



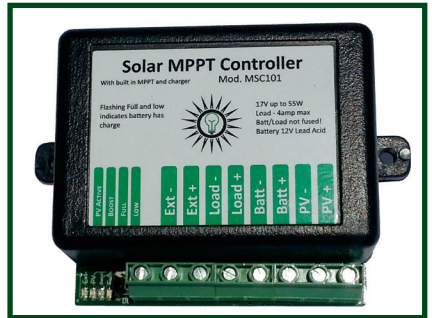
Simple Lights cc.

MPPT MODEL MSC101®

Maximum Power Point Tracking Unit with External Supply

By Simple Lights C.C.

- Easy to install
- MPPT standard
- Lead Acid Battery Charger
- Built in Day/Night switch or always on
- Maximum operating range
- Battery Cut Out with external supply
- Different PV panel friendly
- LED feedback Indicator
- Load Control
- Peace of mind



A microprocessor controls the MPPT operation and simultaneously charges and maintains the battery from a solar panel, and controls a load, with day/night switch capability. When the battery drops to 11.0V, the unit switches the load to the external supply, ensuring your load is always powered when required even when the battery is flat.

MSC101® manages your Off Grid system by:

- Ensuring maximum efficiency from solar panel
- Battery always charged with maximum power available from panel (MPPT), increasing efficiency of the system
- Works over the widest possible voltage fluctuation from the Panel
- Low Voltage cut out to protect battery, with external supply switch over
- Built in Day Night Switch for security light operation, or selecting via jumper, load always connected, but under battery low voltage protection control and internal load switch over.

Typical MPPTLA-PR281® Technical Specifications

PV Input

- | | |
|----------------------------------|--------------|
| • PV Input Supply Voltage | 0 - 27V D.C. |
| • PV Current at full charge mode | 10mA- 3.5A |
| • PV Panel Rating | 10W to 55W |
| • PV maximum load voltage value | 17 - 18V DC |
| • MPPT Current with no load | 10 - 15mA |

Battery Input (We recommend an in line 5Amp fuse for protection, max 10Amp)

- Voltage 9 - 16V DC
- Maximum current absorbed at full charge 3.5A (PV Panel size and time of day dependant)
- Current draw with no load and no PV voltage 10 - 15mA

Load

- Voltage greater than 11.5V to Battery terminal voltage
- Low voltage cut out Less than 11.0V DC
- Current Maximum is 4Amps - not fused
- Day/Night switch control or jumper over ride

Charger (Intelligent charger working in the parameters below)

- If battery voltage below 11.5V then Boost mode till voltage reaches 14.5V
- If voltage between 11.5V and 14.5V then trickle charge mode

MPPT Mode (Maximum Power Point Tracking)

- The micro controller uses switch mode technology to ensure that the Solar Panel always operates at it most highest efficiency point at all times. Using this method it increases panel output by 30% over other conventional methods. Introducing this switching technology ensures that smaller PV panels can be used to achieve the same amount of power using a larger panel.

LED Indicators

| | | |
|-------|------------|---|
| Ext | Red LED | Running on external power |
| PV | Orange LED | Sun is shining on the PV panel and the battery is charging |
| Boost | Orange LED | Battery is in boost mode charging. Usually from a discharged state |
| Full | Green LED | Solid Green - Fully charged battery. Flashing green and red indicates battery with charge and above 11.0V |
| Low | Red LED | Solid Red - Low battery. Flashing Red and Green indicates battery with charge above 11.0V |



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