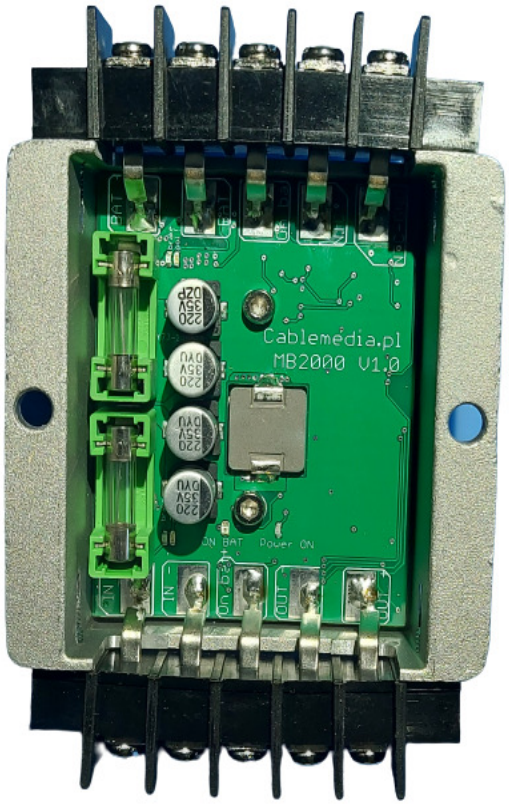
Cablemedia.pl **MB2000** Buffering Module

Features:

- Charging current: 2000mA for 12V and 24V / 1000mA for 48V version
- Device thermal protection at 75°C
- Compliance with CE, RoHS, 97/24/EC-C08, EN1175 standards
- Compatibility with batteries ranging from 7Ah to 100Ah
- High efficiency after battery charging >96%
- Battery charging efficiency >92%
- Load current up to 10A
- Extends battery lifespan due to low charging current
- Battery operation indication through OC-type output
- Temperature compensation for charging voltage
- Protection against excessive battery temperature

Applications:

- Access control systems
- Wi-Fi networks
- Fiber optic networks
- Automation
- Power over Ethernet (PoE)
- Monitoring
- Lighting
- Telemetric applications
- Intercoms
- Alarms
- Buffered systems
- Telecommunications



Parameters:

Model	MB2000 12V	MB2000 24V	MB2000 48V
Input voltage range	10,5-30V	20,5-30V	40-60V
Charging current	2000mA +/- 10%	2000mA +/- 10%	1000mA +/- 10%
Charging voltage	13,8V +/- 0,5%	27,6V +/- 0,5%	55,2V +/- 0,5%
Continuous output current	10A	10A	10A
Voltage drop when working with a power supply	0,55V max	0,55V max	0,55V max
Voltage drop when working with a battery	0,6V max	0,6V max	0,6V max
Power failure detection voltage	10,5V	20,5V	40,0V
Cold start battery activation voltage	12,7V	25,5V	48,0V
Battery deactivation voltage	9,8V	19,2V	39,0V
Minimum battery capacity	7Ah	7Ah	4.5Ah
Maximum battery capacity	100Ah	100Ah	60Ah

Parameter tolerance: 1%, unless otherwise stated.

The device significantly extends the lifespan of batteries due to its low charging current. Additionally, it does not burden the main power supply - AC/DC power supply - making it ideal for modifications to existing systems without the need to change the AC/DC power supply.

Module Operation Principle:

While operating with a power supply, the output voltage is reduced by approximately 0.5V (depending on the load, 0.3-0.6V) compared to the power supply voltage. Only the energy used to charge the battery undergoes conversion, thus minimizing power losses in the circuit.

During a power outage, the battery is activated, and energy is drawn from it until it is fully discharged or until the power returns. In this state, the green LED indicating power supply operation goes off, and the red LED indicating battery operation turns on. Additionally, the

OC-type output available on two soldering points, NO and GND, is shorted to a logical "0" value, approximately 10mA.

It is possible to activate the circuit "cold" without connecting a power supply, but due to the series resistance of the battery and the wires used to connect the battery, the circuit has hysteresis loops and switches off the battery at 9.8V and switches it back on after exceeding 12.7V on the battery. Therefore, the wires used to connect the battery should be as short as possible and have an appropriate cross-section relative to the load.

The circuit has temperature compensation for charging voltage, which equals approximately -18mV per degree Celsius within the 0-40 degree range. An NTC thermistor with B=3450 is provided for battery temperature measurement. When the temperature exceeds 40 degrees, charging is suspended until the battery temperature drops.

Mounting:

Dimensions: 110x74x32 mm

There are two holes (fi=5.2 mm) for mounting. Spacing: 65mm.

1:1 mounting template provided.