



BATTERY CHARGERS

Float Cum Boost Chargers (FCBC)

As the name indicates, FCBC is a two-in-one functional combination of a float charger and a boost charger. Under normal condition FCBC works as a float charger. When the mains fail, the battery takes over supply to the load. On resumption of power, FCBC switches to the "boost mode," boost charges the discharged battery and returns to the "float mode" after the battery is restored to full charge. All along, it supplies uninterrupted DC power to the load.



Key Specifications

Type	SCR Based
Input Voltage	230V $\pm$ 10%, 1 Phase AC
Output Voltage	110V DC
Output Rating	120 / 200A

Applications

- Electrical substation battery charging

Key Features

- SCR-based, with hot standby module for redundancy
- Works in hot standby 1+1 configuration
- Modular system with hot plug-in modules, easy for maintenance and upgrades
- Active current sharing facility for redundancy
- Common O/P voltage controller with per-battery-path current limiting



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Float Cum Boost Chargers (FCBC) – Full Specifications

Generic

FCBC type	SCR based
Hot standby module for redundancy	Yes
Suitable for charging of	Electrical substation
Installation	No
Warranty	1 year

Output

Nominal voltage	110V DC
Output rating	120/200 A
Float voltage	123.75V DC
Boost voltage	132V DC
Net regulation	+/- 1%
Ripple factor	<= 1%
Battery current limit	120/320 Ah of battery

Construction

Modular, upgradable hot plug-in modules	Yes, for SCR-based FCBC
Cabinet material	CRC sheet, duly powder coated case
Active current sharing facility	Yes, for redundancy system
Input high voltage disconnect	Yes
Battery low voltage disconnect	Yes, provided
Display	Analog
Common O/P voltage controller	Yes, provided
Battery current limiting per battery path	Yes
Operating temperature	0°C to 50°C
Storage temperature	-10°C to +70°C
Cooling type	Convection
Humidity	< 95%

Input

Voltage	230V +/-10%, 1 Phase AC
Frequency	50 Hz +/-5%
Power factor (50%–100% load), max	0.75
Efficiency	>= 85%
Dielectric strength	2.0 KV AC (wound components only)

Protection

AC input circuit breaker	Yes
DC output circuit breaker	Yes
DC over voltage protection	Yes
Battery input fuses	Yes
Charger overload	Yes
Battery charging current limit	Yes
Short circuit protection	Yes
Fuse capacity	40 Amps HRC fuse

Features

Hot standby 1+1 configuration	Yes
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Alarms & Indications

Audible alarm on low battery bank voltage	Yes
Input on	Yes
Charger on Float / Charger on Boost	Yes
DC over voltage	Yes
DC under voltage	Yes
AC supply fail	Yes
Charger fail	Yes
Rectifier fuse fail	Yes, for thyristor type
Battery fuse blown / battery isolated	Yes
Load on battery	Yes
Battery discharging	Yes
Bright LED / multi-point facia indication	Yes



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Float Cum Boost Chargers (FCBC) – Configure-to-Order Variants

IGBT-Controlled Variant (Available on Demand)

12V battery	Float 13.5V DC · Boost 14.4V DC · Current: Customizable range
24V battery	Float 27V DC · Boost 28.8V DC · Current: Customizable range
48V battery	Float 54V DC · Boost 57.6V DC · Current: Customizable range
110V battery	Float 123.75V DC · Boost 132V DC · Current: Customizable range

CV-CC Controlled Variant (Available on Demand)

12V battery	Charging voltage 0– 15V DC · Current: Customizable range
24V battery	Charging voltage 0– 30V DC · Current: Customizable range
48V battery	Charging voltage 0– 60V DC · Current: Customizable range
110V battery	Charging voltage 0– 150V DC · Current: Customizable range
180V battery	Charging voltage 0– 220V DC · Current: Customizable range

For detailed requirements and customized configurations, please contact Equipment Controls Company.