wenglor
the innovative family

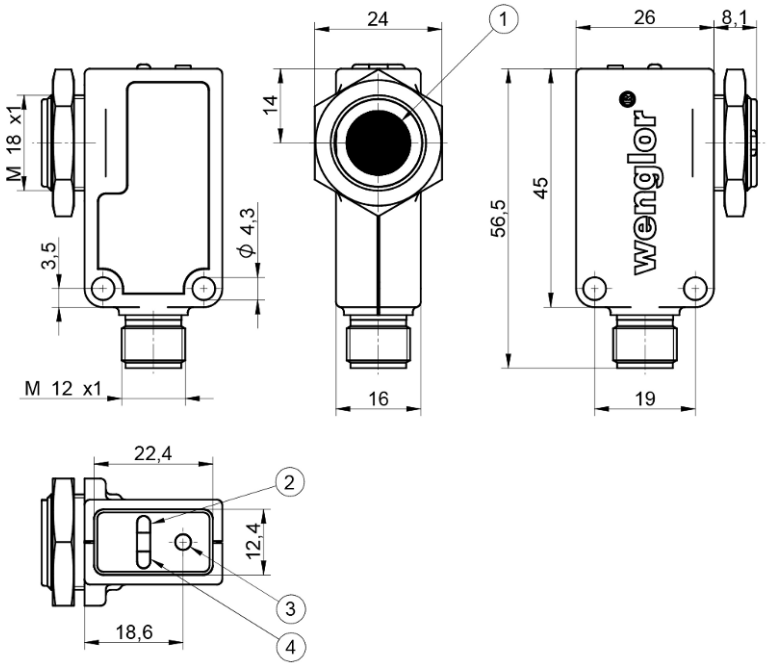
Technical Data

P1RL002

Retro-Reflex Sensor

Universal





Symbol	Key
1	Optical axis
2	Switching status indicator/contamination warning
3	Teach-in button
4	Power LED

EN

Dimensions in mm
Subject to change without notice
Version 0
www.wenglor.com

Technical data

Optical Data	
Range	12000 mm
Reference Reflector/Reflector Foil	RQ100BA
Smallest Recognizable Part	see table 2
Switching Hysteresis	< 5 %
Light Source	Laser, red
Light spot geometry	Focused
Wavelength	655 nm
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Max. Ambient Light	10000 Lux
Light Spot Diameter	see table 1
Optics	Single-Lens Optic

Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (Ub = 24 V)	< 40 mA
Switching Frequency	1000 Hz
Switching frequency (speed mode)	2000 Hz
Response Time	0.5 ms
Response time (speed mode)	0.25 ms
Temperature Drift	< 5 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2 V
PNP 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
Teach Mode	NT, MT
Interface	IO-Link V1.1
Protection Class	III
FDA Accession Number	2411239-000

Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic, PBT Brass, nickel-plated
Full Encapsulation	yes
Degree of Protection	IP67 IP68
Connection Type	Plug variant
Connection	M12 × 1; 4-pin

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2817.28 a

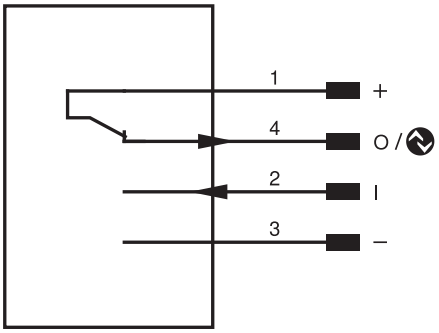
General Data	
Scope of delivery	

Adjustable parameters	
Output	Push-pull NPN PNP
Circuit	NC NO
Other parameters	Off-delay On-delay Mode of operation Hysteresis Switching point Emitted light Teach-in mode

All other parameters can be found in the product documentation.

BMECat data	
eCl@ss 5.1.4	27-27-09-02 Reflection light barrier
eCl@ss 6.x	27-27-09-02 Reflection light barrier
eCl@ss 7.0	27-27-09-02 Reflection light barrier
eCl@ss 7.1	27-27-09-02 Reflection light barrier
eCl@ss 8.x	27-27-09-02 Reflection light barrier
eCl@ss 10.0.1	27-27-09-02 Reflection light barrier

Technical illustrations



Pin	Pin function	Polarity	Circuit
1	Supply Voltage +		
2		High activ	
3	Supply voltage 0 V		
4	Switching output IO-Link	PNP	NC

Table 1			
Working Distance	1,2 m	6 m	12 m
Light Spot Diameter	10 mm	60 mm	70 mm

Table 2			
Distance, Sensor to Reflector	1,2 m	6 m	12 m
Smallest Recognizable Part	1 mm	2 mm	2 mm

Reflector data	
RQ100BA	0...12 m
RE18040BA	0...8 m
RQ84BA	0...12 m
RR84BA	0...11 m
RE9538BA	0...3.5 m
RE6151BM	0...9 m
RR50_A	0...9 m
RE6040BA	0...9 m
RE8222BA	0...6 m
RE3220BM	0...3.5 m
RE6210BM	0...3.5 m
RR25_M	0...5 m
RR25KP	0...1.5 m
RR21_M	0...5 m
ZRAE02B01	0...3.5 m
ZRME01B01	0...2 m
ZRME03B01	0...3 m
ZRMR02K01	0...2 m
ZRMS02_01	0...4 m
RF505	0...2 m
RF508	0...2 m
RF258	0...2 m
ZRAF08K01	0...2 m
ZRDF03K01	0...7 m

Reflector type, mounting distance

