OF650080

Optical sensors ● Color sensors

sensor optical, color, 36x65x65mm, White light, True color, Sn: 1-500, 22-26V DC, 2x PNP/NPN Push-pull, Connector M9 8pin, IP64, Aluminum Anodised, With fiber optics connection, ΔE >= 0.5, 60kHz, 3 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

Analog bandwidth	Max. 90kHz (-3dB)
Number of switching outputs	2
Display	LED display
Type of switching function	Normally closed (n.o. for PNP) Normally closed (n.c. for NPN) - Adjustable
Type of electrical connection	Connector M9
Type of switching output	Push-pull
Rated switching current	100 mA
Setting procedure	Parameterization | Teach-In
Pulse stretching	100 ms
No-load current	320 mA
Max. number of measurements for averaging	32768
Measurement frequency in flash mode	5000 Hz
Measurement frequency in constant light operation	35000 Hz
Measurement frequency in alternating light operation	20000 Hz
Number of pins	8
Switching frequency	60000 Hz
Protection class	III
Temperature drift	ΔX/ΔT; ΔY/ΔT 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 - 26,4 V
Measuring range	1 - 500 mm
Time function	Yes
Input function	Teach-in | Trigger
Measurement frequency	5000 - 35000 Hz

Mechanical features

Design	Cuboid
Width	65 mm
Height	36 mm
Storage temperature	-20 - 85 °C
Length	65 mm
Surface	teflon coated
Degree of protection (IP)	IP64
Housing material	Aluminum
With fiber optics connection	Yes
Number of colors	3
Ambient temperature	-20 - 55 °C

Optical features

Color distance	ΔE >= 0.5
Color spaces	X Y INT siM (Lab)
Light source	White light
Max. ambient light	5000 lx
Measuring method for color detection	Active tristimulus method
Transmitted light applications	Yes
Constant light operation	Yes
True color	Yes
Alternating light operation	Yes
Number of colors	3

Other features

ardTE00_Anwendungen	Durchlichtanwendungen

Classification

ETIM 8	EC001817 Color probe

More

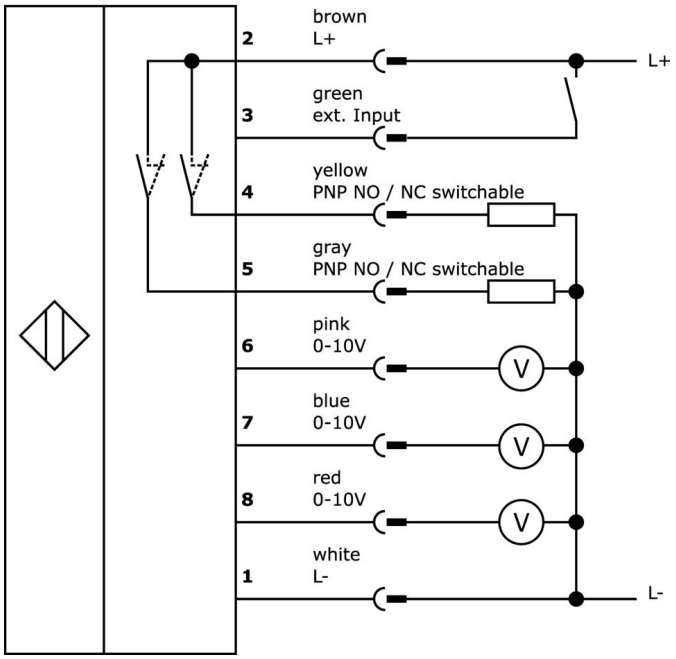
IPF Product Group	104 color sensors
packaging dimensions	160 x 99 x 60 mm
gross weight	183 g
Customs tariff number	85365019
WEEE number	40951076
POP-compliant	Yes
Reach-compliant	Yes
RoHS-compliant	Yes

Important notes

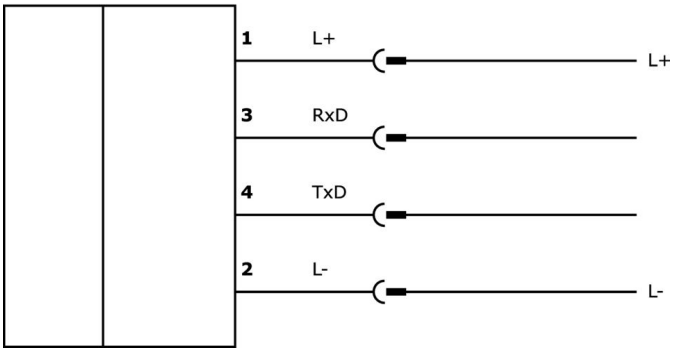
/ The value of the measurement frequency refers to the maximum of the slowest and the fastest operational mode.

Connection

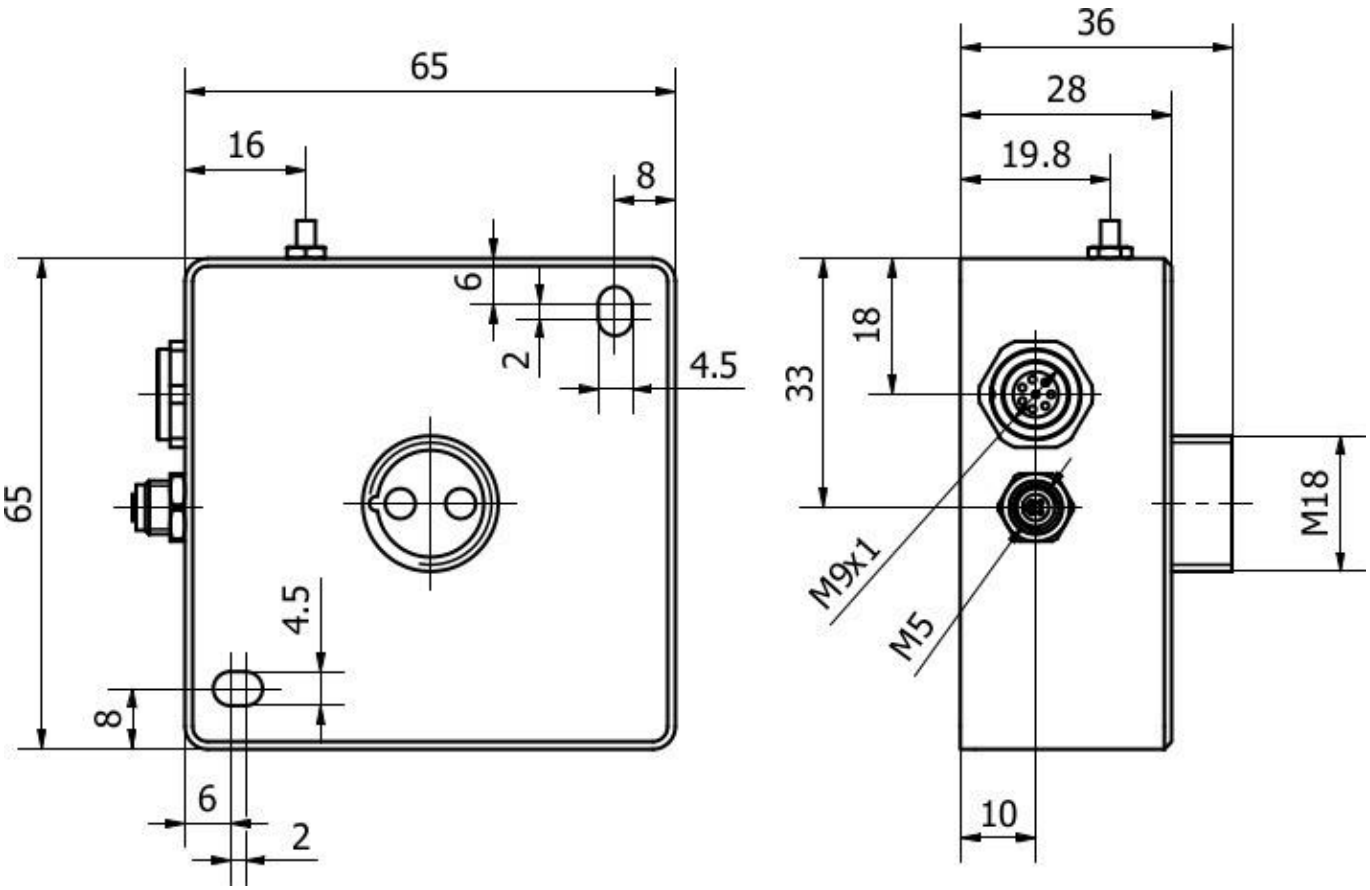
Supply / Signals



Programming connection



Dimensional drawing



Extract accessories program

AY98A877

accessories sensor, Teflon cap, M18 10long, Polytetrafluorethylene (PTFE)

AY98C898

accessories sensor, Teflon cap, M18x1 15long, Polytetrafluorethylene (PTFE)

LT060181

Glass fiber optics diffuse reflection sensor, 0.6m, head: stainless steel 21long Ø2.5 Ø6.6, axial light exit, conductor: glass fiber + silicone, end piece: M18x1 plastic, -40-180°C

LT060291

fiber optic diffuse-reflection sensor, 0.6m, head: Aluminum 30long Ø7 line, Light exit Axial, conductor: Glassfiber+Silicone, end piece: M18x1 Plastic, -40-180°C

VK207F44

Connection cable RS232/Sub-D, 2m, M5 Male (connector) Straight, D-Sub Male (connector) 9pin Straight, PUR (Polyurethane)

VK207U40

Connection cable RS232/USB, 2m, M5 Male (connector) Angular, USB-A Male (connector) Straight, PUR (Polyurethane)

VK207U44

Connection cable RS232/USB, 2m, M5 Male (connector) Straight, USB-A Male (connector) Straight, PUR (Polyurethane)

VK207B41

Connection cable, 2m, M9 connector 8-pin angular, free cable end, 8x0.14mm², PUR (polyurethane), 125V, IP67, shielded, oils and cooling lubricants, welding area

VK207B45

Connection cable, 2m, M9 Male (connector) 8pin Straight, Free conductor end, 8x0.14mm², PUR (Polyurethane), 125V, IP67, Shielded, Oil and cooling lubricants, Welding area

You can find further accessories on our homepage

Installation

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

Disposal

WEEE number according to § 6 para. 3 ElektroG: 40951076

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.

/ 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