SOLTERRA
EV CHARGERS

# A SERIES CHARGER

## MODEL:STTL1350A4813L-110Vac





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 wide-input charger delivers 840W with 13A CP mode output from 110/120VAC or 220/240VAC grids, charging both lithium-ion and lead-acid battery packs. Its CP mode functionality keeps charging fast on weak or low-voltage supplies, enabling rapid vehicle turnaround.

The design incorporates active PFC and digital LLC control with forced-air cooling for sustained full-power operation. Reliable hardware with integrated prognostics and health monitoring is fully potted in silicone inside a sealed aluminium die-cast enclosure that resists vibration, shock, dust, chemicals and harsh commercial environments. It supports optional CAN bus integration for fleet management and uses adaptive charging algorithms, configurable for lithium-ion or lead-acid charge profiles, to maximise both charging speed and battery longevity.

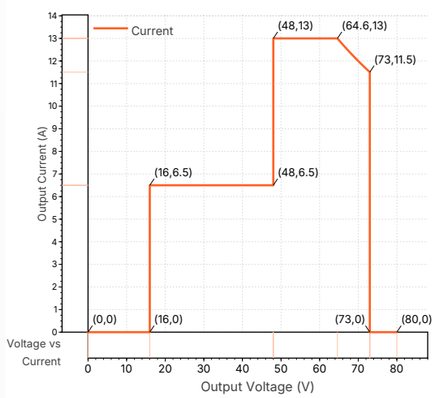
## FEATURES

| |
|---|
| Optional CANbus 2.0B / RS485. FW Update via CANbus |
| Auxiliary power 12V/0.2A, 12V/2.5A |
| Built-in indicator light (3 Colors) |
| Dry Switch Interlock 1A |
| Deep Discharge Recovery (without reverse polarity protection) |
| Optional External LED connection, Parallel upto 3 units |

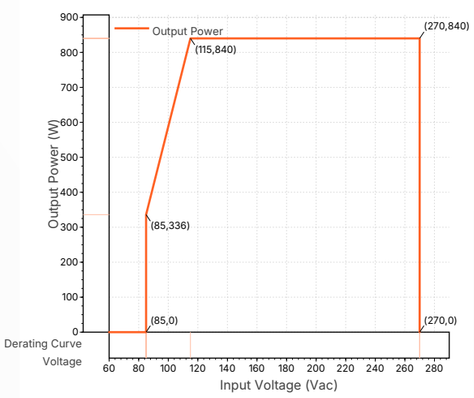
## SAFETY

| | |
|---|---|
| Isolation Levels (Input - Output) | <10mA 2000Vac 60s |
| Isolation Levels (Input - Shell) | <10mA 2000Vac 60s |
| Isolation Levels (Output - Shell) | <10mA 1000Vac 60s |
| Insulation resistance | >10MΩ (500VDC) |
| Drop Resistance | 1m height |

## OUTPUT VOLTAGE VS CURRENT




## UIN VS POWER




## MAIN ATTRIBUTES

| | |
|---|---|
| Max Output Power | 840W |
| Peak Efficiency | ≥90%@120VAC |
| Voltage Range | 16V to 48V 6.5A ; 48V ~ 73V CP |
| CP Mode Output Current | 13A (peak) |
| MTBF | >150K Hours |
| Voltage Regulation | ≤±0.2 Vdc |
| Current Regulation | ≤±1% F.S. |
| Topology | Active PFC + Digital LLC ~ settable Voltage and Current limits. |
| Battery Type | Lead-acid and Lithium-ion (48V nominal) |

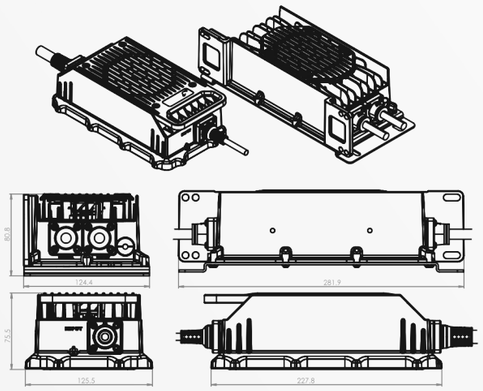
## AC INPUT ATTRIBUTES

| | |
|---|---|
| AC Input Voltage Range | 85VAC ~ 270VAC; 50/60Hz |
| Full Power Voltage Range | 115 ~ 270VAC |
| Input Frequency | 50/60Hz |
| Input Current | ≤8.5A |
| Input Inrush | <2.5A |
| Power Factor | 0.996@220VAC, full load |
| THDi | <5% |
| Input Surge Rating | 6kV CM, DM |
| Idle Consumption | <3W |

## PROTECTIONS

| | |
|---|---|
| Input Under/Over Voltage | When the AC input voltage is lower than 85Vac, the charger stops working and an under-voltage alarm occurs; when the AC input voltage is higher than 270Vac, the charger stops working and an over-voltage alarm occurs. |
| Input Overcurrent | The charger reduces the output power to ensure that the input over current (active monitoring) thresholds are not breached. |
| Output Over Voltage | If output voltage exceeds the internal OV threshold, the charger immediately cuts the output relay and gives an alarm. |
| Output Overcurrent | If load current exceeds the internal OC limit, the charger immediately cuts the output relay and gives an alarm. |
| Output Short Circuit | If the output is short-circuited, the charger shuts down output with current limit and an alarm is issued. |
| Output Reverse Polarity & No Load Protection | If the battery is connected in reverse, the charger shuts down output and alarms (reverse polarity protection not active during Activation mode). If battery voltage is missing or <⅓ of rated pack voltage, the charger alarms and gives no output. |
| Automatic Shutdown | If charging time or charging end voltage exceeds the internal maximum limit, it stops charging and alarms. |
| Over Temperature Protection | If internal or ambient temperature goes above the set value, it first reduces current (derating), then stops and alarms; charging resumes automatically when temperature falls to the recovery point. With an external probe, it can also monitor battery/ambient temperature. |

## DIMENSIONS




## MECHANICAL

| | |
|---|---|
| Dimensions (mm) | 234.5*125.5*75.5 mm |
| IP Rating | IP65 (charger housing) |
| Weight | 1.9 kg (4.2 lb) |
| Cooling Method | Forced air cooling |
| Number of Ports | 2 Ports |
| Mounting Options | Portable, Onboard Version Available |
| Enclosure Type | Die Cast Aluminium |
| Connectors | Customizable input and output connectors, harness |
| Encapsulant | Silicone Potting Compound |

## ENVIRONMENTAL

| | |
|---|---|
| Operating Temperature | -25°C~65°C |
| Storage Temperature | -40°C~95°C |
| Altitude | 2000m |
| Vibration & Shock | IEC 60068-2 |
| Audible Noise | <45dB at 1m |
| Relative Humidity | 0~95%, Non-Condensing |
| Design Life | 10 Years |

## REGULATORY

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|---|
| 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 |

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.

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