

Reflex Sensor with Background Suppression

HB03PBT7K

Part Number



- Adjustable switching distance
- Electronic background suppression
- Enclosed in M8 housing
- Red light

Technical Data

Optical Data

Range	30 mm
Adjustable Range	10...30 mm
Switching Hysteresis	< 10 %
Light Source	Red Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	2 mm

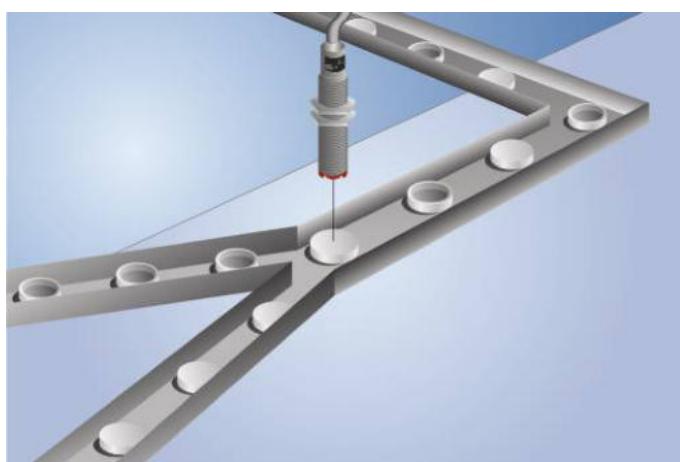
Electrical Data

Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 25 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	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III

Mechanical Data

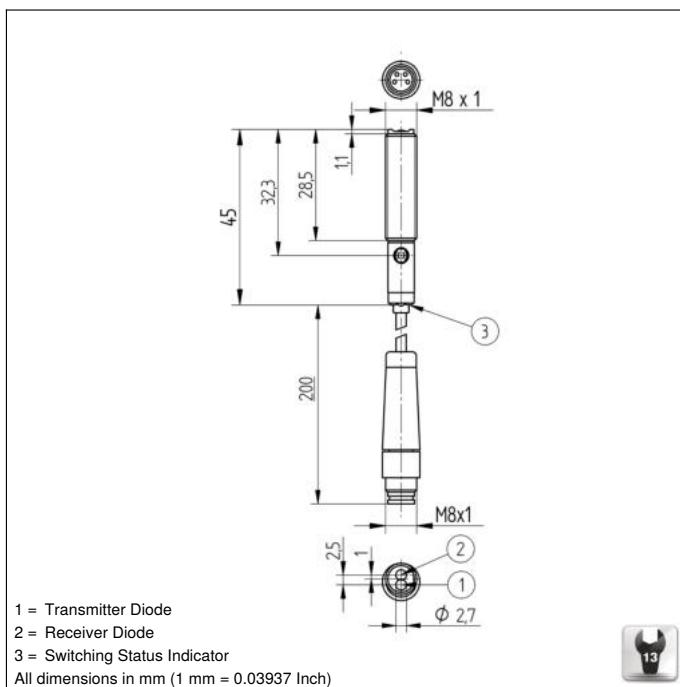
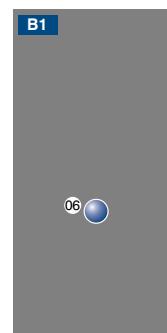
Setting Method	Teach-In
Housing Material	Stainless Steel
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 x 1; 4-pin
Cable Length	20 cm
PNP NO	●
Connection Diagram No.	1021
Control Panel No.	B1
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	200

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.

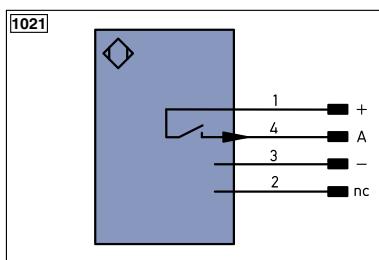


Complementary Products

PNP-NPN Converter BG7V1P-N-2M


Ctrl. Panel


06 = Teach Button


Legend

+	Supply Voltage +	PT	Platinum measuring resistor
-	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	Ü	Test Input inverted
Å	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NC)	O	Analog Output
E	Input (analog or digital)	O-	Ground for the Analog Output
T	Teach Input	BZ	Block Discharge
Z	Time Delay (activation)	Awv	Valve Output
S	Shielding	a	Valve Control Output +
RxD	Interface Receive Path	b	Valve Control Output 0 V
TxD	Interface Send Path	SY	Synchronization
RDY	Ready	SY-	Ground for the Synchronization
GND	Ground	E+	Receiver-Line
CL	Clock	E-	Emitter-Line
E/A	Output/Input programmable	±	Grounding
IO-Link		SnR	Switching Distance Reduction
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path
IN	Safety Input	Tx+/-	Ethernet Send Path
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)
Signal	Signal Output	La	Emitted Light disengageable
Bi-D	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation
EN0RS422	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contactor Monitoring

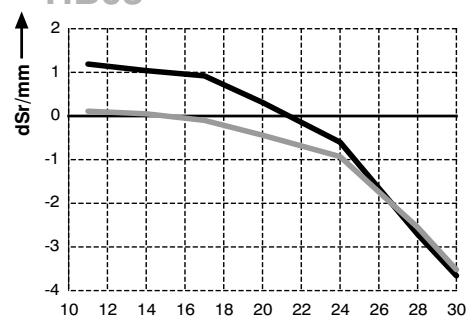
EN0RS422 Encoder A/A (TTL)
EN0RS422 Encoder B/B (TTL)
ENa Encoder A
ENb Encoder B
AMIN Digital output MIN
AMAX Digital output MAX
AOK Digital output OK
SY IN Synchronization IN
SY OUT Synchronization OUT
OLT Brightness output
M Maintenance
rsv reserved

Wire Colors according to DIN IEC 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

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission

HB03


Sr = Switching Distance

dSr = Switching Distance Change

black 6 % remission

grey 18 % remission

