

CSS12-34-V-D-M-ST

- Actuation from top
- Thermoplastic enclosure
- 27 mm x 108.2 mm x 35 mm
- Misaligned actuation possible
- 1 x connector plug M12, 8-pole
- Electronic contact-free, coded system
- Max. length of the sensor chain 200 m
- Max. 31 sensors can be wired in series.
- 2 short-circuit proof PNP safety outputs
- High repeat accuracy of the switching points
- 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 12-34-V-D-M-ST
Article number (order number)	101181065
EAN (European Article Number)	4030661314884
eCl@ss number, Version 9.0	27-27-24-03

Certifications

Certificates	TÜV cULus EAC
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General data

Product name	CSS 34
Standards	IEC 60947-5-3

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

General data - Features

Diagnostic output	Yes
Short circuit detection	Yes
Short-circuit recognition	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 appraisal

Standards	ISO 13849-1 IEC 60947-5-3 IEC 61508
Performance level, up to	e
Control category to EN13849	4
PFH-value	3.60×10^{-9} /h
Safety Integrity Level (SIL), applicable for	3
Mission Time	20 Year(s)

Mechanical data

Actuating panels	Actuation from top
Active area	front side
	10 mm
Switch distance	12 mm
	15 mm

Ensured switch distance "ON" S_{ao}	10 mm 13 mm 8 mm
Ensured switch distance "OFF" S_{ar}	15 mm 16 mm 18 mm
Actuator switch distance	Actuator CST 34-V-1: 12 mm Actuator CST 34-S-2: 10 mm Actuator CST 34-S-3: 15 mm Actuator CST 180-1 / CST 180-2: 12 mm Actuator CST 34-V-1: 10 mm Actuator CST 34-S-2: 8 mm Actuator CST 34-S-3: 13 mm Actuator CST 180-1 / CST 180-2: 10 mm Actuator CST 34-V-1: 15 mm Actuator CST 34-S-2: 16 mm Actuator CST 34-S-3: 18 mm Actuator CST 180-1 / CST 180-2: 16 mm
Hysteresis (Switch distance), maximum	1.5 mm
Repeat accuracy R R	0.5 mm
Note (Repeat accuracy R)	Axial offset: the front face allows for an axial misalignment (z) of max. ± 8 mm (see figure: operating principle).

Mechanical data - Connection technique

Terminal Connector	Connector plug M12, 8-pole
Note	The cable section of the interconnecting cable must be observed for both wiring variants! Cable length and cable section alter the voltage drop depending on the output current

Mechanical data - Dimensions

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

Ambient conditions

Protection class	IP 65 to IEC/EN 60529 IP 67 to IEC/EN 60529
Ambient temperature, minimum	-25 °C
Ambient temperature, maximum	+70 °C
Storage and transport temperature, minimum	-25 °C
Storage and transport temperature, maximum	+85 °C
Resistance to vibrations to EN 60068-2-6	10 ... 55 Hz, amplitude 1 mm

Resistance to shock	30 g / 11 ms
Protection rating	II

Ambient conditions - Insulation value

Rated impulse withstand voltage	0.8 kV
Overvoltage category	III
Degree of pollution to VDE 0100	3

Electrical data

Voltage type	DC (direct current)
No-load current	100 mA
Operating current	600 mA
Required rated short-circuit current to EN 60947-5-1	100 A
Switching frequency, approx.	3 Hz

Electrical data - Fail-safe digital outputs

Rated operating current (safety outputs)	250 mA
Output current, (fail-safe output), maximum	0.25 A
Versions	p-type
Voltage drop U_d , maximum	0.5 V
Current leakage	0.5 mA
Voltage, Utilisation category DC12	24 VDC
Current, Utilisation category DC12	0.25 A
Voltage, Utilisation category DC13	24 VDC
Current, Utilisation category DC13	0.25 A

Electrical data - Diagnostic output

Versions	p-type
Voltage drop U_d , maximum	5 V
Voltage, Utilisation category DC12	24 VDC
Current, Utilisation category DC12	0.05 A
Voltage, Utilisation category DC13	24 VDC

Current, Utilisation category 0.05 A
DC13

Electrical data - Electromagnetic compatibility (EMC)

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

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

Included in delivery Actuators must be ordered separately.

Accessory

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

Notes

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: kcsc3f10

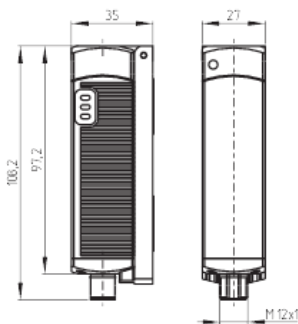
| 24,8 kB | .png | 74.083 x 49.389 mm - 210 x 140

Pixel - 72 dpi

| 346,8 kB | .jpg | 352.778 x 235.303 mm - 1000 x 667

Pixel - 72 dpi

Dimensional drawing basic component



ID: 1css3g01

| 204,8 kB | .jpg | 352.778 x 377.119 mm - 1000 x

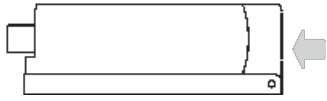
1069 Pixel - 72 dpi

| 4,4 kB | .png | 73.731 x 79.022 mm - 209 x 224 Pixel

- 72 dpi

| 50,7 kB | .cdr |

Clipart

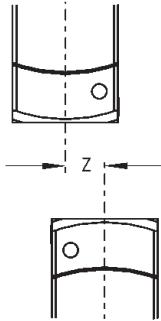


ID: kcsc3c07

| 875,0 b | .png | 74.083 x 21.167 mm - 210 x 60 Pixel
- 72 dpi

| 16,0 kB | .cdr |

Operating principle



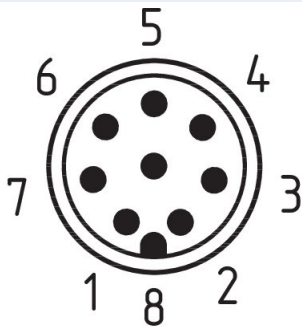
ID: kcsc3a10

| 2,3 kB | .png | 74.083 x 148.167 mm - 210 x 420
Pixel - 72 dpi

| 22,4 kB | .cdr |

| 138,9 kB | .jpg | 352.778 x 705.556 mm - 1000 x
2000 Pixel - 72 dpi

Contact arrangement



ID: km23-k8b

| 18,2 kB | .cdr |

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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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