

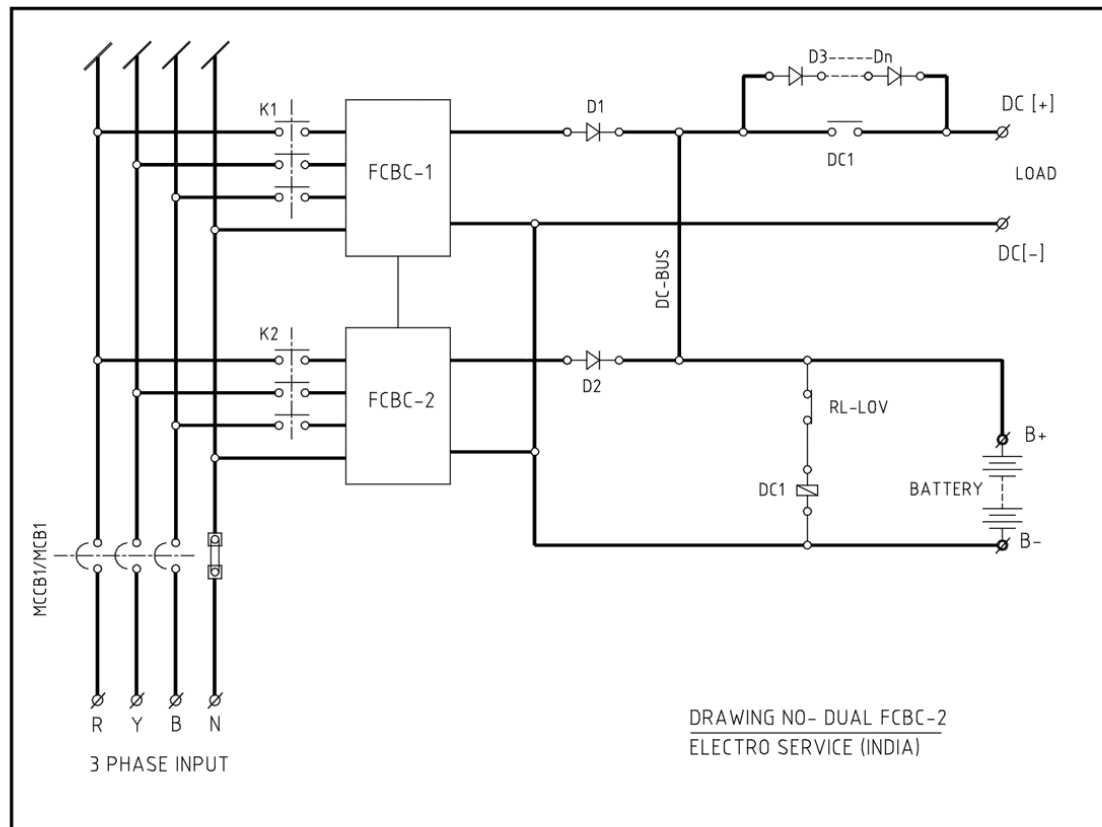


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- Both the chargers FCBC – 1 and FCBC – 2 are identical. Float / Boost change-over of both the chargers will be either automatic or manual, but simultaneous.
- Both the chargers are connected in parallel to the DC bus. DC bus is connected to load as well as Battery. That means both the chargers are feeding the load and charging the battery together.
- Both FCBC1 and FCBC2 are rated for full capacity of maximum load current plus maximum battery charging current ( $I_{\text{charger}} = I_{\text{load}} + I_{\text{battery}}$ ). That is in the event of failure of one charger out of two the healthy charger will supply the total dc load and battery charging current. This can be named as parallel redundant operation of two identical Float-cum-Boost Battery Chargers.
- DC Contactor DC1 is normally energized and Battery is directly connected to the load through the NO contact of DC1 (as 'NO' contact of DC1 contactor is closed, when it is energized).
- During boost mode of operation of chargers battery voltage goes very high for tubular or plate type battery.
- In order to restrict high battery voltage to appear across load a series dropper diode network D3.....Dn has been inserted between DC bus and load, which comes in the circuit when DC1 is de-energized that is DC1 path becomes open.
- This DC contactor DC1 is de-energized by relay RL-LOV. This "load over voltage relay RL-LOV" is activated at a preset battery voltage level (that is the maximum permitted voltage level which a load may normally withstand).
- On completion of boost charging, system swings back to float mode.

TOPOLOGY:

## DUAL FLOAT CUM BOOST BATTERY CHARGER-2