

## OF340140

### Optical sensors • Color sensors

sensor optical, color, M34x1.5 130long, White light, True color, Sn: 15-80, 22-26V DC, 5x PNP/NPN Push-pull, Connector M9 8pin, IP64, Aluminum Anodised+Glass,  $\Delta E \geq 0.5$ , 60kHz, 31 colors

including 2x Nut



The functioning of the color sensors is based on the evaluation of the red, green and blue components of the light reflected by the objects to be measured, or from the emitted radiation of the 'self-luminous' object (for example, LEDs, automobile tail lights, halogen lamps, fluorescent lamps, etc.). For this purpose, a so-called 3-fold receiver is integrated in the unit next to an on / off switchable white light or UV-light. This receiver works according to the True Color principle. This means that the evaluation of the light hitting the receiver is similar to the color perception of the human eye. This is a prerequisite for the reliable differentiation of objects or luminous objects by their color and brightness. For testing fluorescent materials the use of sensors with UV-light source is recommended. The use under adverse environmental conditions is possible through the use of additional fiber optics. The interaction between a precise detection and a high switching frequency distinguishes the devices. Thus, they are an ideal tool for process and quality control.

**Electrical features**

Number of digital inputs	1
Number of switching outputs	5
Display	LED display
Type of switching function	Schließer (NO bei PNP) Öffner (NC bei NPN) - Einstellbar
Type of electrical connection	Connector M9
Type of switching output	Push-pull
Rated switching current	100mA
Setting procedure	Parameterization   Teach-In
Pulse stretching	100ms
No-load current	220mA
Max. number of measurements for averaging	32768
Measurement frequency in flash mode	5000Hz
Measurement frequency in constant light operation	35000Hz
Measurement frequency in alternating light operation	20000Hz
Number of pins	8
Switching frequency	60000Hz
Protection class	III
Temperature drift	$\Delta X/\Delta T$ ; $\Delta Y/\Delta T$ typ. 0.2 digits/°C (< 0.01% / °C)
Reverse polarity protection	Yes
Type of plug-in contact, communication interface	Female (socket)
Type of plug-in connection, communication interface	Connector M5
Number of pins of interface connection	4
Selectable amplifier stages	8
Overload protection	Yes
Supported communication interface	RS232
Operating voltage (DC)	21,6 - 26,4V
Measuring range	15 - 80mm
Time function	Yes
Input function	Teach-in   Trigger
Measurement frequency	5000 - 35000Hz

**Mechanical features**

Design	Cylinder, screw-thread
Diameter	34mm
Thread pitch	1.5mm
Storage temperature	-20 - 85°C
Length	130mm
Surface	teflon coated
Degree of protection (IP)	IP64
Degree of protection (IP) of evaluation electronics	IP64
Degree of protection (IP), front side	IP67
Active area material of sensor	glass
Housing material	Aluminum
For glossy/reflecting surfaces	Yes
Thread dimension	M34
Number of colors	31
Ambient temperature	-20 - 55°C

**Optical features**

Color distance	$\Delta E \geq 0.5$
Color spaces	X Y INT siM (Lab)
Light source	White light
Max. ambient light	5000lx
Measuring method for color detection	Active tristimulus method
Nominal operating distance	30mm
Constant light operation	Yes
True color	Yes
Alternating light operation	Yes
Number of colors	31
focus	30mm
Light spot diameter at focal point	12mm

**Other features**

Reference distance	30
Important note	The value of the measurement frequency refers to the maximum of the slowest and the fastest operational mode.
Ambient temperature	-20 - 55°C

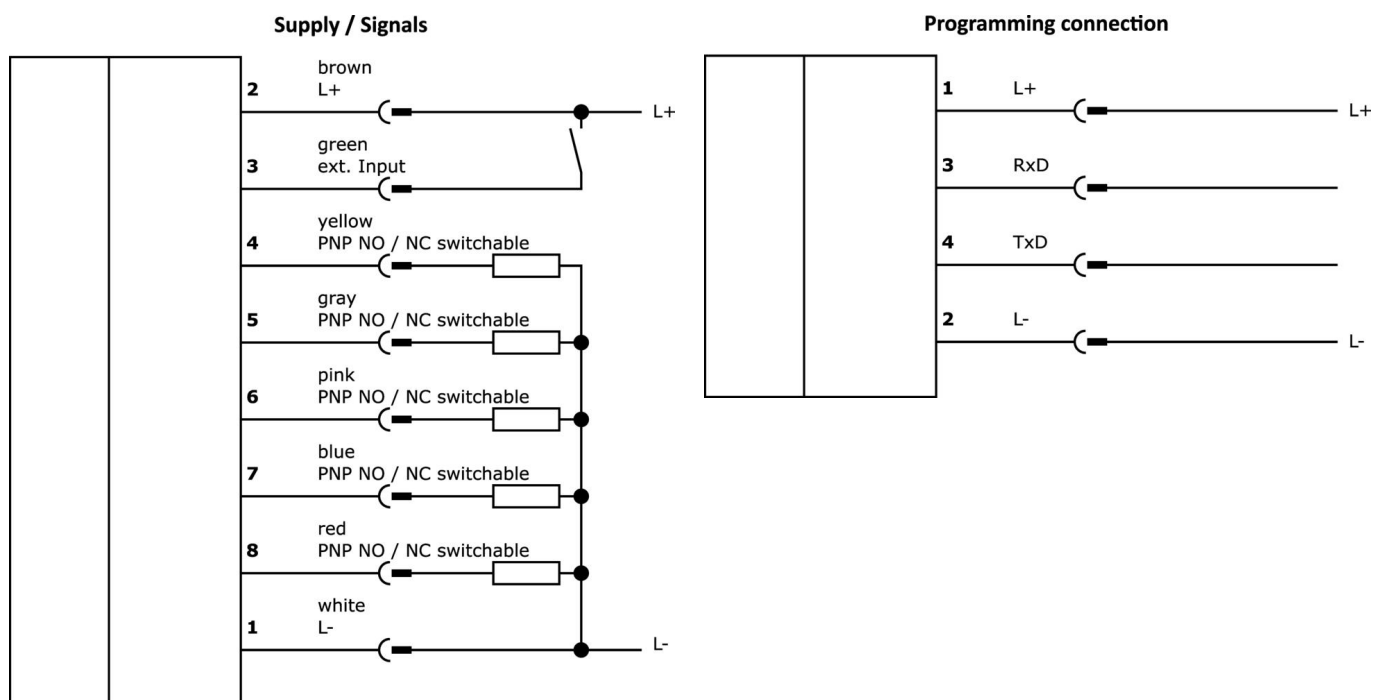
**Classification**

ETIM 8	EC001817 Color probe
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## More

IPF Product Group	104 color sensors
packaging dimensions	160 x 99 x 60 mm
gross weight	190 g
Customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

## Connection



## Installation



Mounting / installation may only be carried out by a qualified electrician!

## Disposal



## Safety warnings

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information.

Never use these devices in applications where the safety of a person depends on their functionality.

For suitable connection and mounting accessories, please refer to our website [www.ipf-electronic.com](http://www.ipf-electronic.com).

Any software, drivers or IODD files that may be required to operate your device can be downloaded free of charge from our homepage: [www.ipf-electronic.com](http://www.ipf-electronic.com)

Dimensional drawing

