

# Laser Distance Sensor

## Time of Flight

# OY2PS955

# LASER

Part Number

der wintec.

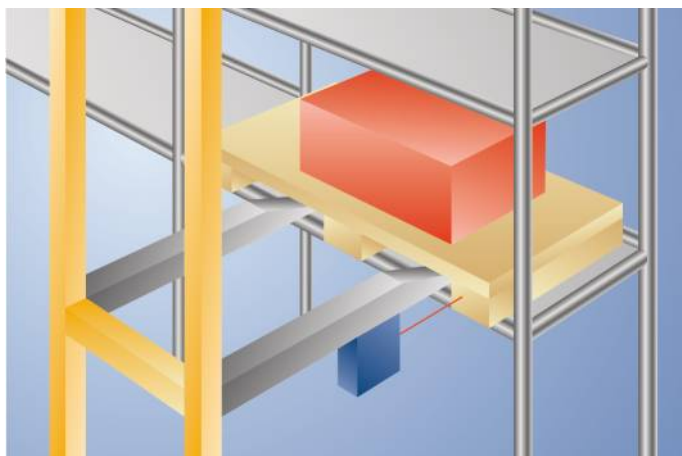


- Interference-free towards gloss in the background with wintec
- No mutual interference with wintec
- Reliable in case of glossy objects with wintec
- Secure detection of black objects also in extremely inclined positions with wintec

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	0...3000 mm
Setting Range	200...3000 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	10000 Lux
Light Spot Diameter	see Table 1

Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 50 mA
Switching Frequency	1000 Hz
Response Time	0,5 ms
Temperature Drift (-10 °C < T <sub>u</sub> < 50 °C)	< 1 %
Temperature Drift (T <sub>u</sub> < -10 °C, T <sub>u</sub> > 50 °C)	< 2,5 %
Temperature Range	-40...60 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	200 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
FDA Accession Number	0710891-003

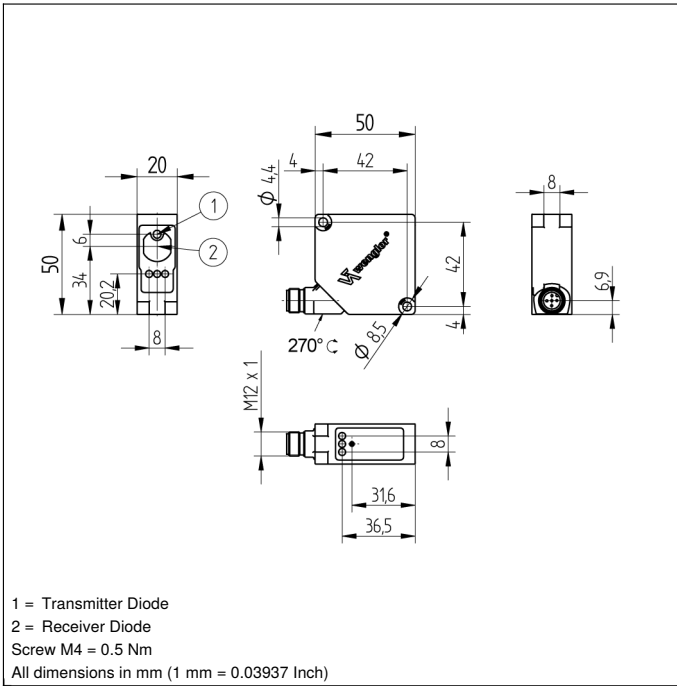
Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic
Optic Cover	PMMA
Degree of Protection	IP68
Connection	M12 × 1; 4/5-pin

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	771,39 a

PNP NC, PNP NO	●
Connection Diagram No.	<b>780</b>
Control Panel No.	<b>P10</b>
Suitable Connection Equipment No.	<b>2   35</b>
Suitable Mounting Technology No.	<b>380</b>

### Complementary Products

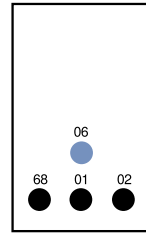
PNP-NPN Converter BG2V1P-N-2M
Protective Housing ZSV-0x-01
Set Protective Housing ZSP-NN-02



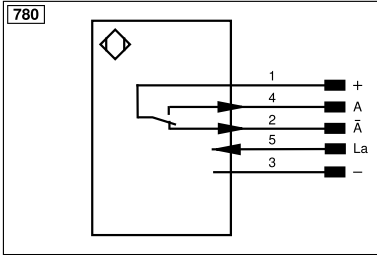
1 = Transmitter Diode  
 2 = Receiver Diode  
 Screw M4 = 0,5 Nm  
 All dimensions in mm (1 mm = 0.03937 Inch)

### Ctrl. Panel

P10



01 = Switching Status Indicator  
 02 = Contamination Warning  
 06 = Teach Button  
 68 = supply voltage indicator



Legend					
+	Supply Voltage +	nc	Not connected	EN <sub>BR</sub> 422	Encoder B/B̄ (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	EN <sub>B</sub>	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ā	Switching Output (NC)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
V	Contamination/Error Output (NO)	O	Analog Output	AOK	Digital output OK
V̄	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY In	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach 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	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	±	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
EN <sub>o</sub> RS422	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contact Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	EN <sub>AR</sub> 422	Encoder A/Ā (TTL)		

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



Sr = Switching Distance  
 dSr = Switching Distance Change

■ black 6 % remission  
 ■ grey 18 % remission  
 ■ Aluminum