# Photoelectric sensor laser scanning system LE250D



Light type red red Wavelength 650 nm Laser class △ 2 Optical resolution 0.2 mm Repeatability 0.1 mm Range 100400 mm Ambient temperature -20+55 °C Ambient light immunity > 10000 lux Operating voltage 1230 VDC DC rated operational current ≤ 70 mA Short-circuit protection yes Output 2 Switching output Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Approvals CE, cULus listed Design Rectangular, LE250 Dimensions 56 mm × 26 mm × 60 mm Housing material Die-cast zinc, ZN, Black Lens plastic, Polycarbonate Electrical connection 5mm <sup>2</sup> Hord State Stat	Type designation	LE250D	
Light type   red     Wavelength   650 nm     Laser class   ▲ 2     Optical resolution   0.2 mm     Repeatability   0.1 mm     Range   100400 mm     Ambient temperature   -20+55 °C     Ambient light immunity   > 10000 lux     Operating voltage   1230 VDC     DC rated operational current   ≤ 70 mA     Short-circuit protection   yes     Reverse polarity protection   yes     Output 2   Switching output     Switching frequency   ≤ 250 Hz     Readiness delay   ≤ 2 s     Approvals   CE, cULus listed     Design   Rectangular, LE250     Dimensions   56 mm x 26 mm x 60 mm     Housing material   Die-cast zinc, ZN, Black     Lens   plastic, Polycarbonate     Electrical connection   Cable, PVC     Cable length   2 m     Cable cross section   5 mm²     Protection class   IP67     Special features   Synchronization     Power-on indication   LED green	Ident no.	3094202	
Wavelength   650 nm     Laser class   ▲ 2     Optical resolution   0.2 mm     Repeatability   0.1 mm     Range   100400 mm     Ambient temperature   -20+55 °C     Ambient light immunity   > 10000 lux     Operating voltage   1230 VDC     DC rated operational current   ≤ 70 mA     Short-circuit protection   yes     Qutput 2   Switching output     Switching frequency   ≤ 250 Hz     Readiness delay   ≤ 2 s     Approvals   CE, cULus listed     Design   Rectangular, LE250     Dimensions   56 mm x 26 mm x 60 mm     Housing material   Die-cast zinc, ZN, Black     Lens   plastic, Polycarbonate     Electrical connection   Cable, PVC     Cable length   2 m     Cable cross section   5 mm²     Protection class   IP67     Special features   Synchronization     Power-on indication   LED green	Operating mode	Laser sensor, diffuse mode (triangulation)	
Laser class   ▲ 2     Optical resolution   0.2 mm     Repeatability   0.1 mm     Range   100400 mm     Ambient temperature   -20+55 °C     Ambient light immunity   > 10000 lux     Operating voltage   1230 VDC     DC rated operational current   ≤ 70 mA     Short-circuit protection   yes     Qutput 2   Switching output     Switching frequency   ≤ 250 Hz     Readiness delay   ≤ 2 s     Approvals   CE, cULus listed     Design   Rectangular, LE250     Dimensions   56 mm x 26 mm x 60 mm     Housing material   Die-cast zinc, ZN, Black     Lens   plastic, Polycarbonate     Electrical connection   Cable, PVC     Cable length   2 m     Cable cross section   5 mm²     Protection class   IP67	Light type	red	
Optical resolution0.2 mmRepeatability0.1 mmRange100400 mmAmbient temperature-20+55 °CAmbient light immunity> 10000 luxOperating voltageD2 rated operational currentShort-circuit protectionyesReverse polarity protectionyesOutput 2Switching outputSwitching frequency< 250 Hz	Wavelength	650 nm	
Repeatability0.1 mmRange100400 mmAmbient temperature-20+55 °CAmbient light immunity> 10000 luxOperating voltageDC rated operational current $\leq$ 70 mAShort-circuit protectionyesReverse polarity protectionyesOutput 2Switching outputSwitching frequency $\leq$ 250 HzReadiness delay $\leq$ 2 sApprovalsCE, cULus listedDesignRectangular, LE250Dimensions56 mm x 26 mm x 60 mmHousing materialDie-cast zinc, ZN, BlackLensplastic, PolycarbonateElectrical connection2 mCable length2 mCable length2 mProtection class1P67Special featuresSynchronizationPower-on indicationLED green	Laser class	<u>A</u> 2	
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Ambient temperature Ambient light immunity-20+55 °C > 10000 luxOperating voltage DC rated operational current1230 VDC < 70 mA yes Reverse polarity protection yes Output 2 Switching output Switching frequency Readiness delay2250 Hz < 2 25ApprovalsCE, cULus listedDesign Dimensions Housing material Electrical connection Cable ength Cable engthRectangular, LE250 Dialer, Polycarbonate Electrical connectionSpecial features Power-on indicationyes Synchronization LED green	Repeatability	0.1 mm	
Ambient light immunity   > 10000 lux     Operating voltage   1230 VDC     DC rated operational current   ≤ 70 mA     Short-circuit protection   yes     Reverse polarity protection   yes     Output 2   Switching output     Switching frequency   < 250 Hz	Range	100400 mm	
Operating voltage 1230 VDC   DC rated operational current ≤ 70 mA   Short-circuit protection yes   Reverse polarity protection yes   Output 2 Switching output   Switching frequency ≤ 250 Hz   Readiness delay ≤ 2 s   Approvals CE, cULus listed   Design Rectangular, LE250   Dimensions 56 mm x 26 mm x 60 mm   Housing material Die-cast zinc, ZN, Black   Lens plastic, Polycarbonate   Electrical connection Cable, PVC   Cable length 2 m   Cable cross section 5 mm²   Protection class IP67	Ambient temperature	-20+55 °C	
Point of centre   ≤ 70 mA     Short-circuit protection   yes     Reverse polarity protection   yes     Output 2   Switching output     Switching frequency   ≤ 250 Hz     Readiness delay   ≤ 2 s     Approvals   CE, cULus listed     Design   Rectangular, LE250     Dimensions   56 mm x 26 mm x 60 mm     Housing material   Die-cast zinc, ZN, Black     Lens   plastic, Polycarbonate     Electrical connection   Cable, PVC     Cable length   2 m     Gable cross section   5 mm²     Protection class   IP67     Special features   Synchronization     Power-on indication   LED green	Ambient light immunity	> 10000 lux	
Short-circuit protectionyesReverse polarity protectionyesOutput 2Switching outputSwitching frequency< 250 Hz	Operating voltage	1230 VDC	
Reverse polarity protection   yes     Output 2   Switching output     Switching frequency   < 250 Hz	DC rated operational current	≤ 70 mA	
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Switching frequency   ≤ 250 Hz     Readiness delay   ≤ 2 s     Approvals   CE, cULus listed     Design   Rectangular, LE250     Dimensions   56 mm x 26 mm x 60 mm     Housing material   Die-cast zinc, ZN, Black     Lens   plastic, Polycarbonate     Electrical connection   Cable, PVC     Cable length   2 m     Cable cross section   5 mm²     Protection class   IP67     Special features   Synchronization     Power-on indication   LED green	Reverse polarity protection		
Readiness delay   ≤ 2 s     Approvals   CE, cULus listed     Design   Rectangular, LE250     Dimensions   56 mm x 26 mm x 60 mm     Housing material   Die-cast zinc, ZN, Black     Lens   plastic, Polycarbonate     Electrical connection   Cable, PVC     Cable length   2 m     Cable cross section   5 mm²     Protection class   IP67     Special features   Synchronization     Power-on indication   LED green	Output 2	-	
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Dimensions 56 mm x 26 mm x 60 mm   Housing material Die-cast zinc, ZN, Black   Lens plastic, Polycarbonate   Electrical connection Cable, PVC   Cable length 2 m   Cable cross section 5 mm²   Protection class IP67	Approvals	CE, cULus listed	
Housing material Die-cast zinc, ZN, Black   Lens plastic, Polycarbonate   Electrical connection Cable, PVC   Cable length 2 m   Cable cross section 5 mm²   Protection class IP67	Design	Rectangular, LE250	
Lens plastic, Polycarbonate   Electrical connection Cable, PVC   Cable length 2 m   Cable cross section 5 mm²   Protection class IP67     Special features Synchronization   Power-on indication LED green	Dimensions	56 mm x 26 mm x 60 mm	
Electrical connection Cable, PVC   Cable length 2 m   Cable cross section 5 mm²   Protection class IP67     Special features Synchronization   Power-on indication LED green	Housing material	Die-cast zinc, ZN, Black	
Cable length 2 m   Cable cross section 5 mm <sup>2</sup> Protection class IP67   Special features Synchronization   Power-on indication LED green	Lens	plastic, Polycarbonate	
Cable cross section 5 mm²   Protection class IP67   Special features Synchronization   Power-on indication LED green	Electrical connection	Cable, PVC	
Protection class IP67   Special features Synchronization   Power-on indication LED green	Cable length	2 m	
Special features     Synchronization       Power-on indication     LED green	Cable cross section	5 mm <sup>2</sup>	
Power-on indication LED green	Protection class	IP67	
C C	Special features	Synchronization	
Switching state LED yellow	Power-on indication	LED green	
	Switching state	LED yellow	



TURCK

Automation

Industrial

- 2-line, 8-segment display
- Cable, PVC, 2 m
- 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</p>
- Resolution at 250 mm 400 mm distance: < 0.2 mm</p>
- Operating voltage: 12...30 VDC
- Two switching outputs PNP/NPN configurable

### 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.

#### **Excess Gain Curve**



# Photoelectric sensor laser scanning system LE250D



## Accessories

Type code	Ident no.	Description	
SMBLEL	3086754	Mounting bracket, rectangular, stainless steel, for side mount- ing of LE250/550 sensors	2.8 75 45 15,47 15,
SMBLEFA	3088226	Mounting bracket, rotatable, stainless steel, for sensors of the LE250/550 series	60 46 13 60 46 23 60 46 50 60 40 50 60 5
SMBLEU	3086755	Protective housing, stainless steel, for sensors of the LE250/550 series	15.8 69.5 69.5 60.0 60.0 63.8