ONLINE DATA SHEET
www.mysick.com

Color sensors
CS8, CS8-1

CS81-P3612

SICK
Sensor Intelligence.

SICK
Sensor Intelligence.

Color sensors
CS8, CS8-1

Model Name > CS81-P3612
Part No. > 1028225

At a glance

- One (CS8-1) or four (CS8-4) colors can be saved
- 12.5 mm or 60 mm sensing distance
- Fast response time up to 85 µs
- High resolution color
- Bar graph display shows the correlation of the colors
- Extremely precise light spot and high resolution
- Metal housing with two light exits (interchangeable)

Your benefits

- Identify and store up to four colors. No need to reprogram the sensor for changeovers, reducing downtime.
- High resolution colors can be matched exactly for better process reliability
- Maintains the extreme precision of the light spot, enabling a consistent object detection
- A bar graph display provides information about the color quality and detection reliability, ensuring simple process monitoring
- Broad spectrum of color tolerances enables more flexible use
- Fast response times at high speeds for reliable detection
- Detection reliability is not affected by varying temperatures

Features

Dimensions (L x W x H):	53 mm x 30.4 mm x 80 mm
Sensing distance [1]:	60 mm
Sensing distance tolerance:	± 9 mm
Light source [2]: [3]:	LED red, green, blue
Light spot size:	13 mm x 13 mm
Adjustment:	Static 1-point teach-in

[1] From front edge of lens [2] Average service life of 100,000 h at T_A = +25 °C [3] Wave length: 470 nm, 525 nm, 640 nm

Mechanics/electronics

Supply voltage Vs [1]:	DC 10 V ... 30 V
Ripple [2]:	< 5 Vpp
Power consumption [3]:	< 120 mA
Switching frequency [4]:	Adjustable, 1 kHz 3 kHz 6 kHz

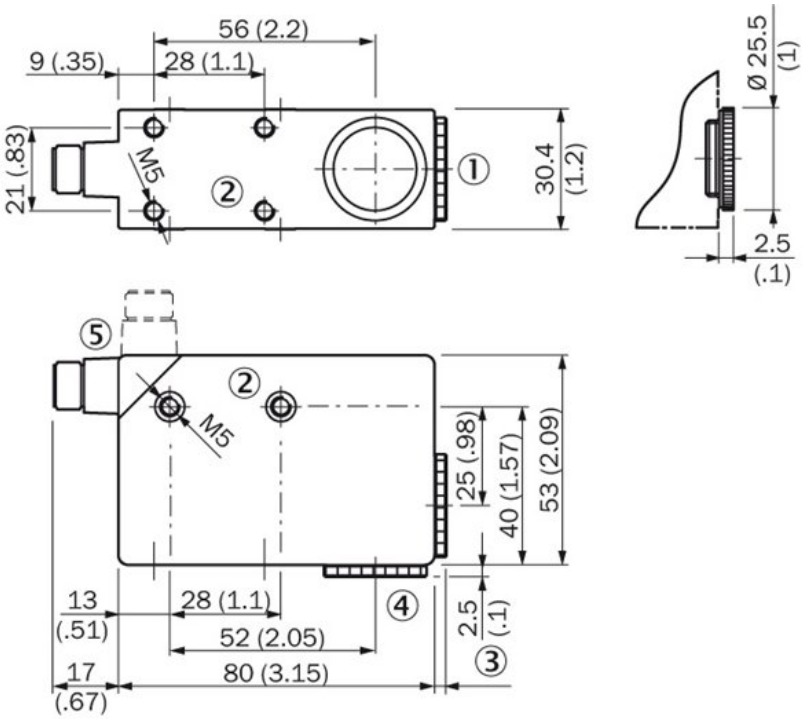
Response time [5]:	500 µs 160 µs 85 µs
Output type:	PNP: HIGH = VS- ≤ 2 V/LOW approx. 0 V
Switching mode:	PNP
Output (channel):	1 color
Output current Imax. [6]:	< 100 mA
Input, teach-in (ET):	PNP:, Run: U < 2 V, Teach: U = 10 V ... < U_V
Retention time (ET):	25 ms, non-volatile memory
Time delay:	Deactivation delay 20 ms, shiftable
Connection type:	Connector M12, 5-pin
Protection class [7]:	II
Circuit protection:	VS connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Enclosure rating:	IP 67
Weight:	Ca. 400 g
Housing material:	Zinc diecast

[1] Limit values: operation in short-circuit protected network max. 8 A [2] May not exceed or fall short of V_S tolerances [3] Without load [4] With light/dark ratio 1:1 [5] Signal transit time with resistive load [6] Consumption count Q1 ... Q4 [7] Reference voltage DC 32 V

Ambient data

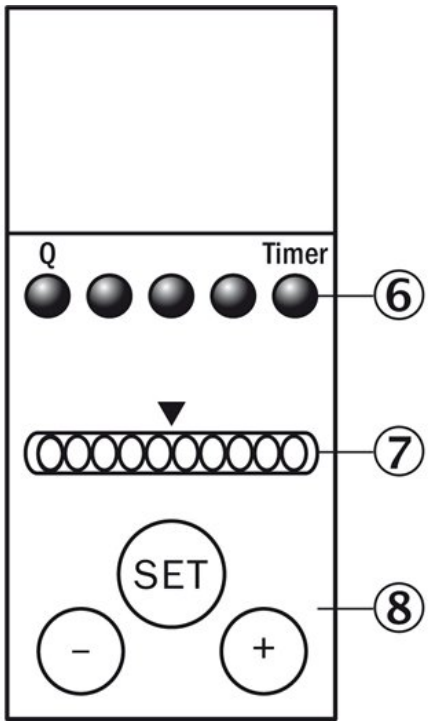
Ambient temperature:	Operation: -10 ... 55 °C, Storage: -20 ... 75 °C
Shock load:	According to IEC 60068
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493

Dimensional drawing



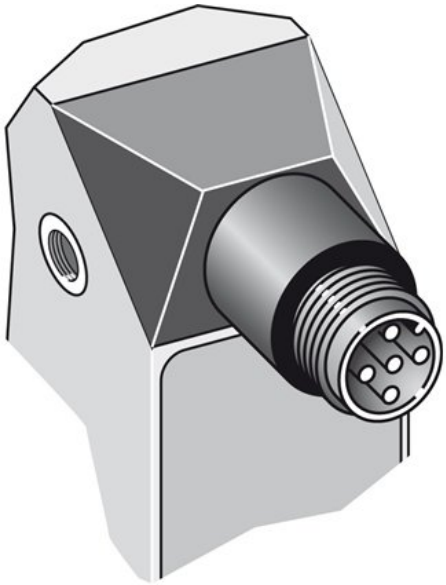
|1| Lens (light transmission)
|2| M5 threaded mounting hole, 5.5 mm deep
|3| See dimensional drawing for lens
|4| Blind screw can be replaced by lens
|5| Connector M12 (rotatable up to 90°)

Adjustments

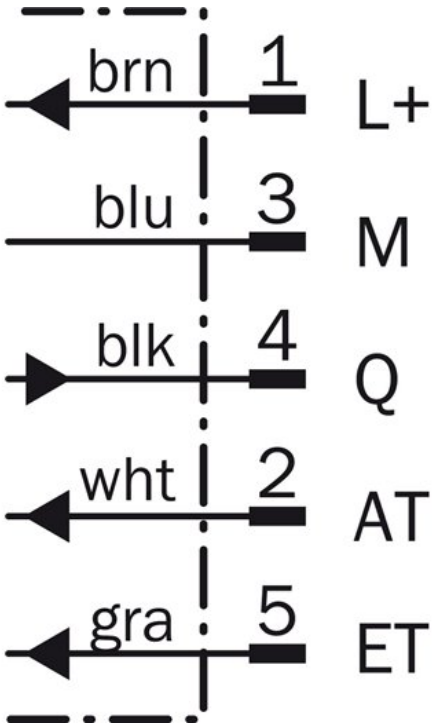


|6| Function signal indicators (yellow)
|7| Bar graph (green), Power on left LED
|8| Teach-in button/"+" and "–" button

Connection type

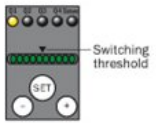


Connection diagram



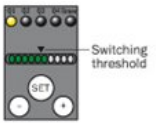
Display of the color correspondence

1. Full correspondence



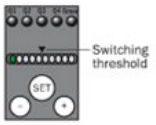
Color detected
= Q active.

2. Correspondence



Color just detected
= Q active.

3. No correspondence



Color not detected
= Q inactive.

Special settings

"Evaluation mode," "Tolerance change during operation," "Show quality," "Time stage," and "Output logic" can be set via a special menu (cf. appropriate operating instructions for the device).

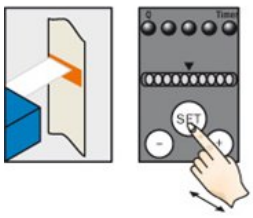
– and +
> 1 s = enter/exit

– or +
< 1 s = navigate

SET
> 1 s = select/confirm

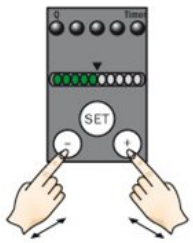
Setting the switching threshold

1. Trigger teach-in



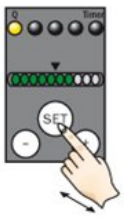
Position object in light field.
Press SET button > 1 s.

2. Select color tolerance



If necessary adapt tolerance with "+" button (more coarse) or "–" button (more precise).

3. Confirm teach-in



Press SET button > 1 s.
Color correspondence is visualized via bar graph display.

· USmod 4c int40

Australia
Phone +61 3 9457 0600
1800 334 802 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg
Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil
Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Canada
Phone +1 905 771 14 44
E-Mail information@sick.com

Ceská Republika
Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China
Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark
Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland
Phone +49 211 5301-301
E-Mail kundenservice@sick.de

España
Phone +34 93 480 31 00
E-Mail info@sick.es

France
Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain
Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India
Phone +91–22–4033 8333
E-Mail info@sick-india.com

Israel
Phone +972-4-6801000
E-Mail info@sick-sensors.com

Italia
Phone +39 02 27 43 41
E-Mail info@sick.it

Japan
Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország
Phone +36 1 371 2680
E-Mail office@sick.hu

Nederlands
Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge
Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich
Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska
Phone +48 22 837 40 50
E-Mail info@sick.pl

România
Phone +40 356 171 120
E-Mail office@sick.ro

Russia
Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz
Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore
Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Slovenija
Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa
Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea
Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi
Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige
Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan
Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Türkiye
Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates
Phone +971 (0) 4 8865 878
E-Mail info@sick.ae

USA/México
Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at **www.sick.com**

SICK
Sensor Intelligence.