



PRODUCT DATASHEET MAXIMIZER™ RANGE

COOLMAX SR - Wall Mount
Australian Energy Research Labs
AER07.001 – G2 v5
1 February 2016

PRODUCT OVERVIEW

The AERL COOLMAX SR is a high efficiency, buck only, common positive Maximum Power Point Tracker (MPPT). It is the latest development in the AERL MAXIMIZER™ Range, which was pioneered by AERL in 1985. The COOLMAX SR blends the famously reliable AERL power stage with easy to use digital features such as system performance logging, fully configurable alarms and remote system monitoring and control.

The COOLMAX SR employs a maximum power point tracking strategy which has been proven to be highly robust, resistant to local extremes, and results in power losses of less than 0.5% over the whole operating temperature range of a PV Array.





PRODUCT FEATURES

- Above 99% Ultra High Peak Power Conversion Efficiencies
- Super Cool Operation due to ultra-low loss, high efficient thermal design
- Primary Cooling by Passive Heatsink Convection for long term reliability
- Premium quality and quiet operation back-up cooling fans for extreme temperatures
- Higher input voltage for lower install cost
- Superior power advantage and MPPT response
- Common Positive wiring configuration
- Synchronous Rectification
- Front Panel Programmability
- Interactive TFT Colour Touch Screen LCD Display
- Smart Multi-Stage Battery Charging Profile (Bulk, Absorption and Float Stages)
- Support for Active Battery Temperature Compensation
- Adjustable for all types of solar cells and battery arrays
- Master/Slave Configurability for Parallel Operation
- Modules can be paralleled at the output for higher current outputs
- Overload Protection
- On-board input and output surge protection
- Over-voltage and Over-current Shutdown Protection
- Support for low battery alarm or automatic low battery switch off circuit
- High and Low Battery Voltage Protection
- Auxiliary Alarm/Genset Relay Output
- Manual Reset Button
- On-board data logging capability
- ModBus comms option with open industry-standard protocol
- PC comms option with PC dashboard software program
- RS485 and USB comms ports
- Remote monitoring capability allowing monitoring of:
 - Output voltage
 - Output current
 - Output charge (Ah/day)
 - PV voltage
 - PV current
 - Battery temperature
 - Fault and Error Conditions



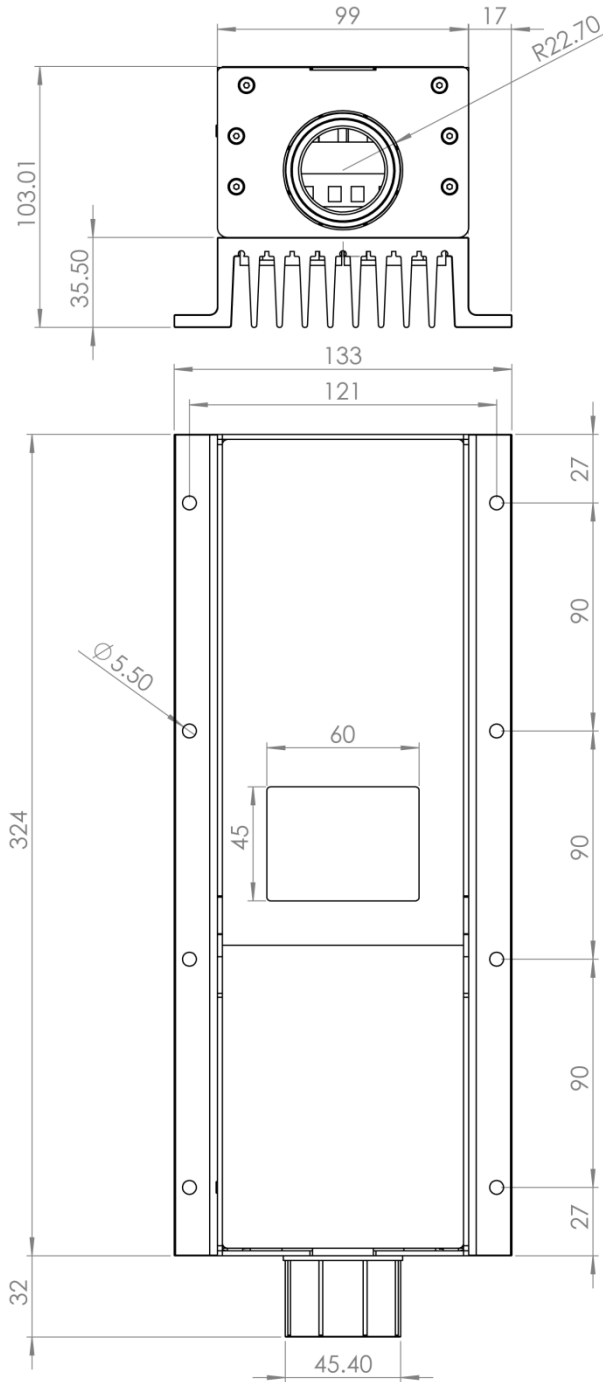
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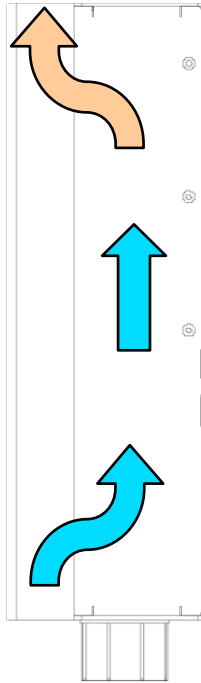
PRODUCT SPECIFICATIONS

CHARACTERISTIC	SRMVW	SRHVW
Nominal Battery Voltage - Selectable	24 to 84V	48 to 132V
Maximum Output Current	60A	45A
Maximum Recommended PV Array	5000W @ 84Vout(nom) 3800W @ 60Vout(nom) 3000W @ 48Vout (nom) 1500W @ 24Vout(nom)	5200W @ 132Vout(nom) 5000W @ 120Vout(nom) 4500W @ 96Vout(nom) 2300W @ 48Vout(nom)
Maximum PV Voltage Open Circuit	180V	290V
Power Conversion Efficiency	99+%	98.5+%
Battery Temperature Compensation	Yes	Yes
Ambient Operating Temperature Range	-20° to 50°+C	-20° to 50°+C
Remote Temperature Sensor Option	Yes	Yes
Storage Temperature	-30° to 70° C	-30° to 70° C
Self Consumption	100mA @ 20V	75mA @ 40V
Communication Protocol Options	Modbus RTU	Modbus RTU
Communication Ports	RS485 & USB	RS485 & USB
Required cabinet air exchange rate (intake at 40°C)	40 m ³ /hour	40 m ³ /hour
Operating temperature of heatsink at full rated power	35°C temperature rise	35°C temperature rise
Sealed Inductors and conformally coated circuit boards	Yes	Yes
Gold plated contacts and connectors	Yes	Yes
Cable entry conduit diameter	40mm	40mm
High power wire size	16mm ² Max	16mm ² Max
Enclosure type	Indoor Type1 / IP20	Indoor Type 1 / IP20
Weight	3.7kg	3.7kg
Outer dimensions (L x W x H)	356 x 133 x 104 mm	356 x 133 x 104 mm
Certifications	CE & CTick RoHS Compliant Manufactured in a cert ISO 9001 facility	CE & CTick RoHS Compliant Manufactured in a cert ISO 9001 facility
Languages (other language updates to come)	English	English

PRODUCT DIMENSIONS



PRODUCT AIRFLOW



Notes:

Inlet and outlet into heatsink fins are protected by fine mesh.

Stagnation of hot air in the space above the device will impede cooling of internal components and may reduce the lifetime of the device.

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