

Reflex Sensor with Background Suppression

YN33NA3 LASER

Part Number

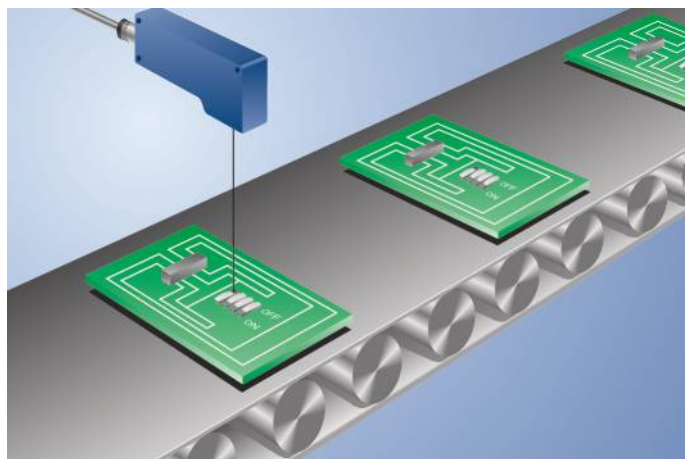


- High precision background suppression up to 300 mm
- Stainless steel plug (V2A)
- Switching frequency: 1 kHz

Technical Data

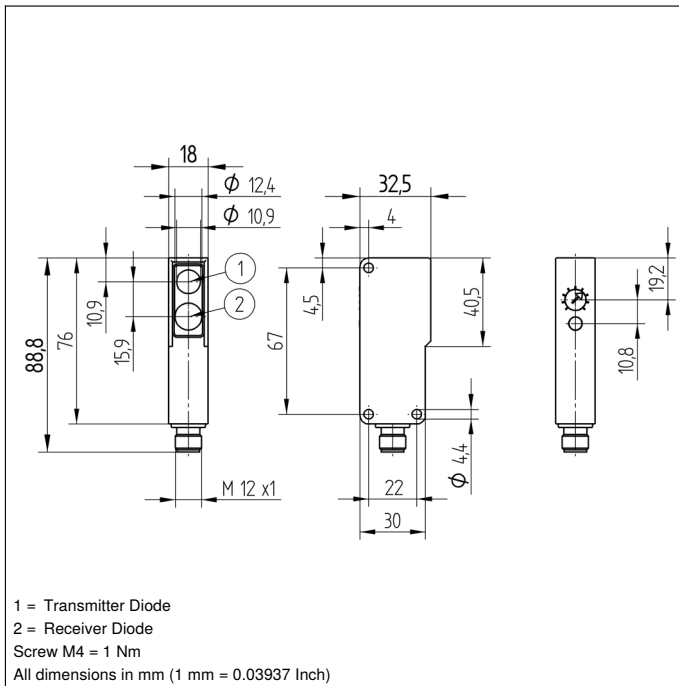
Optical Data	
Range	300 mm
Adjustable Range	65...300 mm
Switching Hysteresis	< 1 %
Light Source	Laser (red)
Wave Length	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 20 mA
Switching Frequency	1 kHz
Response Time	500 μs
Temperature Drift	< 2 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
NPN Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
FDA Accession Number	0820373-000
Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic
Degree of Protection	IP67
Connection	M12 × 1; 4-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1804,83 a
NPN NO/NC antivalent	●
Connection Diagram No.	301
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.



Complementary Products

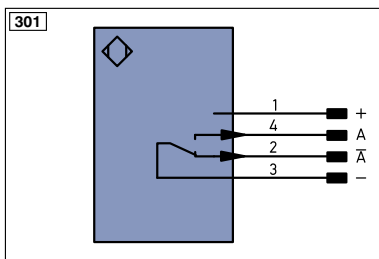
Dust extraction tube STAUBTUBUS-03



Ctrl. Panel



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



Legend

+	Supply Voltage +	nc	not connected	ENa	Encoder A
-	Supply Voltage 0 V	U	Test Input	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input inverted	AMIN	Digital output MIN
A	Switching Output (NO)	W	Trigger Input	AMAX	Digital output MAX
Ā	Switching Output (NC)	O	Analog Output	AOK	Digital output OK
V	Contamination/Error Output (NO)	O-	Ground for the Analog Output	SY In	Synchronization In
ṽ	Contamination/Error Output (NC)	BZ	Block Discharge	SY OUT	Synchronization OUT
E	Input (analog or digital)	AWV	Valve Output	LI	Brightness output
T	Teach Input	a	Valve Control Output +	M	Maintenance
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		
BI-D+/-	Ethernet Gigabit bidirect. data line (A-D)	ENaRS42	Encoder A/Ā (TTL)		
EN0RS42	Encoder 0-pulse 0-0 (TTL)	ENbRS42	Encoder B/B̄ (TTL)		

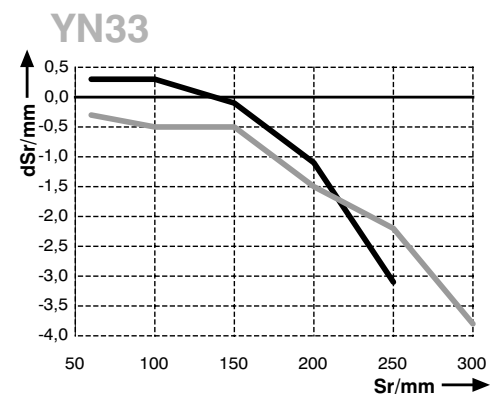
Wire Colors according to DIN IEC 757

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

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

Switching Distance Deviation

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



Sr = Switching Distance

dSr = Switching Distance Change

