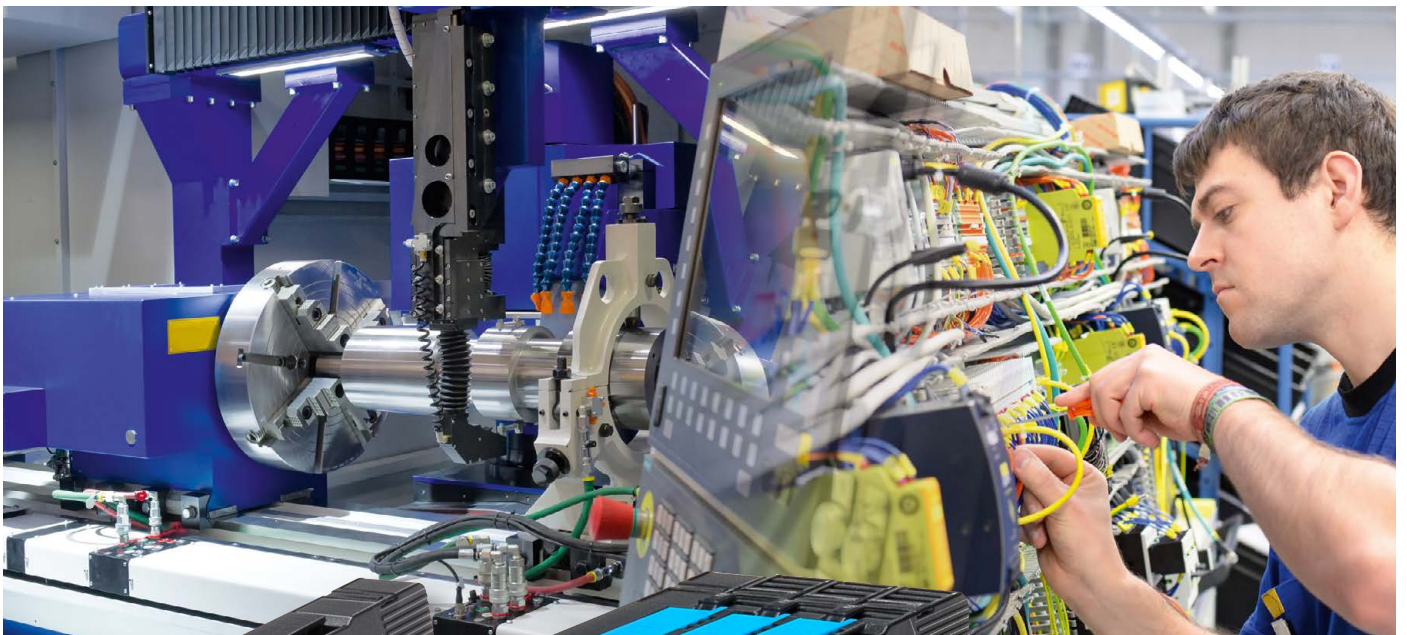


Intelligent Power Distribution – the REX system

System transparency and remote access



Your DC 24 V protection

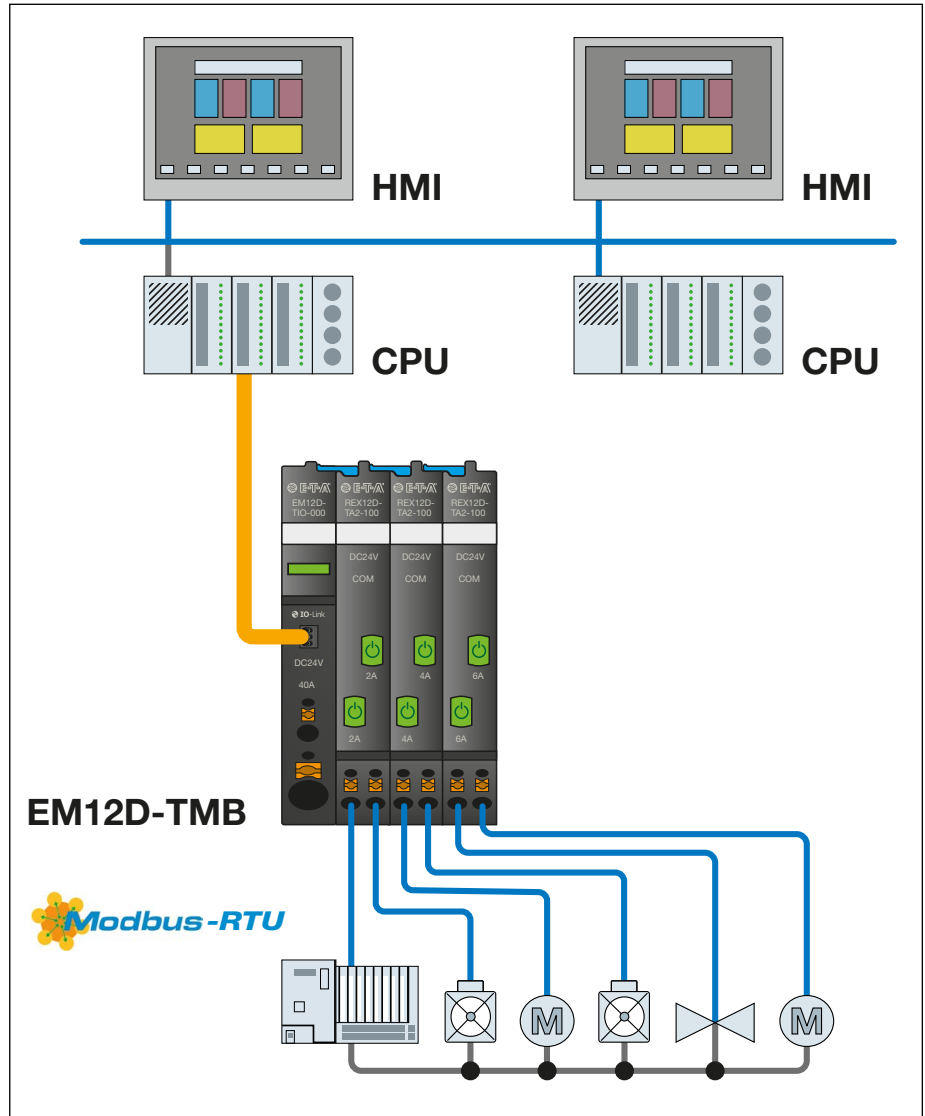
 IO-Link

 Modbus RTU

The REX system – for factory automation via Modbus RTU...

In plant engineering and construction, the various equipment for protection of the DC 24 V power supply is often located apart from each other. Therefore, many users wish to have a centralised control unit of a plant with a decentralised structure. E-T-A's **EM12D-TMB** supply module offers ideal conditions for a reliable and transparent protection of the power supply.

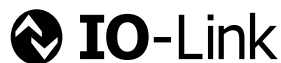
Modbus-RTU is considered a very robust interface. Therefore the **EM12D-TMB** supply module is able to communicate with Modbus-RTU over long distances and to send important system data to the superordinate control unit. The user has remote access to the different circuit protectors and he has a permanent overview of the current system conditions.



... versatile and transparent via IO link for the machine building industry.

Increasing machine uptime to have a machinery that keeps producing on an invariably high level is in the focus of machine and panel builders. The IO link system offers unrivalled system transparency through quick implementation, a great number of available components and the transmission of measuring values and status information.

It allows early detection of fault conditions on the machinery and prevention of unexpected standstills. The **EM12D-TMB** supply module has an IO link interface. Status information and important measuring values of up to 16 channels are transmitted via this interface to the IO link master. The IO link master is able to collect the information of the entire DC 24 V power supply and to transmit it to the superordinate control unit with only one port.



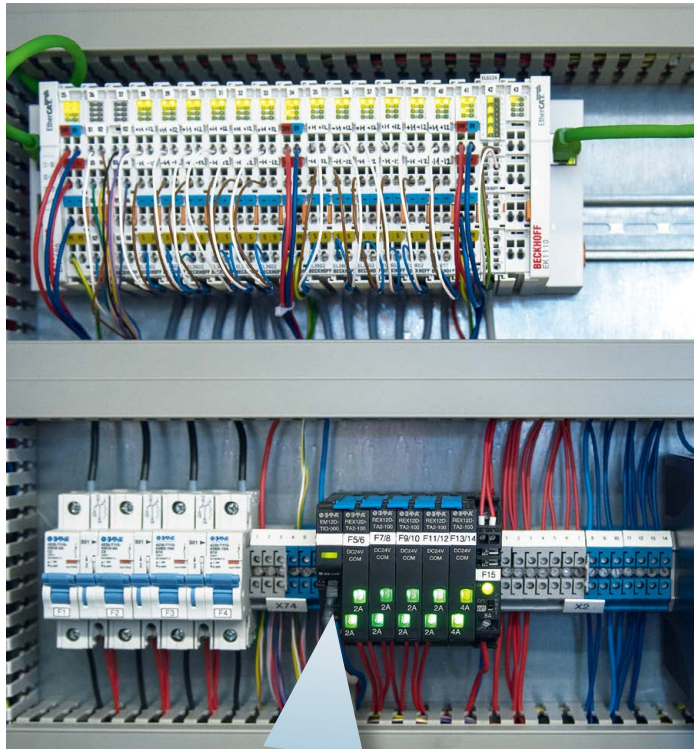
Your benefits

- **Increases machine uptime** – through clear failure detection, high transparency and remote diagnosis
- **Quick trouble-shooting** – via remote access and information transmission
- **Saves 50 % time** – through innovative and flexible connection technology
- **Saves cost** – as no further accessories are required
- **Saves space** – because each module is only 12.5 mm wide



The REX system – for smart communication

Remote access allows control and monitoring of the electronic circuit protectors from a control room. Quick connection or reconnection of the load circuits is enabled remotely. In the event of temporary failures, e.g. simultaneous switch-on of several loads and a possible resulting overcurrent trip, the load circuit can quickly be re-started via the remote control of the circuit protector. This is particularly advantageous with extensive systems and reduces system downtimes significantly.



Remote access allows control and monitoring of the electronic circuit protectors from a control room.



Flexible adjustment via IO link and Modbus

The adjustable **REX12D-TE** product version reduces inventory and allows a quick reaction to changing system conditions.

Via **IO link** and **Modbus RTU**, the device offers adjustment of the current ratings between 1 A and 4 A (NEC Class2) and 1 A and 10 A. The user receives information at an early stage about fault conditions in the system via the parameterisable warning limit. This reduces unplanned standstills and increases machine uptime.



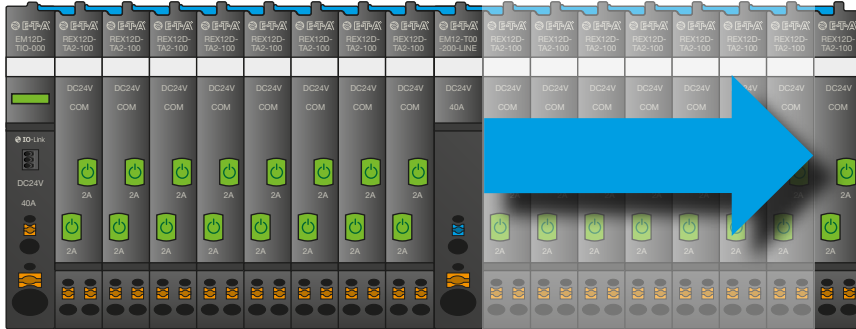
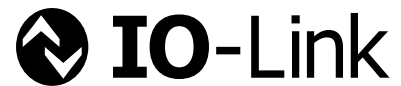
 **IO-Link**

 **Modbus-RTU**

Parameterisation
of circuit protectors
possible via HMI's



The REX system – your all-in-one solution

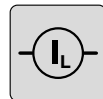


The standard version records the status of max. 32 channels.

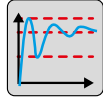


The extended version records the status and the measuring values of max. 16 channels.

Measuring values



load current



current curve



| | | |
|-------------------|---------------|---------------------------|
| status indication | control unit | parameterisation |
| operating status | control ON | current rating adjustment |
| short circuit | control OFF | limit value |
| overcurrent | control RESET | |

| | | |
|-------------------|---------------|---------------------------|
| status indication | control unit | parameterisation |
| operating status | control ON | current rating adjustment |
| short circuit | control OFF | limit value |
| overcurrent | control RESET | |

The intelligent **EM12D-TIO** supply module is available in two different versions. Max. 32 channels can be connected to the standard version. It even allows the protection of very large systems with only one supply module. It records the status of each individual circuit protector and transmits it to the connected control units. Wiring time and efforts are reduced and the machine operator has a clear

overview of the current status of his machine. He can act quickly via remote access if need be and switch the different circuit protectors on or off. Remote access allows in addition to easily reset the circuit protectors without having to open the control cabinet. The extended version of the **EM12D-TIO** also records the load current and transmits it cyclically to the connected control system. Additional

analysis functionalities help detect aberrations at an early stage and avoid system shutdown. **The functional scope is only selected by the corresponding IODD.** This increases flexibility and reduces stock-keeping.



Transparency and remote access for enhanced machine uptime.

E-T-A's REX system offers the user a precise overview of the DC 24 V power supply via data logging and transmission of measuring values and status information to the superordinate control unit. The user immediately receives a signal in the event of changing system conditions and corresponding current consumption. He is then able to detect possible failures at an early stage and can react in anticipation. Maintenance activities and replacement of defective parts can be planned in advance and system downtimes can be reduced. The REX system also allows comparison of measuring values of different systems - an interesting tool for process optimisation.



Permanent data logging and status monitoring

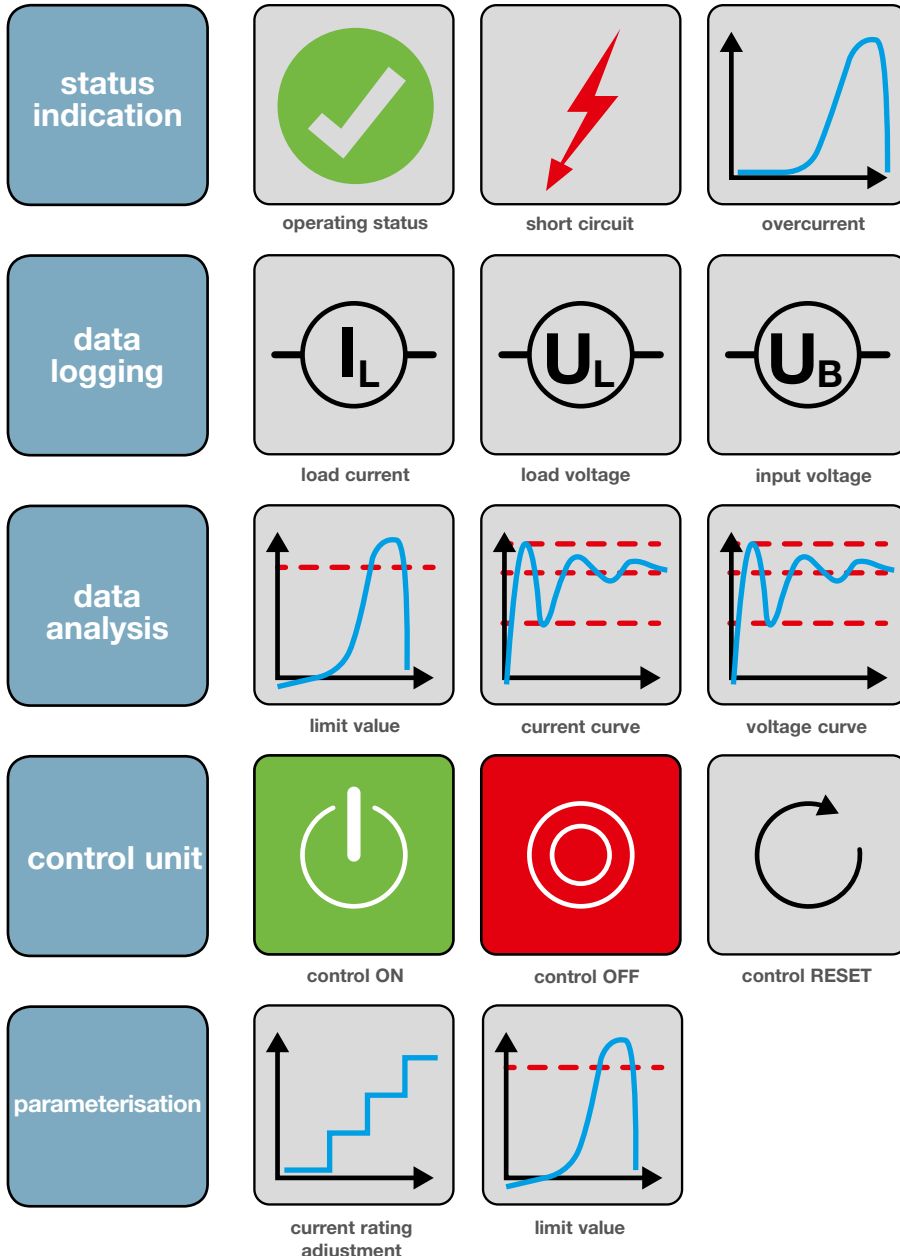


Industry 4.0 with the REX system: condition monitoring – predictive maintenance

E-T-A's intelligent **REX system** offers

- overcurrent protection
- power distribution of load circuits
- monitoring
- parameterisation
- communication via **IO link** and **Modbus RTU**

The **EM12D-T** supply module transmits a variety of diagnostic information to the superordinate control unit, including input voltage, load voltage, load current, limit values and various adjustment options of the circuit protector such as rated current limit value.



The pre-set software and visualisation components **ControlPlex® Tools for EM12D-T** and **REX12D-T** save time and costs when being included in the control level.



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