

CSS 8-180-2P+D-M-ST



- Thermoplastic enclosure
- Misaligned actuation possible
- 1 x connector plug M12, 8-pole
- Electronic contact-free, coded system
- Max. length of the sensor chain 200 m
- 2 short-circuit proof PNP safety outputs
- Self-monitoring series-wiring of 16 sensors
- High repeat accuracy of the switching points
- Early warning when operating near the limit of the sensor's hysteresis range
- Comfortable diagnostics through sensor LED and electronic signalling output

Data

Ordering data

	CSS 8-180-2P+D-M-ST
	101209595
EAN (European Article Number)	4030661387758
eCI@ss number, Version 9.0	27-27-24-03

Approval - Standards

IFA
cULus
EAC

General data

CSS 180
IEC 61508
IEC 60947-5-3

Active principle	inductive
Housing construction form	Cylinder, thread
Installation conditions (mechanical)	not flush
Sensor topology	Sensor for series wiring Individual sensor or end sensor in a series
Enclosure material	Glass-fibre, reinforced thermoplastic
Active area	Glass-fibre, reinforced thermoplastic
Material of the nuts	Glass-fibre, reinforced thermoplastic
Gross weight	6 g
Reaction time, maximum	30 ms
Duration of risk, maximum	30 ms

General data - Features

Short circuit detection	Yes
Short-circuit recognition	Yes
Safety functions	Yes
Integral System Diagnostics, status	Yes
Number of semi- conductor outputs with signaling function	1
Number of fail-safe digital outputs	2
Number of Series-wiring of sensors	16

Safety appraisal

	ISO 13849-1 IEC 60947-5-3 IEC 61508
Performance level, up to	e
Control category to EN13849	4
PFH-value	$2.50 \times 10^{-9} /h$
Safety Integrity Level (SIL), applicable for	3
Mission Time	20 Year(s)

Mechanical data

Switch distance	8 mm
Ensured switch distance "ON" S_{ao}	7 mm
Ensured switch distance "OFF" S_{ar}	10 mm

Hysteresis (Switch distance), maximum	0.7 mm
Repeat accuracy R R	0.2 mm
Tightening torque of nuts, maximum	3 Nm

Mechanical data - Connection technique

Terminal Connector	Connector plug M12, 8-pole
Terminal connector, Input/Output	M12 connector, 8 pole

Mechanical data - Dimensions

	M18
width across flats	24 BK
Length of sensor	92 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	+60 °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 30 g / 11 ms II

Ambient conditions - Insulation value

Rated impulse withstand voltage	0.8 kV III 3
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Electrical data

Voltage type	DC (direct current)
Operating voltage, minimum	20.4 VDC
Operating voltage, maximum	26.4 VDC

No-load current	50 mA
	24 VDC
Operating current	1,000 mA
Switching frequency, approx.	3 Hz

Electrical data - Fail-safe digital outputs

Rated operating current (safety outputs)	500 mA
Output current, (fail-safe output), maximum	0.5 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	0.5 A
Voltage, Utilisation category DC13	24 VDC
Current, Utilisation category DC13	0.5 A

Electrical data - Diagnostic output

	24 VDC
Versions	p-type
Voltage drop U_d , maximum	4 V
Voltage, Utilisation category DC12	24 VDC
Current, Utilisation category DC12	0.1 A
Voltage, Utilisation category DC13	24 VDC
Current, Utilisation category DC13	0.1 A

Status indication

Note (LED switching conditions display)	Multi-coloured LED: Green, Red, Yellow
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Pin assignment

PIN 1	1A1 Ue: (1)
PIN 2	X2 Safety input 2

PIN 3	A2 GND
PIN 4	Y1 Safety output 1
PIN 5	Signalling output
PIN 6	X1 Safety input 1
PIN 7	2 Safety output Y2
PIN 8	without function

Scope of delivery

Included in delivery	Actuators must be ordered separately.
Delivery scope of Mounting material	2x nuts M18 x 1

Accessory

CST 180-1
CST 180-2
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. 0.25 ms. Short-circuit recognition by the evaluation is not necessary.
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Ordering code

Product type description:

CSS 8-180-(1)-(2)-(3)

(1)

2P 2 short-circuit proof PNP safety outputs

2P+D 2 short-circuit proof PNP safety outputs and diagnostic output

(2)

E Individual sensor or end sensor in a series

Y Series-wiring

M Multifunction connection

(3)

L Cable

LST Cable with connector

ST Connector plug

Pictures

Photo/Product/Catalogue



ID: kcsc1f03

| 751,9 kB | .jpg | 272.344 x 756.356 mm - 772 x 2144

Pixel - 72 dpi

| 98,1 kB | .png | 74.083 x 205.669 mm - 210 x 583

Pixel - 72 dpi

Diagramm/Product/Curve



ID: kc551d03

| 3,0 kB | .png | 74.083 x 35.278 mm - 210 x 100 Pixel
- 72 dpi

| 83,4 kB | .jpg | 352.778 x 168.275 mm - 1000 x 477

Pixel - 72 dpi

| 22,0 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.

Generated on 242021-01-31T06:10:24+01:00601Europe/BerlinSun, 31 Jan 2021 06:10:24

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