

**Overview**

- SmartReflect - Safe barrier principle without reflector
- Distance measurement value via IO-Link
- Reliable also on very dark and shiny objects
- Manipulation-proof, simple teach-in via qTeach or line teach
- Extended parameterization options and additional diagnostic data
- Longest distances thanks to time of flight principle
- Laser light source for an accurate switching behavior



Picture similar



**Technical data**

**General data**

Type	Light barrier
Version	Time of Flight
Light source	Pulsed red laser diode
Background position Sde	500 ... 2500 mm
Scanning range Sa	85% ... 80% Sde
Repeat accuracy	≤ 1200 ... 4300 μm
Temperature drift	± 15 mm
Linearity error	± 10 mm
Power on indication	LED green
Output indicator	LED yellow / LED red
Sensing distance adjustment	Teach-in and IO-Link
Laser class	1
Distance to focus	1500 mm
Wave length	680 nm
Suppression of reciprocal influence	Yes
Beam type	Point
Alignment optical axis	< 1°

**Electrical data**

Response time / release time	< 4 ms (High Speed Mode) < 8 ms (Standard Mode) < 50 ms (Long Range Mode)
Voltage supply range +Vs	12 ... 30 VDC
Current consumption max. (no load)	60 mA
Voltage drop Vd	< 2 VDC
Output function	Dark operate, switchable
Output circuit	Push-pull / IO-Link Push-pull
Output current	< 50 mA, sum of all outputs

**Electrical data**

Short circuit protection	Yes
Reverse polarity protection	Yes

**Communication interface**

Interface	IO-Link V1.1.3
Profile	DMSS
IO-Link port type	Class A
Baud rate	230,4 kBaud (COM 3)
Cycle time	≥ 2 ms
Process data length	32 Bit
Process data structure	Bit 0 = SSC1 (distance) Bit 1 = SSC2 (distance) Bit 2 = quality Bit 3 = alarm Bit 5 = SSC4 (counter) Bit 8-15 = scale factor Bit 16-31 = 16 Bit measurement

**Adjustable parameters**

- Switching point
- Switching hysteresis
- Operation mode
- Time filters
- LED status indicators
- Output logic
- Output circuit
- Counter
- Deactivate the sensor element
- Find Me function
- Teach-in mode

**Technical data**

**Communication interface**

Additional data	Distance
	Excess gain
	Operating cycles
	Operating hours
	Boot cycles
	Operating voltage
	Device temperature
	Histograms

**Mechanical data**

Width / diameter	18 mm
Height / length	45 mm
Depth	32 mm
Type	Rectangular
Housing material	Plastic (ASA, PMMA)

**Mechanical data**

Front (optics)	PMMA
Connection types	Connector M12 5 pin

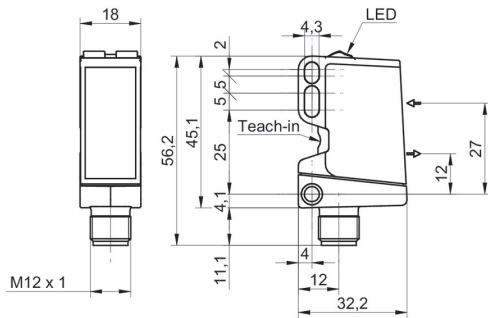
**Ambient conditions**

Protection class	IP 67
Operating temperature	-20 ... +50 °C
Storage temperature	-40 ... +70 °C
Vibration (sinusoidal)	IEC 60068-2-6:2008 10 g at f = 10 - 2000 Hz, duration 150 min per axis
Shock (semi-sinusoidal)	IEC 60068-2-27:2009 50 g / 11 ms, 10 impulses per axis and direction

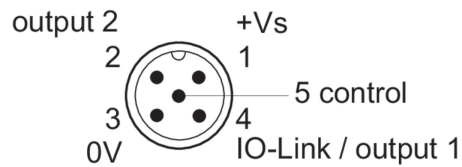
**Remarks**

- Measurement on 90% remission (white)

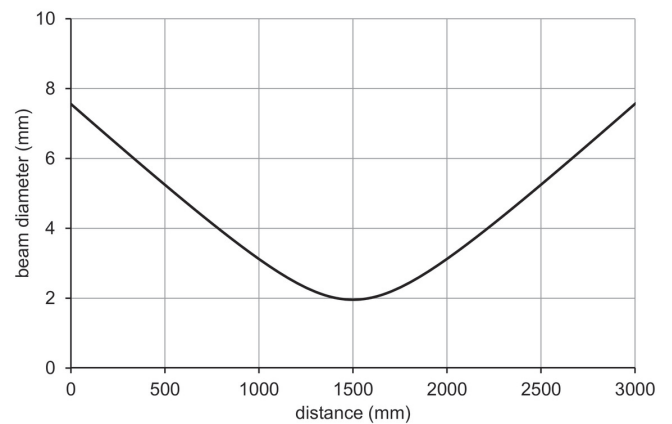
**Dimension drawing**



**Pin assignment**



**Beam characteristic (typically)**

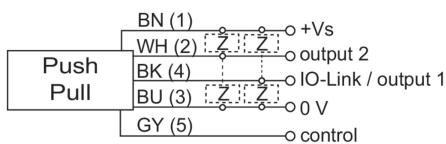


**Laser warning**

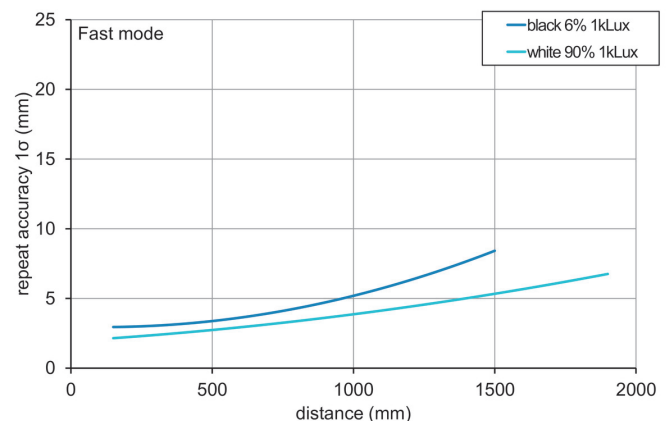
**CLASS 1 LASER PRODUCT**

IEC 60825-1/2014  
Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019

**Connection diagram**



**Repeat accuracy**



**Repeat accuracy**

