Retro-Reflex Sensor
for Clear Glass Recognition

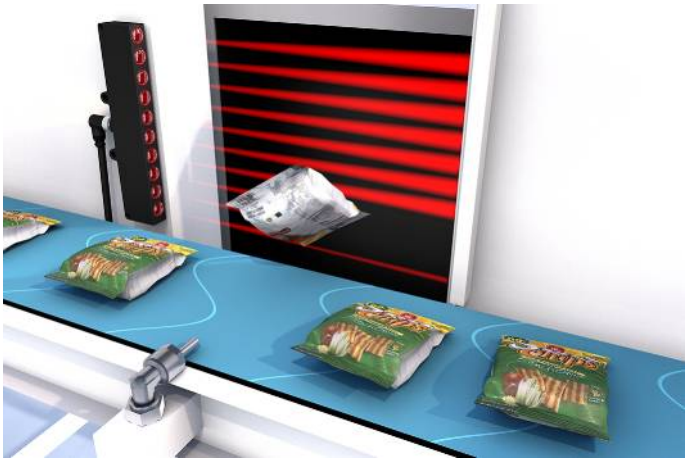
OPT1009
Part Number

- **External teach-in**
- **Recognition of clear glass**
- **Red light**
- **Single-lens optic**
- **Stainless steel plug (V2A)**

Technical Data

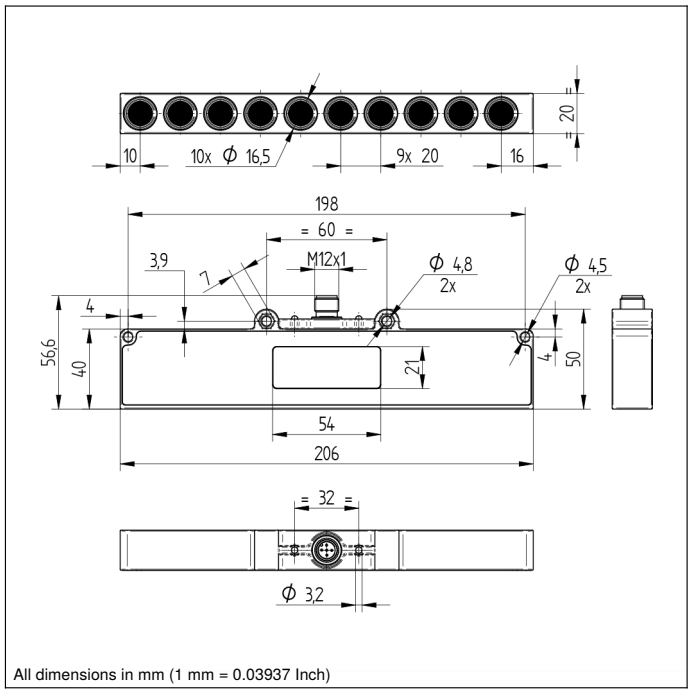
Optical Data	
Range	4000 mm
Reference Reflector/Reflector Foil	3 × RQ100BA
Clear Glass Recognition	yes
Switching Hysteresis	< 15 %
Light Source	Red Light
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Single-Lens Optic	yes
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 70 mA
Switching Frequency	400 Hz
Response Time	1,25 ms
Temperature Drift	< 10 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	200 mA
Residual Current Switching Output	< 50 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
Mechanical Data	
Setting Method	Input
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4/5-pin
PNP NO	●
Connection Diagram No.	150
Control Panel No.	A37
Suitable Connection Equipment No.	2

A reflector must be used in combination with these sensors. A single housing contains ten sensors which are linked by an OR-logic. The output switches as soon as one of the beams is interrupted. As a result, large areas are easy to monitor. Even crystal-clear objects and sheet products can be reliably recognized.



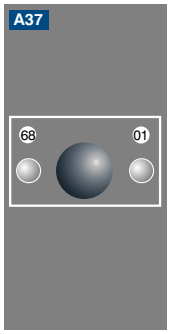
Complementary Products

PNP-NPN Converter BG2V1P-N-2M
Reflector, Reflector Foil

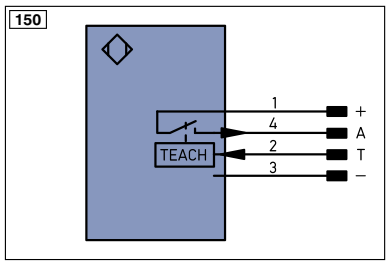


All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



01 = Switching Status Indicator
68 = Supply Voltage Indicator



Legend

+	Supply Voltage +	
–	Supply Voltage 0 V	
~	Supply Voltage (AC Voltage)	
A	Switching Output	(NO)
Ā	Switching Output	(NC)
V	Contamination/Error Output	(NO)
V̄	Contamination/Error Output	(NC)
E	Input (analog or digital)	
T	Teach Input	
Z	Time Delay (activation)	
S	Shielding	
RxD	Interface Receive Path	
TxD	Interface Send Path	
RDY	Ready	
GND	Ground	
CL	Clock	
E/A	Output/Input programmable	
	IO-Link	
PoE	Power over Ethernet	
IN	Safety Input	
OSSD	Safety Output	
Signal	Signal Output	
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	
EN0 RS422	Encoder 0-pulse 0-0̄ (TTL)	
PT	Platinum measuring resistor	
nc	not connected	
U	Test Input	
Ū	Test Input inverted	
W	Trigger Input	
W–	Ground for the Trigger Input	
O	Analog Output	
O–	Ground for the Analog Output	
BZ	Block Discharge	
AW	Valve Output	
a	Valve Control Output +	
b	Valve Control Output 0 V	
SY	Synchronization	
SY–	Ground for the Synchronization	
E+	Receiver-Line	
S+	Emitter-Line	
⏚	Grounding	
SnR	Switching Distance Reduction	
Rx+/–	Ethernet Receive Path	
Tx+/–	Ethernet Send Path	
Bus	Interfaces-Bus A(+)/B(–)	
La	Emitted Light disengageable	
Mag	Magnet activation	
RES	Input confirmation	
EDM	Contactor Monitoring	
ENA RS422	Encoder A/Ā (TTL)	
ENB RS422	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

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0...4 m	**ZRME03B01**	0...1 m
RE6151BM	0...3 m	**RF505**	0...0,8 m
RE6040BA	0...3,7 m	**ZRAF08K01**	0...0,8 m
Z90R006	0...1,4 m	**ZRDF10K01**	0...1,5 m
ZRAE02B01	0...0,5 m		