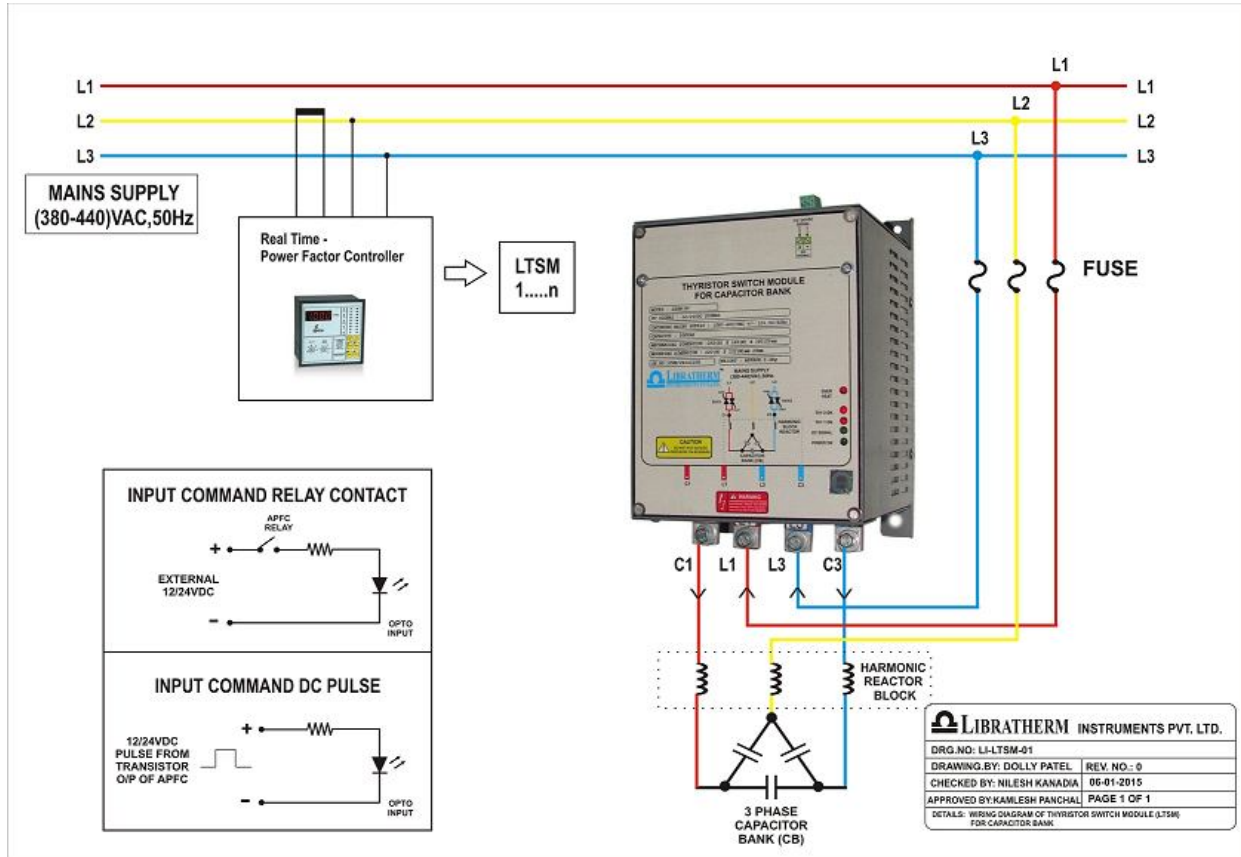


Libratherm Thyristor Switch Module (LTSM) for Capacitor Bank



Description: Libratherm offers Thyristor Switch Module, specially designed for Automatic Power Factor Correction (APFC) applications. In APFC the capacitor banks of suitably rated KVAR are sequentially selected, based on the command from the automatic power factor relay module to maintain the desired power factor (Ratio of KW: KVA). In conventional method, the number capacitor banks are selected by switching the contactors connected in series with each capacitor bank. This LTSM module allows the selection of such capacitor banks using thyristors (i.e. Solid state switch). Thyristors being solid state switch, offers many advantages compared to electromechanical contactors.

Libratherm make LTSM modules are available to switch single or 3 phase capacitor banks rated for 5, 10, 15, 25, 50 and 100 KVAR. Zero cross over switching technique is used to turn on and turn off the thyristors connected in series with these capacitor banks. LTSM accepts direct potential free contact command and does not require any external 12 or 24 VDC auxiliary power supply for switching the capacitor banks.

Advantages of Thyristor switch module over conventional electro-mechanical contactor:

- Since there is no mechanical contacts involved, no arcing and sparking takes place and no audible switching noise is produced.
- Due to zero cross over switching techniques, voltage transients can be controlled within the safe limits.

- c) Using LTSM it is possible to switch the capacitors at 100mS rate, thereby UNITY power factor can be maintained. Whereas, contactors cannot be switched that fast.
- d) There are no limitations in number of switching operations for thyristor compared to contactor.
- e) These LTSM modules are safe to operate under the environment of maximum 70°C @ 90% RH – non-condensing.

These switching modules LTSM are easy to install and come with built in indications for normal function and faults, along with built in protection circuits for fail safe operations.

Generally, each of the real time power factor correction (RPFC – relay module) gives 4 to 12 relay outputs, to select that many capacitor banks to maintain desired power factor and hence it will be required to use that many numbers of LTSM modules of required KVAR ratings.

LIBRATHERM MAKE STANDARD THYRISTOR SWITCH MODULE

Sr.No.	Model No.	KVAR of 3 phase Capacitor bank	Size (h x w x d) mm.
1.	LTSM-5	5 KVAR	250 x 160 x 130
2.	LTSM-10	10 KVAR	250 x 160 x 130
3.	LTSM-15	15 KVAR	250 x 160 x 130
4.	LTSM-25	25 KVAR	250 x 160 x 180
5.	LTSM-50	50 KVAR	250 x 160 x 180
6.	LTSM-100	100 KVAR	450 x 355 x 300

Note: Sizes are subject to change

ACTUAL PICTURE



LTSM-25

LTSM-50