

Reflex Sensor with Background Suppression

YK12NA7 LASER

Part Number

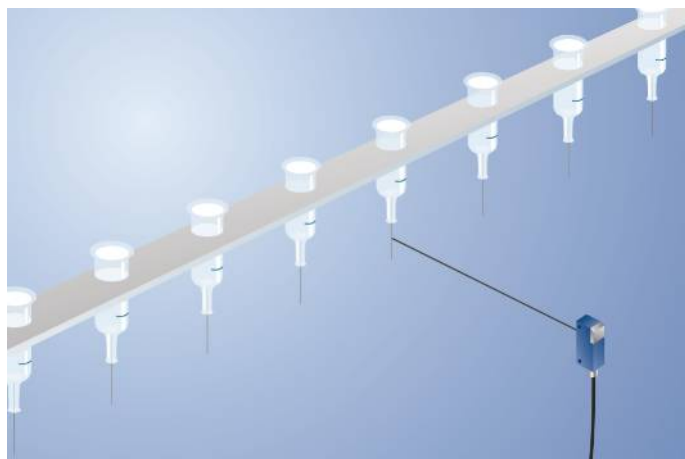


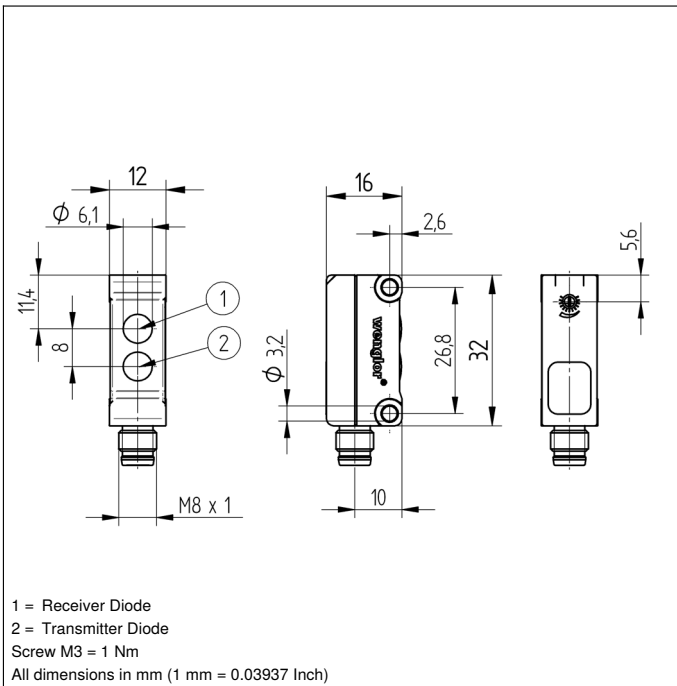
- Detection range of up to 120 mm
- High switching frequency
- Low current consumption < 15 mA
- Miniature design

Technical Data

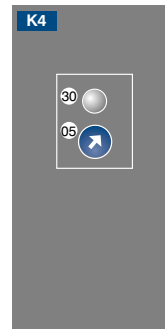
Optical Data	
Range	120 mm
Adjustable Range	18...120 mm
Switching Hysteresis	< 10 %
Light Source	Laser (red)
Wave Length	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 15 mA
Switching Frequency	1300 Hz
Response Time	385 µs
Temperature Drift	< 5 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
NPN Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
FDA Accession Number	0820358-001
Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 4-pin
NPN NO/NC antivalent	●
Connection Diagram No.	301
Control Panel No.	K4
Suitable Connection Technology No.	7
Suitable Mounting Technology No.	400

These sensors detect distance by measuring angles. They are particularly good at recognizing objects in front of any background. The color, shape and surface characteristics of the object have practically no influence on sensor switching performance.

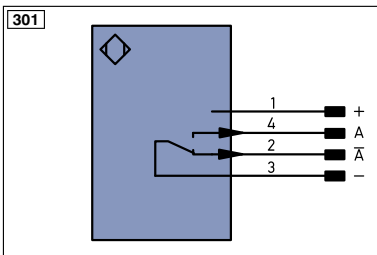




Ctrl. Panel



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



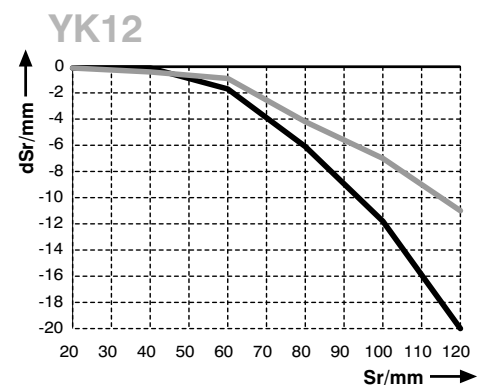
Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	Am n	Digital output MIN
A	Switching Output (NO)	U̅	Test Input inverted	Amax	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	Aok	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
Ȳ	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	AWV	Valve Output	Wire Colors according to DIN IEC 757	
Z	Time Delay (activation)	a	Valve Control Output +		
S	Shielding	b	Valve Control Output 0 V	BK	Black
RxD	Interface Receive Path	SY	Synchronization	BN	Brown
TxD	Interface Send Path	E+	Receiver-Line	RD	Red
RDY	Ready	S+	Emitter-Line	OG	Orange
GND	Ground	±	Grounding	YE	Yellow
CL	Clock	SnR	Switching Distance Reduction	GN	Green
E/A	Output/Input programmable	Rx +/—	Ethernet Receive Path	BU	Blue
	IO-Link	Tx +/—	Ethernet Send Path	VT	Violet
PoE	Power over Ethernet	Bx	Interfaces-Bus A (+)/B (-)	GY	Grey
IN	Safety Input	La	Emitted Light disengageable	WH	White
OSSD	Safety Output	Mag	Magnet activation	PK	Pink
Signal	Signal Output	RES	Input confirmation	GNYE	Green Yellow
M	Maintenance	EDM	Contacting Monitoring		

Table 1

Detection Range	40 mm	80 mm	120 mm
Spot Diameter	1,5 mm	1 mm	2 mm

Switching Distance Deviation

Typical characteristic curve based on Kodak white (90 % remission)



Sr = Switching Distance
dSr = Switching Distance Change
black 6 % remission
grey 18 % remission

