

Reflex Sensor with Background Suppression

HM24PCT2

Part Number



- Electronic background suppression
- Red light
- Teach-in, external teach-in

Technical Data

Optical Data

Range	150 mm
Adjustable Range	40...150 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 (Ub = 24 V)	< 30 mA

Switching Frequency

900 Hz

Response Time

555 µs

On-/Off-Delay (RS-232)

0...1 s

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

Lockable

yes

Teach Mode

HT, VT

Protection Class

III

Mechanical Data

Setting Method	Teach-In
Housing Material	Plastic

Full Encapsulation

yes

Degree of Protection

IP67

Connection

M12 x 1; 4-pin

PNP NO/NC switchable



RS-232 with Adapterbox



Connection Diagram No.

152

Control Panel No.

M3

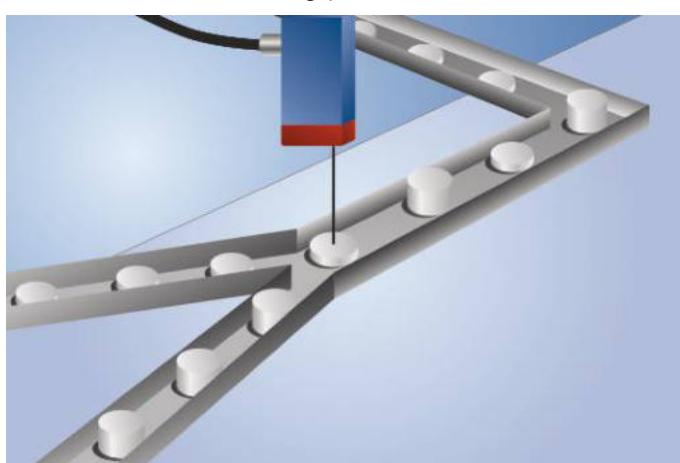
Suitable Connection Equipment No.

2

Suitable Mounting Technology No.

360

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

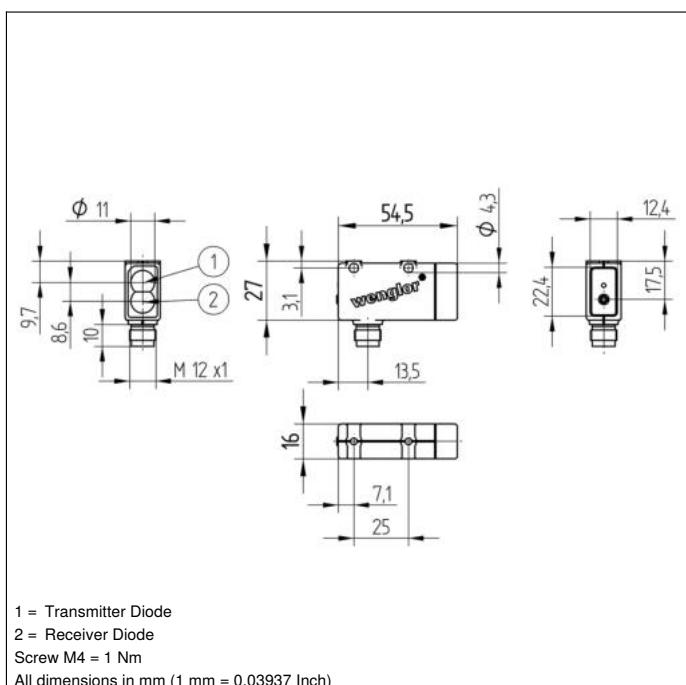
Adapterbox A232

PNP-NPN Converter BG2V1P-N-2M

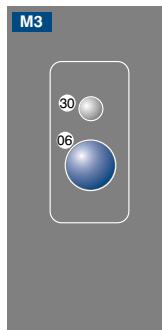
Protective Housing ZSV-0x-01

Set Protective Housing ZSM-NN-02

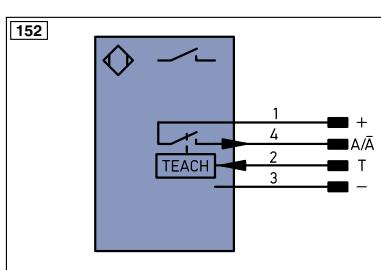
Software



Ctrl. Panel



06 = Teach Button
30 = Switching Status/Contamination Warning



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
Ā	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
Ā	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	S+	Emitter-Line
E/A	Output/Input programmable	±	Grounding
IO-Link	IO-Link	SnR	Switching Distance Reduction
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path
IN	Safety Input	Tx+/-	Ethernet Send Path
SSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)
Signal	Signal Output	La	Emitted Light disengageable
BLD	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation
ENoRS422	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contactor Monitoring

ENoRS422 Encoder A/Ā (TTL)
ENoRS422 Encoder B/Ā (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

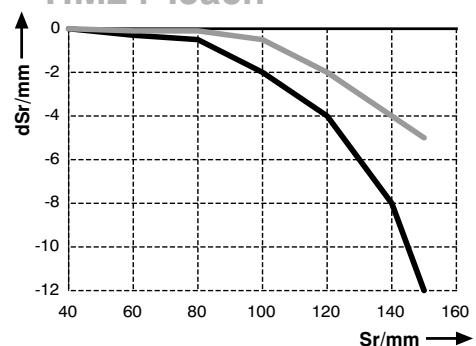
Table 1

Detection Range	60 mm	100 mm	150 mm
Light Spot Diameter	4 mm	5 mm	10 mm

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission

HM24 Teach



Sr = Switching Distance

dSr = Switching Distance Change

black 6 % remission
grey 18 % remission

