

Sentry 7 Series Automatic Battery Chargers



Features

- Automatic float charging:
Output 5A @ 12VDC / 24VDC
- Auto boost operation
- For vented lead acid or NiCd cells
- Temperature compensation
- Alarm relay output option
- Open-frame design for mounting in a control panel / enclosure
- For stationary engine, genset and standby power applications

The Sentry 7 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, whilst supplying any additional loads current up to the specified maximum.

When used as a float charger, Sentry 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 charger 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 7 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. 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.

Temperature compensation

The optimum charge voltage for lead acid and NiCd batteries varies with ambient temperature. All Sentry 7 models are fitted with on-board temperature sensing and output compensation (3mV/cell decrease for each °C increase).

Alarm output

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

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 input and DC output 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 available on request.

Specifications

Power supply

Operating voltage: 120V units: 104 – 127 VAC

Operating frequency: 50/60 Hz.

DC Charge Output

	S700	S7120
Maximum power output, W	100	120
Nominal voltage, V	12	24
Maximum current limit, A	5	5
Float / boost voltages	see 'output calibration' section	

Charge fail alarm output ('A' option models)

SPDT (volt free/dry) relay contacts, de-energised on fault, rated 1A max @ 30 VDC (resistive load)

Physical

Operating temperature:

-10 to +55°C / +14 to +131°F

Dimensions: see Dimensions section

Weights:

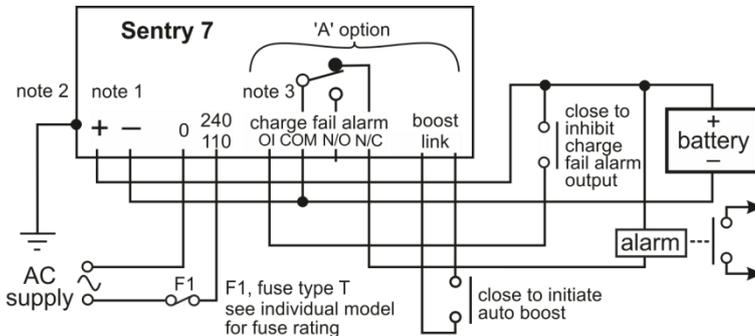
S7100 models: 1.8 kg / 4.0 lb

S7120 models: 2.6 kg / 5.8 lb

Electromagnetic compatibility:

EN 50081-2 / EN 50082-2

Electrical connection



Notes:

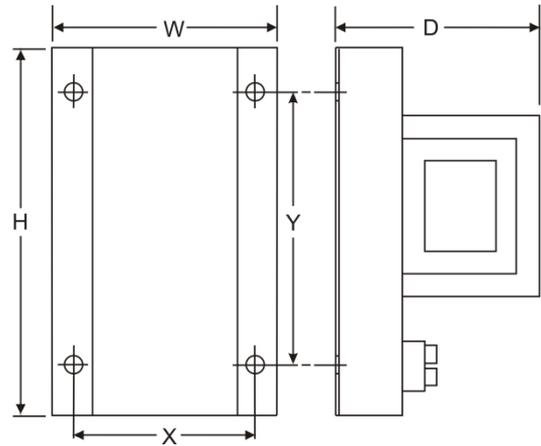
- 1) battery output is isolated from chassis.
- 2) chassis earth stud must be connected AC supply earth.
- 3) charge fail alarm relay shown in fault state (de-energised)

How to Order

Stock code	Model ref.	Description
42.70.0500	S71001205DLA	Open-frame Sentry 7, 240VAC, 5A/12VDC
42.70.0530	S71001205DLAA	As above, plus alarm o/p & boost initiate
42.70.0502	S71001205CLA	Open-frame Sentry 7, 120VAC, 5A/12VDC
42.70.0532	S71001205CLAA	As above, plus alarm o/p & boost initiate
42.70.0504	S71202405DLA	Open-frame Sentry 7, 240VAC, 5A/24VDC
42.70.0534	S71202405DLAA	As above, plus alarm o/p & boost initiate
42.70.0505	S71202405CLA	Open-frame Sentry 7, 120VAC, 5A/24VDC
42.70.0535	S71202405CLAA	As above, plus alarm o/p & boost initiate

Standard chargers are factory calibrated for vented lead-acid batteries. For other battery types, please specify at order (calibration tables shown right), or contact our technical department for further advice.

Dimensions



	S700	S7120
Overall:-		
H	148 mm / 5.83 in	
W	110 mm / 4.33 in	
D	117 mm / 4.61 in	125 mm / 4.92 in
Fixing holes:-		
X	98.8 mm / 3.89 in	
Y	130 mm / 2.95 in	

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.

Output 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, contact our technical department



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