Reflex Sensor
with Background Suppression

YK12PA7 LASER
Part Number

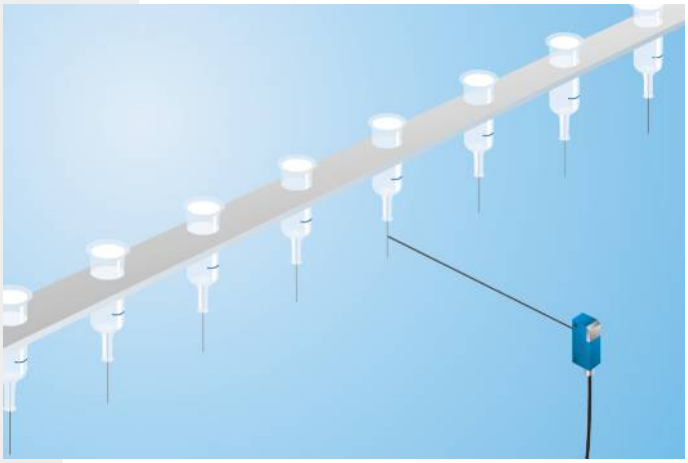


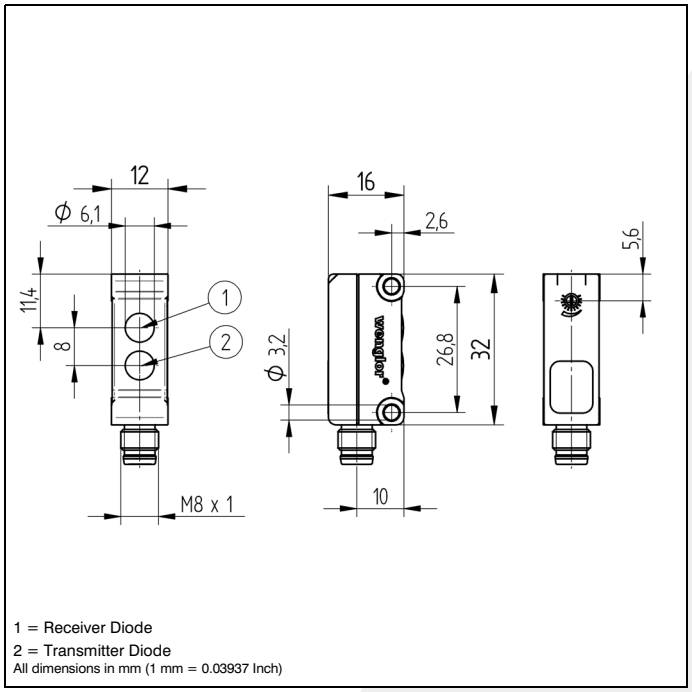
- **Detection Range of up to 120 mm**
- **High Switching Frequency**
- **Low Current Consumption < 15 mA**
- **Miniature Design**

Technical Data

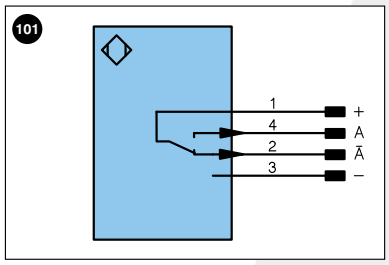
Optical Data	
Range	120 mm
Adjustable Range	18...120 mm
Switching Hysteresis	< 10 %
Light Source	Laser (red)
Wave Length	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 15 mA
Switching Frequency	1900 Hz
Response Time	263 µs
Temperature Drift	< 5 %
Temperature Range	-25...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
Mechanical Data	
Housing	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 4-pin
PNP NO/NC antivalent	●
Connection Diagram No.	101
Control Panel No.	K 4
Suiting Connection Technology No.	7
Suiting Mounting Technology No.	400

These sensors are particularly well suited for recognizing objects in front of any type of background. The color, shape and surface characteristics of the object have practically no influence on sensor switching performance.





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



Legend

+	Supply Voltage +	
–	Supply Voltage 0 V	
~	Supply Voltage (AC Voltage)	
A	Switching Output	(NO)
Ā	Switching Output	(NC)
V	Contamination/Error Output	(NO)
V̄	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	

U	Test Input
Ū	Test Input inverted
W	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
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

PoE	Power over Ethernet

Wire Colors according to DIN IEC 757

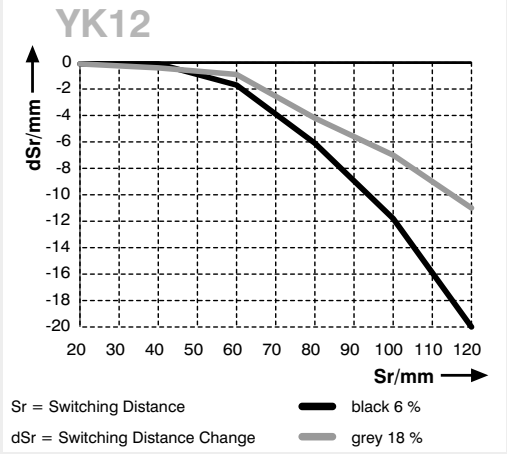
BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green Yellow

Table 1

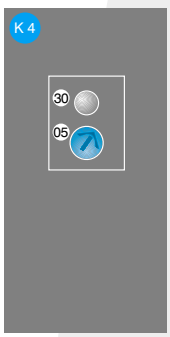
Detection Range	40 mm	80 mm	120 mm
Light Spot Diameter	1,5 mm	1 mm	2 mm

Switching Distance Deviation

Typical characteristic curve based on Kodak white, 90 %



Ctrl.Panel



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

Specifications are subject to change without notice