SOLTERRA
EV CHARGERS

PH SERIES CHARGER

MODEL:STTL4880PH



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 high-power three-phase charger delivers 4500W with up to 80A output, charging 48V lithium-ion as well as lead-acid traction batteries for forklifts, material-handling equipment and industrial vehicles with high efficiency and constant voltage / constant current control.

The charger uses temperature-controlled forced-air cooling with a wide operating temperature range, and provides overvoltage, overcurrent, undervoltage, over-temperature and battery reverse-polarity protection. CAN communication, Bluetooth and an on-board display support fleet integration, while advanced charging algorithms ensure safe, efficient charging inside a rugged IP65 die-cast enclosure.

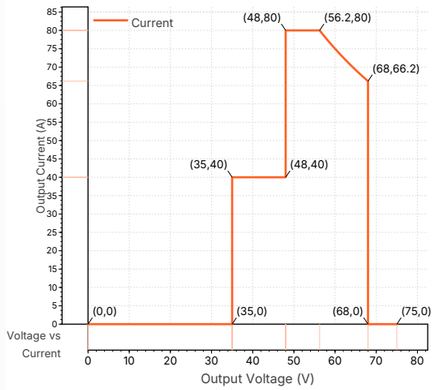
FEATURES

CAN Communication
Auxiliary power 12V/2A (optional)
Bluetooth + Display
Built-in indicator light
Vehicle Charging Interlock System
External Indicator (customizable)

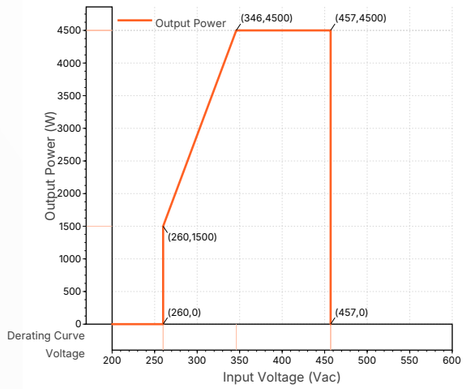
SAFETY

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	0.5m height

OUTPUT VOLTAGE VS CURRENT



UIN VS POWER



MAIN ATTRIBUTES

Max Output Power	4500W
Peak Efficiency	≥90%
Voltage Range	35V to 48V 40A ; 48V ~ 68V CP
CP Mode Output Current	80A (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)

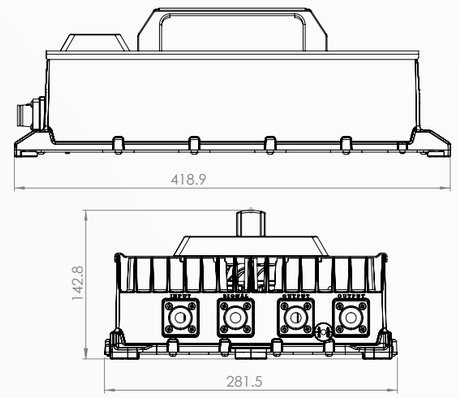
AC INPUT ATTRIBUTES

AC Input Voltage Range	3P3W + PE 260~457VAC (line); 50/60Hz
Full Power Voltage Range	346 ~ 457VAC (line)
Input Frequency	50/60Hz
Input Current	≤9A
Input Inrush	<2A
Power Factor	≥0.99@Full Load
THDi	<5%
Input Surge Rating	L-N 4kV (1min interval)
Idle Consumption	<5W

PROTECTIONS

Input Under/Over Voltage	When the AC line voltage is lower than 260Vac the charger stops working and an under-voltage alarm occurs; when it is higher than 457Vac 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)	419*281.5*100.5 mm
IP Rating	IP65 (charger housing)
Weight	10.3 kg (22.7 lb)
Cooling Method	Forced air cooling
Number of Ports	4
Mounting Options	Portable
Enclosure Type	Die Cast Aluminium
Connectors	Customizable input and output connectors, harness
Encapsulant	Silicone Potting Compound

ENVIRONMENTAL

Operating Temperature	-35°C~65°C
Storage Temperature	-40°C~95°C
Altitude	2000m
Vibration & Shock	10-25Hz 1.2mm; 25-500Hz 30m/s², 8h per axis
Audible Noise	45dB
Relative Humidity	85%
Design Life	10 Years

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

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.

Solterra Technologies Pvt Ltd
Ground Floor, 12/74, Site-IV, Sahibabad Industrial Area, Ghaziabad, UP, India 201010. Landline 0120-4129371 CIN: U34300UP2022PTC166574
www.solterratech.com
info@solterratech.com
skv@solterratech.com

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