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USER MANUAL

CAMELEON BOX Uninterruptible Power Supply in IP44 wall cabinet

15 May 2014

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Safety Precautions

- Please read this User Manual, before starting operation.
- Do not touch the internal components of the unit in operation - danger of electric shock or burns.
- Protect the device from getting of any objects or liquids into the interior - threatening of electric shock and damage to the equipment.
- Do not cover the ventilation holes – it can lead to damage of the device.
- Please, keep the free space of at least 10 cm on the sides of the device to enable the proper ventilation.
- It is forbidden to carry and transport the device with mounted and attached batteries.
- The power supply must be powered from the mains with the earth terminal.
- The device may interfere with radio and television sensitive equipment located nearby.

1. Technical description

1.1.Intended use

The CAMELEON BOX power supplies with the battery cooperation capability supply the uninterruptible voltage from the 230V +10% -15%, 50Hz mains or from the internal VRLA lead-acid (the AGM or gel) batteries when the mains failure. When switching from the mains supply into the battery operation, temporary voltage decays cannot be observed.

The power supplies are equipped with cables for connecting batteries but batteries should be ordered separately.

Type of power supply CAMELEON BOX	Output voltage	Max. output current	Max. battery capacity	Cabinet dimensions	Type of internal Power Supply
ZMS-1A-12V10A	12V	10A	Up to 36Ah*	390x350x90	ZM12V10A-151A-00
ZMS-1A-12V12A	12V	12A			ZM12V12A-200A-00
ZMS-1A-12V16A	12V	16A			ZM12V16A-300A-00
ZMS-2A-12V10A	12V	10A	Up to 56Ah*	390x350x140	ZM12V10A-151A-00
ZMS-2A-12V12A	12V	12A			ZM12V12A-200A-00
ZMS-2A-12V16A	12V	16A			ZM12V16A-300A-00
ZMS-3A-12V10A	12V	10A	Up to 80Ah*	450x350x180	ZM12V10A-151A-00
ZMS-3A-12V12A	12V	12A			ZM12V12A-200A-00
ZMS-3A-12V16A	12V	16A			ZM12V16A-300A-00
ZMS-1A-24V6A	24V	6A	18Ah	390x350x90	ZM24V6A-151A-00
ZMS-1A-24V8A	24V	8A			ZM24V8A-200A-00
ZMS-1A-24V12A	24V	12A			ZM24V12A-300A-00
ZMS-2A-24V6A	24V	6A	28Ah	390x350x140	ZM24V6A-151A-00
ZMS-2A-24V8A	24V	8A			ZM24V8A-200A-00
ZMS-2A-24V12A	24V	12A			ZM24V12A-300A-00
ZMS-3A-24V6A	24V	6A	40Ah	450x350x180	ZM24V6A-151A-00
ZMS-3A-24V8A	24V	8A			ZM24V8A-200A-00
ZMS-3A-24V12A	24V	12A			ZM24V12A-300A-00
ZMS-1A-48V3A	48V	3A	5Ah	390x350x90	ZM48V3A-151A-00
ZMS-1A-48V4A	48V	4A			ZM48V4A-200A-00
ZMS-1A-48V6A	48V	6A			ZM48V6A-300A-00
ZMS-3A-48V3A	48V	3A	12Ah	450x350x180	ZM48V3A-151A-00
ZMS-3A-48V4A	48V	4A			ZM48V4A-200A-00
ZMS-3A-48V6A	48V	6A			ZM48V6A-300A-00

* The 12V version allows for parallel connection of a battery.

NOTE:

The table above includes the nominal output voltages. The ranges of the output voltages related with the battery cooperation capability have been defined in the User Manual on the ZM Power Supply and are shown on the data plates.

1.2 Additional equipment

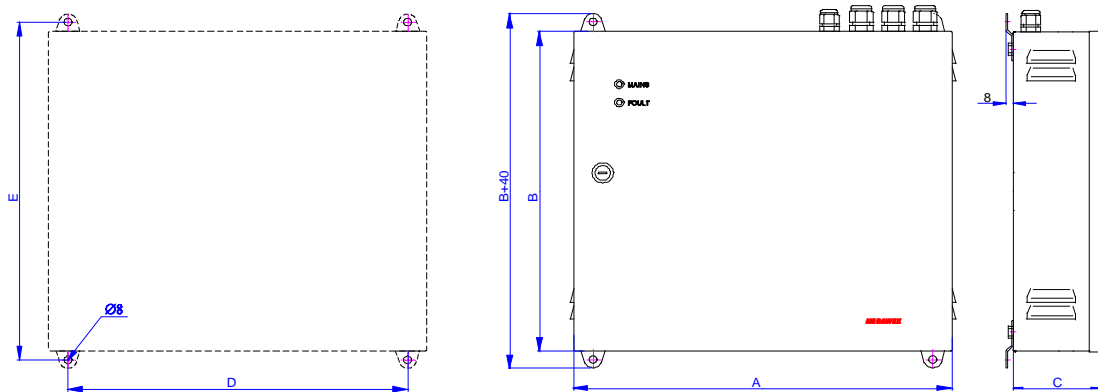
- a. Cable gland PG9 - 1 pc.
- b. Cable gland PG11 - 3 pcs.
- c. Round cap Z9 - 1 pc.
- d. Round cap Z11 - 1 pc.
- e. Battery cables - 1 set
- f. User Manual on CAMELEON BOX
- g. User Manual for CAMELEON universal Power Supplies
- h. Temperature probe

1.3 Parameters

Basic electrical and environmental parameters

Nominal AC power voltage	184...230V...253V 50Hz
Recommended working temperature	-20...+40°C
Ingress protection code EN 60529:1991+A1:2000	IP 44
Protection class EN 60950-1:2006+A11:2009+A1:2010+A12:2011	I

1. For battery discharging the recommended range of temperature: -20...+40°C.
2. For battery charging the recommended range of temperature: 0...+40°C.
3. The User Manual on the ZM modular Power Supplies, supplied with the device, includes the detailed electrical parameters.



Dimensional drawing and mounting holes placement in the ZMS power supply.

Cabinet type	A	B	C	D	E
1A	390	350	90	350	370
2A	390	350	140	350	370
3A	450	350	180	410	370

2 Installing and connecting

2.1 Recommendations and warnings

- **Mounting and installing the device must be done in accordance with the information provided in the following User Manual.**
- **Do not expose the device to high temperatures or direct sunlight.**
- **Mounting and connecting must be done only when the batteries are disconnected.**
- **When connecting the battery please pay attention to the compliance of the polarity of the battery with the description on the connector.**
- **The device must be powered from the mains with the earth protection terminal.**
- **Before connecting the device to the mains, it is necessary to check the quality of all connections made.**

2.2 Installing

An installation place of the power supply should be carefully chosen in such a way as not to expose it to mechanical damage, and not to exceed the permissible parameters of temperature and air humidity. Power supplies should be installed near devices they power to eliminate voltage drops.

The cabinet should be mounted at a wall using the four holes on the brackets fastened to the corners of the rear side of the cabinet. The cabinet must be fastened to the wall with 4 dowels and steel screws. Due to the big weight (batteries) it is recommended the use of steel sleeve anchors and steel screws.

The place of the mounting holes is included in the point 1.3 'Technical Description'.

2.3 Battery selection criteria

When selecting the battery capacity, for the determined battery backup time, please, take into consideration the power supply quiescent current consumption, which is:

- 12V – 100mA
- 24V – 35mA
- 48V – 25mA

Selection of the battery capacity must be based on the size of the casing and an output voltage of 12V, 24V or 48V. In the table, the maximum capacity has been defined for each value of the output voltage, separately for each of the three sizes of the casings.

In the modular power supplies mounted inside cabinets, the factory preset charging current is equal to 25% of the nominal output current. An installer or a user can select higher charging current in relation to the nominal output current (50%, 75% or 100%), especially for batteries with higher capacity to shorten their charging time. It is important to use the tips in the User Manual. This setting does not require dismounting the power supply but sliding the switch available on the bottom panel of the casing from the front panel.

NOTE: please, take into consideration that the charging current must not exceed 30% of the battery capacity.

2.4 Connecting

Please, note that the device must be connected to a fixed installation using the protective cable. It is recommended to equip the installation with an anti-surge protection circuit. It is possible to lead the installation cables from the top through the PG11 glands (3 pcs.) and PG9 (1 pc.) located there. All connections must be done according to the diagram located inside – on the cabinet door. If you do not use one of the glands, its hole must be plugged with an additional cap delivered with the power supply.

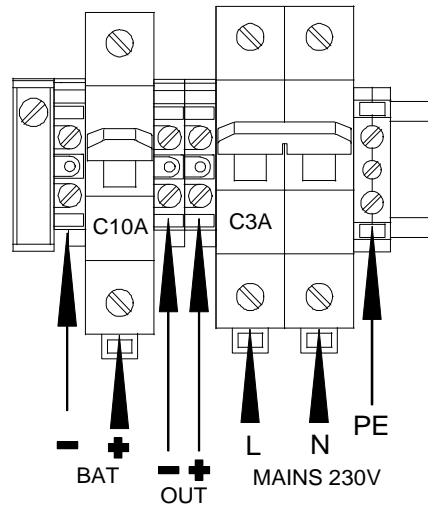
The recommended cross-section of the 3-wire cable to connect the mains is 3 x 0.75 ... 1.5mm².

The recommended output cable is LgY, which cross-section should be adapted to the value of the output current and the distance from the receiver.

When connecting the remote indication it is recommended to use the 2-wire cable of the cross section of 2 x 0.75mm².

Please, insert the supplied temperature probe into the socket described **TEMP PROBE** and put it next to the battery.

In addition, the potential-free relay indication contacts described **MAINS FLT** and **BAT FLT** are accessible on the front panel of the power supply. To trigger the general fault indication, the both terminals should be connected serially for the NO terminals or in parallel for the NC terminals. The contacts are described on the figure on the front panel of the CAMELEON modular power supply, next to the fault indication connector.



Connecting ZMS Power Supply



NOTE: the fuses as above function only as the battery circuit and the mains disconnectors. The modular power supplies used inside the cabinet have their own specific fuses both in the battery as well as in the mains circuits. The user can, if necessary, replace the battery fuse only with a fuse of the same type and value as in the description next to the socket on the front panel.















3. Operation

3.1. Initial information

The output voltages as well as the indication thresholds are factory preset. The power supplies after installation require the control of faulty states which might happen during their operation time.

Operation mode indication

-  - LED on
-  - LED off

Operation state	LED Indication	
	MAINS green colour	FAULT yellow colour
No voltage state		
Mains on		
Battery operation (no mains or rectifier fault)		
Low battery voltage		
No battery		
No battery circuit continuity		
Battery fuse blown		

3.2. Maintenance

The device requires no special maintenance. During the normal operation, you should only preserve the cleanliness of the environment around the wall cabinet.

It should be noted that the battery life, declared by the manufacturer, is 10 years at 20°C, reaches 6 years at 25°C and decreases twice as the temperature rises by further 8°C.

4. Servicing

- User can only replace the battery fuse located on the front panel of the power supply, inside the cabinet, on the fuse of the same type and current value. Types and current values for the fuse for the specific internal power supplies are listed in the User Manual for the CAMELEON Power Supplies, supplied with the equipment.
- All warranty and post-warranty service repairs should be realized by the service staff of the Manufacturer or a specialized Company authorized by the Manufacturer

5. Related documents.

- The User Manual of the universal, modular CAMELEON Power Supplies No. 0351.00.95-01.2.

6. Disposal of packaging, used products and batteries.



Product packaging is made of non-hazardous materials (wood, paper, cardboard, plastics), which can be recycled. Packages which are no longer needed should be passed on to a waste collection station, after they had been sorted.



The used product is a non-hazardous waste which should not be disposed of in the general waste bin, but it has to be transferred to the local waste collection/recycling station accepting electric and electronic equipment. Appropriate disposal of waste electrical devices will help to avoid harmful human health and environmental impacts resulting from improper storage and processing of such the equipment.

When disposing used batteries, please follow the rules contained in the "Act on batteries and accumulators" of 24th April 2009 (Journal of Laws of 2009 No. 79, item. 666). They are tight (equipped with a unidirectional, self-sealing valve), maintenance-free lead-acid VRLA batteries classified in accordance with the Act to the category of industrial batteries, which after their use are hazardous waste of the code of 16 06 01* (Reg. of the Ministry of Infrastructure of 27th April 2001 on the catalog of waste – Journal of Laws of 2001 No. 112, item 1206).