

Battery Monitoring System **MB100**

- Designed for 24/7 real-time monitoring of battery systems for various stationary applications
- Monitors and logs battery cell and string parameters as well as alarm conditions
- User settable limits and acquisition intervals
- Alarm notification via e-mail
- Export data to PC for further analysis



Description

DV Power's **Battery Monitoring System MB100** is a solution designed for 24/7 monitoring of key parameters of battery systems for stationary applications. This includes measuring string parameters such as voltage and current as well as cell parameters such as cell voltage and temperature.

The system consists of a wall-mounted Control Unit and modules which are mounted on the battery cells:

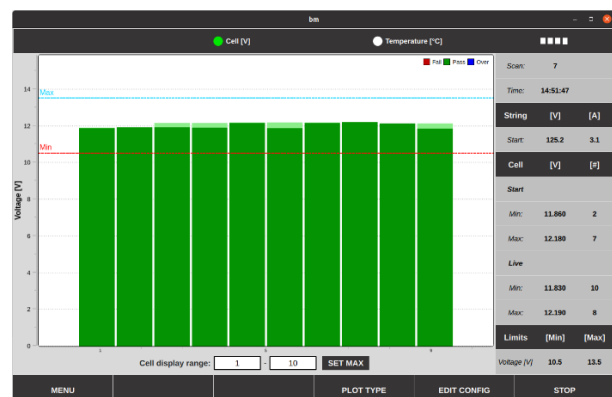
- CVM-4 modules: 1 module per 4 cells
- CVM modules: 1 module per cell

The MB100 Control Unit performs measurement data acquisition from the cell modules and displays and stores the data. Real time data from the current monitoring sessions, as well as past logs and alarm states can be viewed on the **10" touch screen display** of the MB100, without interrupting the monitoring session. The Control Unit also provides power supply for the cell modules.

The user can configure the monitoring session using either the touch-screen display on the

Control Unit or using the DVBM PC software. Alarm values for each of the measured parameters can be entered in the settings menu. If any of the measurements exceed the limits values, the user is automatically notified via e-mail. These limits can be changed at any time without stopping the monitoring session.

Using the included DV-BM PC software the user can connect to the MB100 via Ethernet communication to download the measured data and store it in a database for further analysis. This can be done without interrupting the active monitoring session.



Applications

- 24/7 monitoring of battery systems in stationary applications for all types of batteries.
- Can be used as a support tool for cell voltage measurements during battery capacity testing.

Features

Measured parameters

The DV Power Battery Monitoring System measures and stores the following parameters:

- **Cell voltage:**
Measures cell voltage up to 30V
- **Cell temperature:**
When using CVM-4 modules temperature of every 4th cell can be measured.
Using CVM modules enables temperature measurement on every cell.
- **String voltage:**
String voltage measurement channel is located on the MB100 Control Unit.
Maximum voltage range is 300V.
- **String current:**
DC current measurement using current probe. Wide measurement range enables measuring float and discharge current.
- **Ambient temperature:**
The MB100 Control Unit has three channels for ambient temperature measurement.
- **Intercell connection voltage:**
When CVM modules are used, the system can also measure intercell connection voltage.

Alarm notifications

For all measured parameters min and max limit values can be defined by the user. Once a value outside of the limits is measured, an alarm state is recorded and saved in the device's memory together with a recording of the values for a certain time period prior to the alarm state appearing.

Every alarm state is saved in the device's memory together with measurements for a certain period prior to the alarm state.

DV-BM Software

Using the DV-BM Software a PC or laptop can be connected to the MB100 Control Unit. DV-BM Software can be used to input the setting for a new monitoring session or to download the data log from the system to the database. Downloaded data can be from a previous or current monitoring session.

Results in real-time as well as the data log can also be viewed directly on the MB100's 10' color display.

The user can select to view the current scan or a data log from a certain date range that they need to input.

Technical Data

Mains Power Supply

- Input voltage: 90 – 264 V AC, 50/60 Hz
- Input power: 110 VA
- CVM/CVM-4 supply voltage: 66 V DC

Measurement

Parameters	Measuring range	Resolution
Cell Voltage	± 30 V DC	1 mV
String Voltage	± 600 V	0.1 V
String Current	± 500 A	0.1 A
Intercell connection voltage (CVM)*	± 50 mV DC	1 µV

- Typical accuracy:

± 50 mV DC (only for **CVM**): ± (1% rdg + 1 % F.S)

± 30 V DC (for **CVM** and **CVM-4**): ± (0, 1 % rdg + 0,1 % F.S)

± 300 V DC (string voltage channels): ± (0,5 % rdg + 0,1 % F.S)

- Temperature:
- 20 °C - + 80 °C / - 4 °F - + 176 °F

Control Unit and module communication

- RS485 serial communication

Communication with PC

- Ethernet

Environment conditions

- Temperature:
20 °C to +55 °C / -4 °F - +131 °F
- Maximum relative humidity:
0 – 95 %, non-condensing

Dimensions and Weight

- Dimensions (L x W x D):
MB100: 399 mm x 240 mm x 115 mm
15.7 In x 9.44 in x 4.52 in
CVM: 66 mm x 28 mm x 139 mm
2.6 In x 1.1 in x 5.5 in
CVM-4: 66 mm x 28 mm x 139 mm
2.6 In x 1.1 in x 5.5 in
- Weight:
MB100: 4,1 kg / 9.0 lbs.
CVM: 0,14 kg / 0.3 lbs.
CVM-4: 0,14 kg / 0.3 lbs.

Warranty

- 3 years + additional 1 (one) year upon registration on DV Power official website (www.dv-power.com)

All specifications herein are valid at cell temperature of + 25 °C and standard accessories. Specifications are subject to change without notice.

Accessories



Cell Voltage Module CVM-4

Cell Voltage Module CVM



Voltage sense cable for CVM-4 with banana plugs + dolphin clips

Voltage sense cables for CVM with banana plugs + alligator clips



Cable bag

Communication cable

Ordering Info:

Instrument	Article No
Battery Monitoring System MB100	MB100XX-N-03

Included accessories
Mains power cable
DV-BM software
Ethernet cable
Plastic transport case

Standard accessories	Article No
Cell Voltage module CVM-4	BVS-CVM4N-00
Voltage sense cable set 2 x 0,75 m and 3 x 0,5 m for CVM-4 with banana plugs + dolphin clips	S230-00NN-DC
Communication cable for CVM connection 1 x 0,75 m	C1-0075-RJRJ
Communication cable for CVM connection 1 x 2 m	C1-2000-RJRJ
Cable bag	CABLE-BAG-00

Optional accessories	Article No
Cell Voltage and Temperature module CVM-T	BVS-CVMTS-00
Cell Voltage modules CVM	BVS-CVMCN-00
Voltage sense cables 2 x 0,25 m 1mm ² with banana plugs + dolphin clips (<i>for CVM</i>)	S-025-01BPDC
Voltage sense cables 2 x 0,5 m 1mm ² with banana plugs + alligator clips (<i>for CVM</i>)	S-005-01BPAC
Voltage sense cables 2 x 0,5 m 1mm ² with banana plugs + dolphin clips (<i>for CVM</i>)	S-005-01BPDC
Voltage sense cables 2 x 0,5 m 1mm ² with banana plugs + alligator clips (<i>for CVM</i>)	S-005-01BPAC
Temperature sensor with cable 0,5 m (<i>for CVM</i>)	TP-2005-NTC1
Voltage sense cable set 2 x 1 m, 2 x 0,75 m and 1 x 0,5 m for CVM-4 with banana plugs + alligator clips (<i>for CVM-4</i>)	S221-00NN-AC
Voltage sense cable set 2 x 1 m, 2 x 0,75 m and 1 x 0,5 m for CVM-4 with banana plugs + dolphin clips (<i>for CVM-4</i>)	S221-00NN-DC
Voltage sense cable set 2 x 1 m, 2 x 0,75 m and 1 x 0,5 m for CVM-4 with temperature sensor and banana plugs + dolphin clips (<i>for CVM-4</i>)	S221-00TS-DC
Voltage sense cable set 2 x 1 m, 2 x 0,75 m and 1 x 0,5 m for CVM-4 with temperature sensor and banana plugs + alligator clips (<i>for CVM-4</i>)	S221-00TS-AC
Voltage sense cable set 2 x 0,75 m and 3 x 0,5 m for CVM-4 with banana plugs + alligator clips (<i>for CVM-4</i>)	S230-00NN-AC
Voltage sense cable set 2 x 0,75 m and 3 x 0,5 m for CVM-4 with temperature sensor and banana plugs + alligator clips (<i>for CVM-4</i>)	S230-00TS-AC
PT100 temperature indicator TI-000-PT100	TI-000-PT100
Sense cables 2 x 5 m with banana plugs + dolphin clip	S2-05-00BPDC

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