

Retro-Reflex Sensor

Universal

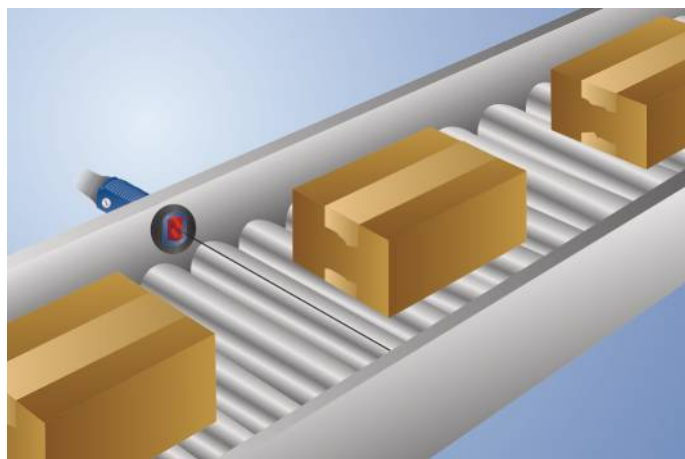
OLDK503A0002

Part Number



- Clever inclusive mounting technology
- Glossy objects can be detected
- IO-Link 1.1
- Minimal installation space
- Simple installation

The retro-reflex sensor works with red light and a reflector. It also reliably detects objects with reflective or glossy surfaces at high speeds. Thanks to its great range, the sensor can, for example, be used to manage feed and presence controls as well as to detect objects on wide feed belts. The IO-Link interface can be used to configure retro-reflective barriers (PNP/NPN, NC/NO, switching distance), as well as for reading out switching statuses and signal values.



Technical Data

Optical Data	
Range	5000 mm
Reference Reflector/Reflector 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 °
Light Spot Diameter	see Table 1
Two-Lens Optic	yes

Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (U _b = 24 V)	< 30 mA
Switching Frequency	700 Hz
Switching frequency (speed mode)	900 Hz
Response Time	0,7 ms
Response time (speed mode)	0,6 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
Lockable	yes
Interface	IO-Link V1.1
Protection Class	III

Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic, ABS/GF
Degree of Protection	IP67
Connection	M12 × 1; 4-pin

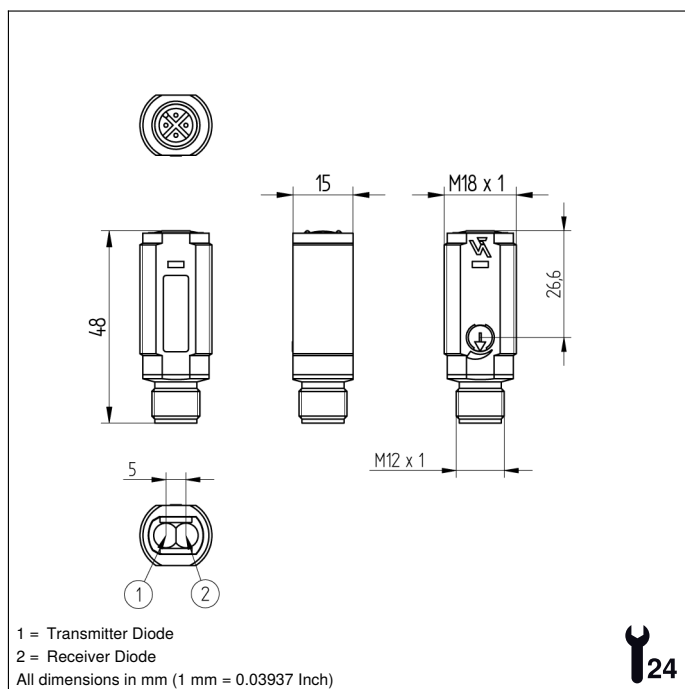
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2953,75 a
Scope of delivery	1 × initial start-up instructions 1 × MUTTER-M8-E002 hex nut 1 × sensor 1 × Z0008 mounting console
Packaging unit	1 Piece

IO-Link	●
PNP NC, PNP NO	●
Connection Diagram No.	215
Control Panel No.	DK1
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	150

*IO-Link availability is valid for all sensors from revision G. The revision can be found in the production order number "xxxxx/G/xxxxxx," which is indicated on the product label.

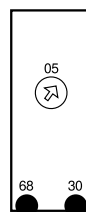
Complementary Products

Dust Extraction Tube STAUBTUBUS-01
IO-Link Master
Reflector, Reflector Foil
Software

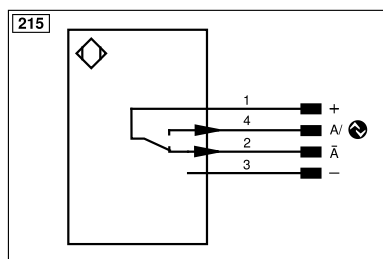


Ctrl. Panel

DK1



05 = Switching Distance Adjuster
30 = Switching Status/Contamination Warning
68 = Power LED



Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENAR5422	Encoder A/Ä (TTL)
-	Supply Voltage 0 V	nc	Not connected	ENBR5422	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENa	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	ENb	Encoder B
Ä	Switching Output (NC)	W	Trigger Input	AMIN	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
V̄	Contamination/Error Output (NC)	O	Analog Output	AOK	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY In	Synchronization In
T	Teach Input	BZ	Block Discharge	SY OUT	Synchronization OUT
R	Reset input	Amv	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization		
RDY	Ready	E+	Receiver-Line	BK	Black
GND	Ground	S+	Emitter-Line	BN	Brown
CL	Clock	≡	Grounding	RD	Red
E/A	Output/Input programmable	SnR	Switching Distance Reduction	OG	Orange
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path	YE	Yellow
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	GN	Green
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	BU	Blue
QSSD	Safety Output	La	Emitted Light disengageable	VT	Violet
Signal	Signal Output	Mag	Magnet activation	GY	Grey
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	WH	White
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	PK	Pink
				GNYE	Green/Yellow

Table 1

Working Distance	0,2 m	0,5 m	5 m
Light Spot Diameter	17 mm	35 mm	330 mm

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0,01...5 m	ZRAE02B01	0,01...2,2 m
RE18040BA	0,01...4,5 m	ZRDS01R01	0,05...0,8 m
RQ84BA	0,01...4,5 m	ZRME01B01	0,01...0,5 m
RR84BA	0,01...4,5 m	ZRME03B01	0,01...2,5 m
RE9538BA	0,01...2,2 m	ZRMR02K01	0,01...0,7 m
RE6151BM	0,01...4,3 m	ZRMS02_01	0,01...1 m
RR50_A	0,01...3,5 m	RF505	0,05...1,5 m
RE6040BA	0,01...4 m	RF255	0,05...1,1 m
RE8222BA	0,01...2,6 m	RF508	0,05...1,5 m
RR34_M	0,01...2,5 m	RF258	0,05...1,1 m
RE3220BM	0,01...1,5 m	RF4050	0,05...1 m
RE6210BM	0,01...1 m	ZRAF07K01	0,05...1,1 m
RR25_M	0,01...1,3 m	ZRAF08K01	0,05...1,5 m
RR25KP	0,04...0,8 m	ZRDF03K01	0,04...3,4 m
RR21_M	0,01...1,1 m	ZRDF10K01	0,04...4,5 m

