

# Reflex Sensor

Energetic

## TK55PA7

Part Number



- Adjustable detection range
- Infrared light
- Metal plug
- Miniature design

### Technical Data

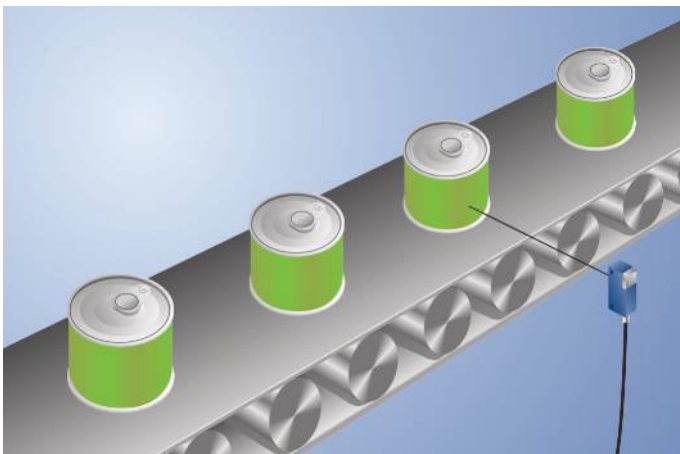
Optical Data	
Range	500 mm
Switching Hysteresis	< 15 %
Light Source	Infrared Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Opening Angle	6 °
Light Spot Diameter	see Table

Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 30 mA
Switching Frequency	333 Hz
Response Time	1500 μs
Temperature Drift	< 10 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	100 mA
Residual Current Switching Output	< 50 μA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III

Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 4-pin

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2476,21 a
PNP NO/NC antivalent	<input checked="" type="checkbox"/>
Connection Diagram No.	<b>101</b>
Control Panel No.	<b>K4</b>
Suitable Connection Equipment No.	<b>7</b>
Suitable Mounting Technology No.	<b>400</b>

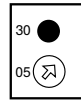
The transmitter and receiver in these sensors are located in a single housing. The sensor evaluates transmitted light reflected back from the object. The output is switched as soon as an object passes the selected range. Bright objects reflect more light than dark objects, and can thus be recognized from greater distances.



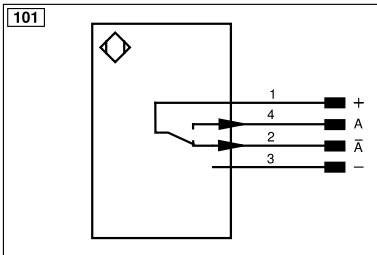
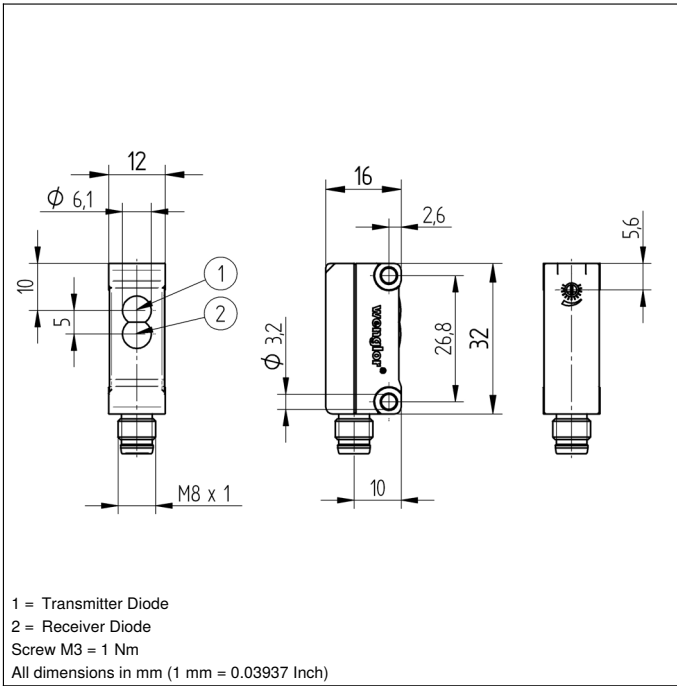
### Complementary Products

PNP-NPN Converter BG7V1P-N-2M

### Ctrl. Panel

**K4**


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



Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ā	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
ȳ	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	±	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(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring
PT	Platinum measuring resistor	ENARs422	Encoder A/Ā (TTL)
			Encoder B/B̄ (TTL)
			Encoder A
			Encoder B
			Digital output MIN
			Digital output MAX
			Digital output OK
			Synchronization In
			Synchronization OUT
			Brightness output
			Maintenance
			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

**Table 1**

Detection Range	100 mm	300 mm	500 mm
Light Spot Diameter	12 mm	30 mm	50 mm

