


Guardian Series, open frame

UL/CSA Approved Automatic Battery Chargers



-  Approvals
- **Heavy duty Float Charging:**
10A or 20A @ 12V,DC or 24V,DC output
- **Auto boost operation**
- **Short circuit and reverse polarity protection**
- **Temperature compensation**
- **NFPA 110 Alarm Outputs:**
charge fail, under volts & over volts
- **Lead acid or NiCd calibrations**

Description

The Guardian is a highly efficient, high performance charger. The output is configured for accurate fast charging, optimum battery life and reliability. High impedance transformer technology gives a low ripple output (<1%) suitable for charging either sealed or vented batteries, e.g., Nickel Cadmium (NiCd), sealed lead acid (VRLA), vented and plate cells. The Guardian range can be used in a wide range of industrial charging applications, including standby engines, pumps and generators.

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

Auto Boost (Equalizing) Operation

Auto Boost operation provides a temporary increase in output voltage, equalizing the battery charge between cells and maximizing battery life and capacity. Auto Boost is triggered automatically when the battery falls below a preset voltage. Once batteries have reached the boost voltage level, Guardian reverts to its normal float charge mode, preventing battery over-charging and gassing.

Auto Boost can also be initiated manually (regardless of battery voltage) by linking two 'boost' terminals, e.g., via a panel switch or pushbutton.

Temperature Compensation and RTC Option

The optimum charge voltage for lead acid and NiCd batteries varies with ambient temperature. All Guardian chargers can be configured (using circuit board links) with automatic output temperature compensation, either by on-board sensor, or by RTC option remote sensor with 3m lead.

When temperature compensation is enabled, output voltage decreases as ambient temperature increases at a rate of 3mV/°C/cell. (See output calibration table on reverse side.)

Alarm Outputs

The Guardian provides 3 x NFPA110 compliant alarm relay outputs: battery high volts and battery low volts (both with 120 sec. delay).

Installation and Connection

Mounting is via slots in the transformer frame. Spring clamp terminals provide secure electrical connection to panel wiring. AC supply input and DC charge output are protected with circuit-board mounted fusing. Please see installation and operating instructions for full details.

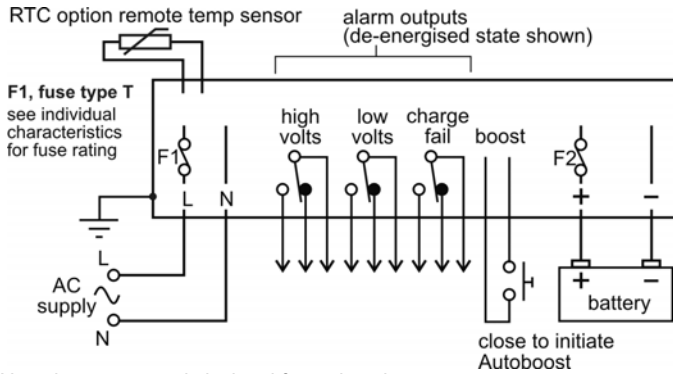
Warranty

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

Product Specification

Power Supply:	
Nominal Operating Voltages	110 - 120V,AC ±6% or 230V,AC ±10% (specify)
Nominal Operating Frequency	50 or 60Hz (specify)
DC Charge Output:	
Maximum Current A,DC	10A 20A
Nominal Voltage V,DC	12V 24V
Voltage Ripple	< 1%
Float / Boost Voltages	see reverse side
Alarm Output:	
Charge Fail, Low Volts & High Volts relays	volt free SPDT contacts
Contact Rating	1A@30V,DC (resistive load)
General:	
Operating Temperature	14 to +131°F (-10 to +55°C)
Overall Dimensions	see reverse side
Weight	see reverse side
EMC Emission / Immunity	EN61000-6-4 / EN61000-6-2

Electrical connection

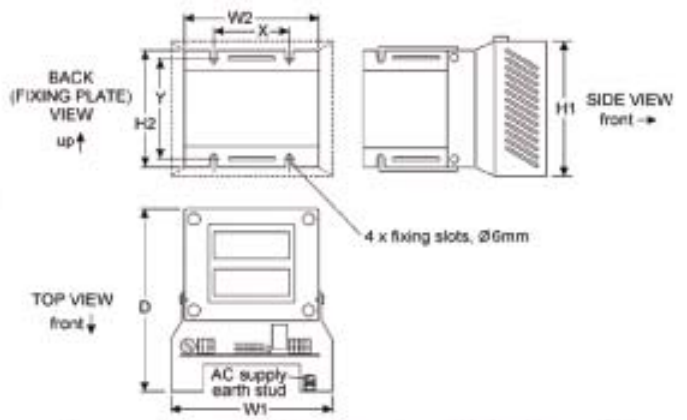


Note: battery output is isolated from chassis.

Calibration

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
	VRLA, AGM (6 cells)	13.5	14.4
	VRLA, Gel (6 cells)	13.5	13.8
	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
	VRLA, AGM (12 cells)	27.0	28.8
	VRLA, Gel (12 cells)	27.0	27.6
	NiCd (18 cells)	25.6	26.1
	NiCd (20 cells)	28.2	29.0

Dimensions



	G150, G300 series	G600 series
Overall:-		
W1	152mm / 5.98"	152mm / 5.98"
H1	125mm / 4.92"	142mm / 5.59"
D	170mm / 6.69"	220mm / 8.66"
Fixing plate:-		
W2	125mm / 4.92"	130mm / 5.12"
H2	110mm / 4.33"	130mm / 5.12"
X	70mm / 2.76"	95mm / 3.74"
Y	92mm / 3.62"	110mm / 4.33"
Weight	7.0 Kg / 15.4 lb	12.5 Kg / 27.5 lb

For safe heat dissipation, mount product in orientation shown, with minimum air-gap clearance of 40mm above/below and 25mm at sides.

How to Order

When ordering, please specify --

Product	Nominal Output V,DC		Nominal Output Current	
	12	24	10	20
G1501210	■		■	
G3002410		■	■	
G3001220	■			■
G6002420		■		■

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

INPUT FREQUENCY ⁽¹⁾		
Code	50Hz	60Hz
5	■	
6		■

⁽¹⁾ Some models (code '56') allow for 50 or 60Hz operation.

OPTIONS	
Code	Remote Temp. Compensation (incl. sensor + 3 metre lead)
RTC	■

Code	BATTERY TYPE						
	Vented LA	Vented LA (Ca/Ca)	Sealed LA AGM	Sealed LA Gel	10-Cell NiCd	18-Cell NiCd	20-Cell NiCd
LA	■						
CA		■					
AGM			■				
GEL				■			
10NC					■		
18NC						■	
20NC							■

Product	Input Volts	Input Frequency	Battery type
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The above 4 part number codes must be filled in to complete your order.

G3002410 D 6 LA

Options

Insert option when required. If no option is required, leave empty.

RTC

The above example shows the order code for a 24V/10A charger, with 240V,AC/60Hz input and output calibrated for vented lead acid batteries, plus remote temperature compensation.



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