

Features

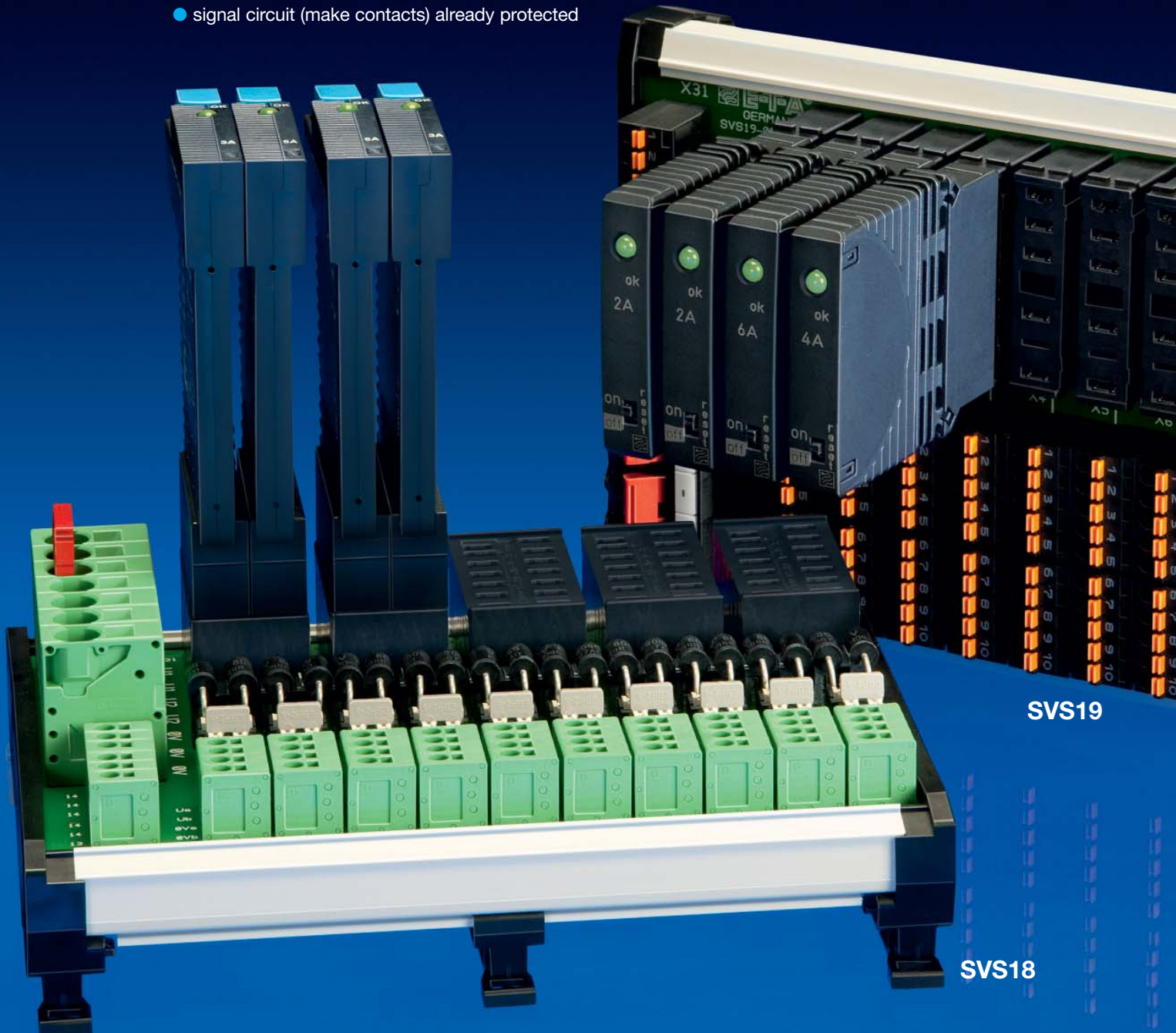
At a glance:

SVS18-10

- for current-limited DC24V applications, continuous load max. 25A
- two DC24V entry line potentials for U1 and U2 with joint 0V
- 10 ways (4 x U1, 6 x U2) for ESS20 or ESX10,
- max. 6A rated current per way @ 40 °C
- two integral redundancy diodes (max. 3A) per load output (connected individually or in parallel)

SVS19-08

- for current-limited DC24V applications, continuous load max. 40A
- one DC24V entry line potential + DC 24 V / 0 V
- 8 ways for 2210-S, ESS20 or ESX10,
- max. 10 A rated current per way @ 50 °C
- 10 load terminals per way, a total of 35 minus terminals for load return 0 V
- signal circuit (make contacts) already protected



SVS19

SVS18

*DC 24 V power distribution all of a piece:
printed circuit boards optimise wiring
in control cabinets*

Power distribution systems **SVS18** and **SVS19**

Combinations in a modular system

In mechanical engineering and plant construction there is a great number of very different requirements regarding power supply and distribution in DC 24 V systems.

More and more design engineers today are specifying the various power distribution systems type SVSxx, which accommodate E-T-A plug-in type circuit breakers 2210-S, ESS20 and ESX10. What would you do if the best possible solution were a combination of existing SVS systems?

No problem, because now the »SVS modular system« consists of a mounting rail, with a size and shape that can optimally be adjusted to specific control cabinet concepts. The profile includes accommodation of the carrier pcb for the plug-in type circuit breakers and electrical contacting of line entry, load and signalling level via screw terminals or spring-loaded terminals. Additional components such as diodes, LED displays, measuring instruments or electronic modules can easily be integrated. After a joint analysis of the existing electric diagram, modern CAD tools help to establish 2D and 3D drafts of an optimised power distribution solution. All electrical and mechanical key data will be summarized in a product brief. In the next step, a new schematic diagram is established transforming the previous wiring concept into correspondingly sized circuit tracks and insulation distances on a multi-layer printed circuit board. Thermal imaging of SVS prototypes, fitted with circuit breakers, shows how the entire

system will behave under full electrical load plus 50% overload and the maximum ambient temperatures to be expected in a control cabinet. This procedure allows special mechanical, electrical and thermal conditions to be taken into consideration very early on when planning and designing a control cabinet.

The 10 ways of power distribution system SVS18-10 for redundant protection of DC 24 V loads are specifically designed for applications in process control industry and power plants. Line entry is via two voltage potentials U1 and/or U2, which can be bridged among one another. Each way or slot has two integral redundancy diodes in the protected load output L+ - allowing control units, all I/O sub-assemblies and also additional field modules or bus modules to be protected redundantly.

The SVS19-08 power distribution system is used mainly in conventional machine construction and helps to optimise the distribution of the DC 24 V control voltage where up to 10 load current circuits are protected by one circuit breaker or protector. In addition there are 35 integral terminals for the return conductors of the loads. This helps to reduce connection

points significantly so the space beside the switch-mode power supply can be used for overcurrent protection plus power distribution. Moreover, an even and consistent temperature distribution is provided on the SVS19 printed circuit board (see fig. 1 and 2).

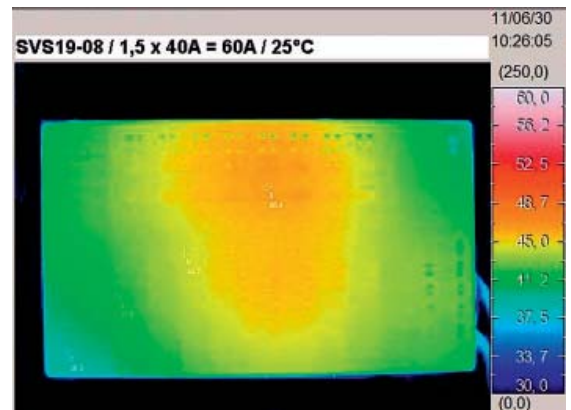


Fig 1: power distribution system SVS19-08 at 25 °C ambient temperature and 1.5 times rated load

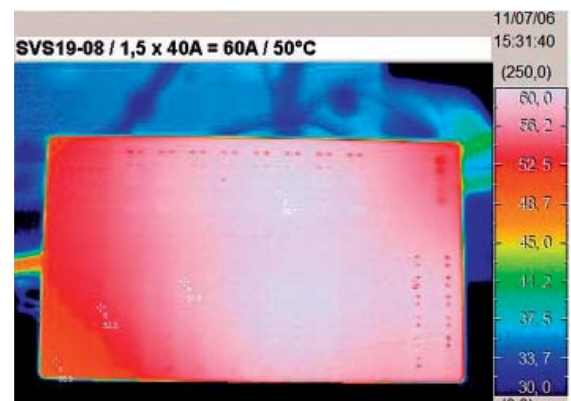


Fig 2: power distribution system SVS19-08 at 50 °C ambient temperature and 1.5 times rated load