## **Fiber-Optic Cable Sensor**

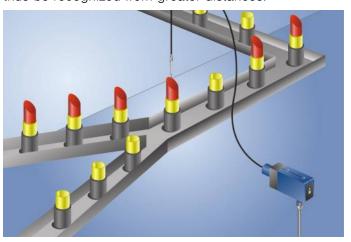
# UM55PCT2

Part Number



- Switching frequency: 1 kHz
- Teach-in, external teach-in

These sensors are equipped for use with glass fiber optic cables but can be used with or without one. The transmitter and receiver are located in a single housing. The sensor evaluates transmitted light reflected back from the object and 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.



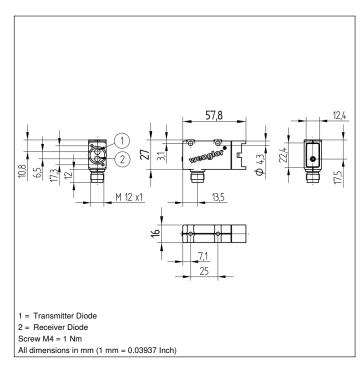
#### **Technical Data**

Range       500 mm         Switching Hysteresis       < 15 %         Light Source       Infrared Light         Wavelength       880 nm         Service Life (T = +25 °C)       100000 h         Max. Ambient Light       10000 Lux         Opening Angle       12 °         Electrical Data       1030 V DC         Current Consumption (Ub = 24 V)       < 40 mA         Switching Frequency       1 kHz         Response Time       500 μs         On-/Off-Delay (RS-232)       05 s         Temperature Drift       < 10 %         Temperature Range       -2560 °C         Switching Output Voltage Drop       < 2,5 V         PNP Switching Output/Switching Current       200 mA         Residual Current Switching Output       < 50 μA         Short Circuit Protection       yes         Reverse Polarity Protection       yes         Overload Protection       yes         Teach Mode       NT, MT         Protection Class       III         Mechanical Data         Setting Method       Teach-In	Optical Data				
Switching Hysteresis         < 15 %		500 mm			
Light Source         Infrared Light           Wavelength         880 nm           Service Life (T = +25 °C)         100000 h           Max. Ambient Light         100000 Lux           Opening Angle         12 °           Electrical Data         1030 V DC           Supply Voltage         1030 V DC           Current Consumption (Ub = 24 V)         < 40 mA	3	< 15 %			
Wavelength       880 nm         Service Life (T = +25 °C)       100000 h         Max. Ambient Light       10000 Lux         Opening Angle       12 °         Electrical Data       1030 V DC         Supply Voltage       1030 V DC         Current Consumption (Ub = 24 V)       < 40 mA					
Max. Ambient Light         10000 Lux           Opening Angle         12 °           Electrical Data         1030 V DC           Current Consumption (Ub = 24 V)         < 40 mA	Wavelength				
Copening Angle         Electrical Data         Supply Voltage         1030 V DC         Current Consumption (Ub = 24 V)         Supply Voltage         Current Consumption (Ub = 24 V)         Con30 V DC         Current Consumption (Ub = 24 V)         Supply Voltage Drop         Con5 s         Temperature Drift         Con5 s         Temperature Range         -2560 °C         Switching Output Voltage Drop         PNP Switching Output/Switching Current         200 mA         Residual Current Switching Output         Short Circuit Protection         Yes         Overload Protection         Yes         Very Rowall Protection Class         IIII         Mechanical Data         Setting Method         Teach-In         Plastic         Feach-In         Plastic         Yes <td col<="" td=""><td>Service Life (T = +25 °C)</td><td colspan="3">100000 h</td></td>	<td>Service Life (T = +25 °C)</td> <td colspan="3">100000 h</td>	Service Life (T = +25 °C)	100000 h		
Electrical Data         Supply Voltage       1030 V DC         Current Consumption (Ub = 24 V)       < 40 mA	Max. Ambient Light	10000 Lux			
Supply Voltage  Current Consumption (Ub = 24 V)  Current Consumption (Ub = 24 V)  Switching Frequency  1 kHz  Response Time  500 µs  On-/Off-Delay (RS-232)  05 s  Temperature Drift  7 temperature Range  -2560 °C  Switching Output Voltage Drop  PNP Switching Output/Switching Current  Residual Current Switching Output  Short Circuit Protection  Yes  Reverse Polarity Protection  Overload Protection  Yes  Teach Mode  NT, MT  Protection Class  III  Mechanical Data  Setting Method  Housing Material  Full Encapsulation  Degree of Protection  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.  1 thz  1 kHz  4 0 mA  1 kHz  4 0 mA  1 kHz  4 0 mA  1 thz  4 0 mA  5 0 µs  6 0 °C  Confol Panel No.  1 to put  1 thz  1 thx  1 thz  1 thx  1 thx  1 thz  1 thx  1	Opening Angle	12 °			
Current Consumption (Ub = 24 V)  Current Consumption (Ub = 24 V)  Switching Frequency  Response Time  500 µs  On-/Off-Delay (RS-232)  Temperature Drift  Current Cange  -2560 °C  Switching Output Voltage Drop  PNP Switching Output/Switching Current  Residual Current Switching Output  Short Circuit Protection  Reverse Polarity Protection  yes  Overload Protection  Teach Mode  NT, MT  Protection Class  III  Mechanical Data  Setting Method  Housing Material  Full Encapsulation  Degree of Protection  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.  1 kHz  40 mA  1 kHz  500 µs  105 s  10	Electrical Data				
Switching Frequency Response Time  On-/Off-Delay (RS-232)  O5 s  Temperature Drift  Temperature Range -2560 °C Switching Output Voltage Drop  PNP Switching Output/Switching Current Residual Current Switching Output Short Circuit Protection  Reverse Polarity Protection  Overload Protection  Yes  Teach Mode NT, MT  Protection Class III  Mechanical Data  Setting Method Housing Material Full Encapsulation Degree of Protection  PNP NO/NC switchable RS-232 with Adapterbox  Connection Equipment No.  Suitable Connection Equipment No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.	Supply Voltage	1030 V DC			
Response Time 500 µs On-/Off-Delay (RS-232) 05 s Temperature Drift < 10 % Temperature Range -2560 °C Switching Output Voltage Drop < 2,5 V PNP Switching Output/Switching Current 200 mA Residual Current Switching Output < 50 µA Short Circuit Protection yes Reverse Polarity Protection yes Overload Protection yes Teach Mode NT, MT Protection Class III  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 Suitable Mounting Technology No. 360	Current Consumption (Ub = 24 V)	< 40 mA			
On-/Off-Delay (RS-232)	Switching Frequency	1 kHz			
Temperature Drift <a href="temperature">&lt; 10 %</a> Temperature Range <a href="temperature">-2560 °C</a> Switching Output Voltage Drop <a href="temperature">&lt; 2560 °C</a> Switching Output Voltage Drop <a href="temperature">&lt; 2560 °C</a> Switching Output Voltage Drop <a href="temperature">&lt; 200 mA</a> Residual Current Switching Output <a href="temperature">&lt; 50 µA</a> Short Circuit Protection <a href="temperature">yes</a> Reverse Polarity Protection <a href="temperature">yes</a> Overload Protection <a href="temperature">yes</a> Teach Mode <a href="temperature">NT, MT</a> Protection Class <a href="temperature">III</a> Mechanical Data  Setting Method <a href="temperature">Teach-In</a> Housing Material <a href="temperature">Plastic</a> Full Encapsulation <a href="yes">yes</a> Degree of Protection <a href="temperature">IP67</a> Connection <a href="temperature">M12 × 1; 4-pin</a> PNP NO/NC switchable <a href="temperature">RS-232 with Adapterbox</a> Connection Diagram No. <a href="temperature">152</a> Control Panel No. <a href="temperature">M3</a> Suitable Connection Equipment No. <a href="temperature">2</a> Suitable Mounting Technology No. <a href="temperature">360</a>	Response Time	500 μs			
Temperature Range -2560 °C Switching Output Voltage Drop <2,5 V PNP Switching Output/Switching Current 200 mA Residual Current Switching Output <50 µA Short Circuit Protection yes Reverse Polarity Protection yes Overload Protection yes Teach Mode NT, MT Protection Class III  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 Suitable Mounting Technology No. 360	On-/Off-Delay (RS-232)	05 s			
Switching Output Voltage Drop < 2,5 V PNP Switching Output/Switching Current 200 mA Residual Current Switching Output < 50 µA Short Circuit Protection yes Reverse Polarity Protection yes Overload Protection yes Teach Mode NT, MT Protection Class III  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. Control Panel No. Suitable Connection Equipment No. Suitable Mounting Technology No.	Temperature Drift	< 10 %			
PNP Switching Output/Switching Current  Residual Current Switching Output  Short Circuit Protection  Reverse Polarity Protection  Overload Protection  Yes  Teach Mode  NT, MT  Protection Class  III  Mechanical Data  Setting Method  Teach-In  Housing Material  Plastic  Full Encapsulation  Degree of Protection  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Equipment No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.	Temperature Range	-2560 °C			
Residual Current Switching Output  Short Circuit Protection  Reverse Polarity Protection  Overload Protection  Teach Mode  NT, MT  Protection Class  III  Mechanical Data  Setting Method  Housing Material  Full Encapsulation  Degree of Protection  Connection  N12 × 1; 4-pin  PNP NO/NC switchable  RS-232 with Adapterbox  Control Panel No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.	Switching Output Voltage Drop	< 2,5 V			
Short Circuit Protection  Reverse Polarity Protection  Overload Protection  Teach Mode  Protection Class  III  Mechanical Data  Setting Method  Housing Material  Full Encapsulation  Degree of Protection  Connection  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Equipment No.  Suitable Connection Equipment No.  Suitable Mevers Adapter Set	PNP Switching Output/Switching Current	200 mA			
Reverse Polarity Protection  Overload Protection  Teach Mode  Protection Class  III  Mechanical Data  Setting Method  Housing Material  Full Encapsulation  Degree of Protection  Connection  PNP NO/NC switchable  RS-232 with Adapterbox  Control Panel No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.	Residual Current Switching Output	< 50 μA			
Overload Protection         yes           Teach Mode         NT, MT           Protection Class         III           Mechanical Data         Setting Method           Setting Method         Teach-In           Housing Material         Plastic           Full Encapsulation         yes           Degree of Protection         IP67           Connection         M12 × 1; 4-pin           PNP NO/NC switchable         Image: No of the protection of	Short Circuit Protection	yes			
Teach Mode Protection Class III  Mechanical Data  Setting Method Housing Material Full Encapsulation Degree of Protection Connection PNP NO/NC switchable RS-232 with Adapterbox Connection Diagram No. Control Panel No. Suitable Connection Equipment No. Suitable Mounting Technology No.	Reverse Polarity Protection	yes			
Protection Class  Mechanical Data  Setting Method Housing Material Full Encapsulation Degree of Protection Connection PNP NO/NC switchable RS-232 with Adapterbox Connection Diagram No. Control Panel No. Suitable Connection Equipment No. Suitable Mounting Technology No.	Overload Protection	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. I52  Control Panel No. M3  Suitable Connection Equipment No. 2  Suitable Mounting Technology No. 360	Teach Mode	NT, MT			
Setting Method  Housing Material  Full Encapsulation  Degree of Protection  Connection  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.	Protection Class	III			
Housing Material         Plastic           Full Encapsulation         yes           Degree of Protection         IP67           Connection         M12 × 1; 4-pin           PNP NO/NC switchable         IP8-232 with Adapterbox           Connection Diagram No.         IS2           Control Panel No.         M3           Suitable Connection Equipment No.         2           Suitable Mounting Technology No.         360	Mechanical Data				
Full Encapsulation yes  Degree of Protection IP67  Connection M12 × 1; 4-pin  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  2  Suitable Mounting Technology No.  360	Setting Method	Teach-In			
Degree of Protection  Connection  M12 × 1; 4-pin  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.	Housing Material	Plastic			
Connection M12 × 1; 4-pin  PNP NO/NC switchable  RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  2  Suitable Mounting Technology No.  360	Full Encapsulation	yes			
PNP NO/NC switchable RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  2  Suitable Mounting Technology No.  360	Degree of Protection	IP67			
RS-232 with Adapterbox  Connection Diagram No.  Control Panel No.  Suitable Connection Equipment No.  Suitable Mounting Technology No.  360	Connection	M12 × 1; 4-pin			
Connection Diagram No. 152  Control Panel No. M3  Suitable Connection Equipment No. 2  Suitable Mounting Technology No. 360	PNP NO/NC switchable	•			
Control Panel No.  Suitable Connection Equipment No.  2  Suitable Mounting Technology No.  360	RS-232 with Adapterbox				
Suitable Connection Equipment No. 2 Suitable Mounting Technology No. 360	Connection Diagram No.	152			
Suitable Mounting Technology No. 360	Control Panel No.	M3			
5 67	Suitable Connection Equipment No.	2			
Suitable Fiber-Optic Cable Adapter No.	Suitable Mounting Technology No.	360			
	Suitable Fiber-Optic Cable Adapter No.	02			

## **Complementary Products**

Adapterbox A232
Glass Fiber-Optic Cable
PNP-NPN Converter BG2V1P-N-2M
Software



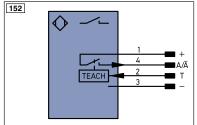


### Ctrl. Panel



06 = Teach Button

30 = Switching Status/Contamination Warning



Leger	nd		PT	Platinum measuring resistor	ENAR542	₂ Encoder A/Ā (TTL)
+	Supply Voltage +		nc	not connected	ENB <sub>RS42</sub>	Encoder B/B (TTL)
-	Supply Voltage 0 V		U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)		Ū	Test Input inverted	ENB	Encoder B
Α	Switching Output	(NO)	W	Trigger Input	Amin	Digital output MIN
Ā	Switching Output	(NC)	W-	Ground for the Trigger Input	Амах	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		Awv	Valve Output	OLT	Brightness output
Z	Time Delay (activation)		а	Valve Control Output +	М	Maintenance
S	Shielding		b	Valve Control Output 0 V	rsv	reserved
RxD	Interface Receive Path		SY	Synchronization	Wire C	olors according to DIN IEC 757
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		±	Grounding	OG	Orange
E/A	Output/Input programmable		SnR	Switching Distance Reduction	YE	Yellow
<b>②</b>	IO-Link		Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power 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
	Encoder 0-pulse 0-0 (TTL)	, ,	EDM	Contactor Monitoring	GNYE	Green/Yellow







