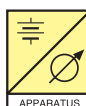




# BATTERY MONITORING SYSTEM RPB-24

MEASUREMENT AND  
MONITORING DEVICES



# MEDCOM

AC & DC POWER SOLUTIONS  
TRACTION CONVERTERS



## DESIGNATION

Battery Monitoring System RPB-24 is a microprocessor controlled device, which has been designated for the measure and control of the battery set installed in emergency DC supplying systems. It controls the battery state conformity according to battery characteristics given by the manufacturer.

Over-crossing of the battery pre-set parameters causes alarm signal which activates output relay contacts. Every alarm is stored in internal register. Alarm information can be send to computer monitoring system via RS-232 interface or modem – or directly to supervising person by GSM network.

Analysis of the battery operation includes float operation, maintenance and formation (in case of opened cells).

RPB-24 allows early to find factors which may reduce the battery life time. It may be:

- too high ambient temperature
- too high temperature of the single cell or block
- differences in the voltages across the cells
- too high voltage ripples
- too high charging current
- too many cycles or micro-cycles

The device makes possible to correct mistakes made during the designing of the system or to change too intensive exploitation of the battery. It also makes possible to react in case of failures of the power supply system.

## MAIN FEATURES

- Measurement of the battery parameters like: voltage, current, charge and environmental temperature.
- Measurement up to 18 voltages across blocks
- Measurement up to 18 temperatures of blocks
- Programmable alarm levels of each measured parameter
- Recording of approx. 2000 alarms in internal memory
- Communication via interface RS-232 to the computer monitoring system or via modem to other systems
- RPB-24 is supplied directly from the battery under control
- Galvanic insulation of the measurement inputs and interface RS-232
- Configuration of RPB-24 via computer program
- Alarm signalling according to battery characteristics
- Compact mechanical structure
- Simple installation and service
- Low cost of the installation and exploitation



BATTERY MONITORING SYSTEM RPB-24

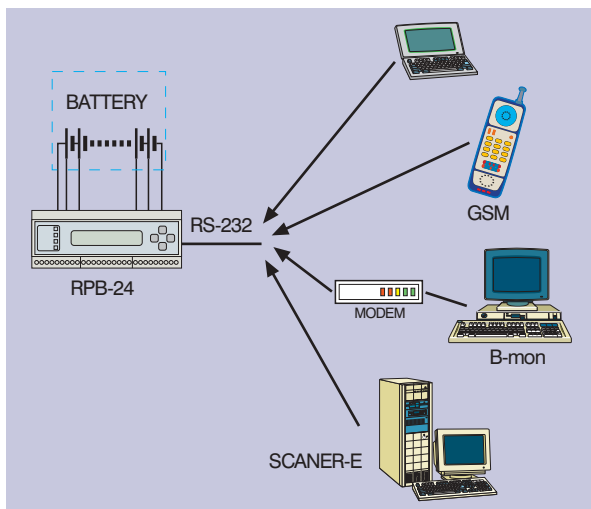
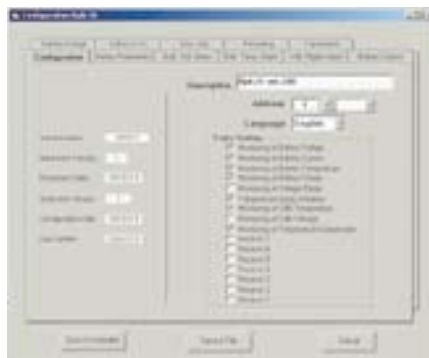


## CONFIGURATION

RPB-24 is configured by the program B-mon installed in the personal computer.

B-mon program allows to introduce to the memory, of the recorder the following data:

- Date and place of the battery installation
- Type of the battery, its manufacturer, number of cells and electrical characteristics of batteries.
- Way for communication with the monitoring system



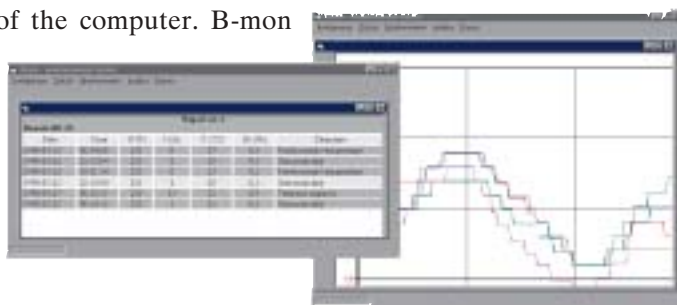
## DATA READOUT

Data measured and stored in RPB-24 may be read out in several ways:

- Directly – if the device is not connected with the computer, it is possible to read out measured data via LCD display
- Automatically – RPB-24 will send SMS through GSM network
- By remote control – via B-mon or external monitoring system

## DATA ANALYSIS

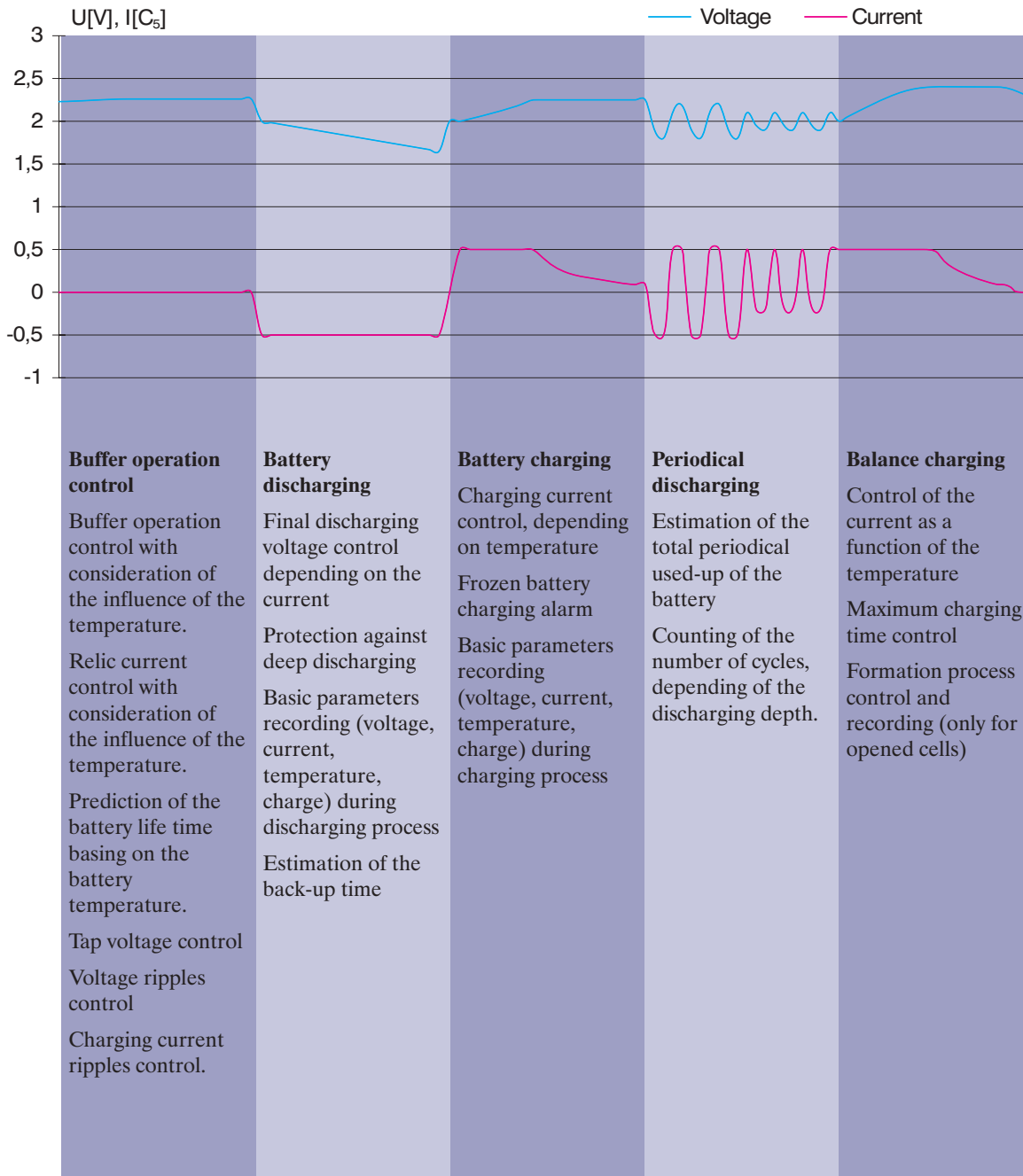
Data stored in RPB-24 are recorder in CSV standard and may be analysed from the screen of the computer. B-mon program allows also to make graphs of the battery parameters (voltage, current, temperature, voltage ripples, stored charge).







## TYPICAL BATTERY OPERATION STATES ANALYSED BY RPB-24





## TECHNICAL PARAMETERS

CONTROLLED CIRCUIT PARAMETERS	
Voltage range – single input	2.6 ÷ 16.8 V
Voltage range – battery set	48 ÷ 400 V
Battery temperature range	-20 °C ÷ +60 °C
Ambient temperature range	-20 °C ÷ +60 °C
Battery current range	0.1 ÷ 600 A
Battery capacitance range	± 32.000 Ah
Single input voltage accuracy	± 0.5 %
Battery set voltage accuracy	± 0.5 %
Temperature accuracy for the block	± 1 °C
Environmental temperature measurement accuracy	± 1 °C
Current measurement accuracy	± 1,5 %
Charge measurement accuracy	± 2 %
SUPPLY PARAMETERS	
Input voltage	48 ÷ 400 V
Power consumption	Approx. 2 W
Insulation class	2.8 kV DC / 60 s
COMMUNICATION	
Interface	RS-232
Insulation class	2.8 kV DC / 60 s
AMBIENT CONDITIONS	
Operating temperature	0 ÷ +40 °C
Storage temperature	-40 °C ÷ +60 °C
Relative humidity (noncondensing)	Max 98 %
Installation site altitude	below 2000 m



## AC & DC POWER SOLUTIONS TRACTION CONVERTERS

MEDCOM Sp. z o.o.

Founded in 1988, active in the design, manufacture, installation and servicing of modern electronic devices, aimed mainly at the power industry, military, railway and tramway transport, industry and health service customers. The use of latest technologies and system solutions, the services of highly experienced structural designers and the introduction of an ISO 9001:2000 Quality Assurance System, ensure that the devices manufactured are state-of-the-art and highly reliable. The technical design for all products is carried out in-house. In 2001 the company was awarded a prize The Polish President's Economy Award for THE BEST POLISH SMALL ENTERPRISE.

### The most important products in the company's offer:

- DC power supplies
- Uninterruptible power systems
- High-voltage power supplies
- Power supplies (MIL standards)
- Static converters for railway and tramway applications
- Power supplies for industrial applications
- Power active filters
- Traction battery chargers
- Static transfer switches
- "Fail-safe" power supplies
- Motor driving systems: AC and DC motors
- Measurement devices: battery earth fault meters, battery operation monitors
- Wind power converters

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