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the BCH range of BATTERY CHARGERS

The battery charging characteristic comprises three stages as follows:

1. BULK CHARGE
The charger delivers a closely controlled current to the battery. During this phase, about 75% of capacity is restored.

2. EQUALISATION (ABSORBTION) PHASE
The charger slowly reduces the current to maintain the battery at the 'boost' voltage. This brings the battery to about 98% charge without excessive gassing.

3. FLOATING
The battery voltage is allowed to drop to the 'float' voltage. The current from the charger is automatically adjusted to supply any loads connected to the battery and maintain the battery in the fully charged state.

This 3-stage charging system re-charges the battery both quickly and safely. The charging cycle starts automatically on application of the mains supply or can be initiated manually from the remote panel.

INSTALLATION
The charger must be firmly secured to a vertical surface in a ventilated compartment away from extremes of temperature and close to the batteries. The BCH chargers are fan cooled and there must be at least 10cm. clearance below the unit and the front ventilation slots must not be obstructed to avoid over-heating.

The battery must be connected to the charger BEFORE any connection is made to the AC mains supply. The battery to charger connections must be made with cable of appropriate cross-sectional area – at least 6 square mm for 20 amps and at least 10 square mm for 40 amps. Four positive terminals (+) and one negative terminal (-) are provided. The common negative connection must be used and the master positive output (+M) should be connected to the main battery (usually the housekeeping battery). If second, third and fourth batteries are to be charged, these should be connected to the +2, +3 and +4 outputs. The cables should be secured with cable clips to prevent movement and possible chafing. The voltage drop in the charger-to-battery cables can be partially compensated for by connecting a cable (0.5 sq. mm) from the "+S" terminal to the main battery positive terminal. If no cable is connected, then sensing is automatically performed at the output terminals of the charger. An optional remote battery temperature sensor may be connected across the two "temp" terminals. This will then automatically adjust the charger output voltage for optimum charging at all temperatures.

The AC input to the charger should be made via a circuit breaker of 10 amp rating on the main control panel. The earth wire MUST be connected to the system safety earth.

IMPORTANT
The installation of this battery charger is straightforward, but it must be remembered that the AC mains input voltage is dangerous and that lead-acid batteries store large amounts of energy which could cause a fire hazard if short-circuited. If you are in any doubt at all, have the charger installed by a competent marine electrician.

SPECIFICATION

INPUT VOLTAGE RANGE
90V to 270V AC 47 to 63Hz

EFFICIENCY
over 80% at 230V input

OUTPUT VOLTAGE & CURRENT
BCH1240/4

float voltage	13.8V
boost voltage	14.4V
output current	40A
no. of outputs	1-4

BCH2420/4

float voltage	27.6V
boost voltage	28.8V
output current	20A
no. of outputs	1-4

SIZE
213wide x 275high x 85deep mm

MAXIMUM AMBIENT TEMPERATURE
fully rated from –10C to +55C

PROTECTION
Extensive protection facilities are built into the BCH chargers for optimum reliability. These include protection against short-circuit, input under-voltage, output over-voltage and excessive temperature.

OPTIONS
1. PRP1 remote panel
gives remote indication of battery charger status and manual starting of the AUTOBOOST cycle.

2. PTS1 temperature sensor
measures the battery temperature and adjusts the charger output voltage accordingly for safe charging at elevated ambient temperatures

The BCH range of battery chargers are designed and manufactured in the

U.K.