

Reflex Sensor with Background Suppression

HN33PA3

Part Number



- Precision background suppression
- Red light
- Stainless steel plug (V2A)

Technical Data

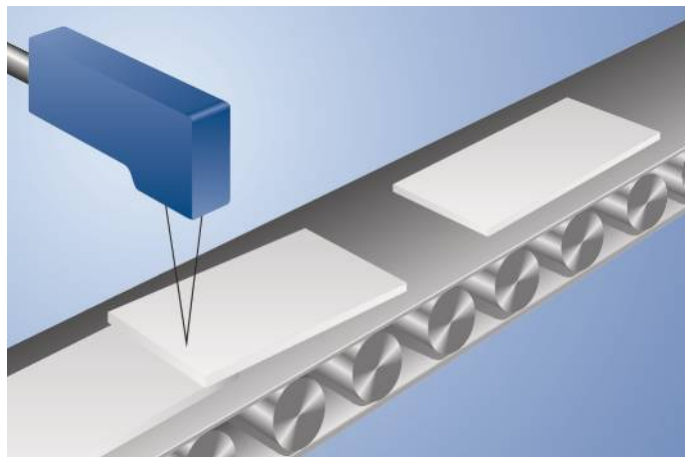
Optical Data	
Range	300 mm
Adjustable Range	60...300 mm
Switching Hysteresis	< 5 %
Light Source	Red Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1

Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	30 mA
Switching Frequency	1 kHz
Response Time	500 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
Degree of Protection	IP67
Connection	M12 × 1; 4-pin

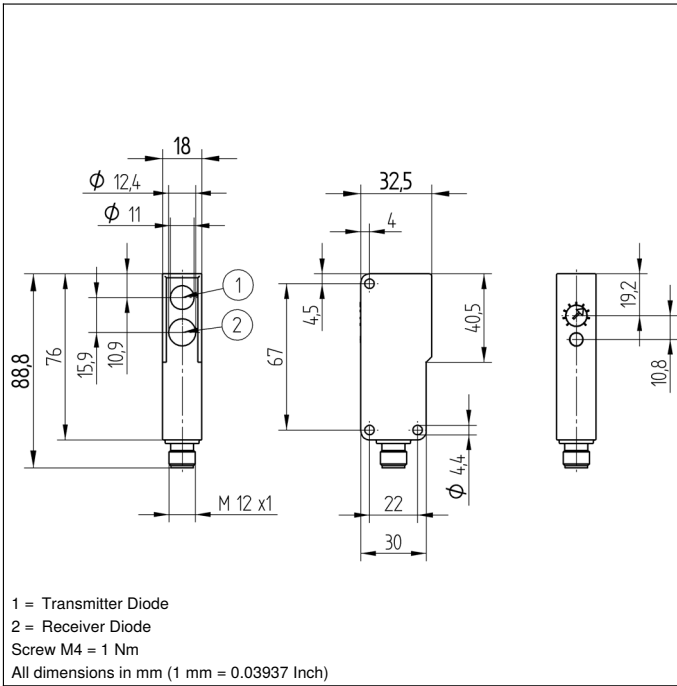
PNP NO/NC antivalent	●
Connection Diagram No.	101
Control Panel No.	N3
Suitable Connection Technology No.	2
Suitable Mounting Technology No.	350

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.

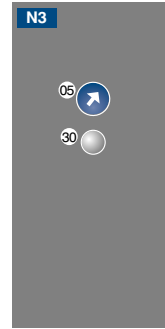


Complementary Products

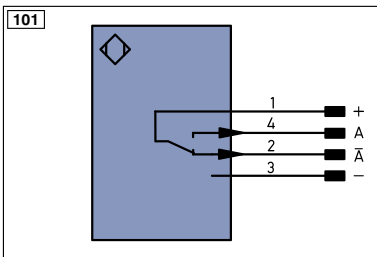
Dust extraction tube STAUBTUBUS-03
PNP-NPN Converter BG2V1P-N-2M
Protection Housing Set ZSN-NN-02



Ctrl. Panel



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



Legend

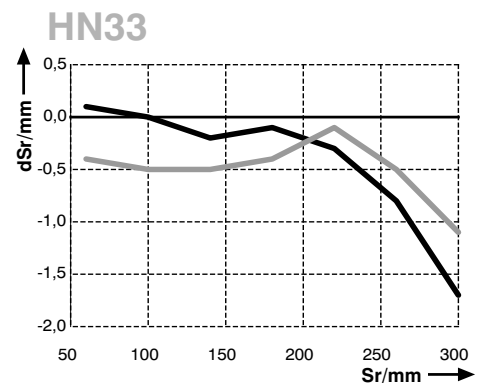
+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMn	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMax	Digital output MAX
A̅	Switching Output (NC)	W	Trigger Input	Aok	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
V̅	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Out	Brightness output
T	Teach Input	AWV	Valve Output		
Z	Time Delay (activation)	a	Valve Control Output +		Wire Colors according to DIN IEC 757
S	Shielding	b	Valve Control Output 0 V	BK	Black
RxD	Interface Receive Path	SY	Synchronization	BN	Brown
TXD	Interface Send Path	E+	Receiver-Line	RD	Red
RDY	Ready	S+	Emitter-Line	OG	Orange
GND	Ground	±	Grounding	YE	Yellow
CL	Clock	SrR	Switching Distance Reduction	GN	Green
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path	BU	Blue
	IO-Link	Tx+/-	Ethernet Send Path	VT	Violet
PoE	Power over Ethernet	Exe	Interfaces-Bus A(+)/B(-)	GY	Grey
IN	Safety Input	La	Emitted Light disengageable	WH	White
OSSD	Safety Output	Mag	Magnet activation	PK	Pink
Signal	Signal Output	RES	Input confirmation	GNYE	Green Yellow
M	Maintenance	EDM	Contactur Monitoring		

Table 1

Detection Range	60 mm	150 mm	300 mm
Light Spot Diameter	8 mm	15 mm	20 mm

Switching Distance Deviation

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



Sr = Switching Distance

dSr = Switching Distance Change

— black 6 % remission

— grey 18 % remission

