

SmarTSM
THYRISTORIZED SWITCHING MODULES FOR CAPACITORS

'ONLINE' Make "SmarTSM" is a micro-controller based intelligent Thyristorized Switching Module, especially suitable for switching delta connected power factor capacitors. The module comprises of solid-state Thyristor switch of suitable rating to switch on/off a capacitor bank. The special zero-cross switching circuit switches the capacitor without the electrical stress, avoids starting in-rush current in capacitor and avoids harmonics and power spikes generated during capacitor switching. This enables a fast switching cycle and a smooth and spike-free power quality. Each SmarTSM module has a built-in microcontroller to monitor various parameters and provide protection. Each module has its own heat-sink and temperature controlled cooling fan.

Salient Features:

- Modular design – Each module is fully integrated with its own heat-sink and cooling fan with temperature control.
- Very easy to install. It can be wired like a contactor.
- Each module has its own microcontroller with built-in intelligence for monitoring and protection. In addition to capacitor switching function, it has following additional features:
 - Seven segment LED display for capacitor current, voltage, temperature and error codes.
 - LED indications for control input/output, fan on, error & display freeze.
 - Programmable parameters: under/over voltage, over current, over temperature, fan on/off temperature and display scan time. These parameters can be set using built-in 4 keys keypad.
- The zero-cross switching ensures a transient free, stress-less switching of the capacitor. It ensures better power quality and long life to capacitors. It also allows capacitor switching without a discharge delay.
- Very fast switching – every 500 msec
- Suitable for switching capacitors, and capacitors with reactors.
- Can be switched using APFC relay having either transistor or relay output.
- Designed for critical switching application in fluctuating loads.
- Protections against under / over Voltage, over current and over temperature.
- Two limb Control – latest technology trend
- No Auxiliary Supply required
- Very compact in size (280 (H) X 115 (W) X 180 (D))
- Maintenance free - long operational life because of zero wear and tear due to solid state switching.
- Useful in APFC applications for industries / commercial complexes / Power Utilities / Windmill applications etc.

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Specifications:

Technology	Solid state switching with microcontroller based protections
Control Input	24 Vdc / 10 mA
Rated Voltage (Factory Set)	230,415,440,480,525,690 VAC
Module Ratings	10, 25, & 50 KVA _r
Dimension	(H) 280mm X (W) 115 mm X (D) 180 mm +/- 10%
Weight	4 kgs (approx)

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