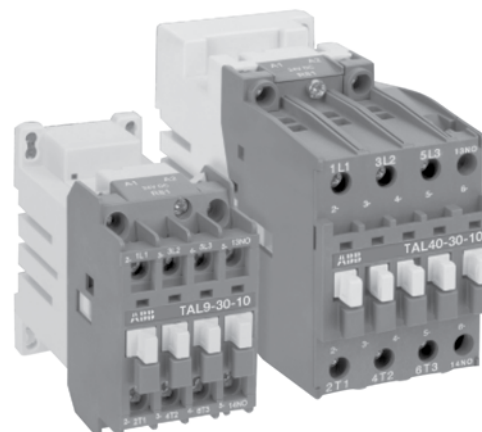


# AC Circuit switching Contactors



AC Circuit switching contactors  
Type TAL & TAE

1



## Description

TAL and TAE contactors with a wide coil voltage range are designed to operate in control circuits with large voltage variations. Example: battery supply.

# TAL9 - TAE110

## D.C. Operated

### 3 & 4 pole



TAL9-30-01

### 3 Pole

General purpose current		Maximum motor horsepower ratings $\text{HP}$				Standard auxiliary contacts		Catalog number
AC1	AC3	208V	240V	480V	575/600V	N.O.	N.C.	
22	9	2	2	5	7.5	1 0	0 1	TAL9-30-10- $\Delta$ TAL9-30-01- $\Delta$
25	11	3	3	7.5	10	1 0	0 1	TAL12-30-10- $\Delta$ TAL12-30-01- $\Delta$
28	16	5	5	10	15	1 0	0 1	TAL16-30-10- $\Delta$ TAL16-30-01- $\Delta$
45	25	7.5	10	20	25	1 0	0 1	TAL26-30-10- $\Delta$ TAL26-30-01- $\Delta$
55	30	10	10	25	30	1 0	0 1	TAL30-30-10- $\Delta$ TAL30-30-01- $\Delta$
60	42	10	15	30	40	1 0	0 1	TAL40-30-10- $\Delta$ TAL40-30-01- $\Delta$
100	50	15	20	40	50	0 1	0 1	TAE50-30-00- $\Delta$ TAE50-30-11- $\Delta$
125	75	25	30	60	75	0 1	0 1	TAE75-30-00- $\Delta$ TAE75-30-11- $\Delta$
146	96	30	30	60	75	1	1	TAE95-30-11- $\Delta$
160	110	30	40	75	100	1	1	TAE110-30-11- $\Delta$

$\Delta$  To select a coil voltage, substitute the code from the Coil Voltage Selection Chart for the  $\Delta$ .

### 4 Pole

Rated operational current		Maximum motor horsepower ratings $\text{HP}$				Standard auxiliary contacts		Catalog number
AC1 $0 \leq 40^\circ\text{C}$	AC1 $0 \leq 55^\circ\text{C}$	208V	240V	480V	575/600V	N.O.	N.C.	
22	20	2	2	5	7.5	0	0	TAL9-40-00- $\Delta$
28	25	5	5	10	15	0	0	TAL16-40-00- $\Delta$
45	40	7.5	10	20	25	0	0	TAL26-40-00- $\Delta$
70	60	10	10	25	30	0	0	TAE45-40-00- $\Delta$
100	85	15	20	40	50	0	0	TAE50-40-00- $\Delta$
125	105	25	30	60	75	0	0	TAE75-40-00- $\Delta$

$\Delta$  To select a coil voltage, substitute the code from the Coil Voltage Selection Chart for the  $\Delta$ .

### 4 Pole mounted with 2 N.O. & 2 N.C. main poles

Rated operational current		Maximum motor horsepower ratings $\text{HP}$				Standard auxiliary contacts		Catalog number
AC1 $0 \leq 40^\circ\text{C}$	AC1 $0 \leq 55^\circ\text{C}$	208V	240V	480V	575/600V	N.O.	N.C.	
22	20	2	2	5	7.5	0	0	TAL9-22-00- $\Delta$
28	25	5	5	10	15	0	0	TAL16-22-00- $\Delta$
45	40	7.5	10	20	25	0	0	TAL26-22-00- $\Delta$

$\Delta$  To select a coil voltage, substitute the code from the Coil Voltage Selection Chart for the  $\Delta$ .

These contactors can be used for controlling either 2 separate circuits, i.e. 2 loads with 2 separate supplies, or 1 circuit comprising 2 separate loads with 1 single supply. When the contactor operates, there is no mechanical overlapping between the N.O. main poles and N.C. main poles: BREAK before MAKE.

NOTE: These contactors are not suitable for a reversing starter or a star-delta starter or for controlling a single load from 2 separate supplies.

### Coil characteristics

No extra voltages applicable on the  $U_c$  min. - max. values of the Coil Voltage selection table.

Coil consumption at  $U_c$  max. and  $q = 20^\circ\text{C}$ :

- 9 W pull-in/holding for TBC type
- 450 W pull-in/ 7 W holding for TAE 50 and TAE 75 types
- 950 W pull-in/ 7 W holding for TAE 95 and TAE 110 types

### Coil voltage selection

Min.	$U_c$	Max	Voltage
17	-	32	51
24	-	45	52
36	-	65	54
42	-	78	58
50	-	90	55
77	-	143	62
90	-	150	66
152	-	264	68

## Surge suppressors for contactor coils

For mounting on contactor type	Control voltage	Packing	Weight	Catalog number
TAE/AE45 – TAE/AE75 TAL9 – TAL30	12 to 32 VDC	2	0.015	RT5/32
	25 to 65 VDC	2	0.015	RT5/65
	50 to 90 VDC	2	0.015	RT5/90
	77 to 150	2	0.015	RT5/150
	150 to 264	2	0.015	RT5/264

### Technical data

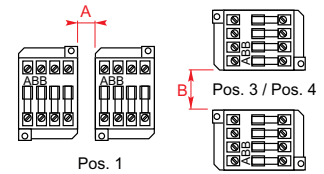
Type	Control circuit	Opening time growth factor	Residual overvoltage or clipping voltage	Remarks
RT5 /...transil diode			Advantages	• Good energy absorption
32	DC	2.5 to 3	50V	• Unpolarized system
65	DC	2.5 to 3	100V	• Simple, reliable system
90	DC	2.5 to 3	150V	Disadvantages • A certain delay on drop out which does not reduce contactor breaking capacity
150	DC	2.5 to 3	210V	
264	DC	2.5 to 3	390V	

NOTE: For all other accessories, see the Accessories section for across the line contactors, pages 1.16 – 1.32.  
TAL contactors use the same accessories as AL contactors.  
TAE contactors use the same accessories as AE contactors.

## Technical data

### Mounting Distance – for coil operating limits $U_c$ min. - $U_c$ max.

A mm	B mm	Ambient temp. °C	Max. switching frequency Operating cycles/h
2	20	≤ 20	1200
5	20	≤ 55	1200

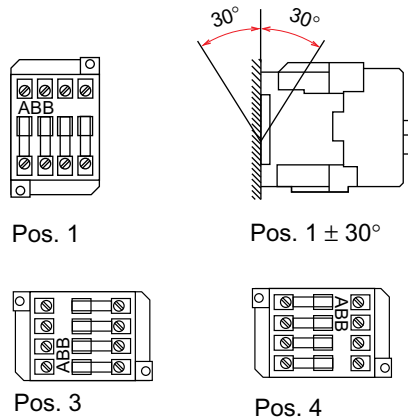


### Add-on accessories

Contactors	Max. number of auxiliary contact blocks						Timer TP - A	Interlock unit	Label marker
	CA5-10	CA5-01	CA5-40	CA5-31	CA5-22	CA5-04			
pos. 1, 3 or 4 TAL - -30 - 00 TAL - -30 - 10 TAL - -40 - 00	4	2	1	1	1	-	-	VE5-1	BA5-50
pos. 1, 3 or 4 TAL - -30 - 01	4	1	1	1	-	-	-	VE5-1	BA5-50
pos. 1, 3 or 4 TAL - -22 - 00	4	-	1	-	-	-	-	VE5-1	BA5-50
pos. 1 ± 30° TAL - all types	-	-	-	-	-	-	-	VE5-1	BA5-50
all positions TAE -	6	6	1	1	1	1	1	VE5-2 ①	BA5-50

Note: Railway (traction) projects on request. Type RT surge suppressors are suitable for TAL and TAE contactors.

### Mounting positions:



① Only valid for TAE 50-30-00 and TAE 75-30-00.