

# Statronics Power Supplies

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## “BATTMON 12” BATTERY MONITOR BOARD FOR 12V BATTERY-BACKED POWER SYSTEMS

### ALARMS FOR:

Battery Fault Warning

Earth Leakage Fault

Battery Over Voltage

Battery Under Voltage

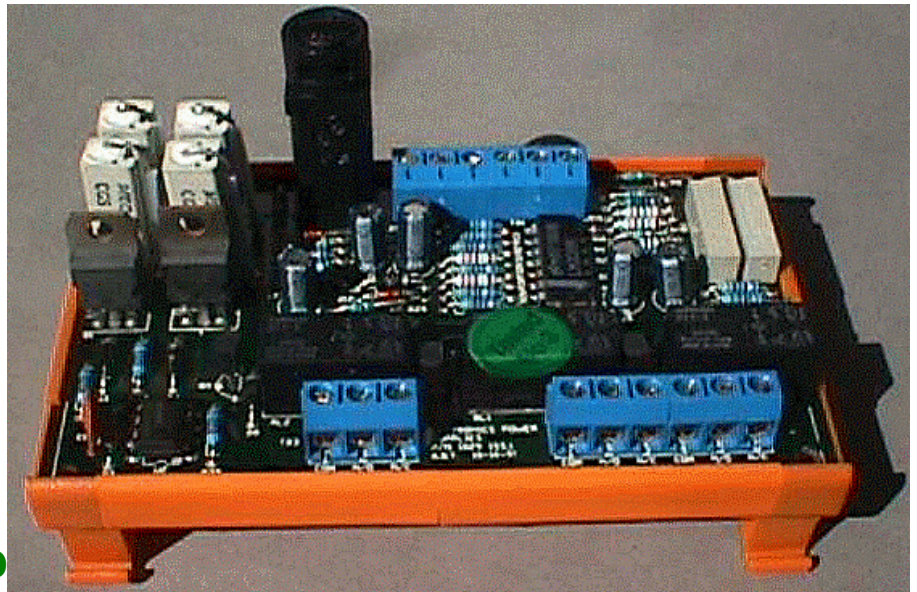
Under Voltage Sense

Mains Failure

### FEATURES:

Charge equalization

Low Current consump



“**Battmon 12**” is a convenient, reliable and versatile DIN RAIL mounting supervisory module for **12V DC Battery Systems** of almost **any capacity**. It includes advanced monitoring circuits and charge equalization and is ideally suited to Recombination Electrolyte (Valve regulated or sealed) Lead-Acid Batteries, although also suitable for other types.

**Alarm Ratings:** Isolated, potential-free changeover contacts are provided for all alarm functions and are rated at 250V AC or 30V DC, 2A.

**Battery Warning:** Monitors for NEARLY equal voltage distribution between two series - connected 6V batteries in order to indicate imbalance of  $\pm 0.5V$  between the two batteries during charge or discharge. This provides early warning for impending problems with either of the two batteries, in particular, to detect a faulty (shorted or high impedance) cell. With the power on and the battery fully floated, no indication can be given, however as soon as a reasonable ( $>150mA$ ) discharge or charge current occurs, the relay will de-energize should there be a faulty cell. Again, the “normal” relay conditions apply to a good battery. The facility need not be used if not required.

**Charge equalisation:** A charge equalization circuit is included to ensure equal charge delivery to each battery once fully floated for a period of time. This will greatly enhance battery life. The center node is a trickle charged at maximum  $\pm 300mA$  to equalize charge. Batteries over 80A-H may have too much internal leakage for this feature to perform with full effectiveness.

**Earth Leakage fault:** The Battery Warning circuit may be used alternatively for detection and alarm of either the + or – output becoming connected to earth. This is achieved by connecting the “Battery C.T.” Terminal to earth, instead of to the battery center tap. In this case the battery faulty cell indication is disabled, as is charge equalization. All other functions are normal.

**Battery Over Voltage:** Is preset to 13.9V to suit most Recombination Electrolyte batteries and is adjustable via RV2. Voltage free contacts are supplied for alarm or charger or load disconnection (via a separate contactor or relay if over 2A).

**Battery Under Voltage:** Warning of battery or sense point under-voltage at a threshold preset at 10.5V. Voltage free contacts are supplied for alarm or load disconnection (via a separate contactor or relay if over 2A).

**Under Voltage Sense:** The sense terminal can either be connected to + battery or to some other point in the system where low voltage may be critical. This will arm the battery Under Voltage alarm for early warning of a system fault.

**Current consumption:** Typical load at 12V with all relays activated (all alarms “OK”): 130mA. For smaller capacity battery systems, this consumption should be added to the other loads when calculating required A-H capacity for the specified backup time.

**Contacts:**

**Note:** NO and NC (Normally open and normally closed) refer to the correct operation status, that is, no fault. As an additional precaution against alarm relay failure, the relays are energized in the correct operation condition.

| TB1 |                    | TB2 |           | TB3 |                  |
|-----|--------------------|-----|-----------|-----|------------------|
| 1   | UV SENSE INPUT     | 1   | UV COMMON | 1   | BATT WARN COMMON |
| 2   | BATTERY +          | 2   | UV N/C    | 2   | BATT WARN N/O    |
| 3   |                    | 3   | UV N/O    | 3   | BATT WARN N/C    |
| 4   | BATTERY CENTRE TAP | 4   | OV COMMON |     |                  |
| 5   |                    | 5   | OV N/O    |     |                  |
| 6   | BATTERY -          | 6   | OV N/C    |     |                  |

**DIMENSIONS:**

111mm x 70mm x 60mm, 4.3 x 2.8 x 2.4 inches (L x W x H overall)

Clips to standard DIN rail, 110mm rail length occupied. No additional clearance is required.