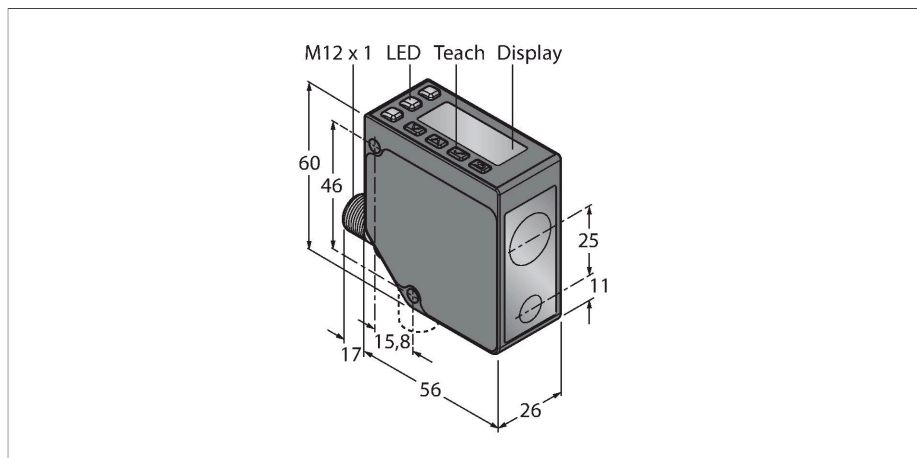


LE250KQ

Photoelectric Sensor – Laser Scanning System



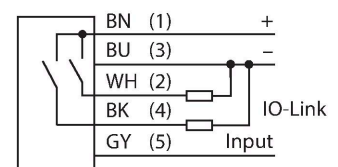
Technical data

Type	LE250KQ
ID	3097763
Optical data	
Function	Proximity switch
Operating mode	Triangulation
Light type	Red
Wavelength	650 nm
Laser class	▲ 2
Optical resolution	0.2 mm
Repeatability	0.1 mm
Range	100...400 mm
Ambient light immunity	10000 lux
Electrical data	
Operating voltage	12...30 VDC
DC rated operational current	≤ 70 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Communication protocol	IO-Link
Output function	NO/NC, PNP
Switching frequency	≤ 250 Hz
Readiness delay	≤ 2 s
Readiness delay	≤ 3000 ms
Response time typical	< 2 ms
IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)

Features

- 2-line, 8-segment display
- Rotatable connector, male M12 × 1, 5-pin
- Range: 100...400 mm
- Laser class 2, red, 650 nm, acc. to IEC 60825-1:2007
- Resolution at 100 mm - 250 mm distance: < 0.02 mm
- Resolution at 250 mm - 400 mm distance: < 0.2 mm
- Operating voltage: 12...30 VDC
- 1 × PNP switching output with IO-Link communication
- Transmission of process value and parametrization via IO-link

Wiring diagram



Functional principle

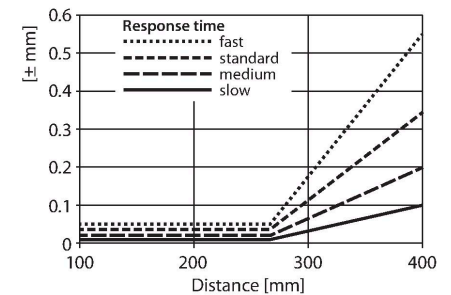
The laser distance sensors of the LE250 Series measure the distance to the object to 400 mm. The devices are set with buttons on the housing. The built-in display assists with the menu navigation and serves to display the measured distance. The switching output is reprogrammable and the analog output is, depending on the type, either laid out as current or voltage output. The integrated connector is rotatable by 90° degrees which makes it easy to mount. The transmitter LED can be turned off via the menu or the grey wire (PIN 5). The same wire can be used to operate two devices in the synch mode, which prevents mutual influence. The measuring accuracy is 0.02 mm at a distance of 250 mm and 0.2 mm at a distance of 400 mm.

Technical data

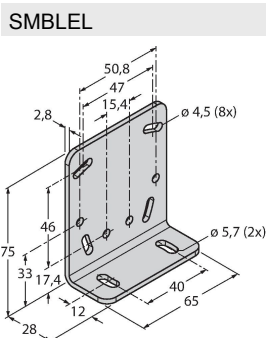
Process data width	16 bit
Frame type	Type_2_2
Minimum cycle time	2 ms
Function Pin 4	IO-Link
Function Pin 2	DI
Maximum cable length	20 m
Profile support	Smart Sensor Profil
Included in the SIDI GSDML	Yes

Mechanical data	
Design	Rectangular, LE250
Dimensions	56 x 26 x 77 mm
Housing material	Metal, Zinc Alloy Die-Cast, Black
Lens	plastic, Polycarbonate
Electrical connection	Connector, M12 × 1, PVC
Number of cores	5
Ambient temperature	-20...+55 °C
Storage temperature	-30...+65 °C
Relative humidity	90 %
Protection class	IP67
Special features	keep/defer
Power-on indication	LED, Green
Switching state	LED, Yellow
Tests/approvals	
Approvals	CE, cULus listed

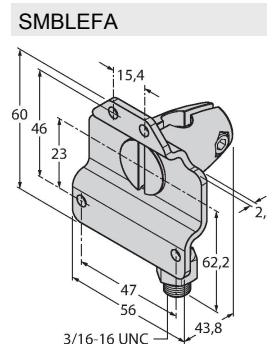
Excess Gain Curve



Accessories



3086754
Mounting bracket, rectangular, stainless steel, for side mounting of LE250/550 sensors

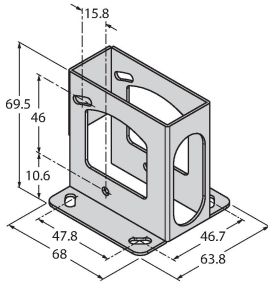


3088226
Mounting bracket, rotatable, stainless steel, for sensors of the LE250/550 series

SMBLEU

3086755

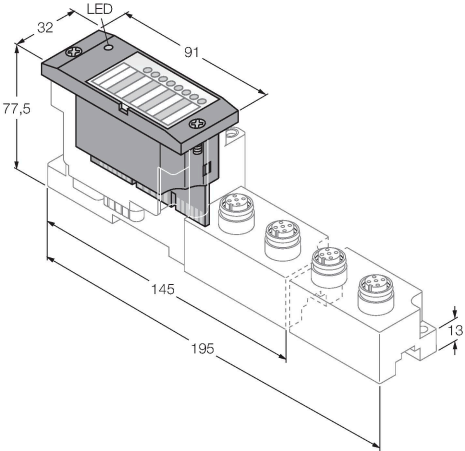
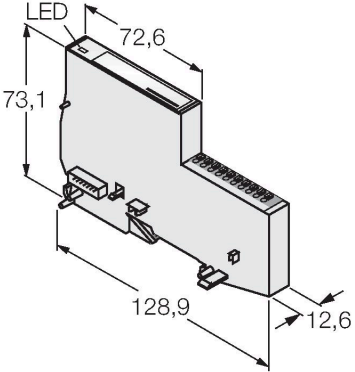
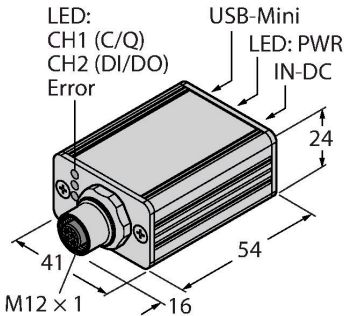
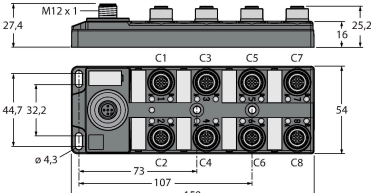
Protective housing, stainless steel, for sensors of the LE250/550 series

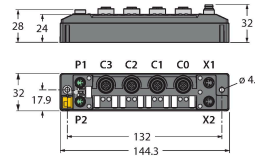
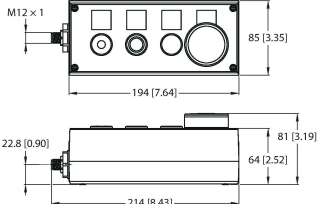
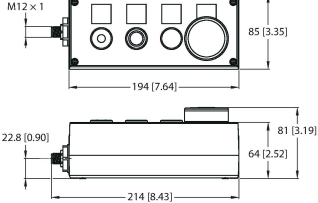
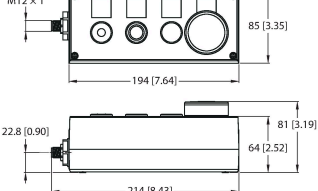


Accessories

Dimension drawing	Type	ID	
	RKC4.5T-2/TEL	6625016	Connection cable, female M12, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com
	WKC4.5T-2/TEL	6625028	Connection cable, female M12, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com
	RKS4.5T-2/TEL	6626361	Connection cable, M12 female connector, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; shielded; cULus approval; other cable lengths and qualities available, see www.turck.com
	WKS4.5T-2/TEL	6626364	Connection cable, M12 female connector, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; shielded; cULus approval; other cable lengths and qualities available, see www.turck.com

Accessories

Dimension drawing	Type	ID	
 <p>LED</p> <p>32</p> <p>91</p> <p>77,5</p> <p>145</p> <p>195</p> <p>13</p>	BL67-4IOL	6827386	4-channel IO-Link Master module for the modular BL67 I/O-system
 <p>LED</p> <p>72,6</p> <p>73,1</p> <p>128,9</p> <p>12,6</p>	BL20-E-4IOL	6827385	IO-Link master module for the modular BL20 I/O system, 4-channel
 <p>LED: CH1 (C/Q)</p> <p>LED: CH2 (DI/DO)</p> <p>Error</p> <p>USB-Mini</p> <p>LED: PWR</p> <p>IN-DC</p> <p>24</p> <p>54</p> <p>41</p> <p>M12 x 1</p> <p>16</p>	USB-2-IOL-0002	6825482	IO-Link Master with integrated USB port
 <p>M12 x 1</p> <p>27,4</p> <p>25,2</p> <p>16</p> <p>44,7</p> <p>32,2</p> <p>54</p> <p>ø 4,3</p> <p>73</p> <p>107</p> <p>150</p> <p>C1</p> <p>C2</p> <p>C3</p> <p>C4</p> <p>C5</p> <p>C6</p> <p>C7</p> <p>C8</p>	TBIL-M1-16DXP	6814102	16-channel I/O-hub for the connection of 16 digital PNP signals to an IO-Link master (input/output freely selectable per channel)

Dimension drawing	Type	ID	
	TBEN-S2-4IOL	6814024	Compact multiprotocol I/O module, 4 IO-Link Master 1.1 Class A, 4 universal PNP digital channels 0.5 A
	OPIL-E4-IO2-FE01(DE)	100029326	16-channel I/O hub for the connection of 16 digital PNP signals to an IO-Link master (input/output freely selectable per channel)
	OPIL-E4-IO2-FE02	100029327	16-channel I/O hub for the connection of 16 digital PNP signals to an IO-Link master (input/output freely selectable per channel)
	OPIL-E4-IO2-FE03	100029328	16-channel I/O hub for the connection of 16 digital PNP signals to an IO-Link master (input/output freely selectable per channel)