

SM2 250A Auto 3 Stage Range of Automatic Battery Chargers



(shown in protective cover)



(shown as open frame unit)

- **High rate duty float charging:**
17A @ 12V - 9A @ 24V - 6A @ 36V 4.5A @ 48V
- **Fully automatic charge regulation**
- **Light compact DIN rail mount design**
- **Charge fail relay output**
- **Auto 3 stage charging**

Description

The SM2 250 is a highly efficient high performance charger. The very smooth output is configured for accurate fast charging and optimum battery life and reliability. Due to its very smooth output (< 1% ripple) the charger is suitable for sealed or vented batteries. e.g. Nickel Cadmium (NiCd), Lead acid sealed and vented, Plante and VRLA cells. The wide input voltage range, from 95-277VAC allows the charger to be used with all common single phase voltages with no adjustment

Switch mode technology is a major advance in power supply and battery charger design. Giving low heat dissipation compact low weight design and ease of panel installation via din rail.

Auto 3 Stage Operation

The output current of the charger is limited to a low value until the battery reaches a specific voltage, preventing high charge current if a cell is shorted. Above this level the bulk charge phase starts supplying maximum current to the battery. This is indicated by the yellow "bulk" LED. This continues until the bulk voltage is reached when the current will start to fall. When it has fallen to 10% of the maximum bulk current the float phase will begin, indicated by the green "float" LED.

Charge fail relay

A self diagnostic 'charge fail' circuit and relay output is provided as standard. The volt free relay de-energises in the event of a charging fault.

Electrical connection of the AC supply, DC output and charge fail relay are via shrouded screw terminals.

Operation Overview

The battery charger is designed so that it can be permanently switched on when connected to the battery provided there are no standing loads present.

(If a standing load is required please contact our technical department if this facility is required)

Product Specification

Power Supply:

nominal operating voltages	95-277VAC
nominal operating frequency	47-400Hz

DC Charge Output:

output current ADC	9	17
nominal voltage VDC	24	12
line regulation	< 1%	
load regulation	< 1%	
output ripple	< 1%	
float / boost voltages	see table overleaf	

Charge Fail Output:

relay type	volt free SPDT contacts relay de-energised on fault
contact rating	1A @ 30VDC (resistive load)

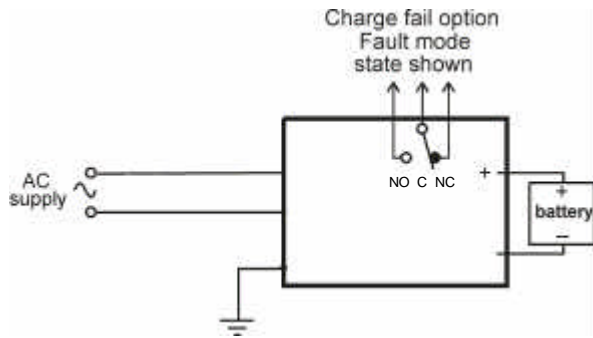
General:

operating temperature	-10 to +55°C
overall dimensions (w x h x d)	100mm x 50mm x 220mm (3.9" x 2" x 8.6")
weight	0.65Kg (1.44lbs)
EMC emission / immunity	EN 58801-2 / EN50082-2

Warranty

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

Electrical connection



Notes:

- 1) battery output is isolated from chassis
- 2) chassis must be connected to a low impedance earth

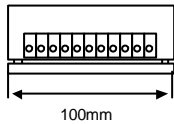
Calibration

Battery type		float volts (VDC)	boost volts (VDC)
12V	Lead Acid (6 cells)	13.6	14.1
	Ni-Cd (10 cells)	14.1	16.0
24V	Lead Acid (12 Cells)	27.2	28.2
	Ni-Cd (18 Cells)	25.38	28.8
	Ni-Cd (20 Cells)	28.2	32.0

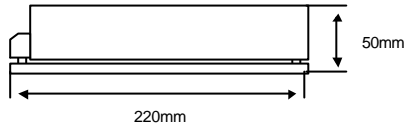
The above are factory standard settings, specials are available on request.

Dimensions

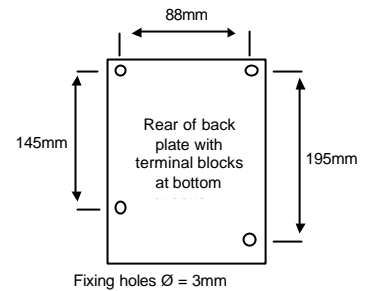
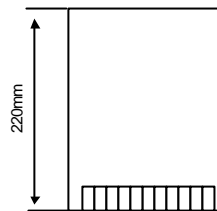
END VIEW



SIDE VIEW



PLAN VIEW



DIN Rail Mounting Clips add 20mm to the overall height of the chargers.

How to order

When ordering, please specify:-

PRODUCT	Nominal Output VDC				Nominal Output Current			
	12	24	36	48	17	9	6	4.5
SM2250A1217	•				•			
SM2250A249		•				•		
SM2250A366			•				•	
SM2250A484.5				•				•

INPUT VOLTAGE	
CODE	95-277VAC
CD	•

BATTERY TYPE			
Lead Acid	10 Cell Ni Cad	18 Cell Ni Cad	20 Cell Ni Cad
LA	•		
10		•	
18			•
20			•

OPTIONS			
Spade Connections	Output Inhibit	DIN Rail Mounting	Protective Cover
S	•		
OI		•	
DIN			•
PC			•

Product	Input volts	Battery type	Options	Options	Options	Options
SM2250A1217	CD	LA	DIN			

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

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

SM2250A1217

CD

LA

DIN

The above example shows the order code for a 95-277VAC input, 12V@17A,DC output auto 3 stage charger, calibrated for a vented lead acid battery, and with DIN rail mounting option.

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