

Reflex Sensor with Background Suppression

YN33PA3 LASER

Part Number



- High precision background suppression up to 300 mm
- Stainless steel plug (V2A)
- Switching frequency: 1 kHz

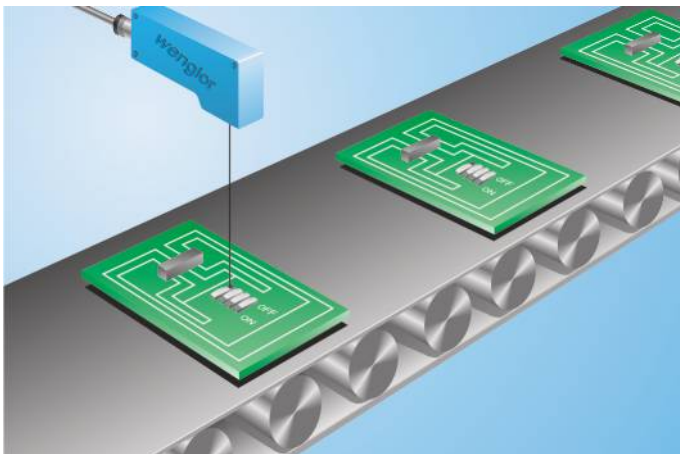
Technical Data

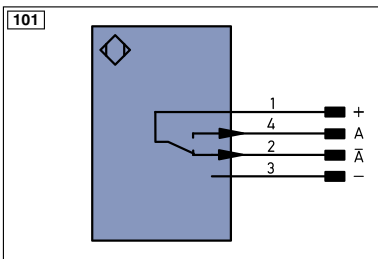
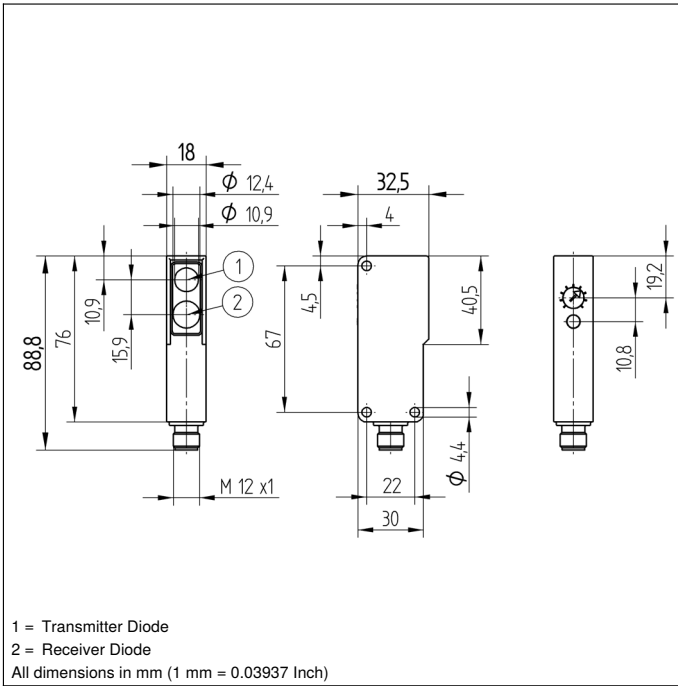
Optical Data	
Range	300 mm
Adjustable Range	65...300 mm
Switching Hysteresis	< 1 %
Light Source	Laser (red)
Wave Length	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1

Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 20 mA
Switching Frequency	1 kHz
Response Time	500 μs
Temperature Drift	< 2 %
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	
Housing Material	Plastic
Degree of Protection	IP67
Connection	M12 × 1; 4-pin
PNP NO/NC antivalent	●
Connection Diagram No.	101
Control Panel No.	N3
Suitable Connection Technology No.	2
Suitable Mounting Technology No.	350

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		Wire Colors according to DIN IEC 757
+	Supply Voltage +	BK Black
-	Supply Voltage 0 V	BN Brown
~	Supply Voltage (AC Voltage)	RD Red
A	Switching Output (NO)	OG Orange
\bar{A}	Switching Output (NC)	YE Yellow
V	Contamination/Error Output (NO)	GN Green
\bar{V}	Contamination/Error Output (NC)	BU Blue
E	Input (analog or digital)	VT Violet
T	Teach Input	GY Grey
Z	Time Delay (activation)	WH White
S	Shielding	PK Pink
RxD	Interface Receive Path	GNYE Green Yellow
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	
nc	not connected	
U	Test Input	
\bar{U}	Test Input inverted	
W	Trigger Input	
O	Analog Output	
O-	Ground for the Analog Output	
BZ	Block Discharge	
AWV	Valve Output	
a	Valve Control Output +	
b	Valve Control Output 0 V	
SY	Synchronization	
E+	Receiver-Line	
S+	Emitter-Line	
\pm	Grounding	
S _n R	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	Contactur Monitoring	

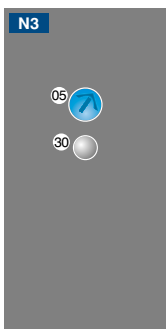
Table 1

Detection Range	60 mm	150 mm	300 mm
Light Spot Diameter	3 mm	2 mm	3 mm

Complementary Products

Dust extraction tube STAUBTUBUS-03
 Protection Housing Set ZSN-NN-02

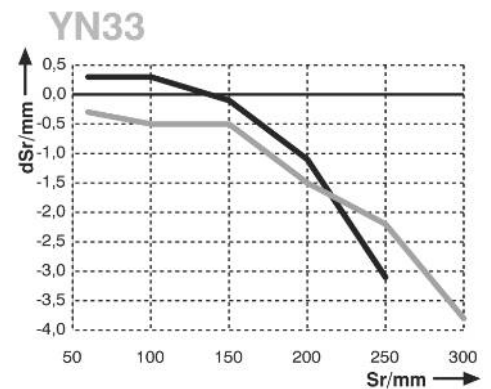
Ctrl. Panel



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