Parameterisable DC 24 V Overcurrent Protection
Communication Power Pack for
Field Bus and Ethernet Solutions

The centrepiece of the **ControlPlex® Board** is the electronic circuit protectors type **ESX50D-S**. These plug-in types are fully parameterisable, can be addressed automatically and are available in two different versions:

- The version ESX50D-S100 with current rating adjustment from 1 to 10 A by means of a communication interface
- The version ESX50D-S110, offering the possibility of an „offline" current rating adjustment directly on the unit by means of a selector switch from 1 to10 A

Electronic circuit protector
Type ESX50D-S110 with rotary switch

Technical Data

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DC 24 V supply (spring-loaded terminals)	max. 40 A +24 V, 0 V, max. 10 mm^2
Number of slots	8, 16, max. 24
Population of slots	ESX50D-S100/110-DC 24 V-1 A-10 A
Load outputs max. 10A per slot	2 x load+ and 2 x 0 V
Possible field bus and Ethernet interfaces	PROFINET, PROFIBUS, MODBUS etc.

ControlPlex®

Power distribution system **SVS201-PWR** fitted with electronic circuit protectors **ESX50D-S,** with bus controller **CPC10PN-T1** for PROFINET

Bus controller CPC10PN-T4 for max. 96 electronic circuit protectors
Type ESX50D-S
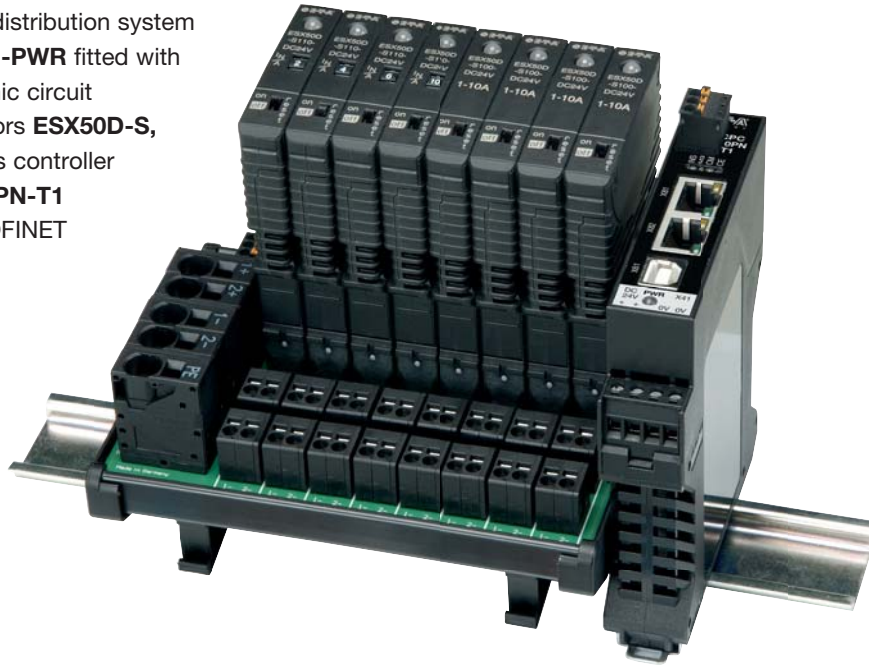
Intelligent DC 24 V Power Distribution System
ControlPlex® Board Type SVS201-CP
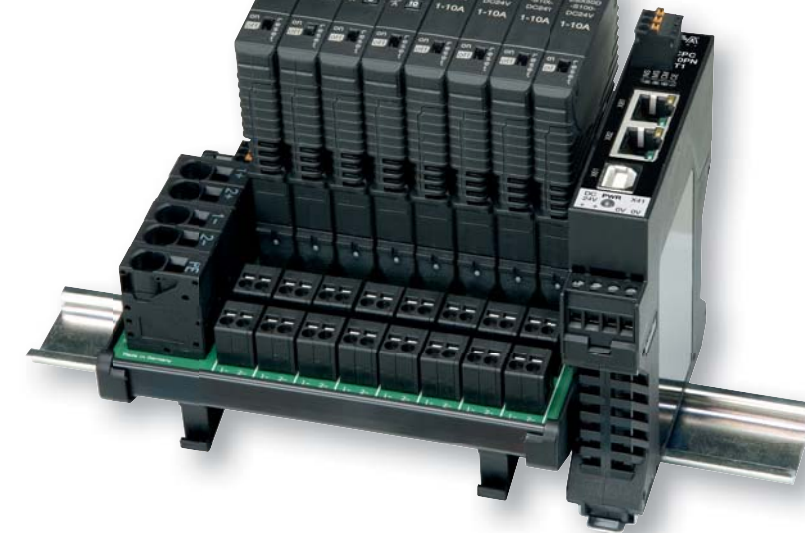
Technical information
Communication Power Pack for Field Bus and Ethernet Solutions

ControlPlex®Board with **SVS201-CP** combines selective overcurrent protection, power distribution of load circuits and the switching and resetting of load circuits. A great number of diagnostic functions such as input voltage, total current, load current, load voltage, limit values, unit temperature and various adjustment possibilities of current ratings, warning thresholds, sequential switch-on operation etc. is transmitted directly via a superordinate field bus system or the Ethernet system of the control level.

The **ControlPlex®Board** consists of the power distribution system **SVS201-PWR** for eight or max. 24 slots, the parameterisable electronic circuit protector **ESX50D-S** and the bus controller **CPC10**.

The E-T-A system
communication concept

The max. current rating of the SVS201 PWR is 40 A, the supply of +DC 24 V, 0 V and PE is via spring-loaded terminals max. 10 mm². Supply voltage of the electronic **CPC10** can be fed in separately. The complete wiring of the load side including PE is fitted with pluggable push-in terminals. The system can be extended to max. 96 ways by way of cascading the power distribution rails.

Always at full throttle: the ELBus®
Fully automatic addressing of the ESX50D-S is immediately after „power on". The status indication per load circuit, e.g. signalling an overload or short circuit, as well as all measuring data for the DC 24 V system voltage, load current and load voltage are directly transmitted via the internal device bus ELBus® to the integral application CPU of the CPC bus

controller. The cycle time is only 730 ms for up to 96 circuit protectors - this is inimitably fast. All measuring values and status information are then forwarded to the superordinate control unit, e.g. via PROFINET or PROFIBUS-DP.

Fit for
Industry 4.0

Raise energy efficiency, cut costs
Efficient energy management of machines and equipment requires a purposeful disconnection of unused loads and system parts. Vital criteria include remote controllability of the individual DC 24 V load circuits and the adjustment of a switch-on delay and disconnection sequences via software. An overload of the power supply is avoided because reconnection of the

DC 24 V loads is with current limitation. The notorious problem „component is destroyed by ON operation" will vanish as the ESX50D-S will very softly load the input capacitors of the DC 24 V loads with constant current.

Condition Monitoring - a stitch in time saves nine
A continuous analysis of load currents and load voltage is now also possible

on the DC 24 V level. This can in future be used for the energy consumption behaviour of machinery and equipment and is mainly relevant with regard to the introduction of an energy management system in accordance with ISO 50001 and a continuous data logging. **It's just the perfect match for Industry 4.0**

Intelligent DC 24 V Power Distribution System
ControlPlex®
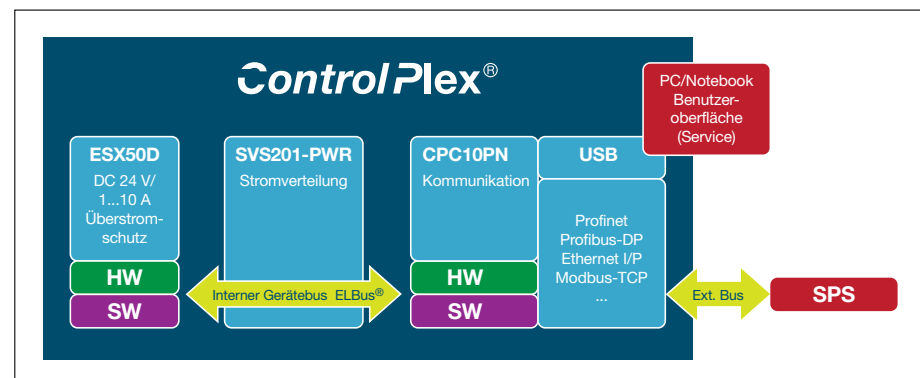
Schematic diagram **ControlPlex®**

Combination of power distribution system and communication module
Protection - Switching - Power Management - Parametrising - Communication

- Intelligent DC 24 V complete system for power distribution and overcurrent protection
- Integral diagnosis and adjustment functions, also possible via USB
- Parameterisable electronic circuit protectors ESX50D-S with fully automatic addressing
- Integral memory HISTOMEMO for overload and short-circuit diagnosis of the load circuits

- Extendable for customised power distribution concepts
- Optional connection to many fieldbus and Ethernet platforms
- Intelligent power distribution ensuring a stable DC 24 V control voltage and offering a wealth of new possibilities on the control level
- Genuine »Plug & Play« and »Hot-Plug« included - allowing a speedy start-up and system extension

- History memory with oscilloscope function offers valuable support with trouble-shooting in the load circuit and minimises downtimes
- ControlPlex® Software with visualisation tools - ensures a clear and consistent hardware configuration for planning, start-up and maintenance

Parameterisable
The provided **ControlPlex®** software and the self-explanatory user interface ensure a clear display of the DC 24 V level during start-up, maintenance or system enhancement along the lines of **»Everything under control – everything OK«**.
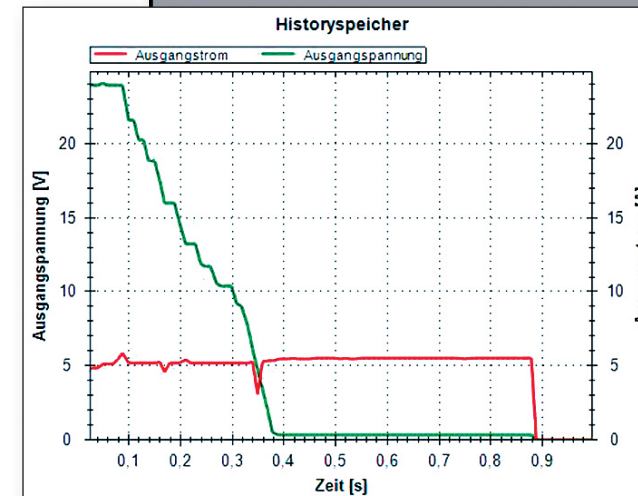
In addition all electronic circuit protectors can be completely parameterised. Modifications, e.g. of the current rating or of the switch-on performance can be carried out centrally by the operator at the PC.

Software for the service interface/USB:
ControlPlex® Views
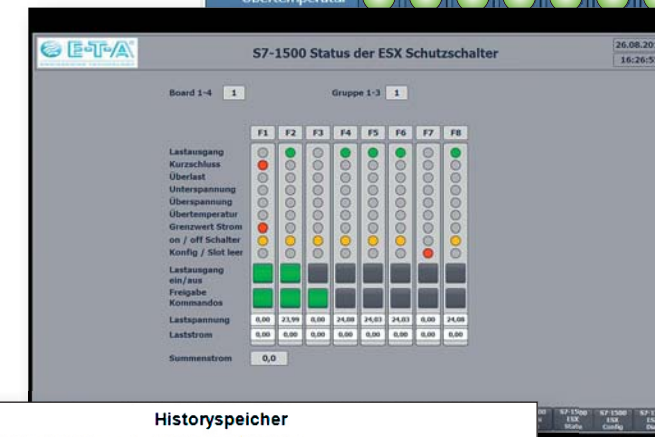
Software for control technology:
ControlPlex® Tools

ControlPlex® history memory:
Creeping short circuit