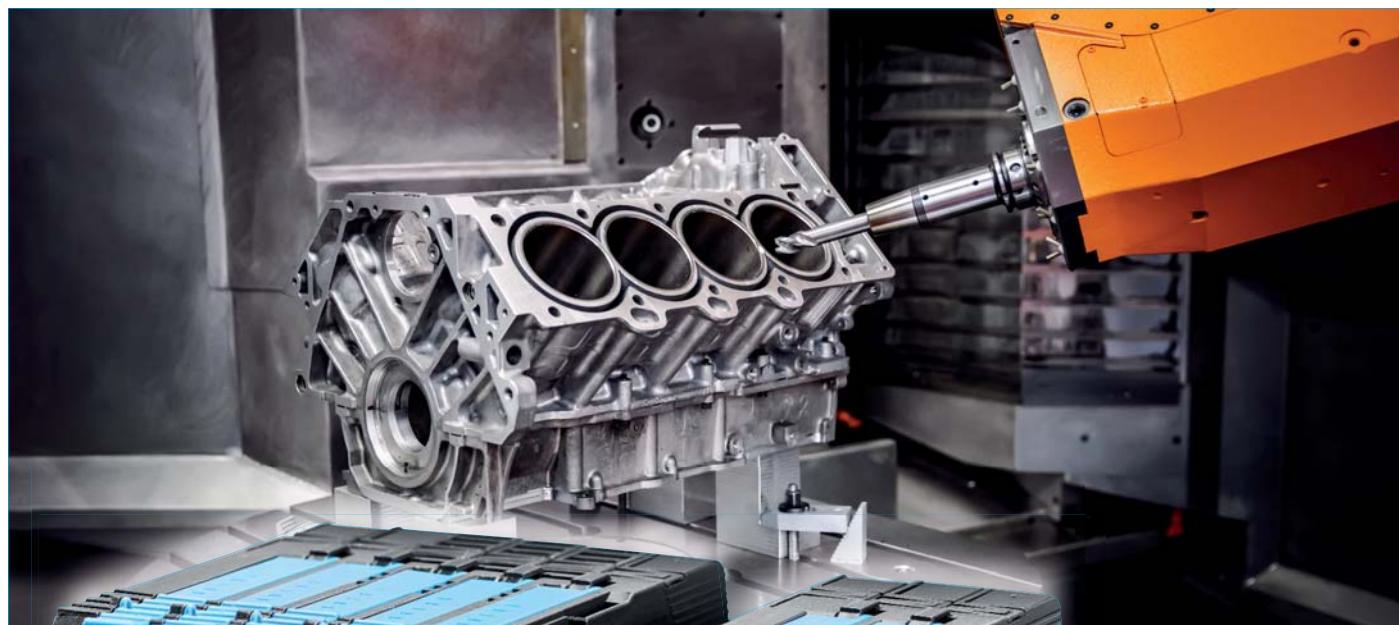


The REX system – your all-in-one solution



DC 24 V protection
and distribution

IO-Link

Modbus-RTU

The REX system – your all-in-one solution

Supply



Overcurrent protection



Supply

Central power input in DC 24 V applications has never been so easy. Plus or minus supply, conventional or intelligent - the **EM12 modules** are a vital part of the **REX all-in-one solution**. They are tailor-made to the requirements of machine and panel builders and no further accessories are required for the mechanical connection of the individual components. This helps save time and money!

Overcurrent protection

Modern overcurrent protection with globally unique features - this is the **REX12** electronic circuit protector. It is available as a single or double channelled model and can therefore ideally be adjusted to any application. In addition, it can electrically be connected by means of a connector arm without any further accessories. Conventional or smart - selective overcurrent protection can be so easy ...

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Power distribution



Power distribution

The **PM12-T** power distribution concept of the **REX** system can very easily be divided into two main groups. In the same system, the user can easily realise not only the +DC 24 V distribution, but also the minus distribution 0 V (GND).

All-in-one solution



All-in-one solution

E-T-A's compact and flexible **REX** system represents a comprehensive DC 24 V protection and distribution solution for machine and panel builders, under the headline »all in one«.

It is a perfectly matched system, completely obtained from one source. In spite of the optimised functionalities, the REX12 product group requires amazingly few components while offering considerable time and cost savings.

Your benefits

- **Increases machine uptime** – through clear failure detection, high transparency and remote diagnosis
- **Provides flexibility** through ease of assembly or disassembly, modular design and convenient adjustment
- **Saves 50 % time** – through innovative and flexible connection technology
- **Saves cost** – as no further accessories are required
- **Saves space** – because each module has a width of only 12.5 mm



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The REX system – the supply modules

Also with  **IO-Link**
and **Modbus-RTU**
connection



Supply

The **EM12** supply modules for the power input of the **REX** system are available in different versions, providing genuine flexibility with regard to costs and functionalities. Besides the conventional **EM12-T01-...** supply modules with integral group fault signalling by means of a relay contact, there are also the intelligent and communication-capable **EM12D-TIO-...** supply modules for **IO-Link** as well as **EM12D-TMB-...** for **Modbus-RTU**. They provide a great amount of diagnostic

information about the superordinate **IO link** or **Modbus-RTU** master as a basis for proper remote maintenance.

In addition we have supply modules for further potential line entries. In this process the **EM12-T00-100-...** supply module connects all +DC 24 V points of supply. The **EM12-T00-200-...** supply module serves as a +DC 24 V disconnect terminal for the input of battery-buffered or even safety voltage potentials.





EM12-T00-000-DC24V-40A,
supply module, standard,
without auxiliary contacts



EM12-T01-001-DC24V-40A,
supply module, standard,
auxiliary contact N/O



EM12-TIO-000-DC24V-40A,
supply module, COM, IO link



EM12-TMB-000-DC24V-40A,
supply module, COM, Modbus-RTU
»coming soon«



EM12-T00-100-LINE-40A
supply module, mid/right,
LINE connected



EM12-T00-200-LINE-40A
supply module, centre,
LINE separated



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At a glance

EM12 supply modules ensure flexibility in the planning process.

- Versions with in-built communication components significantly increase system transparency.
- All supply modules are designed for DC 24 V and a total current of 40 A



The REX system – the overcurrent protection



Cable protection
in accordance
with EN 60204-1

NEC Class2 to UL1310



Overcurrent protection

The **REX12** electronic circuit protector combines flexibility and compact design - in a single or double channel version, conventional or smart or even with **IO link** or **Modbus-RTU**. **REX12**, this means a space-saving and reliable protection, tailor-made for primary pulsed DC 24 V switch mode power supplies. The focus is on the stable operation of switch mode power supplies, on easy trouble-shooting and an unimpaired machine uptime. And what is more: no additional accessories are needed to connect the individual components electrically and mechanically. The **REX12** exactly meets the technical

and economic requirements of the machine construction industry. The single-channelled circuit protector is available in all standard fixed current ratings from 1 A to 10 A. The double-channelled devices are available in the fixed current ratings 1 A, 2 A, 3 A, 4 A and 6 A as well as in adjustable versions from 1 A to 10 A.

The devices with fixed ratings allow standard-compliant cable protection to EN60204-1 – even with small cable cross sections. On the other hand, the adjustable version helps to significantly reduce the inventory.



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REX12-TA1-107-DC24V-xA
standard, 1-channel, fixed current rating



REX12-TA2-107-DC24V-xA/xA
standard, 2-channel, fixed current ratings



REX12D-TA1-100-DC24V-xA
COM, 1-channel, fixed current rating



REX12D-TA2-100-DC24V-xA/xA
COM, 2-channel, fixed current ratings



REX12D-TE2-100-DC24V-1A-10A
COM+, 2-channel, variable current ratings,
coming soon



At a glance

- **REX12** circuit protectors ensure space-saving and reliable protection of primary pulsed DC 24 V switch mode power supplies.
- No further accessories are required for the electrical and mechanical connection of the circuit protectors.
- The devices are available with fixed as well as with adjustable current ratings.



The REX system – the power distribution



Power distribution

The power distribution concept of the **REX** system holds two main groups: In the same system, the user can easily realise not only the + DC 24 V distribution, but also the minus distribution 0 V (GND).

The new **PM12-T** distribution modules for the + DC 24 V distribution are mounted side by side with **REX12T** and electronic circuit protectors to be electrically connected with these. This increases the number of terminals, saves space and conventional distribution terminals are no longer required.

The 0 V potential is connected to the **EM12-T** supply module for GND and is then multiplied for DC 0 V (GND) by means of the **PM12-T** module. These components can also conveniently be connected and wired up. The distribution solution for DC 0 V is suitable for 40 A rated load. Rating of components is made easy for the design engineers. Complex design solutions to reduce cable cross sections from 10 mm² to 2.5 mm² are a thing of the past.



+ DC 24 V



PM12-T01-00-LOAD-20 A,
potential module, 10 terminals 2.5 mm²
1 x line entry, 9 x LOAD+



PM12-T02-00-LOAD-20 A,
potential module, 10 terminals 2.5 mm²
2 x line entry separate, 4 x LOAD+ each

0 V (GND)



EM12-T00-000-GND-40 A,
supply module, standard, GND – 0 V



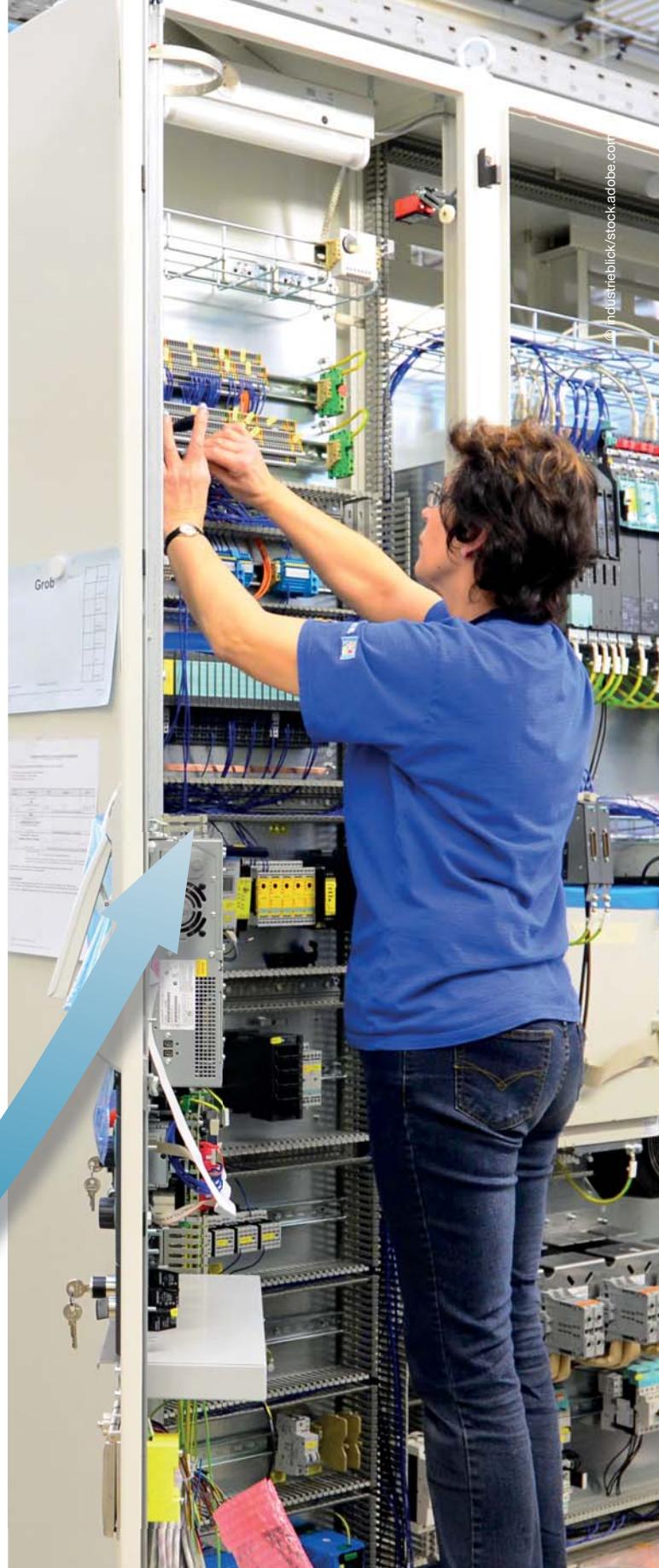
EM12-T00-300-GND-40 A,
supply module, mid/right, GND – 0 V



PM12-T03-00-GND-20 A,
potential module, 10 terminals 2.5 mm²



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At a glance

- +DC 24 V distribution and minus distribution 0 V (GND) can be realised in one and the same system.
- The **PM12-T** distribution modules multiply the number of terminals while significantly cutting space requirements

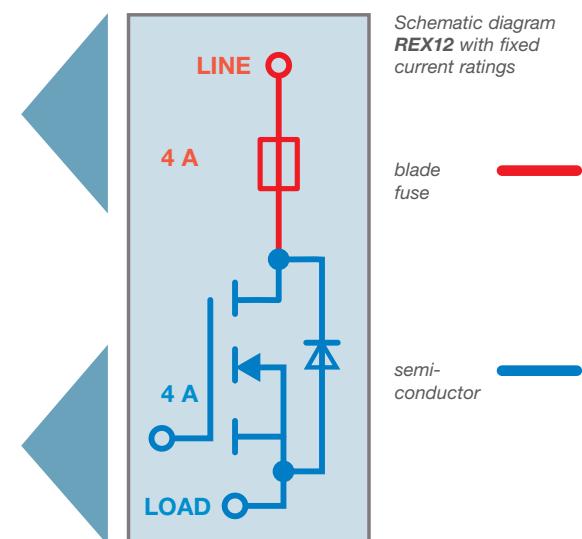
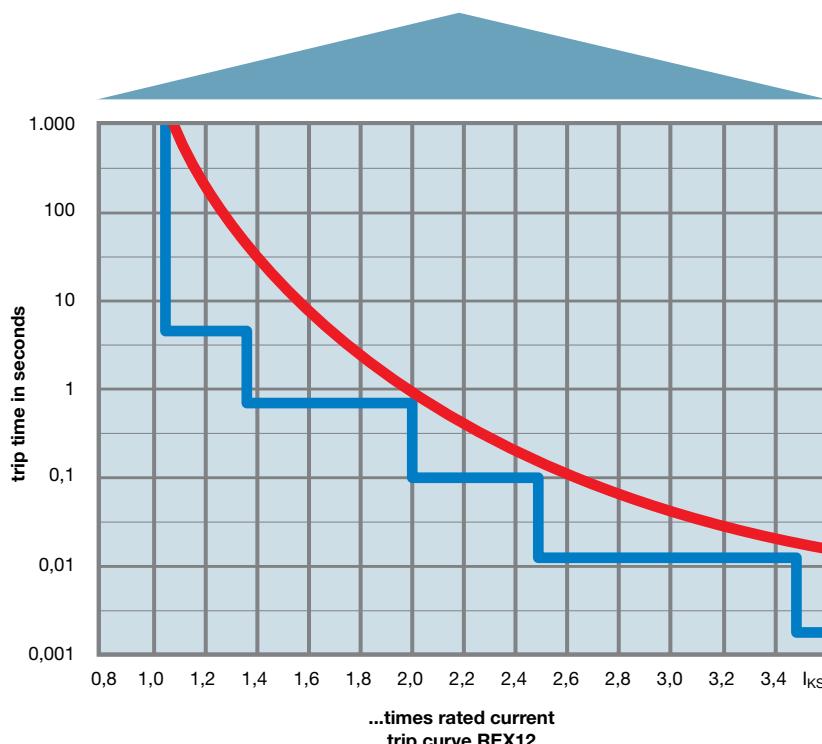
The REX system – protecting while keeping the standard firmly in view ...



The internal **fail-safe element** in the shape of a blade fuse is adapted directly to the current rating of the corresponding circuit protector, thus ensuring ease of adjustment to the cable cross section.

Concretely, this means that the current rating of the protector and the rating of the fail-safe element are identical.

Thus the **REX12** rated 4 A holds a 4 A blade fuse to IEC 60127-4/2 and to UL248-14. Besides the UL508 listed approval and NEC Class2, the **REX12** exclusively meets the requirements of cable protection to EN60204-1.



Apart from **UL508** and **NEC Class2** the **REX12** exclusively meets the requirements of cable protection to **EN60204-1**



NEC



... or flexible adjustment via IO link and Modbus RTU

By means of the IO link Modbus RTU adjustment of the flexible solution becomes as simple as can be. The user can very easily adjust the **REX12D-TE...** electronic circuit protector to the corresponding load conditions of the application. This additionally helps to significantly reduce storage costs.



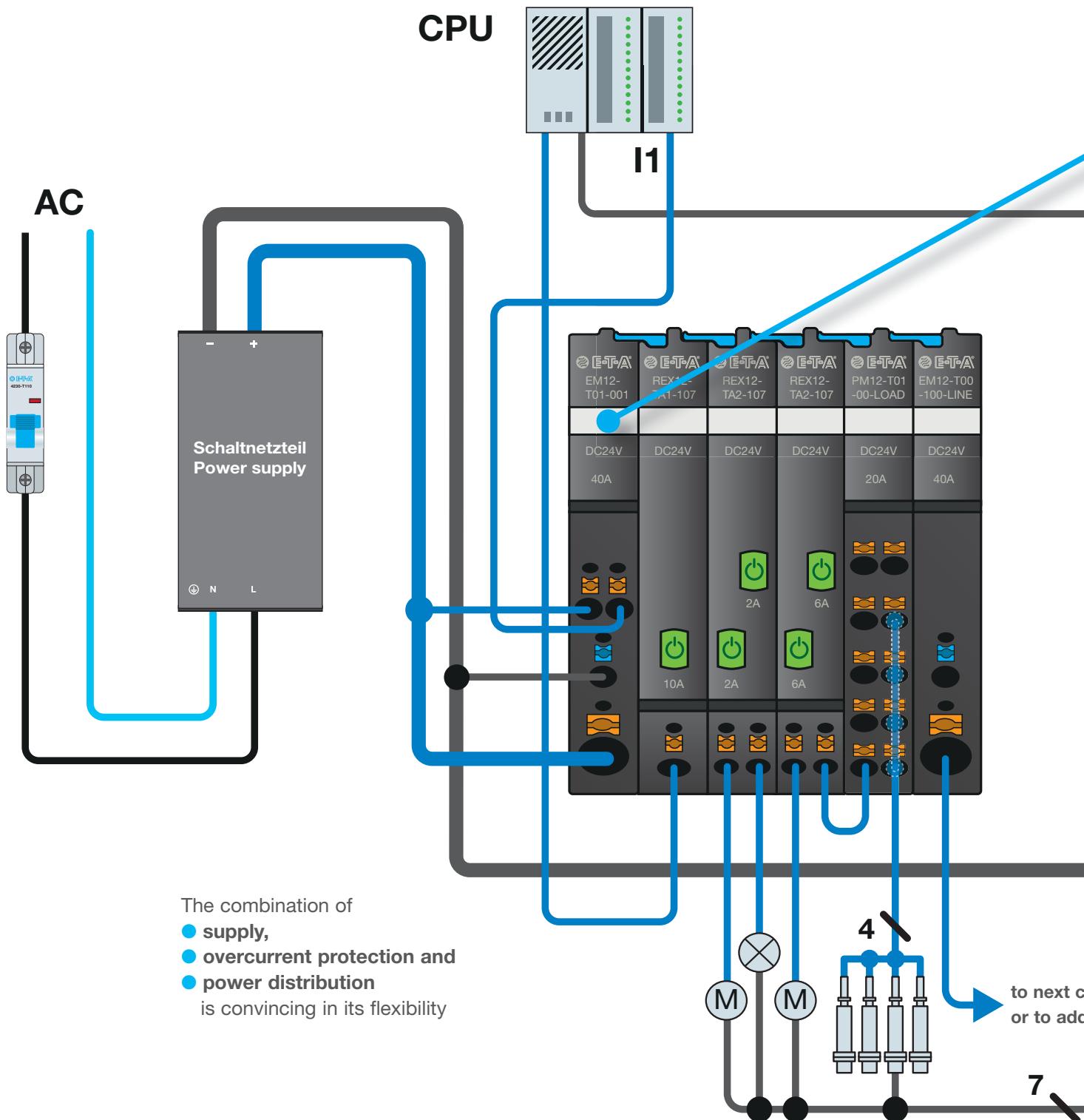
Adjustment of:
current rating
1 A to 10 A
and
warning limit
50 % to 100 %



IO-Link
Modbus-RTU



The REX system – the application



Also with  **IO-Link**
and **Modbus RTU**
connection



The **REX12** system offers unrivalled ease of side-by-side mounting which allows upgrades at a later date.

Individual protectors can effortlessly be replaced.

Just open the left and right connector arm of the circuit protector and remove the unit in question. Put in a new unit, close the connector arm, done!

The **REX** system allows the customer to build up a very economic DC 24 V supply with a modular and cost-effective protection and distribution solution. Without any connection accessories and with minimum wiring time.



control cabinet
additional supply

to next control cabinet
or to additional supply



The **REX** system combines »power supply«, »overcurrent protection« and »power distribution« directly on the symmetrical rail.



To view product animation
please scan the QR code

Product range

REX system

Type	EM12-T00-000-DC24V-40A	EM12-T01-001-DC24V-40A	EM12D-TIO-000-DC24V-40A	EM12D-TMB-000-DC24V-40A	EM12-T00-100-LINE4V-40A	EM12-200-L...
						

Operating voltage range U_B	DC 24 V (18 ... 30 V) DC 0 V (0 ... 30 V)	● ●	● ●	● ●	● ●	● ●
Trip curve	time-current characteristics					
Current rating fixed I_N	single channel: 1 A, 2 A, 3 A, 4 A, 6 A, 8 A, 10 A					
Current rating fixed I_N	double channel: 1 A/1 A, 2 A/2 A, 3 A/3 A, 4 A/4 A, 6 A/6 A					
Current rating variable I_N	double channel: 1 A ... 10 A					
Fail-safe element	= rated current (4 A electronic circuit = 4 A blade fuse)					
	= 15 A					
Warning limit	90 % of I_N					
	variable 50 % ... 100 % of I_N					
Capacitive load	20,000 μ F					
Total current	40 A	●	●	●	●	●
	20 A					
Signalling	multi-coloured LED			●	●	
	auxiliary contact		●			
Communication	IO link			●		
	Modbus RTU				●	
Temperature range	-25 °C ... +60 °C	●	●	●	●	●
space requirement per module	12.5 mm	●	●	●	●	●
Termination	push-in	●	●	●	●	●
Mounting method	DIN rail mounting	●	●	●	●	●
Approvals	UL2367	●	●	●	under preparation	
	UL508 listed	under preparation	●	●	under preparation	
	UL1310, NEC Class2					
	UL1059					●
Number of devices to be mounted with EM12	16 modules REX12	16 modules REX12	16 channels REX12	16 channels REX12		
Modules that can be combined		●	●		●	●
				●	●	●
				●	●	●

00-E-	REX12-TA1-107-DC24V-xA	REX12-TA2-107-DC24V-xA/xA	REX12D-TA1-100-DC24V-xA	REX12D-TA2-100-DC24V-xA/xA	REX12D-TE2-100-DC24V-1A-10A	PM12-T01-00-LOAD-20A	PM12-T02-00-LOAD-20A	EM12-T00-000-GND-40A	EM12-T00-300-GND-40A	PM12-T03-00-GND-20A
										

Industry 4.0 – Condition monitoring – predictive maintenance

A basic requirement of industry 4.0 is the storage and evaluation of all data gained from machines and systems. At the same time, they are the basis of solutions on the score of »condition monitoring« and »predictive maintenance«. E-T-A's **REX**

system helps you exactly with regard to these subjects to improve machine transparency and consistency of the complete systems.

Status cyclical	<ul style="list-style-type: none">load output ON/OFFshort circuit/overloadlow voltagelimit value currentcircuit protector manually OFF
Control cyclical	<ul style="list-style-type: none">load output ON/OFFreset
Measuring values	<ul style="list-style-type: none">load current cyclicalinput voltage cyclicalload voltage non-cyclical
Parameters non-cyclical	<ul style="list-style-type: none">current ratingslimit value load current (50-100%)
Control non-cyclical	<ul style="list-style-type: none">reset error memoryreset trip counterreset factory settings
Statistical information non-cyclical	<ul style="list-style-type: none">min./ max./ medium currentmin./ max./ medium voltage
Product informationnon-cyclical	<ul style="list-style-type: none">trip counter/trip reasonserial numberhardware/software version
Event message noncyclical	<ul style="list-style-type: none">device defect detected

REX12
Ready for industry 4.0,
condition monitoring and
predictive maintenance



The pre-assembled software and visualisation components **ControlPlex® tools** for **EM12D-T** and **REX12D-T** save costs and time when including the system in the control level.

 **E-T-A**[®]
ENGINEERING TECHNOLOGY

B_REX12-System_e_241117A

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