# Reflex Sensor

## TM55PCT2

Part Number

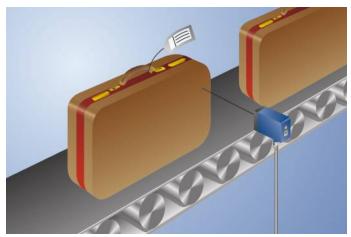


- Compact housing
- Large detection range
- Teach-in, external teach-in

#### **Technical Data**

Range500 mmSwitching Hysteresis< 15 %Light SourceInfrared LightWavelength850 nmService Life (T = +25 °C)100000 hMax. Ambient Light10000 LuxOpening Angle12 °Electrical DataSupply VoltageSupply Voltage1030 V DCCurrent Consumption (Ub = 24 V)< 40 mASwitching Frequency1 kHzResponse Time500 μsOn-/Off-Delay (RS-232)05 sTemperature Drift< 10 %Temperature Bange-2560 °CSwitching Output Voltage Drop< 2,5 VPNP Switching Output Voltage Drop< 2560 °CSwitching Output Voltage Drop< 2,5 VPNP Switching Output Voltage Drop< 2,5 VPNP Switching Output Voltage Drop< 28 UAResidual Current Switching Output< 50 μAShort Circuit ProtectionyesOverload ProtectionyesVerload ProtectionyesTeach ModeNT, MTProtection ClassIIIMechanical DataSetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67Connection Liagram No.Connection Equipment No.2Suitable Connection Equipment No.2Suitable Connection Equipment No.2Suitable Mounting Technology No.360	Optical Data			
Light SourceInfrared LightWavelength $850 \text{ nm}$ Service Life (T = +25 °C)100000 hMax. Ambient Light10000 LuxOpening Angle12 °Electrical Data $1030 \text{ V DC}$ Supply Voltage $1030 \text{ V DC}$ Current Consumption (Ub = 24 V)< 40 mA	Range	500 mm		
Wavelength     850 nm       Service Life (T = +25 °C)     100000 h       Max. Ambient Light     10000 Lux       Opening Angle     12 °       Electrical Data	Switching Hysteresis	< 15 %		
Service Life (T = +25 °C)     10000 h       Max. Ambient Light     10000 Lux       Opening Angle     12 °       Electrical Data	Light Source	Infrared Light		
Max. Ambient Light10000 LuxOpening Angle12 °Electrical Data1030 V DCSupply Voltage1030 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Wavelength	850 nm		
Opening Angle12 °Electrical DataSupply Voltage1030 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Service Life (T = +25 °C)	100000 h		
Electrical DataSupply Voltage1030 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Max. Ambient Light	10000 Lux		
Supply Voltage1030 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Opening Angle	12 °		
Current Consumption (Ub = 24 V)< 40 mASwitching Frequency1 kHzResponse Time500 µsOn-/Off-Delay (RS-232)05 sTemperature Drift< 10 %	Electrical Data			
Switching Frequency1 kHzResponse Time500 µsOn-/Off-Delay (RS-232)05 sTemperature Drift< 10 %	Supply Voltage	1030 V DC		
Response Time500 µsOn-/Off-Delay (RS-232)05 sTemperature Drift< 10 %	Current Consumption (Ub = 24 V)	< 40 mA		
On-/Off-Delay (RS-232)05 sTemperature Drift< 10 %	Switching Frequency	1 kHz		
Temperature Drift< 10 %Temperature Range-2560 °CSwitching Output Voltage Drop< 2,5 V	Response Time	500 μs		
Temperature Range-2560 °CSwitching Output Voltage Drop< 2,5 V	On-/Off-Delay (RS-232)	05 s		
Switching Output Voltage Drop< 2,5 VPNP Switching Output/Switching Current200 mAResidual Current Switching Output< 50 µA	Temperature Drift			
PNP Switching Output/Switching Current200 mAResidual Current Switching Output< 50 μA	Temperature Range			
Residual Current Switching Output< 50 µAShort Circuit ProtectionyesReverse Polarity ProtectionyesOverload ProtectionyesLockableyesTeach ModeNT, MTProtection ClassIIIMechanical DataSetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchableRS-232 with AdapterboxConnection Diagram No.152Control Panel No.Suitable Connection Equipment No.2	Switching Output Voltage Drop	,		
Short Circuit ProtectionyesReverse Polarity ProtectionyesOverload ProtectionyesLockableyesTeach ModeNT, MTProtection ClassIIIMechanical DataIIISetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchableImage: Connection Diagram No.RS-232 with AdapterboxImage: Connection Equipment No.Suitable Connection Equipment No.2	PNP Switching Output/Switching Current			
Reverse Polarity ProtectionyesOverload ProtectionyesLockableyesTeach ModeNT, MTProtection ClassIIIMechanical DataIIISetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchableImage: Connection Diagram No.RS-232 with AdapterboxImage: Connection Equipment No.Suitable Connection Equipment No.2	Residual Current Switching Output	< 50 μA		
Overload ProtectionyesLockableyesTeach ModeNT, MTProtection ClassIIIMechanical DataIIISetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchableImage: Connection Diagram No.RS-232 with AdapterboxImage: Connection Diagram No.Control Panel No.Image: Connection Diagram No.Suitable Connection Equipment No.2	Short Circuit Protection	yes		
LockableyesTeach ModeNT, MTProtection ClassIIIMechanical DataIIISetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchableImage: Connection Diagram No.Connection Diagram No.I52Control Panel No.M3Suitable Connection Equipment No.2		yes		
Teach ModeNT, MTProtection ClassIIIProtection ClassIIIMechanical DataIIISetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchableImage: Connection Diagram No.RS-232 with AdapterboxImage: Connection Diagram No.Connection Diagram No.IS2Control Panel No.Image: Connection Equipment No.Suitable Connection Equipment No.2		yes		
Protection ClassIIIMechanical DataTeach-InSetting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchable●RS-232 with Adapterbox●Connection Diagram No.152Control Panel No.M3Suitable Connection Equipment No.2	Lockable	yes		
Mechanical Data     Setting Method   Teach-In     Housing Material   Plastic     Full Encapsulation   yes     Degree of Protection   IP67     Connection   M12 × 1; 4-pin     PNP NO/NC switchable   ●     RS-232 with Adapterbox   ●     Connection Diagram No.   152     Control Panel No.   M3     Suitable Connection Equipment No.   2		NT, MT		
Setting MethodTeach-InHousing MaterialPlasticFull EncapsulationyesDegree of ProtectionIP67ConnectionM12 × 1; 4-pinPNP NO/NC switchableImage: Connection Diagram No.RS-232 with AdapterboxImage: Connection Diagram No.Connection Diagram No.I52Control Panel No.Image: Connection Equipment No.Suitable Connection Equipment No.2				
Housing Material   Plastic     Full Encapsulation   yes     Degree of Protection   IP67     Connection   M12 × 1; 4-pin     PNP NO/NC switchable   ●     RS-232 with Adapterbox   ●     Connection Diagram No.   152     Control Panel No.   M3     Suitable Connection Equipment No.   2				
Full Encapsulation   yes     Degree of Protection   IP67     Connection   M12 × 1; 4-pin     PNP NO/NC switchable   Image: Connection Diagram No.     Connection Diagram No.   152     Control Panel No.   M3     Suitable Connection Equipment No.   2	-			
Degree of Protection IP67   Connection M12 × 1; 4-pin   PNP NO/NC switchable Image: Connection Diagram No.   RS-232 with Adapterbox Image: Connection Diagram No.   Control Panel No. M33   Suitable Connection Equipment No. 2				
Connection   M12 × 1; 4-pin     PNP NO/NC switchable   Image: Connection Diagram No.     RS-232 with Adapterbox   Image: Connection Diagram No.     Connection Diagram No.   Image: Connection Diagram No.     Control Panel No.   Image: M3     Suitable Connection Equipment No.   2	•			
PNP NO/NC switchable Image: Constant of the system of th	Ū			
RS-232 with AdapterboxConnection Diagram No.152Control Panel No.Suitable Connection Equipment No.2	Connection	M12 × 1; 4-pin		
Connection Diagram No. 152   Control Panel No. M3   Suitable Connection Equipment No. 2	PNP NO/NC switchable			
Control Panel No. M3   Suitable Connection Equipment No. 2	RS-232 with Adapterbox			
Suitable Connection Equipment No.	Connection Diagram No.	152		
	Control Panel No.	M3		
Suitable Mounting Technology No. 360	Suitable Connection Equipment No.	2		
	Suitable Mounting Technology No.	360		

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.

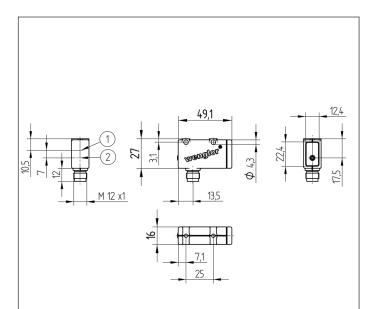


#### **Complementary Products**

Adapterbox A232 PNP-NPN Converter BG2V1P-N-2M Software

### **Photoelectronic Sensors**









06 = Teach Button

30 = Switching Status/Contamination Warning

2 = Transmitter Diode Screw M4 = 1 Nm All dimensions in mm (1 mm = 0.03937 Inch) 152  $\Diamond$ \_\_\_ TEACH

4

2 3

-∎ A/Ā -∎ T

1 = Receiver Diode

Legend						
+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B (TTL)	
-	Supply Voltage 0 V	U	Test Input	ENa	Encoder A	
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENв	Encoder B	
A	Switching Output (NO)	W	Trigger Input	Amin	Digital output MIN	
Ā	Switching Output (NC)	VV-	Ground for the Trigger Input	Amax	Digital output MAX	
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK	
V	Contamination/Error Output (NC)	0-	Ground for the Analog Output	SY In	Synchronization In	
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT	
Т	Teach Input	Amv	Valve Output	Olt	Brightness output	
Z	Time Delay (activation)	а	Valve Control Output +	M	Maintenance	
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved	
RxD	Interface Receive Path	SY	Synchronization	Wire Colo	Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black	
RDY	Ready	E+	Receiver-Line	BN	Brown	
GND	Ground	S+	Emitter-Line	RD	Red	
CL	Clock	<u>+</u>	Grounding	OG	Orange	
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow	
0	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green	
PoE	ower over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue	
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet	
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey	
Signal	Signal Output	Mag	Magnet activation	WH	White	
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink	
EN0 RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow	
PT	Platinum measuring resistor	ENARS422	Encoder A/Ã (TTL)			

