

Retro-Reflex Sensor

LK89PA

Part Number



- Miniature design
- Red light

Technical Data

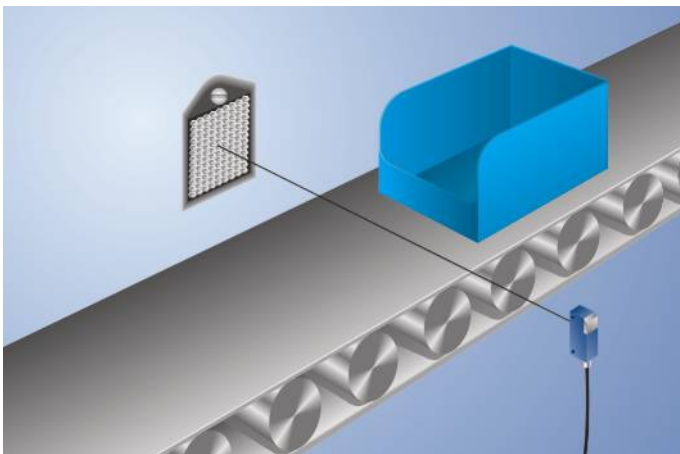
Optical Data	
Range	4500 mm
Reference Reflector/Reflex Foil	RQ100BA
Switching Hysteresis	< 15 %
Light Source	Red Light
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Opening Angle	5 °
Spot Diameter	see Table 1
Two-Lens Optic	yes

Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 30 mA
Switching Frequency	1 kHz
Response Time	500 μs
Temperature Drift	< 10 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	100 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	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	Cable, 4-wire, 2 m

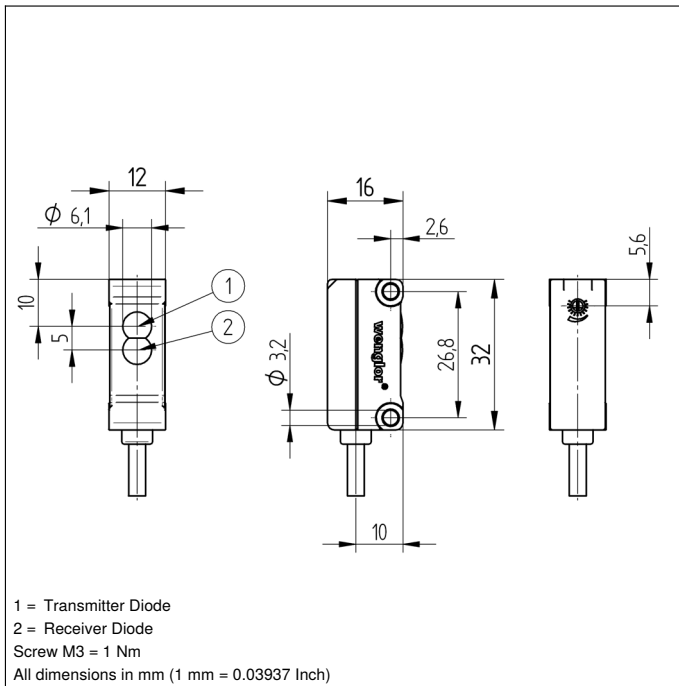
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2329,49 a
PNP NO/NC antivalent	●
Connection Diagram No.	201
Control Panel No.	K4
Suitable Mounting Technology No.	400

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.

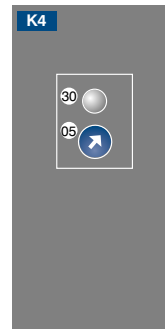


Complementary Products

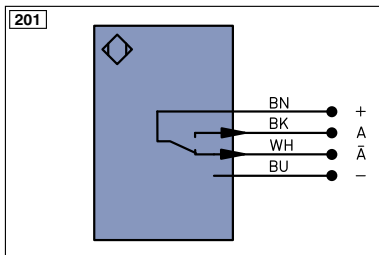
Reflector, Reflex Foil



Ctrl. Panel



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



Legend		Legend		Legend	
+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
A̅	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
V̅	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Out	Brightness output
T	Teach Input	AW	Valve Output	M	Maintenance
Z	Time Delay (activation)	a	Valve Control Output +		
S	Shielding	b	Valve Control Output 0 V		
RxD	Interface Receive Path	SY	Synchronization		
TxD	Interface Send Path	E+	Receiver-Line		
RDY	Ready	S+	Emitter-Line		
GND	Ground	≡	Grounding		
CL	Clock	SnR	Switching Distance Reduction		
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path		
	IO-Link	Tx+/-	Ethernet Send Path		
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)		
IN	Safety Input	La	Emitted Light disengageable		
OSSD	Safety Output	Mag	Magnet activation		
Signal	Signal Output	RES	Input confirmation		
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactur Monitoring		
EN0_5A22	Encoder 0-pulse 0-0 (TTL)	ENAR5422	Encoder A/A̅ (TTL)		
		ENBR5422	Encoder B/B̅ (TTL)		

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	0,2 m	0,5 m	4 m
Spot Diameter	14 mm	40 mm	250 mm

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0,02...4,5 m	RR25_M	0,015...1,1 m
RE18040BA	0,04...3,5 m	RR25KP	0,04...0,8 m
RQ84BA	0,02...4 m	RR21_M	0,02...1,1 m
RR84BA	0,03...4 m	ZRAE02B01	0,03...1,6 m
RE9538BA	0,03...2 m	ZRME01B01	0,04...0,5 m
RE6151BM	0,01...4 m	ZRME03B01	0,03...1,6 m
RR50_A	0,02...2,8 m	ZRMR02K01	0,03...0,6 m
RE6040BA	0,015...3,2 m	ZRMS02_01	0,03...0,7 m
RE8222BA	0,01...2,1 m	RF505	0,06...1,1 m
RR34_M	0,02...1,6 m	RF508	0,06...1,3 m
RE3220BM	0,015...1,5 m	RF258	0,06...1,1 m
RE6210BM	0,01...1 m	ZRDF_K01	0,06...2,5 m

