

Retro-Reflex Sensor for Clear Glass Recognition

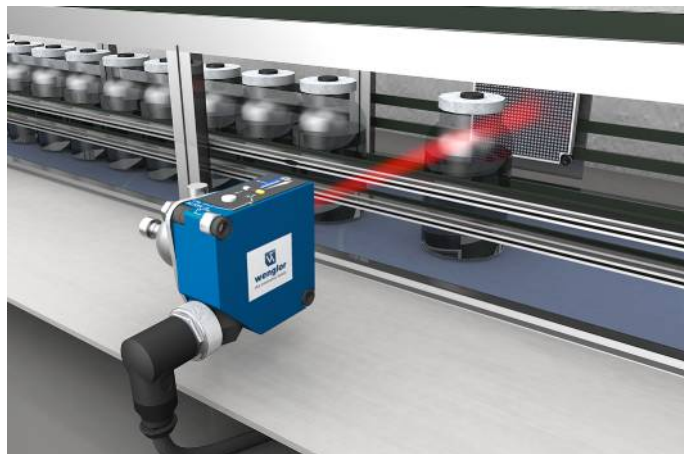
P1PK104

Part Number



- Dynamic readjustment of the switching threshold
- High-end
- Special for glass, PET and films
- Wireless settings via NFC

The retro-reflex sensor for clear glass recognition works with red light and a reflector. It has a IO-Link interface with a data storage function as well as additional configuration and diagnostic options. The interface can also be used to configure the sensors (PNP/NPN, NC/NO, switching distance, error output), as well as for reading out switching statuses and signal values. The dynamic readjustment of the switching threshold function automatically adjusts this for contamination, aging or temperature deviations, meaning that these factors have almost no effect on functionality.

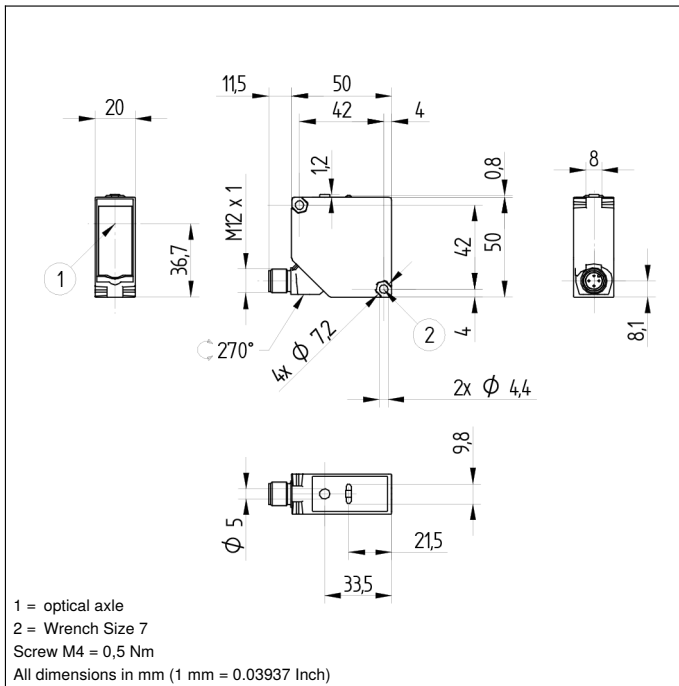


Technical Data

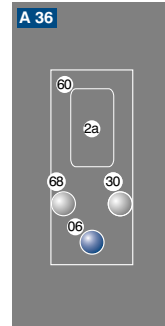
Optical Data	
Range	3500 mm
Reference Reflector/Reflector Foil	RQ100BA
Clear Glass Recognition	yes
Smallest Recognizable Part	see Table 2
Switching Hysteresis	< 5 %
Light Source	Red Light
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1
Single-Lens Optic	yes
Electrical Data	
Supply Voltage	15...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (U _b = 24 V)	< 15 mA
Switching Frequency	1000 Hz
Switching frequency (speed mode)	2000 Hz
Response Time	0,5 ms
Response time (speed mode)	0,25 ms
Temperature Drift	< 3 %
Temperature Range	-40...60 °C
Switching Output Voltage Drop	< 2 V
Switching Output/Switching Current	100 mA
Residual Current Switching Output	< 50 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Teach Mode	NT, MT
Interface	IO-Link V1.1
Data Storage	yes
Protection Class	III
Mechanical Data	
Setting Method	Teach-in/NFC
Housing Material	Plastic
Degree of Protection	IP67/IP68
Connection	M12 × 1; 4-pin
Optic Cover	PMMA
Contamination Output	●
IO-Link	●
NPN NO	●
NFC interface	●
Connection Diagram No.	221
Control Panel No.	A36
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	380

Complementary Products

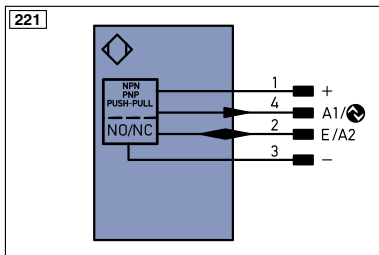
IO-Link Master
Reflector, Reflector Foil
Set Protective Housing Z1PS001
Software



Ctrl. Panel



- 06 = Teach Button
2a = NFC interface
30 = Switching Status/Contamination Warning
60 = Display
68 = Supply Voltage Indicator



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)	U	Test Input inverted
Ä	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
V	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)	Awv	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	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
BI-D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation
EN0-PS42	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contactur Monitoring

EN0-PS42	Encoder A/Ä (TTL)
EN0-PS42	Encoder B/B (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 IEC 60757	
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	0,3 m	1,7 m	3,5 m
Light Spot Diameter	20 mm	55 mm	110 mm

Table 2

Distance, Sensor to Reflector	0,3 m	1,7 m	3,5 m
Smallest Recognizable Part	1 mm	5 mm	10 mm

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0...3,5 m	RR25KP	0...0,5 m
RE18040BA	0...2,5 m	RR21_M	0...0,7 m
RQ84BA	0...3 m	Z90R005	0...1,8 m
RR84BA	0...3,5 m	ZRAE02B01	0...1,5 m
RE9538BA	0...1,4 m	ZRME01B01	0...0,35 m
RE6151BM	0...2,8 m	ZRME03B01	0...1,5 m
RR50_A	0...2,5 m	ZRMR02K01	0...0,5 m
RE6040BA	0...2,8 m	ZRMS02_01	0...0,7 m
RE8222BA	0...1,6 m	RF508	0...0,7 m
RR34_M	0...1,8 m	RF258	0...0,7 m
RE3220BM	0...1,1 m	ZRDF_K01	0...2,2 m
RE6210BM	0...0,8 m	Z91R001	0...1,5 m
RR25_M	0...1 m	ZRDF10K01	0...2,4 m

