Color Sensor

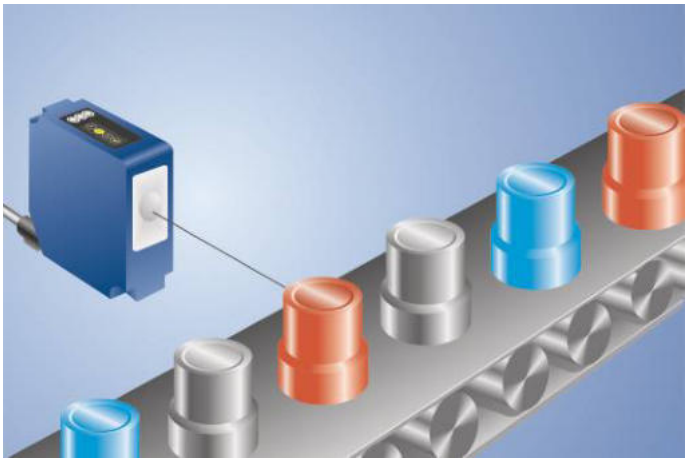
OFP401P0189

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 (Ub = 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

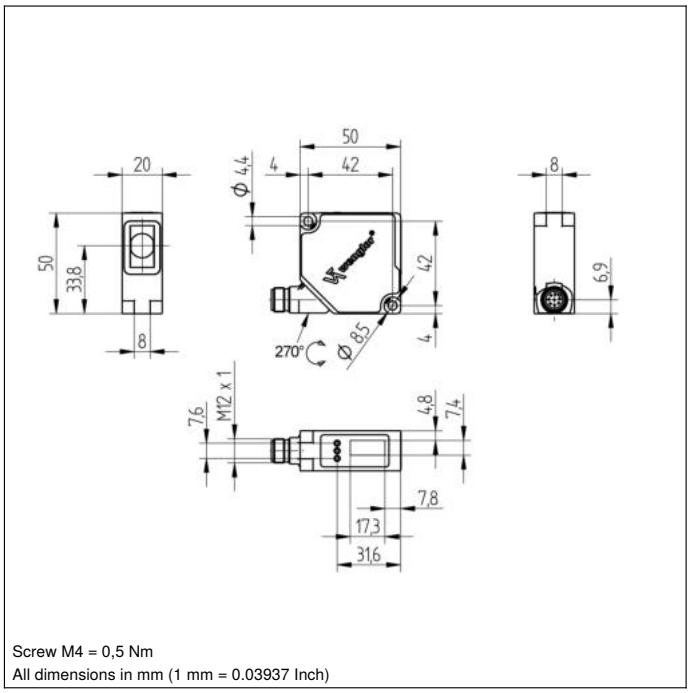
Switchable to NC/NO	●
Configurable as PNP/NPN/Push-Pull	●
RS-232 Interface	●
Error Output	●
Contamination Output	●

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.

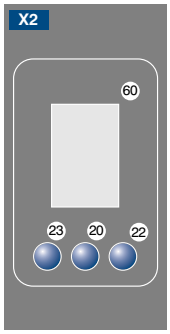
Complementary Products

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

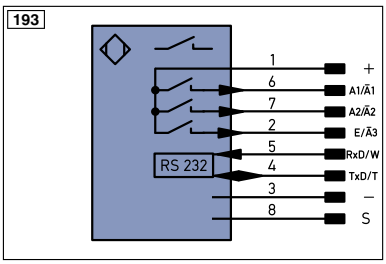


Screw M4 = 0,5 Nm
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



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



Legend

+	Supply Voltage +
–	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
Ā	Switching Output (NC)
V	Contamination/Error Output (NO)
V̄	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)
EN0 RS422	Encoder 0-pulse 0-0̄ (TTL)
PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
W–	Ground for the Trigger Input
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AW	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY–	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
⏚	Grounding
SnR	Switching Distance Reduction
Rx+/–	Ethernet Receive Path
Tx+/–	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(–)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring
ENA RS422	Encoder A/Ā (TTL)
ENB RS422	Encoder B/B̄ (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

Specifications are subject to change without notice