



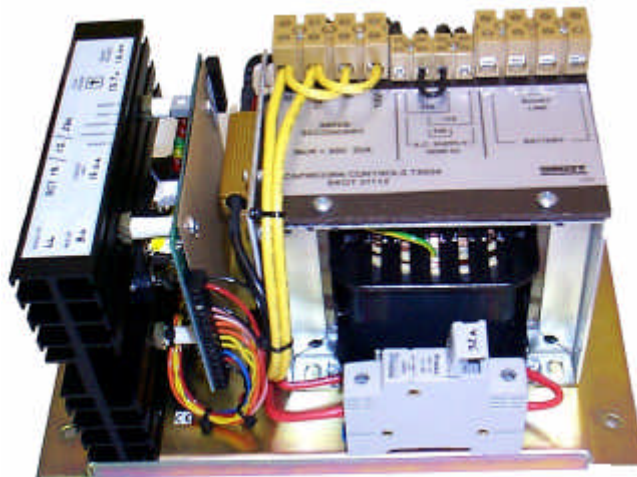
BCT12 & 15 Battery Charger

Genset Controls - Timers - Monitors - Trips - Battery Charging - Spares & Accessories - Custom Products

The BCT series are 'Two-Rate, Constant Potential' solid state battery chargers utilising phase controlled thyristor circuits. They provide maintenance free charging of Nicad & Lead-Acid batteries, over a wide ambient temperature range.

OPERATION : The electronic circuitry limits the charge current at all times and monitors the battery terminal voltage between the current pulses (when no current is flowing) thus minimising battery voltage sensing errors due to 'volt-drop' in the output cables.

As the battery is charged it's internal resistance rises, "tapering" the charge current accordingly, until the battery terminal voltage approaches the charger reference voltage, whereupon the battery is trickle charged to the "constant potential" float level.



VOLTAGE THRESHOLD : Unless specified otherwise, all units are pre-set at: 2.3V/Cell 'Float' and 2.5V/Cell 'Boost' for **Lead Acid** Batteries or 1.4V/Cell 'Float' and 1.5V/Cell 'Boost' for **NICAD** Batteries. The potentiometer is calibrated at centre scale to provide approx. +/- 5% adjustment for temperature compensation

CHARGE INHIBIT : This prevents the charger from operating into a short circuit. If the terminal voltage falls below half the "FLOAT VOLTAGE" the charger will switch off, indicating a 'Fault' condition - - see 'Boost Mode'.

BOOST MODE : By linking the boost terminals, the float threshold is raised to a higher volts/cell level. Although this level is set at manufacture, the potentiometer described above will also trim this level, i.e. for lead acid the range is 2.5 to 2.7 volts/cell. This mode overrides the 'Charge Inhibit' feature - - - see above.

LEAKAGE CURRENT : 2mA

CONSTRUCTION : Mild steel (1.6 mm) chassis, zinc plated and gold passivated, carrying: - frame transformer, black anodised aluminium heatsink (1 deg C/watt), SCR / Rectifier Bridge and printed circuit board. The charger should be mounted so that the natural airflow passes through the heat sink, as shown above.

LED INDICATORS :

Red	BOOST	=	Boost mode active --- float level raised to equalise the cells
Red	FAULT	=	Charging Fault --- fault relay de-energised
Green	CHARGED	=	Battery voltage at or approaching 'Float' level
Amber	CHARGING	=	Charge current > 500 mA
Red	POWER	=	Battery Charger powered

1/ Amber (steady)	=	Bulk Charging
2/ Amber (steady) + Green	=	Current tapering as the battery approaches the float level
3/ Amber (pulsing) + Green	=	Trickle charging to keep the battery at the float level (standing load << 500mA)

If the standing load is ≥ 500 mA the Amber Led will always be on (steady).

SUPPLY VOLTAGE :

Parallel the primary windings for 115 +/- 20% 50/60Hz operation -- see page 3
 Series the primary windings for 230 +/- 20% 50/60Hz operation -- see page 3

TEMPERATURE RANGE :

-10 deg C to +40 deg C Ambient (operating)
 -20 deg C to +70 deg C (storage)

WEIGHT : 7 Kg

BCT--/--/230

SUPPLY CURRENT : 2.2A at 230V (500VA)
SUPPLY CABLES : Rate for 15A Inrush
EXTERNAL SUPPLY FUSE : 10A Anti-Surge

BCT12/24/---

OUTPUT CURRENT : 12A DC Average (up to 24A Rms.)
OUTPUT CABLES : Rate for 25A (Rms.)
OUTPUT FUSE : (16 x 38mm) 25A **gL**
 DO NOT USE **aM** (MOTOR RATED) FUSES

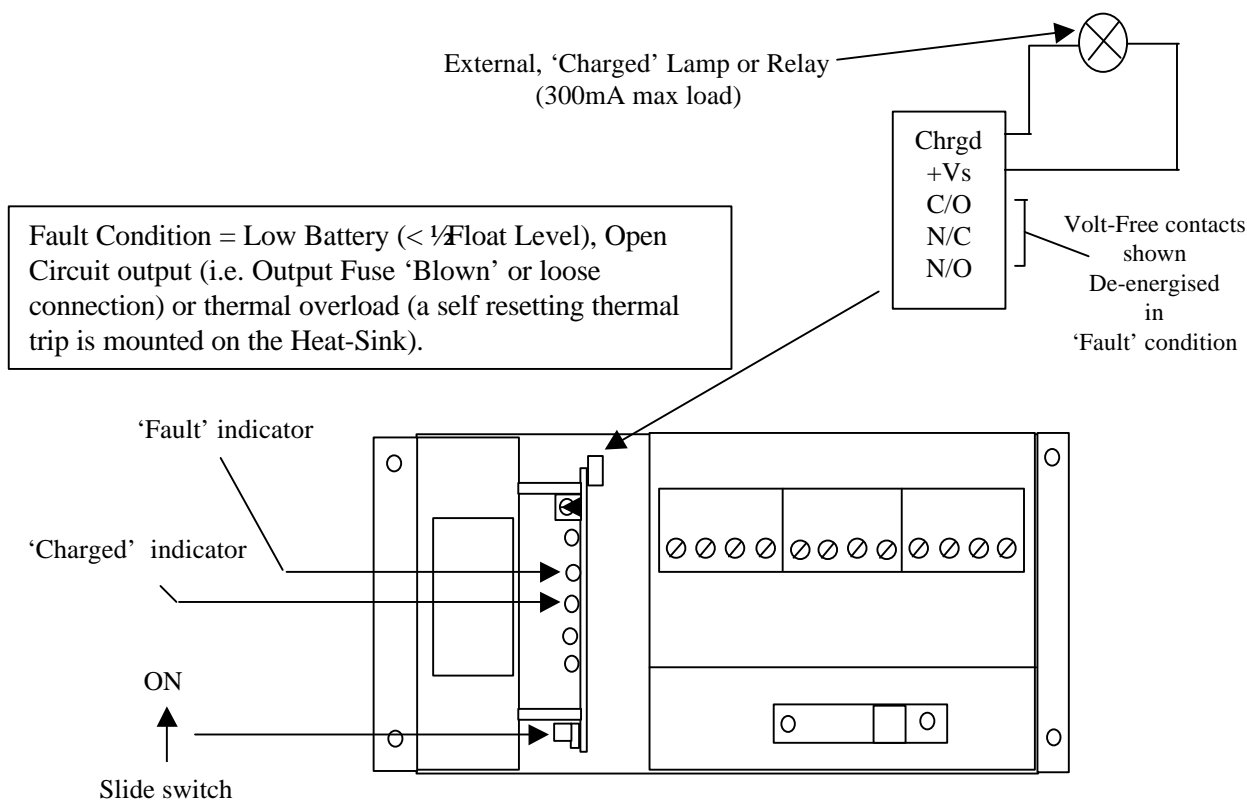
BCT--/--/115

SUPPLY CURRENT : 4.4A at 115V (500VA)
SUPPLY CABLES : Rate for 30A Inrush
EXTERNAL SUPPLY FUSE : 20A Anti-Surge

BCT15/12/---

OUTPUT CURRENT : 15A DC Average (up to 30ARms.)
OUTPUT CABLES : Rate for 32A (Rms.)
OUTPUT FUSE : (16 x 38mm) 32A **gL**
 DO NOT USE **aM** (MOTOR RATED) FUSES

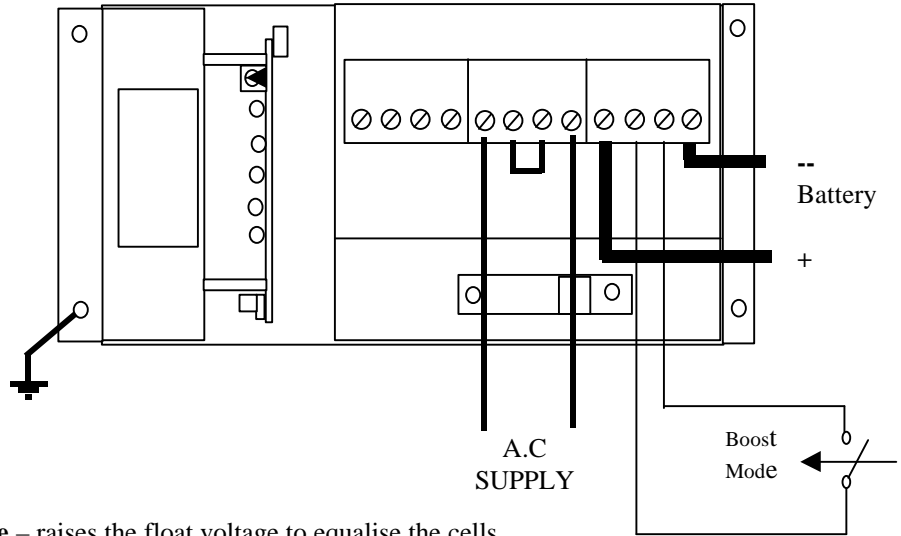
Charge 'Fault' Circuit



Move slide switch to 'On' for Fault circuitry powered from Battery : if 'loss of AC supply' must not produce a 'fault' condition.

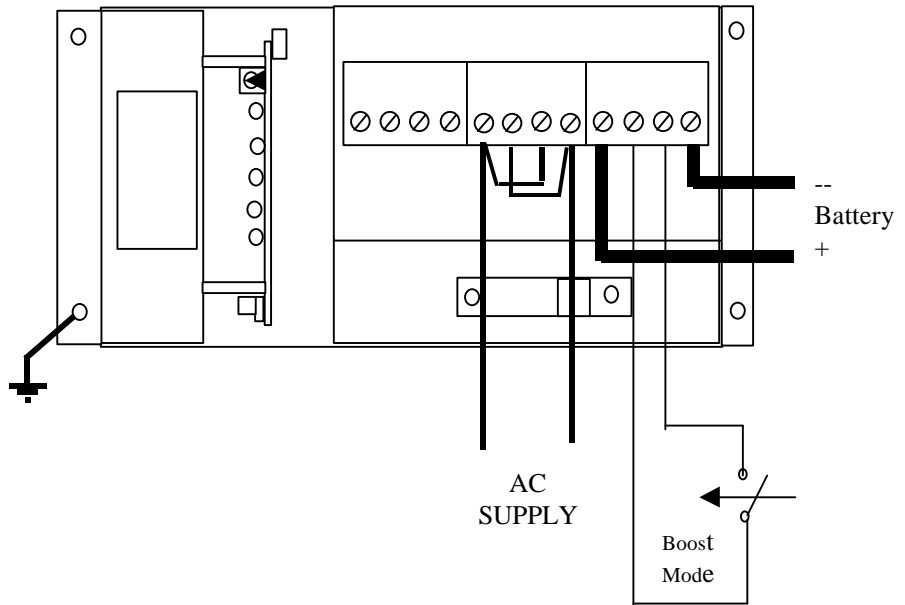
If the battery is < 1/2 Float Voltage, switch (or link) for 'Boost' mode to start the charger. Disable 'Boost' mode when fully charged.

230V 50 / 60Hz AC Supply



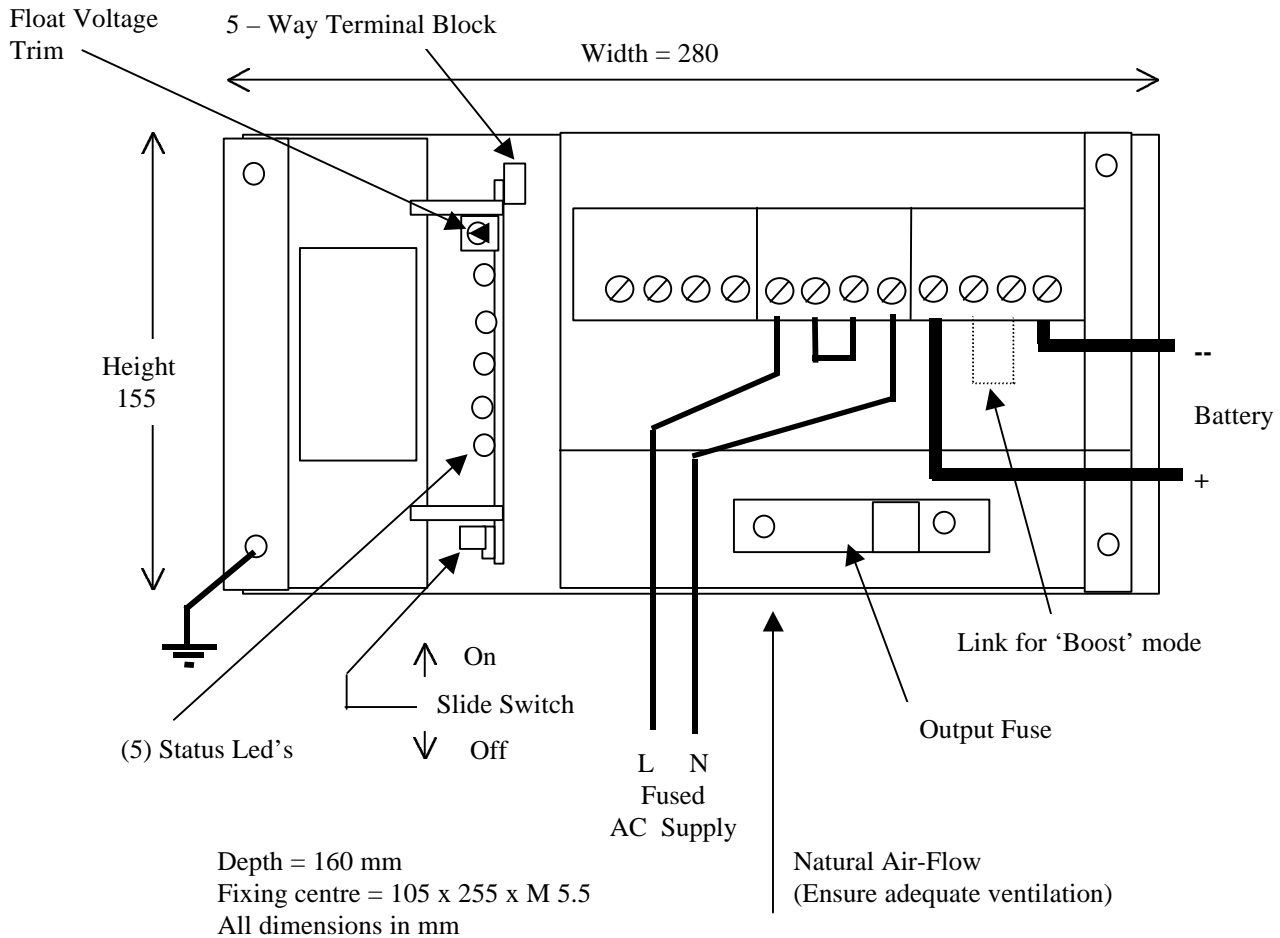
WARNING: Boost Mode – raises the float voltage to equalise the cells.
 If left in this mode for extended periods the batteries may be permanently damaged.
 A Timer or Auto-Boost Controller may be required

115V 50 / 60Hz AC Supply



WARNING: Boost Mode – raises the float voltage to equalise the cells.
 If left in this mode for extended periods the batteries may be permanently damaged.
 A Timer or Auto-Boost Controller may be required

CONNECTIONS & MOUNTING



Notes:

1. 'Charge Fault circuit' is fitted as standard.
2. Move slide switch to 'On' for Fault circuitry powered from Battery if 'loss of AC supply' must not produce a 'fault' condition.
3. Fault Condition = Low Battery ($< \frac{1}{2}$ Float Voltage), Open Circuit output (i.e. Output Fuse 'Blown') or thermal overload (the self resetting thermal trip is mounted on the Heat-Sink).
4. The '5 - Way Terminal Block' provides a changeover volt-free contact set on the 'Charge Fault' relay.
5. 'Float Voltage Trim' potentiometer is factory calibrated at centre scale and should not normally require adjustment.
6. If an output ammeter is required, a 'Moving Coil' type must be used.
7. If battery polarity is reversed, the output fuse will 'blow'. Only replace with correct type & rating.

This format is available in 12A, 15A & 20Amp for 12V & 24V batteries. Alternatively, we can build to order, single and 3-phase chargers upto 100Amps or more. Please refer to our latest Catalogue for ordering information or contact our sales desk.



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