

# High-Performance Distance Sensor

## OY1P303P0102

## LASER

WinTec

Part Number

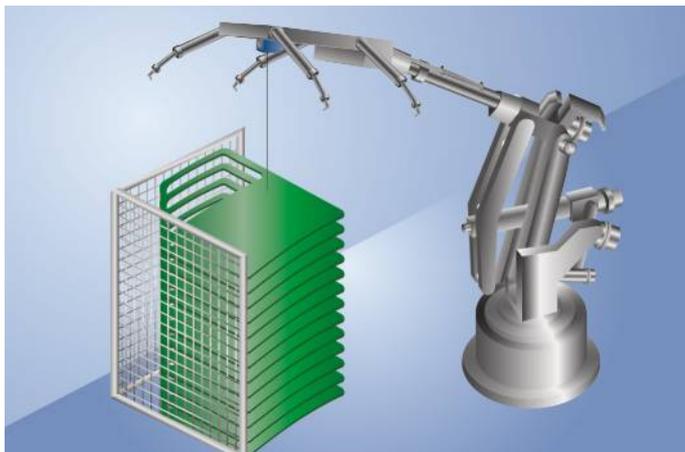


- 2 mutually independent switching outputs
- Analog output (0...10 V/4...20 mA)
- Graphical display for easy operation
- Reliable in case of glossy objects with WinTec
- Secure detection of black objects also in extremely inclined positions with WinTec

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.



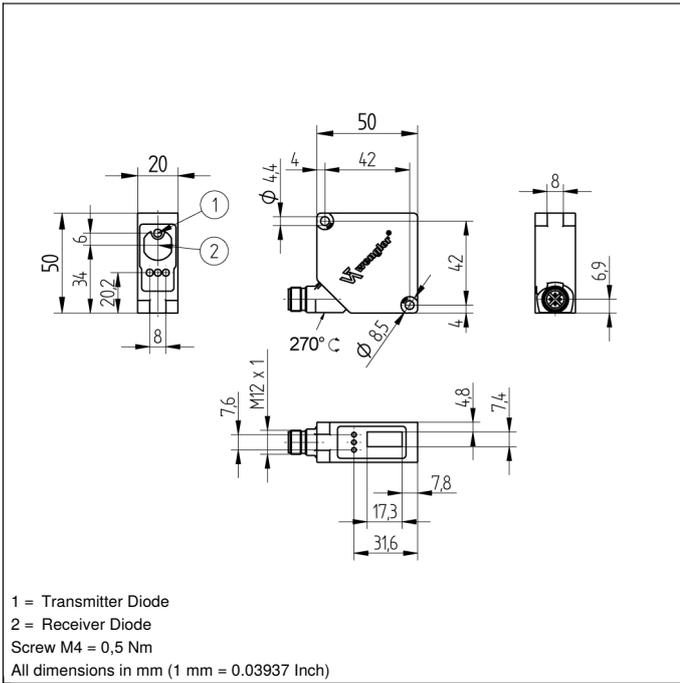
### Technical Data

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
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U <sub>b</sub> = 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	0...10 V/4...20 mA
Short Circuit Protection	yes
Reverse Polarity and Overload Protection	yes
Teach Mode	HT, VT, FT, TP
Interface	IO-Link V1.1
Protection Class	III
Mechanical Data	
Setting Method	Menu (OLED)
Housing Material	Plastic
Optic Cover	PMMA
Degree of Protection	IP68
Connection	M12 × 1; 4-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	349,73 a
Error Output	●
Contamination Output	●
Configurable as PNP/NPN/Push-Pull	●
Analog Output	●
IO-Link	●
Connection Diagram No.	<b>782</b>
Control Panel No.	<b>X2</b>
Suitable Connection Equipment No.	<b>2</b>
Suitable Mounting Technology No.	<b>380</b>

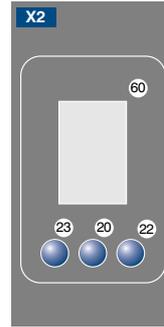
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

### Complementary Products

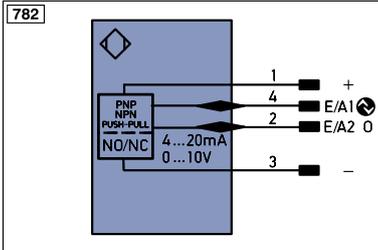
Analog Evaluation Unit AW02
IO-Link Master
Protective Housing ZSV-0x-01
Set Protective Housing ZSP-NN-02
Software



### Ctrl. Panel



20 = Enter Button  
 22 = UP Button  
 23 = Down Button  
 60 = Display



Legend		Legend		Legend	
+	Supply Voltage +	PT	Platinum measuring resistor	EN <sup>A</sup> RS422	Encoder A/Ā (TTL)
-	Supply Voltage 0 V	nc	not connected	EN <sup>B</sup> RS422	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN <sup>A</sup>	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	EN <sup>B</sup>	Encoder B
Ā	Switching Output (NC)	W	Trigger Input	A <sub>MIN</sub>	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	A <sub>MAX</sub>	Digital output MAX
ṽ	Contamination/Error Output (NC)	O	Analog Output	A <sub>OK</sub>	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY <sub>in</sub>	Synchronization In
T	Teach Input	BZ	Block Discharge	SY <sub>OUT</sub>	Synchronization OUT
Z	Time Delay (activation)	A <sub>MV</sub>	Valve Output	OL <sub>T</sub>	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to DIN IEC 757	
RDY	Ready	SY-	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	±	Grounding	OG	Orange
	IO-Link	S <sub>nR</sub>	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/-	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
Signal	Signal Output	L <sub>a</sub>	Emitted Light disengageable	GY	Grey
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
EN <sup>0</sup> RS422	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contacting Monitoring	GNYE	Green/Yellow

Table 1

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

