

Connecting the DC-1, general purpose load with GAF block contactors

In addition to catalogues and other documentation regarding the new contactor range GAF, this technical paper will further explain the special connection methods which are valid and issues to take into account.

The GAF contactor's ability to break DC at higher voltages derives from the use of permanent magnets in the arc packages. The magnets enable the contactor to extinguish the powerful electrical arcs that arises between the contact surfaces when breaking DC.

Due to the use of permanent magnets it is crucial that the direction of current must be as shown on the rating label.

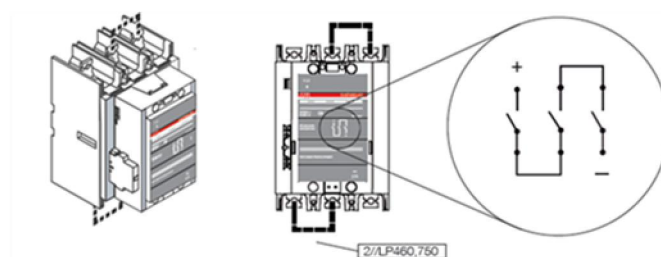
Contactor marking

Front label is shown below.



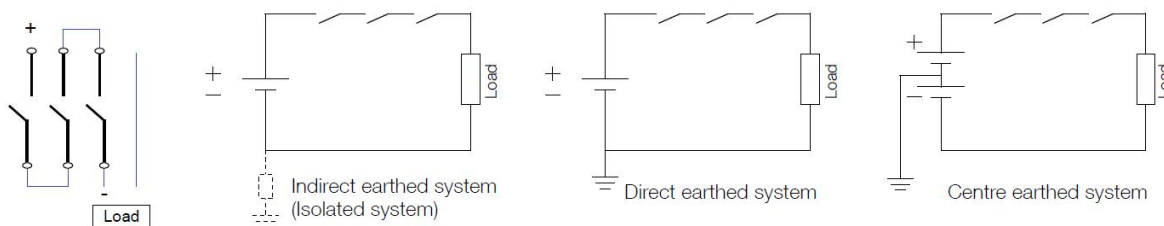
- The direction of the current must be as shown on the rating label

- Connection bars for series connection of the three phases are available. LP185 – LP2050



Recommended connection method

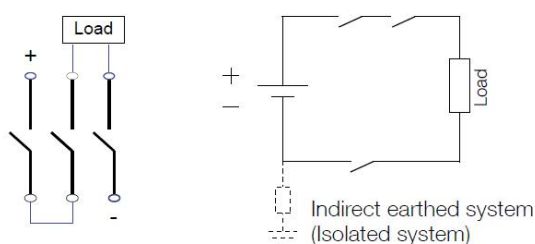
- All three contacts connected in series without the load in between. This connection is recommended in systems according to configurations below.



As per the contactor marking to connect all three contacts in series without the load in between the poles is recommended from ABB however ABB allows the use of the alternative connection method if followed per the below by the user.

Alternative connection method

- The load is placed in between the three contacts in an indirect earthed system or in a fully isolated system. If not connected according to the configuration below, a fault to earth could result in one or two contacts breaking the full load which the contactor is not approved for.



Points to consider

- The above relates to power circuit switching. The SCPD (Short Circuit Protection Device) must comply with applicable protection rules.
- The direction of the current must be as shown on the contactor front label.
- Connection bars for connecting three contacts in series are not delivered with the contactor as standard, but are available as accessories.

For more information please contact:

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