

## Description

The power distribution system SVS15 for rail-mounting distributes the voltage potentials U1 and U2, which are supplied by a DC 24 V power supply, to 8 ways (4 x U1, 4 x U2) and protects the connected loads selectively by means of plugged-in circuit breakers. With a maximum load current of 8 A per way and a maximum total current of 40 A the SVS 15 provides ease of power distribution in short circuit limited DC 24 V applications. Five protected »L+« load outputs per way and 30 minus-terminals significantly reduce wiring time.

### Suitable for the following devices:

electronic circuit breaker	<b>ESS20-003..</b>
electronic circuit protector	<b>ESX10-103..</b>
thermal-magnetic circuit breaker	<b>2210-S21</b>

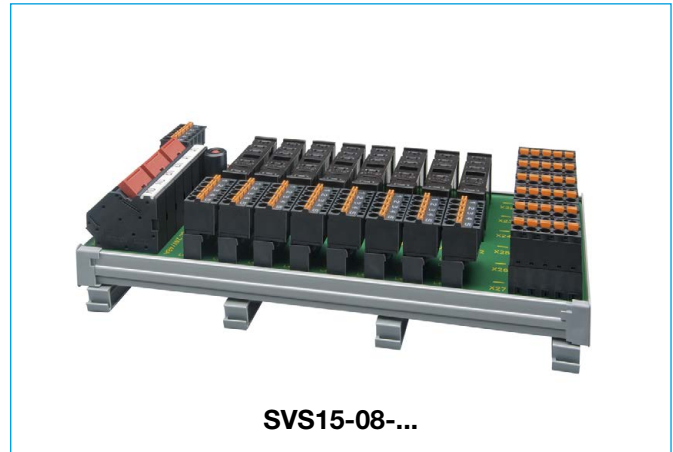
## Features and benefits

- systematic integration of protection and distribution functions
- power distribution and selective protection of DC 24 V load circuits in one product
- clear distribution concept for two voltage potentials U1 and U2
- cost-effective through reduction of wiring, design and installation time
- ease of maintenance, diagnosis and expansion
- compact power distribution for compact control cabinets
- additional integral minus terminals

## Ordering information

<b>Type</b>	power distribution system for ESS20-003, ESX10-103 and 2210-S21
<b>SVS15</b>	<ul style="list-style-type: none"> <li>• for short circuit limited DC 24 V-applications</li> <li>• max. 40 A continuous load</li> <li>• one integral circuit breaker (CB1): overcurrent protection for group and sum signalling, red LED flashes upon trip of CB1</li> <li>• incl. 1 insulated wire bridge Y 303 881 08</li> <li>• accessories: jumper SB-S11-P1-01-1-1A (for free ways), to be ordered separately</li> </ul>
	<b>Version, max. number of circuit breakers on the power distribution system</b>
<b>08</b>	8 circuit breakers (F1...F8)
	<b>Fitting version</b>
<b>B10</b>	standard: completely fitted with plug-in type screwless terminals (max. 2.5 mm <sup>2</sup> , without wire end ferrule)
	<b>Minus terminals</b>
<b>K01</b>	30 minus terminals
	<b>Special marking</b>
<b>SB01</b>	with marked terminals line entry U1/U1/U2/U2/0V/0V remaining terminals 1/2/3/4/5
<b>SVS15 - 08 - B10 - K01 - SB01</b>	

**Accessories:** jumper and wire bridge see page "Accessories"



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

### Application

modular power distribution system for **short circuit limited** DC 24 V applications

### Line entry

rated voltage:	DC 24 V (18...32 V)
total current:	max. 40 A
	DC 24 V (+) = X21 U1 / U1
	DC 24 V (+) = X21 U2 / U2
	DC 24 V (-) = X21 0V / 0V
terminals	3 x 2 screwless terminals max. 10 mm <sup>2</sup> for supplies U1 and U2 integral loop-through for sub-distribution and additional connection of an external buffer module max. cable cross section with/without wire end ferrule 0.25 – 10 mm <sup>2</sup> stripped length 12 mm

### F positions

8 positions for circuit breakers, suitable for ESS20-003, ESX10-103, 2210-S21  
U1-potential F1...F4 = terminals X1...X4  
U2-potential F5...F8 = terminals X5...X8  
Plug jumper SB-11-P1-01-1-1A into free ways (order separately, see accessories)

### Load outputs per way

rated voltage:	DC 24 V (18...32 V)
current:	max. 8 A per terminal block/position <sup>1)</sup>
terminals:	5 x L+ protected per position F1...F8 carried out to terminals X1...X8 plug-in type screwless terminals max. 2.5 mm <sup>2</sup>

### Minus terminals

rated voltage:	DC 24 V (18...32 V)
current:	max. 8 A per terminal block
terminals:	5-pole terminals X22 ... X27 (30 minus terminals in total) plug-in type screwless terminals max. 2.5 mm <sup>2</sup> max. cable cross section without wire end ferrule 0.2 – 2.5 mm <sup>2</sup> stripped length 10 mm

<sup>1)</sup> When connected in series and mounted side-by-side, circuit breakers type ESS20, ESX10, 2210, 3600 and 3900 rated 10 A can only carry 80 % rated load.

## Technical data ( $T_{amb} = 25\text{ C}$ , $U_B = \text{DC } 24\text{ V}$ )

### Signalling

rated voltage:	DC 24 V (18...30 V)
total current:	max. 0.5 A
signalling terminal X31 for sum or group signal	
X31.1 [OUT-S/GR1]	signal output: output sum signal S or output group signal GR1
X31.2 [+DC24V]	external supply + DC 24 V for signal circuit (max. 0.5 A)
X31.3 [IN-GR]	supply group signal via bridge between X31.4 and X31.3
X31.4 [PROT24]	signal circuit, protected by integral circuit breaker CB1
X31.5 [IN-S/OUT-GR2]	supply sum signal via bridge between X31.4 and X31.5 or output group signal GR2 (at bridge between X31.4 and X31.3)
terminals:	5-pole terminals plug-in type screwless terminals max. 2.5 mm <sup>2</sup> max. cable cross section without wire end ferrule 0.2 – 2.5 mm <sup>2</sup> stripped length 10 mm

Selective overcurrent protection CB1 for supply of sum or group signal. Red LED flashes after trip. Reset CB1: briefly push red actuator

### Termination

for signalling, load outputs and minus-terminals  
B10: plug-in type screwless terminals max. 2.5 mm<sup>2</sup>,  
with integral test socket (standard)

### General data

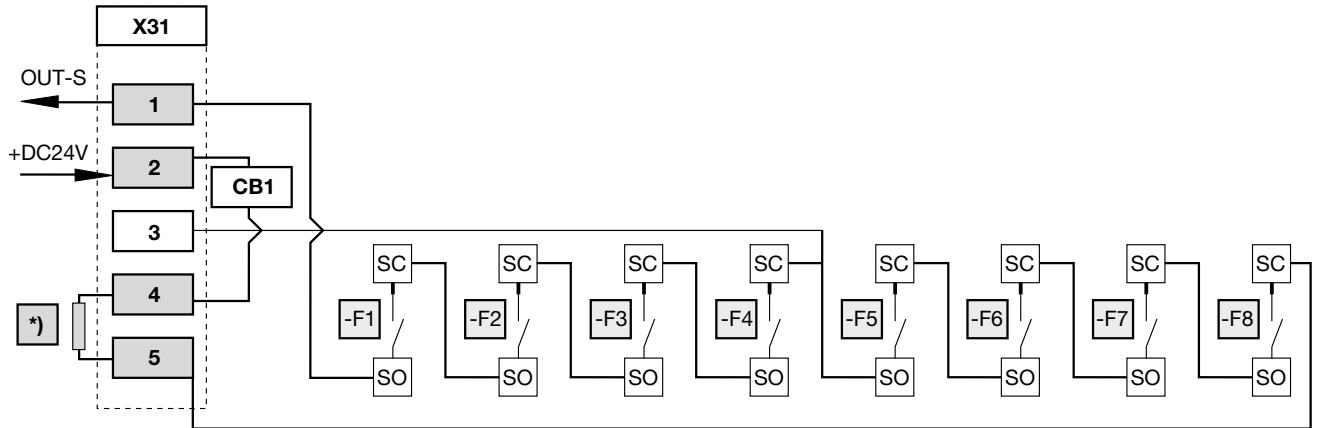
- Mounting: top hat rail to EN 50022 - 35 x 7.5
- temperature range: 0...50 °C (without condensation)
- storage temperature: -20...+70 °
- housing material: plastics
- protection class: terminals IP20 DIN 40050  
pcb IP00 DIN 40050  
(double coating)
- insulation voltage: DC 250 V (pcb)
- dimensions: see drawings  
(tolerances to DIN ISO 286 part 1 IT 13)
- Mass: SVS15-08-B10: approx. 560 g

## Reference notes

- The max. total current of 40 A must not be exceeded.
- In each load circuit the cable cross sections and the current rating of the protective device must be selected according to the rating of the connected load.
- The technical data of the circuit breaker used must be observed.
- According to "Machinery Directive 98/37/EG and EN 60204-1, Machine Safety" special precautions have to be taken in machinery (e. g. use of a safety PLC) to prevent inadvertent start-up of machinery parts. In the event of a failure (short circuit / overload) the load circuit will be disconnected by the circuit breaker.
- The power distribution system must be installed by qualified personnel only.
- The assembly is only suitable for use at safety extra-low voltage (DC 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 tripping (short circuit or overload) must be remedied.
- The 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.

## Wiring example: SVS15-08... with ESX10-103 and sum signalling

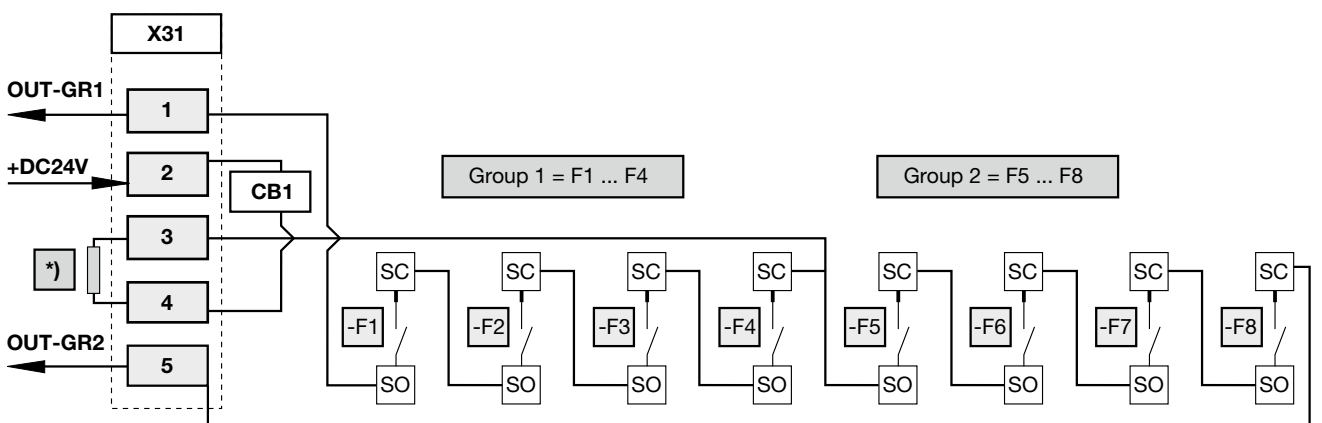
Signal path of the sum signalling from F1 to F8



- X31.1 [OUT-S] signal output sum signal
- X31.2 [+DC24V] supply + DC 24 V for signal circuit
- X31.3 - free -
- X31.4 [PROT24] signal circuit, protected by CB1
- X31.5 [IN-S] line entry sum signalling with insulated wire bridge \*
- SC/SO auxiliary make contact (ESX10-103)

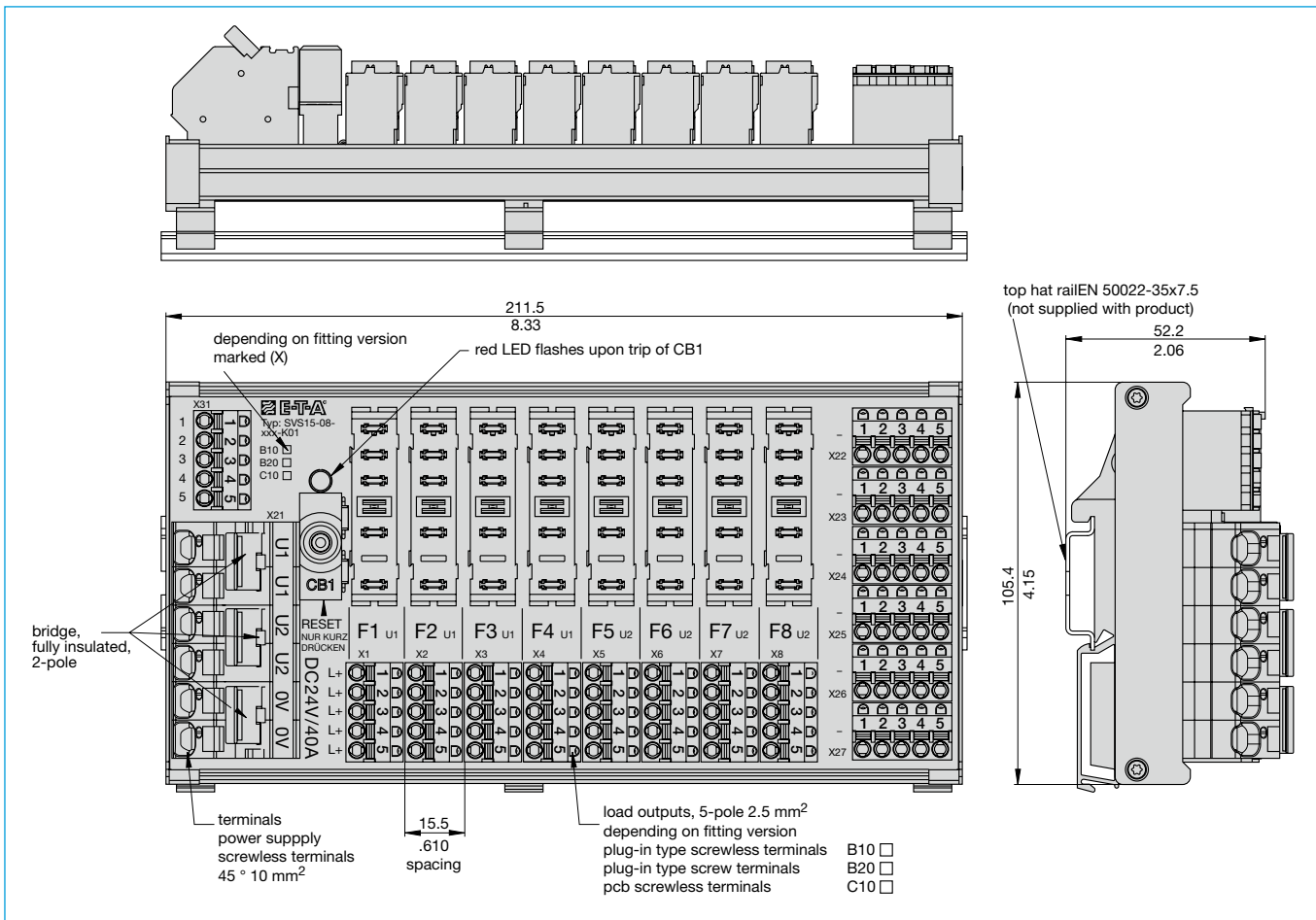
## Wiring example: SVS15-08... with ESX10-103 and group signalling

The signal path of the group signalling is as follows:  
from F1 to F4 = group 1, from F5 to F8 = group 2

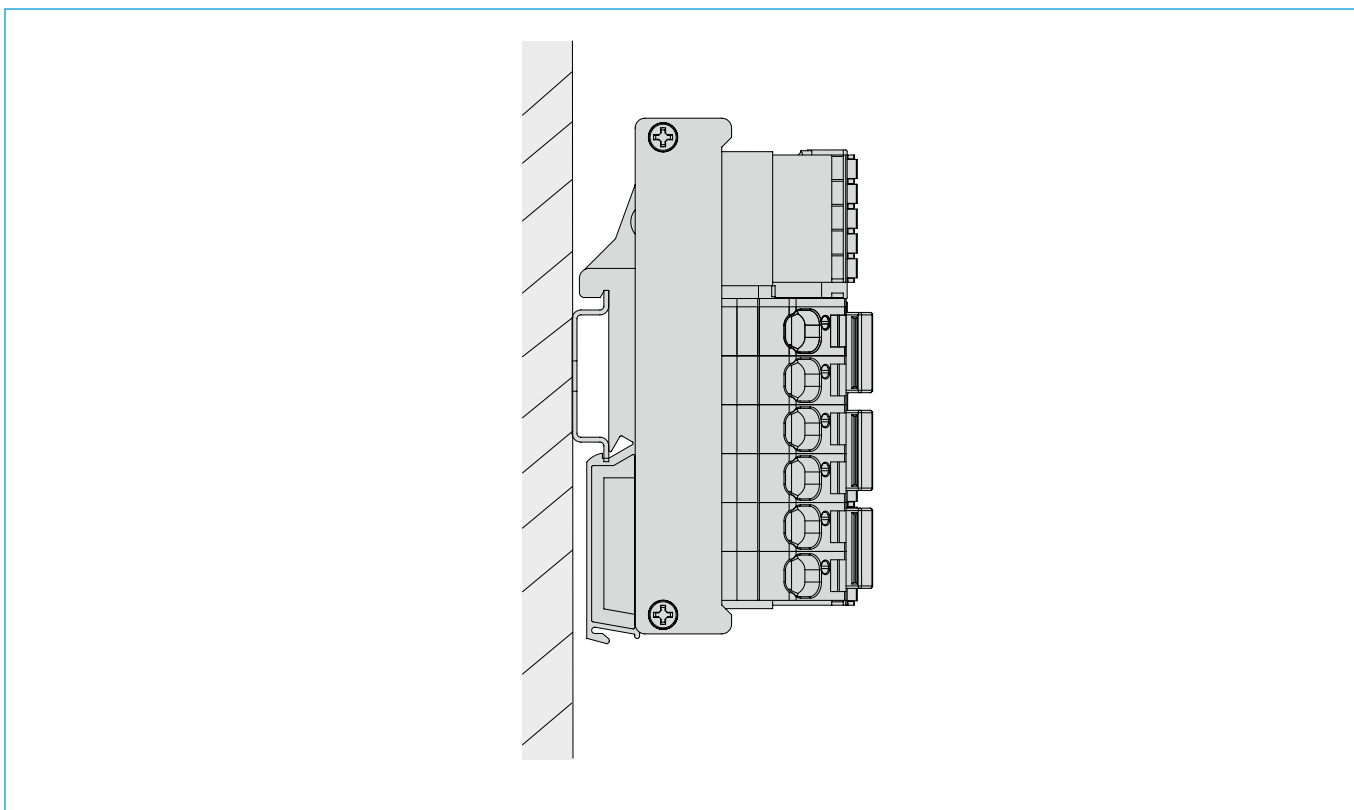


- X31.1 [OUT-GR1] signal output group 1
- X31.2 [+DC24V] supply + DC 24 V for signal circuit
- X31.3 [IN-GR] supply group signal with insulated wire bridge \*
- X31.4 [PROT24] signal circuit, protected by CB1
- X31.5 [OUT-GR2] signal output group 2
- SC/SO auxiliary make contact (ESX10-103)

**Dimensions SVS15-08... K01 (with 30 minus terminals)**

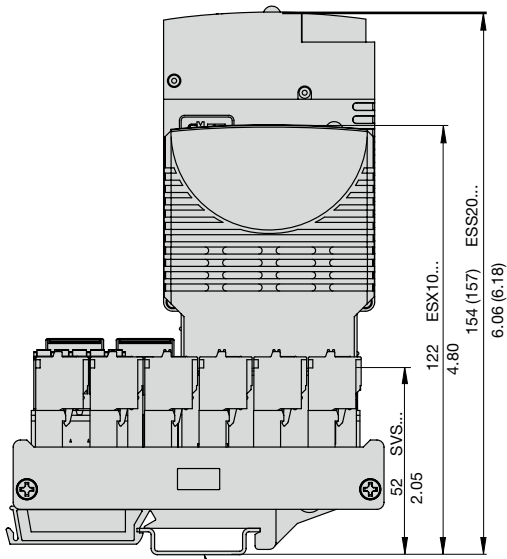


**Mounting position**

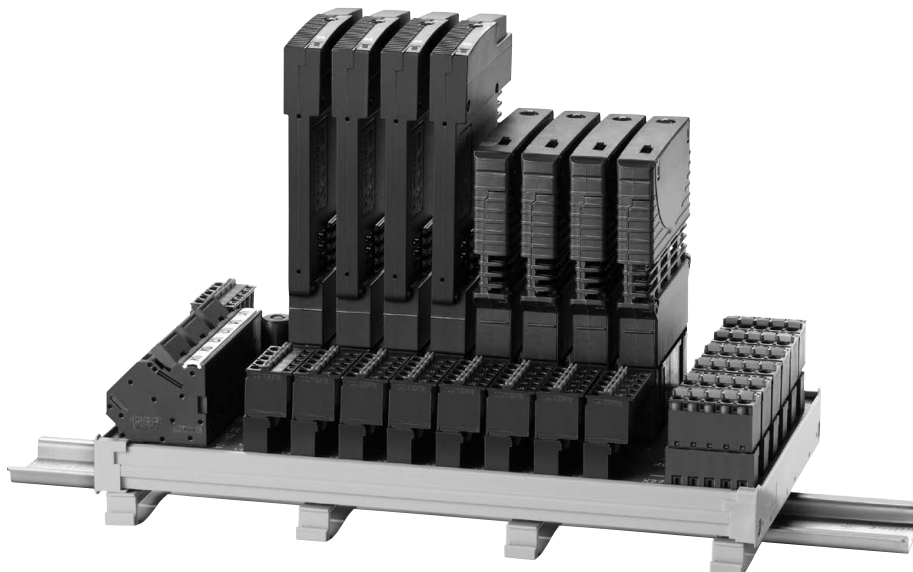
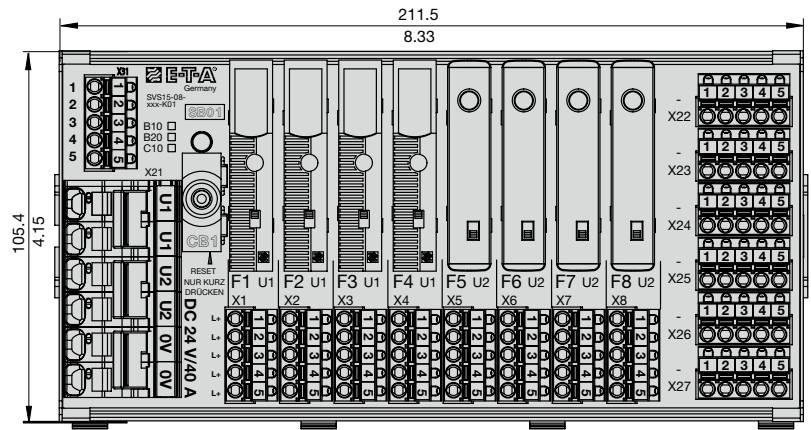
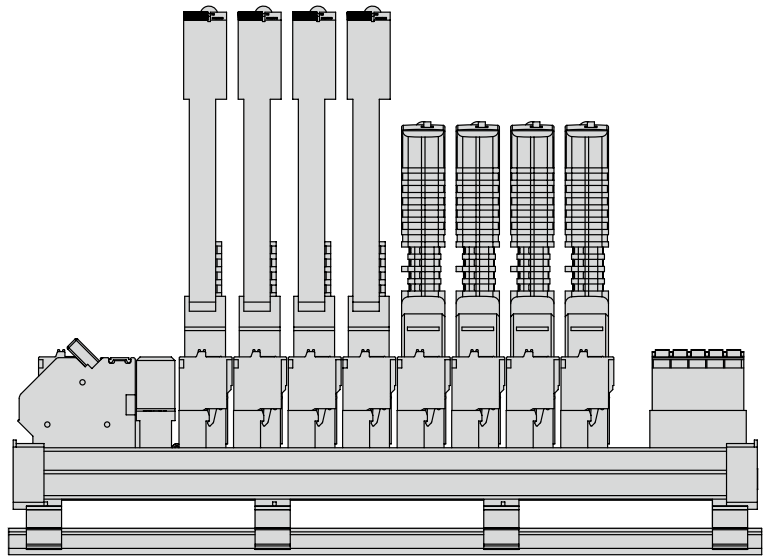


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Schematic diagram SVS15-08-B10 K01, fitted with ESS20-003 and ESX10-103

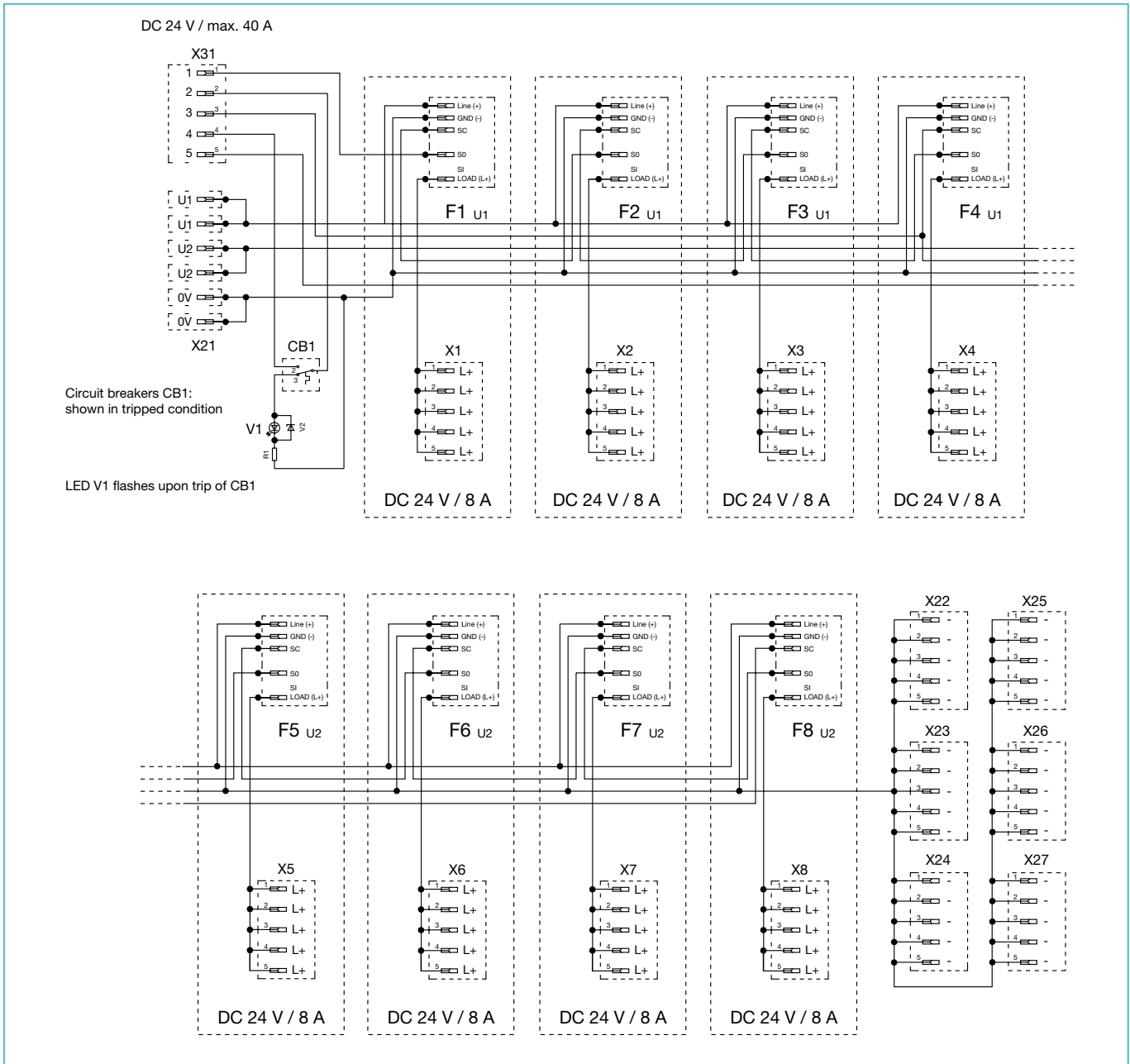


top hat rail EN 50022-35x7.5  
(not supplied with product)



Please order plug-in modules (circuit breakers/jumpers) separately

Schematic diagram SVS15-08... K01 (fitted with ESX10-103)



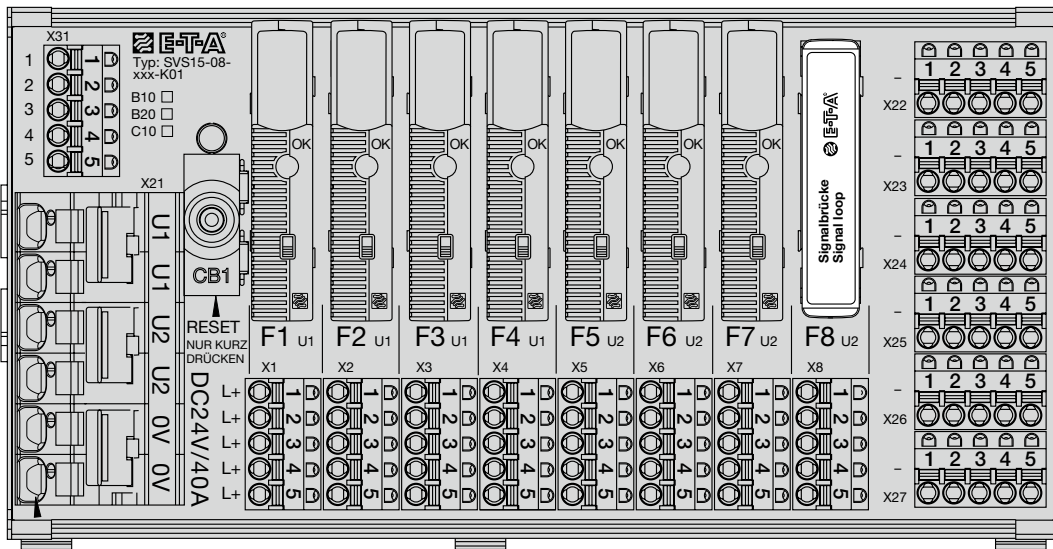
## Application example with jumper (instead of ESS20-003)

If the distribution rail is not completely fitted with ESS20-003, the open way may be closed by means of a jumper type SB-S11-P1-01-1-1A.

The signal path of the sum signalling

- to X31.4 via integral overcurrent protection CB1 upon feeding the +DC24V potential into X31.2
- from X31.4 via the plugged-in wire bridge to X31.5
- via all auxiliary make contacts SC/S0 of the plugged-in circuit breakers ESS20-003
- back to the signal output of the sum signal X31.1 ("OUT-S")

Under normal operating conditions (i.e. all circuit breakers fitted and working) the signal path (SC) to (SO) is closed.



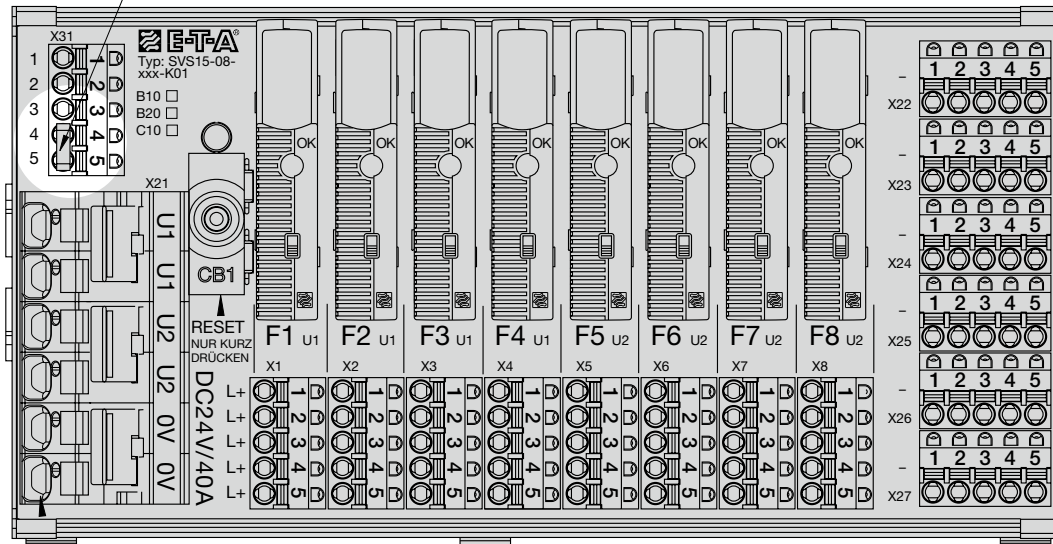
## Application example with insulated wire bridge

**Terminal X31 e.g. for group signalling**

plug in insulated wire bridge between X31.4 and X31.5

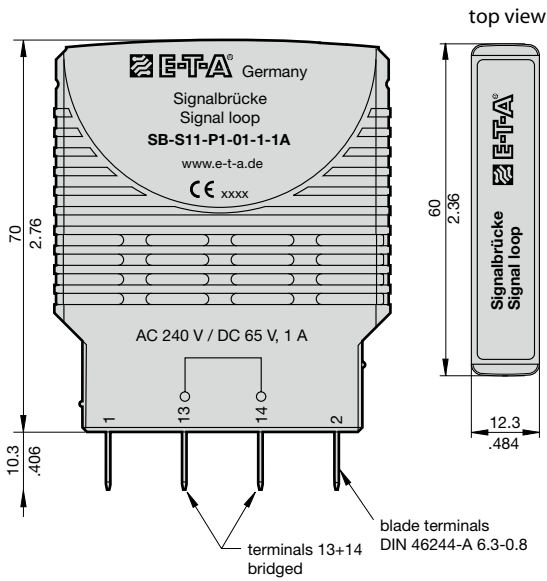
feed-in of + DC 24 V in X31.2

signal output of the group signal of all circuit breakers is X31.1



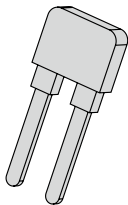
**Accessories**

**Jumper  
SB-S11-P1-01-1-1A**



**Insulated wire bridge  
Y 303 881 08**

1 insulated wire bridge is supplied with the power distribution system.



This is a metric design and millimeter dimensions take precedence ( $\frac{\text{mm}}{\text{inch}}$ )

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.