

### General Purpose — Type 3TC

### Specifications

Type 3TC general purpose contactors meet or exceed the requirements of NEMA, UL, CSA, IEC, VDE and other international standards. Information on approvals in Section 1.

### Application

Type 3TC DC contactors are primarily used in mining, steel mills, and other heavy duty industrial applications. These contactors are designed for continuous operation and they are used to remotely control DC drives, cranes, hoists, heaters and lamps as well as such apparatus as battery-chargers, plating equipment and transit systems.

These contactors can be used for starting of DC motors where the starting current does not exceed 10 times the current corresponding to the horsepower rating of the contactor.

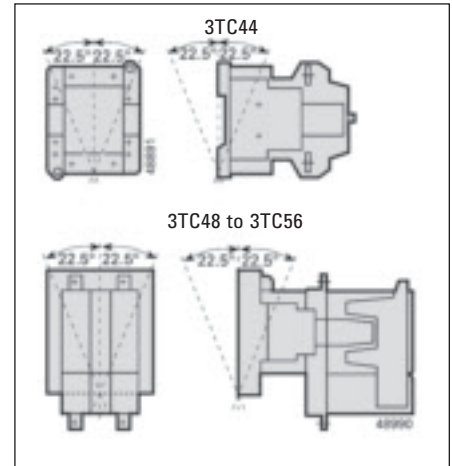
The ratings given in the Contactor Ratings Table apply for the double-pole switching of loads or when the two contact paths of the contactor are connected in series. When only one contact is used, the values given can be switched at voltages up to 220V.

### Mounting


The contactors must be mounted in the position indicated in drawing.

Contactors can be tilted up to 22.5° off the vertical.

### Mounting positions



### Technical Data

Contactor	Type	Unit of Measure	3TC44	3TC48	3TC52	3TC56
<b>Mechanical Life</b>			10 million make/break operations			
<b>Rated Voltage</b>	 VDE/IEC	V	600	600	600	600
		V	800	800	800	800
<b>Permissible ambient temperature ranges</b>	in operation when stored	°C °C	–25 to +55 (–13°F to +131°F) –50 to +80 (–58°F to +176°F)			
<b>Coil ratings</b> (cold coil, $1.0 \times U_c$ )						
DC operation	in-rush sealed	W	10	19	30	86
		W	10	19	30	86
AC Operation	in-rush sealed	VA %	73 (78%)	365 (45%)	730 (38%)	2140 (30%)
	(Pf %)	VA %	9 (27%)	35 (26%)	56 (24%)	140 (29%)
<b>Coil voltage tolerances</b>			0.8 to 1.1 times rated control voltage ( $U_c$ )			
<b>Operating times</b> (valid for 20% undervoltage, 10% overvoltage, cold or warm coil)						
Total break time = opening delay + arcing time						
DC operation	closing delay	ms	35–190	90–380	120–400	110–400
	opening delay	ms	10–25	17–28	22–35	40–110
	arcing time	ms	20	20	20	20
AC operation	closing delay	ms	10–40	20–50	20–50	20–50
	opening delay	ms	5–25	5–30	10–30	10–30
<b>Resistance to shock</b> (rectangular pulse)		g/ms	7.5/ 5 3.4/10	10/ 5 5/10	12 / 5 5.5/10	12 / 5 5.5/10
<b>Conductor sizes</b>						
Main conductor:	stranded	AWG	(2) 14–8	#8–#2	#1–4/0	(2) 250 MCM
Auxiliary conductor:	stranded	AWG	(2) 18–14	(2) 18–14	(2) 18–14	(2) 18–14
<b>Switching frequency</b> in make/break operations per hour (1/h)						
DC and AC operation						
	with resistive load	DC1 duty	1500	1000	1000	1000
	with inductive load	DC2 and DC4 duty	750	600	600	600
		DC3 and DC5 duty	250	250	250	250

### Ratings for Auxiliary Contacts

Contactor	Rated voltage	Switching capacity
3TC44 to 3TC56	max. 600V AC	Heavy duty A600, P600