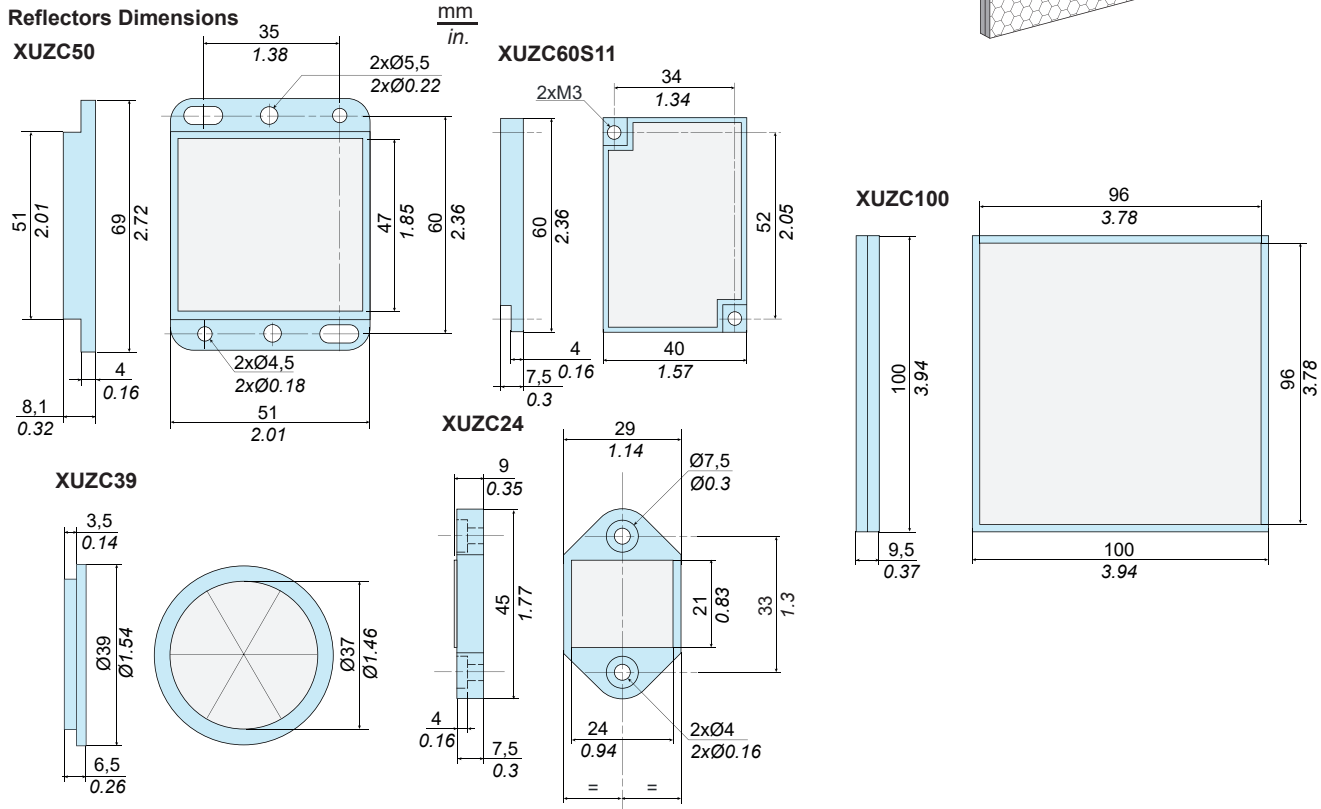
Dovetail clamp mounting for flexible adjustment
(to order separately)



Reflector examples (to order separately)



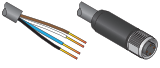


Reflectors Dimensions



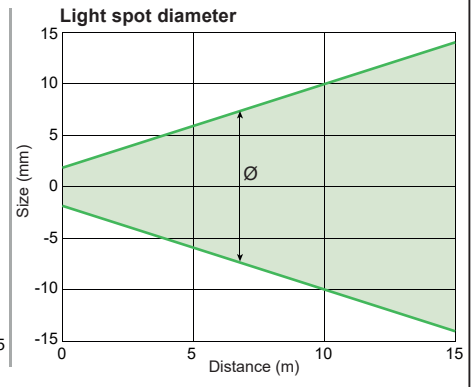
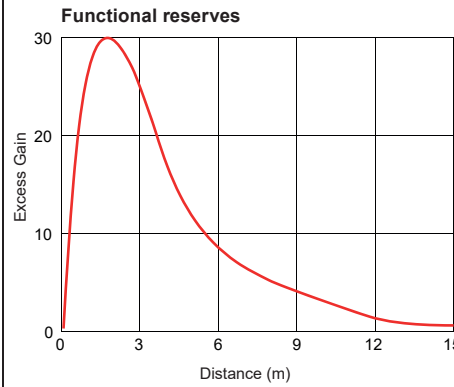
Pre-wired connectors (examples)

PVC cable for general use
PUR cable for severe industrial environments

<p>Jumper</p>  <p>M8 - 4 pins plug M8 - 4 pins socket XZCR2609P2Y1 1m PUR XZCR2609P2Y2 2m PUR</p>	<p>Jumper</p>  <p>M12 - 4 pins plug M8 - 4 pins socket XZCR1509041J1 1m PUR XZCR1509041J2 2m PUR</p>	<p>Cable</p>  <p>M8 - 4 pins socket 4 wires XZCP0941L2 2m PUR XZCP0941L5 5m PUR</p>
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For other cables (angled or length) visit our website:
www.telemecaniquesensors.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

Press Teach-button

Reflector

Object

OFF

ON

Flashing

Action duration

Alternately

YE: Green
GN: Yellow

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

ok

B 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

ok

C Switching NO/NC

> 10 s

> 10 s

< 1 s

> 10 s

< 1 s

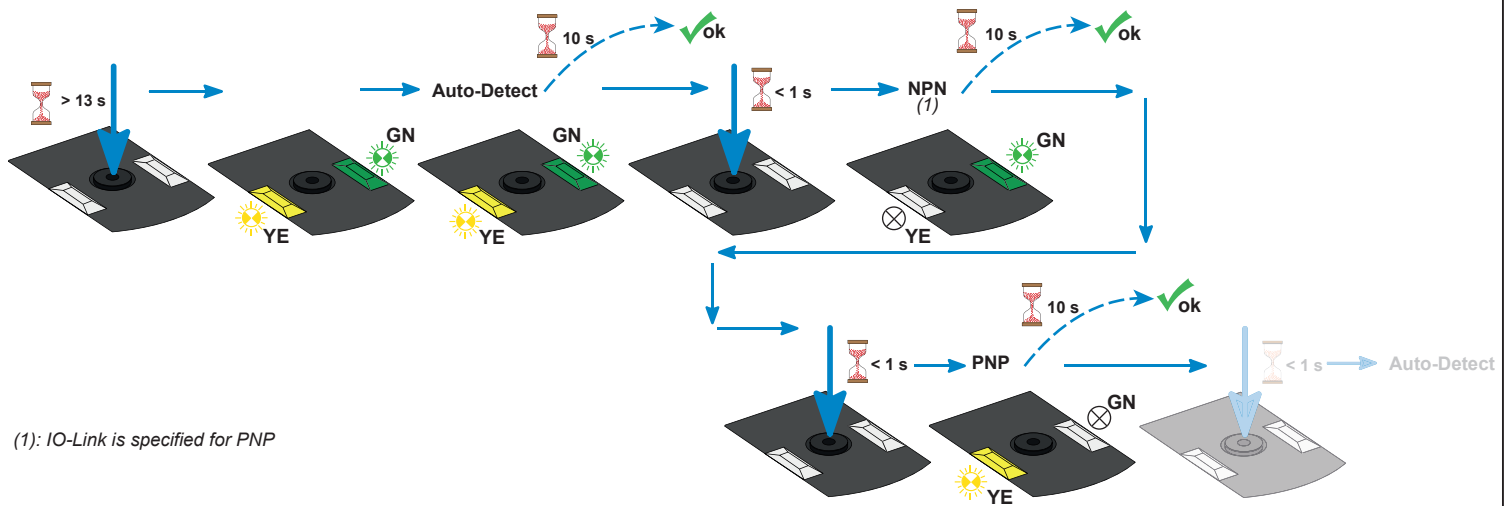
NO

NC

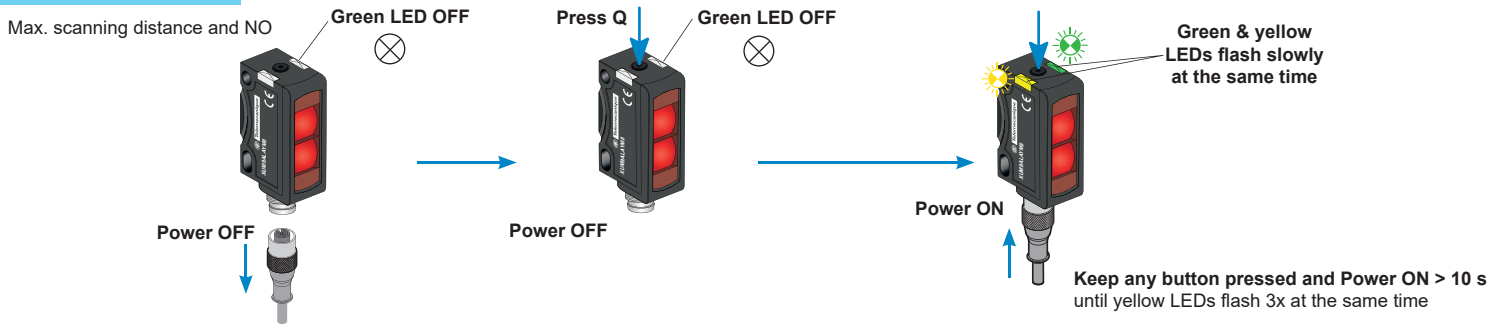
ok

ok

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	Pp y 8,5 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 °C (-4...+140 °F) - UL : - 20...+50 °C (-4...+122 °F) Storage : - 20...+80 °C (-4...+176 °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

