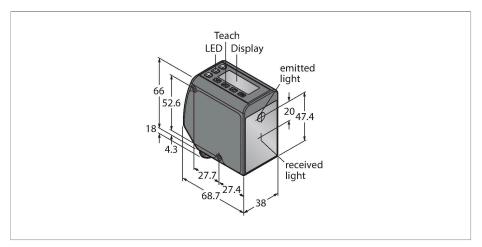


LTF24IC2LDQ Photoelectric Sensor – Laser Measuring System



Technical data

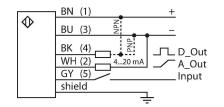
ID 3801449	Туре	LTF24IC2LDQ	
Function Proximity switch Operating mode Time-of-Flight Light type Red Wavelength 660 nm Laser class ▲ 2 Optical resolution 3 mm Repeatability 1.5 mm Range 5024000 mm Ambient light immunity 40000 lux Electrical data Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Reverse polarity protection NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms Mechanical data	ID	3801449	
Operating mode Time-of-Flight Light type Red Wavelength 660 nm Laser class ♠ 2 Optical resolution 3 mm Repeatability 1.5 mm Range 5024000 mm Ambient light immunity 40000 lux Electrical data Operating voltage Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Optical data		
Light type Red Wavelength 660 nm Laser class	Function	Proximity switch	
Wavelength 660 nm Laser class ♠ 2 Optical resolution 3 mm Repeatability 1.5 mm Range 5024000 mm Ambient light immunity 40000 lux Electrical data Operating voltage Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Operating mode	Time-of-Flight	
Laser class ♠ 2 Optical resolution 3 mm Repeatability 1.5 mm Range 5024000 mm Ambient light immunity 40000 lux Electrical data Operating voltage Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Light type	Red	
Optical resolution 3 mm Repeatability 1.5 mm Range 5024000 mm Ambient light immunity 40000 lux Electrical data Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms Mechanical data	Wavelength	660 nm	
Repeatability 1.5 mm Range 5024000 mm Ambient light immunity 40000 lux Electrical data 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Laser class	<u>^</u> 2	
Range 5024000 mm Ambient light immunity 40000 lux Electrical data Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms Mechanical data	Optical resolution	3 mm	
Ambient light immunity 40000 lux Electrical data Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms Mechanical data	Repeatability	1.5 mm	
Electrical data Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection Reverse polarity protection Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay Sesponse time typical Mechanical data	Range	5024000 mm	
Operating voltage 1230 VDC DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Ambient light immunity	40000 lux	
DC rated operational current ≤ 85 mA Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Electrical data		
Short-circuit protection yes Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Operating voltage	1230 VDC	
Reverse polarity protection yes Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	DC rated operational current	≤ 85 mA	
Output function NO contact, PNP/NPN Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Short-circuit protection	yes	
Output 2 Analog output Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Reverse polarity protection	yes	
Type of analog output 420 mA Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms Mechanical data	Output function	NO contact, PNP/NPN	
Current output 420 mA Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Output 2	Analog output	
Switching frequency ≤ 250 Hz Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms	Type of analog output	420 mA	
Readiness delay ≤ 2 s Readiness delay ≤ 2000 ms Response time typical < 1.5 ms Mechanical data	Current output	420 mA	
Readiness delay ≤ 2000 ms Response time typical < 1.5 ms Mechanical data	Switching frequency	≤ 250 Hz	
Response time typical < 1.5 ms Mechanical data	Readiness delay	≤ 2 s	
Mechanical data	Readiness delay	≤ 2000 ms	
	Response time typical	< 1.5 ms	
Design Rectangular, LTF	Mechanical data		
	Design	Rectangular, LTF	



Features

- ■2-line, 8-segment display
- ■M12 × 1 male connector, rotatable, 5-pin
- Range: 0.05...24 m
- Laser class 2, red, 660 nm, acc. to IEC
- 60825-1:2007
- Resolution: 0.3...4 mm
- Operating voltage: 12...30 VDC
- PNP/NPN-switching output, switchable
- ■Analog output: 4...20 mA

Wiring diagram

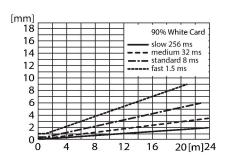


Functional principle

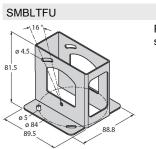
The LTF laser sensors measure the distance to an object up to a range of 24 m. The devices are configured via buttons on the housing. The built-in display assists with the menu navigation and serves to display the measured distance. The switching output is re-programmable and the analog output is, depending 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 gray wire (PIN 5). The same wire can be used to operate two devices in the synch mode, which prevents mutual influence. The measuring accuracy can be obtained from the excess gain curve.

Dimensions	77 x 26 x 56 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	Pump function keep/defer		
Power-on indication	LED, Green		
Switching state	LED, Yellow		
Tests/approvals			
Vibration resistance	Acc. to IEC 60947-5-2		
Shock test	Acc. to IEC 60947-5-2		
Approvals	CE		

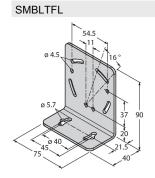
Excess Gain Curve



Accessories



3094757 Protective housing, stainless steel, for sensors of the LTF series



Mounting bracket, rectangular, stainless steel, for sensors of the LTF series

3094756

Accessories

Discounting descript	T	ID	
Dimension drawing	Type	ID	
M12x1 e 15 14	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
0 15 M12x1 265 32	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



Dimension drawing	Туре	ID	
M12x1 2 14 0 15	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
0 15 M12 x 1 28.5 14 28.5 -50	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