wenglor
the innovative family

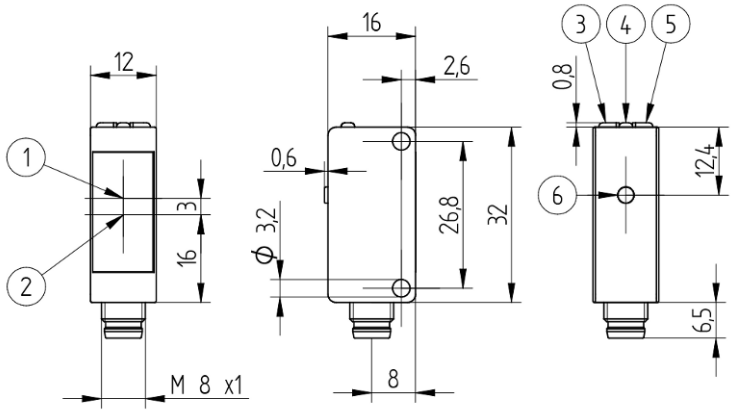
Technical Data

P1KY101

Laser Distance Sensor

Time of Flight





Symbol	Key
1	Receiver diode
2	Emitter diode
3	Switching status indicator O1
4	Power LED
5	Switching status indicator O2
6	Teach-in button

EN

Dimensions in mm
Subject to change without notice
Version 1
www.wenglor.com

Technical data

Optical Data	
Working Range	0...1500 mm
Setting Range	50...1500 mm
Switching Hysteresis	< 30 mm
Light Source	Laser, infrared
Wavelength	940 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Max. Ambient Light	10000 Lux
Light Spot Diameter	see table 1
Reflector required	no

Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (Ub = 24 V)	< 15 mA
Switching Frequency	10 Hz
Response Time	< 36 ms
Temperature Drift	< 2.5 %
Temperature Range	-30...50 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2.5 V
Switching Output/Switching Current	100 mA
Residual Current Switching Output	< 50 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Lockable	yes
Interface	IO-Link V1.1
Protection Class	III
FDA Accession Number	1720547-001

Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic, ABS/PC Plastic, PC
Optic Cover	Plastic, PMMA
Degree of Protection	IP67 IP68
Connection Type	Plug variant
Connection	M8 × 1; 4-pin

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2266.52 a

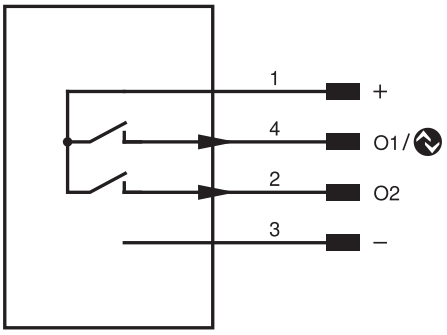
General Data	
Scope of delivery	1 × initial start-up instructions 1 × sensor

Adjustable parameters	
Circuit	NC NO
Other parameters	Off-delay On-delay Hysteresis Emitted light Teach mode Switching point

All other parameters can be found in the product documentation.

BMECat data	
eCl@ss 5.1.4	27-27-08-01 Optical distance sensor
eCl@ss 6.x	27-27-08-01 Optical distance sensor
eCl@ss 7.0	27-27-08-01 Optical distance sensor
eCl@ss 7.1	27-27-08-01 Optical distance sensor
eCl@ss 8.x	27-27-08-01 Optical distance sensor
eCl@ss 10.0.1	27-27-08-01 Optical distance sensor

Technical illustrations

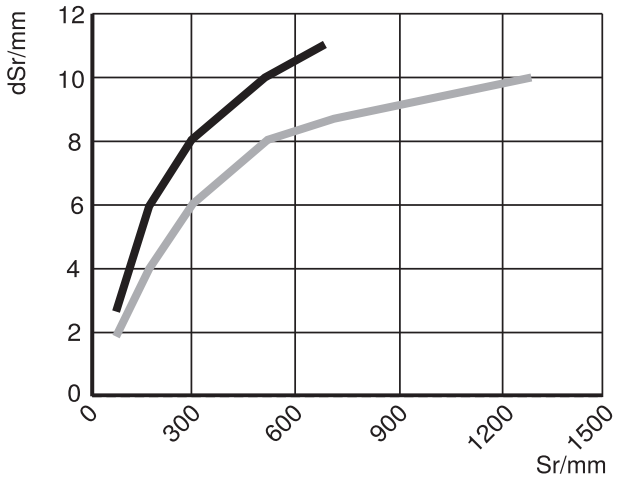


Pin	Pin function	Polarity	Circuit
1	Supply Voltage +		
2	Switching Output 2	PNP	NO
3	Supply voltage 0 V		
4	Switching Output 1 IO-Link	PNP	NO

Table 1			
Working Distance	350 mm	700 mm	1500 mm
Light Spot Diameter	14 mm	25 mm	42 mm

Illustration 1: Switching Distance Deviation

P1KY1



Typical characteristic curve based on white, 90 % remission

Sr = Switching Distance

dSr = Switching Distance Change

black 6 % remission

grey 18 % remission