24V/700W Switch Mode Battery Charger

SUMMIT™ SERIES

By: Lester ELECTRICAL 50 YEARS

High Efficiency ▪ Leading Charge Algorithms ▪ High Reliability

On-Board or Off-Board Charging
The Lester Electrical Summit Series 24V/700W switch mode battery charger (SMBC) is designed for both on-board (built-in) and off-board (shelf) use. It features intelligent natural convection cooling (no fan) and high energy efficiency, which enables it to be used in thermally demanding applications.

High Efficiency: > 90% Peak
The Summit Series 24V/700W SMBC features high AC-to-DC conversion efficiency of > 90% peak, including all losses from AC plug to DC connector. The charger, when paired with batteries, exceeds the applicable requirements of the California Energy Commission (CEC) Appliance Efficiency Regulations for Battery Charger Systems. It also features a high AC power factor near unity.

Sealed and High Reliability: IP66, > 150,000 Hours MTBF
The heavy-duty aluminum enclosure is sealed with an IP66, NEMA 4 rating to protect the charger from ingress of water, dust, and other environmental elements. The rugged/durable charger has been designed and tested for the shock and vibration conditions that occur with on-board use. It has also been designed to provide the high reliability that is expected of a Lester Electrical product with an MTBF reliability rating of > 150,000 hours. Additionally, the charger includes a hardware watchdog timer for high uptime operation.

Leading Charge Algorithms: Featuring *Progressive DV/DT* ™
An advanced microprocessor controller is featured in the charger. Precise Lester Electrical charging and termination algorithms, included patent-pending Progressive DV/DT, prevent both undercharging and overcharging, optimizing both daily battery capacity and overall battery life.

Flexible Battery Types: Wet, AGM, Gel, Lithium-Ion
This Summit Series charger includes industry-leading and field-proven wet/flooded, AGM, and gel deep-cycle lead-acid battery charge profiles. It can also be configured with battery specific, application specific, or custom charge profiles, including lithium-ion chemistries. Using the externally accessible communication port, a LE programming module or laptop/PC can be used to update the charge profiles in the field, change the active profile, and download charge cycle history records.

Universal AC Input
The charger includes universal AC input and operates at 90-264 Vac and 45-65 Hz for use anywhere in the world. The IEC AC inlet enables the charger to be paired with an AC cord with the appropriate localized plug.

Lockout, Remote LEDs, & Battery Temperature Sensing
The optional lockout/interlock control output can be used to prevent vehicle/equipment operation when the charger has AC power available (on-board) or when the DC plug is connected to the vehicle with a supported DC connector configuration (off-board). The charger also features optional remote LEDs to provide installation flexibility. The optional battery temperature sensor enables temperature compensation for applications that require it.

Safety and Regulatory Approvals
The charger is UL recognized/listed, cUL/CSA certified, and will be CE certified (pending). It includes FCC and applicable EN approvals. The charger will also be certified compliant with the CEC Appliance Efficiency Regulations for Battery Charger Systems (pending) using the in-house Lester Electrical CEC efficiency regulations test system.

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SPECIFICATIONS

AC Input

Voltage range, rated	100-230 Vac
Voltage range, operating	90-264 Vac (< 100 Vac: reduced power)
Frequency, rated	50-60 Hz
Frequency, operating	45-65 Hz
Phase	Single-phase
Current, maximum	8 A
Efficiency	> 90% peak; > 87% average, full cycle; CEC test procedure, AC and DC losses included
Power factor	> 0.98, 120 Vac; > 0.95, all AC input voltages
Protection	Current limit, surge, transient, under voltage

DC Output

Voltage, nominal	24 Vdc
Voltage, maximum	36 Vdc
Voltage, min start-up	10 Vdc
Power	700 W
Current, rated	25 A
Current, maximum	25 A
Battery types	Wet/flooded, AGM, gel deep-cycle lead-acid; lithium-ion; custom
Protection	Current limit, short circuit, reverse polarity, under voltage, over voltage, wrong batt voltage

LEDs *(Remote LEDs Optional)*	Charge Complete (green), Charge Status (yellow), Fault (red)
Lockout Control	Optional
Option 1	Pulls down to battery neg (-) when active, pulls up to battery pos (+) when not active
Option 2	Pulls down to battery neg (-) when active, floating when not active
Battery Temp Sensor	Optional

Mechanical

Dimensions (LxWxH)	
On-board enclosure	10.945 x 9.645 x 4.305 in
Off-board enclosure	10.945 x 7.318 x 4.746 in
Cooling	Natural convection (no fan)
AC connector	IEC 60320 C16 inlet with optional cord clamp
DC cable/connector	Variety available
Lockout cable/connector	Variety available
Mounting	Shelf, wall, bulkhead, threaded steel rod, hook
Handle	Optional

Environmental

Enclosure rating	IP66, NEMA 4
Operating temperature	-25 °C to 60 °C (-13 °F to 140 °F)
Storage temperature	-40 °C to 85 °C (-40 °F to 185 °F)

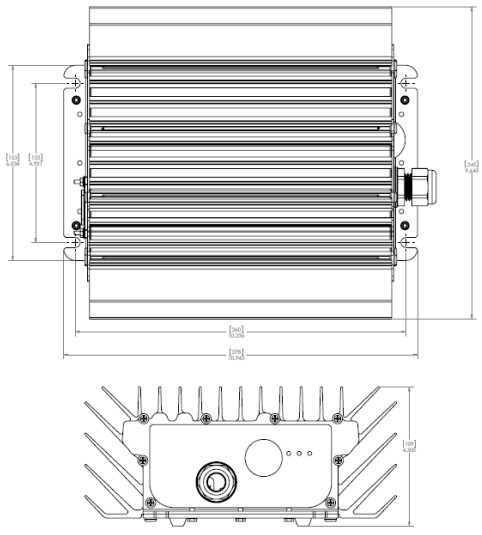
Reliability

> 150,000 hours MTBF at full output at 25 °C
(Telcordia SR-332, MIL-STD-267)

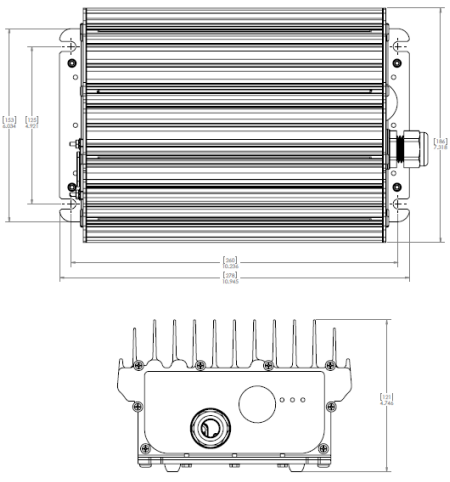
Safety/Regulatory

UL recognized/listed; cUL/CSA certified; CE certified (pending); EN safety, emissions, immunity; FCC Part 15, Class A; CEC Appliance Efficiency Regulations, Title 20 (pending)

On-Board Enclosure



Off-Board Enclosure



625 West A Street
Lincoln, NE 68522
P: 402.477.8988

F: 402.474.1769
Sales@LesterElectrical.com
LesterElectrical.com

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Document ID: SM7004.6