SUPPLY MODULE
EM12-T (DC24V)

The EM12-T supply module receives the DC 24 V supply voltage, e.g. fFrom a switched mode power supply, and distributes it to the mounted circuit protectors via the integral connector arm of the REX12-T. The potential-free Si auxiliary contact in the EM12-T indicates errors and faults detected by the circuit protectors, e.g. to a superordinate control unit (CPU).

TYPICAL FEATURES

- Total current 40 A
- Potential-free auxiliary contacts
- No accessories required for connecting the components
- Connection via push-in terminals including orange terminal actuator
- Device combination of supply module, overcurrent protection and power distribution module

YOUR BENEFITS

- Saves costs as no further accessories are required
- Saves 50 % time through innovative and flexible mounting and connection technology

TYP. APPLICATIONS

Mountable onto fuse terminal blocks, which can be connected in series onto DIN rails for load protection in power distribution systems in the control cabinet and plant engineering sector.

APPROVALS / CERTIFICATIONS

WEB LINKS

Further information, Mounting and operation (videos), International approvals, Technical basics, REACH, RoHS, Contact

COMPLIANCE

GENERAL INFORMATION

SAFETY AND INSTALLATION INSTRUCTIONS

Installation must be done by a qualified electrician.

- Connection to higher or not selectively protected voltages can cause harmful conditions or damage.
- Only the intended circuit protectors must be used.
- The device must only be supplied with power after proper installation.
- When a circuit protector has tripped and before the reset, the cause of the failure (short circuit or overload) must be remedied.
- The national standards (e.g. in Germany DIN VDE 0100) for installation and selection of the feed and return cables must be observed.

Caution: Exchange / disassembly only in dead-voltage condition! Potentials will be interrupted.
Mounting instruction: Mounting or actuation of the REX connector arm must only be effected at dead-voltage. For start-up, the REX connector arm must be closed. A maximum of 40 modules can be mounted in total.
Note: Observe the data sheets for electronic circuit protectors in the REX portfolio, assembly /disassembly on DIN rail / mounting direction / mounting area / sealing / application example and many more.

TECHNICAL DATA (T_u = +23 °C, U_b = DC 24 V)

ELECTRICAL DATA	
Rated voltage U_n	DC 24 V
Operating voltage U_b	18...30 V
Maximum rated current	40 A
Quiescent current I_0	Typ. 10 mA
Reverse polarity protection	Yes
Power failure bridging time	10 ms for Si (EM12-T01-001-DC24V-40A)
Insulation co-ordination (IEC 60934)	0.5 kV / pollution degree 2

Signalling Si / EM12-T01-001-DC24V-40A	
Electrical data	Potential-free auxiliary contact Si: max. DC 30 V / 0.5 A, min. 10 V / 1 mA
Normal condition	Auxiliary contact closed coming from all protection modules • In ON condition, load output switched through • In OFF condition, load output is switched off
Fault condition	Auxiliary contact open based on one or more protection modules • after an overload or short circuit disconnection • after a low voltage disconnection of the operating voltage in ON condition with automatic reset • if there is no operating voltage U_b in the power supply module

MECHANICAL DATA	
Mounting dimensions (WxHxD)	12.5 x 80 x 98 mm (tolerances according to DIN ISO 286 part 1 IT13)
Mass	40...52 g (depending on version)
Mounting data	DIN rail according to EN 60715-35x7.5

MOUNTING VALUES EM12-T-...-DC24V

Terminal connection capacity 13 & 14	Cable cross section [mm²]	Cable cross section [AWG]	Stripping length [mm]
rigid	0.14...4	24...12	8...10
flexible	0.14...4	24...12	8...10
flexible with wire end ferrule with plastic sleeve	0.14...2.5	24...12	8...10
flexible with wire end ferrule without plastic sleeve	0.14...2.5	24...12	8...10

Terminal connection capacity 0 V - GND	Cable cross section [mm²]	Cable cross section [AWG]	Stripping length [mm]
rigid	0.14...4	24...12	8...10
flexible	0.14...4	24...12	8...10
flexible with wire end ferrule with plastic sleeve	0.14...2.5	24...12	8...10
flexible with wire end ferrule without plastic sleeve	0.14...2.5	24...12	8...10

LINE +1 terminal connection capacity	Cable cross section [mm²]	Cable cross section [AWG]	Stripping length [mm]
rigid	0.5...16	20...6	18...20
flexible	0.5...16	20...6	18...20
flexible with wire end ferrule with plastic sleeve	0.5...10	20...8	18...20
flexible with wire end ferrule without plastic sleeve	0.5...10	20...8	18...20

AMBIENT CONDITIONS	
Ambient temperature	-30...+60 °C (without condensation, cf. EN 60204-1)
Storage temperature	-40...+70 °C
Mounting temperature	+5...+60 °C
Damp heat	**Test according to IEC 60068-2-78-Cab, climate class 3K3 according to EN 60721** 96 h at 95 % rel. humidity/40 °C
Vibration	**Test according to IEC 60068-2-6 test Fc** 5 g
Corrosion	**Test according to IEC 60068-2-11, test Ka** 96 hours at 5 % salt mist,
IP code standard	IEC 60529, DIN VDE 0470
EMC requirements (EMC directive, CE logo) emitted interference	EN 61000-6-3
EMC requirements (EMC directive, CE logo) resistance to disturbances	EN 61000-6-2
Operating altitude	2,000 m a. sea level (SL) 3,000 m a. SL up to +55 °C 4,000 m a. SL up to +50 °C
Maximum ambient pressure during operation	4 bar above atmospheric pressure

ORDERING NUMBER CODE

E M 1 2	-	T 0 1	-	0 0 1	-	D C 2 4 V	-	4 0 A
1		2 3		4 5 6		7		8

1 DEVICE TYPE	
EM12	Supply module for REX12, with PT connection technology

2 MOUNTING	
T	DIN rail mounting

3 VERSION: COMMUNICATION, INTERFACE	
00	Without signal

3 VERSION: COMMUNICATION, INTERFACE	
01	Analogue signal

4 ADDITIONAL FUNCTION	
0	Without additional functions

5 SIGNAL INPUT	
0	Without signal input

6 SIGNAL OUTPUT	
0	Without auxiliary contacts
1	Auxiliary contact make contact

7 OPERATING VOLTAGE	
DC 24 V	Rated voltage DC 24 V

8 RATED CURRENT
40 A

9 ATEX APPROVAL	
[No entry if no ATEX approval]	
-E	ATEX/IECEx approval

Necessary accessories for CPC12: EM12-T00-000-DC24V-40A

APPROVALS

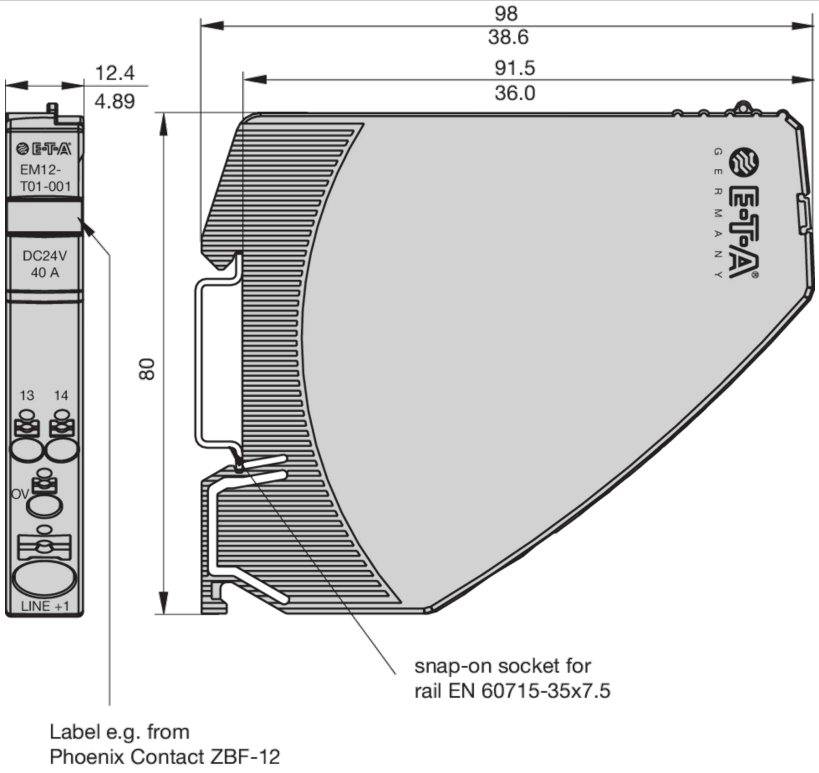
APPROVALS EM12-T

Approval authority	Test standard	File Certificate No.	Rated voltage [V]	for types
UL	UL 1059	E335289	DC 24	EM12-T00-100-LI-NE-40A EM12-T00-000-GN-D-40A EM12-T00-300-GN-D-40A
UL	UL 2367	E306740	DC 24	EM12-T00-000-DC24V-40A EM12-T01-001-DC24V-40A EM12-T00-200-LI-NE-40A
UL	UL 508 listed, CSA C22.2 No. 14	E492388	DC 24	EM12-T00-000-DC24V-40A EM12-T01-001-DC24V-40A EM12-T00-200-LI-NE-40A
Bureau Veritas	ATEX 2014/34/EU EN 60079-0 EN 60079-7 EN 60079-15	EPS 23 ATEX 1 260 U	DC 24	EM12-T00-000-DC24V-40A EM12-T01-001-DC24V-40A EM12-T00-100-LI-NE-40A EM12-T00-200-LI-NE-40A
IECEx	IEC 60079-0 IEC 60079-7 IEC 60079-15	IECEx EPS 23.0071U	DC 24	EM12-T00-000-DC24V-40A EM12-T01-001-DC24V-40A EM12-T00-100-LI-NE-40A EM12-T00-200-LI-NE-40A

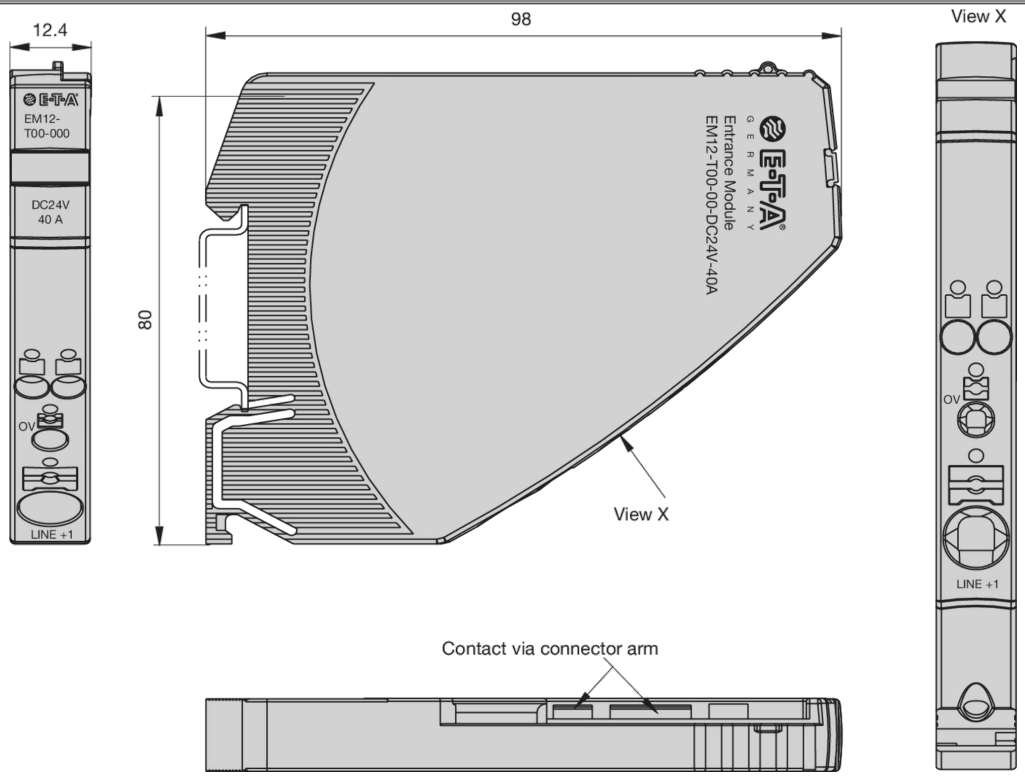
UKEX	EN IEC 60079-0 EN IEC 60079-7 EN IEC 60079-15	EPS 23 UKEX 1 261 U	DC 24	EM12-T00-000-DC24V-40A EM12-T01-001-DC24V-40A EM12-T00-100-LI-NE-40A EM12-T00-200-LI-NE-40A

DIMENSIONS

DIMENSIONAL DRAWING EM12-T01-XXX SUPPLY MODULE

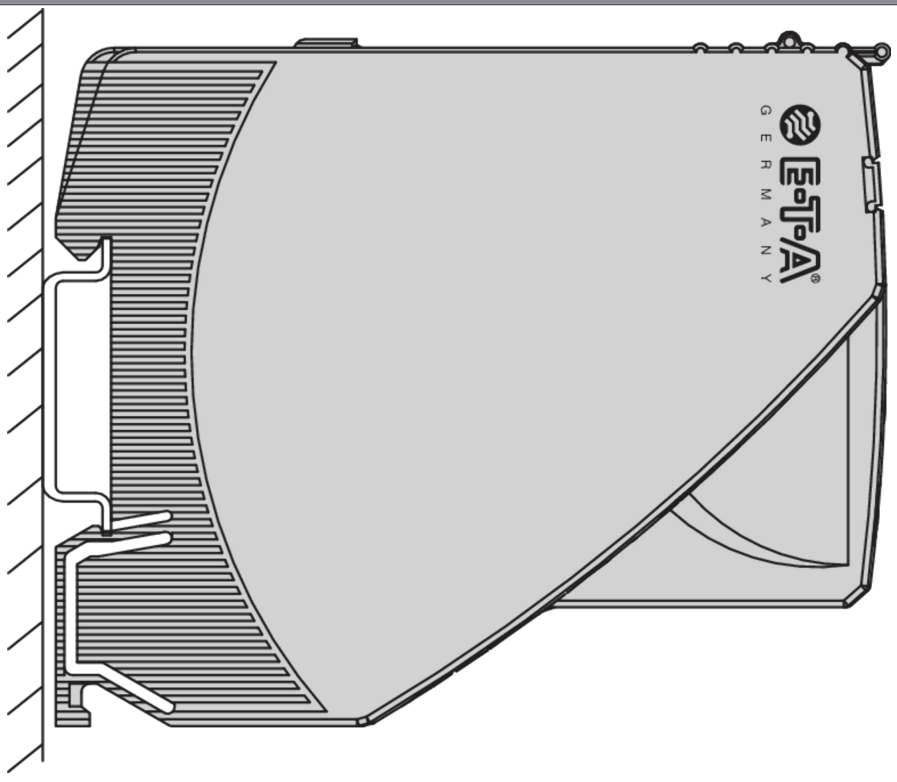


EM12-T00-000-DC24V-40A POWER SUPPLY MODULE



INSTALLATION INSTRUCTIONS

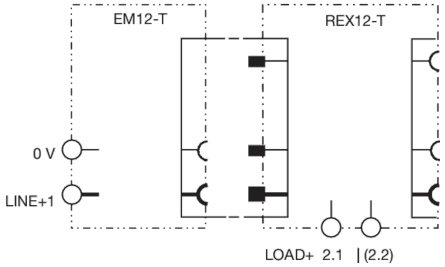
PREFERRED MOUNTING POSITION IN THE REX SYSTEM HORIZONTAL



SCHEMATIC DIAGRAMS

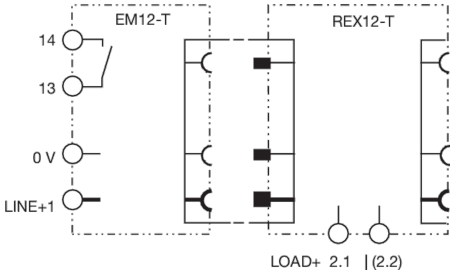
SCHEMATIC DIAGRAM EM12-TXX-XXX WITH REX12-XX

EM12-T00-000-DC24V-40A



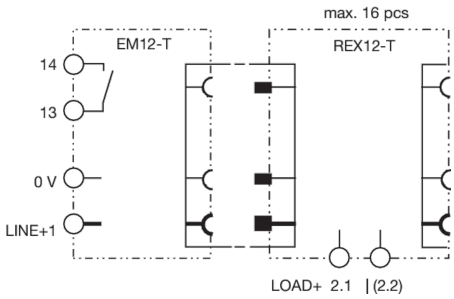
SCHEMATIC DIAGRAM EM12-TXX-XXX WITH REX12-XX

EM12-T01-001-DC24V-40A



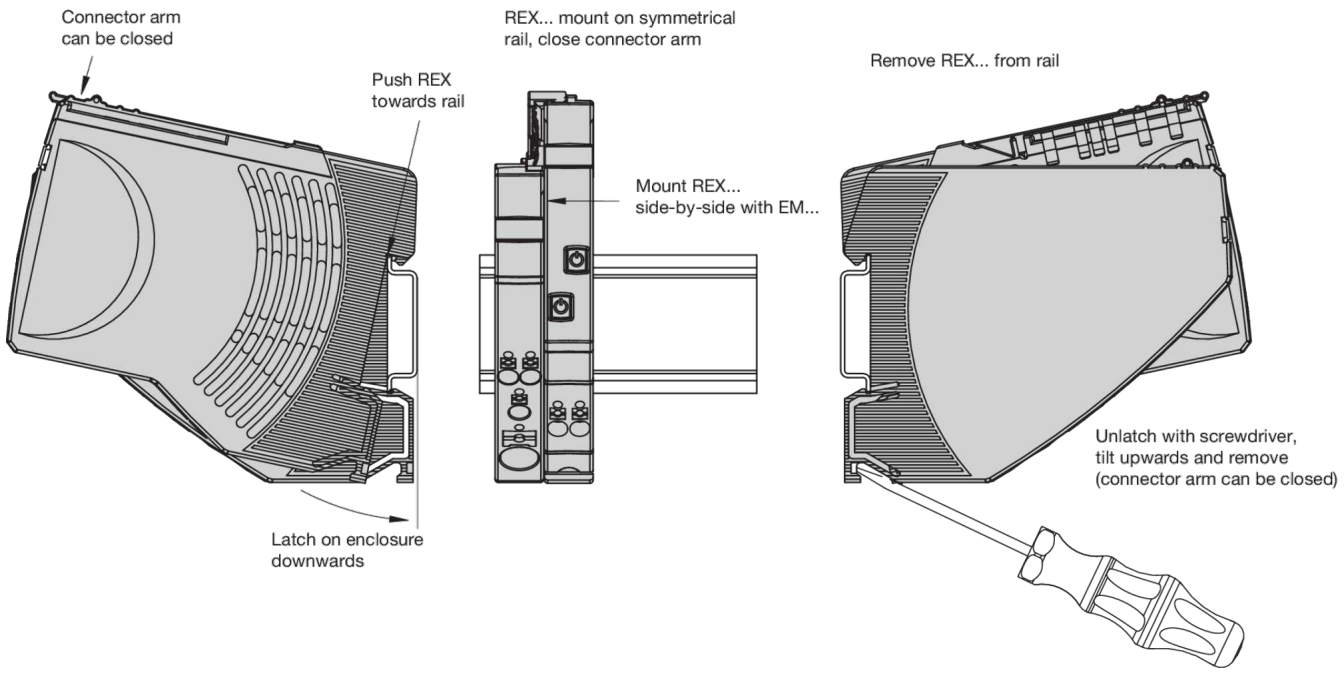
SCHEMATIC DIAGRAM EM12-TXX-XXX- E WITH REX12-XX-E

EM12-T01-001-DC24V-40A-E

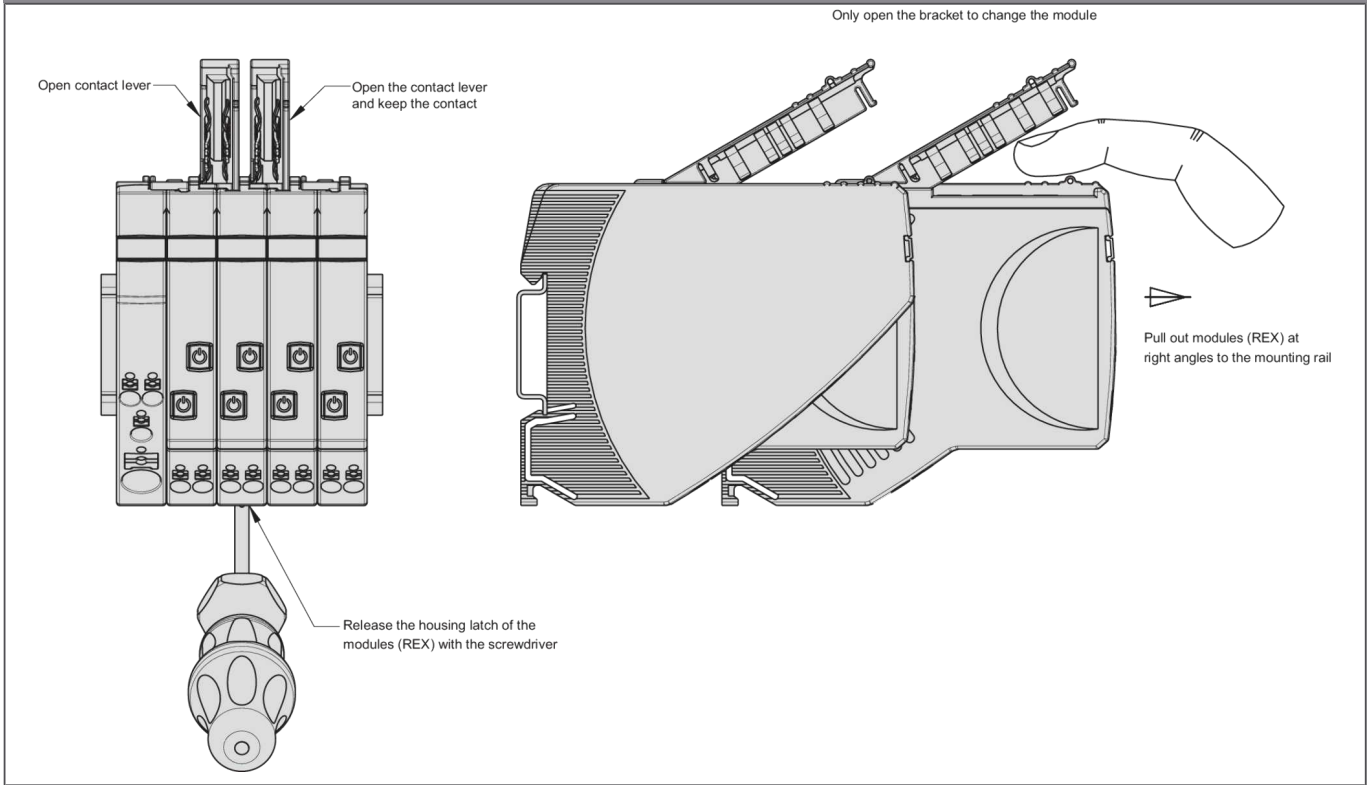


APPLICATION EXAMPLES

MOUNTING / DISMOUNTING ON DIN RAIL IN THE REX SYSTEM

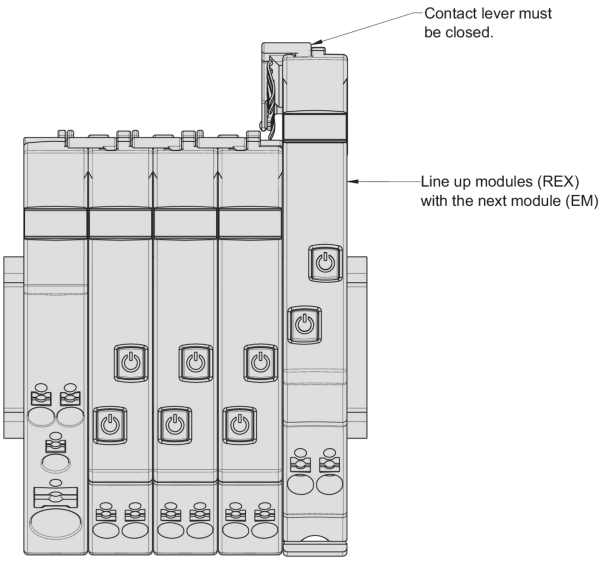


EXCHANGE IN / DISMOUNTING FROM THE REX SYSTEM NETWORK



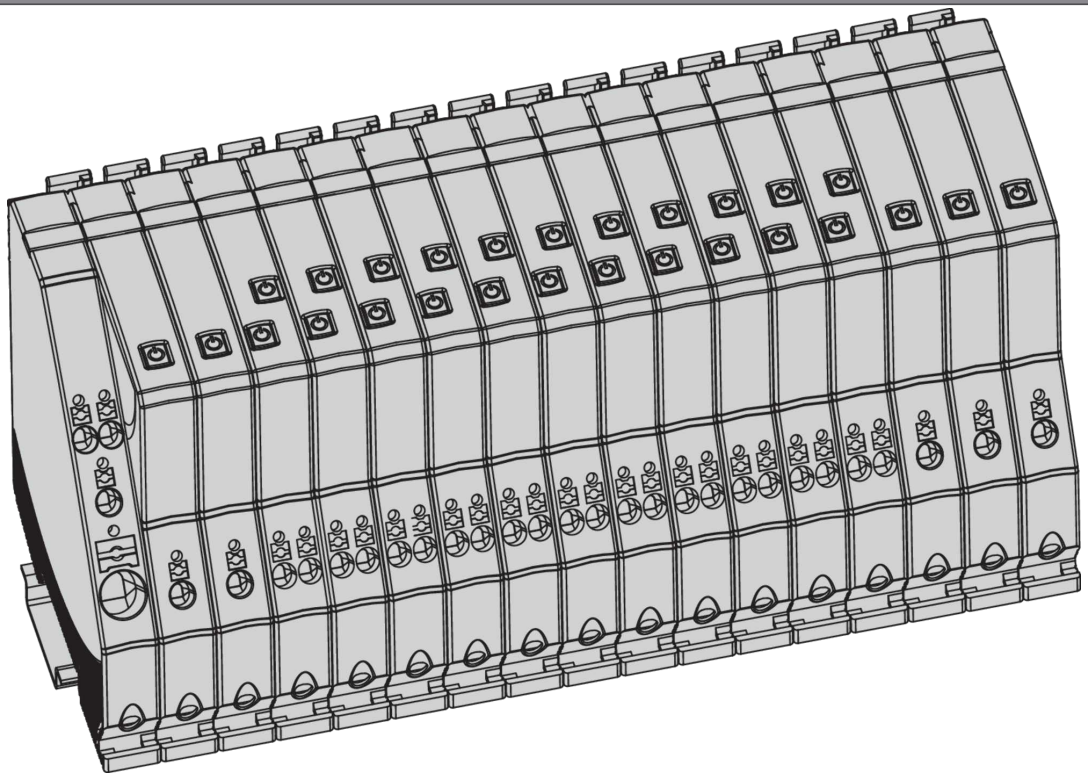
MOUNTING / EXPANSION ON DIN RAIL IN THE REX SYSTEM

Extend modules (REX) to the mounting rail

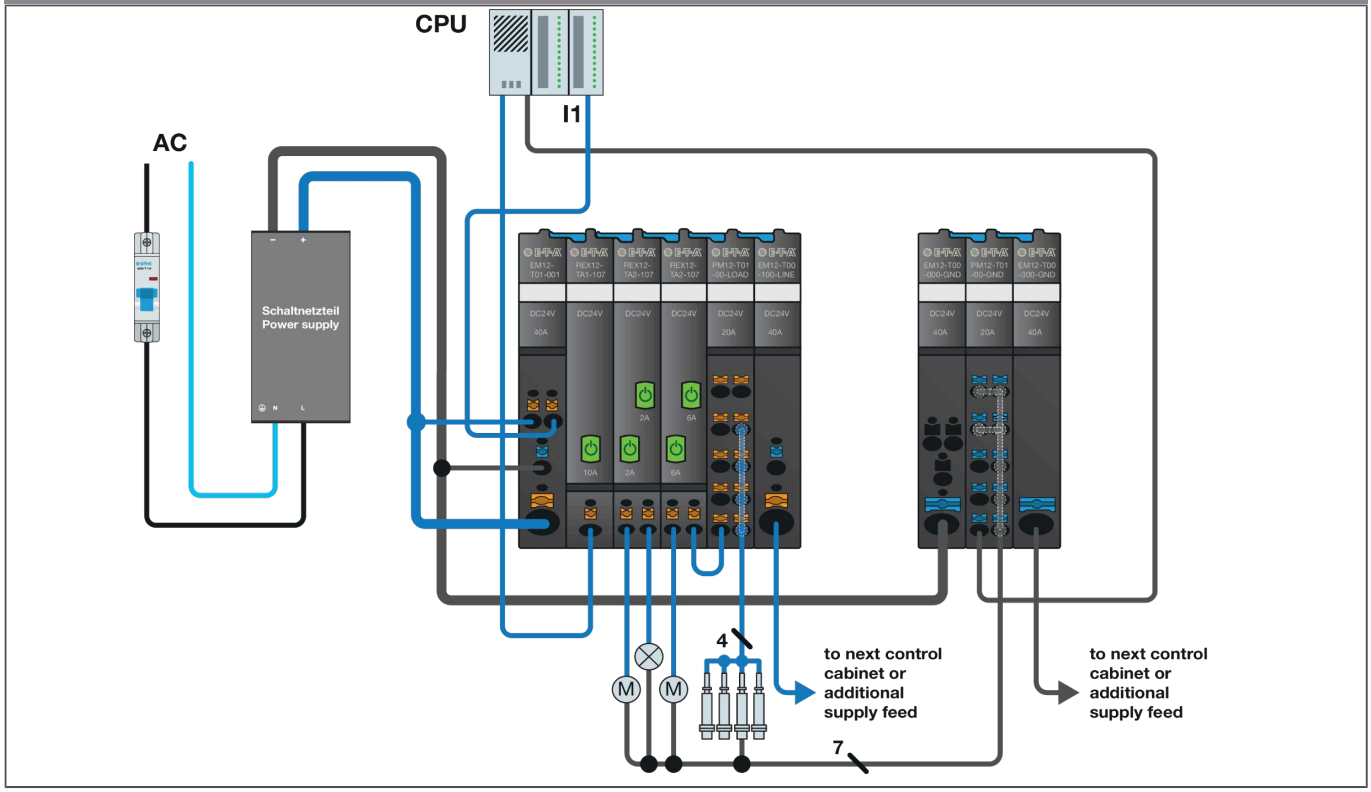


Mount modules individually with closed bracket on the mounting rail.

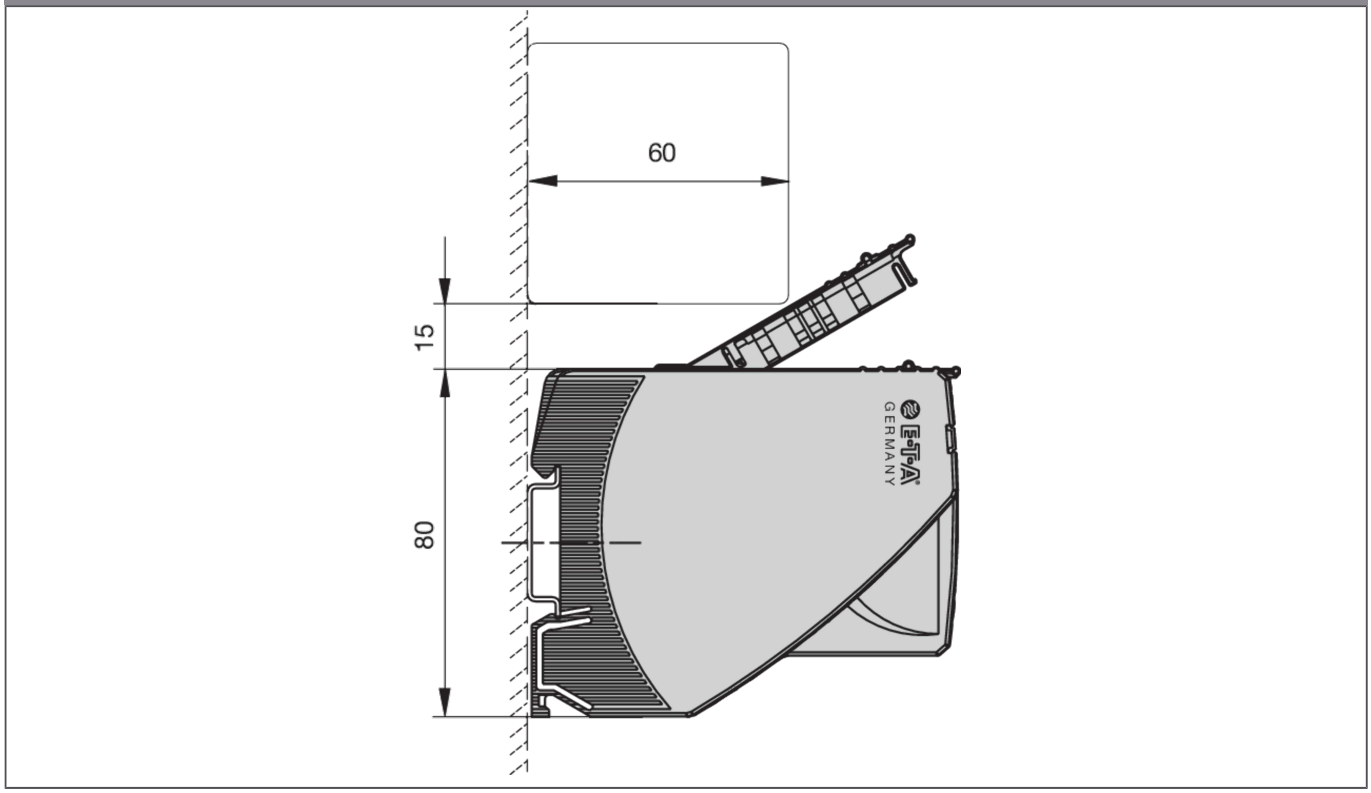
APPLICATION EXAMPLE: EM12-T WITH REX12-TA1... AND REX12-TA2...



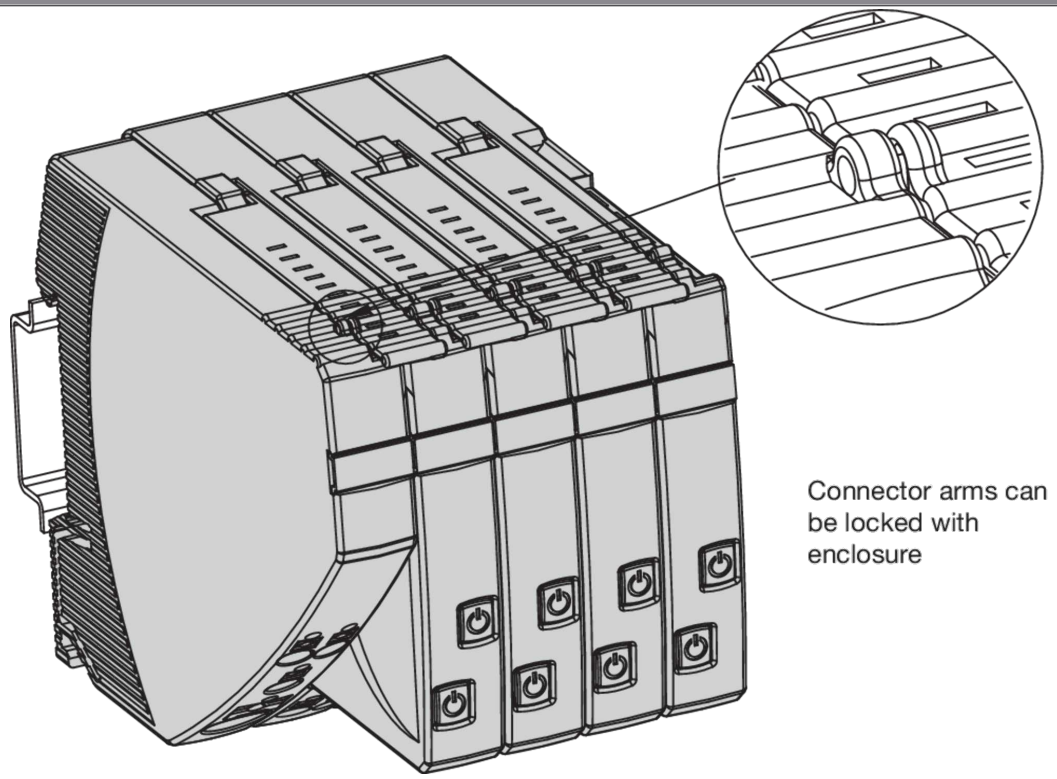
APPLICATION EXAMPLE: EM12-T ... WITH REX12-TAX... AND PM12-...



DISTANCES BETWEEN CABLE DUCT AND LEVER IN THE REX SYSTEM



SEALING OF THE REX SYSTEM



ACCESSORIES

REQUIRED ACCESSORIES FROM

ControlPlex® Controller CPC12	The intelligent CPC12 ***ControlPlex***® system is the perfect solution for the machine building industry. The system combines the well-proven quality of a DC 24 V overcurrent protection system with the EtherNet/IP, PROFINET, EtherCAT and Modbus TCP communication options. It features permanent measuring data recording, analysing and processing. This provides the required transparency to detect changes in the production process at an early stage and initiate corrective actions in time. The integral webserver 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 even without using the field bus interface.	
REX12D-T	With the compact and flexible REX system, E-T-A offers a sophisticated DC 24 V solution for protection and power distribution in mechanical and plant engineering - consisting of power supply, overcurrent protection, distribution and bus controller. The REX12D-T circuit protector provides selective protection, reacts faster than the switch mode power supply to short circuits or overloads and reliably switches on capacitive loads up to 20,000 µF. Available with fixed and adjustable current ratings from 1 A to 10 A, it fulfils not only UL508listed and NEC Class 2 but also exclusively EN 60204-1 for line protection. All REX12D-T modules support BASE and COM mode - with simple message signalling or extensive communication and diagnostics just as required. The operating mode is automatically recognised.	
REX12-T	With the compact and flexible REX system, E-T-A offers a sophisticated DC 24 V solution for protection and power distribution in mechanical and plant engineering - consisting of power supply, overcurrent protection, distribution and bus controller. The REX12D-T circuit protector provides selective protection, reacts faster than the switch mode power supply to short circuits or overloads and reliably switches on capacitive loads up to 20,000 µF. Available with fixed and adjustable current ratings from 1 A to 10 A, it fulfils not only UL508listed and NEC Class 2 but also exclusively EN 60204-1 for line protection.	

REX22D-T	E-T-A's compact and flexible REX system represents a comprehensive DC 24 V protection- and power distribution solution for the machine building industry. It is a perfectly harmonised system including power supply, overcurrent protection, power distribution and bus controller. The REX22D-T selectively protects all DC 24 V load circuits up to 20 A and linearly limits the output current when switching on or before tripping. The limitation limits the rated current in the event of a short circuit. This allows effective and calculable protection of switch mode power supplies, even with small power reserves.