



## Uninterruptible power supplies Supply MEG101.3a and Supply MEG101.3b



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# Uninterruptible power supplies

## Supply MEg101.3a and Supply MEg101.3b

### 1/ CHARACTERISTICS

The uninterruptible power supplies Supply MEg101.3a and Supply MEg101.3b are designed to supply electrical power to the PQ monitor MEg39 set. Their fundamental part consists of a HF voltage converter converting the supply voltage into 12 V<sub>DC</sub> output voltage with high efficiency. When the supply voltage is interrupted, the DC output voltage is delivered by the internal rechargeable battery repeatedly for a period of 1 minute. In case of need, the delivery of electric power at the output of the power source can be blocked up. The power supplies are equipped with overcurrent protection at their outputs and with a fuse at the input that is accessible from outside.

### 2/ TECHNICAL DATA

#### Input of Supply MEg101.3a

Supply voltage:	DC	AC, f=50 Hz
Nominal voltage:	220 V <sub>DC</sub>	230 V <sub>AC</sub>
Minimum voltage:	100 V <sub>DC</sub>	85 V <sub>AC</sub>
Maximum voltage, continuous:	250 V <sub>DC</sub>	265 V <sub>AC</sub>
Maximum voltage, short-term:	300 V <sub>DC</sub>	300 V <sub>AC</sub>
Nominal current:	50 mA <sub>DC</sub>	50 mA <sub>AC</sub>
Maximum current:	150 mA <sub>DC</sub>	220 mA <sub>AC</sub>
Input power:	15 W / 60 VA	
Fuse PO1:	FSK001 / 0,5 A-T	
Insulation voltage:	4 kV <sub>AC</sub>	
Overvoltage category:	CATIII / 300 V <sub>AC</sub>	

**Supply MEG101.3b input**

Supply voltage:	DC
Minimum voltage:	$18 V_{DC}$
Maximum voltage, continuous:	$69 V_{DC}$
Nominal current:	$750 mA_{DC} / 18 V_{DC}$
Input power:	15 W
Fuse PO1:	FSK001 / 1 A-T
Insulation voltage:	$1\,500 V_{DC}$

**Output of Supply MEG101.3a, Supply MEG101.3b**

Nominal output voltage:	$12 V_{DC}$
Output voltage range:	$8 V_{DC}$ to $15 V_{DC}$
Maximum output current:	450 mA
Period of secured supply:	1 minute
Guaranteed number of repetitions of secured supply:	3 times
Maximum full charging period:	10 hours
Starting current inrush:	5 A / 3 msec
Type of internal rechargeable batteries:	HR 700 AAA (2 × 5)

**Design data**

Length × width × height:	108 × 90 × 63 mm
Weight:	0.4 kg
Installation:	DIN rail TC 35
Interconnection within the set:	HBUS
Terminals, max. conductor cross-section:	4 mm <sup>2</sup>

### **Operating conditions**

Operating temperature:	-20°C to +50°C
Operation:	in interiors, with cover panel
Protection rating:	IP00/IP20 with covered terminals
Relative humidity:	20 % to 90 %
Altitude:	up to 2 000 m
Operating position:	arbitrary, preferably horizontal
Safety:	EN 61010-1
EMC:	EN 61326-1
Degree of pollution:	2

### 3/ SYMBOLS USED IN SUPPLY MEg101.3a AND SUPPLY MEg101.3b

#### User Manual



Caution, electric shock risk



Note in documentation / Warning, risk of hazard



Earth, earthing terminal for HF earthing

IP code Degree of ingress protection



The product is intended for recycling and collection points



Declaration of Conformity – European Community

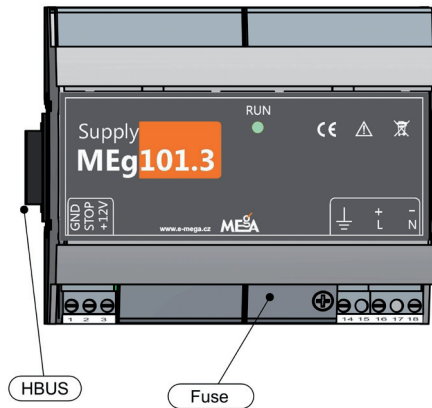
### 4/ DESIGN

The uninterruptible power supplies Supply MEg101.3a and Supply MEg101.3b are installed in a self-extinguishing polycarbonate case with an HBUS connector. The power supplies are installed onto a DIN rail TC 35 by means of an upper or lower spring-loaded detents. They are encased or use the DIN rail cover panel. The HBUS busbar is located between the case of the power supply unit and the DIN rail. General layout is shown on Fig. 1. Next to the labels on the cabinet panel, there is the **RUN LED**, which, when lit, indicates the presence of  $12 V_{DC}$  output voltage. The terminals with supply voltage and those with output voltage are located on the bottom side of the unit and their denotations and descriptions are presented in Tab. 1. The maximum conductor cross-section is  $4 \text{ mm}^2$ . The input fuse PO1 is located in the cap hidden under the screwed-on cover located close to the input supply voltage terminals.

Tab. 1: Terminals of uninterruptible power supplies Supply MEg101.3a and Supply MEg101.3b

Terminal number	Terminal identification	Terminal description
1	GND	Common conductor of the PQ monitor and Supply power unit set
2	STOP	Secured output voltage blocking
3	+12V	Secured output voltage +12 V <sub>DC</sub>
14		HF earthing
16	L +	AC power supply phase conductor or DC supply voltage positive pole
18	N -	AC power supply neutral conductor or DC supply voltage negative pole

Fig. 1: Supply MEg101.3a unit



## 5/ SAFETY INFORMATION

**Maximum attention must be paid to the following information.**



Warning, warns of circumstances that constitute safety risks for the operator.



Caution, presents conditions and facts that may damage the uninterruptible power supply units Supply MEg101.3a or Supply MEg101.3b.

- The personnel carrying out installation, putting into operation, maintenance and removal of Supply MEg101.3a or Supply MEg101.3b power supplies must be equipped and use personal protective equipment to be protected against electric shock as well as other safety devices.
- The personnel carrying out installation, putting into operation, maintenance and removal of Supply MEg101.3a or Supply MEg101.3b power supplies must be qualified for working near dangerous voltages. They must be trained in giving first aid.
- Only skilled staff may operate the Supply MEg101.3a and Supply MEg101.3b power supplies.
- The Supply MEg101.3a may be connected to a maximum AC supply voltage of  $300 V_{AC}$  and a maximum DC supply voltage of  $300 V_{DC}$  otherwise there is a risk of electrical injury.
- The Supply MEg101.3b may be connected to a maximum DC supply voltage of  $69 V_{DC}$  otherwise there is a risk of electrical injury.
- It is necessary to connect protective elements into the supply circuits of the Supply MEg101.3a and Supply MEg101.3b, refer to Fig. 2.
- The Supply MEg101.3a and Supply MEg101.3b power supplies may only be repaired by the manufacturer or by service organizations trained by him.



The Supply MEg101.3a and MEg101.3b power supplies are put into distribution boards or under cover panels so that the degree of protection for the required environment is reached as well as the mechanical impact resistance.



## 6/ INSTALLATION AND COMMISSIONING

**When uninterruptible power supplies Supply MEg101.3a or Supply MEg101.3b are used in a way not intended by the manufacturer, the protection provided by the power supply may be impaired.**

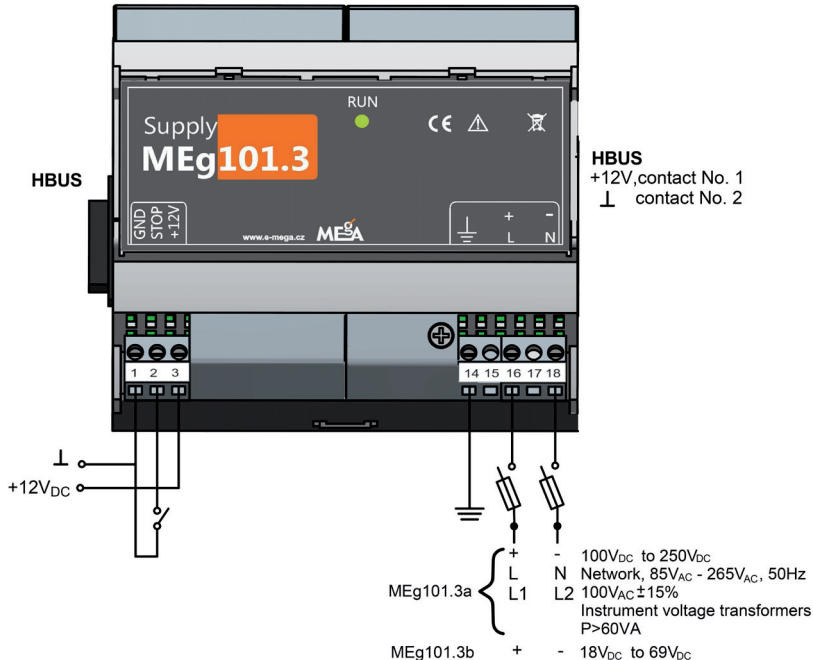
The uninterruptible power supplies Supply MEg101.3a or Supply MEg101.3b may only be installed by a person authorized for working with input voltages and equipped with personal protective equipment against electrical injury and familiarized with the operating instructions.

Denotation of supply terminals **L** and **N** applies to mains power supply and denotation **+** and **-** applies to DC power supply.

The uninterruptible power supplies Supply MEg101.3a and Supply MEg101.3b are always installed onto DIN rail TC 35. The rails is preferably in horizontal position; the description on the unit panel is readable from left to right.

Wiring of Supply MEg101.3a and Supply MEg101.3b power supplies is shown on Fig. 2.

Fig. 2: Wiring of Supply MEg101.3



Terminal (14) of the power supply for HF earthing must be connected to the earthing system at the place where the power supply is installed.

According to the type of the power supply, either AC or DC supply voltage is connected to terminals (16) and (18) of the power supply.

For supplying with unearthed AC or DC voltage, it is necessary to protect both poles of the supply voltage with fuses installed in the disconnect switch as shown on Fig. 2.

For supplying with AC or DC voltage with one of the poles earthed, the other pole must be protected.

The Supply MEG101.3a can support input AC voltage ranging from  $85 V_{ef}$  to  $265 V_{ef}$  with continuous maximum voltage of  $300 V_{ef}$  and a short-term increase in voltage up to  $510 V_{ef}$ .

The Supply MEG101.3a can support input line-to-line voltage from instrument voltage transformers with the output of 60 VA and higher.


The Supply MEG101.3a can support input DC voltage ranging from  $100 V_{DC}$  to  $250 V_{DC}$ .


The Supply MEG101.3b can support input DC voltage ranging from  $18 V_{DC}$  to  $69 V_{DC}$ .

The PQ monitor MEG39 set is fed via the HBUS busbar.

When the uninterruptible power supplies Supply MEG101.3a or the Supply MEG101.3b is used for powering external devices, the uninterruptible output voltage  $+12 V/\max. 450 mA$  is available on terminals (1) and (3). Terminal (2), when is connected with terminal (1), serves the purpose of blocking the function of uninterruptible voltage supply. In this way, it is possible to block unnecessary discharging of the internal rechargeable battery, e.g. during functional checks and inspections.

After connecting the input supply voltage, the LED **RUN** on the panel lights up and DC output voltage  $U_n = +12 V$  appears at the output and the internal rechargeable battery is charged at the same time. Once the supply voltage is interrupted, the power supply provides 12V DC output voltage for 1 minute from internal charged battery. Termination of the uninterruptible power supply is indicated by the LED **RUN** going out. With the internal rechargeable battery fully charged, the power supply is able to supply DC voltage ranging from 8 V to 15 V at maximum current loading of 450 mA as many as three times for 1 minute even at the temperature of  $-20^{\circ}C$ . The recurrence of uninterruptible power supply is triggered even by a short-time restoration of the input supply voltage.

 Even when the power supply is working at maximum capacity, the completely exhausted battery can be recharged in 10 hours.

 The uninterruptible power supplies Supply MEG101.3a and Supply MEG101.3b have an internal voltage source, which is why it is not allowed to remove their covers while the units are in operation.

## 7/ REQUIREMENTS FOR MAINTENANCE



Within the warranty period, the Supply MEg101.3a or Supply MEg101.3b power supplies may only be repaired by trained and skilled persons of the manufacturer or service organization of the manufacturer. Contact information for manufacturer's service is given at the [www.e-mega.cz](http://www.e-mega.cz) webpage.



The Supply MEg101.3a or Supply MEg101.3b must not be exposed to the effects of chemicals.



The Supply MEg101.3a or Supply MEg101.3b power supply may only be transported in their original packaging.

The Supply MEg101.3a and Supply MEg101.3b power supplies have no requirement for forced cooling. When the power supply is polluted, it is suitable to clean the unit carefully with a damp cloth without using any cleaning agents.



When the Supply MEg101.3a or Supply MEg101.3b are stored for a long time or no input voltage has been connected for a long time, the power supply should be connected to the nominal voltage after 1 year at the latest for at least 10 hours.

It is recommended to carry out preventive inspections every 3 years of operation.

A preventive inspection includes the following:

- checking the power source for mechanical integrity
- checking the magnitude of DC output voltage
- checking the function of blocking the output DC voltage by connecting contacts (1) and (2) of the power source with disconnected supply voltage
- checking the capacity of the internal rechargeable battery after it has been connected to nominal supply voltage for at least 10 hours. The power source must provide DC output voltage to the connected device in three repeated 1-minute intervals, which are always triggered by a short-time connection of the supply voltage.

## **8/ DISPOSAL**

After the end of utilization of the Supply MEg101.3a or Supply MEg101.3b, it is necessary to have the power supply recycled in waste collection points according to electronic waste handling rules. The power source contains a rechargeable battery.

## **9/ CONTENTS OF THE SET**

### **Basic set**

- Uninterruptible power supply MEg101.3a or Supply MEg101.3b
- CD with user description

### **Optional components of the set**

- DIN rail with accessories
- HBUS
- N pcs of FSK 001/0,5 A-T fuse (MEg101.3a)
- N pcs FSK 001/1 A-T fuse (MEg101.3b)
- Single-pole disconnect switch OPVA 10-1
- Double-pole disconnect switch OPVA 10-2

## 10/ WARRANTY



It is not allowed to open the Supply MEg101.3a or Supply MEg101.3b supplies within the warranty period.

The Supply MEg101.3a and Supply MEg101.3b units are covered by a 24-month warranty counting from the date of purchase, or 30 months at the longest counting from their expedition from the manufacturer's warehouse. Defects demonstrably incurred in this period due to imperfect construction, imperfect workmanship or unsuitable material will be repaired by the manufacturer or any other of his service organizations free of charge. During the warranty period, it is necessary to connect the power supply for at least 10 hours to the nominal supply voltage no later than after 1 year.

The warranty becomes null and void, if the user makes unauthorized modifications or changes to the power source, if he connects the supply incorrectly, in case of incorrect or rough manipulation, or if operated contrary to the given technical terms and user instructions.

The user will lodge a complaint about defects in the power supply and its accessories incurred during the warranty period to the manufacturer or the service organization authorized by him.

The manufacturer is not held accountable in any way for indirect damages caused by using the MEg101.3a or Supply MEg101.3b power supplies. As a result of the this warranty, the manufacturer is in no way liable for a sum that would exceed the price of the power supply unit.

## 11/ MANUFACTURER

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