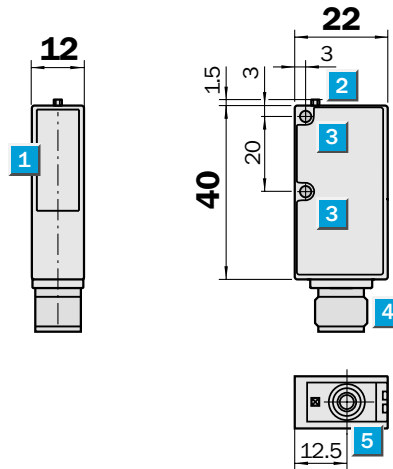
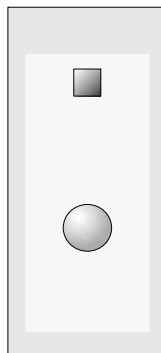


CSM Colour sensor

Dimension illustration

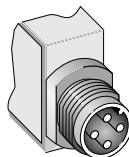


Setting options

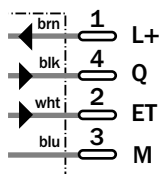


- 1 Center of optical axis
- 2 Reception indicator
- 3 Through hole \varnothing 3.2 mm
- 4 Plug 4-pin, M 12
- 5 Teach-in button

Connection type



4-pin, M 12



	Scanning distance 12.5 mm
Colour sensor	

- Colour tolerance adjustable
- Static teach-in to object via control wire or control panel on unit
- Switching frequency 1500/s
- Plug M 12

Technical data		CSM1-	P1114	N1114								
Scanning distance	12.5 mm											
from front edge of lens												
Scanning distance tolerance	± 2 mm											
Light source¹⁾, light type	red, green, blue											
Light spot dimensions	1.5 x 6.5 mm											
Supply voltage V_S	24 V DC ± 20%											
Ripple ²⁾	< 5 V _{PP}											
Current consumption ³⁾	< 35 mA											
Switching outputs	NPN: HIGH = V _S / LOW = < 2 V											
	PNP: HIGH = V _S - < 2 V / LOW = approx. 0 V											
Output current I _A max.	100 mA											
Response time ⁴⁾	500 µs											
Switching frequency ⁵⁾	1500/s											
Time delay optional	20 ms											
Teach-in input ET	PNP: Teach > 10 V ... < V _S											
	NPN: Teach 0 V ... < 2 V											
Connection type	Plug 4 pin, M 12											
VDE protection class⁶⁾	□											
Enclosure rating	IP 67											
Circuit protection⁷⁾	A, B, C											
Ambient temperature	Operation - 10 ... + 55 °C											
	Storage - 20 ... + 75 °C											
Shock load	To IEC 68											
Weight	Approx. 11 g											
Housing material	ABS											

¹⁾ Average service life 100,000 h at T_A = + 25 °C

²⁾ May not be exceeded or fall short of V_S tolerances

³⁾ Without load

⁴⁾ Signal transit time with resistive load

⁵⁾ With light/dark ratio 1:1

⁶⁾ Reference voltage 50 V DC

⁷⁾ A = V_S connections reverse-polarity protected

B = Outputs short-circuit protected

C = Interference pulse suppression

Static teach-in

Colour tolerance selection and static teach-in via control panel:

- Place object in light spot;
 - Press the teach-in button on the equipment for longer than 1 s, until the light spot goes out. Green transmission light lights approx. 2 s.
- Press teach-in button during this time.
 - **“Medium”** colour tolerance selected (default state). The teach-in procedure is triggered.
 - Do not press teach-in button:
 - green transmission light goes out and blue transmission light lights approx. 1 s.
 - Press teach-in button during this time.
 - **“Precise”** colour tolerance selected and the teach-in procedure is triggered.
 - Do not press teach-in button:
 - blue transmission light goes out and red transmission light lights approx. 1 s.
 - Press teach-in button during this time.
 - **“Rough”** colour tolerance is selected and the teach-in procedure is triggered.
 - Do not press teach-in button:
 - New colour tolerance activated, i.e., repeat colour tolerance selection/teach-in (green transmission light lights approx. 2 s.).

Teach-in via control wire:

- Place object in light spot;
- Trigger the teach-in procedure via the control wire.

When there is teach-in via control wire, the last colour tolerance set via the control panel (manually) or the “Medium” default state is selected, i.e., the colour tolerance can only be set on the control panel.

Confirmation:

Red transmission light and LED signal strength indicator blink = teach-in procedure not successful.

Shiny surfaces:

Mount sensor at an angle to material surface.

Great Britain

Erwin Sick Ltd.
Waldkirch House
39 Hedley Road, St. Albans
Hertfordshire AL 1 5BN
Phone +44 17 27-83 11 21
Fax +44 17 27-85 67 67
info@sick.co.uk

USA

SICK, Inc.
6900 West 110th Street
Bloomington, MN 55438
Phone +1 (952) 9 41-67 80
Fax +1 (952) 9 41-92 87
WATS: 1-800-325-7425
info@sickusa.com

Australia

Erwin Sick Optic-Electronic
Pty. Ltd. Head Office, P.O. Box 214
899 Heidelberg Road
Ivanhoe, Vic. 3079, Australia
Phone +61 39 49 74 10 0
(0 8) 33 48 02 - toll free
Fax +61 39 49 71 18 7
sales@sick.com.au

