

## Description

The power distribution system SVS21 for DIN rail mounting distributes all voltage potentials supplied by a 24 V power supply (SMPS) onto 8 ways and selectively protects the connected loads by means of the circuit breaker fitted. With a max. load current of 8 A per way and a max. total current of 40 A the SVS21 provides ease of distribution and sub-distribution in short-circuit-limited DC 24 V applications. The protected »L+« load outputs per way allow direct connection of 0 V return conductor or functional earth (FE) and help to significantly reduce wiring time.

### Suitable for the following E-T-A circuit breaker types:

electronic circuit breaker                   **ESS20-003..**  
 electronic circuit protector               **ESX10-103..**

## Features and benefits

- Systematic integration of protection and distribution functions
- Power distribution and selective protection of DC 24 V load circuits from a single supplier
- Clear distribution and patching concept
- Profitability through significant reduction of wiring time
- Reduced time and expenses for planning, design and installation
- Ease of maintenance, diagnosis and system extension
- Integral single signalling per slot

## Ordering information

### Type

<b>SVS21</b>	power distribution system for ESS20-003, ESX10-103
	<ul style="list-style-type: none"> <li>• For short circuit current limited DC 24 V applications</li> <li>• Max. 40 A cont. load</li> <li>• two integral circuit breakers (CB1 and CB2): overcurrent protection for supply of signalling, red LED flashing after CB1 has tripped</li> <li>• incl. 1 insulated wire bridge Y 303 881 08</li> <li>• single signalling S0 per slot</li> </ul>
	<b>Version, max. number of circuit breakers on the power distribution system</b>
	<b>08</b> 8 circuit breakers (F1...F8)
	<b>Fitted version, load output and signalling terminals</b>
	<b>B10</b> standard: completely fitted with plug-in type screwless terminals (max. 2.5 mm <sup>2</sup> , without wire end ferrule)

**SVS21 - 08 - B10** ordering example

**Accessory:** jumper, see Accessories



## Technical data (T<sub>amb</sub> = 25 °C, U<sub>B</sub> = DC 24 V)

### Application

Modular power distribution system for short circuit current limited DC 24 V applications.

### Supply

Rated voltage	DC 24 V (18...32 V)
Total current	max. 40 A DC 24 V (+) = X21 + DC 24 V (-) = X21 - FE functional earth = X21 FE

Terminals	3 screw terminals max. 10 mm <sup>2</sup> , integral loop-through for power supplies, for patching
	with/without wire end ferrule 0.5 – 10 mm <sup>2</sup>
	stripped length 12 mm
	screw terminals M4
	tightening torque (EN 60934) 1.2 – 1.5 Nm

### F positions

8 slots for circuit breakers, prepared for types ESS20-003, ESX10-103: F1 ... F8 = terminals X1 ... X8

### Load outputs and/or single signalling per way

Rated voltage	DC 24 V (18...32 V)
Current	max. 8 A per terminal block (X1...X8) / per slot F1...F8 <sup>1)</sup>
Terminals	(S0) single signalling per slot (S0) (L+L) protected load output (+), per slot F1...F8 (-) DC 24 V (-) (-) DC 24 V (-) (FE) functional earth (FE)
	max. cable cross section
	5-pole terminals
	screwless terminals max. 2.5 mm <sup>2</sup>
	with/without wire end ferrule 0.25 – 2.5 mm <sup>2</sup>
	stripped length 10 mm

<sup>1)</sup> When mounted side-by-side and fully populated with circuit breakers type ESS20, ESX10 rated 10 A, the breakers can only carry 80% of their rated load continuously.

**Technical data (T<sub>amb</sub> = 25 °C, U<sub>B</sub> = DC 24 V)**

**Signalling**

Rated voltage	DC 24 V (18...30 V)
Total current	max. 0,5 A
Terminals	supply of signalling via terminal (X31) (+) internal +DC 24 V-supply (X21+) for signalling via insulated wire bridge from (+) to (SC), protected by CB2 (SC) external possible supply +DC 24 V for signalling, protected by CB1 (SC) external possible supply +DC 24 V for signalling, protected by CB1 (-) additional output DC 24 V (-) (FE) additional output functional earth  max. cable cross section 5-pole terminals with/without wire end ferrule 0.25 – 2.5 mm <sup>2</sup> stripped length 10 mm

Selective overcurrent protection CB1 and CB2 for aux. circuit – supply LED red flashes after CB1 has tripped. Reset circuit breakers: press red actuator. Terminals: outputs for single signalling S0 on terminals X1 to X8 max. 0.5 A

**Termination**

for population version, load output / signalling terminals

**B10 load outputs and signalling:**

5-pole terminals, (X1-X8) / (X31)  
 plug-in type screwless terminals, fitted  
 Max. cable cross section  
 with/without wire end ferrule 0,25 – 2,5 mm<sup>2</sup>  
 stripped length 10 mm  
 with integral test socket

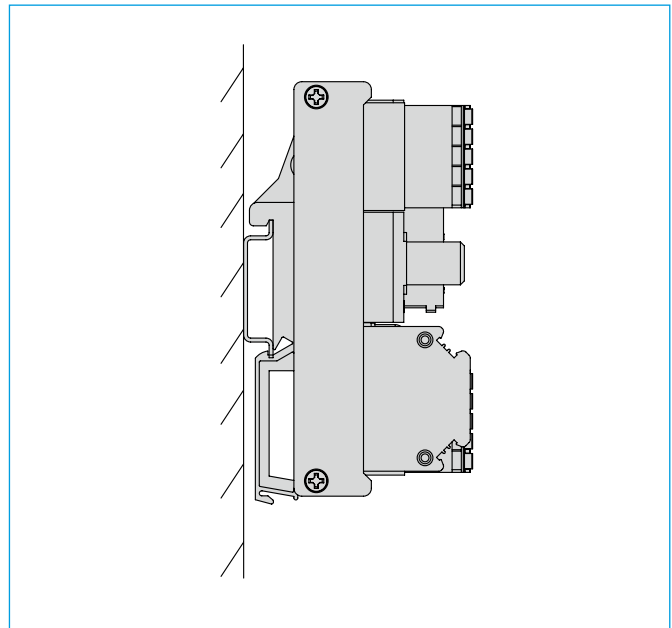
**General data**

Mounting	symmetrical rail to EN 50022 - 35 x 7,5
Temperature range	0...50 °C (without condensation)
Storage temperature	-20...+70 °C
Housing material	plastic
Protection class	terminals IP20 DIN 40050 printed circuit board IP00 DIN 40050 (double coating)
Insulation voltage	DC 250 V (pcb)
Dimensions	see drawings (tolerances to DIN ISO 286 part 1 IT13)
Mass	SVS21-08-B10 approx. 455 g

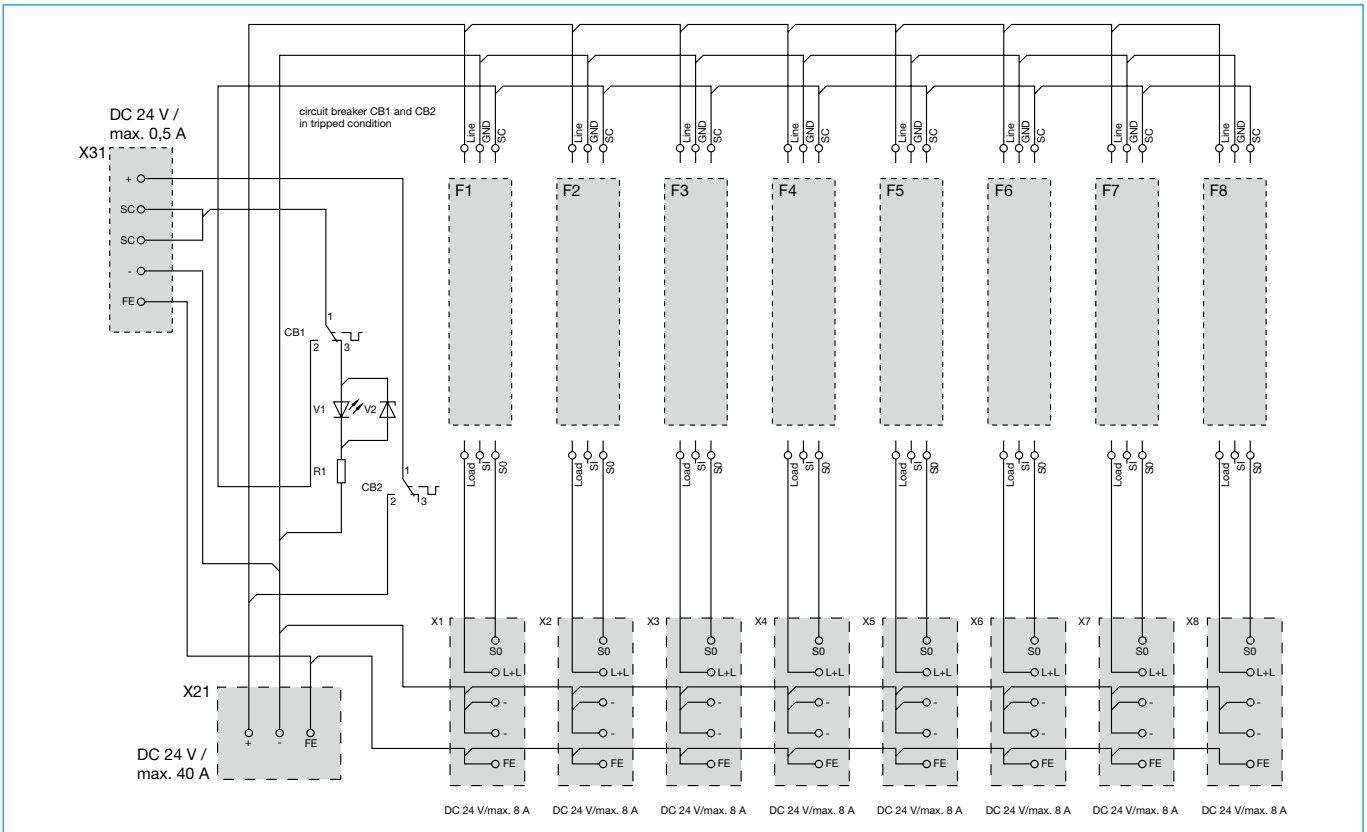
**Notes**

- The max. total current of 40 A must not be exceeded.
- The user has to ensure that the proper cable cross section of the load circuit in question is chosen in relation to the rating of the load / circuit breakers.
- Technical data of the circuit breakers have to be observed.
- In addition special precautions have to be taken in the plant or machinery (e.g. use of a safety PLC) to prevent inadvertent start-up of (parts of) the system (cf. Machinery Directive 98/37/EG and EN 60204-1, Safety of Machinery). In the event of a failure (short circuit/ overload) the load circuit will be disconnected by circuit breakers.
- The power distribution system must only be installed by skilled personnel.
- It is exclusively meant for the use with low voltages (= 24 V).
- Only after expert installation may the assembly be connected to a power supply.
- After tripping of the circuit breaker and before reset the cause of the tripping (short circuit or overload) must be remedied.
- The national and international standards (e.g. DIN VDE 0100 for Germany) must be observed with respect to installation and selection of cables.
- Connection to higher or not reliably disconnected voltages may be hazardous or cause damages.

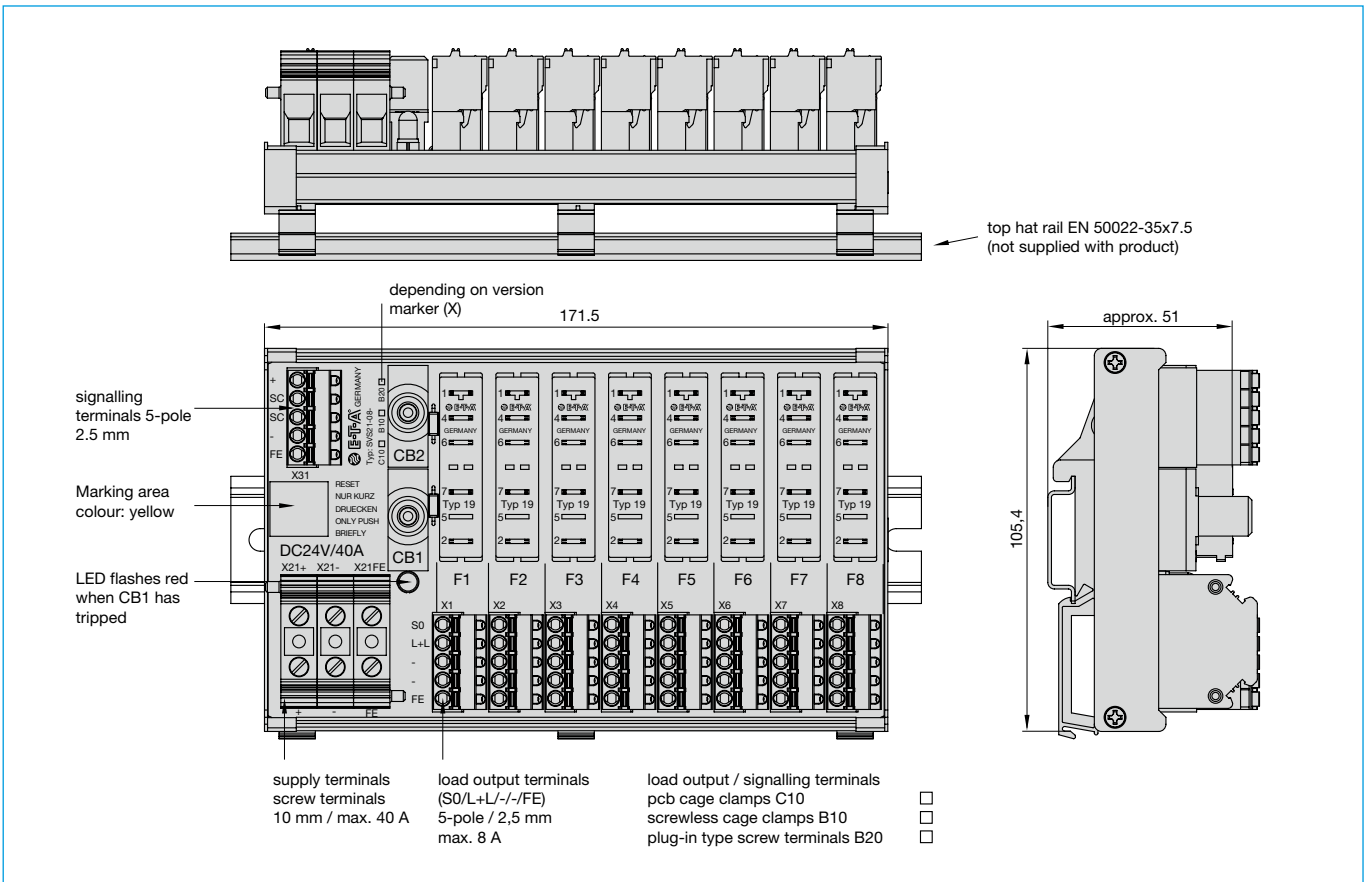
**Mounting position**



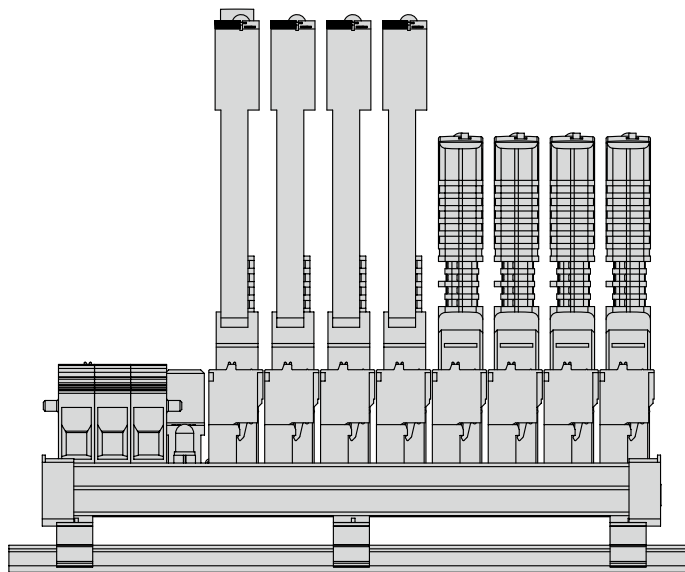
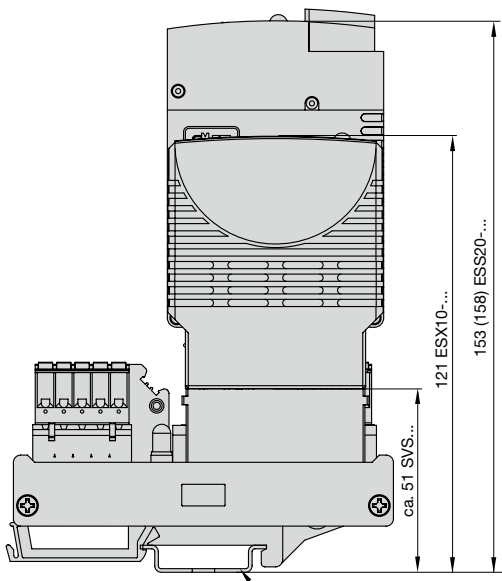
**Schematic diagram SVS21-08-8xx**



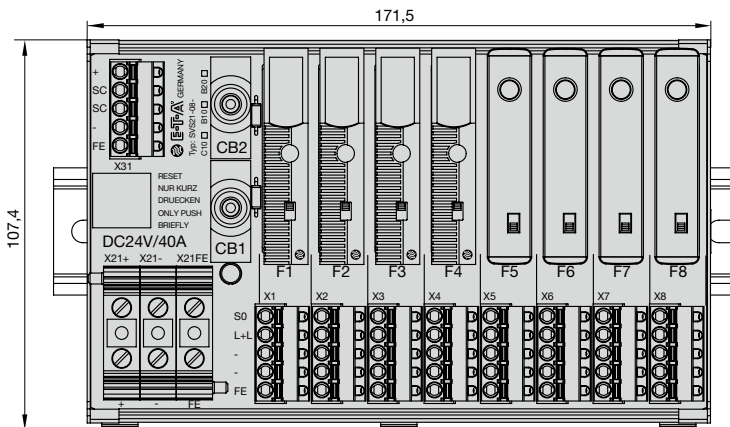
**Dimensions: SVS21-08-B10**



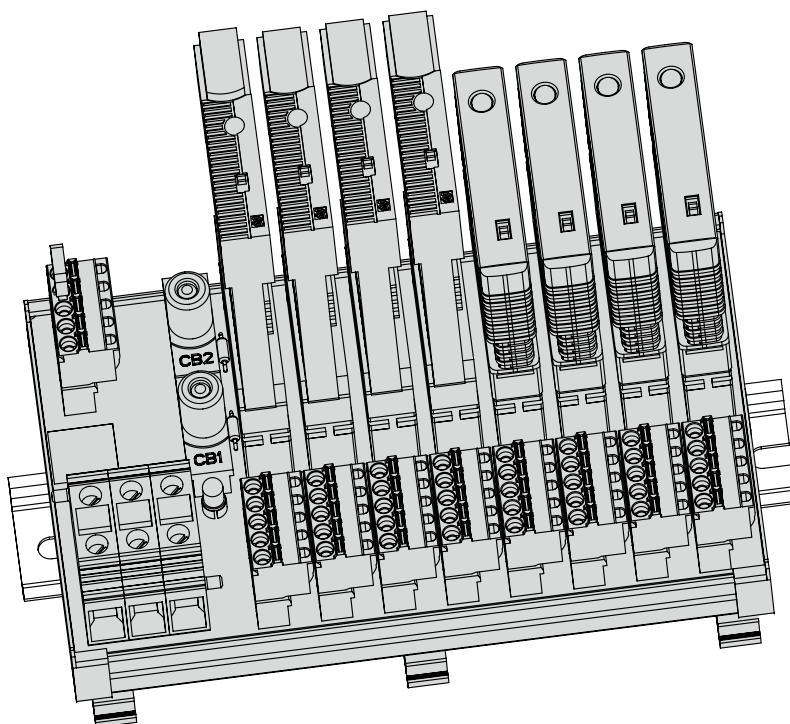
Application example: SVS21-08-B10 fitted with ESS20-003 and ESX10-103



top hat rail EN 50022-35x7.5  
(not supplied with product)



Plug-on modules  
(circuit breakers / jumpers):  
Please order separately.



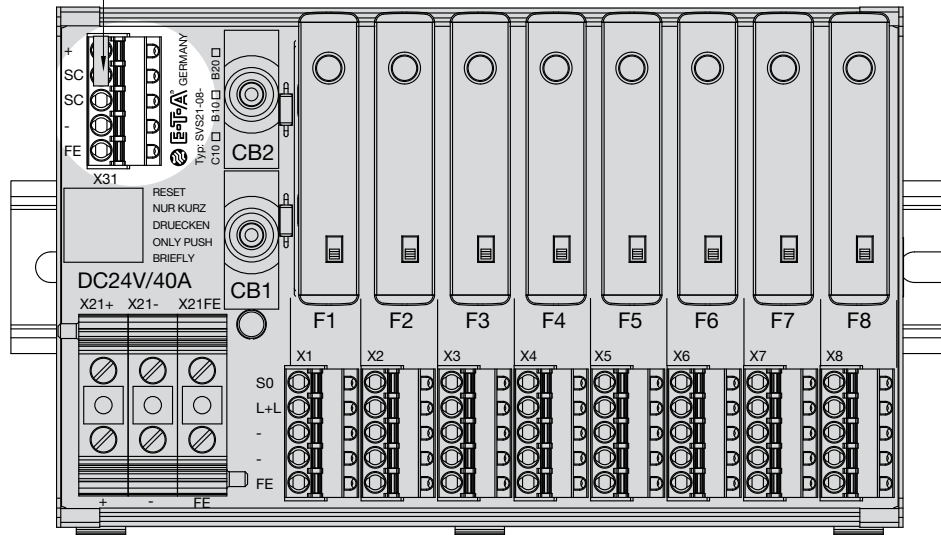
## Application example for insulated wire bridge / signal circuit - supply

### Terminal X31 for signalling

Insert insulated wire bridge between (+) and (SC).

Internal +DC 24 V supply (X21+) for signal circuit.

Positive potential of (X21+) will then be connected to (SC).

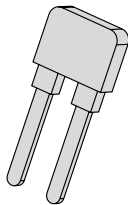


## Accessories

### Insulated wire bridge

**Y 303 881 08**

1 piece is supplied with the product



All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

