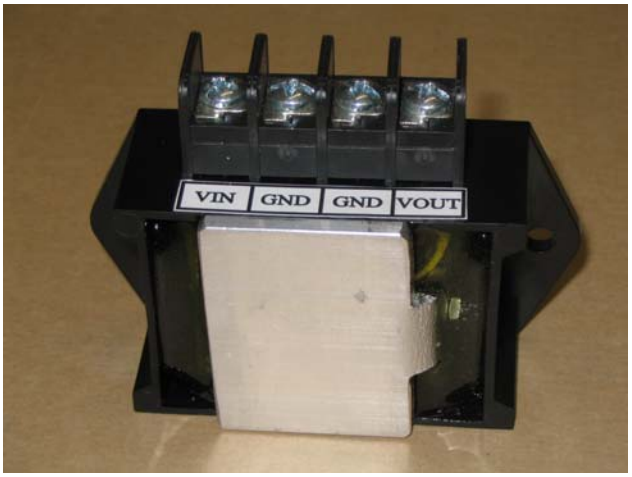
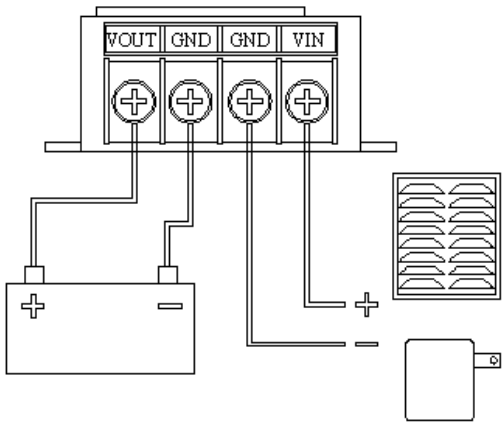
# 2-Stage Battery Charger

01-301.DOC




## Operation:

This charger is designed to maintain a full and continuous charge on sealed lead-acid batteries. The battery is initially bulk-charged up to the over-charge voltage of 14.2 volts using the maximum available output current from the charger. Once this voltage is reached, the charger switches to voltage regulator mode, maintaining the float voltage of 13.8 volts across the battery with a trickle charge and supplying load currents up to the maximum available output current. Should the battery voltage fall below the threshold voltage of 12.8 volts, the charger reverts to bulk-charge mode until reaching the over-charge voltage again.

This charger is specially designed for use with solar panels although it works well with any DC input voltage up to 30 volts. It will not drain any current when left connected to the battery if there is no input voltage such as, a solar panel at night or an AC to DC converter during a power outage.

## Notes:

1) The maximum power dissipation of the charger is 10 watts. Supplying large charge currents with high input voltages for extended periods of time may result in damage to the output driver.
2) The heatsink has a positive voltage applied to it. No damage will happen to the charger and no current will be drained from the battery if the heatsink is shorted to ground or another DC voltage source but no charging will occur either. No bare metal or wiring should be left in contact with the heatsink for extended periods of time.

## Specifications:

| | |
|---|---|
| Input Voltage: | 15-30VDC |
| Output Float Voltage: | 13.8VDC |
| Over-Charge Threshold Voltage: | 14.2VDC |
| Bulk-Charge Threshold Voltage: | 12.8VDC |
| Maximum Output Current: | 0.75A |
| Power Dissipation: | 10 Watts |
| Supply Current: | <2.5mA |
| Leakage Current, Input Voltage = 0: | <1uA |
| Maximum Power Dissipation: | 10 Watts |

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