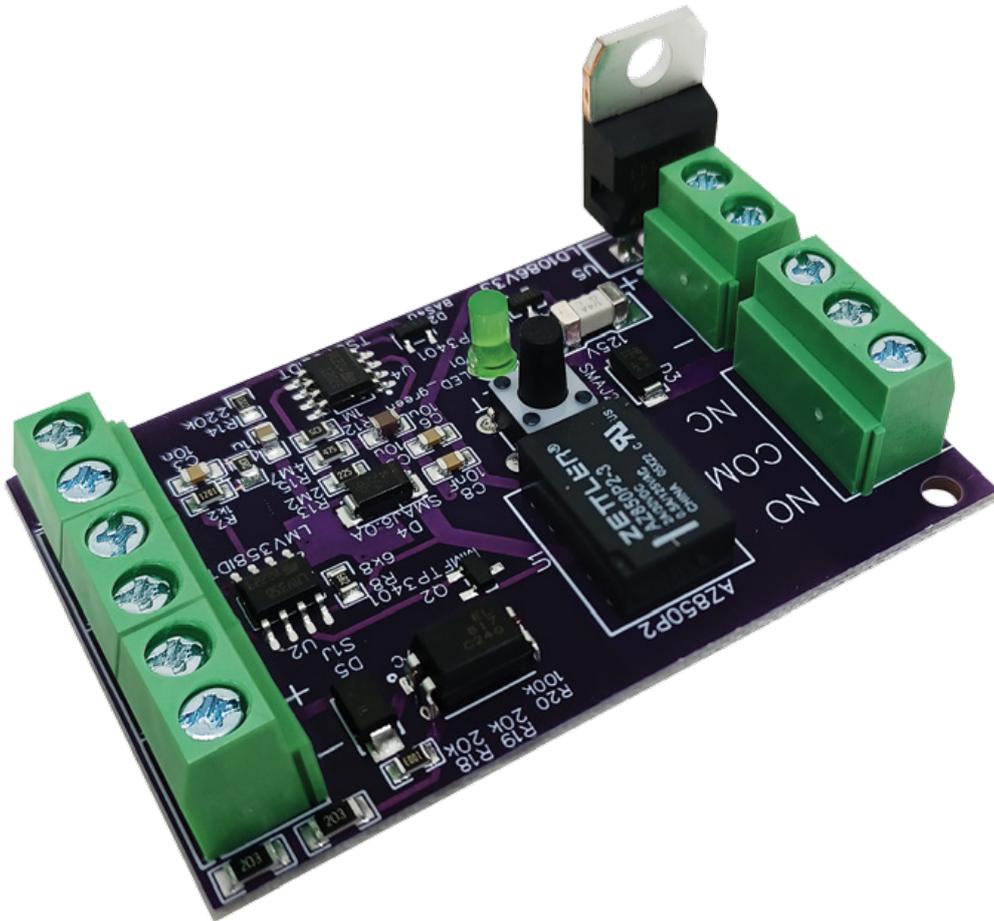


Technical specification

BMS EasyT



PRODUCT WEBPAGE



Product description

The module for protection of a battery cell or a cell block against overheating. The EasyT modules can be functionally connected together with the EasyV modules to create basic protection for 12, 24, 48 V etc. One or two thermal sensors can be connected to one EasyT module.

- Simple, durable, and reliable electrical design (without SW)
- Simple wiring and installation of the module
- Output galvanic isolation (bistable relay)
- Galvanically isolated input for common reset of modules (optocoupler)

Possibilities of use

- Basic protection for simple systems (backup power, caravans, huts...)
- Duplicate (backup) protection for advanced BMS systems
- Duplicate warning system for control systems
- Meets the condition of an automatic shutdown on failure without software elements
- In combination with the BMS Easy module, it meets the basic requirements of the IEC 62619 standard for battery system protection

Feature description

If the temperature of the monitored cell or cell block is below the specified operating maximum, the output relay of the module is connected in the COM - NO position and the signal LED flashes at an interval of about 3 s. If the temperature rises above the permissible limit, the relay switches to the COM - NC position and the LED does not flash.



WARNING

If the power supply is interrupted, the relay will not switch to the COM - NC position.

Temperature sensors

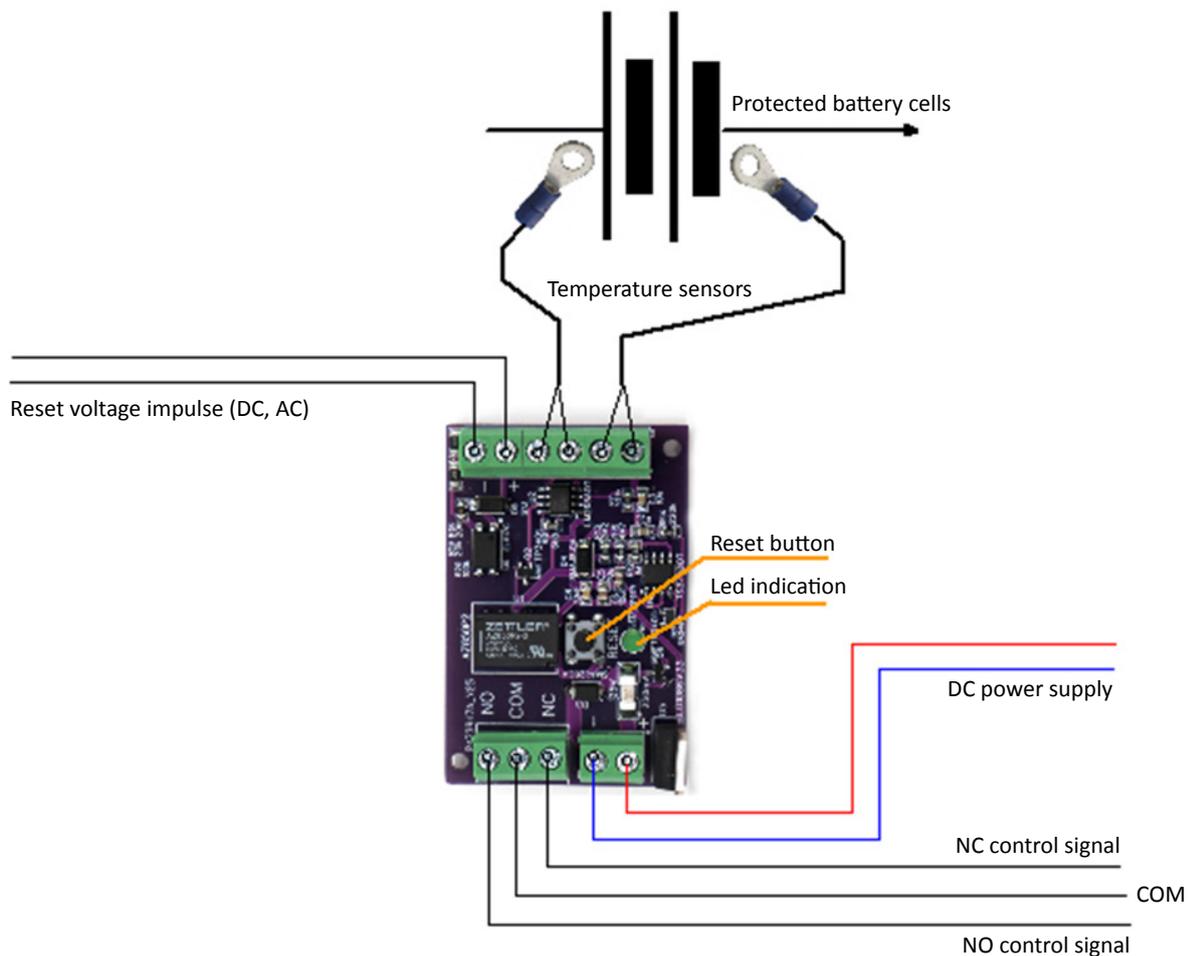
The EasyT uses PT1000 temperature sensors to sense temperature, which can be placed anywhere in the battery pack. We recommend placing the sensors on the terminals or jumpers of the battery packs. The basic wire length (0.5 m) of the PT1000 can be adjusted as required without affecting the measured values.



WARNING

If only one sensor is used, the second unused sensor input must be short-circuited.

Outputs description, basic diagram

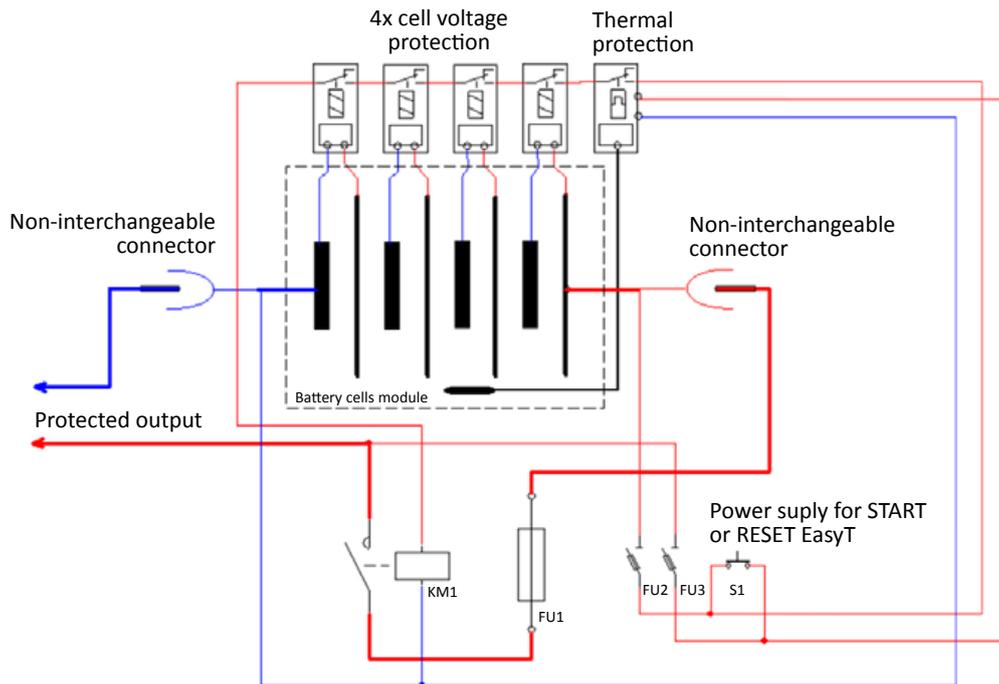


Technical specification

Input / Output / Features / Property	Value	Note
Operating (supply) voltage	4.5 – 30 V	Above 30 V the fuse will blow out
Self-consumption	Max. 8 mA	With power supply voltage up to 24 V and current up to 6 mA
Relay switching at Tmax.	Up to 55°C	The typical shutdown value is 50°C, 55°C is the maximum temperature at which the module must shut down.
Max. switching power of the relay	DC 30 V / 1 A DC 60 V / 0.5 A DC 200 V / 0.1 A	Do not use for direct switching of power contactors
Dielectric strength of the relay	1000 Vrms	
Switching on the board or resetting after Tmax passed	The button on the board or with remote signal reset	Press or use signal min. 3 s, max. 60 s
Status indication - board on	Green LED	Flashes after 3 s
Status indication - board off	Green LED	Does not flash, does not light
Board dimensions	60 x 40 x 23 mm	23 mm (height of the board including components)
Weight dimensions	22 g	
Type of temperature sensor	PT 1000	The basic line length is 0.5m, it can be extended
Maximum voltage between the temperature sensor and board power	500 V	
Remote reset/start input voltage	9 – 200 V	DC, AC
Relay consumption during start/reset pulse	7.3 mA	

Examples of use

BASIC WIRING OF EASYV AND EASYT MODULES FOR VOLTAGE AND TEMPERATURE PROTECTION OF A 12V BATTERY



If a cell goes out of the allowed voltage range or the temperature of the cell block exceeds the allowed temperature, the relay on the corresponding Easy module switches to the NC position, and contactor KM1 loses voltage on the coil and disconnects the power.



WARNING

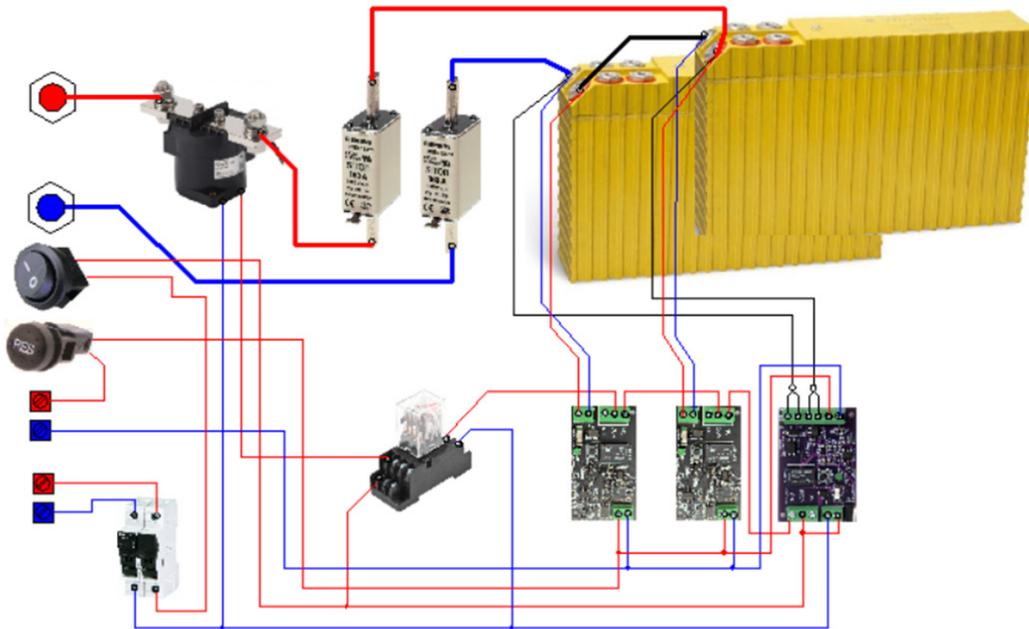
The EasyT module must be powered from the protected output so that it is not further discharged by the EasyT module's own consumption after the battery is disconnected at U_{min} . Resetting or starting the module must be done simultaneously using the button on the board and the auxiliary button S1.



WARNING

If the switching load on the coil of the power contactor is greater than the switching capability of the relays on the Easy modules, an auxiliary relay with the necessary contact parameters must be added to the system. The inductive nature of the load must also be taken into account.

BASIC BATTERY CELL PROTECTION ACCORDING TO IEC 62619 WITH AN EXTERNAL SOURCE OF THE CONTROL CIRCUITS



In more advanced systems, an independent 24V DC backup power supply for the control circuits is available. This can be used to power the EasyT module, the power contactor, and its auxiliary relay. The robust and durable BMS Easy system without software can have, for example, a basic (backup, emergency) function alongside of an advanced digital superstructure.



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