



CSS 14-34-S-D-M-ST

- 1 x connector plug M12, 8-pole
- Actuation from side
- Max. 31 sensors can be wired in series.
- Thermoplastic enclosure
- Electronic contact-free, coded system
- Misaligned actuation possible
- 27 mm x 108.2 mm x 35 mm
- High repeat accuracy of the switching points
- Max. length of the sensor chain 200 m
- 2 short-circuit proof PNP safety outputs
- Integral cross-short, wire-breakage and external voltage monitoring of the safety cables up to the control cabinet

Data

Ordering data

Product type description	CSS 14-34-S-D-M-ST
Article number (order number)	101181063
EAN (European Article Number)	4030661314877
eCl@ss number, version 12.0	27-27-46-01
eCl@ss number, version 11.0	27-27-24-03
eCl@ss number, version 9.0	27-27-24-03
ETIM number, version 7.0	EC001829
ETIM number, version 6.0	EC001829

Approvals - Standards

General data

Standards	EN IEC 60947-5-3
Working principle	inductive
Housing construction form	Block
Installation conditions (mechanical)	not flush
Sensor topology	Sensor for series wiring
Housing material	Glass-fibre, reinforced thermoplastic
Active area	Glass-fibre, reinforced thermoplastic
Reaction time, maximum	30 ms
Duration of risk, maximum	60 ms
Gross weight	140 g

General data - Features

Diagnostic output	Yes
Short circuit detection	Yes
Cross-circuit detection	Yes
Safety functions	Yes
Cascadable	Yes
Integral system diagnostics, status	Yes
Number of LEDs	3
Number of semi- conductor outputs with signaling function	1
Number of fail-safe digital outputs	2
Number of series-wiring of sensors	31

Safety classification

Vorschriften	EN ISO 13849-1 EN IEC 60947-5-3 EN IEC 61508
Performance Level, up to	e
Category	4
PFH value	3.60×10^{-9} /h
Safety Integrity Level (SIL), suitable for applications in	3
Mission time	20 Year(s)

Mechanical data

Actuating panels	lateral
Active area	lateral
Switching distance actuator	Actuator CST 34-V-1: 10 mm (typical switch distance Sn) Betätiger CST 34-V-1: 8 mm (gesicherter Schaltabstand EIN Sao) Betätiger CST 34-V-1: 13 mm (gesicherter Schaltabstand AUS Sar) Actuator CST 34-S-1 / CST 34-S-3: 14 mm (typical switch distance Sn) Actuator CST 34-S-1 / CST 34-S-3: 12 mm (ensured switch distance ON Sao) Actuator CST 34-S-1 / CST 34-S-3: 17 mm (ensured switch distance OFF Sar) Actuator CST 34-S-2: 14 mm (typical switch distance Sn) Actuator CST 34-S-2: 12 mm (ensured switch distance ON Sao) Betätiger CST 34-S-2: 17 mm (gesicherter Schaltabstand AUS Sar) Betätiger CST 180-1 / CST 180-2: 10 mm (typischer Schaltabstand Sn) Actuator CST 180-1 / CST 180-2: 8 mm (ensured switch distance ON Sao) Actuator CST 180-1 / CST 180-2: 13 mm (ensured switch distance OFF Sar)

Mechanical data - Switching distances

Hysteresis (Switching distance), maximum	1.5 mm
Repeat accuracy R	0.5 mm
Note (Repeat accuracy R)	Axial offset: The long side allows for a maximum height misalignment (x) of sensor and actuator of 36 mm (e.g. mounting tolerance or due to guard door sagging). Increased misalignment, max. 53 mm, possible when the CST 34-S-2 actuator is used. The axial misalignment (y) is max. ± 10 mm (see figure: Operating principle)

Mechanical data - Connection technique

Note (length of the sensor chain)	Cable length and cross-section change the voltage drop depending on the output current
Termination	Connector plug M12, 8-pole

Mechanical data - Dimensions

Length of sensor	35 mm
Width of sensor	27 mm
Height of sensor	108.2 mm

Ambient conditions

Degree of protection	IP65 IP67
Ambient temperature	-25 ... +70 °C
Storage and transport temperature	-25 ... +85 °C
Resistance to vibrations	10 ... 55 Hz, amplitude 1 mm
Resistance to shock	30 g / 11 ms
Protection class	II

Ambient conditions - Insulation values

Rated insulation voltage U _i	32 VDC
Rated impulse withstand voltage U _{imp}	0.8 kV
Overvoltage category	III
Degree of pollution	3

Electrical data

No-load supply current I ₀ , typical	100 mA
Operating current	600 mA

Required rated short-circuit current	100 A
Note (Electrical data, Fuse rating)	(Circuit breaker)
Switching frequency, approx.	3 Hz
Utilisation category DC-12	24 VDC / 0.05 A

Electrical data - Safety digital outputs

Rated operating current (safety outputs)	250 mA
Output current, (fail-safe output), maximum	0.25 A
Design of control elements	p-type
Voltage drop U_d , maximum	0.5 V
Leakage current I_r , maximum	0.5 mA
Voltage, Utilisation category DC-12	24 VDC
Current, Utilisation category DC-12	0.25 A
Voltage, Utilisation category DC-13	24 VDC
Current, Utilisation category DC-13	0.25 A

Electrical data - Diagnostic outputs

Design of control elements	p-type
Voltage drop U_d , maximum	5 V
Voltage, Utilisation category DC-12	24 VDC
Current, Utilisation category DC-12	0.05 A

Voltage, Utilisation category DC-13	24 VDC
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Current, Utilisation category DC-13	0.05 A
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Electrical data - Electromagnetic compatibility (EMC)

Interfering radiation	IEC 61000-6-4
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EMC rating	IEC 61000-6-2
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Pin assignment

PIN 1	1A1 Ue: (1)
PIN 2	X1 Safety input 1
PIN 3	A2 GND
PIN 4	Y1 Safety output 1
PIN 5	OUT Diagnostic output OUT
PIN 6	X2 Safety input 2
PIN 7	Y2 Safety output 2
PIN 8	IN without function

Scope of delivery

Scope of delivery	Actuator must be ordered separately.
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Accessory

Recommendation (actuator)	CST 34-S-2 CST 34-S-3 CST 180-1 CST 180-2 CST 34-S-1
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Recommended safety switchgear	PROTECT PSC1 SRB-E-301ST SRB-E-201LC
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Note

Note (General)

Evaluation requirements: dual-channel safety input, suitable for p-type sensors with NO function. The safety-monitoring module must tolerate internal functional tests of the sensors with cyclic switch-off of the sensor outputs for max. 0.5 ms. Short-circuit recognition by the evaluation is not necessary.

Ordering code

Product type description:
CSS (1)-34-(2)-(3)-(4)-M-(5)

(1)

12 Actuation from top

14 Actuation from side

(2)

without Standard version

F0 Input for enabling pushbutton, suitable for automatic start

F1 Input for reset pushbutton, with edge monitoring

(3)

S lateral active surface

V frontal active surface

(4)

D With diagnostic output

SD Serial diagnostic output

(5)

L with connecting cable

ST with connector

Pictures

Product picture (catalogue individual photo)



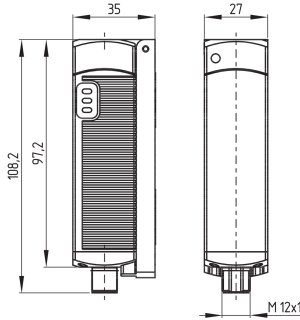
ID: kc33f10

| 238,3 kB | .jpg | 352.778 x 235.303 mm - 1000 x 667 px - 72 dpi

| 24,8 kB | .png | 74.083 x 49.389 mm - 210 x 140 px - 72 dpi

| 24,8 kB | .png | 74.083 x 49.389 mm - 210 x 140 px - 72 dpi

Dimensional drawing basic component



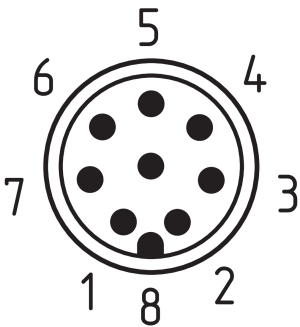
ID: 1c33g01

| 50,7 kB | .cdr |

| 4,4 kB | .png | 73.731 x 79.022 mm - 209 x 224 px - 72 dpi

| 204,8 kB | .jpg | 352.778 x 377.119 mm - 1000 x 1069 px - 72 dpi

Contact arrangement

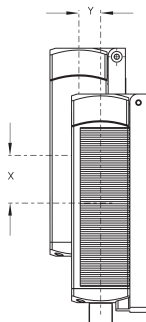


ID: km23-k8b

| 5,3 kB | .png | 73.731 x 79.728 mm - 209 x 226 px - 72 dpi

| 139,8 kB | .jpg | 352.778 x 380.647 mm - 1000 x 1079 px - 72 dpi

Operating principle



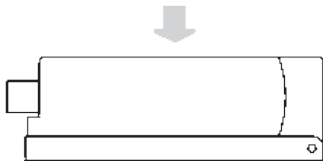
ID: kc33a02

| 46,4 kB | .cdr |

| 321,9 kB | .jpg | 352.778 x 796.219 mm - 1000 x 2257 px - 72 dpi

| 5,5 kB | .png | 74.083 x 167.217 mm - 210 x 474 px - 72 dpi

Clipart



ID: kc5s3c06

| 16,0 kB | .cdr |

| 932,0 b | .png | 74.083 x 35.983 mm - 210 x 102 px - 72 dpi

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The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

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