



Color sensors CS8, CS8-1

CS81-N3612



Model Name > CS81-N3612
Part No. > 1028229



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 μ s
- 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:	$\pm$ 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 $T_A = +25^\circ\text{C}$ ³⁾ Wave length: 470 nm, 525 nm, 640 nm

Mechanics/electronics

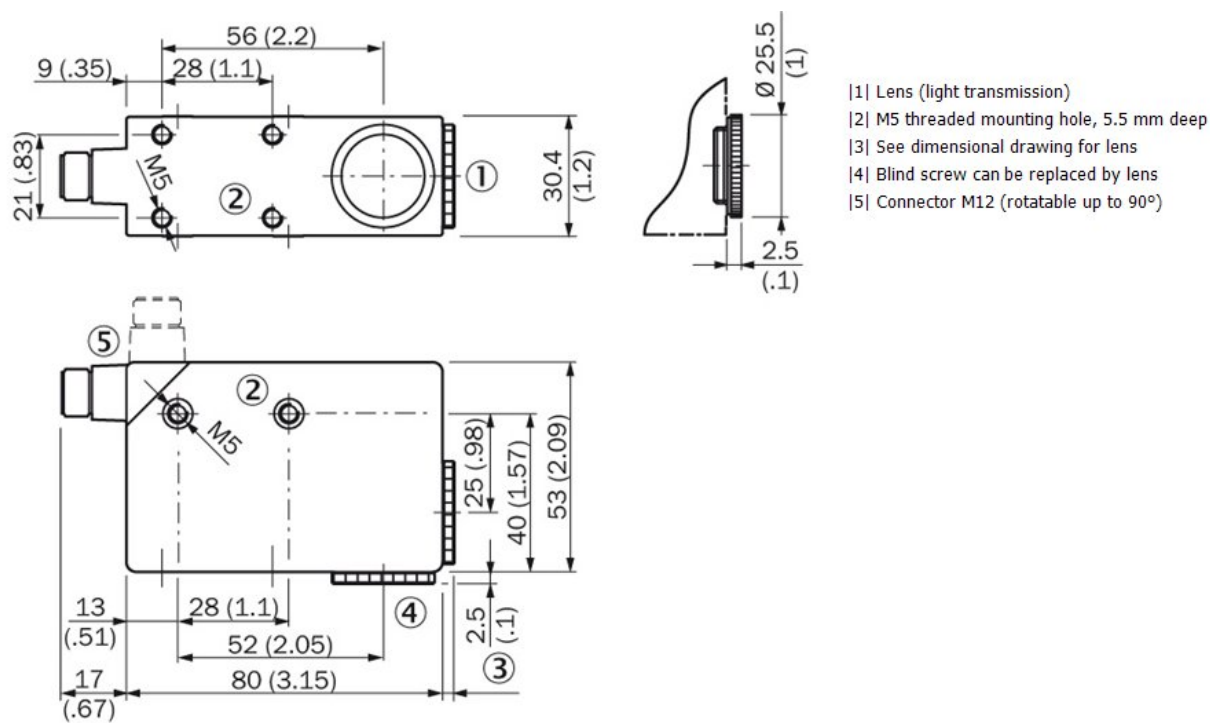
Supply voltage V_s ¹⁾ :	DC 10 V ... 30 V
Ripple ²⁾ :	< 5 Vpp
Power consumption ³⁾ :	< 120 mA
Switching frequency ⁴⁾ :	Adjustable, 1 kHz 3 kHz 6 kHz

Response time ⁵⁾ :	500 µs 160 µs 85 µs
Output type:	NPN: HIGH = approx. VS / LOW ≤ 2 V
Switching mode:	NPN
Output (channel):	1 color
Output current I _{max} . ⁶⁾ :	< 100 mA
Input, teach-in (ET):	NPN:, Run: U = 10 V ... < U _V , Teach: U < 2 V
Input, blanking input (AT) ⁷⁾ :	Blanked: U < 2 V, Free-running: U > 10 V ... < U _v , NPN:
Retention time (ET):	25 ms, non-volatile memory
Time delay:	Deactivation delay 20 ms, shiftable
Connection type:	Connector M12, 5-pin
Protection class ⁸⁾ :	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⁾ AT > 200 µs ⁸⁾ Reference voltage DC 32 V	

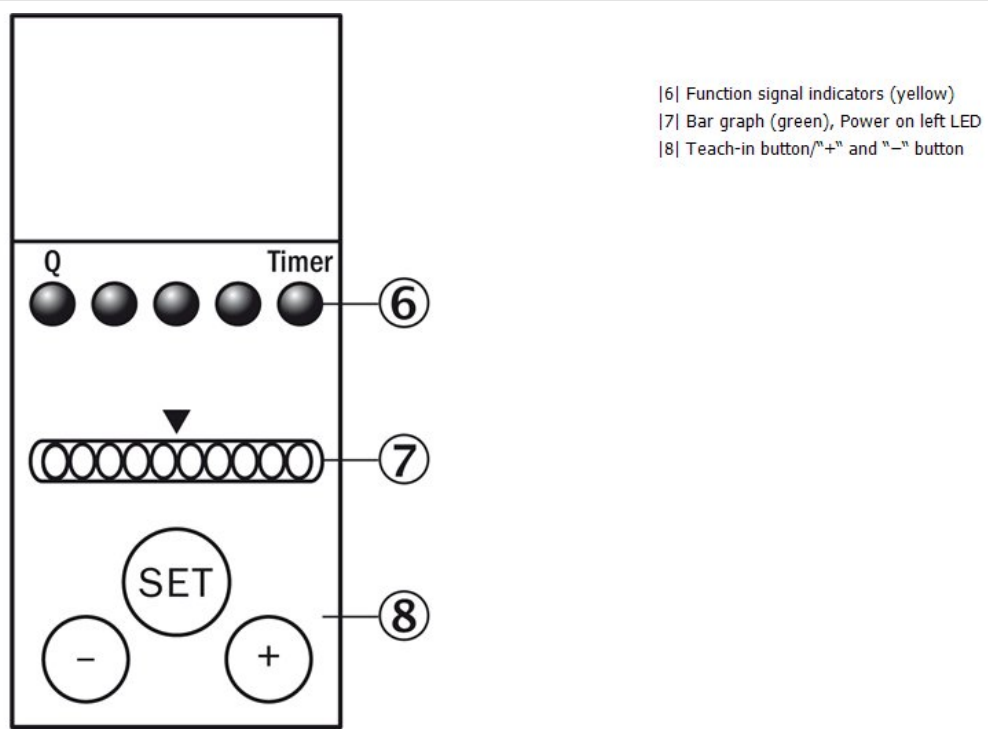
Ambient data

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

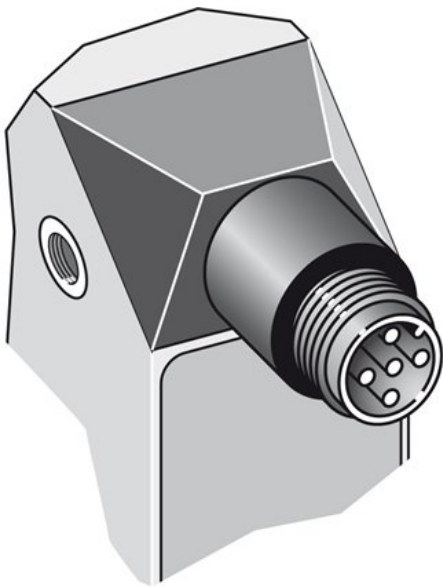
Dimensional drawing



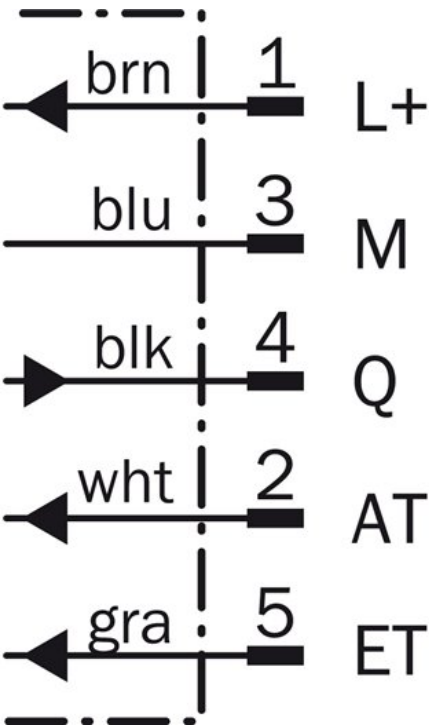
Adjustments



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.

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