

COMPUTRONIC CONTROLS

SM82(A) Switchmode Range of Automatic Battery Chargers



This battery charger is designed for Use with Lead Acid or VRLA battery packs.

Safety

Batteries can be dangerous, do not place metallic objects across the terminals of a battery or battery pack. When handling batteries remove all loose jewellery, watches and rings. Take care not to place tools across the terminals. Only specified types of batteries should be used with this unit as charging others may cause damage and result in serious injury.

Before using this unit, ensure the following: -

Unit is physically checked, in event of any damage to unit please return to supplier.

AC Voltage is correctly selected where appropriate.

Read and follow the "How To Use" guidelines in this instruction document.

It is recommended that when using the SM82 battery charger, the battery packs should be at ambient temperature (20deg C) before starting charge.

Consult Table (A) to determine whether to use float mode (with manual boost option) or Auto-3 Stage mode.

Table (A) - Charging mode selection guide

| Nominal VDC | Standing Load (Continuous Current) ADC | Mode Of Operation Best Suited |
|-------------|--|-------------------------------|
| 6/12 | <350mA | Auto-3 Stage |
| | >350mA | Float |
| 24 | <200mA | Auto-3 Stage |
| | >200mA | Float |
| 48 | <100mA | Auto-3 Stage |
| | >100mA | Float |

Note: Auto-3 Stage Operation is controlled by output current of the charger, this determines whether charger goes into an increased 'boost' voltage mode, continuous charging at this voltage causes gassing of batteries and shortens both AH capacity and life, having a continuous (standing load) above this level whilst in the Auto-3 Stage Mode will cause the charger to be in a continuous 'boost' mode.

FEATURES:

- High Rate Float Charging
5A @ 6/12 - 3A @ 24V - 1.5A @ 48V
- VRLA and Vented Lead Acid
- Low Ripple (<1%)
- Auto 3 Stage Operation
Or Optional Manual Boost Mode
- Full LED Output Indication
Float, bulk and charge fail outputs
- Current Limited
- Charge Fail / Loss of AC Relay

Product Specification

Power Supply:

| | |
|-----------------------------|------------------------------------|
| Nominal operating voltages | 95-135 and 195-277VAC (switchable) |
| Nominal operating frequency | 50/60Hz |

DC Charge Output:

| | | | | | |
|---------------------|-----------|-----|------|------|------|
| Output current ADC | 5 | 5 | 3 | 1.5 | |
| Nominal voltage VDC | 6 | 12 | 24 | 48 | |
| Line regulation | < 1% | | | | |
| Load regulation | < 1% | | | | |
| Output ripple | < 1% | | | | |
| Charging settings | Float VDC | 6.9 | 13.8 | 27.6 | 55.4 |
| | Boost VDC | 7.2 | 14.5 | 29.0 | 58.0 |

Charge Fail Relay Output:

| | |
|----------------|---|
| Relay type | Volt free SPDT contacts relay de-energises on fault |
| Contact rating | 1A @ 30VDC |

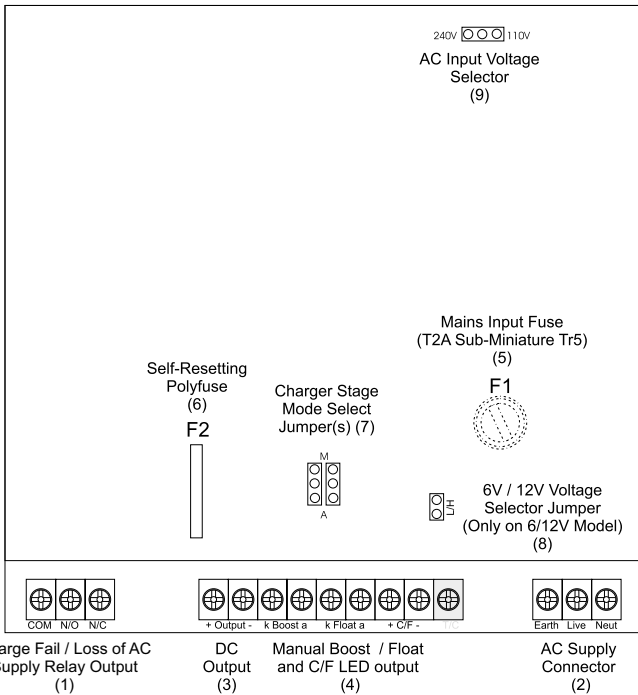
General:

| | |
|--------------------------------|---|
| operating temperature | -20°C to +60°C |
| overall dimensions (w x h x d) | 134mm x 140mm x 85mm (5.3" x 5.5" x 3.6") |
| weight | 0.56Kg (1.24lbs) |
| EMC emission / immunity | EN 58801-2 / EN50082-2 |

Warranty

A one year limited warranty on materials and workmanship is given with this product. Details are available upon request.

Connections & Controls

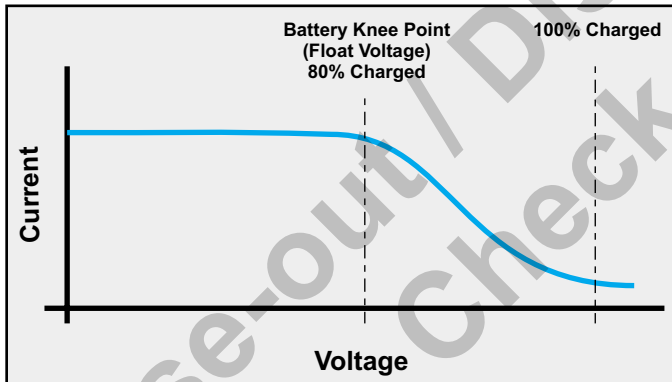


FRONT VIEW

How to Use

Ensure correct AC Input Voltage input is selected on the charger (9)
 If using the 6/12V switchable model, ensure the 6/12V Voltage Selector (8) is configured correctly, (ON for 12V, OFF for 6V)
 Connect AC supply to terminals (2) observing connection details, and plug into the mains, switch the mains on and check the battery charged (float) LED (4) illuminates (if connected), then switch off at mains.
 Ensure that the battery pack is either Vented or VRLA (sealed) rechargeable lead acid only. Confirm the correct charging stage to be used from Table (A) on page 1 and connect mode selector jumper (7) to suit as described above.

Table (B) -Typical charging characteristics (in float mode)



Notes on Charging mode selector and boost operation:
 With both the charging stage mode selector jumpers fitted uppermost (M) on (7), the unit will function in the float mode, providing a constant voltage output (at specified level as shown on page 1), an increased 'boost' voltage can be manually triggered by linking the Boost Terminals (4). Fitting both jumpers towards (A) on (7) will put the charger in Auto-3 Stage mode.

Note: Care should be taken when using the manual boost mode so overcharge does not take place, the boost link should be timed or monitored until battery voltage reaches required level.

WARNING! Continuous boost charging will damage the batteries

Factory default units are shipped with Jumper (7) fitted in M position for Float mode, Jumper (8) fitted for 12V setting and Jumper (9) selected for 240VAC.

Connect the +Ve and -Ve terminals (4) to battery/battery pack
IMPORTANT: CHECK POLARITY OF BATTERY CONNECTIONS REVERSE POLARITY WILL DAMAGE BATTERIES

In Auto-3 Stage Mode of Operation (with LED's Connected):
 Switch on at mains, 'Boost' LED (4) should now be illuminated. When the battery pack is fully charged the 'Float' LED (4) should be illuminated and the 'Boost' LED (4) should switch off. Once fully charged the battery packs will receive a float charge at specified voltage on Page 1, keeping batteries in prime condition ready for use.

Before disconnecting the battery pack from charger, switch off at mains, disconnect battery pack and then disconnect charging leads from charger.

In Float Mode of Operation:

As above, only the Float LED (4) will be permanently illuminated.

Notes: If no AC is present and the unit is connected to a battery, then the C/F LED (2) will be illuminated. The SM82 charger draws 20mA from battery(s) when connected with no AC present. With AC present and no battery/load connected the Float LED (2) will also be illuminated. All the LED outputs are configured for 2.5VDC LED's, no voltage drop down resistor is required. When using the charger in the Auto 3 Stage mode, either neither of LED's should be connected or both the Float and Boost LED's must be connected for them to function correctly, if only 1 of the LED's are connected they will not function correctly.
ENSURE CONNECTION OF LED'S IS CORRECT BEFORE SWITCHING ON UNIT - INCORRECT CONNECTION MAY DAMAGE THE CHARGERS LED OUTPUT CONTROLLER

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