

Laser Distance Sensor

Time of Flight

OY1P303P0102

Part Number

der wintec.

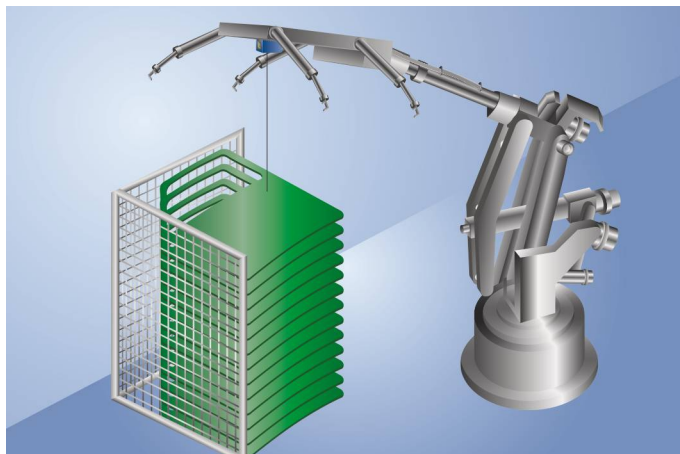


- 2 mutually independent switching outputs
- Analog output (0...10 V/4...20 mA)
- Graphical display for easy operation
- Reliable in case of glossy objects with wintec
- Secure detection of black objects also in extremely inclined positions with wintec

These sensors have scratch-resistant optics and the emitted light can be switched off. They use the transit time measurement principle to measure the distance between the sensor and the object.

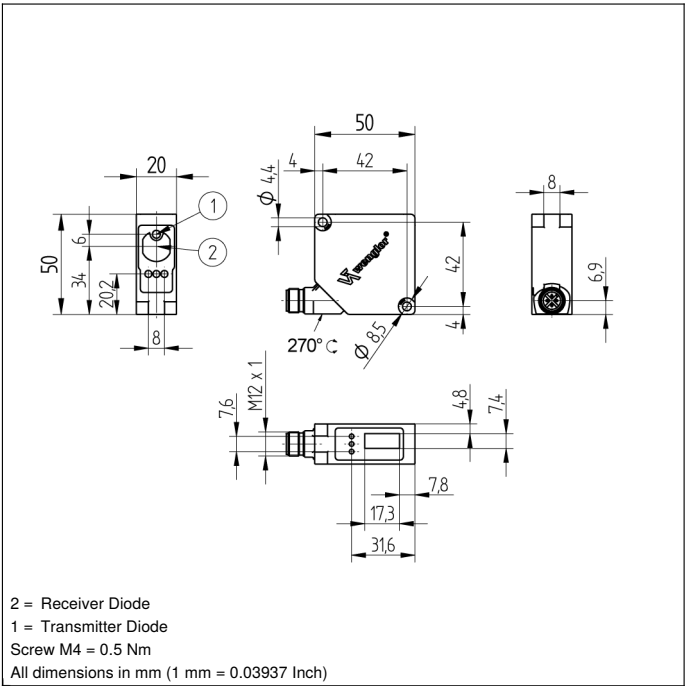
wenglor interference-free technology (wintec) has revolutionized sensor technology:

It makes it possible to mount several sensors directly next to, or opposite each other without the sensors influencing each other. The sensors reach a very high switching frequency and use laser class 1, which is safe for the human eye.



Technical Data

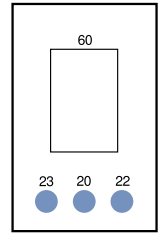
Optical Data	
Working Range	50...3050 mm
Measuring Range	3000 mm
Reproducibility maximum	1 mm
Linearity Deviation (200...3050 mm)	7 mm
Linearity Deviation (50...200 mm)	15 mm
Switching Hysteresis	3...20 mm
Light Source	Laser (red)
Wavelength	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Max. Ambient Light	10000 Lux
Beam Divergence	< 2 mrad
Reflector required	no
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	< 70 mA
Switching Frequency	250 Hz
Measuring Rate	1...500 /s
On-/Off-Delay	0...10000 ms
Temperature Drift	< 0,4 mm/K
Temperature Range	-40...50 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	100 mA
Analog Output	4...20 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Teach Mode	HT, VT, FT, TP
Interface	IO-Link V1.1
Protection Class	III
FDA Accession Number	2310477-000
Mechanical Data	
Setting Method	Menu (OLED)
Housing Material	Plastic, ABS
Housing Material	Plastic, PC
Optic Cover	Plastic, PMMA
Degree of Protection	IP68
Connection	M12 × 1; 4-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	349,73 a
Scope of delivery	1 × BEF-SET-44 mounting set 1 × initial start-up instructions 1 × sensor
Error Output	●
Analog Output	●
External teach-in input	●
IO-Link	●
Connection Diagram No.	782
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	380
Complementary Products	
Display brightness may decrease with age. This does not result in any impairment of the sensor function.	
Analog Evaluation Unit AW02	
Dust extraction tube	
IO-Link Master	
IO-Link converter	
Protective Housing ZSV-0x-01	
Set Protective Housing ZSP-NN-02	
Software	



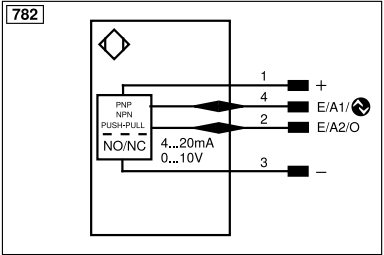
2 = Receiver Diode
1 = Transmitter Diode
Screw M4 = 0.5 Nm
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel

X2



20 = Enter key
22 = Up key
23 = Down key
60 = display



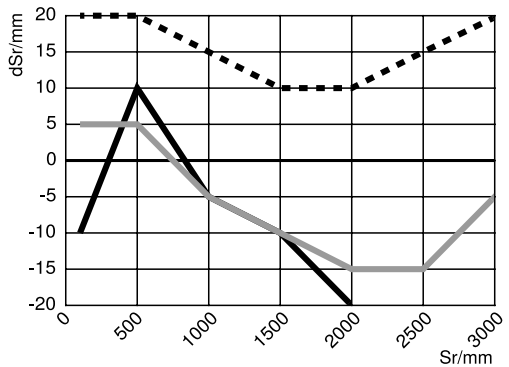
Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENAR5422	Encoder A/Ä (TTL)
-	Supply Voltage 0 V	nc	Not connected	ENBR5422	Encoder B/ß (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENa	Encoder A
A	Switching Output (NO)	Ü	Test Input inverted	ENb	Encoder B
Ä	Switching Output (NC)	W	Trigger Input	AMIN	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
ÿ	Contamination/Error Output (NC)	O	Analog Output	AOK	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY In	Synchronization In
T	Teach Input	BZ	Block Discharge	SY OUT	Synchronization OUT
R	Reset input	Amv	Valve Output	OLt	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization		
RDY	Ready	E+	Receiver-Line	BK	Black
GND	Ground	S+	Emitter-Line	BN	Brown
CL	Clock	≡	Grounding	RD	Red
E/A	Output/Input programmable	SnR	Switching Distance Reduction	OG	Orange
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path	YE	Yellow
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	GN	Green
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	BU	Blue
OSSD	Safety Output	La	Emitted Light disengageable	VT	Violet
Signal	Signal Output	Mag	Magnet activation	GY	Grey
BL_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	WH	White
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contact Monitoring	PK	Pink
				GNYE	Green/Yellow

Table 1

Working Distance	0 m	3 m
Light Spot Diameter	5 mm	9 mm

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission
OY1P303



dSr = Switching Distance Change
Sr = Switching Distance
--- Aluminum
— grey 18 % remission
— black 6 % remission

