

AC Converter / Battery Charger 36V & 48V Smart Charger 25 Amps



Overview:

Boasting versatility and a high charging capacity, the AIMS 36V and 48V AC 25/18.5-Amp Converter/Battery Charger from AIMS Power provides wide latitude to meet the demands of many applications. This unit's broad AC input range of 70VAC to 145VAC can handle many applications and battery technologies. Selectable dip switch for 36VDC or 48VDC battery banks. Useful with generators and shore power, and charges batteries including open lead acid, AGM, gel and LiFePO4. This unit's 25/18.5 amp charging capacity gets the job done in a hurry. Ideal for golf carts, RVs, boats, campers and many other applications. Reverse-polarity, over-voltage and under-voltage protections provide peace of mind along with short-circuit and over-temperature safeguards.

Features:

Large charging capacity design (25 Amp for 36Vdc; 17.5 Amp for 48Vdc) charges a 100 amp hour battery in under an hour up to 90% charge

- Power supply up to 25 amps at 36Vdc or 18.75 amps at 48Vdc
- Three stage smart charger with variable charging voltage algorithm for maximizing battery life (bulk, absorb and float)
- 4 pre-programmed charging algorithms using the dip switches for the most common charging profiles

- Charges lead acid, AGM, GEL and LiFePO4 batteries
- Adjustable charge current control dial to safely charge smaller battery (s)
- Dip switch for voltage selection
- Wide input voltage range, 70Vac to 145Vac for unstable inputs
- Reverse polarity, over voltage, under voltage, over temperature, short circuit protections
- High AC to DC converting efficiency design >80%
- Thermal and load based fan
- Includes battery temperature sensor port to help maintain the life of the battery(s) (battery temperature sensor not included)
- AC input cord – 4ft
- 1 Year warranty

Specifications:

Input Voltage	96-145VAC full performance 70-96VAC automatically de-rate to 50% of full load current
Frequency	40Hz to 70Hz
Nominal Input Current at Rated Output	<9Aac
Voltage Measurement Accuracy	±8Vac
Frequency Measurement Accuracy	±1Hz

Output

Nominal Voltage	36/48Vdc manual adjustable Input voltage 96-145V,
Output Current	output current 25A for 36V mode output current 18.5A for 48V mode Input voltage 70-96V, output current 12.5A for 36V mode output current 9.375A for 48V mode
Rated Output Current	Manual adjustable ± 6% of full rated output current @25°C, for target currents across the range
Current Accuracy	from 10% rated output (for absorption exit criteria accuracy) to the current limit setpoint.
Load Regulation	1.5%
Selectable Battery Type	Open Lead-Acid, Gel, AGM, LiFePO4, adjustable
Parallel Outputs	Maximum of two AC converter units connected in parallel
Efficiency	80%

Protection

Input Over Voltage	Unit is safe for input voltage up to 150VacRMS (and up to 215Vpeak). Above
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this level the damage may occur.

Reverse Battery Polarity Protection	Non-destructive reverse battery polarity protection with fuses. Permanent damage will not occur and perform after fuse replacement.
Input Under-voltage	No permanent damage for input voltages from 0-300Vac. Shutdown or input current limit or other means may be applied when input voltage is out of normal operating range.
Output over voltage 12/24V mode	36Vdc. Unit will shut down if $V_{\text{charging}} > V_{\text{charging}}(\text{target}) + 1.0\text{Vdc}$ for more than 2 seconds; unit will restart when voltage $\leq V_{\text{charging}}(\text{target})$ for more than 2 seconds. For battery OVP the unit will restart in the same stage. 48Vdc. Unit will shut down if $V_{\text{charging}} > V_{\text{charging}}(\text{target}) + 1.5\text{Vdc}$ for more than 2 seconds; unit will restart when voltage $\leq V_{\text{charging}}(\text{target})$ for more than 2 seconds. For battery OVP the unit will restart in the same stage.
Charger over temperature protection	The internal temperatures of the charger will be measured by NTC. Based on these measurements, unit will shut down if the temperature exceeds 105°C. Unit will restart when environment temperature cools to 95 °C. The battery temperature sensor allows the charge controller to
BTS(Battery Temperature Sensing)	continuously adjust charge voltage / charge current based on actual battery temperature. When the battery temperature is over 40 °C, unit will reduce the charging voltage to Float voltage, also it will reduce the Max charging current by 10% with every two degree of temperature rise. When the battery temperature is over 50 °C, unit will shut down.

Environmental

	Nominal ambient temperature: 25°C
	Operating Ambient Temperature range: -10°C to 40°C
Operation temperature	(On the heat sink of DC-DC part, if the temperature is over 90 °C, the Charger Current will be de-rate to 50% ; if the temperature is over 105 °C, the Unit will be shut down.)
Relative humidity	5~95% without condensation
Noise	Unit requirements: below 50dB (A) measured at 1 m distance with fan full working.
Storage Conditions Temperature	-20°C to +80°C
Cooling	Fan - thermal and load based
Mechanical	
Dimension (D x W x H)	10.25" * 6.75" * 3.25"
Unit Weight	6.5 lb
Boxed Weight	7 lb

