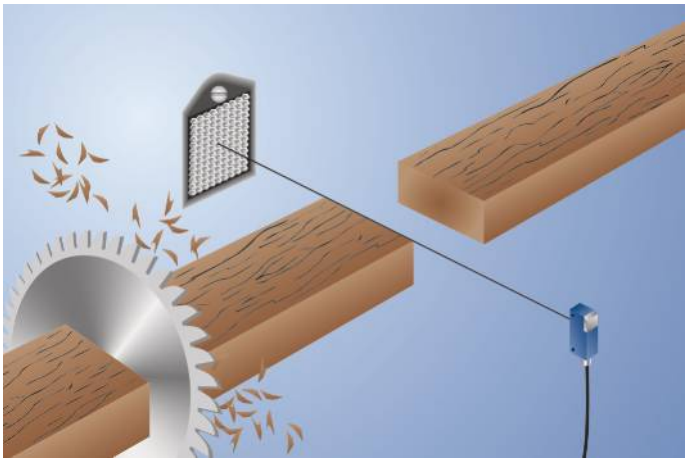
Retro-Reflex Sensor

XK89PB8 LASER

Part Number

- **Accurate edge detection**
- **Smallest recognizable part: 0,1 mm**
- **Spot diameter: 1 mm**

A reflector must be used in combination with these sensors. They can be installed in all kinds of industrial environments thanks to ample functional reserve. Even reflective objects can be reliably recognized through the use of polarized light.

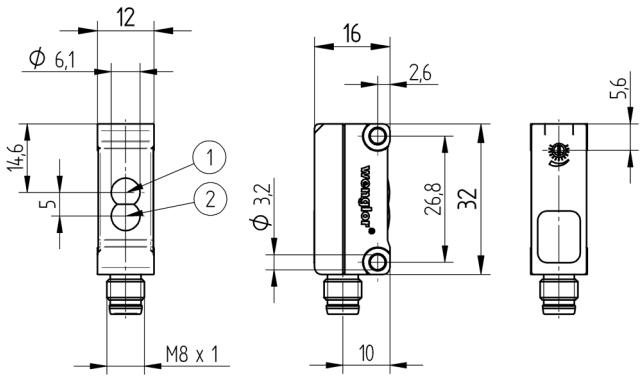


Technical Data

Optical Data	
Range	6000 mm
Reference Reflector/Reflex Foil	RQ100BA
Smallest Recognizable Part	> 100 µm
Switching Hysteresis	< 15 %
Light Source	Laser (red)
Wave Length	655 nm
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Opening Angle	2 °
Spot Diameter	1 mm
Focus Distance	150...300 mm
Two-Lens Optic	yes
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 30 mA
Switching Frequency	3 kHz
Response Time	166 µs
Temperature Drift	< 10 %
Temperature Range	-10...60 °C
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
FDA Accession Number	0820357-000
Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 3-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1826,72 a
PNP NO	●
Connection Diagram No.	102
Control Panel No.	K4
Suitable Connection Technology No.	8
Suitable Mounting Technology No.	400

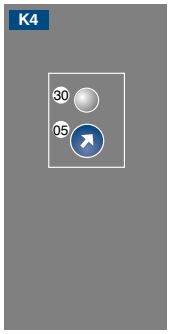
Complementary Products

PNP-NPN Converter BG8V1P-N-2M
Reflector, Reflex Foil

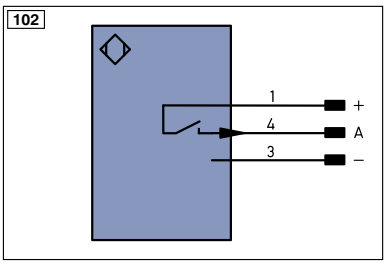


1 = Transmitter Diode
2 = Receiver Diode
Screw M3 = 1 Nm
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



05 = Switching Distance Adjuster
30 = Switching Status/Contamination Warning



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
M	Maintenance

PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AMV	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	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	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
	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	0,3 m	2 m	4 m
Spot Diameter	< 3 mm	< 30 mm	< 60 mm

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0,4...6 m	RR25_M	0,3...2,5 m
RE18040BA	0,4...4 m	RR25KP	0,25...1,5 m
RQ84BA	0,5...5 m	RR21_M	0,4...2 m
RR84BA	0,4...6 m	ZRAE02B01	0,4...3 m
RE9538BA	0,4...3 m	ZRME01B01	0,4...1 m
RE6151BM	0,3...5 m	ZRME03B01	0,35...3 m
RR50_A	0,4...5 m	ZRMR02K01	0,4...1,3 m
RE6040BA	0,4...6 m	ZRMS02_01	0,4...1,5 m
RE8222BA	0,4...3 m	RF505	0,35...1,1 m
RR34_M	0,4...3 m	RF508	0,35...1,1 m
RE3220BM	0,4...2,5 m	RF258	0,35...1,1 m
RE6210BM	0,35...2 m	ZRDF__K01	0,2...4,5 m