

Reflex Sensor with Background Suppression

HW11PA3

Part Number



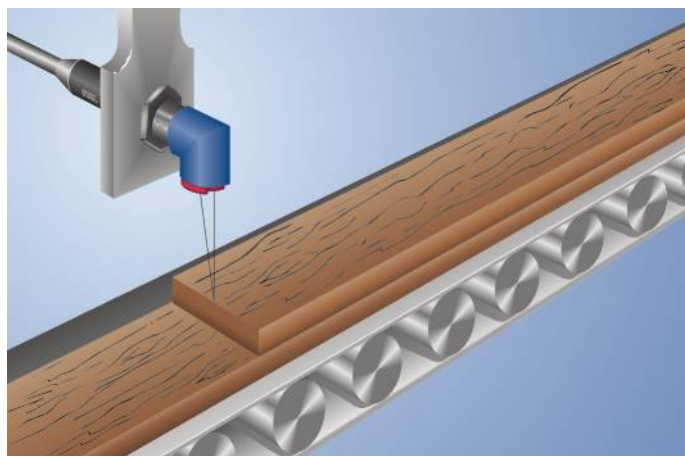
- Adjustable switching distance
- Electronic background suppression
- Red light
- Stainless steel housing

Technical Data

Optical Data	
Range	120 mm
Setting Range	35...120 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
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 30 mA
Switching Frequency	600 Hz
Response Time	833 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	
Setting Method	Potentiometer
Housing Material	Stainless Steel
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4-pin
PNP NC, PNP NO	●
Connection Diagram No.	101
Control Panel No.	D18
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	150

* Valid for all sensors from revision G. The revision can be found in the production order number "xxxxx/G/xxxxxxx", which is indicated on the product label.

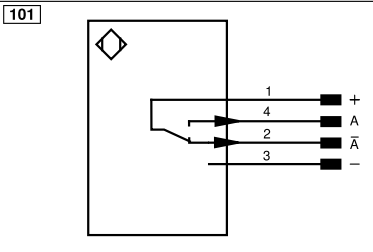
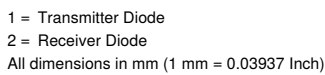
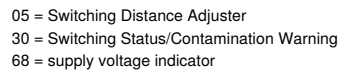
These sensors detect distance by measuring angles. They are particularly good at recognizing objects in front of any background. The color, shape and surface characteristics of the object have practically no influence on sensor switching performance.



Complementary Products

PNP-NPN Converter BG2V1P-N-2M

D18



Legend			
+	Supply Voltage +	nc	Not connected
~	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	$\bar{U}$	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
$\bar{A}$	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
$\bar{V}$	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	Amv	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	$\pm$	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
	IO-Link	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
QSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
EN ^{RS422}	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring
PT	Platinum measuring resistor	EN ^{RS422}	Encoder A/Ä (TTL)
		EN ^{RS422}	Encoder B/B (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 60757	
		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	120 mm
Light Spot Diameter	2,5 mm	5 mm

Typical characteristic curve based on white, 90 % remission

Sr/mm	dSr/mm (Black Line)	dSr/mm (Grey Line)
35	-0.5	-1.2
50	-1.5	-1.5
65	-2.5	-1.8
80	-3.5	-2.2
100	-5.5	-4.0
110	-8.5	-7.5
120	-11.0	-10.5

— black 6 % remission

grey 18 % remission

