

# Solar Controller / Battery Charger

Suitable for Solar panels up to 135 Watts

## MODEL: RS-PWM8

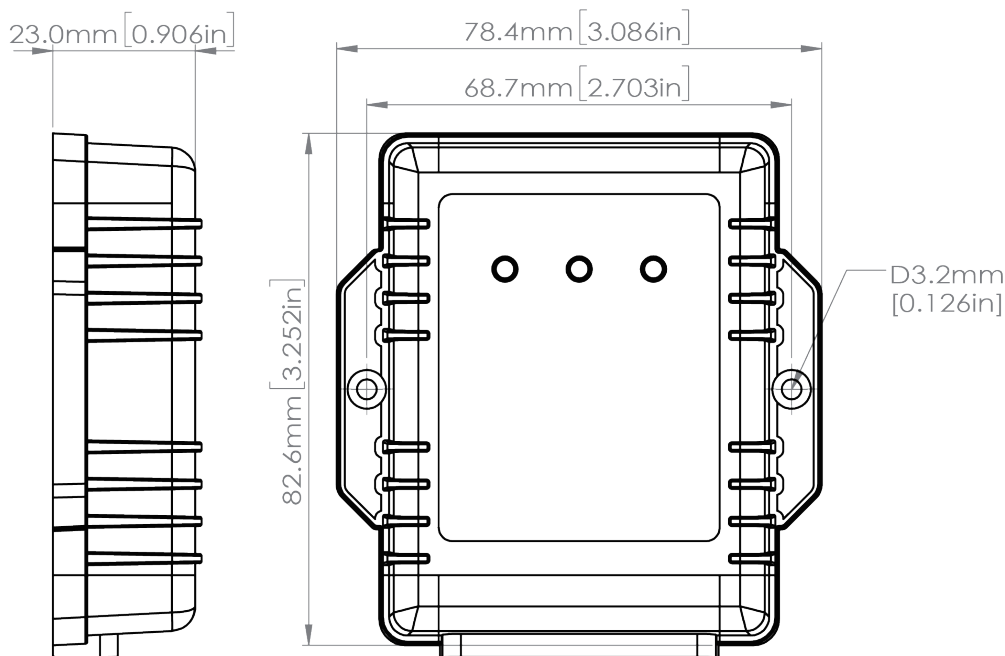
### FEATURES AND ADVANTAGES

- PWM technology, switching control by MOSFET
- Common Positive Grounding connection
- High efficiency and low power consumption
- Battery type setting via DIP switch
- Smart charging control
- Charging time management
- LED indication for the battery condition and charging statuses
- Thermal protection
- No sparks
- Water proof
- Corrosion-resistant terminals and connectors.
- Conformal coating supplied to the inside board against moisture
- Over voltage protection, Short circuit protection, Reverse polarity protection
- Suitable for most of the rechargeable Lead acid battery, including Flooded (WET), AGM, GEL, Lithium (LiFePO4) battery
- Designed according to CE standard, EMC, FCC compliance



### MOUNTING THE DEVICE

The quickest and easiest way to mount the unit is to use the three plastic spacers and self-tapping screws supplied and mount the unit to a flat surface.



## SPECIFICATIONS

### ELECTRICAL PARAMETERS

Rated solar panel amps	8AMP Max.
Normal input Solar cell array voltage	15-22VDC
Max. solar cell array voltage (output has no load)	25VDC Max.
The controller lowest operating voltage (at solar or battery side)	9VDC Min.
Standby current consumption at night	2mA Max.
Maximum voltage drop-Solar panel to battery	0.25VDC Max.

### CHARGING CHARACTERISTICS

Minimum battery start charging voltage	3VDC Min.
Soft start charging voltage	3-10±0.2VDC
Soft start charging current (50% PWM duty)	Up to 4AMP
Bulk charge voltage	10-14±0.2VDC
Absorption charging voltage at 25 °C	
--Gel type battery	14.1±0.2VDC
--AGM type battery (default setting)	14.4±0.2VDC
--WET type battery	14.7±0.2VDC
--LiFePO4 type battery	14.4±0.2VDC
Absorption transits to Equalizing or Float condition:	
--Charging current drops to	0.8±0.1AMP
-- or Absorption charging timer timed out	4 Hour
Equalization charging active (Only for WET)	
--Battery voltage discharged to less than	11.5±0.2VDC
Equalization charging voltage at 25 °C	15.5±0.2VDC
Equalization charging timer timed out	2 Hour
Float charging voltage at 25 °C	
-- for GEL, AGM and WET battery	13.6±0.2VDC
-- for LiFePO4 battery	13.4±0.2VDC
Battery temperature compensation coefficient	-24mV/°C
Temperature compensation range	-20~+50°C

### PROTECTION

Against reverse polarity or short circuit at panel side	/
Against reverse polarity or short circuit at battery side	/
No reverse current from battery to solar at night	/
Over temperature protection during charging	65°C

### ELECTRICAL PARTS

Input output terminal	M4 terminals
Temperature sensor port or DIP switch	/

### PHYSICAL PARAMETERS

Controller material	Plastic, Standard ABS
Power terminal maximum stranded wire size	#12AWG stranded-3mm <sup>2</sup>
Mounting	Vertical wall mounting
IP grade	IP65
Net weight	Approx. 0.2kg/0.44lb

### ENVIRONMENTAL CHARACTERISTICS

Operating temperature	-25~50°C(-13 ~ 122°F)
Storage temperature	-40~85°C(-40 ~ 185°F)
Operating Humidity range	100% no condensation