

Retro-Reflex Sensor

Universal

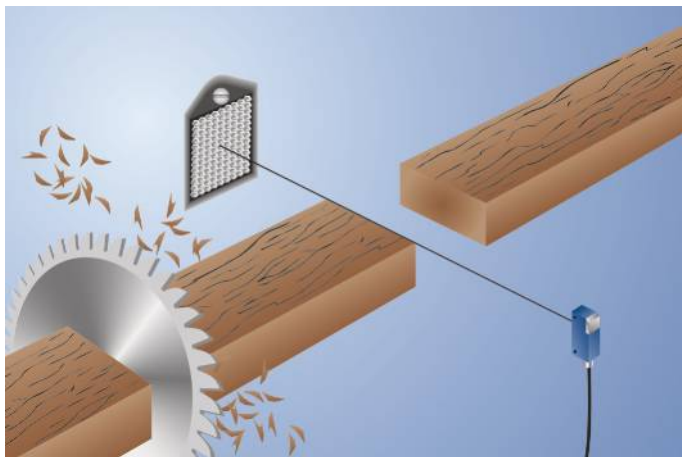
XK89PA7 LASER

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/Reflector Foil	RQ100BA
Smallest Recognizable Part	> 100 μm
Switching Hysteresis	< 15 %
Light Source	Laser (red)
Wavelength	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 °
Light Spot Diameter	1 mm
Focus Distance	150...300 mm
Two-Lens Optic	yes

Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 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

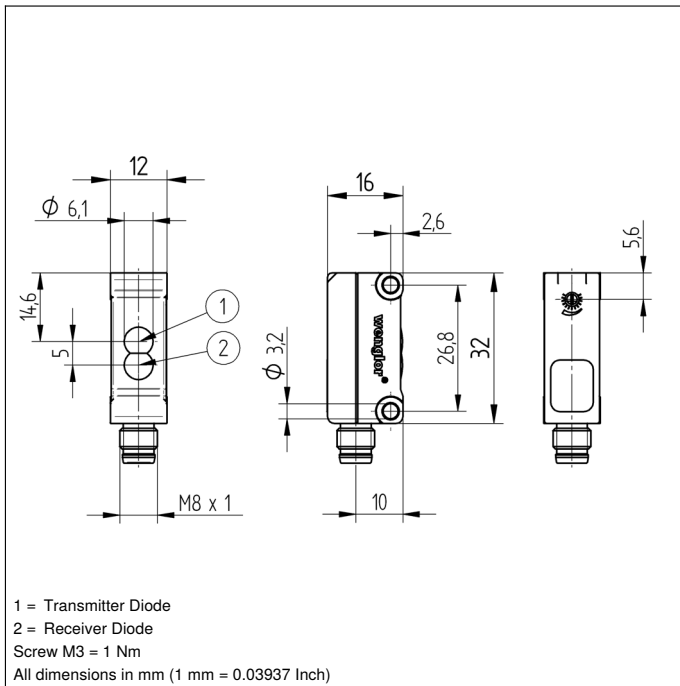
Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 x 1; 4-pin

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1819,08 a

PNP NO/NC antivalent	●
Connection Diagram No.	101
Control Panel No.	K4
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	400

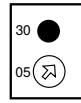
Complementary Products

PNP-NPN Converter BG7V1P-N-2M
Reflector, Reflector Foil

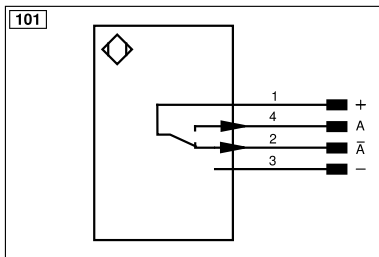


Ctrl. Panel

K4



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)
ȳ	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)
ENo RS422	Encoder 0-pulse 0/0 (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
Amv	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	Contact Monitoring
ENARs422	Encoder A/Ā (TTL)
ENBrs422	Encoder B/Ĕ (TTL)
ENA	Encoder A
ENB	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
Ack	Digital output OK
SY In	Synchronization In
SY OUT	Synchronization OUT
OLT	Brightness output
M	Maintenance
rsv	Reserved
Wire Colors according to DIN 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	2 m	4 m
Light 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
RE6151BH	0,35...2,5 m	ZRMR02K01	0,4...1,3 m
RR50_A	0,4...5 m	ZRMS02_01	0,4...1,5 m
RE6040BA	0,4...6 m	RF505	0,35...1,1 m
RE8222BA	0,4...3 m	RF255	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

