

# High-Performance Distance Sensor

## OY1P303P0189

## LASER

WinTec

Part Number

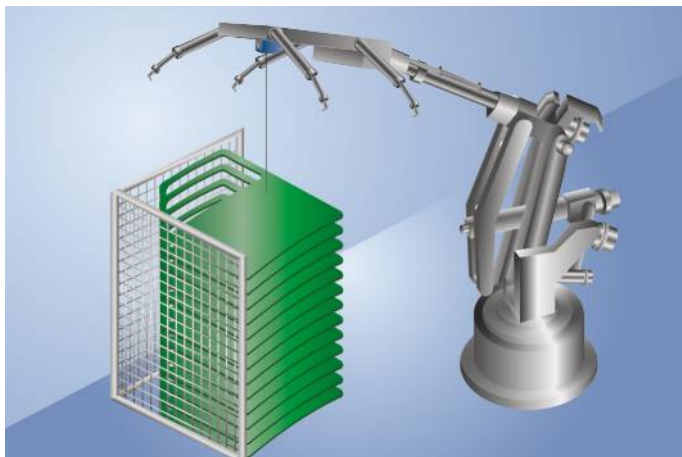


- Analog output (0...10 V/4...20 mA)
- Graphical display for easy operation
- Reliable in case of glossy objects with WinTec
- Secure detection of black objects also in extremely inclined positions with WinTec
- Two mutually independent switching outputs

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.

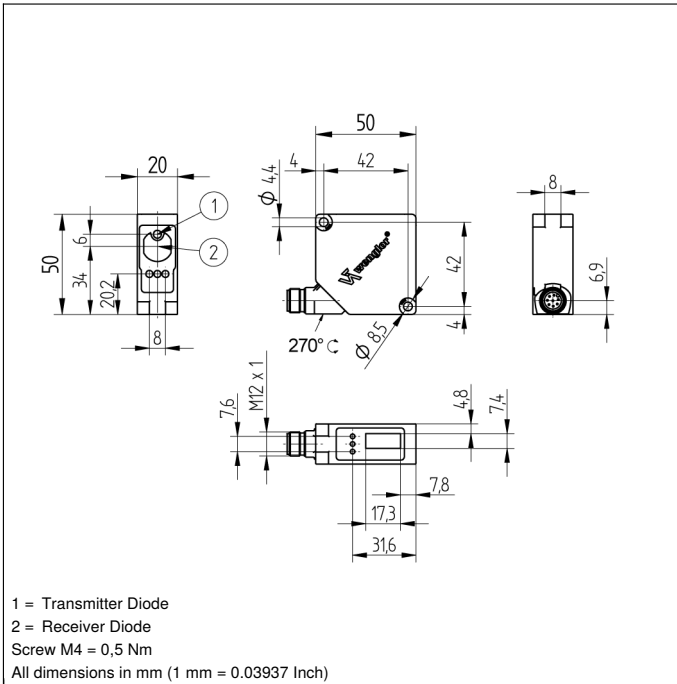


### Technical Data

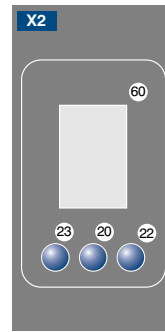
Optical Data	
Working Range	50...3050 mm
Measuring Range	3000 mm
Reproducibility maximum	1 mm
Linearity Deviation (200...3050 mm)	7 mm
Linearity Deviation (50...200 mm)	15 mm
Switching Hysteresis	3...20 mm
Light Source	Laser (red)
Wave Length	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Max. Ambient Light	10000 Lux
Beam Divergence	< 2 mrad
Electrical Data	
Supply Voltage	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
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	RS-232
Protection Class	III
Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic
Optic Cover	PMMA
Degree of Protection	IP68
Connection	M12 × 1; 8-pin
Error Output	●
Contamination Output	●
Configurable as PNP/NPN/Push-Pull	●
Analog Output	●
RS-232 Interface	●
Connection Diagram No.	<b>531</b>
Control Panel No.	<b>X2</b>
Suitable Connection Technology No.	<b>89</b>
Suitable Mounting Technology No.	<b>380</b>

### Complementary Products

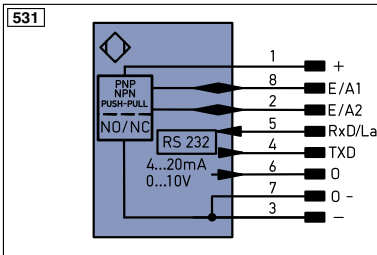
Analog Evaluation Unit AW02
Feldbus Gateways ZAGxxxN01, EPGG001
Interface Cable S232W3
Protection Housing Set ZSP-NN-02
Protection Housing ZSV-0x-01
wTeach2 software DNNF005



### Ctrl. Panel



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



Legend		Legend		Legend	
+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
ṽ	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Out	Brightness output
T	Teach Input	AW	Valve Output	M	Maintenance
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	E+	Receiver-Line		
RDY	Ready	S+	Emitter-Line		
GND	Ground	≡	Grounding		
CL	Clock	SnR	Switching Distance Reduction		
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path		
IO-Link	IO-Link	Tx+/-	Ethernet Send Path		
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)		
IN	Safety Input	La	Emitted Light disengageable		
OSSD	Safety Output	Mag	Magnet activation		
Signal	Signal Output	RES	Input confirmation		
Bl..D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactur Monitoring		
EN0RS42Z	Encoder 0-pulse 0-0 (TTL)	ENAR542Z	Encoder A/Ā (TTL)		
		ENBR542Z	Encoder B/B̄ (TTL)		

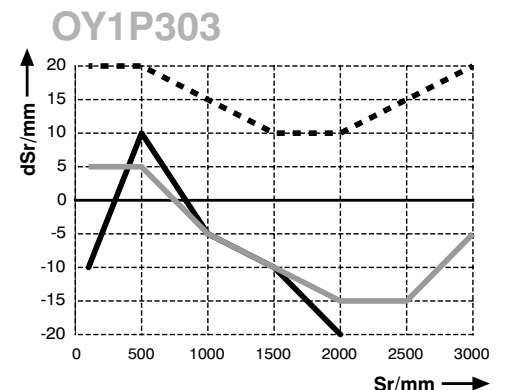
Wire Colors according to DIN IEC 757	
BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

Table 1

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

### Switching Distance Deviation

Typical characteristic curve based on Kodak white (90 % remission)



Sr = Switching Distance  
 dSr = Switching Distance Change

— black 6 % remission  
 — grey 18 % remission  
 - - - Aluminum

