Laser Distance Sensor
Long-Range

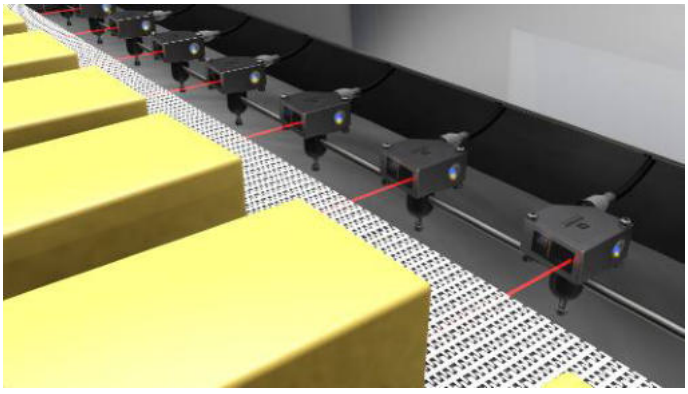
P2PY101 LASER

Part Number

PNG smart der wintec.

- **2 mutually independent switching outputs**
- **No interactive influence**
- **Robust stainless steel housing with IP69K**
- **Wide working range and precise detection thanks to DS technology**

The sensors function in accordance with the principle of transit time measurement with laser class 1. The wintec with "Dynamic Sensitivity" technology (DS) enables previously unattainable reception sensitivity even with very weak signals. As a result, the sensors have a large working range of up to 10 m and can reliably detect dark or shiny objects even at extremely inclined angles. The wintec also works very reliably in disturbing ambient conditions, e.g. due to ambient light or dirt. Extensive condition monitoring functions also enable predictive maintenance and trouble-free operation. The robust V4A (1.4404/316L) stainless steel housing is resistant to oils and coolants, as well as cleaning agent.



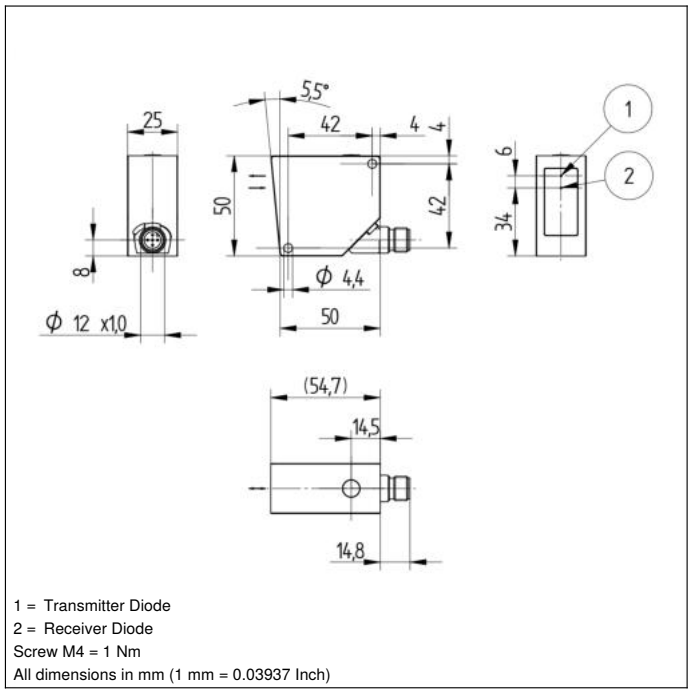
Technical Data

Optical Data	
Working Range	0...10000 mm
Adjustable Range	50...10000 mm
Reproducibility maximum	3 mm*
Linearity Deviation	10 mm*
Switching Hysteresis	< 15 mm
Light Source	Laser (red)
Wavelength	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Beam Divergence	< 2 mrad
Max. Ambient Light	100000 Lux
Light Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (Ub = 24 V)	< 35 mA
Switching Frequency	50 Hz*
Switching Frequency (max.)	250 Hz*
Response Time	15 ms *
Response Time (min.)	4,7 ms *
Temperature Drift	< 0,4 mm/K
Temperature Range	-40...55 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	100 mA
Reverse Polarity and Overload Protection	yes
Short Circuit Protection	yes
Interface	IO-Link V1.1
Baud Rate	COM3
Protection Class	III
FDA Accession Number	2110079-000
Mechanical Data	
Setting Method	Teach-In
Housing Material	Stainless steel 316L
Optic Cover	PMMA
Degree of Protection	IP68/IP69K
Connection	M12 × 1; 4/5-pin
Ecolab	yes
FDA compliant	yes
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	543,71 a
PNP NO	●
IO-Link	●
Acceleration sensor	●
Connection Diagram No.	243
Control Panel No.	II6
Suitable Connection Equipment No.	2 35
Suitable Mounting Technology No.	380

* Depends on mode, see table 2

Complementary Products

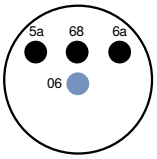
IO-Link Master
Software



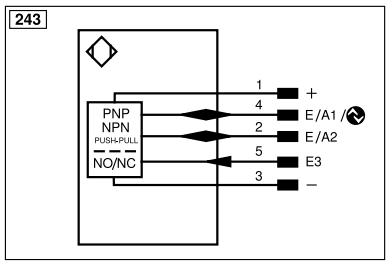
1 = Transmitter Diode
2 = Receiver Diode
Screw M4 = 1 Nm
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel

II6



06 = Teach Button
5a = Switching Status Display, O1
68 = supply voltage indicator
6a = Switching Status Display, O2



- = supply voltage 0 V
+ = supply voltage +
E/A1 = programmable input/output / IO-Link
E/A2 = programmable input/output
E3 = input

Mode	White working range	Gray working range	Black working range	Switching frequency	Response time	Maximum reproducibility	Linearity deviation	Low signal detection
Speed	0...10000 mm	0...9000 mm	0...7000 mm	250 Hz	4.7 ms	5 mm	15 mm	+
Precision (default)	0...10000 mm	0...10000 mm	0...8000 mm	50 Hz	15 ms	3 mm	10 mm	+ +
Precision Plus	0...10000 mm	0...10000 mm	0...8000 mm	25 Hz	28.7 ms	3 mm	10 mm	+ + +

Table 2

Table 1

Working Distance	0 m	5 m	10 m
Light Spot Diameter	5 mm	10 mm	15 mm

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission