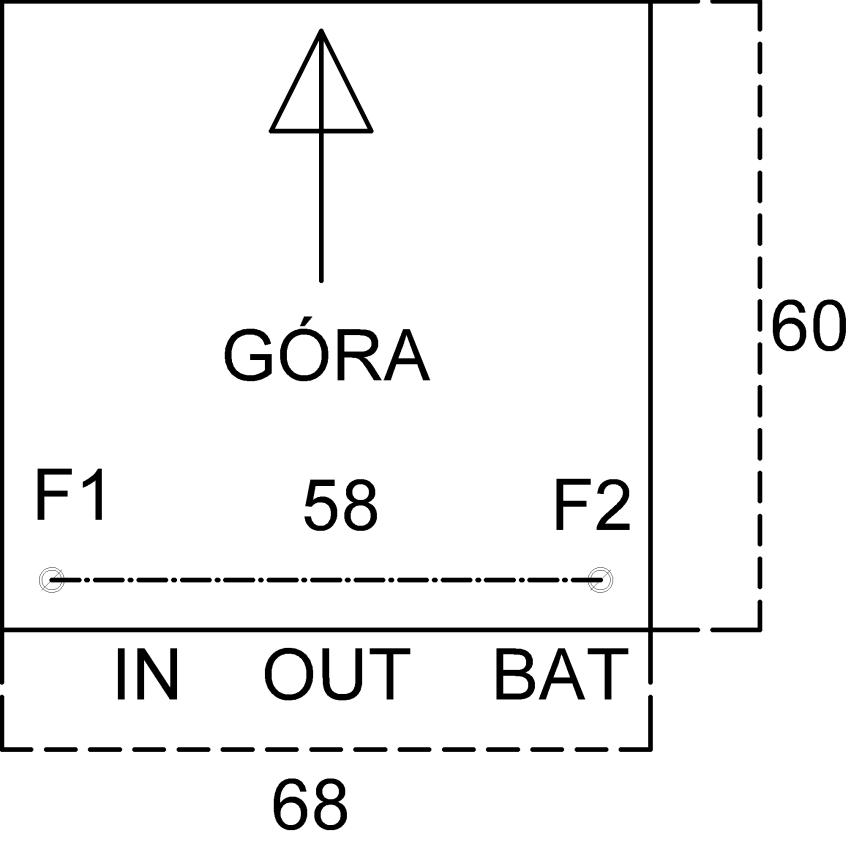


Cablemedia.pl

MB500V3.0 Buffering Module

Features:

- Charging current 500mA
- Thermal protection: 75^{0}C
- Compliance with CE, RoHS, 97/24/EC-C08, EN1175 standards
- Compatibility with 1.3Ah - 24Ah batteries
- High efficiency after battery charging >96%
- Battery charging efficiency >92%
- Load current up to 5A
- Extends battery lifespan due to low charging current
- Battery operation indication through OC-type output

Applications:

- Access control systems
- Wi-fi networks
- Fiber optic networks

- Automation
- POE (Power over Ethernet)
- Monitoring
- Lighting
- Telemetric applications
- Intercoms
- Alarms
- Buffered systems
- Telecommunications

Parameters:

Model	MB500V3.0 12V	MB500V3.0 24V
Input voltage range	10,5-30V	20,5-30V
Charging current	500mA +/- 100mA	500mA +/- 100mA
Charging voltage	13,8V +/- 0,5%	27,6V +/- 0,5%
Continuous output current	5A	5A
Voltage drop when working with a power supply	0,55V max	0,55V max
Voltage drop when working with a battery	0,6V max	0,6V max
Power failure detection voltage	10,5V	20,5V
Cold start battery activation voltage	12,7V	25,5V
Battery deactivation voltage	9,8V	19,2V

Parameter tolerance: 1%, unless otherwise stated.

The device, due to its low charging current, significantly extends the battery lifespan. 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 0.6V.

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.

Changes from the previous version:

Enclosure allowing passive cooling of the module.

Convenient power connectors.

OC pin brought out to the connector.

Improved charging current measurement circuit.

Increased accuracy of charging voltage.

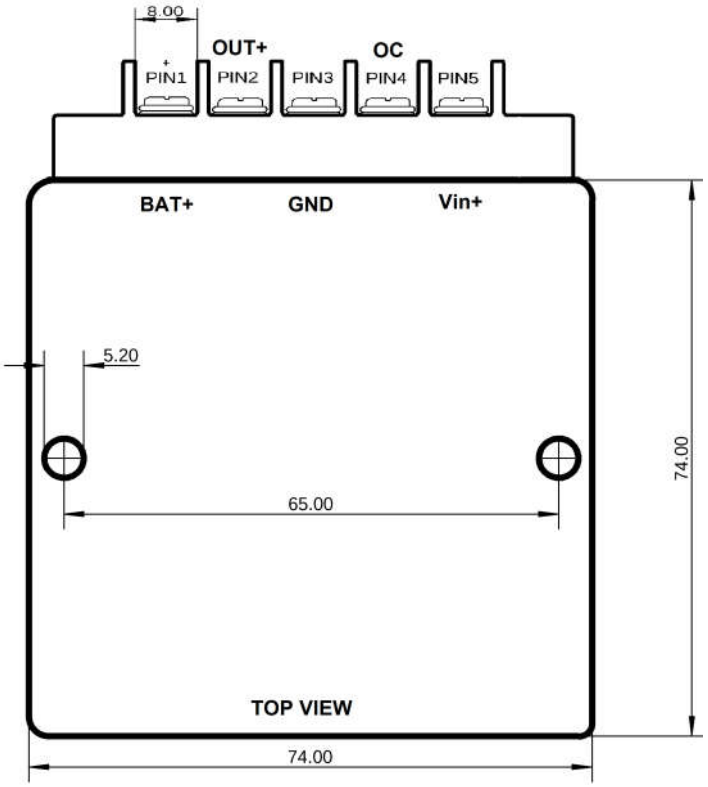
Increased hysteresis value between battery activation and deactivation voltage - improved module behavior under higher loads.

Mounting:

Dimensions: 93x74x32 mm

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

Mounting template 1:1.


8.00
OUT+
OC
PIN1
PIN2
PIN3
PIN4
PIN5
BAT+
GND
Vin+
5.20
65.00
74.00
TOP VIEW
74.00