

# Solar Controller / Battery Charger

## MODEL: RS-PWM20WP

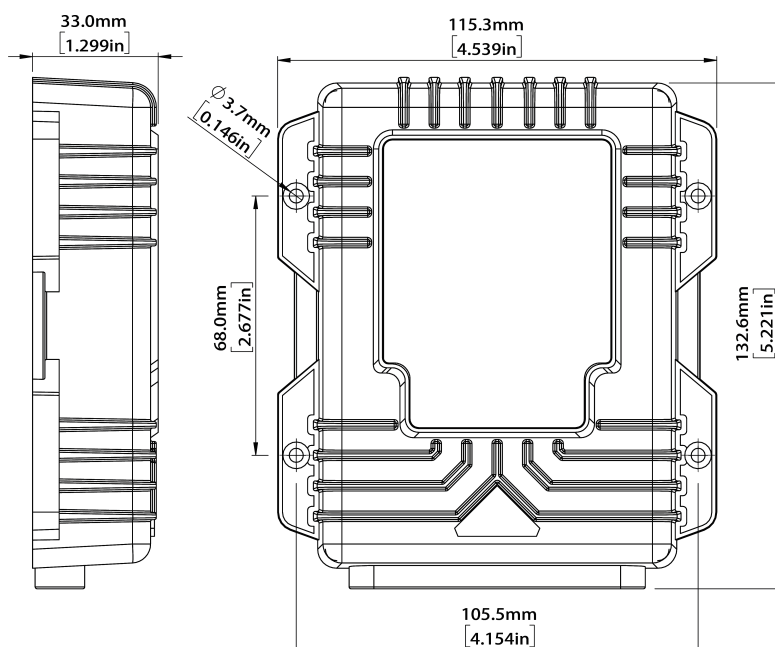
### FEATURES AND ADVANTAGES

- PWM technology, switching control by MOSFET
- Common Positive Grounding connection
- High efficiency and low power consumption
- Battery type setting and battery condition indication
- Smart charging control
- Charging time management
- LED indication for the battery condition and charging statuses
- Digital display charging parameters and battery settings
- Automatically active to Lithium battery against BMS protection
- Thermal protection
- No sparks
- Water proof
- Solid-duty cables
- Corrosion-resistant terminals and connectors
- Conformal coating supplied to the inside board against moisture
- Includes a port for external battery temperature sensor (BTS - optional)
- Suitable for most of the rechargeable Lead acid battery, including Flooded (WET), AGM, GEL, Calcium battery and Lithium batteries
- Designed according to CE standard, EMC, FCC compliance
- Over voltage protection, Short circuit protection, Reverse polarity protection



### MOUNTING THE DEVICE

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



## SPECIFICATION

<b>ELECTRICAL PARAMETERS</b>	Rated Solar Panel Amps	20AMP 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	8VDC Min.
	Standby Current Consumption at Night	5mA Max.
	Maximum Voltage Drop-Solar Panel to Battery	0.25VDC Max.
<b>CHARGING CHARACTERISTICS</b>	Minimum Battery Starts Charging Voltage	3VDC Min.
	Soft Start Charging Voltage	3-10±0.2VDC
	Soft Start Charging Current (50% PWM Duty)	Up to 10AMP
	Bulk Charge	By the maximum rated current
	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
	- Calcium Type Battery	14.9±0.2VDC
	- LTO Battery	14.0±0.2VDC
	- LFP Battery	14.4±0.2VDC
	Absorption Transits to Equalizing or Float Condition:	
	- Charging Current Drops to	1.5+/0.1AMP
	- or Absorption Charging Timer Timed out	4Hour
	Equalization Charging Active (Only for WET or Calcium Battery)	
	- Battery Voltage Discharged to Less Than	10±0.2
	- Automatic Equalizing Charging Periodical	28Day
	Equalization Charging Voltage at 25°C	15.5±0.2VDC
	Equalization Charging Timer Timed out	2 Hour
	Float Voltage (GEL, WET, Calcium, AGM battery) at 25°C	13.6±0.2VDC
	Restart Voltage for LTO Battery	13.2±0.2VDC
	Restart Voltage for LFP Battery	13.4±0.2VDC
	Voltage Control Accuracy	+/- 1%
Battery Temperature Compensation Coefficient	-24 mV/* C	
Temperature Compensation Range	-20~+50 °C	
<b>PROTECTION</b>	Against Reverse Polarity or Short Circuit at Panel or Battery	/
	No Reverse Current From Battery to Solar at Night	/
	Over Temperature Protection During Charging	65°C
<b>ELECTRICAL PARTS</b>	Input Output Terminal	M5 terminals
<b>PHYSICAL PARAMETERS</b>	Controller Material	Plastic, Standard ABS
	Power Terminal Maximum Stranded Wire Size	#10 AWG stranded- 5 mm2
	Power Terminal Torque	Up to 17 in-lb (0.2n-m)
	Mounting	Vertical wall mounting
	IP Grade	IP65
	Net Weight	Approx. 300g
<b>ENVIRONMENTAL CHARACTERISTICS</b>	Operating Temperature	-25 ~ 50°C / -13~122 °F
	Storage Temperature	-40 ~ 85°C / -40~185 °F
	Operating Humidity Range	100% no condensation