CCL

Industrial battery chargers, power supplies and controls.

PC&S

Guardian FP Series, open frame

Automatic Battery Chargers for Fire Pumps

- **Complies with fire pump requirements** FM **NFPA20**
- **Approvals**
- **Heavy duty Float Charging:** 10A or 20A @ 12V,DC or 24V,DC output
- **Temperature compensation**
- **Alarm Outputs:** charge fail, under volts & over volts
- **For vented lead acid batteries**
- **Open frame construction**

Description

The Guardian series provides automatic, voltage controlled and current limited charging of heavy-duty batteries. Guardian FP models are specially configured for optimal charging of vented lead-acid starter batteries on engine-driven fire pump systems.

Float Charge Operation

Each charger consists of a transformer, rectifier and control circuit in an open frame assembly for easy panel mounting. High impedance transformer technology gives a low ripple output (<1%). 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 FP 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.

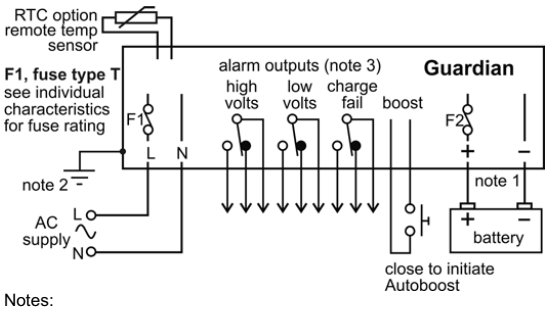
Warranty

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 (dry) 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



Notes:
1) DC charge (battery) output is isolated from the Guardian chassis.
2) Chassis must be connected to AC supply ground.
3) Alarm relay outputs shown in de-energized (powered down) state.
   High (battery) volts relay energizes 120 secs after fault condition.
   Low (battery) volts relay de-energizes 120 secs after fault condition.
   Charge fail relay de-energizes immediately on fault condition.

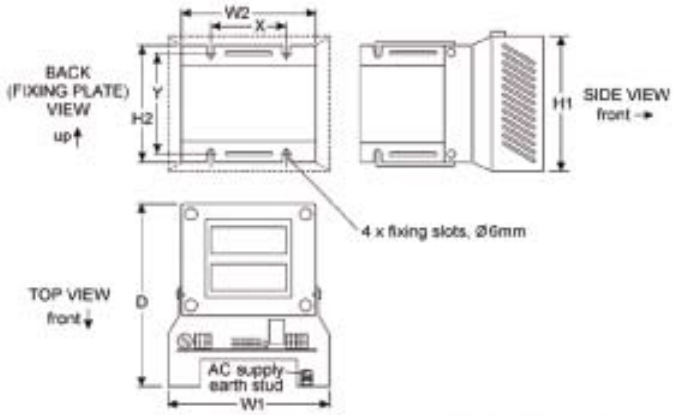
Calibration

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

IMPORTANT: Guardian FP models are calibrated specifically for use with vented lead acid batteries in fire pump applications. These chargers **must not** be used in non-fire pump applications.

Battery Type		Float Volts (V,DC)	Boost Volts (V,DC)
12V	Vented Lead Acid (6 cells)	13.7	15.6
24V	Vented Lead Acid (12 cells)	27.4	31.2

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

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

How to Order

When ordering, please specify --

	Nominal Output V,DC		Nominal Output Current	
Product	12	24	10	20
GFP1501210	■		■	
GFP3002410		■	■	
GFP3001220	■			■
GFP6002420		■		■

	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	■

Product	Input Volts	Input Frequency	Options
The above 3 part number codes must be filled in to complete your order.			*Insert option when required. If no option is required, leave empty.*
GFP3002410	**C**	**6**	**LA** **RTC**

The above example shows the order code for a 24V/10A chargers, with 120V,AC/60Hz input and output calibrated for vented lead acid batteries (fire pump applications), plus remote temperature compensation.

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For more information and certifications, please contact:
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