

Safety Instructions

Important: Read Before Commissioning

- The user must ensure that all operators are familiar with this operating manual and follow it at all times.
- The operating manual must be read carefully before the instrument is mounted, installed and commissioned.
- All actions taken must follow the operating manual.
- Installation and commissioning may only be carried out by appropriately qualified personnel with due regard for all rules and regulations that are in force.
- When the instrument is connected to mains voltage, it must not be opened.
- If the instrument is visibly damaged, it must not be installed, wired up or commissioned.
- If the instrument does not work after commissioning, it must be **disconnected** from the mains.
- Any further laws, standards, guidelines, etc. relevant to this product must be complied with.

Additional information on **EML 1101 Maximum Demand Controller and Add-on station EMD1101**

- Loads **which may cause damage or danger when disconnected by EML1101 or EMD1101 must** not be connected to the load channels.
- The responsibility for correct load settings, such that proper operation is guaranteed and no damage or danger arises, remains 100% with the customer.

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1 Quick Start

- **Installation:**



Important:

The connections for the power supply voltage are externally protected by 2A semi-time lag fuses. When working on the EML1101 the device must be switched voltage free.

Caution: Do not switch on the a power supply before the upper housing unit has again been assembled!

- Undo the screws on the side.
- Remove the black base.
- Attach the base and terminal strip on the rail from the top.
- Insert the cable.
- Connect the cable to the appropriate terminals as shown in Fig. 1, Page 13.
- Turn the rotary switch to the required channel.
- Set the DIP switches to the required fault status.
- Replace the upper housing unit.
- Switch on the mains power supply.



Important:

When working with the EMD1101, please note that, although the circuits leading to the switch contacts are isolated from the power supply, they can still conduct a power voltage.

Note: After switching on the power supply the instrument requires about 10 s for initialisation. All relays are open during this time!

2 Description

The EMD 1101 add-on station is used to increase the number of consumer channels which are controlled by the EML 1101 maximum optimisation computer. Every EMD 1101 add-on station provides 8 additional consumer channels.

The EMD 1101 add-on stations are connected to the EML 1101 maximum optimisation computer via the add-on bus. Depending on the type of EML 1101 maximum optimisation computer, up to 4 or max 10 EMD 1101 add-on stations can be connected to the add-on bus. Thus there are a total of maximum 36 or 84 consumer channels available.

2.1 Function

The EMD 1101 add-on stations are connected to the EML 1101 maximum optimisation computer via the add-on bus. Control commands are received from this device when a particular consumer channel is to be switched on or off.

The actual status of the consumer channels can be seen from the LEDs on the front plate. Thus a lit LED corresponds to a closed relay contact and therefore a switched-on consumer channel.

A DIP switch labelled "Consumer on fault" is on the front plate. This is used for defining the status fault of every consumer channel.

A rotary switch labelled "Station number". is on the front plate This is used for assigning the station number which the EMD 1101 add-on station is to have for the add-on bus.

An LED labelled "Access" is on the front plate. This flashes when data is exchanged with the EMD 1101 add-on station. On fault, this LED is unlit and the set consumer status on fault is given.

2.2 Function on fault

maximum optimisation computer and the EMD 1101 add-on station, the EMD1101 add-on station automatically issues the set consumer status on fault.

Once there is successful connection, the EMD 1101 add-on station again issues the preset consumer status from the EML 1101 maximum optimisation computer.

From a specified lower operating voltage limit the EMD 1101 add-on station gives the defined consumer status on fault.

Note: Even when the mains supply is isolated the consumer status on fault is given.

3 Installation

3.1 Mounting

- Undo the screws on the side.
- Remove the black base.
- Attach the base and terminal strip on the rail from the bottom.

3.2 Electrical connection

- Insert the cable.
- Connect the cable to the appropriate terminals as shown in Fig. 1, Page 13.
- Replace the upper housing unit and secure it using the two screws on the side.

Caution: **Do not switch on the power supply before the upper housing unit has again been assembled!**

4 Commissioning

4.1 Defining the consumer status on fault

- Set the consumer status required on fault using the DIP switches labelled "Consumer on fault".

The "On" position of a switch therefore means that the consumer is switched on in cases of fault.

Note:

There are two basic ways of looking at the consumer status on fault:

- On fault, you wish to have the greatest number of consumers available on the network. Therefore, set the consumer status on fault to "On". The set reference power may be exceeded under certain circumstances.
- Under no circumstances do you want the set reference power to be exceeded.
Therefore, set the consumer status on fault to "Off". In this case the corresponding consumers are not available.

5 Basic settings

5.1 Setting the station number

- Turn the rotary switch labelled "Station number" on the front plate to the station number (channel) required.

Note:

- Station numbers can be selected from 1 to 10 with **"0" standing for 10**.
- For one EML 1101 maximum optimisation computer with up to 4 EMD 1101 station numbers can be selected from **1 to 4**.
- For one EML 1101 maximum optimisation computer with up to 10 EMD 1101 add-on units station numbers can be selected from **1 to 10**.
- The EMD 1101 add-on stations connected to one EML 1101 maximum optimisation computer **may not have the same station number!**

5.2 Testing

- Switch on the power supply.

Note: After switching on the power supply, the instrument requires about 10 seconds for initialisation. During this time all relays are open!

- Connect and configure the maximum optimisation computer. Note especially that the corresponding EMD 1101 add-on station is activated. The EMD 1101 add-on station indicates correct operation by the flashing "Access" LED.
- Set a non-activated station number in the EML 1101 maximum optimisation computer. The "Access" LED now stops flashing and the consumer status on fault is given.
- Set the correct station number again. The "Access" LED starts flashing again and the consumer status must assume the preset status of the EML 1101 maximum optimisation computer.

If this is not the case then please read Section 8, "Instructions on commissioning and trouble-shooting".

6 Operation

The EMD 1101 add-on station has no operating elements and requires no operation at the instrument itself.

7 Technical data

Mechanical construction:

Housing: Grey plastic
Dimensions (W x H x D) 158 x 75 x 120 mm

Weight: approx. 0.8 kg

Power supply:

Power voltage: 230VAC, -15 to +10%
Frequency: 50 to 65 Hz
Power consumption: 4VA

Outputs:

General: Relay contacts for 250VAC, 4A
8 switching channels (1..8)

Operating conditions:

Ambient temperature: 0°C to +45°C
Storage temperature: -20°C to +60°C
Ingress protection: IP40

8 Troubleshooting

Pos.	Error display	Possible cause	Remedy
1	"Access" LED does not flash and consumer status on fault switched	Operating voltage is either incorrect or not present.	Check if the operating voltage is correct.
2		The delay time of 10 sec has not yet expired.	Wait for delay time.
3		An incorrect station number has been set.	Set the correct station number.
4		The connection to the EML 1101 maximum optimisation computer is not correct or is faulty.	Check connection to the EML 1101 maximum optimisation computer. (Have connection A and B been swapped over?)
5		The maximum optimisation computer has not been configured correctly.	Is the add-on station activated?
6		The EML 1101 maximum optimisation computer does not operate correctly.	Check maximum optimisation computer.
7	Consumer status has not been switched.	An incorrect station number has been set.	Set the correct station number.
8		The EML 1101 maximum optimisation computer has not been configured correctly.	Is the add-on station activated?
9		The EML 1101 maximum optimisation computer does not operate correctly.	Check maximum optimisation computer. (Is the add-on station activated?)

9 Connection diagram

