## **High-Performance Distance Sensor**

LASER

# OY1P303P0102

Part Number



- 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
- Two mutually independent switching outputs

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	503050 mm				
Measuring Range	3000 mm				
Reproducibility maximum	1 mm				
Linearity Deviation (2003050 mm)	7 mm				
Linearity Deviation (50200 mm)	15 mm				
Switching Hysteresis	320 mm				
Light Source	Laser (red)				
Wave Length	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	1830 V DC				
Current Consumption (Ub = 24 V)	< 70 mA				
Switching Frequency	250 Hz				
Measuring Rate	1500 /s				
On-/Off-Delay	010000 ms				
Temperature Drift	< 0,4 mm/K				
Temperature Range	-4050 °C				
Switching Outputs	2				
Switching Output Voltage Drop	< 2,5 V				
Switching Output/Switching Current	100 mA				
Analog Output	010 V/420 mA				
Short Circuit Protection	yes				
Reverse Polarity and Overload Protection	yes				
Teach Mode	HT, VT, FT, TP				
Interface	IO-Link				
IO-Link Version	1.1				
otection Class III					
Mechanical Data					
Setting Method	Teach-In				
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	Ó				
IO-Link	Ŭ				
Connection Diagram No.	700				
	[/82]				
Control Panel No.	782 X2				
Control Panel No. Suitable Connection Technology No.	782 X2 21				

**Complementary Products** 

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

### **Win**Tec

**Photoelectronic Sensors** 







60 = Display

Screw M4 = 0,5 Nm All dimensions in mm (1 mm = 0.03937 Inch)

2 = Receiver Diode



Legen	d		PŤ	Platinum measuring resistor	ENA	Encoder A
+	Supply Voltage +		nc	not connected	ENв	Encoder B
-	Supply Voltage 0 V		U	Test Input	Amin	Digital output MIN
~	Supply Voltage (AC Voltage)		Ū	Test Input inverted	Амах	Digital output MAX
А	Switching Output	(NO)	W	Trigger Input	Аок	Digital output OK
Ā	Switching Output	(NC)	0	Analog Output	SY In	Synchronization In
V	Contamination/Error Output	(NO)	0-	Ground for the Analog Output	SY OUT	Synchronization OUT
V	Contamination/Error Output	(NC)	BZ	Block Discharge	OLT	Brightness output
E	Input (analog or digital)		Awv	Valve Output	м	Maintenance
Т	Teach Input		а	Valve Control Output +		
Z	Time Delay (activation)		b	Valve Control Output 0 V		
S	Shielding		SY	Synchronization	Wire Colors according to DIN IEC 757	
RxD	Interface Receive Path		E+	Receiver-Line		
TxD	Interface Send Path		S+	Emitter-Line	BK	Black
RDY	Ready		÷	Grounding	BN	Brown
GND	Ground		SnR	Switching Distance Reduction	RD	Red
CL	Clock		Rx+/-	Ethernet Receive Path	OG	Orange
E/A	Output/Input programmable		Tx+/-	Ethernet Send Path	YE	Yellow
0	IO-Link		Bus	Interfaces-Bus A(+)/B(-)	GN	Green
PoE	Power over Ethernet		La	Emitted Light disengageable	BU	Blue
IN	Safety Input		Mag	Magnet activation	VT	Violet
OSSD	Safety Output		RES	Input confirmation	GY	Grey
Signal	Signal Output		EDM	Contactor Monitoring	WH	White
BI_D+/-	Ethernet Gigabit bidirect. data	line (A-D)	ENARS422	Encoder A/Ā (TTL)	PK	Pink
EN0 RS422	Encoder 0-pulse 0-0 (TTL)		ENBRS422	Encoder B/B (TTL)	GNYE	Green/Yellow

#### Table 1

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



Specifications are subject to change without notice