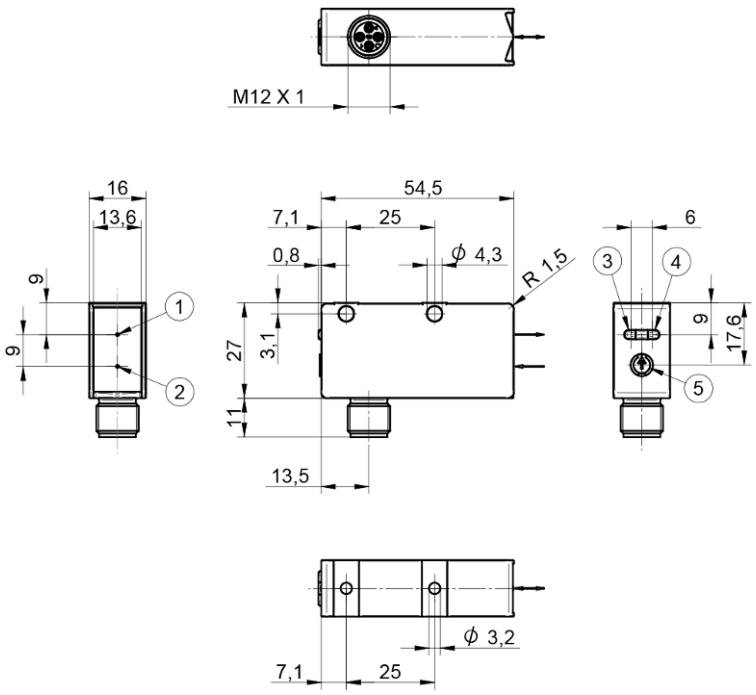
wenglor
the innovative family

Technical Data
P1MH103
Reflex Sensor
with background suppression electronic





Symbol	Key
1	Emitter diode
2	Receiver diode
3	Power LED
4	Switching status indicator/contamination warning
5	Switching distance adjuster

EN

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

Technical data

Optical Data	
Range	200 mm
Setting Range	40...200 mm
Switching Hysteresis	< 5 %
Light Source	LED, red
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	see table 1
Optical axis	Aligned
Switching point	Calibrated
Principle	Triangulation

Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (Ub = 24 V)	< 20 mA
Switching Frequency	1000 Hz
Switching Frequency (interference-free mode)	500 Hz
Response time (interference-free mode)	1 ms
Response Time	0.5 ms
Temperature Drift	< 5 %
Temperature Range	-40...60 °C
Switching Output Voltage Drop	< 2 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

Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic, ABS-GF
Degree of Protection	IP67 IP68
Connection Type	Plug variant
Connection	M12 × 1; 4-pin
Optic Cover	Plastic, PMMA

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1480.02 a

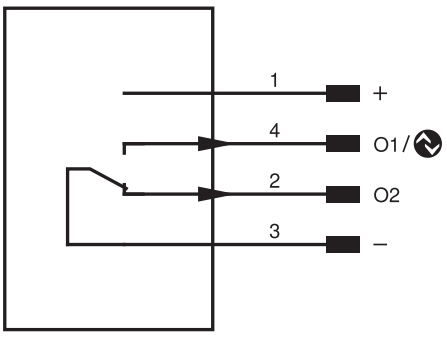
General Data	
Scope of delivery	1 × initial start-up instructions 1 × sensor

Adjustable parameters	
Output	Push-pull NPN PNP
Circuit	inactive Error output NC NC+NO NO
Other parameters	Off-delay On-delay Mode of operation Hysteresis Switching point Emitted light

All other parameters can be found in the product documentation.

BMECat data	
eCl@ss 5.1.4	27-27-09-04 Light scanner w. background masking
eCl@ss 6.x	27-27-09-04 Light scanner w. background masking
eCl@ss 7.0	27-27-09-04 Light scanner w. background masking
eCl@ss 7.1	27-27-09-04 Light scanner w. background masking
eCl@ss 8.x	27-27-09-04 Light scanner w. background masking
eCl@ss 10.0.1	27-27-09-04 Light scanner w. background masking

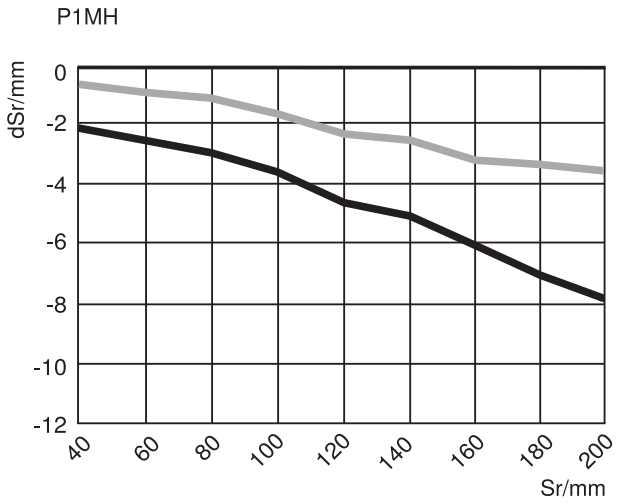
Technical illustrations



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

Table 1			
Detection Range	40 mm	100 mm	200 mm
Light Spot Diameter	9 mm	8 mm	7 mm

Illustration 1: Switching Distance Deviation



Typical characteristic curve based on white, 90 % remission

Sr = Switching Distance

dSr = Switching Distance Change

black 6 % remission

grey 18 % remission