dytek®

Division of Charles Marine Products

BATTERY CHARGER MANUAL

GP1230

dytek®

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INTRODUCTION

Dear Customer,

We at Charles Marine Products would like to take a moment to thank you for purchasing our Dytek® battery charger. Your Dytek® charger is the result of years of testing and research in marine power supply applications. Charles Marine has built into your Dytek® charger such features as input fusing, thermal breakers, current limitation, and charge dividers to insure safe and reliable battery charging. Please take the time to review this booklet so you may fully understand your Dytek® charger. We hope you will enjoy years of service from your Dytek® charger and look forward to providing you with other quality Marine electronics.

Sincerely,
CHARLES MARINE PRODUCTS
DYTEK® DIVISION

INSTALLATION

Mount your battery charger horizontally or vertically (depending on configuration) in any area where air is free to circulate around it. Allow a minimum of 6" around all sides. The unit should be located as close to the batteries as possible to provide peak performance and smaller cabling.

AC WIRING

FOR 115 VAC GP&HD SERIES CHARGERS:

Input wiring should be a minimum of #14 AWG. These chargers are a nominal 115 VAC input. AC high and low connections should coincide with ships wiring when applicable.

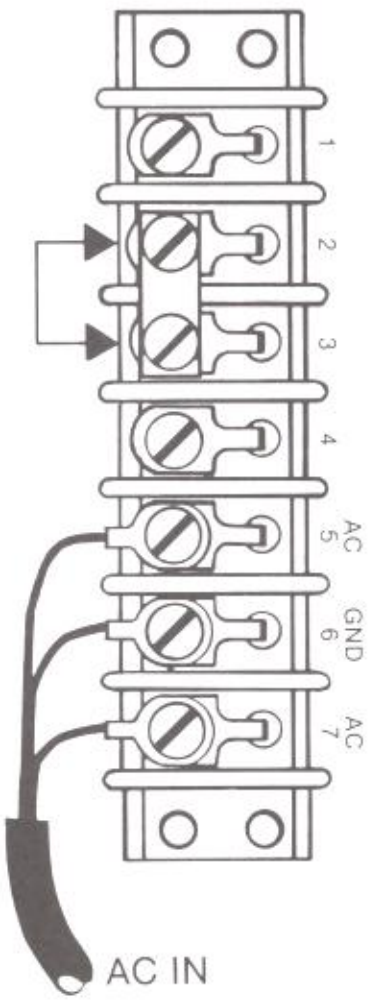
FOR 115/230 VAC SERIES CHARGERS:

Input wiring should be a minimum of #14 AWG for all models with the exception of the VHD 24-50 & VHD 12-100 when used with 115 VAC input. These models require a minimum of #12 AWG. Install jumpers on AC terminal strip as demonstrated in figure 1 on the next page.

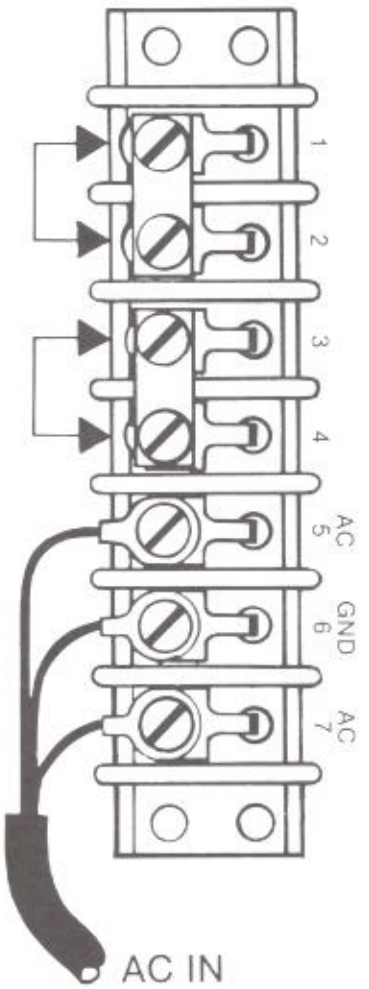
CAUTION

Regardless of recommendations in these instructions, all wiring must conform to Coast Guard, NFPA, ABYA, and any other applicable codes.

115/230 VAC JUMPER SELECTION



JUMPERS FOR 230V



JUMPERS FOR 115V

Figure 1

DC WIRING

Output cable size depends upon the charger current rating and the length of the cable. Refer to this table:

	LENGTH OF CABLE IN FEET*		
MODEL	5'	10'	15'
GP-12-15	#12	#10	#8
GP-12-20	#10	#8	#6
GP-12-30	#8	#6	#4
HHD-12-40	#8	#6	#4
VHD-12-40	#8	#6	#4
VHD-12-50	#8	#6	#4
IVHD-12-40 50/60	#8	#6	#4
VHD-12-60	#4	#2	#1
VHD-12-100	#1	#1/0	#2/0
VHD-24-25	#10	#8	#6
VHD 24-50	#4	#2	#1
VHD 24-50 50/60	#4	#2	#1
VHD-32-20	#10	#8	#6

*Note - All Cable is AWG

Smaller wire gauges should not be used. The cables can be longer than recommended, but the maximum charging will be reduced due to line drop. Be sure all connections are properly tightened for the same reason.

The battery charger is designed for negative ground systems. There is only one BATT NEG terminal since the battery negative terminals are common. Run a cable between the BATT NEG terminal and a convenient negative battery terminal. Refer to fig. 2. The input wires should be connected as shown in fig. 1. The GND terminal is internally connected to the battery charger chassis.

Dytek® recommends the use of fuses at the battery to protect the wiring. The following may be used for each model charger:

GP 12-15 ..... ANL 25
GP 12-20 ..... ANL 30
GP 12-30 ..... ANL 40
HHD 12-40 ..... ANL 60
VHD 12-40 ..... ANL 60
VHD 12-50 ..... ANL 60
IVHD 12-40 ..... ANL 60
VHD 12-60A ..... ANL 90
VHD 12-100 ..... ANL 150
VHD 24-25 ..... ANL 40
VHD 24-50 ..... ANL 75
VHD 24-50 50/60 ..... ANL 75
VHD 32-20A ..... ANL 30
VHD 32-40 ..... ANL 60

CAUTION

Regardless of recommendations in these instructions, all wiring must conform to Coast Guard, NFPA, ABYA, and any other applicable codes.

"Typical Installation"

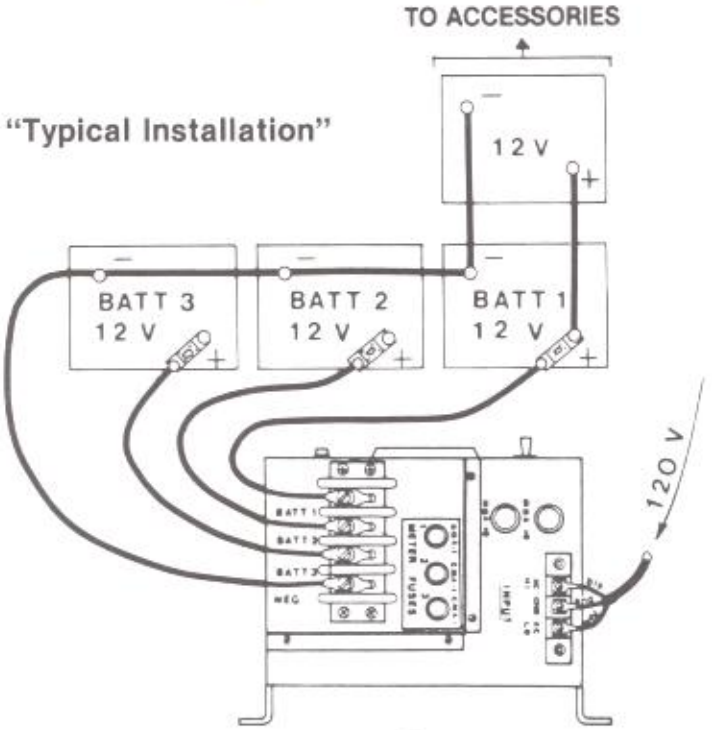


Figure 2

OPERATION

The chargers are completely automatic and may be left "ON" whenever input power to the charger is made available.

The pilot light indicates that the charger is in the "ON" position. The charger output depends upon the condition of the batteries it's charging. If the batteries are deeply discharged, the charger will deliver its full output, gradually reducing the current as the batteries come up. When the batteries are fully charged, the charger provides a trickle or maintenance charge. The charge is automatically divided among the batteries connected with the most current going to the most deeply discharged battery until all batteries are charged.

The Ammeter indicates the chargers total output to all batteries.

NOTE: It is important to perform normal battery maintenance as recommended by the battery manufacturer. Add water to the batteries as necessary.

These chargers were also designed to assist in engine starting. The charger will provide an extra surge of current during this period. The charger may be left "ON" with the engine running to charge the batteries faster than the alternator alone.

OVERLOADS

All Dytek® battery chargers are self limiting and short circuit resistant. AC input fusing is provided for complete protection. Replace these fuses only with the below listed values.

MODEL	FUSE TYPE
GP 12-15	MDX-5
GP 12-20	MDX-7
GP 12-30	MDX-10
VHD 12-40	MDA-10
HHD 12-40	MDA-10
IVHD 12-40 @115VAC	MDA-10
IVHD 12-40 @230VAC	MDA-5
VDH 12-50	MDA-10
VDH 12-60	MDA-15
* VHD 12-100 @115VAC	MDA-20
* VHD 12-100 @230VAC	MDA-10
VHD 24-25	MDA-10
VDH 24-50 @115VAC	MDA-20
VHD 24-50 @230VAC	MDA-10
VHD 32-20	MDA-10

* VHD-12-100 has an additional ANN-200 fuse on the DC negative output.

Some chargers are equipped with a manual reset breaker, located on the front of the charger. To reset, firmly depress red re-set button until a re-set "click" is achieved. If breaker does not re-set, let the charger cool and repeat procedure.

SPECIFICATIONS

GP&HD 115 VAC MODELS:

Operating voltage	90 - 130 VAC
Operating frequency	60 ± 1 Hz
Maximum operating temperature	120°F
Output voltage for rated current	12V units 12.0 VDC
	24V units 23.50 VDC
	32V units 30.50 VDC

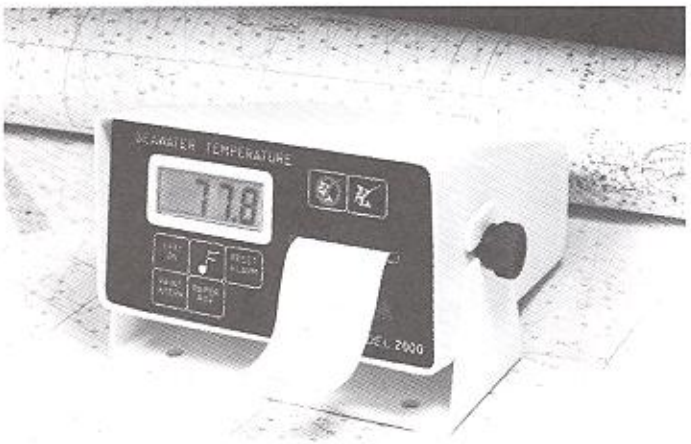
HD 115/230VAC & 50/60 CYCLE MODELS:

Operating voltage	90-130 / 180-260 VAC
Operating frequency	60±1Hz (50/60 50 ± 1Hz)
Maximum operating temperature	120°F
Output voltage for rated current	12V units 12.0 VDC
	24V units 23.50 VDC
	32V units 30.50 VDC

SILENT AC POWER FOR YOUR BOAT

INVERTER: C-Power/Dytek™ Inverters will provide you with safe reliable AC power underway. These DC to AC Inverters are available from 300 to 2500 watts capacity and surge ratings as high as 10,000 watts. C-Power/Dytek™ Inverters will operate from 12, 24 or 32VDC inputs. With a complete line of accessories including, automatic transfer switches and meter packages, C-Power/Dytek™ Inverters are the ideal alternative to noisy generator AC power.

FISHING BY DEGREES



SEATEMPS: Dytek® is also the worlds leading name in sea water temperature gauges. From the compact Model 500 to the sophisticated Model 2000, Dytek® temperature gauges provide easy to read accurate surface temperature.

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