

OF349142

Optical sensors • Color sensors

Sensor optical, color, M34x1.5 130long, white light, true colour, Sn: 10-150, 22-26V DC, 5x PNP/NPN push-pull, plug connector M9 8-pin, IP64, aluminum anodized/ anodized+glass, $\Delta E \geq 0.5$, 60kHz, 31 colors

including Nut



The function of the color sensors is based on the evaluation of the red, green and blue components of the light reflected back from measured objects or the radiation emitted by "self-luminaires" (e.g. LEDs, rear lights of cars, halogen lamps, fluorescent lamps, etc.). For this purpose, a so-called triple receiver is integrated into the device along with a white light or UV illumination that can be switched on/off. This receiver works according to the true color principle. This means that the evaluation of the light impinging on the receiver is based on the color perception of the human eye. This is the prerequisite for the reliable differentiation of objects or self-illuminators according to their color and brightness. The testing of fluorescent materials requires the use of sensors with a UV light source. Use under adverse environmental conditions is possible through the use of an additional fiber optic cable. The interaction between precise detection and a high switching frequency characterizes the devices. This makes them an ideal tool for process control and quality assurance.

Electrical features

Number of digital inputs	1
Number of switching outputs	5
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	220 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	$\Delta X/\Delta T$; $\Delta Y/\Delta T$ typ. 0.2 digits/°C (< 0.01% / °C)
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
Supported communication interface	RS232
Operating voltage (DC)	21,6 - 26,4 V
Measuring range	10 - 150 mm
Input function	Teach-in Trigger
Measurement frequency	5000 - 35000 Hz
ardTEEL_Schutzfunktionen	Overload protection Reverse polarity protection

Mechanical features

Design	Cylinder, screw-thread
Diameter	34 mm
Thread pitch	1.5 mm
Storage temperature	-20 - 85 °C
Length	130 mm
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
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	5000 lx
Measuring method for color detection	Active tristimulus method
Nominal operating distance	50 mm
Number of colors	31
focus	50 mm
Light spot diameter at focal point	12 mm

Other features

Range of functions	Gleichlichtbetrieb True Color Wechsellichtbetrieb Zeitfunktion
Reference distance	50

Classification

ETIM 8

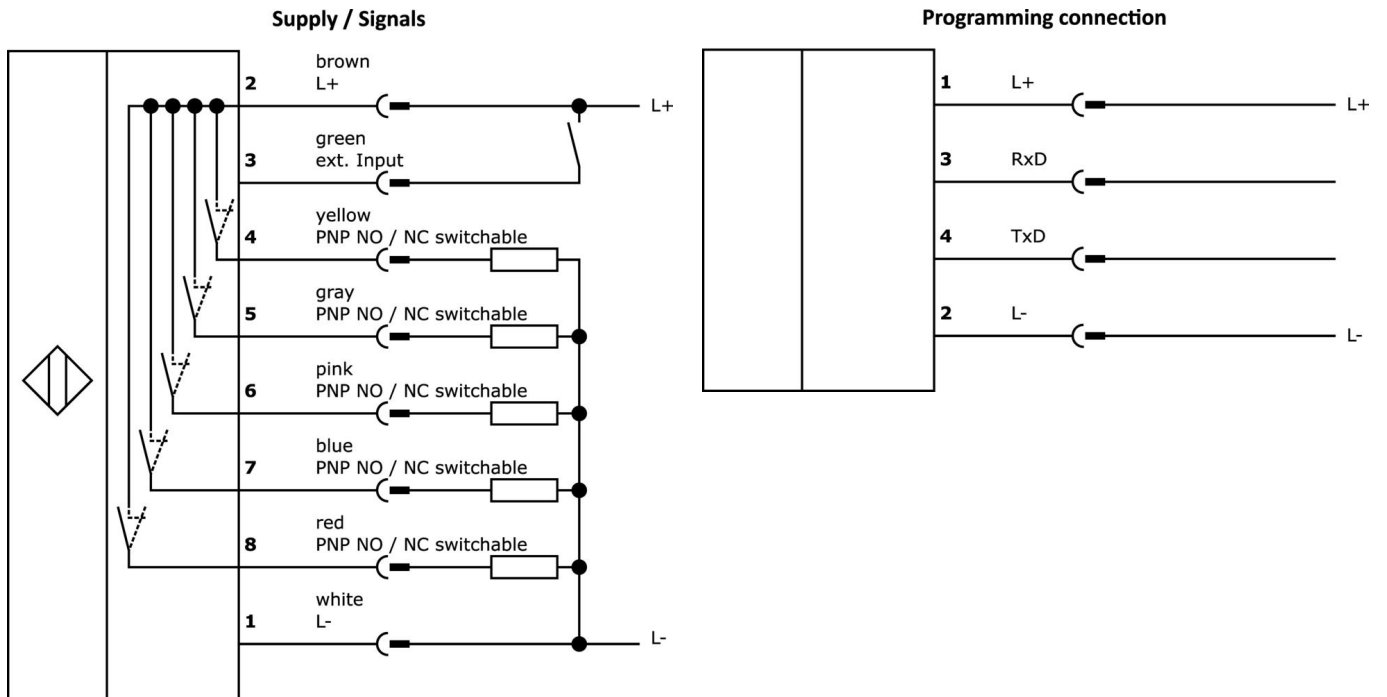
More

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

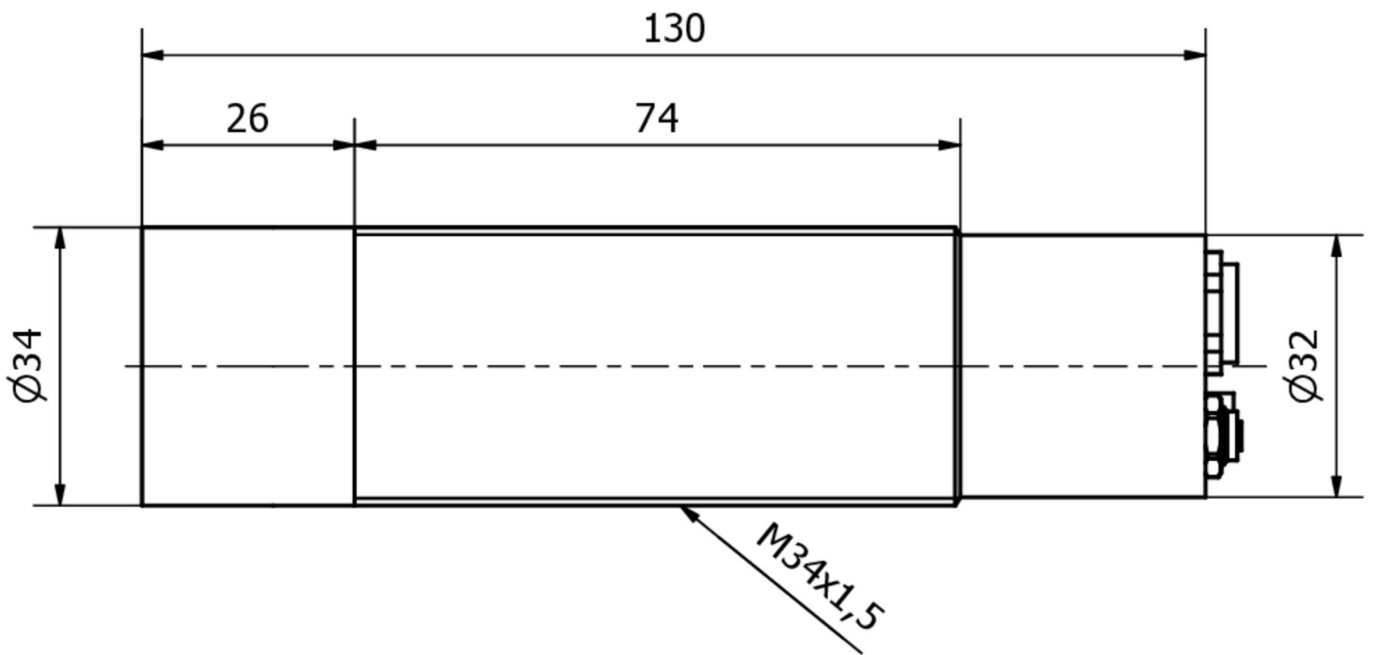
Important notes

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

Connection



Dimensional drawing



Extract accessories program

VKSI0297



Connection cable RS232/Ethernet, 0.5m, M5 connector 4-pin straight, M12 connector 4-pin straight, D-coding, PUR (polyurethane), aluminum

VK000053



Screw plug, M5, Plastic, Black

VK207F44



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

VK207U40



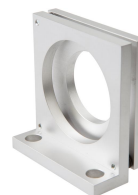
Connection cable RS232/USB, 2m, M5 Male (connector) Angular, USB-A Male (connector) Straight, PUR (Polyurethane)

VK207U44



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

AO000164



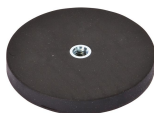
accessories optical, Mounting angle bracket, Angle, Aluminum

AY000151



accessories sensor, Ø34mm, Plastic, For sensor 34mm, for Wall mounting, Screw mounting

AY000129



Accessories, magnetic, Ø66mm, neodymium-iron-boron, inside thread M6, rubber

AY000144



accessories sensor, Adapter plate, 3x30x85mm, Stainless steel 1.4305

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