**Overview**

An intelligent charge controller that is a reliable and cost-effective solution for charging batteries from solar power instead of using UPS/Inverter. It is an all-in-one solution with built-in Maximum Power Point Tracking (MPPT) for getting maximum power from solar panels. It automatically charges the batteries without the risk of overcharge and deep discharge. Very low power consumption for electronic circuit and robust thermal design to avoid requirement of cooling fans.

**Features**

* Energy efficient for urban/rural/remote solar charging system
* MPPT tracking for increasing the PV array output
* 12/24V, automatic recognition
* High performance, efficient & reliable product
* Compact, modular & streamlined design makes installation easier
* Suitable for charging 12/24V batteries up to 40A capacities
* Inbuilt load regulator for protecting battery against deep discharge protection
* LED display for system status

**Protections**

* Output over Load & Short circuit
* High voltage battery disconnect
* Low voltage battery disconnect
* Protection against accidental reverse polarity of the PV
* Protection against accidental reverse polarity of the battery
* PV low voltage cut-off
* PV transient voltage surge
* Over temperature
* Transient and lightning protection

**Available Models**

* 12V
* 24V

**Technical Specifications of 12V MPPT based Solar Charge Controller**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Processor | CPU | 16 bit micro Controller |
| C:\Users\Aamani\Downloads\3-Memory.png | Memory | RAM | 8KB |
| Flash | 1KB |
| C:\Users\Aamani\Downloads\Input.png | Solar PV Input | VoC Max. | 40V |
| MPPT Method | Perturb & Observe (P&O) |
| MPPT Voltage Range | 20 – 36V |
| Max. Panel Wattage recommended | 500W |
| C:\Users\Aamani\Downloads\Output.png | Charger Output | Nominal Battery | 12.0 VDC |
| Float Voltage | 13.5 VDC +/- 0.2V |
| Boost Voltage | 14.2 VDC +/- 0.2V |
| Max. charge/load current | 20A / 40A |
| Charge characteristics | CC/CV |
| Efficiency | >95% at 20 VDC input and full load |
| Ripple & Noise | <300mV. Pk-Pk, at nominal input (with battery load) |
| C:\Users\Aamani\Downloads\8-Optional.png | Other Specifications | User Interface | LED indications for battery charging, battery discharging and system fault |
| Cooling | Natural air cooling |
| Input & Output terminations | MC4 & Through wire |
| C:\Users\Aamani\Downloads\10-Operating.png | Environment | Operating Temperature | 0°C to +50°C |
| Storage Temperature | 0°C to 75°C |
| Humidity | 0 – 95% RH (Non-condensing) |

**Technical Specifications of 24V MPPT based Solar Charge Controller**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Processor | CPU | 16 bit micro Controller |
| C:\Users\Aamani\Downloads\3-Memory.png | Memory | RAM | 8KB |
| Flash | 1KB |
| C:\Users\Aamani\Downloads\Input.png | Solar PV Input | VoC Max. | 55V |
| MPPT Method | Perturb & Observe (P&O) |
| MPPT Voltage Range | 32 – 50V |
| Max. Panel Wattage recommended | 1000W |
| C:\Users\Aamani\Downloads\Output.png | Charger Output | Nominal Battery | 24.0 VDC |
| Float Voltage | 27.0 VDC +/- 0.2V |
| Boost Voltage | 28.4 VDC +/- 0.2V |
| Max. charge/load current | 20A / 40A |
| Charge characteristics | CC/CV |
| Efficiency | >95% at 36 VDC input and full load |
| Ripple & Noise | <600mV. Pk-Pk, at nominal input (with battery load) |
| C:\Users\Aamani\Downloads\8-Optional.png | Other Specifications | User Interface | LED indications for battery charging, battery discharging and system fault |
| Cooling | Natural air cooling |
| Input & Output terminations | MC4 & Through wire |
| C:\Users\Aamani\Downloads\10-Operating.png | Environment | Operating Temperature | 0°C to +50°C |
| Storage Temperature | 0°C to 75°C |
| Humidity | 0 – 95% RH (Non-condensing) |