

Color Sensor

OFP401P0189

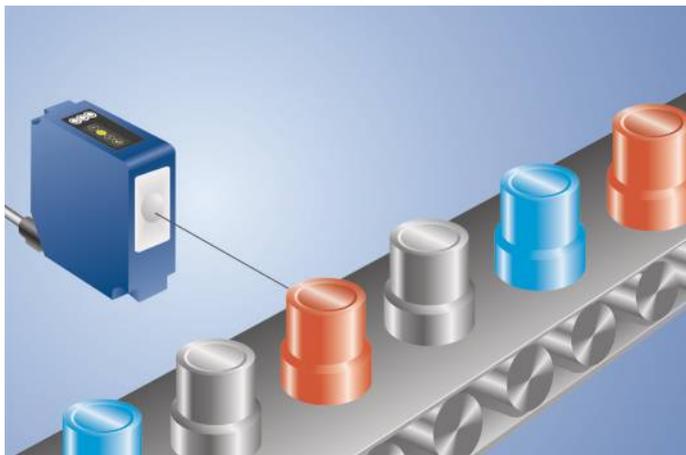
Part Number

True Color Sensor



- Extremely fine color nuances can be recognized
- Reflex mode operation
- Teach-in, external teach-in

This color sensor is capable of evaluating up to three colors simultaneously. A small spot and a large working range are made possible thanks to single-lens optics. All sensor settings can be selected by means of teach-in, as well as via the RS-232 interface. Values generated by the sensor can be read out via the interface or digital switching outputs. The sensor has 3 switching outputs and supplies RGB, XYZ and HSL color values via the interface.



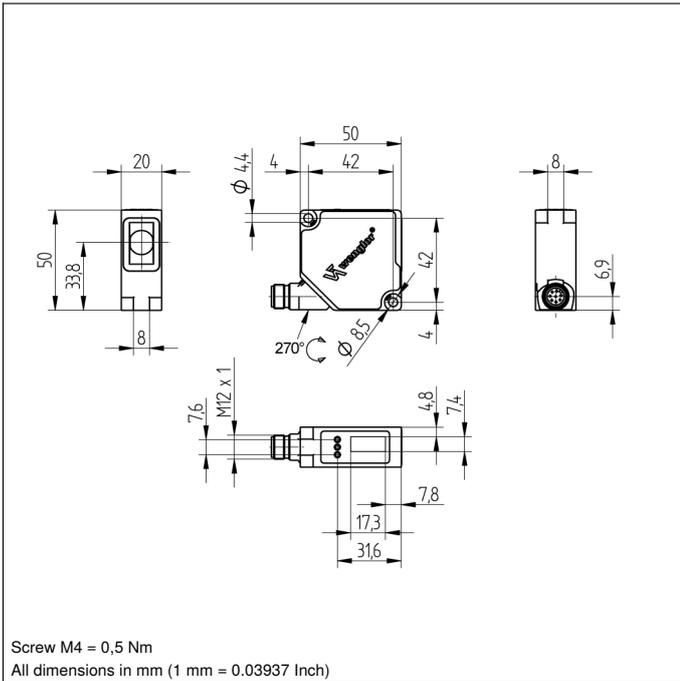
Technical Data

Optical Data	
Working Range	30...40 mm
Working Distance	35 mm
Light Source	White Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	3 mm
Electrical Data	
Supply Voltage	10...30 V
Current Consumption (U _b = 24 V)	< 80 mA
Switching Frequency	1,8 kHz
Response Time	~(1000 / 1,8)µs × filter
Temperature Range	-25...60 °C
Number of Switching Outputs	3
Switching Output Voltage Drop	1,5 V
PNP Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Teach Mode	FT
Interface	RS-232
Number of Digital Inputs	2
Protection Class	III
Mechanical Data	
Setting Method	Menu (OLED)
Housing Material	Plastic
Degree of Protection	IP68
Connection	M12 × 1; 8-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	425,77 a
Switchable to NC/NO	●
Configurable as PNP/NPN/Push-Pull	●
RS-232 Interface	●
Error Output	●
Contamination Output	●
Connection Diagram No.	193
Control Panel No.	X2
Suitable Connection Equipment No.	89
Suitable Mounting Technology No.	380

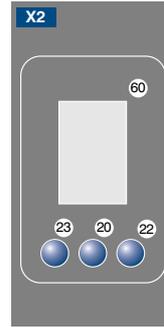
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

Complementary Products

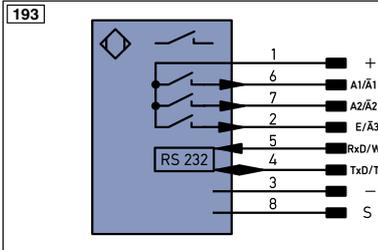
Fieldbus Gateway ZAGxxxN01, EPGG001
Interface Cable S232W3
Protective Housing ZSV-0x-01
Set Protective Housing ZSP-NN-02
Software



Ctrl. Panel



20 = Enter Button
 22 = UP Button
 23 = Down Button
 60 = Display



Legend

+	Supply Voltage +	PT	Platinum measuring resistor	EN ^A EN5422	Encoder A/Ā (TTL)
-	Supply Voltage 0 V	nc	not connected	EN ^B EN5422	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN ^A	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	EN ^B	Encoder B
Ā	Switching Output (NC)	W	Trigger Input	A ^{MIN}	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	A ^{MAX}	Digital output MAX
Ṽ	Contamination/Error Output (NC)	O	Analog Output	A ^{OK}	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY ⁱⁿ	Synchronization In
T	Teach Input	BZ	Block Discharge	SY ^{OUT}	Synchronization OUT
Z	Time Delay (activation)	A ^{WV}	Valve Output	O ^{LT}	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to DIN IEC 757	
RDY	Ready	SY-	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	±	Grounding	OG	Orange
	IO-Link	S ^{nR}	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/-	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
Signal	Signal Output	L ^a	Emitted Light disengageable	GY	Grey
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
EN ⁰ EN5422	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contacting Monitoring	GNYE	Green/Yellow

