

# Reflex Sensor with Background Suppression

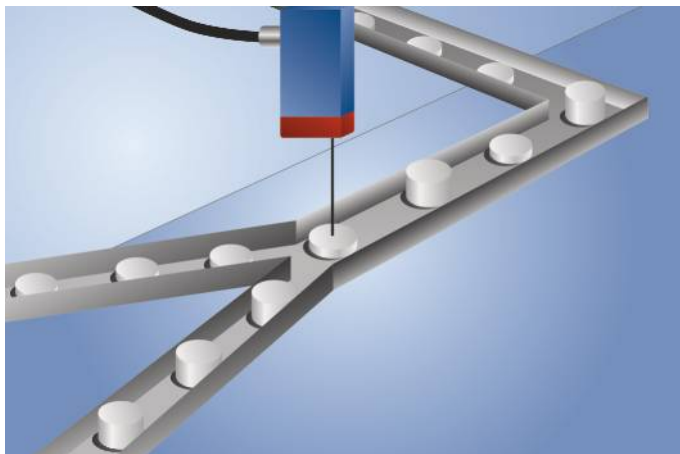
## YM22PBV2 LASER

Part Number



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

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.

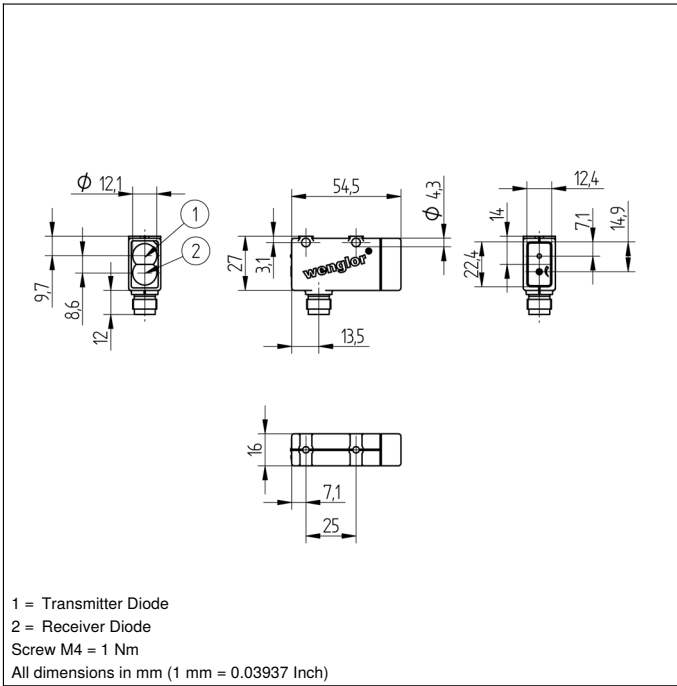


### Technical Data

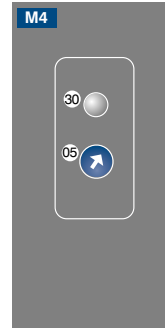
Optical Data	
Range	200 mm
Adjustable Range	35...200 mm
Switching Hysteresis	< 10 %
Light Source	Laser (red)
Wavelength	650 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter at a Distance of	1 mm 120 mm
Electrical Data	
Supply Voltage	10...30 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
PNP Contamination Output/Switching Current	50 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
FDA Accession Number	0820359-001
Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4-pin
Contamination Output	●
PNP NO	●
Connection Diagram No.	<b>103</b>
Control Panel No.	<b>M4</b>
Suitable Connection Equipment No.	<b>2</b>
Suitable Mounting Technology No.	<b>360</b>

### Complementary Products

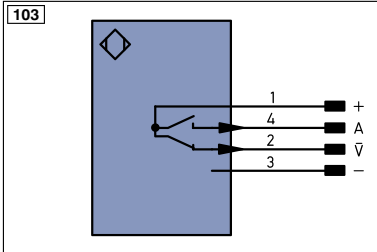
PNP-NPN Converter BG2V1P-N-2M
Protective Housing ZSV-0x-01
Set Protective Housing ZSM-NN-02



### Ctrl. Panel



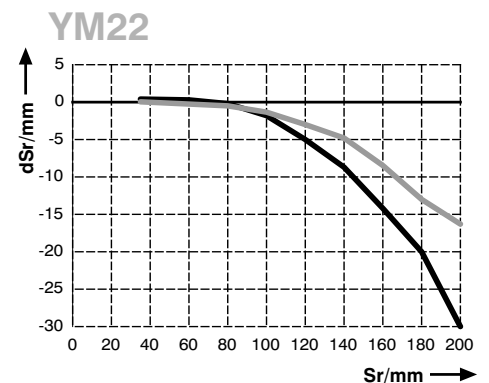
05 = Switching Distance Adjuster  
 30 = Switching Status/Contamination Warning



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
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
Bl..D +/-	Ethernet Gigabit bidirect. data line (A-D)
EN0..5422	Encoder 0-pulse 0-0̄ (TTL)
PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
W-	Ground for the 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
SY-	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
±	Grounding
SrR	Switching Distance Reduction
Rx+/-	Ethernet Receive Path
Tx+/-	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(-)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring
EN0..5422	Encoder A/Ā (TTL)
EN0..5422	Encoder B/B̄ (TTL)
ENa	Encoder A
ENb	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOk	Digital output OK
SY in	Synchronization In
SY OUT	Synchronization OUT
OLt	Brightness output
M	Maintenance
rsv	reserved
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
GNVE	Green/Yellow

### Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission



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

