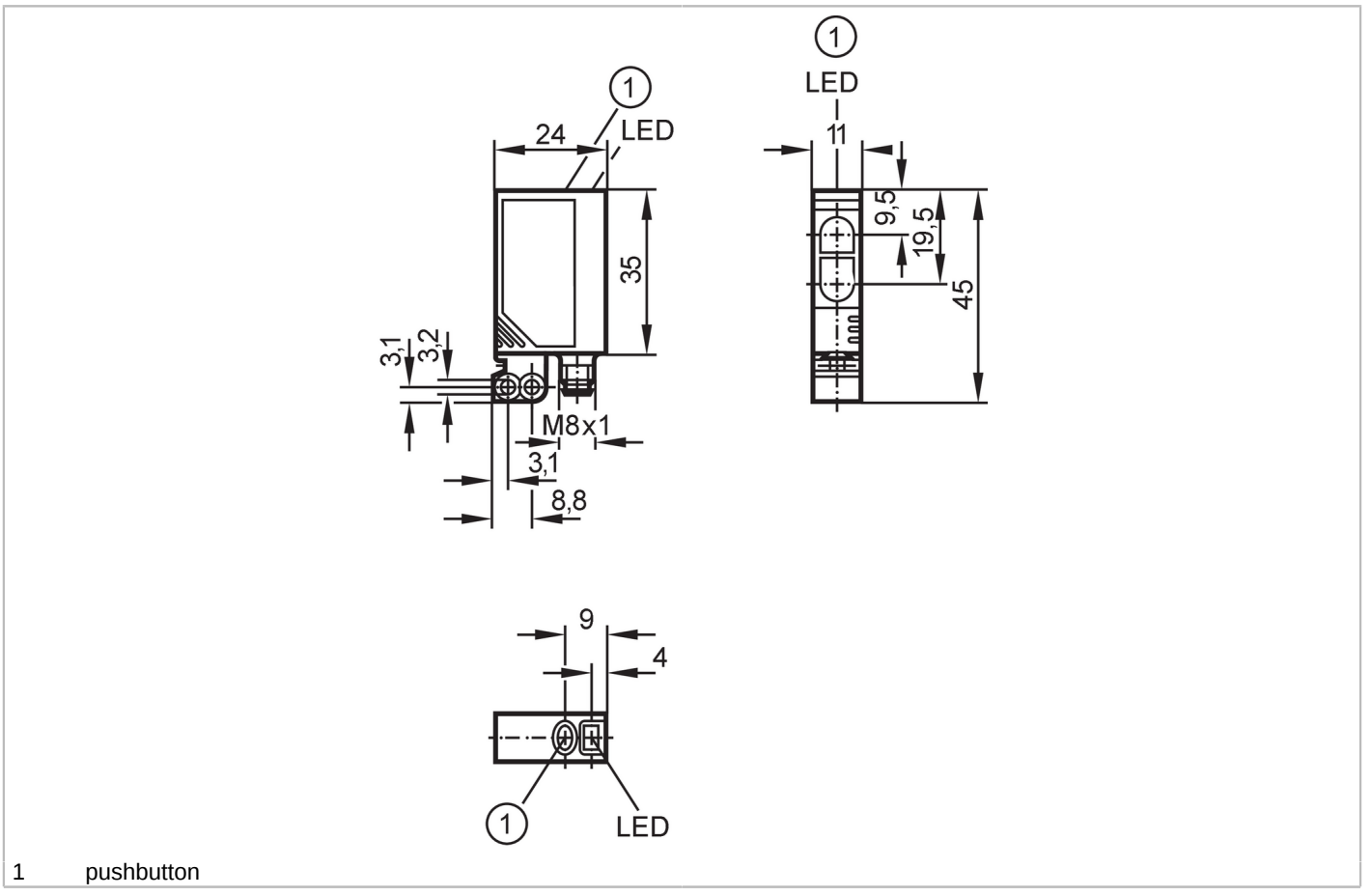
OJ5054

Laser diffuse reflection sensor

OJHLFPKG/SO/AS



1 pushbutton

Product characteristics		
Type of light		red light
Laser protection class		1
Housing		rectangular
Application		
Special feature		Background suppression
Function principle		Diffuse reflection sensor
Application		For applications in robotics, assembly and handling technology
Electrical data		
Operating voltage	[V]	10...30 DC
Current consumption	[mA]	13
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	650
Typ. lifetime	[h]	50000
Outputs		
Electrical design		PNP
Output function		light-on/dark-on mode; (programmable)

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Max. voltage drop switching output DC	[V]	2.5	
Permanent current rating of switching output DC	[mA]	200	
Switching frequency DC	[Hz]	1000	
Short-circuit protection		yes	
Type of short-circuit protection		pulsed	
Overload protection		yes	
Detection zone			
Range	[mm]	15...200; (white paper 200 x 200 mm 90% remission)	
Range on white object (90 % remission)	[mm]	15...200	
Range on grey object (18 % remission)	[mm]	15...70	
Range on black object (6 % remission)	[mm]	15...45	
Range adjustable		yes	
Diameter of the smallest detectable object	[mm]	2	
Max. light spot width	[mm]	2	
Max. light spot height	[mm]	1	
Background suppression available		yes	
Operating conditions			
Ambient temperature	[°C]	-10...60	
Protection		IP 67	
Tests / approvals			
EMC		EN 60947-5-2	
Laser protection class		1	
Notes on laser protection		Caution:	laser light
		laser class:	1
			EN / IEC60825-1:2007
			EN / IEC60825-1:2014
			Complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019.
MTTF	[years]	501	
Mechanical data			
Weight	[g]	27.75	
Housing		rectangular	
Dimensions	[mm]	35 x 11 x 24	
Materials		housing: ABS; fixture: diecast zinc; LED window: SEPS; pushbutton: SEPS	
Lens material		front pane:PMMA	
Lens alignment		side lens	

OJ5054

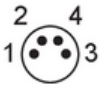
Laser diffuse reflection sensor

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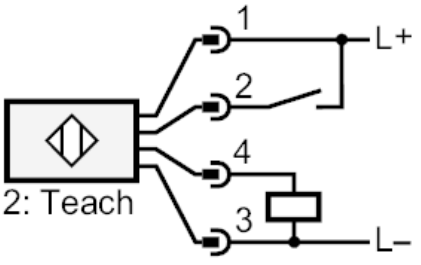
Displays / operating elements		
Display	switching status	1 x LED, yellow
	operation	1 x LED, green
Electronic lock	yes	
Accessories		
Items supplied	Basic clip: 1, E20964	
	screws: 2 x (M3 x 16 mm)	
	spring washers: 2	
	Nuts: 2	
Remarks		
Remarks	operating voltage "supply class 2" according to cULus	
Pack quantity	1 pcs.	

Electrical connection

Connector: 1 x M8; coding: A; Contacts: 4



Connection



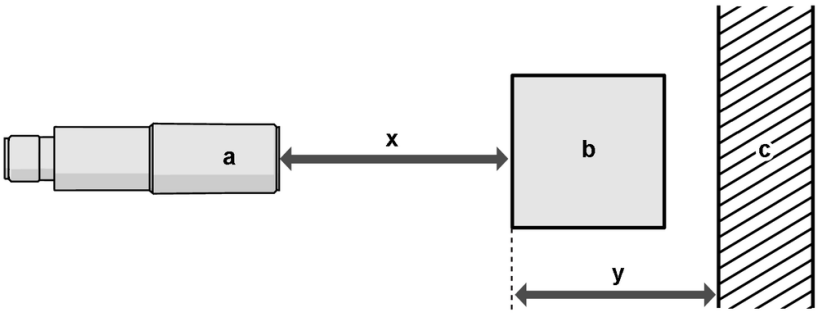
2	Teach

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Laser diffuse reflection sensor

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Diagrams and graphs



a: sensor

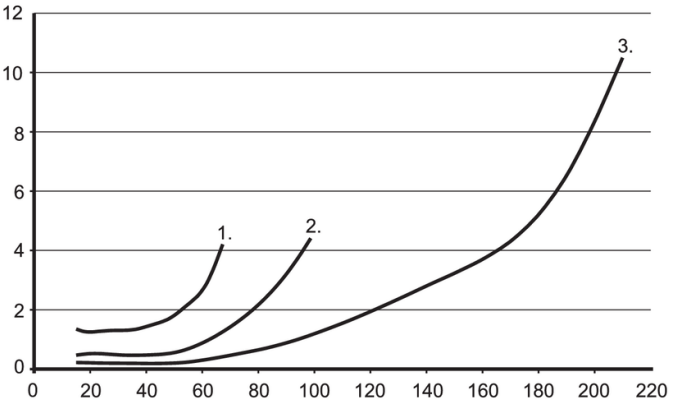
b: object

c: background

x: distance sensor/object [mm]

y: min. distance object/background [mm]

accuracy graph



x: distance sensor/object [mm]

y: min. distance object/background [mm]

1 = object black (6 % remission) , background white (90 % remission)

2 = object grey (18 % remission) , background white (90 % remission)

3 = object white (90 % remission) , background white (90 % remission)