Thyristor Module TSM-LC B44066T0025E402 and B44066T0050E402

Preliminary data

Characteristics

- Fast electronically controlled, self-observing thyristor switch
- Usage in dynamic (fast) power factor correction systems
- For capacitive loads up to 50 kvar

Features

▪ Easy installation	- self-check after turn-on of main voltage
▪ Display and control via LED-display	- operation - faults - activation
▪ Permanent self-controlling	- voltage parameters - phase sequence - capacitor output

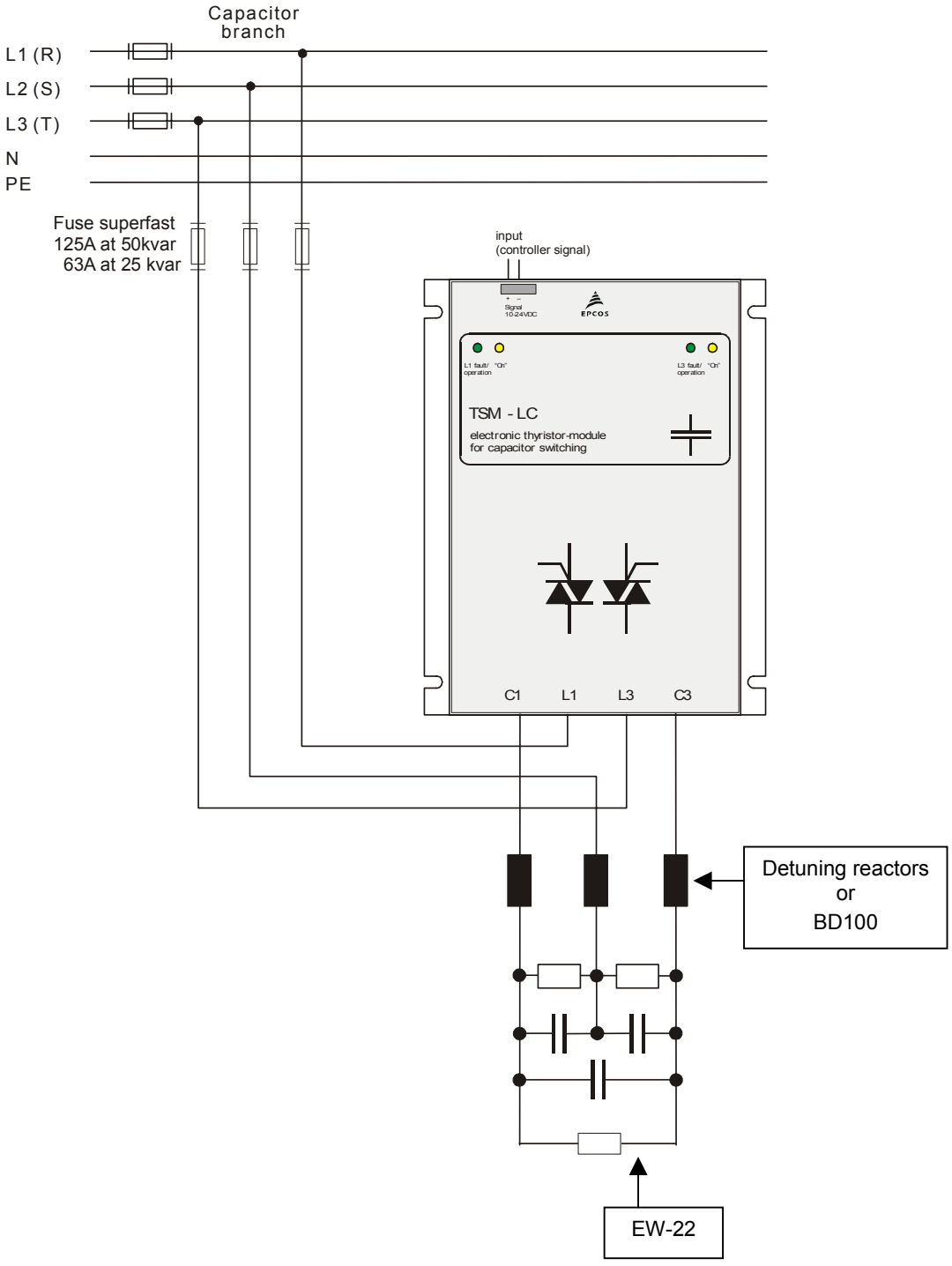
Technical Data

Dimensions	157 x 200 x 180 mm (w x h x d)
Weight	4.8 kg
Voltage	3 x 400 V
Frequency	50 Hz / 60 Hz
Max. power	TSM-LC 25: 25 kvar for PFC-systems with/without reactors up to 14% TSM-LC 50: 50 kvar for PFC-systems with/without reactors up to 14% (cascading of several modules possible for increasing the kvar output)
Activation	10-24 VDC, internally insulated
Display	2 LED / Phase
Power circuit	connection: 2 x two-phase (L1, L3) with 4 terminals 25 qmm cross section
Thermal power	Pv (W) = 2,0 x I (A) 25 kvar: at 400 V typical 75 W 50 kvar: at 400 V typical 150 W
Fuses* (required for protection of TSM-LC and capacitor): *not included in the content of delivery	3 x electronic fuse „superflink“ (NH00 AC 690V) 50 kvar: 125 A (e.g. SIBA Art.No.: 20 209 20-125) 25 kvar: 63 A (e.g. SIBA Art.No.: 20 477 20-63)
Switching time	approx. 5 ms
Operating ambient temperature	-10 °C ... +60 °C
Ordering code	TSM-LC 25: B44066T0025E402 TSM-LC 50: B44066T0050E402

⚠ *Please read cautions on page 4 of this data sheet and information about PFC capacitors and cautions as well as installation and maintenance instructions in the actual version of the Product Profile* Power Factor Correction *to ensure optimum performance and prevent products from failing, and in worst case, bursting and fire, etc. The actual Product Profile is available at www.epcos.com/publications.*

Information given in the PFC-product profile and values given in the data sheet reflect typical specifications. You are kindly requested to approve our product specifications or request our approval for your specification before ordering.

Connection diagram



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Preliminary data

Accessories for TSM-LC modules

Discharge resistors EW-22

High voltage resistors type EW –22 required to discharge the capacitor.

⚠ *Standard resistors must not be used!*

Technical Data

Voltage	1200 V
Output	100 W
Usage	For 25 kvar or 50 kvar step; one unit per step required
Dimensions	90 x 100 x 25 mm (w x h x d)
Ordering code	B44066T0022E400

Current limitation reactor BD100

⚠ *Mandatory for usage of TSM-LC in PFC-systems without reactors.*

Technical Data

Inductivity	0,1 mH
Rated current	85 A (50Hz)
Linearity	120 A
Usage	For PFC-systems without reactors; for 25 kvar or 50 kvar step; two units per step required
Dimensions	75 x 90 x 90 mm (w x h x d)
Ordering code	B44066T0100E400

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⚠ Cautions:

- Live parts in the PFC equipment must not be touched!
- Warning signs in the PFC systems are required!
- Wait 10 minutes after the main switch is turned off – until the voltage in the system has dropped to an uncritical value.
- In non-detuned systems (400 V grid) capacitors with a higher voltage rating (e.g. 440 V) are needed.
- In detuned systems (400 V grid) capacitors with a voltage of 525 V are needed.
- For discharging the capacitors, special high-voltage resistors type EW22 are required. Standard resistors cannot be used!
- In dynamic PFC systems discharge reactors cannot be used! This would be a short circuit of the high-DC-voltage.
  In PFC systems without filter circuit reactors current limiting reactors are required (e. g. BD-100) for the TSM-LC.
- For short circuit protection, superfast electronic fuses for protection of the thyristor are required, standard HRC fuses are not suitable:

  - 63 A / 690 V (25 kvar) – 3 pieces per module
  - 125 A / 690 V (50 kvar) – 3 pieces per module

FAILURE TO FOLLOW CAUTIONS MAY RESULT, WORST CASE, IN PREMATURE FAILURES OR PHYSICAL INJURY.

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