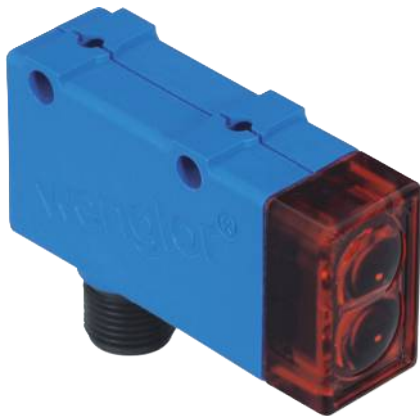


# Reflex Sensor with Background Suppression

## YM22PA2 LASER

Part Number

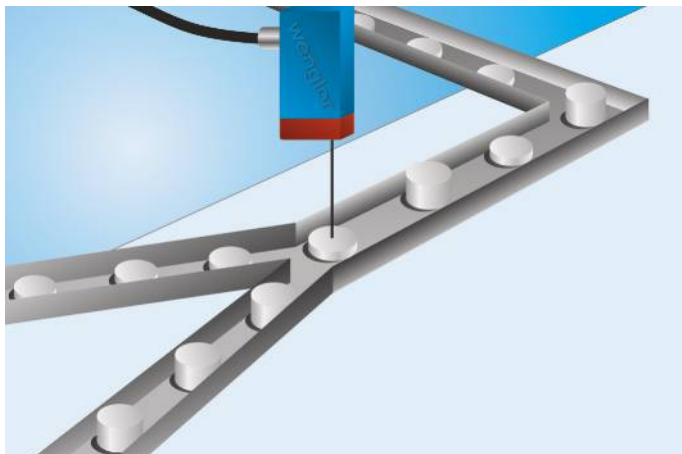


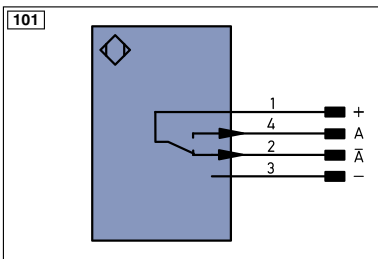
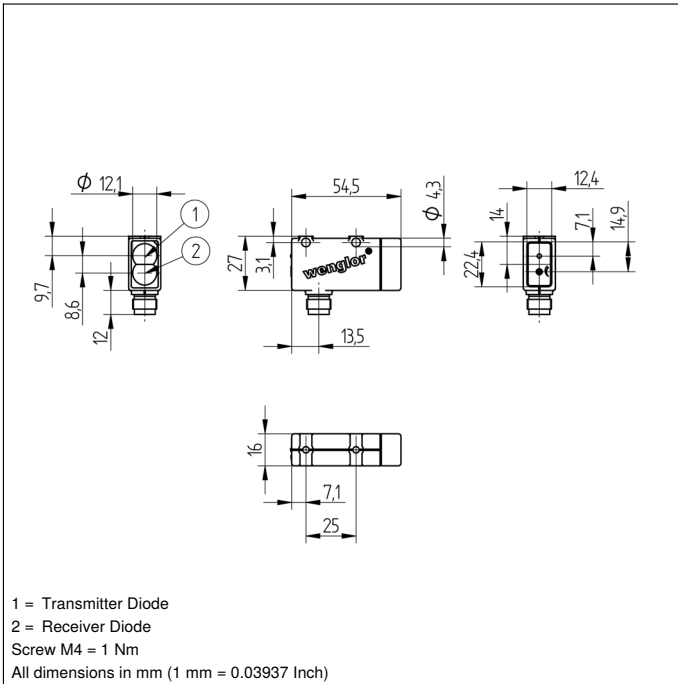
- Good black & white characteristics
- High switching frequency
- Large detection range

### Technical Data

Optical Data	
Range	200 mm
Adjustable Range	35...200 mm
Switching Hysteresis	< 10 %
Light Source	Laser (red)
Wave Length	650 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter at a Distance of	1 mm 120 mm
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 20 mA
Switching Frequency	1600 Hz
Response Time	313 μs
Temperature Drift	< 5 %
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
Mechanical Data	
Adjustment	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4-pin
PNP NO/NC antivalent	●
Connection Diagram No.	<b>101</b>
Control Panel No.	<b>M4</b>
Suitable Connection Technology No.	<b>2</b>
Suitable Mounting Technology No.	<b>360</b>

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.





Legend		
+	Supply Voltage +	nc not connected
-	Supply Voltage 0 V	U Test Input
~	Supply Voltage (AC Voltage)	Ū Test Input inverted
A	Switching Output (NO)	W Trigger Input
Ā	Switching Output (NC)	O Analog Output
V	Contamination/Error Output (NO)	O- Ground for the Analog Output
Ṽ	Contamination/Error Output (NC)	BZ Block Discharge
E	Input (analog or digital)	AWV Valve Output
T	Teach Input	a Valve Control Output +
Z	Time Delay (activation)	b Valve Control Output 0 V
S	Shielding	SY Synchronization
RxD	Interface Receive Path	E+ Receiver-Line
TxD	Interface Send Path	S+ Emitter-Line
RDY	Ready	≠ Grounding
GND	Ground	SnR Switching Distance Reduction
CL	Clock	Rx+/- Ethernet Receive Path
E/A	Output/Input programmable	Tx+/- Ethernet Send Path
	IO-Link	Bus Interfaces-Bus A(+)/B(-)
PoE	Power over Ethernet	La Emitted Light disengageable
IN	Safety Input	Mag Magnet activation
OSSD	Safety Output	RES Input confirmation
Signal	Signal Output	EDM Contactor Monitoring

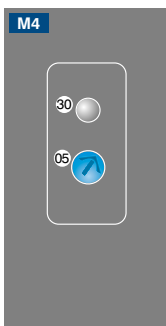
Wire Colors according to DIN IEC 757	
BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green Yellow

## Complementary Products

Protection Housing Set ZSM-NN-02

Protection Housing ZSV-0x-01

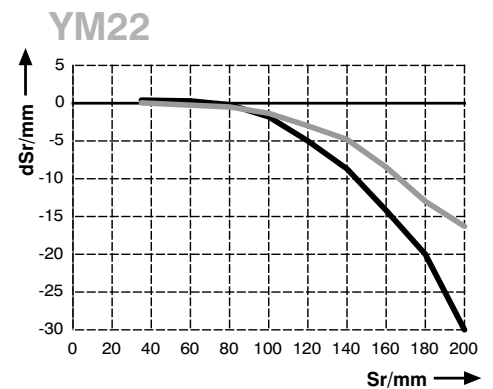
## Ctrl. Panel



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

## Switching Distance Deviation

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



Sr = Switching Distance  
 dSr = Switching Distance Change  
 — black 6 % remission  
 — Aluminum