

Electronic safety sensor accessories

SD-I-DP-V0-2

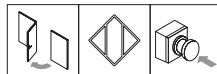


- **PROFIBUS-Gateway** for the series-wiring of the diagnostic signals of safety switchgear with integrated SD interface. The status and diagnostic information of the SD devices is transmitted to the control system through the PROFIBUS DP-V0 interface.
- Diagnostic lines of max. 31 safety switching components can be wired in series
- Series-wiring of different components enabled (CSS 34, RSS 36, AZM 200, MZM 100 etc.)
- Reduced wiring expenditure through the series-wiring of the safety channels and the diagnostic lines in the field
- Automatic addressing of the safety switching components in the SD interface
- IP10 component for quick-fix mounting onto standard DIN rails in the control cabinet

Technical data

PROFIBUS interface:	9-pole D-SUB connector standard PROFIBUS connection (DP-A, DP-B, 5V, GND)
Protocol:	PROFIBUS-DP –V0 upwards compatible
Transmission rate:	9.6 kilo baud ... 12 mega baud
GSD file:	KAS_0b13.GSD
Short-circuit protection:	internal fuse to EN 60127 PolySwitch 0.5 A / 60 V
LED indications:	refer to table below
DIP-switch 8-pole:	S1 ... S7: addressing as PROFIBUS slave; S8: automatic addressing of the serial participants
Rated operating voltage U_e :	24 VDC, –15 % / +20 %
Rated operating current I_e :	typically 180 mA, max. 250 mA
Rated insulation voltage U_i :	32 V
Rated impulse withstand voltage U :	0.5 kV
Overvoltage category:	II
Degree of pollution:	2
Storage temperature range:	–25 °C ... +85 °C, non-condensing
Operating temperature range:	–5 °C ... +55 °C, non-condensing
Relative humidity:	5% - 95%, non-condensing
Protection class:	IP10
Resistance to vibration:	5 ... 9 Hz / 3.5 mm (to IEC 60068-2-6) 9 ... 150 Hz / 1 g
Resistance to shock:	15 g / 11 ms (to IEC 60068-2-27)
EMC rating:	to EN 61000-6-2 (ESD): 4 kV / 8 kV to EN 61000-4-3: 10 V/m / 80% AM to EN 61000-4-4 (burst): 2 kV DC supply / 1 kV PROFIBUS & SD-Interface to EN 61000-4-5 (surge): 500 V DC supply / 1 kV PROFIBUS & SD-Interface to EN 61000-4-6: 10 V / 80 % AM
EMC interfering radiation:	to EN 61000-6-4 (2002)
Industrial interfering radiation:	37 dBV/m
Electrical connection:	connection for max. 31 devices in the serial diagnostic + 24 VDC voltage supply GND of the voltage supply and GND of the diagnostic cable and 24 VDC supply, approx. 300 mA, PELV power supply

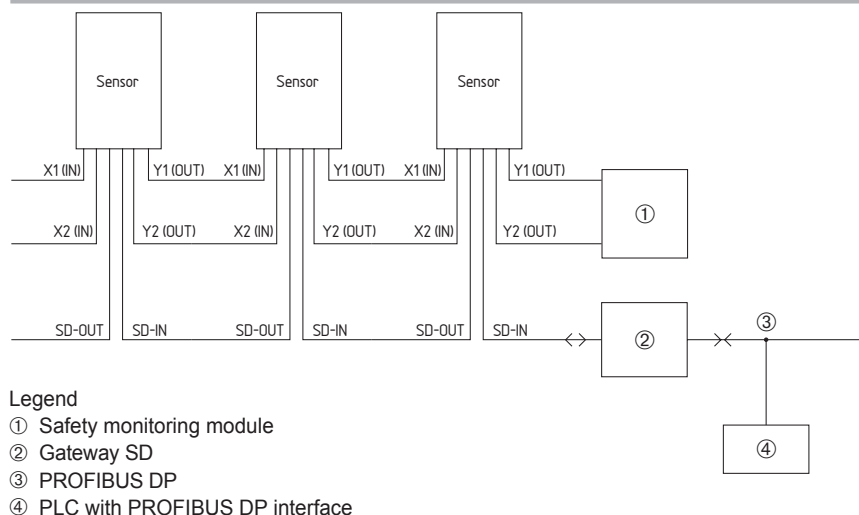
Approvals



Ordering details

SD-I-DP-V0-2

Wiring diagram



Electronic safety sensor accessories

SD-I-U- ...



- **UNIVERSAL-Gateway** for the series-wiring of the diagnostic signals from safety switching components with integrated SD interface. Comprehensive status and diagnostic data from the SD components are transmitted to the control system through the field bus interface.
- Diagnostic lines of max. 31 safety switching components can be wired in series
- Series-wiring of different components enabled (CSS 34, RSS 36, AZM 200, MZM 100 etc.)
- Reduced wiring expenditure through the series-wiring of the safety channels and the diagnostic lines in the field
- Automatic addressing of the safety switching components in the SD interface
- IP20 component for quick-fix mounting onto standard DIN rails in the control cabinet

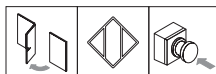
Available FIELD BUS interfaces:

- PROFINET IO
- EtherNet IP
- DeviceNet
- CC-Link
- CANopen
- Modbus/TCP

Technical data

Operating voltage:	24 VDC -15 %/+20 % (stabilised PELV)
Fuse rating:	external fuse 1 A slow-blow
Operating current at 24 VDC:	max. 500 mA, internally protected
Operating temperature range:	0 ... 55 °C, in case of vertical positioning
Storage temperature range:	-25 °C ... +70 °C
Climatic stress:	relative humidity 30 % ... 85 %, non-condensing
Protection class:	IP20
Mounting location:	earthed lockable control cabinet with at least IP54 protection class
Resistance to vibrations:	if fitted between two lateral clamping blocks on the rail
	10 ... 57 Hz / 0.35 mm and 57 ... 150 Hz / 5 g
Resistance to shock	
to IEC 60068-2-29:	10 g
EMC rating:	
to EN 61000-4-2 (ESD)	±6 kV contact discharge / ±8 kV Air discharge
to EN 61000-4-3 (HF field)	10 V/m / 80 % AM
to EN 61000-4-4 (Burst)	±1 kV all connections
to EN 61000-4-5 (Surge)	±1 kV all connections
to EN 61000-4-6 (HF cables)	10 V all connections
EMC interfering radiation:	
to EN 61000-6-4 (2002)	industrial interfering radiation
Rated insulation voltage U_i :	32 V
Rated impulse withstand voltage U_{imp} :	0.5 kV
Overvoltage category:	II
Degree of pollution:	2
Dimensions (W x H x D):	50 x 100 x 80 mm (= mounting height starting from rail)

Approvals

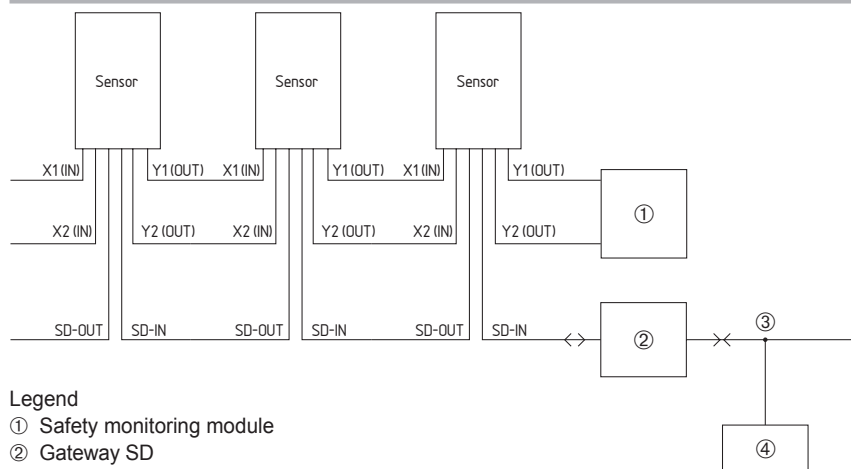


Ordering details

SD-I-U-①

No.	Option	Description
①	PN	PROFINET IO
	EIP	EtherNet IP
	DN	DeviceNet
	CCL	CC-Link
	CAN	CANopen
	MT	Modbus/TCP

Wiring diagram

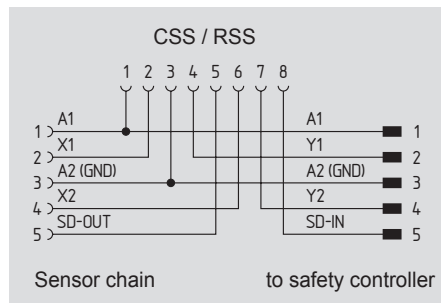
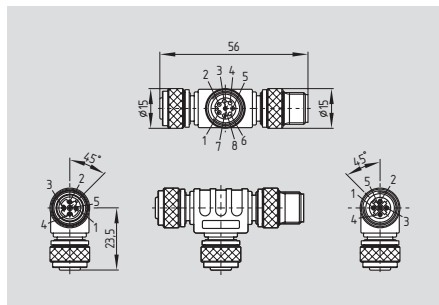


Legend

- ① Safety monitoring module
- ② Gateway SD
- ③ Fieldbus
- ④ PLC with fieldbus interface

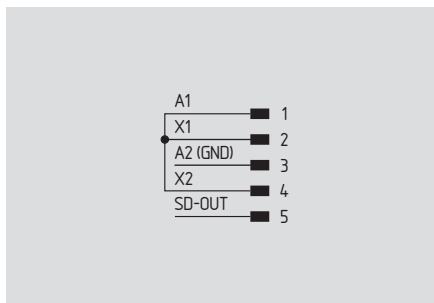
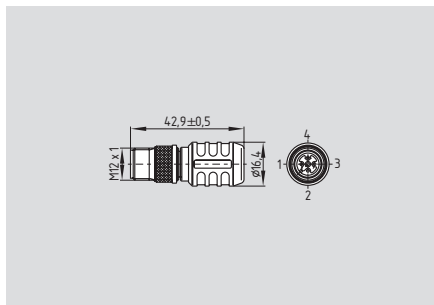
Electronic safety sensor accessories

T-adapter CSS-T



- Enables the series-wiring of safety sensors. To this end, both the safety channels and the serial diagnostic cable are wired in series.
- For the wiring, M12 cable extensions can be used. The voltage drop (due to the cable length, cable section, voltage drop per sensor) should be taken into account, as it reduces the maximum number of safety sensors that can be wired in series.

Terminal connector



- Supplies the safety channels with operating voltage

Technical data

Rated operating voltage of the SD devices to be connected:	24 V (–15%/+10%)
Rated operating current of the SD devices to be connected:	0.6 A
Fuse of the connecting cables (circuit breaker):	2 A
Ambient temperature T _u :	–25 °C ... +70 °C

Approvals



Ordering details

T-adapter

CSS-T

Approvals

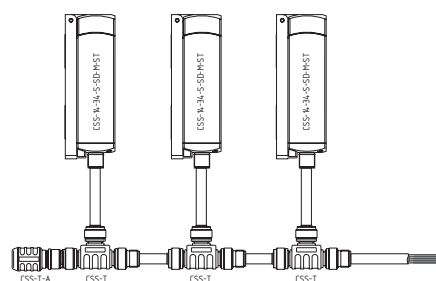


Ordering details

Terminal connector

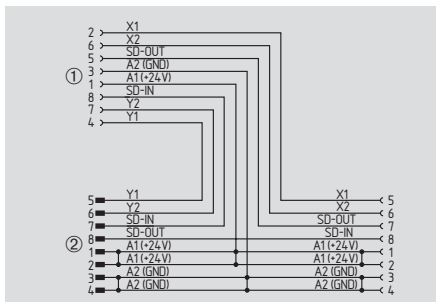
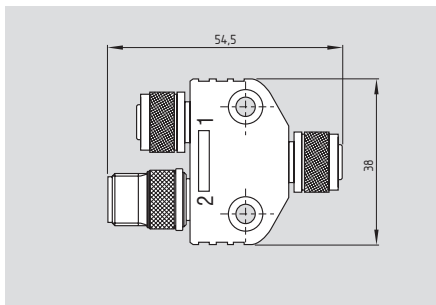
CSS-T-A

Wiring diagram



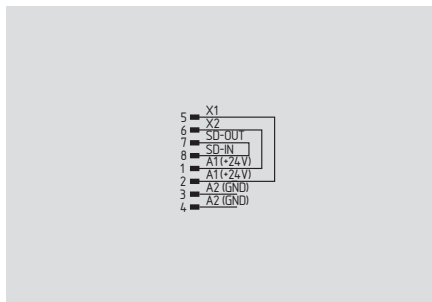
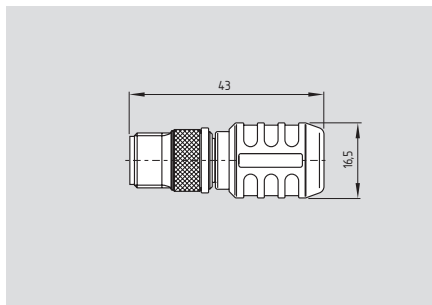
Electronic safety sensor accessories

Y-adapter CSS-Y-8P



- Enables the series-wiring of sensors and solenoid interlocks with SD interface. To that effect, both the safety channels and the serial diagnostic lines are wired in series.
- For the wiring, M12 cable extensions can be used. The voltage drop (due to the cable length, cable section, voltage drop per sensor) should be taken into account, as it reduces the maximum number of safety sensors and interlocks with SD interface that can be wired in series.

Terminal connector



- Supplies the safety channels with operating voltage
- Leads the SD interface back to the control cabinet to connect further SD participants of other safety circuits

Technical data

Rated operating voltage of the SD devices: **24 VDC (-15%/+10%)**
 Rated operating voltage of the adapter: **30 VDC**
 Max. operating current of the device to be connected: **1 A**
 Fuse of the connecting cables (circuit breaker): **4 A**
 Ambient temperature T_{U} : **-25 °C ... +75 °C**

Approvals



Ordering details

Y-adapter

CSS-Y-8P

Approvals



Ordering details

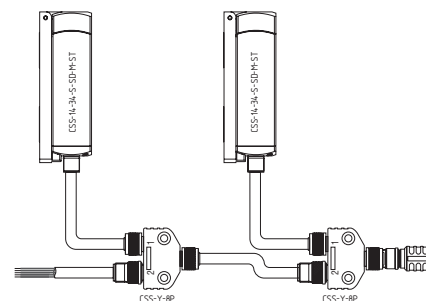
Terminal connector

CSS-Y-A-8P

Connection cables
 M12, 8-poles
 With 0.5m cable
 With 1m cable
 With 1.5m cable
 With 2.5m cable
 With 5m cable

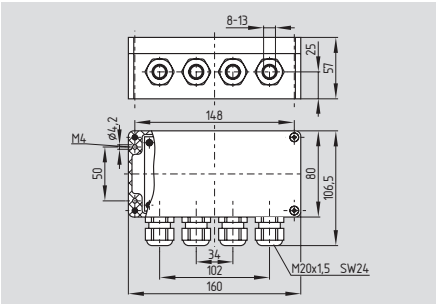
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Wiring diagram



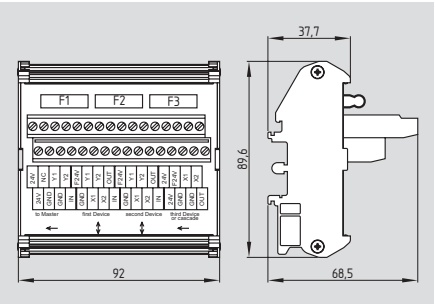
Electronic safety sensor accessories

SD-2V-F-SK



- For field applications, junction box for 2 components, with screw terminals
- The terminals of the junction box are located in a closed enclosure

SD-2V-S-SK



- For control cabinet mounting, junction box for 2 components, with screw terminals
- Enables wiring in the control cabinet onto standard DIN rails

Technical data

Standards:	VDE 0100
Enclosure:	thermoplastic, self-extinguishing
Protection class:	SD-2V-F-SK: IP65 SD-2V-S-SK: IP00 to EN 60529
Insulation protection class:	SD-2V-F-SK: II, III SD-2V-S-SK: II
Overvoltage category:	III
Degree of pollution:	SD-2V-F-SK: 3 SD-2V-S-SK: 2
Connection:	Screw terminals
Cable section:	min. 0.25 mm², max. 2.5 mm² (incl. conductor ferrules)
Cable entry:	SD-2V-F-SK: 4 x M20, for cladding diameter 8 ... 13 mm
Number of connections:	to each SD junction box, 2 (optionally 3) components can be connected
Fuse rating:	3 internal fine fuses, 2 A slow blow, 5 x 20
Ambient conditions:	
Ambient temperature:	-25 °C ... +70 °C
Storage and transport temperature:	-25 °C ... +85 °C
Relative air humidity:	30% ... 95%, non-condensing
Electrical data:	
Rated operating voltage U _e :	24 VDC -15% / +10% (stabilised PELV)
Rated operating current I _e :	16 A
Rated impulse withstand voltage U _{imp} :	800 V
Rated insulation voltage U _i :	32 VDC
Fuse rating:	16 A

Approvals



Ordering details

SD junction box for field applications

SD-2V-F-SK

Approvals



Ordering details

SD junction box for control cabinet mounting

SD-2V-S-SK

Note

More detailed product information can be found in the Electronic Safety Sensors and Solenoid Interlocks catalog.