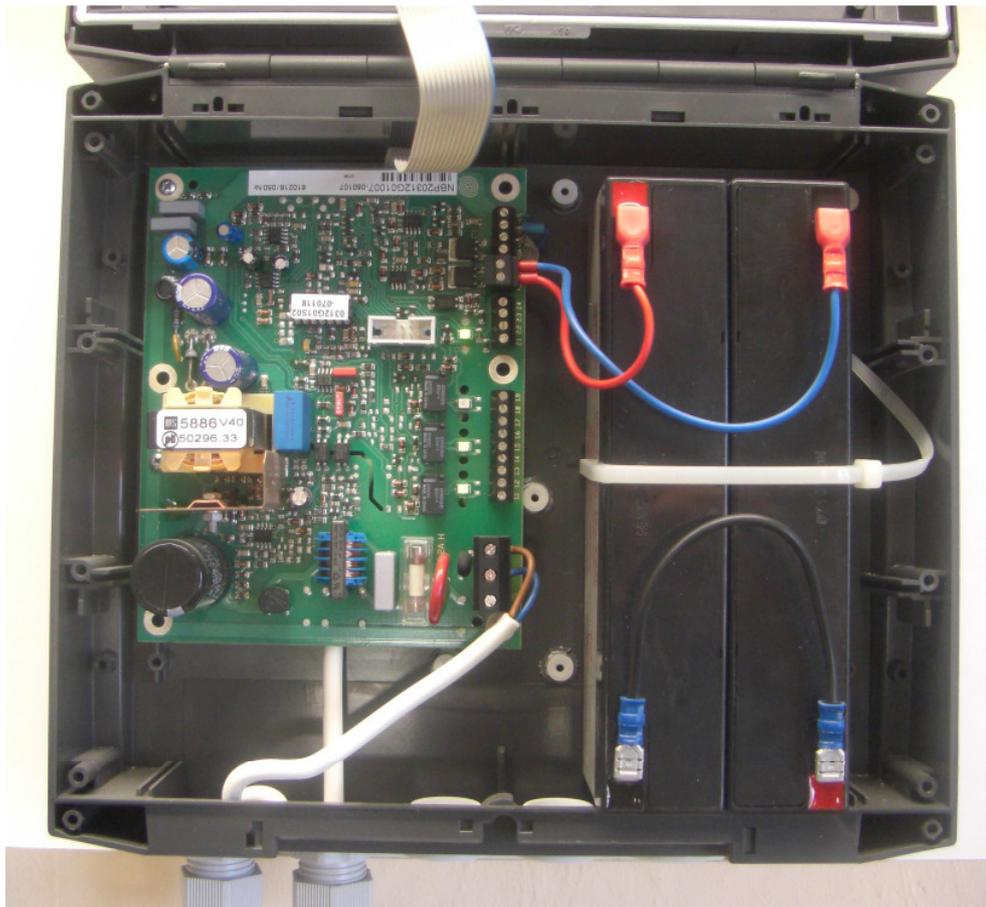


Medium – Control – Systeme
Franke & Hagenest GmbH

Bornngasse 1a * 04600 Altenburg
Telefon : +49 3447 499 313 0
Telefax : +49 3447 499 313 6
E-Mail : info@mcs-gaswarnanlagen.de

MCS

Manual **MCS 2000-NSV Emergency power supply**



Any use of the device requires full understanding and compliance with these operating instructions.

The evaluation is not approved for use in hazardous areas.

Responsibility for operation and damage

The liability for the function of the device goes to the owner or operator, so far, is improperly maintained or repaired the equipment by persons not belonging to the service of the company MCS or if an operation takes place, which is not the intended use.

For damage caused by non-observance of these instructions, the Company shall not be liable MCS.

Safety informations

The operating instructions should be read before using or installing the device, the information must be observed!
Non-compliance threatens the loss of all warranty and guarantee claims!
Installation, commissioning and maintenance must be performed by qualified personnel.
The valid VDE regulations, in particular DIN VDE 0100 and EN 60204 must be observed!
The protective conductor must be connected (class I).
Incoming and outgoing cables must be sized and fused
To unlock the power supply disconnection device are provided for mains and battery circuit.
The device is a built-in device. Operation is only permitted in dry rooms
The permissible ambient temperature range is observed!
Only the battery types specified for the machine to be used!
Battery replacement is performed only when the power is on
When connecting external backup batteries, the battery backup must be performed on the user side! The security element (overload and short-circuit protection) is as close as possible to arrange for security on the battery pack!
When using batteries sufficient air flow according to DIN VDE 0510, Part 2 must be ensured.
Do not mix new and old batteries or different types of batteries together turn.
Opening the device must be performed by qualified personnel.
In case of failure, we recommend that you send the device to the manufacturer.

Failure to heed precautions can result in death, injury and property damage!

Short summery

The battery-DC power supply operates on the standby parallel principle and ensured in conjunction with a lead-acid battery, a secure maintenance of DC power supply in case of power failure. The buffer time is the state of charge of the battery and the discharge current dependent.

The power supply is characterized by the following properties:

- Batterieladegeräte with I / U charging characteristic
- Microcontrollers Supported Battery Management
- Temperature tracking the charging voltage by external sensor module (option)

Mounting

The DC power supply is installed so that the necessary cooling is ensured. A minimum clearance around the ventilation openings to other units of 40 mm is required. The installation must always be carried out so that sufficient air circulation is ensured. The specified ambient temperature must not be exceeded. The max. Altitude without power reduction is 1000 m above sea level. NN. During installation, the device is to be covered, provided drill cuttings may be released on the unit, or inside the unit.

Connection

Before connecting the values of supply voltage and frequency as well as the battery with the values of the nameplate should be checked for consistency. Connection in accordance with the terms of the terminals to make (see block diagram and pin assignment)

Commissioning

The device is switched on by switching on the mains voltage.

If equipment is installed in equipment, in cases where the examination overvoltages (eg according to EN60204-1 / VDE0113 part1 19.4 voltage test) is required, the device must be disconnected before the application of the voltage from the test set.

(Original text EN 60204-1: components, which are not designed for this test voltage, must be disconnected during the test.)

The battery voltage must match the rated voltage of the AKKUTEC!

Batteries should not be reversed polarity!

Never connect briefly batteries! Arc hazard!

Check before you power the connections are correct!

Make electrical connections only when the power condition ago!

Using

Approximately 2 seconds after connection to the grid, the output voltage is released and supplies the connected consumer. Neither is the charge of the battery. This mode is signaled by the illumination of the green LED 'network' OK '.

By disconnecting the mains voltage or by falling below the minimum input voltage goes over the NSI in battery mode. The green LED "Power OK 'disappears.

A lit LED always causes tightening of the corresponding relay.

Battery circuit monitoring

To ensure the buffering capacity of the UPS, the battery circuit is tested periodically at intervals of 60 s, the first test is done after 60s the mains supply. This test can be an open circuit or high impedance of the battery circuit are detected. A defective battery circuit is indicated by the extinction of the green 'Batt' OK 'LED..

Battery test

A cyclic battery test during network operation load on the battery while measuring the voltage.

This allows a statement about the battery quality are made. A heavily aged battery is indicated by the extinction of the green LED 'Batt' OK '. Approximately 1 hr. After mains switching is performed, each additional 24 hours of the first battery test.

Through the processor-controlled, automatic battery test, the buffer capacity of the battery is ensured.

In order to make an accurate statement about the capacity of the batteries in the present system, we also recommend at least an annual review of the batteries with the rated load current making. For this, the battery must be forced by mains disconnection and take the

buffering time up to self-shutdown upon reaching the exhaustive discharge. The actual battery capacity is determined from the bridging time and rated load calculated. If there is insufficient capacity of the batteries for the necessary bridging time the batteries are replaced.

Shut-Down

To discharge the battery unnecessarily to deep discharge, it is possible to cancel the battery prematurely. This is done by applying a + 24V DC control voltage at terminal 3 (+) and 4 (-) terminal strip 'IO-1'.

Temperature tracking (optional module)

Lead-acid batteries have a temperature coefficient of approximately in parallel operation - 3 mV per ° C and cell. The final charge voltage is chosen so that charging of the batteries is ensured in a temperature range of 15-45 ° C.

For applications with frequent and severe temperature changes the charging voltage should be adjusted accordingly to avoid overcharging the battery (Gasungsgefahr!). Also be sure that particular (C Tu <15 °) are performed at very low ambient temperatures tracking to hrleisten sequences sufficient battery charge.

By connecting the external temperature sensor module (option) at the terminal strip 'IO-1' connection 1 and 2 (observe polarity!) Is the temperature tracking automatically activated. According to the ambient temperature variation of 0-45 ° C, the charge voltage is varied (and thus the output voltage) in a range from 27.85 to 26.3 V DC

Battery to temperatures above 45 ° C are indicated by the extinction of the 'Batt' OK 'LED.

In order to achieve a satisfactory battery life, should the Not exceed operating temperature of the batteries 25 ° C. higher temperatures lead to a drastic reduction in the food or service life!

Decommissioning

A decommissioning is done by removing the mains voltage. In order to avoid the subsequent discharge of the battery, the battery circuit (Section 9.3 s.) Must be stopped by activating the 'Shut-Downs'. The LEDs Power OK 'and' Batt 'OK' to this erlö rule.

Do not fire during the operation of electrical connections!
Similarly, the making electrical connections during operation is to refrain!