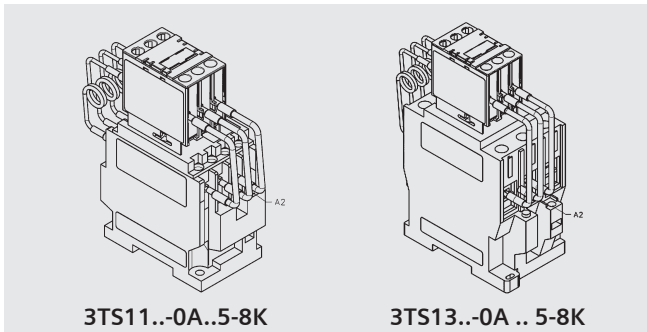


## Contactor for capacitor switching: Type: 3TS11 .. to 3TS15..

IS/IEC:60947



### A. Technical Data

#### i) Main circuit:

The capacitors are precharged during pick-up via early-make contacts and integrated pre-charge resistors before the main contacts close.

This combination may be used for switching of Individual capacitor for power factor correction of single loads or for switching capacitor banks in parallel in centralized group power factor correction system.

- Insulation Voltage  $U_i = 690$  V AC,  
**Temperature:** Storage -25 to +55°C  
Service (without derating) -25 to +40°C

Use the devices with the declared capacitor bank ratings only.

Contactor Type	Load of contactor when switching 3ph-AC capacitor kVA <sub>r</sub> at 415/440V, 50Hz
3TS11 .. -0A .. 5-8K	7
3TS1200-0A .. 5-8K	12.5
3TS1300-0A .. 5-8K	16
3TS1400-0A .. 5-8K	20
3TS1500-0A .. 5-8K	25

- Switching frequency in Make/Break operations:**  
180 Operating cycles/ hour for all ratings
- Maximum back-up fuse rating:** For Type-1 Coordination Type-3NA7 as per IEC 60269  
— □ — ; 1.6...1.8I<sub>e</sub>

#### ii) Aux Circuit:

**Inbuilt: Auxiliary Contacts**

1NO in case of 3TS11...

No built-in auxiliary contacts for 3TS12.. To 3TS15..

**Additional Aux:**

Facility to add-on 1NO or 1NC auxiliary contact block type 3TX40.. is available from 3TS11.. To 3TS15..

## Operating Instructions



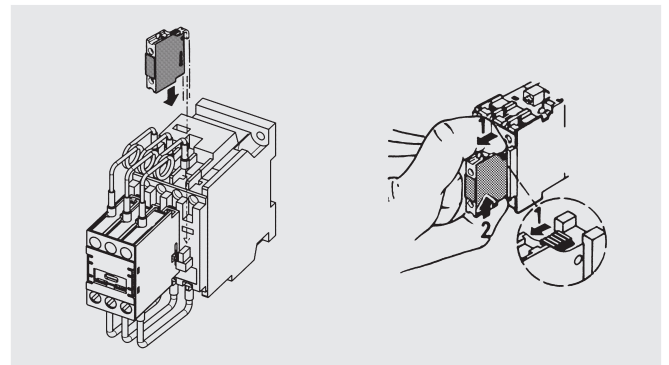
### Warning:

**Hazardous Voltage can cause Electric Shock and burns.**  
Disconnect Power before proceeding with any work on this equipment



Avoid operation during under voltage conditions. Switch only onto discharged capacitors. Manual operation not permitted for function testing

### 3TX 40.. Block fitment



#### Aux Contact Rating:

##### 3TX40

I<sub>e</sub> AC-15 = 3.6A at 415V

I<sub>e</sub> DC-13 = 0.48A at 220V

**Note:** Do not remove precharging resistors. If contactor is switched on load without resistor, it may cause damage to the contactor.

#### iii) Control circuit:

- Control voltage is marked on the coloured identification tag on the coil.

#### Note:

- The voltage is to be maintained within allowable limits.
- Operation on under voltage conditions to the coil may cause damage to the coil/contactor.
- Maximum back-up fuse rating for control circuit = 16A = 6A if relay contact is in the control circuit.

#### iv) Internal connection diagram

Connection Details for 3TS11... to 3TS15.. is shown in figure 1

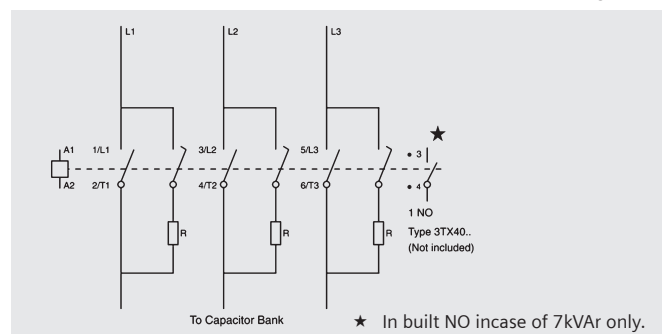



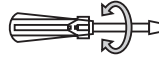


Fig. 1

## Permissible Conductor Size: Main Terminals

Termination Data - Contactor	Cable	3TS11 .. -0A .. 5-8K	3TS1200-0A .. 5-8K	3TS1300-0A .. 5-8K	3TS1400-0A .. 5-8K	3TS1500-0A .. 5-8K
 Solid	mm <sup>2</sup>	1 x (1 to 2.5)	1 x (2.5 to 6)	1 to 16	1 to 16	1 to 16
 Flexible without end sleeve	mm <sup>2</sup>	–	–	1.5 to 16	1.5 to 16	1.5 to 16
 Flexible with end sleeve	mm <sup>2</sup>	1 x (0.75 to 2.5)	1 x (1.5 to 4)	1.5 to 16	1.5 to 16	1.5 to 16
Screw Size		M3.5	M4			
Tightening Torque	N-m	0.8 to 1.4	1.0 to 1.5	2.5 to 3		



## B. Installation

1. Permitted mounting positions are indicated in Fig.2
2. The unit is suitable for screw mounting on flat vertical surface with two M4 screws. Always use plain and spring washers.
3. Alternatively snap for 3TS11.. to 3TS15.. on to a 35 mm Top hat Rail TH 35 as per DIN : EN60715.

Note: Install the unit in housing if it is exposed to dust, dirt, contamination or aggressive atmosphere.

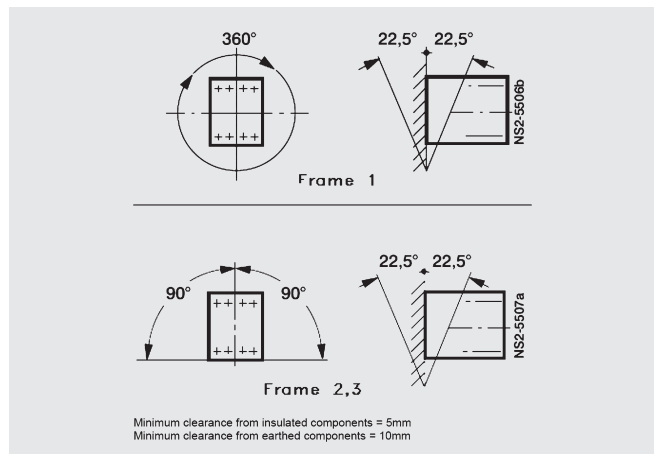


Fig. 2 Mounting Positions for 3TS11... to 3TS15...

## C. Maintenance

- Remove dust by suction.
- Replacement of coil available as spare.
- Spare contact kits available from 3TS12 to 3TS15.
- Contact Siemens Sales office for details.
- Handle the resistor wires carefully.

## D. Note:

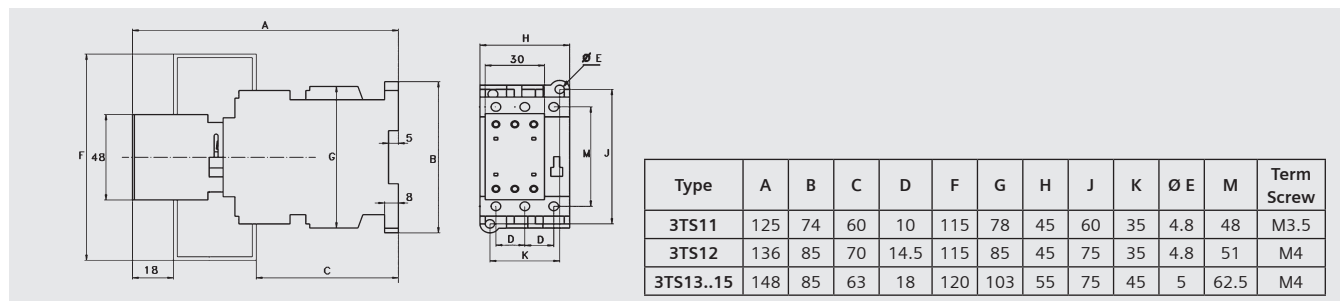
Normally the power factor controller in APFC panels, has the provision for adjustment under voltage cut out with respect to voltage and time. Please ensure that the controllers are present as per values given in the table on right side.

Coil Voltage	Controller settings	
	Under Voltage setting	Actuating time
110V	≥ 94 V	< 0.1 sec
230V	≥ 196 V	< 0.1 sec
415V	≥ 353V	< 0.1 sec
220-230V	≥ 187V	< 0.1 sec
400-415V	≥ 340V	< 0.1 sec

In case, Power factor controller does not have the provision of above settings, it is recommended to provide a separate undervoltage monitor having settings as per table, to ensure satisfactory performance of the contactors. For further details on such an undervoltage monitor, please contact nearest Siemens office.

## E. Overall Dimensions

Dimensional drawing: 7/12.5, 16, 20, 25 kVAr (3TS11/12/13/14/15..-0A .. 5-8K)



## Disposal

Siemens product are environment friendly, which predominantly consist of recyclable materials.

For disposals we recommend disassembling and separation into following materials:

**METALS:** Segregate into Ferrous & Non Ferrous types for recycling through authorised dealer.

**PLASTICS:** Segregate as per material type for recycling through authorised dealer. Because of the long lifetime of Siemens products the disposal guidelines may be replaced by other national regulations when taking the product out of service.

The local customer care service is available at any time to answer disposal-related questions