



# Sentry series

## UL Approved\* Battery Chargers



\* Tested and approved by UL to:  
UL 1236 – Battery chargers for charging engine-starting batteries, and  
CSA22.2 No. 107.2 – Battery chargers

### Features

-  and  compliant
- Float charging, 5A @ 12 VDC
- Auto boost operation
- Temperature compensation
- Alarm relay output
- Charge ammeter
- High quality stainless steel case, suitable for wall mounting

The Sentry UL 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 is supplied in a wall mounted stainless steel enclosure, complete with DC ammeter indication. 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, whilst 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 for 12V lead-acid batteries). Above the knee-point, as the battery approaches its float voltage, the Sentry output current ramps down. This multi-stage charge regime gives a 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 the battery falls below a preset voltage. Auto Boost can also be initiated manually by linking two 'boost' terminals, e.g. using 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.

#### Charge fail alarm output

Sentry UL includes 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

Sentry UL chargers give automatic compensation of output voltage with varying temperature, ensuring optimal charging and cell life. Temperature is measured by a circuit board mounted sensor, or RTC option remote sensor complete with 9.5 ft (3m) lead assembly. Output voltage decreases as ambient temperature increases at a rate of 1.66mV per °F per cell (3mV per °C per cell) - see Output Calibration section.

#### Installation and connection

Wall or surface-mounting is by slots/holes in the stainless steel case. Connection to panel wiring is by spring clamp terminals, through access holes in the case side.

The AC supply input is protected with a circuit-board mounted fuse. An electronic polyfuse protects the DC output against reverse polarity and short circuit faults: the polyfuse automatically resets on battery disconnection, allowing correct reconnection without manual fuse replacement.

**Warranty** – A limited warranty on materials and workmanship is given with this FW Murphy product. A copy of the warranty may be viewed or printed by going to [www.fwmurphy.com/warranty](http://www.fwmurphy.com/warranty)

## Specifications

### Power supply

Operating voltage: 104 to 127 V AC

Operating frequency: 50/ 60 Hz.

### DC Charge Output

Nominal current: 5 A DC

Nominal voltage: 12 V DC

Float/boost voltage: see separate 'output calibration' table

Voltage ripple: <1%

### Alarm output

#### Charge fail relay:

SPDT dry/volt-free contacts, de-energized on fault, rated 1A @ 30 V DC (resistive load)

### Physical

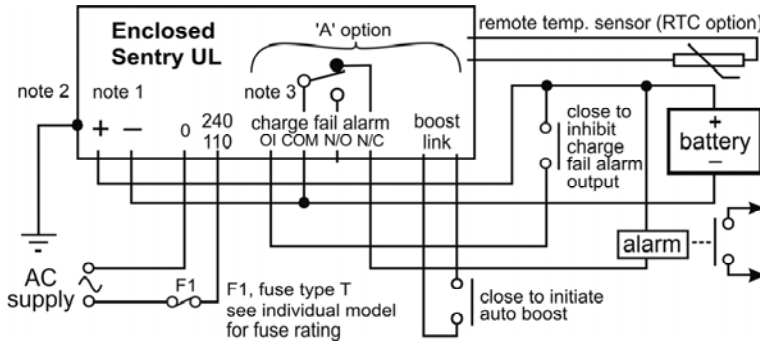
Operating temperature: +14 to +131 °F / -10 to +55°C

Dimensions: see separate diagram/table

Weight: 12.4 lb / 5.6 kg

Electromagnetic compatibility: EN50081-2 / EN50082-2

## Electrical connection



### Notes:

- 1) DC charge (battery) output is isolated from the Guardian chassis.
- 2) Chassis must be connected to AC supply ground.
- 3) Charge fail alarm relay shown in de-energized (powered down) state.

## Output calibration

Calibration figures are at 68°F/20°C. Temperature compensation, if enabled, causes output voltage to automatically fall (or rise) with increasing (or decreasing) temperature, at a rate of approx 1.66mV per °F per cell (3mV per °C per cell).

Battery type		float volts (V DC)	boost volts (V DC)
12V	Vented lead acid (6 cells)	13.5	14.1

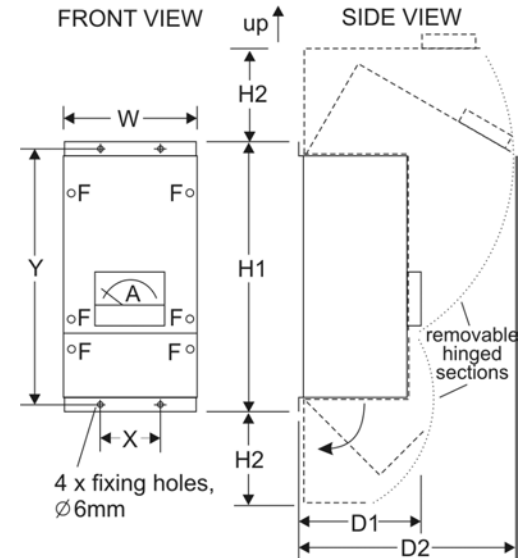
For vented NiCd batteries, please consult your RJ Mann representative.

## How to order

Stock code	Model	Description
42.70.0832	ESUL1001205C5LAA	Enclosed Sentry UL, 12V vented lead acid/5A output, 120VAC (50Hz/60Hz) input

For vented NiCd batteries, please consult your RJ Mann representative.

## Dimensions



### Overall:-

<b>W</b>	142mm / 5.59"
<b>H1</b>	268mm / 10.55"
<b>H2</b>	85mm / 3.35"
<b>D1</b>	130mm / 5.12"
<b>D2</b>	222mm / 8.74"

### Fixing holes:-

<b>X</b>	64mm / 2.52"
<b>Y</b>	274mm / 10.79"

Approximate dimensions for reference only. Use actual product as a mounting template. For safe heat dissipation, mount product in the orientation shown, with minimum air-gap clearance of 40mm above/below and 25mm at sides.

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