

High-Performance Distance Sensor

P1KY005

LASER

PNG//smart WinTec

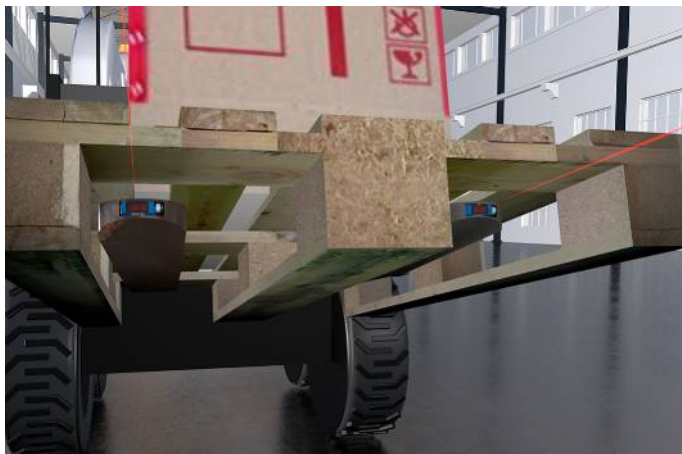
Part Number



- 2 mutually independent switching outputs
- Interference-free towards gloss in the background with WinTec
- Miniature design
- 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 miniature sensors determine distance between the sensor and the object by means of transit time measurement.

wenglor's interference-free technology (WinTec) is revolutionizing sensor technology: it prevents numerous sensors arranged directly opposite or next to each other from interfering with one another. The sensors reach a very high switching frequency and use laser class 1, which is safe for the human eye.

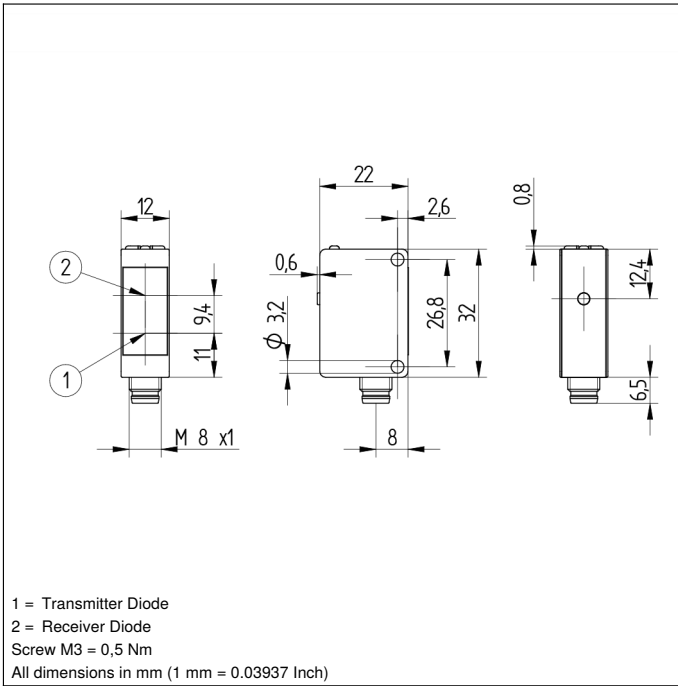


Technical Data

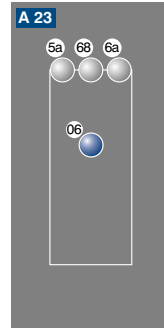
Optical Data	
Working Range	0...1000 mm
Adjustable Range	100...1000 mm
Switching Hysteresis	< 20 mm
Light Source	Laser (red)
Wavelength	680 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Beam Divergence	< 16 mrad
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1
Triple Dot Laser	yes
Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (U _b = 24 V)	< 30 mA
Switching Frequency	500 Hz
Response Time	1 ms
Temperature Drift (-10 °C < T _u ≤ 50 °C)	< 2 %
Temperature Drift (-40 °C < T _u ≤ 50 °C)	< 3 %
Temperature Range	-40...50 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	IO-Link V1.1
Protection Class	III
FDA Accession Number	1620293-001
Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic
Optic Cover	PMMA
Degree of Protection	IP67
Connection	M8 × 1; 4-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1021,76 a
PNP NO	●
IO-Link	●
Connection Diagram No.	223
Control Panel No.	A23
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	400

Complementary Products

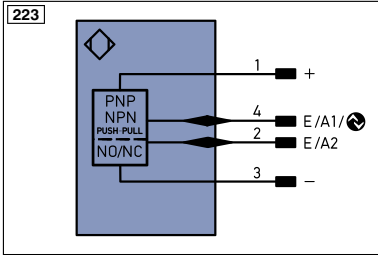
IO-Link Master
Software



Ctrl. Panel



- 06 = Teach Button
- 5a = Switching Status Display, O1
- 68 = Supply Voltage Indicator
- 6a = Switching Status Display, O2



Legend			
+	Supply Voltage +	PT	Platinum measuring resistor
-	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	Ū	Test Input inverted
Ā	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
Ṽ	Contamination/Error Output (NC)	O	Analog Output
E	Input (analog or digital)	O-	Ground for the Analog Output
T	Teach Input	BZ	Block Discharge
Z	Time Delay (activation)	AMV	Valve Output
S	Shielding	a	Valve Control Output +
RxD	Interface Receive Path	b	Valve Control Output 0 V
TxD	Interface Send Path	SY	Synchronization
RDY	Ready	SY-	Ground for the Synchronization
GND	Ground	E+	Receiver-Line
CL	Clock	S+	Emitter-Line
E/A	Output/Input programmable	±	Grounding
	IO-Link	SnR	Switching Distance Reduction
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path
IN	Safety Input	Tx+/-	Ethernet Send Path
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)
Signal	Signal Output	La	Emitted Light disengageable
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation
EN0RS422	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contactor Monitoring
		ENAR5422	Encoder A/Ā (TTL)
		ENBPS422	Encoder B/B̄ (TTL)
		ENA	Encoder A
		ENB	Encoder B
		AMIN	Digital output MIN
		AMAX	Digital output MAX
		AOk	Digital output OK
		SY_in	Synchronization In
		SY_OUT	Synchronization OUT
		OLT	Brightness output
		M	Maintenance
		rsv	reserved
		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	100 mm	500 mm	1000 mm
Light Spot Diameter	4 mm	7 mm	15 mm

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission

