

Sentry UL Series

UL/CSA Approved Automatic Battery Chargers



Description

The Sentry UL range provides automatic, current limited and thyristor controlled charging of vented lead acid or NiCd batteries. The units may be used in a wide range of industrial charging applications, including standby engines, pumps and generators.

The charger uses an open frame construction, designed for surface mounting in an enclosed panel. Each unit consists of a transformer, rectifier and control circuit. The control circuit ensures that the charger maintains a battery voltage at the pre-calibrated float level, while supplying any additional load current up to the specified maximum.

When used as a float charger, the unit is designed to give a constant current output while battery voltage is below a 'knee point' (approx. 13V on a 12V LA). Above the knee-point, as the battery approaches its float voltage, the Sentry output current ramps down. This multi-stage charge regime gives an optimum combination of fast charge rate, followed by float charge without overcharging.

Auto Boost

All Sentry UL units include an Auto Boost feature. Auto Boost provides a temporary increase in output voltage, equalizing the charge between cells and maximizing battery life and capacity.

Auto Boost is triggered automatically when batteries fall below a preset voltage. On 'A' option chargers, Auto Boost can also be initiated manually by linking two 'boost' terminals, e.g., via a panel switch or momentary push button. Once the batteries have reached the boost voltage level, the charger reverts to its normal float charge mode, preventing battery over-charge and gassing.

Alarm Output

'A' option chargers also include a relay output for remote alarm or signalling of a charge fail condition (no or low output current), e.g. due to AC supply or fuse failure, charger fault or high battery voltage.

Temperature Compensation

The optimum charge voltage for lead acid and NiCd batteries varies with ambient temperature. All Sentry UL models are fitted with on-board temperature sensing and output compensation (3mV/Cell decrease for each °C increase.)

For even greater temperature accuracy, 'RTC' option units are supplied with a remotely connected temperature sensor and 3-metre lead assembly. (Other lengths are available by special order.)

- Approvals
- **Float Charging**
5A @ 12V - 3A or 5A @ 24V,DC
- **Auto boost operation**
- **For vented lead acid or NiCd**
- **Temperature compensation**
- **Optional alarm relay output & boost initiate**

Electronic Self-Resetting Fuse

An electronic poly-fuse provides protection against DC output reverse polarity and short circuit faults. The fuse automatically resets on battery disconnection, allowing correct reconnection without manual replacement of fuses.

Installation and Connection

Electrical connection of the AC supply, DC output, auto boost initiate link and alarm relay is via spring clamp terminals. Transformer, circuit board and terminal blocks are mounted on an open chassis baseplate / heatsink, designed for surface mounting in an enclosed control panel.

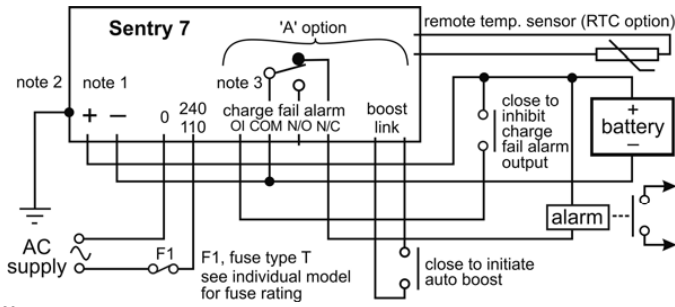
Warranty

A two year limited warranty on materials and workmanship is given with this product. Details are available upon request.

Product Specification

Power Supply:				
Supply Voltages	SUL100	SUL120		
120V units:	104-127V,AC			
240V units:	207-254V,AC			
Operating Frequency	50-60Hz			
DC Charge Output:				
Maximum Power Output (W)	100		120	
Nominal Voltage (V,DC)	12	24	12	24
Maximum Current Limit (A)	5	3	10	5
Float / Boost Voltages	<i>see reverse side</i>			
Fault Output:				
Charge Fail Alarm ('A' option only)	SPDT (volt-free/dry) relay contacts, de-energized on fault, rated 1A max @ 30V,DC (resistive load)			
General:				
Operating Temperature	14 to +131°F (-10 to +55°C)			
Overall Dimensions	<i>see reverse side</i>			
Weight	5.8 lbs.	14.1 lbs.		
EMC Emission / Immunity	EN50081-2 / EN50082-2			

Electrical connection



- Notes:**
- 1) battery output is isolated from chassis.
 - 2) chassis must be connected to a low impedance earth.
 - 3) charge fail alarm relay shown in fault state (de-energized).

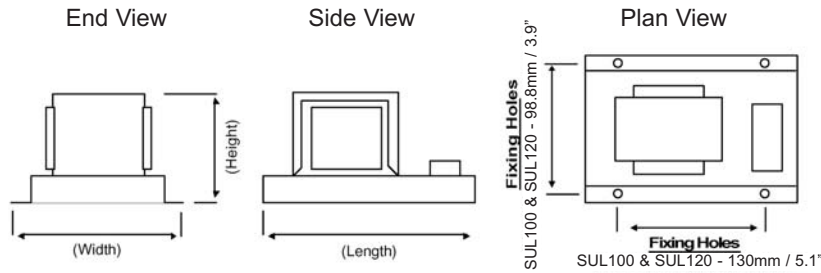
Calibration

Calibration figures at 20 deg. C. Temperature compensation causes output voltage to automatically decrease (or increase) at a rate of 3mV per cell, per °C increase (or decrease) in temperature.

Battery Type		Float Volts (V,DC)	Boost Volts (V,DC)
12V	Vented Lead Acid (6 cells)	13.5	14.1
	Calcium-Calcium (6 cells)	13.8	15.6
	NiCd (10 cells)	14.1	14.5
24V	Vented Lead Acid (12 cells)	27.0	28.2
	Calcium-Calcium (12 cells)	27.6	31.2
	NiCd (18 cells)	25.6	26.1
	NiCd (20 cells)	28.2	29.0

NOTE: Sentry chargers are designed for vented batteries only, and are NOT suitable for VRLA or sealed batteries. If in doubt, please contact our technical department.

Dimensions



For safe heat dissipation, mount product with the transformer at the top of the unit, with minimum air-gap clearance of 40mm above/below and 25mm at sides.

	W	H	L	Weight
SUL100	4.3" (110 mm)	4.61" (117 mm)	5.8" (148 mm)	5.8 lbs. (2.6 Kg)
SUL120	4.3" (110 mm)	4.92" (125 mm)	5.8" (148 mm)	14.1 lbs. (6.4 Kg)

Fixing hole dimensions:
 Width (between holes): 3.89" (98.8 mm)
 Height (between holes): 5.1" (130 mm)
 Fixing holes: Ø = 0.2" (6 mm)

Approximate dimensions for reference only. Use actual product as a mounting template.

How to Order

When ordering, please specify --

Product	Nominal Output V,DC		Nominal Output Current		
	12	24	3	5	10
SUL1001205	■			■	
SUL1002403		■	■		
SUL1201210	■				■
SUL1202405		■		■	

	OPTIONS	
	Alarm output & Auto Boost initiate	Remote Temp. Compensation
A	■	
RTC		■

INPUT VOLTAGE		
Code	120V,AC	240V,AC
C	■	
D		■

Product	BATTERY TYPE				
	Vented Lead Acid	Vented LA (CA/CA)	10 Cell Ni-Cd	18 Cell Ni-Cd	20 Cell Ni-Cd
LA	■				
CA		■			
10NC			■		
18NC				■	
20NC					■

Product	Input Volts	Battery type
SUL1201210	D	LA

The above 3 part number codes must be filled in to complete your order.

Options	Options
A	RTC

Insert options when required. If no options are required, leave empty.

The above example shows the order code for a Sentry UL 12V@10A charger, 240V,AC input with output calibrated for vented lead acid batteries, plus alarm output/boost initiate and remote temperature compensation options.



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For more information and certifications, please contact:

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