

Laser Distance Sensor

Time of Flight

P2PY101 LASER

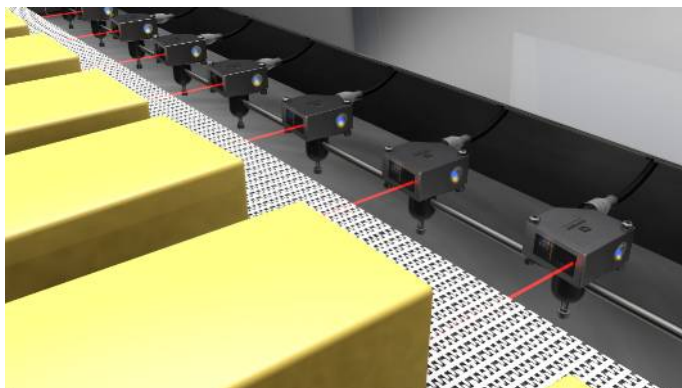
Part Number

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. The robust V4A (1.4404/316L) stainless steel housing is resistant to oils and coolants, as well as cleaning agent.



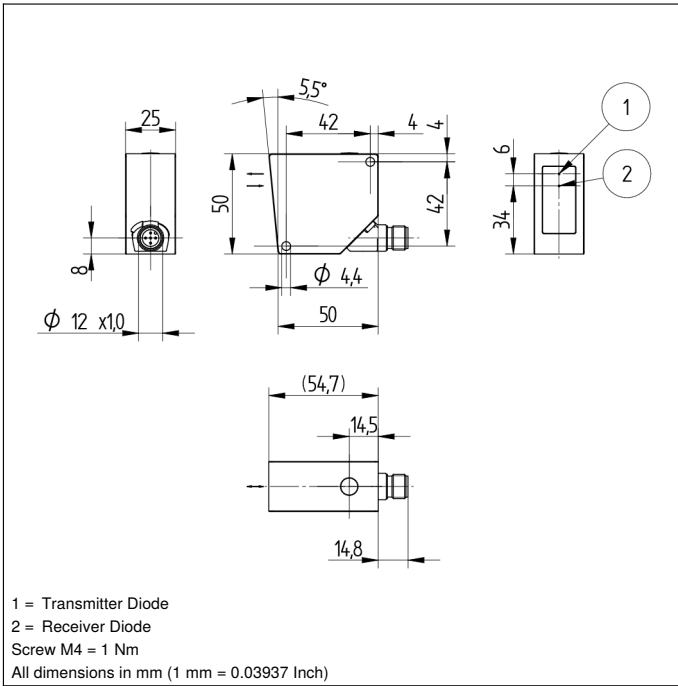
Technical Data

Optical Data	
Working Range	0...10000 mm
Setting 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 (U _b = 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	2110079-001
Mechanical Data	
Setting Method	Teach-In
Housing Material	Stainless steel 316L
Optic Cover	PMMA
Degree of Protection	IP68/IP69K
Connection	M12 x 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.	116
Suitable Connection Equipment No.	2 35
Suitable Mounting Technology No.	380

* Depends on mode, see table 2

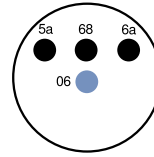
Complementary Products

IO-Link Master
Software

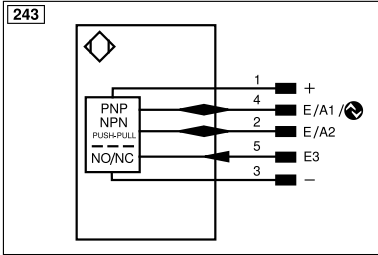


Ctrl. Panel

II6



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



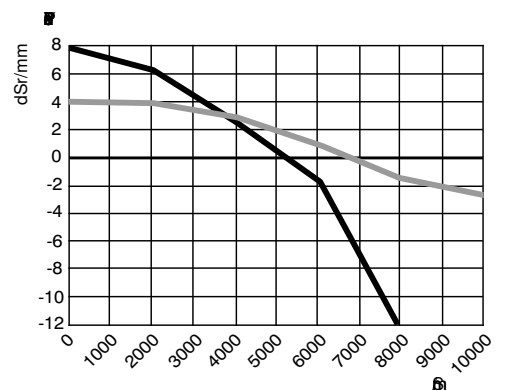
Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ā	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
ȳ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	Amv	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	±	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
⊕	IO-Link	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contact Monitoring
PT	Platinum measuring resistor	ENAR5422	Encoder A/A (TTL)
			Wire Colors according to DIN IEC 60757
			BK Black
			BN Brown
			RD Red
			OG Orange
			YE Yellow
			GN Green
			BU Blue
			VT Violet
			GY Grey
			WH White
			PK Pink
			GNYE Green/Yellow

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



Sr = Switching Distance
 dSr = Switching Distance Change

— black 6 % remission
 — grey 18 % remission

