



EtherCAT



EtherNet/IP

CPC12 ControlPlex® SYSTEM

Unrivalled uptime in machine construction and process control



CPC12 ControlPlex® SYSTEM

Transparency across all levels of the automation pyramid

Requirements regarding product quality and stability of the production process are constantly rising in machine construction and process control. The **CPC12 ControlPlex® System** offers permanent data logging, analysis and processing. This provides the required transparency to detect any changes in the production process at an early stage and to take countermeasures in time.

Consistency of the systems is particularly important. Besides the field bus interfaces PROFINET and EtherNet/IP, Modbus TCP and EtherCAT the **CPC12** bus controller also has another Ethernet

interface. It allows access to the system even without fieldbus. Direct access to the integral web server of the device is made possible. All data and information are available on the device on site, but also in the office. If the circuit protector has tripped, it can quickly be reset to operation. Downtimes are reduced and machine uptime is increased.

Data can easily be analysed and evaluated later by means of remote access. The modular **REX system** is adapted to the special requirements of machine construction and process control. The **CPC12** bus controller extends the **REX system** with a

connection to different fieldbus connections. This makes your DC 24 V power distribution and protection more transparent than ever.

The **REX12D** and **REX22D** electronic circuit protectors records status and measuring values of each load circuit and transmit them to the bus controller. System operators and maintenance staff thus receive all information they need to detect changes and possible undesirable developments at an early stage.

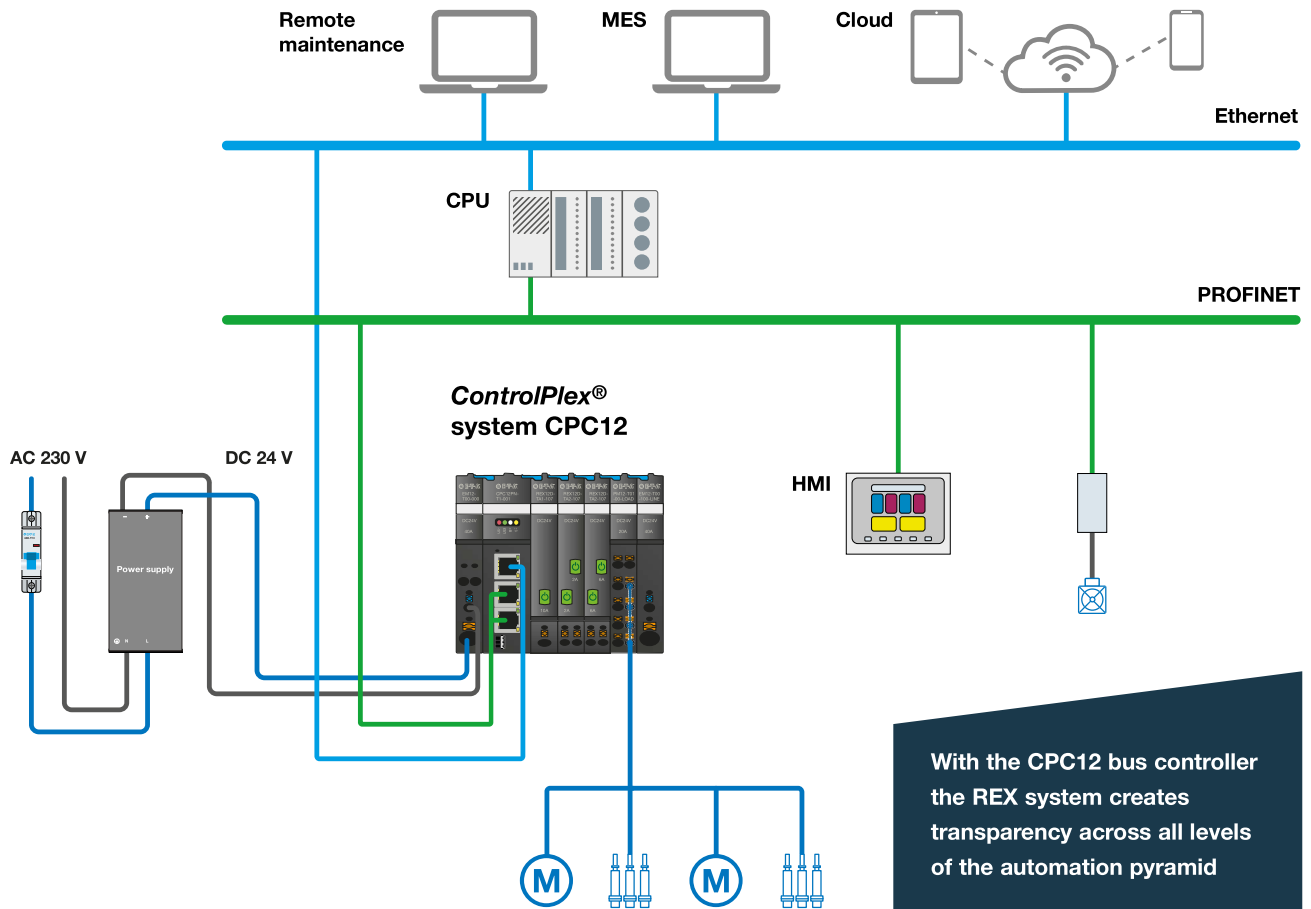


**PROFI
NET**

EtherCAT

Modbus

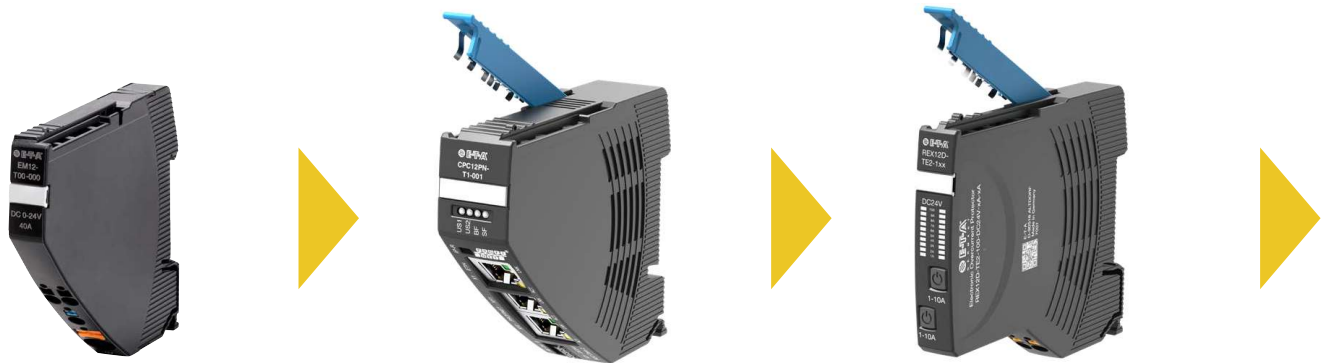
EtherNet/IP



With the CPC12 bus controller the REX system creates transparency across all levels of the automation pyramid

VERSATILE AND INTELLIGENT DC 24 V POWER PROTECTION

Tailor-made for your individual requirements



EM12-T supply module

The **CPC12 ControlPlex®** system provides the ideal combination of transparency and compact design. Up to 40 A can be fed into the supply module. Power is further distributed via the REX connection technology with connector arm to the connected circuit protectors without further accessories. This innovative technology reduces wiring time and eliminates time-consuming disassembly of busbars in the event of replacement or system extension.

CPC12 bus controller

The **CPC12** bus controller is connected to and supplied by the **EM12-T** supply module. In addition, it has a separate DC 24 V power supply and thus enables an independent supply of the circuit protectors. The bus controller records all status information and measuring values of the circuit protectors. These data are visualised with the internal web server. Via the field bus interface, the data are also made available at the superordinate control systems.

REX12D and REX22D circuit protectors

The **REX12D** and **REX22D** electronic circuit protectors have especially been designed for machine construction and process control. Both versions meet the special requirements of these industrial areas. The current ratings of the devices are fixed or also adjustable. This can be done with a slide switch directly at the device or via the digital interface and therefore, via the connected control unit. Likewise, all important information, such as status, current load current and warning messages of each channel are transmitted.





PM12-T potential module

The **PM12-T** potential distribution modules of the **REX system** can be easily divided into two main groups. In the same system, in addition to the +DC 24 V distribution, the minus distribution 0 V (GND) can also be realised. The slim modules save space and enable direct assignment of the power distribution in a system. The direct assignment can be easily and functionally displayed in the respective ePlan and supports wiring and troubleshooting.

CPC12 ControlPlex® system

The integral web server of the **CPC12** bus controller allows direct access to the data of the DC 24 V power distribution. All measuring data and status information can be accessed without using the field bus interface. This is particularly advantageous for the maintenance personnel, because required information is quickly available during initial start-up and in the event of a system shut-down.

Your benefits

- **Maximises system and machine uptime** through clear troubleshooting, high transparency and remote diagnostics
- **Saves space** through the slim design of the circuit protectors and the potential modules
- **Increases flexibility of system planning** through a variety of different modules





CPC12 BUS CONTROLLER IN THE REX FORMAT

Transparency through web server
and fieldbus connection



Connection technology

Matching the **REX system** this connector arm connects the different modules with each other. No additional accessories are required.

Status indication on the device

The operating condition of the device can be read any time via the LEDs.

IP reset

By operating the IP reset button, the IP address is reset to the default value.

Integral web server

The integral web server allows direct access to all data of the **COM REX system**

Field bus connection

The connection to PROFINET and EtherNet/IP, Modbus TCP and EtherCAT provides transmission of measuring values and status information to the superordinate control systems as well as remote access to all circuit protectors.

Separate power supply

The voltage supply of the devices is provided via the connector arm. The bus controller can be supplied via a separate voltage supply. This enables a load circuit independent supply of the device.



The CPC12 bus controller offers a wealth of features. From the integral web server to the separate voltage supply.

THE INTELLIGENT CPC12 *ControlPlex*® SYSTEM

For unrivalled system availability and transparency

Continuous data collection

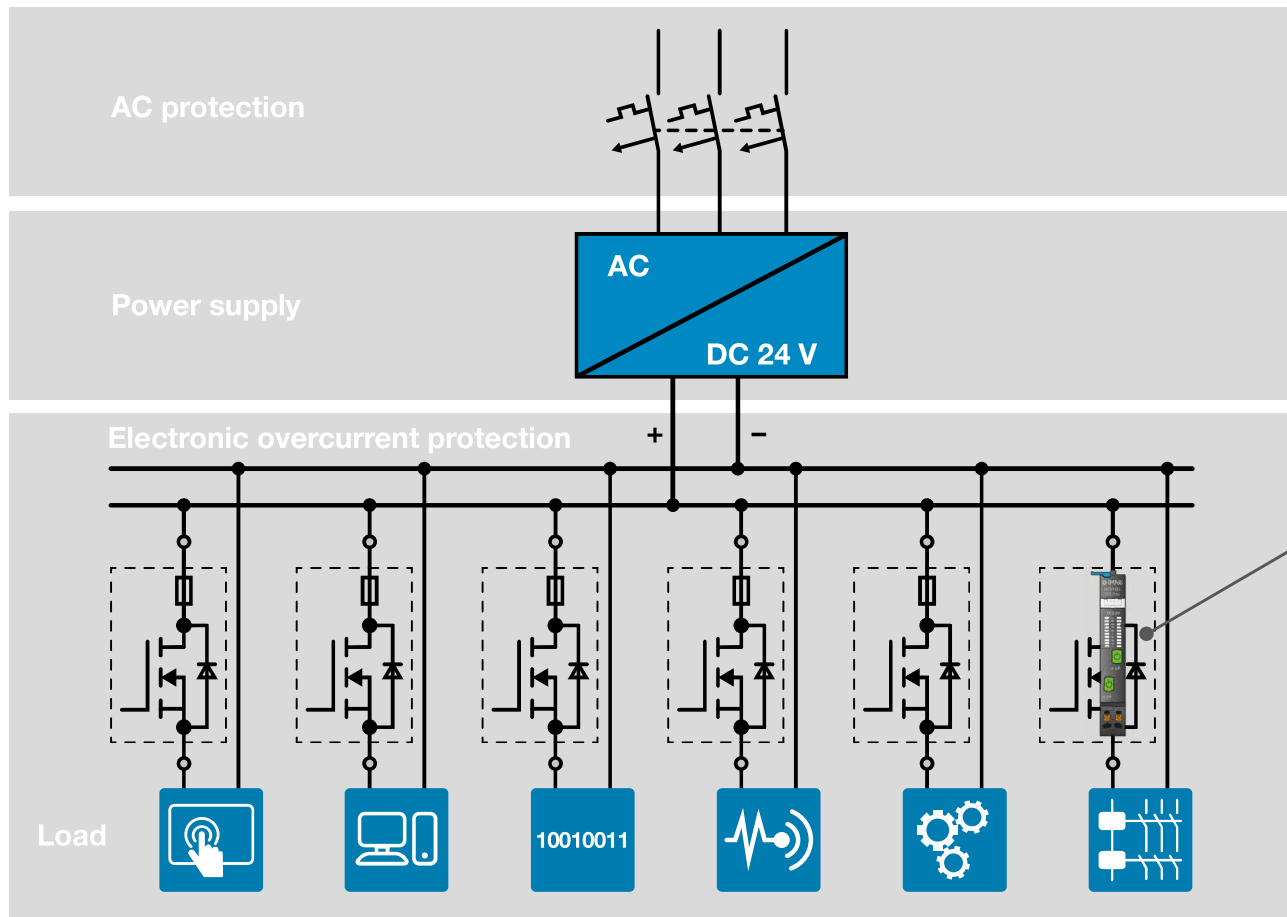
The intelligent circuit protectors of the REX series record the status and its measuring values, such as the load current. This information is transmitted to the superordinate control unit and processed there to be displayed on the connected visualisation units. The rising transparency provides the maintenance personnel with an overview over the current state of the DC 24 V power distribution. Likewise, direct access also allows the control functionality to be used to its full extent.

Early warnings by way of transparency

Due to the continuous recording the load current can also be monitored. The circuit protectors have a parametrisable limit value. This value can be adjusted between 50 % and 100 % of the current rating via the control. If the value is exceeded, this is displayed directly on the device. A warning message is also transmitted to the superordinate control unit. The maintenance personnel is informed of critical changes in the system behaviour at an early stage and can respond before the failure happens.

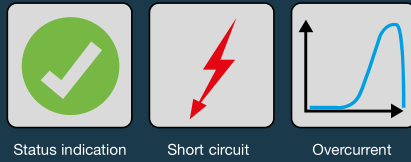
Reduction of stock keeping

The circuit protectors are available with fixed and adjustable current ratings. The current rating can be set integer from 1 A to 10 A. This allows a quick response to changing machine configurations and only one device type needs to be in stock. This functionality thus reduces stock keeping enormously. You need only one device for all current ratings. Parametrisation is effected via the superordinate control unit and can also be fixed there. This prevents any unintentional change of the current rating.



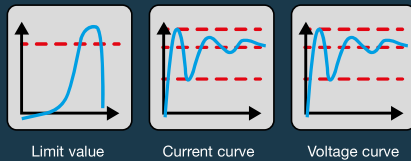
Status indication

The current status of the load output is signalled by means of the LED indication. At the same time, it is transmitted to the control unit and visualisation of the system.



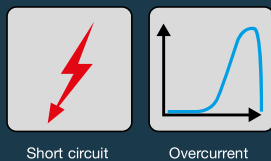
Measured value analysis

By way of continuous measured value logging these values can be analysed. This can be done by displaying the peak as well as the average values.



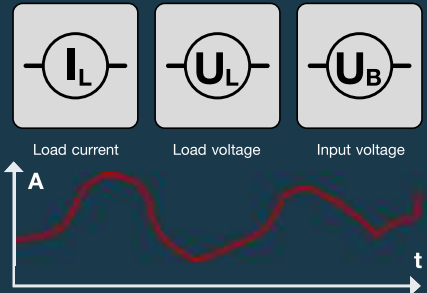
Cause analysis

In the event of a short circuit on the supply line or an overload of the load circuit the circuit protector trips. This information is displayed and thus simplifies troubleshooting.



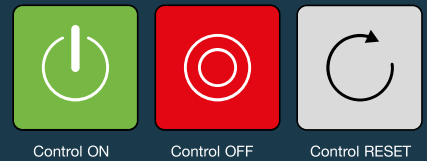
Measured value logging

The REX system circuit protectors continuously record the essential measured values of the load circuit, e.g. the load current and the load voltage.



Remote control of the circuit protectors

By way of continuous measured value logging these values can be analysed. This can be done by displaying the peak as well as the average values.



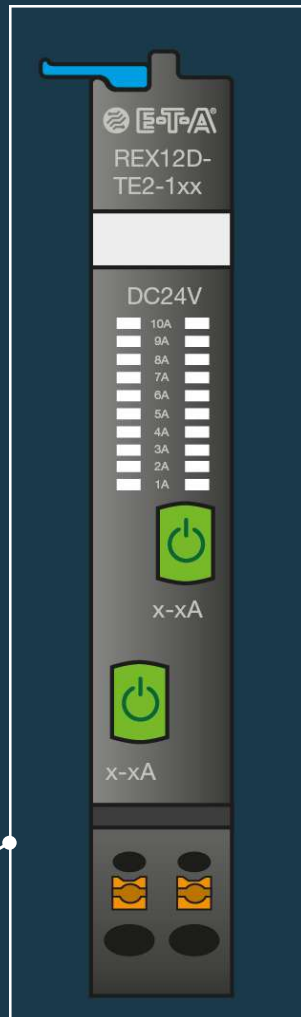
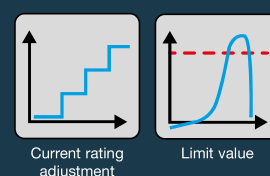
Trip counter

The number of trips is recorded. This provides an overview of the frequency of dangerous situations and enables their assessment.



Parametrisation

For the adjustable devices the current rating can be selected via the control unit. This makes adjustment to changing system configurations easier and reduces stock keeping.



REX12D CIRCUIT PROTECTOR

Standard compliant protection according to EN60201-1

The **REX12D** electronic circuit protector combines flexibility and compactness - whether single or double channel, it is a space-saving and reliable protection custom-built for primary pulsed DC 24 V switch mode power supplies. The device ensures a stable operation of switch mode power supplies, simple troubleshooting as well as highest possible machine uptime. At the same time, no additional accessories are needed to connect the individual components electrically or mechanically.

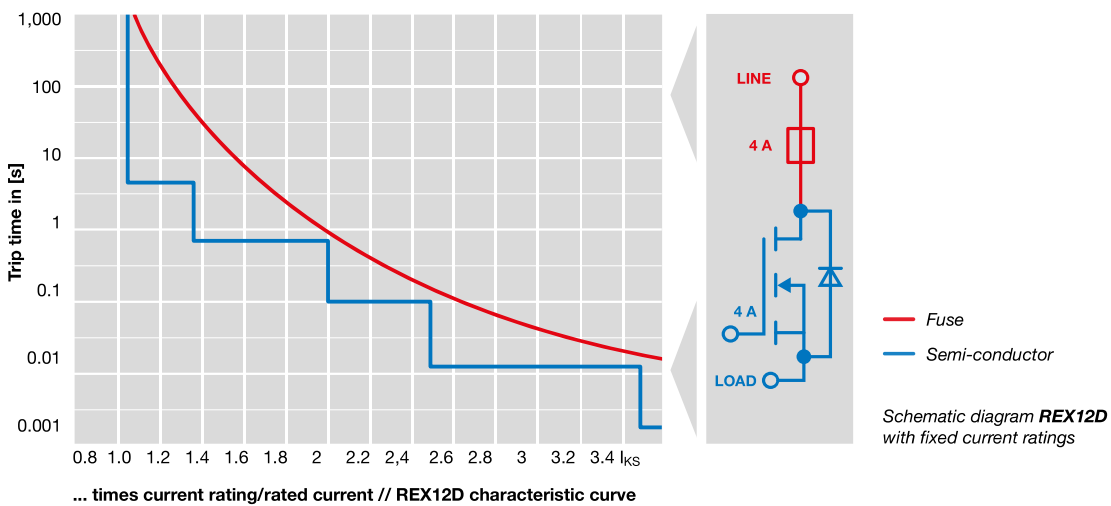
The **REX12D** electronic circuit protector is available in two different versions. The version with fixed current ratings features protection in compliance with the EN60201-1 standard. Here the current rating of the fail-safe element is equivalent to the current rating of the circuit protector. With the other version, the current ratings can be adjusted between 1 A and 10 A via the **CPC12** bus controller or the intelligent **EM12D** supply module, thus reducing stock keeping costs. This also allows quick adjustment of the current rating in the event of changes in the system configuration.

Due to the design of the internal fail-safe element in the shape of a fuse, adapted to the current rating of the corresponding circuit protector, simple adjustment to the cable cross section is guaranteed. Concretely, this means that the current rating of the protector and the rating of the fail-safe element are identical. Thus, the 4 A **REX12D** contains a 4 A fuse according to IEC 60127-4/2 and UL248-14. Besides the UL508 and NEC Class2 approvals, the **REX12D** exclusively meets the requirements of cable protection to EN60204-1.



Apart from UL508 and NEC Class2, the **REX12D** electronic circuit protector exclusively meets the requirements for cable protection to EN60204-1

UL LISTED NEC Class2





THE POWERFUL REX22D

One characteristic curve for all applications

The newly developed **REX22D** electronic circuit protector is available with fixed and adjustable current ratings up to 20 A. Adjustment of the current ratings is done depending on the version. Adjusting and reading the current ratings even in dead-voltage condition can be done either via the control level or via slide directly on the device. The new **REX22D** electronic overcurrent protection completes the REX system and realises one trip curve for all applications through its active current limitation. The two-channel device offers a slim design with only 6.25 mm per

channel. The characteristic curve of the **REX22D**, especially designed for DC 24 V switch mode power supplies with low overload capacity and DC 24 V drive technology enables effective protection for all applications.

The **REX22D** selectively protects all DC 24 V load circuits and limits the output current linearly during switch on or before tripping. In the event of a short circuit the limitation cuts the leakage current to a defined value. This enables an effective and predictable protection even for switch mode power supplies

with low power reserves. In order to be able to switch on high-power consumers effortlessly, the limited current can be made available for a longer period of time. This makes it possible to switch on large loads with a load current of up to 20 A without any problems. The electronic characteristic offers an additional solution for the protection of drive technology, control technology for frequency converters, multiphase motors and also sensitive relay contacts in the »SAFETY« area.



REX22D electronic circuit protector

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