

OF659195

Optical sensors • Color sensors

sensor optical, color, 82x65x65mm, White light, True color, Sn: 50-500, 22-26V DC, 5x PNP/NPN Push-pull, Connector M9 8pin, IP64, Aluminum Anodised+Glass, $\Delta E \geq 0.5$, 40kHz, 31 colors



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	160mA
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	40000Hz
Protection class	III
Temperature drift	$\Delta X/\Delta T; \Delta Y/\Delta T$ typ. 0.2 digits/ $^{\circ}\text{C}$ ($< 0.01\% / ^{\circ}\text{C}$)
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	50 - 500mm
Time function	Yes
Input function	Teach-in Trigger
Measurement frequency	5000 - 35000Hz

Mechanical features

Design	Cuboid
Width	65mm
Height	82mm
Storage temperature	-20 - 85 $^{\circ}\text{C}$
Length	65mm
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
Number of colors	31
Ambient temperature	-20 - 55 $^{\circ}\text{C}$

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	200mm
Constant light operation	Yes
True color	Yes
Alternating light operation	Yes
Number of colors	31
focus	200mm
Light spot diameter at focal point	25mm

Other features

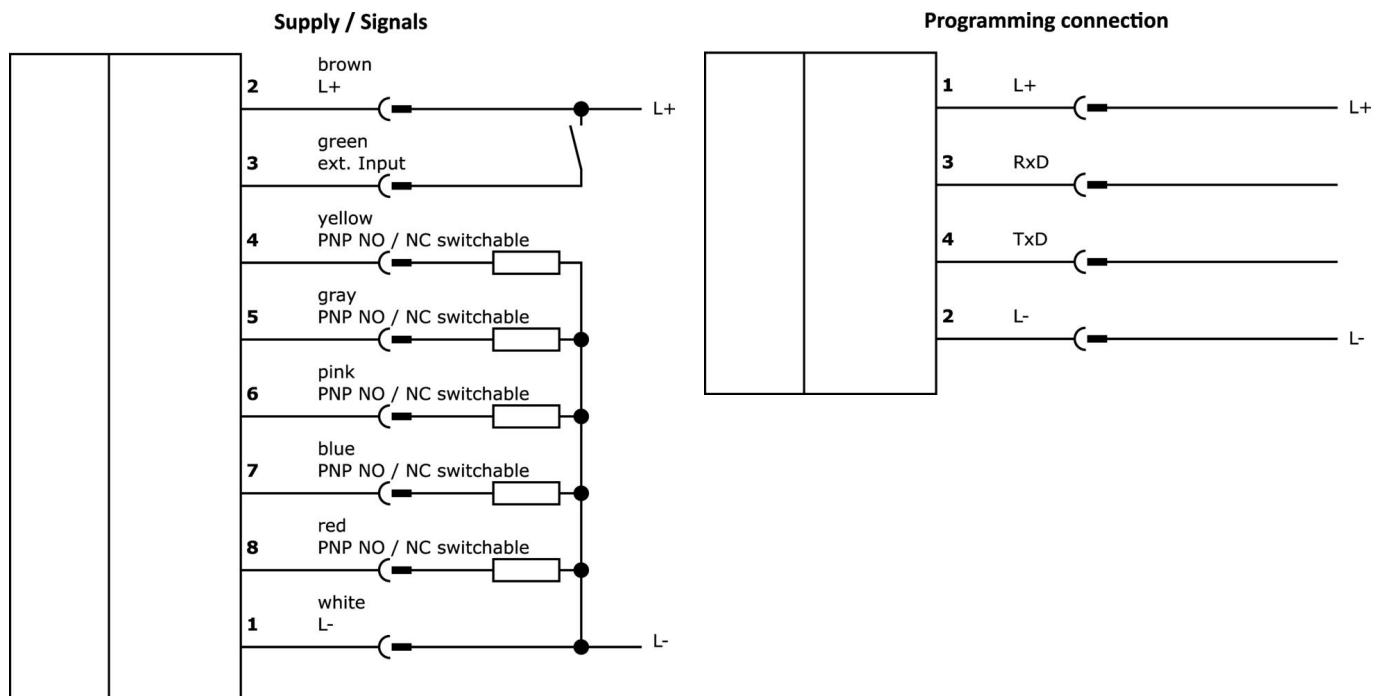
Reference distance	200
Important note	The value of the measurement frequency refers to the maximum of the slowest and the fastest operational mode.
Ambient temperature	-20 - 55°C

Classification

ETIM 8	EC001817 Color probe
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More

IPF Product Group	104 color sensors
packaging dimensions	210 x 138 x 95 mm
gross weight	452 g
Customs tariff number	85365019
WEEE number	40951076
POP-compliant	Yes
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.

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