SOLTERRA
EV CHARGERS

BG SERIES CHARGER

MODEL:STTL1200BG4820L



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 compact 48V charger delivers 1200W with 20A CP mode output, charging both lithium-ion and lead-acid battery packs. Its CP mode functionality shortens charging time for light electric vehicles and keeps fleets on the road.

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.

MAIN ATTRIBUTES

Max Output Power	1200W
Peak Efficiency	≥90%@220Vac
Voltage Range	16V to 48V 10A ; 48V ~ 72V CP
CP Mode Output Current	20A (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	220 ~ 270VAC
Input Frequency	50/60Hz
Input Current	≤7A
Input Inrush	<2A
Power Factor	0.99 @220 Vac, full load
THDi	<5%
Input Surge Rating	L-N: 4 kV (1 min interval)
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	Output power reduced (active monitoring) to stay under the input over-current threshold.
Output Over Voltage	Exceeds internal OV threshold → output relay cut + alarm.
Output Overcurrent	Exceeds internal OC limit → output relay cut + alarm.
Output Short Circuit	Short → output shut down with current limit + alarm.
Output Reverse Polarity & No Load Protection	Reverse battery → shutdown + alarm; missing or < ⅓ pack voltage → no output + alarm.
Automatic Shutdown	Charge time or end-voltage over internal max → stop charging + alarm.
Over Temperature Protection	Above set point → derate, then stop + alarm; auto-resume on cooldown; external probe option.

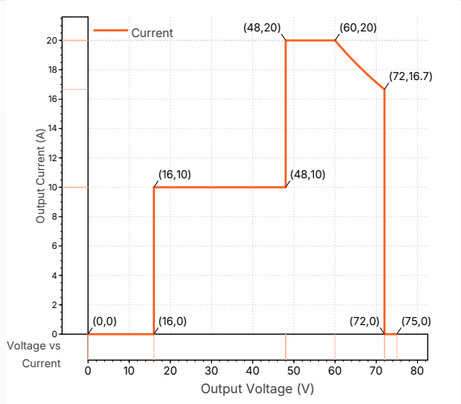
FEATURES

CANbus 2.0B upto 1000Kbps (optional). FW Update via CANbus
Auxiliary power 12V/2A, 24V/1A
Dry Switch Interlock 1A
Deep Discharge Recovery (without reverse polarity protection)

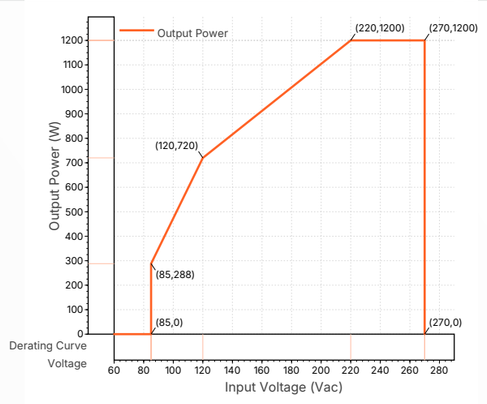
SAFETY

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

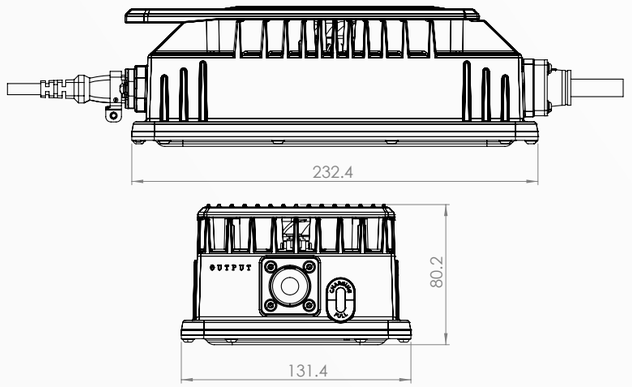
OUTPUT VOLTAGE VS CURRENT



UIN VS POWER



DIMENSIONS



MECHANICAL

Dimensions (mm)	232.4*131.4*80.2 mm
IP Rating	IP65 (charger housing)
Weight	2.3 kg (5.1 lb)
Cooling Method	Forced air cooling
Number of Ports	2 Ports
Mounting Options	Portable and onboard
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

Certifications (Europe): CB / CE / KC / KCC / RCM / ECE R10
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

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