

Retro-Reflex Sensor

Universal

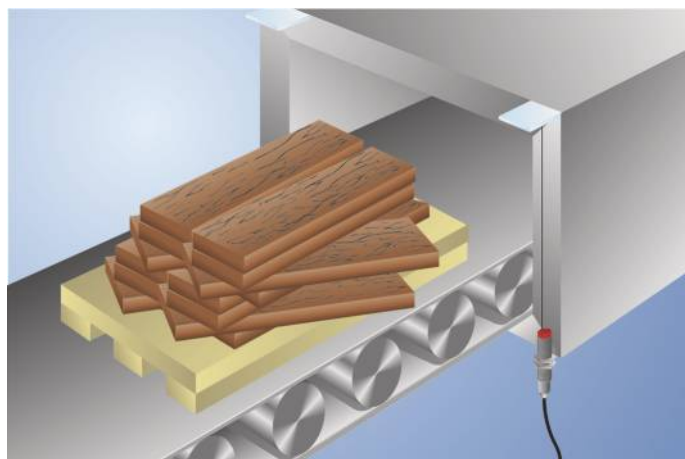
XD100PA3

Part Number



- Range: 14 m
- Smallest recognizable part: 0,1 mm
- Stainless steel housing
- Switching frequency: 3 kHz

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	14000 mm
Reference Reflector/Reflector Foil	RQ100BA
Smallest Recognizable Part	100 μ m
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	1 °
Beam Divergence	< 15 mrad
Light Spot Diameter	see Table 1
Focus Distance	350 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	167 μ s
Temperature Drift	< 10 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	200 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
FDA Accession Number	0820386-000

Mechanical Data

Setting Method	Potentiometer
Housing Material	Stainless steel, V2A (1.4305 / 303)
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 $\times$ 1; 4-pin

Safety-relevant Data

MTTFd (EN ISO 13849-1)	2513,24 a
PNP NC, PNP NO	●

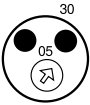
Connection Diagram No.	101
Control Panel No.	D14
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	150

Complementary Products

Dust Extraction Tube STAUBTUBUS-01
PNP-NPN Converter BG2V1P-N-2M
Reflector, Reflector Foil

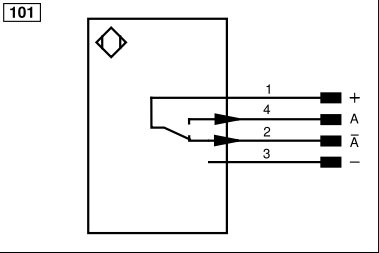
Ctrl. Panel

D14



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

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



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
Ā	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	Ack	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
OSSD	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 0/1 (TTL)	EDM	Contact Monitoring	PK	Pink
				GNYE	Green/Yellow

Table 1

Working Distance	0,2 m	5 m	10 m
Light Spot Diameter	2 mm	42,5 mm	85 mm

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0,6...14 m	RR25KP	0,3...2,5 m
RE18040BA	0,6...9,5 m	RR21_M	0,4...3 m
RQ84BA	0,75...11 m	ZRAE02B01	0,7...4,5 m
RR84BA	0,55...14 m	ZRME01B01	0,5...1,8 m
RE9538BA	0,55...5 m	ZRME03B01	0,5...5 m
RE6151BM	0,35...10 m	ZRMR02K01	0,5...2 m
RE6151BA	0,5...4,5 m	ZRMS02_01	0,6...2,8 m
RR50_A	0,65...9 m	RF505	0,6...1,6 m
RE6040BA	0,5...11 m	RF255	0,6...1,6 m
RE8222BA	0,7...5,5 m	RF508	0,4...1,1 m
RR34_M	0,6...5,5 m	RF258	0,4...1,6 m
RE3220BM	0,55...3,5 m	ZRAF07K01	0,6...1,6 m
RE6210BM	0,45...3,5 m	ZRAF08K01	0,6...1,6 m
RR25_M	0,4...4,5 m	ZRDF_K01	0,4...7 m

