

A SERIES CHARGER

MODEL:STTL3000A4850L



Solterra Technologies Private Limited designs and manufactures robust power electronics for electric mobility, traction and energy storage applications, offering on-board and off-board chargers, power modules, inverters, communication controllers and auxiliary DC-DC systems engineered for demanding environments. This 48V extreme-power charger delivers 3000W with extraordinary 50A CP mode output, providing the absolute pinnacle of charging technology that enables entirely new operational models for commercial fleets. It offers advanced CP mode functionality enabling revolutionary ultra-rapid turnaround that fundamentally redefines fleet economics, productivity and competitive positioning.

The extreme-power design incorporates active PFC and digital LLC control with advanced thermal management and heavy-duty parallel power stages for reliable sustained maximum-power operation. Reliable hardware with integrated prognostics and health monitoring is fully potted in soft silicone inside a rugged sealed aluminium die-cast enclosure that resists vibration, shock, environmental stress, chemicals, fluids and harsh commercial conditions. It supports both on-board and off-board installation with optional carry handle, optional CAN bus for fleet management, and uses sophisticated adaptive charging algorithms.

MAIN ATTRIBUTES

Max Output Power	2950W
Peak Efficiency	90%@220VAC
Voltage Range	40V ~ 73V
CP Mode Output Current	50A
MTBF	
Voltage Regulation	
Current Regulation	
Topology	
Battery Type	Lead-acid and Lithium-ion (48V nominal)

AC INPUT ATTRIBUTES

AC Input Voltage Range	220VAC ~ 240VAC; 50/60Hz
Full Power Voltage Range	
Input Frequency	50/60Hz
Input Current	≤15A
Input Inrush	
Power Factor	0.997@220VAC, full load
THDi	
Input Surge Rating	
Idle Consumption	

PROTECTIONS

Input Under/Over Voltage	When the AC input voltage is lower than 200Vac, the charger will reduce power according to the built-in formula; when the AC input voltage is lower than 165Vac and greater than 150Vac, the charger will output at the minimum current; when the AC input voltage is lower than 150Vac, the charger will stop working and issue an undervoltage alarm.
Input Overcurrent	
Output Over Voltage	When the charger detects that the output voltage exceeds the software's internal output overvoltage protection setting, the test charger should immediately cut off the output relay and give an alarm signal;
Output Overcurrent	When the load current exceeds the output overcurrent protection value set inside the charger, the charger immediately cuts off the output relay and sends an alarm signal;
Output Short Circuit	When the charger output is short-circuited, the charger has no output and an alarm prompts;
Output Reverse Polarity & No Load Protection	If the battery is connected reversely, the charger will have no output and an alarm will appear; When the charger cannot detect the battery voltage or the battery voltage is lower than the internally set minimum threshold (1/3 of the rated voltage of the battery pack), the charger will alarm and indicate no output;
Automatic Shutdown	Yes
Over Temperature Protection	1. When the internal temperature of the machine exceeds the internal set value, the charging current automatically decreases; the charger shuts down and alarms when the ambient temperature exceeds 65±2°C. When the ambient temperature drops to 55±2°C, the charger resumes charging; 2. Environment The charger will shut down and alarm when the temperature is lower than -40±2°C. When the ambient temperature returns to -35±2°C, the charger will resume charging. Note: If the external temperature probe is attached to the battery, it will detect abnormal battery temperature.

Disclaimer: The information and specifications set out in this datasheet are provided for general reference purposes only and do not constitute a guarantee of performance or suitability for any particular application. Actual product performance may vary depending on the specific application, usage conditions, and environmental factors. All product specifications and related information are subject to change, modification, or withdrawal at any time without prior notice. The manufacturer assumes no liability arising from the use of this datasheet or reliance on the information contained herein. It is the responsibility of the system designer/integrator to validate the product in the target application and ensure compliance with all applicable standards and regulations.

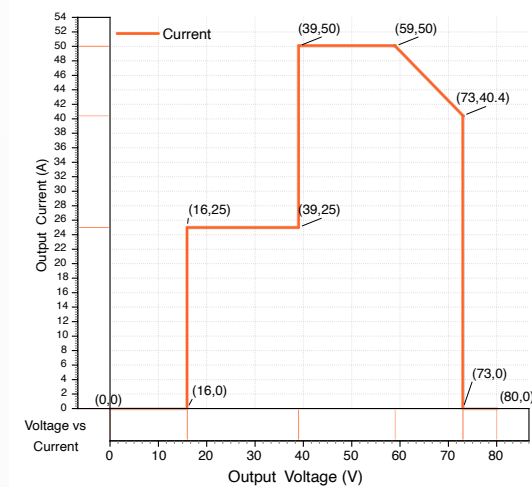
FEATURES

CAN, Optional
Auxiliary power, 12V/ 0.2A, Optional
Built-in indicator light
Customized External Indicator Light
Vehicle Charging Interlock System

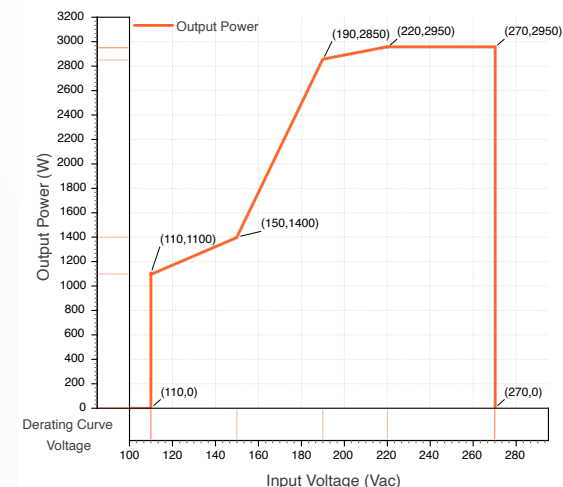
SAFETY

Isolation Levels (Input - Output)	Basic insulation: 2000VAC
Isolation Levels (Input - Shell)	Basic insulation: 2000VAC
Isolation Levels (Output - Shell)	Basic insulation: 1000VAC
Insulation resistance	
Drop Resistance	

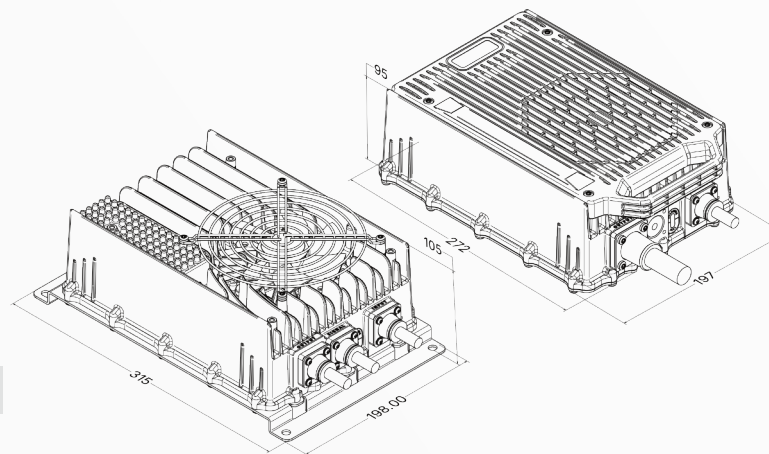
OUTPUT VOLTAGE VS CURRENT



UIN VS POWER



DIMENSIONS



MECHANICAL

Dimensions (mm)	272*197*95 mm
IP Rating	IP65 (charger housing)
Weight	5kg (11.0lb)
Cooling Method	Forced Air Cooling
Number of Ports	
Mounting Options	
Enclosure Type	
Connectors	
Encapsulant	

ENVIRONMENTAL

Operating Temperature	-30°C~65°C
Storage Temperature	-40°C~95°C
Altitude	2000m
Vibration & Shock	
Audible Noise	
Relative Humidity	
Design Life	

REGULATORY

IEC 61000-3-2/3-3, IEC 61000-4-2/4-3/4-4/4-5/4-6/4-8/4-11, IEC 61000-6-2/6-3
IEC 61851-21-2 (CISPR 11), ISO 10605, ISO 11452-2/4, IEC 60335-1/-2-29