



Color sensors CSM1

CSM1-N11114



Model Name > CSM1-N1114
Part No. > 1018514



At a glance

- One color can be saved
- 12.5 mm sensing distance
- Switching frequency 1.5 kHz
- Color tolerance (precise, medium, coarse) can be set
- Static object teach-in via control cable or control panel
- Small housing

Your benefits

- Easy integration into existing machines - even in places where space is limited
- Fast and easy setup saves time and costs
- Broad spectrum of color tolerances enables more flexible use



Features

Dimensions (W x H x D):	12 mm x 40 mm x 22 mm
Sensing distance ¹⁾ :	12.5 mm
Sensing distance tolerance:	± 2 mm
Light source ²⁾ :	LED
Type of light:	Visible blue light, Visible green light, Visible red light
Light spot size:	1.5 mm x 6.5 mm
Light spot direction:	Vertical
Housing design (light emission):	Rectangular
Wave length:	470 nm, 525 nm, 640 nm
Teach-in mode:	Static 1-point teach-in

¹⁾ From front edge of lens ²⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

Ripple ¹⁾ :	< 5 Vpp
Current consumption ²⁾ :	< 35 mA
Switching frequency ³⁾ :	1.5 kHz
Response time ⁴⁾ :	500 µs
Output type:	NPN: HIGH = approx. VS / LOW ≤ 2 V
Switching mode:	NPN
Output (channel):	1 color
Output current I _{max.} :	< 100 mA
Input, teach-in (ET):	NPN.: Run: U = 10 V ... < U _V , Teach: U < 2 V

Connection type:	Connector M12, 4-pin
Protection class ⁵⁾ :	II
Circuit protection:	VS connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Enclosure rating:	IP 67
Weight:	11 g
Housing material:	ABS, Plastic
Supply voltage:	12 V DC ... 24 V DC ⁶⁾
Fieldbus interface:	-

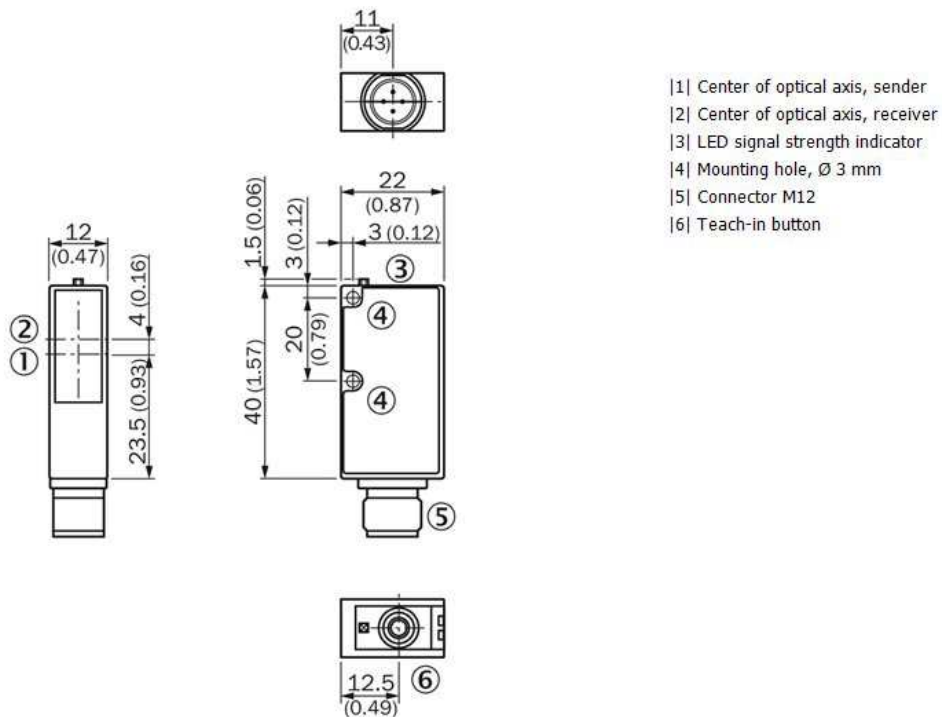
1) May not exceed or fall short of V_S tolerances 2) Without load 3) With light/dark ratio 1:1 4) Signal transit time with resistive load 5) Reference voltage DC 50 V 6)

Limit values: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A

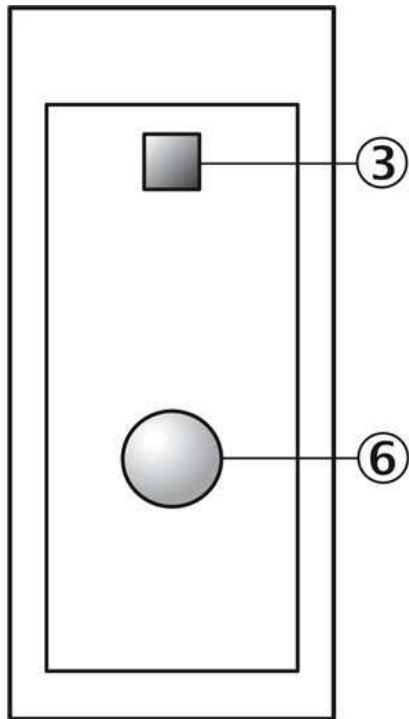
Ambient data

Shock load:	According to IEC 60068
Ambient operating temperature:	-10 °C ... +55 °C
Ambient storage temperature:	-20 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

Dimensional drawing

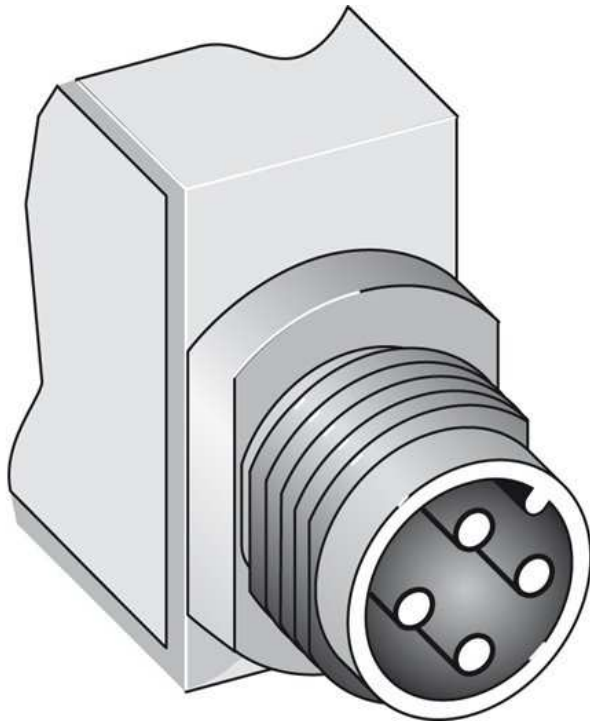


Adjustments

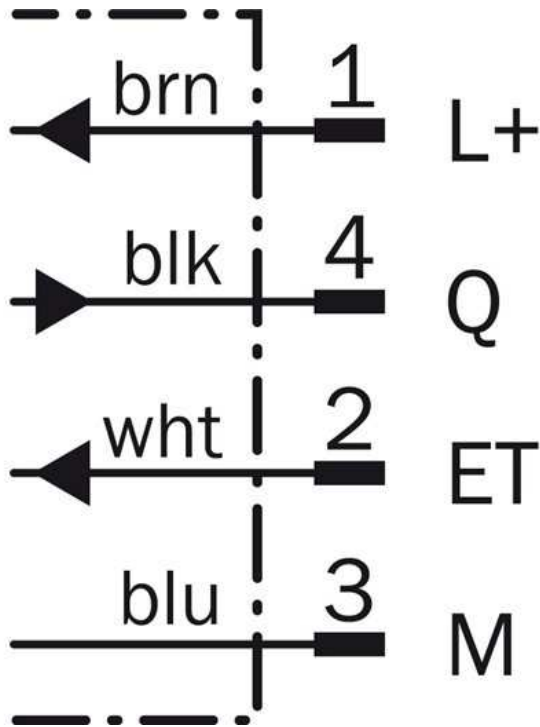


- |3| LED signal strength indicator
- |6| Teach-in button

Connection type

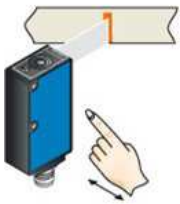


Connection diagram



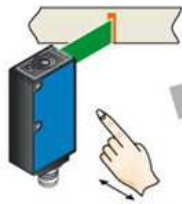
Setting the switching threshold

1. Trigger teach-in

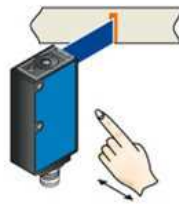


Position object in light field.
Press teach-in button > 1 s.

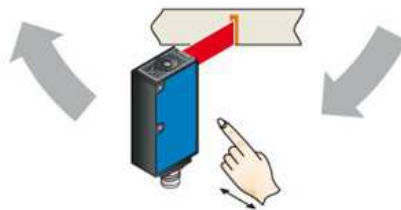
2. Select color tolerance



Press teach-in button > 1 s
when transmitted light is green
= **tolerance medium** (standard
setting).



Press teach-in button > 1 s
when transmitted light is blue
= **tolerance precise.**



Press teach-in button > 1 s
when transmitted light is red
= **tolerance coarse.**

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