



Tem²Contact

Contactors and Thermal Overload Relays

TABLE OF SPECIFICATIONS

3P CONTACTORS TO IEC 60947-4-1 UL 508



Frame size			
Type	screws clamp terminals		
Number of poles			
Rated operational voltage, Ue			
Rated insulation voltage, Ui			
Rated frequency			
Rated impulse withstand voltage, Uimp			
Maximum operating rate in operating cycles per hour(AC3)			
Durability	Mechanical		
	Electrical		
Current and power	AC-1, Thermal current(440V AC) A		
	AC-3	200/240V	kW
			A
		380/440V	kW
			A
		500/550V	kW
		A	
	690V	kW	
		A	
UL rating (50/60Hz)	Continuous current		
	Single phase	110~120V	HP
		220~240V	HP
		200~208V	HP
	Three phase	220~240V	HP
		440~480V	HP
		550~600V	HP
	NEMA	size	
Size and weight	AC control	Weight	kg
		Size(W × H × D)	mm
	DC control	Weight	kg
		Size(W × H × D)	mm
—			
Auxiliary(standard)			
Auxiliary	Side mount		
	Front mount		

Note) Minimum conduct current of Auxiliary contactor is DC 17V 5mA.

22AF			
TC-9b	TC-12b	TC-18b	TC-22b
●	●	●	●
3pole			
690V			
690V			
50/60Hz			
6kV			
1800 operations per hour			
15 mil. operations			
2.5 mil. operations			
25	25	40	40
2.5	3.5	4.5	5.5
11	13	18	22
4	5.5	7.5	11
9	12	18	22
4	7.5	7.5	15
7	12	13	20
4	7.5	7.5	15
6	9	9	18
25	25	40	40
0.5	0.75	1	2
1.5	2	3	3
2	3	5	7.5
3	5	7.5	10
5	7.5	10	15
7.5	10	15	20
00	00	1	1
0.34			
45 × 73.5 × 86			
0.51			
45 × 73.5 × 104			
1NO 1NC			
TSU-01			
TSU-20, TSU-40			

TK TYPE THERMAL OVERLOAD RELAYS



Type			
Screws clamp terminals			
Rated operational voltage, Ue			
Rated insulation voltage, Ui			
Rated impulse withstand voltage, Uimp			
Trip class			
Setting range			
Size and weight		Weight	kg
		Size(W × H × D)	mm

* The safety cover of magnetic contactor and thermal overload relay is optional.

TK- 32/□	
●	
690V	
690V	
6kV	
10A, 20	
0.1~40A	
0.17	
45 × 75 × 90	



40AF	
TC-32a	TC-40a
●	●
3pole	
690V	
1000V	
50/60Hz	
8kV	
1800 operations per hour	
12 mil. operations	
2 mil. operations	
50	60
7.5	11
32	40
15	18.5
32	40
18.5	22
28	32
18.5	22
20	23
50	60
2	3
5	7.5
7.5	15
10	15
20	30
25	30
1	2
0.4	
45 × 83 × 90	
0.6	
45 × 83 × 117.1	
2NO 2NC	
TSU-01	
TSU-20, TSU-40	



65AF	
TC-50a	TC-65a
●	●
3pole	
690V	
1000V	
50/60Hz	
8kV	
1800 operations per hour	
12 mil. operations	
2 mil. operations	
70	100
15	18.5
55	65
22	30
50	65
30	33
43	60
30	33
28	35
70	100
3	5
10	15
20	25
25	30
40	50
50	60
2	2
0.9	
55 × 106 × 119	
1.2	
55 × 106 × 146.4	
2NO 2NC	
TSU-01	
TSU-20, TSU-40	



100AF		
TC-75a	TC-85a	TC-100a
●	●	●
3pole		
690V		
1000V		
50/60Hz		
8kV		
1800 operations per hour		
12 mil. operations		
2 mil. operations		
110	135	160
22	25	30
75	85	105
37	45	55
75	85	105
37	45	55
64	75	85
37	45	55
42	45	65
110	135	160
5	7.5	10
15	15	20
25	30	30
30	40	40
50	60	75
60	75	75
2	3	3
1.6		
70 × 140 × 135.8		
2.6		
70 × 140 × 172.3		
2NO 2NC		
TSU-01		
TSU-20, TSU-40		



TK- 32/□
●
690V
690V
6kV
10A, 20
0.1~40A
0.17
45 × 75 × 90



TK- 63/□
●
690V
690V
6kV
10A, 20
4~65A
0.31/0.33
55 × 81 × 100



TK- 95/□
●
690V
690V
6kV
10A, 20
7~100A
0.48/0.5
70 × 97 × 110

TABLE OF SPECIFICATIONS

3P CONTACTORS TO IEC 60947-4-1, UL 508



Frame size				150AF		225AF	
Type				TC-130a	TC-150a	TC-185a	TC-225a
screws clamp terminals				●	●	●	●
Number of poles				3pole		3pole	
Rated operational voltage, Ue				690V		690V	
Rated insulation voltage, Ui				1000V		1000V	
Rated frequency				50/60Hz		50/60Hz	
Rated impulse withstand voltage, Uimp				8kV		8kV	
Maximum operating rate in operating cycles per hour(AC3)				1200 operations per hour		1200 operations per hour	
Durability		Mechanical		5 mil. operations		5 mil. operations	
		Electrical		1 mil. operations		1 mil. operations	
Current and power	AC-1, Thermal current(440V AC) A			160	210	230	275
	AC-3	200/240V	kW	37	45	55	75
			A	130	150	185	225
		380/440V	kW	60	75	90	132
			A	130	150	185	225
		500/550V	kW	60	70	110	132
			A	90	100	180	200
		690V	kW	55	55	110	140
			A	60	60	120	150
	A			160	210	230	275
UL rating (50/60Hz)	Continuous current A			160	210	230	275
	Single phase	110~120V	HP	10	15	15	15
		220~240V	HP	20	25	30	40
		200~208V	HP	40	40	60	60
	Three phase	220~240V	HP	40	50	60	75
		440~480V	HP	75	100	125	150
		550~600V	HP	75	75	125	150
	NEMA size			3	4	4	4
Size and weight	AC control	Weight	kg	2.4		5.4	
		Size(W×H×D)	mm	95×158×132		138×203×185.	
	DC control	Weight	kg				
		Size(W×H×D)	mm				
Auxiliary(standard)				2NO 2NC		2NO 2NC	
Auxiliary	Side mount					TSU-100, TSU-100E (Max. 4NO 4NC)	
	Front mount					-	

TK TYPE THERMAL OVERLOAD RELAYS



Type	TK-150/□		TK-225/□	
	●		●	
Screws clamp terminals				
Rated operational voltage, Ue			690V	
Rated insulation voltage, Ui			690V	
Rated impulse withstand voltage, Uimp			6kV	
Trip class			10A, 20	
Setting range			34~150A	
Size	Weight	kg	2.5	
and weight	Size(W×H×D) mm		147×141×184	
	95×109×113			

* The safety cover of magnetic contactor and thermal overload relay is optional.



400AF		
TC -265a	TC-330a	TC-400a
●	●	●
3pole		
690V		
1000V		
50/60Hz		
8kV		
1200 operations per hour		
5 mil. operations		2.5 mil. operations
1 mil. operations		0.5 mil. operations
300	350	450
80	90	125
265	330	400
147	160	200
265	330	400
147	160	225
225	250	350
160	200	250
185	220	300
300	350	450
-	-	-
-	-	-
75	100	125
100	125	150
200	200	300
200	200	300
5	5	5

9.2
163 × 243 × 204

2NO 2NC
TSU-100, TSU-100E (Max. 4NO 4NC)
-



TK-400/□
●
690V
690V
6kV
10A, 20
85~400A
2.6
151 × 171 × 198



800AF		
TC-500a	TC-630a	TC-800a
●	●	●
3pole		
690V		
1000V		
50/60Hz		
8kV		
1200 operations per hour		
2.5 mil. operations		0.5 mil. operations
0.5 mil. operations		
580	660	900
147	190	220
500	630	800
265	330	440
500	630	800
265	330	500
400	500	720
300	400	500
380	420	630
580	660	900
-	-	-
-	-	-
150	200	200
200	250	300
400	500	600
400	500	600
6	6	7

22.4
285 × 312 × 245

2NO 2NC
TSU-100, TSU-100E (Max. 4NO 4NC)
-



TK-800/□
●
690V
690V
6kV
10A, 20
200~800A
11.5
360 × 530 × 212

CONTACTORS (100AF)

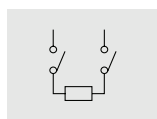
Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available
- 2NO 2NC Auxiliary contact built in as standard

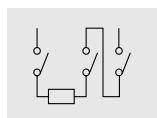
Rating



TC-100a



2pole for DC contact



3pole for DC contact

Contactor type			TC-75a		TC-85a		TC-100a	
			kW	A	kW	A	kW	A
AC duty	AC3	200/240V	22	75	25	85	30	105
		380/440V	37	75	45	85	55	105
		500/550V	37	64	45	75	55	85
		690V	37	42	45	45	45	65
	AC4	200/240V	13	55	15	65	19	80
		380/440V	25	52	30	62	37	75
	AC1	(440V AC)	-	110	-	135	-	160
	DC1 duty (L/R=1ms)	2-pole	24V	-	90	-	100	-
in series		48V	-	90	-	100	-	100
		110V	-	75	-	80	-	80
3-pole		24V	-	90	-	100	-	100
in series		48V	-	90	-	100	-	100
		110V	-	80	-	85	-	85
DC2, 4 duty (L/R=15ms)		2-pole	24V	-	55	-	60	-
	in series	48V	-	45	-	50	-	50
		110V	-	38	-	40	-	40
	3-pole	24V	-	75	-	80	-	80
	in series	48V	-	65	-	70	-	70
		110V	-	55	-	60	-	60
	Directly mountable Overload relay			TK-95				
Conductor size (solid, stranded)		AWG	8~2		8~0		8~00	
(the max. number of conducts: 2)		mm ²	10~35		10~50		10~70	
Conductor type			65/75℃ Cu-wire only					



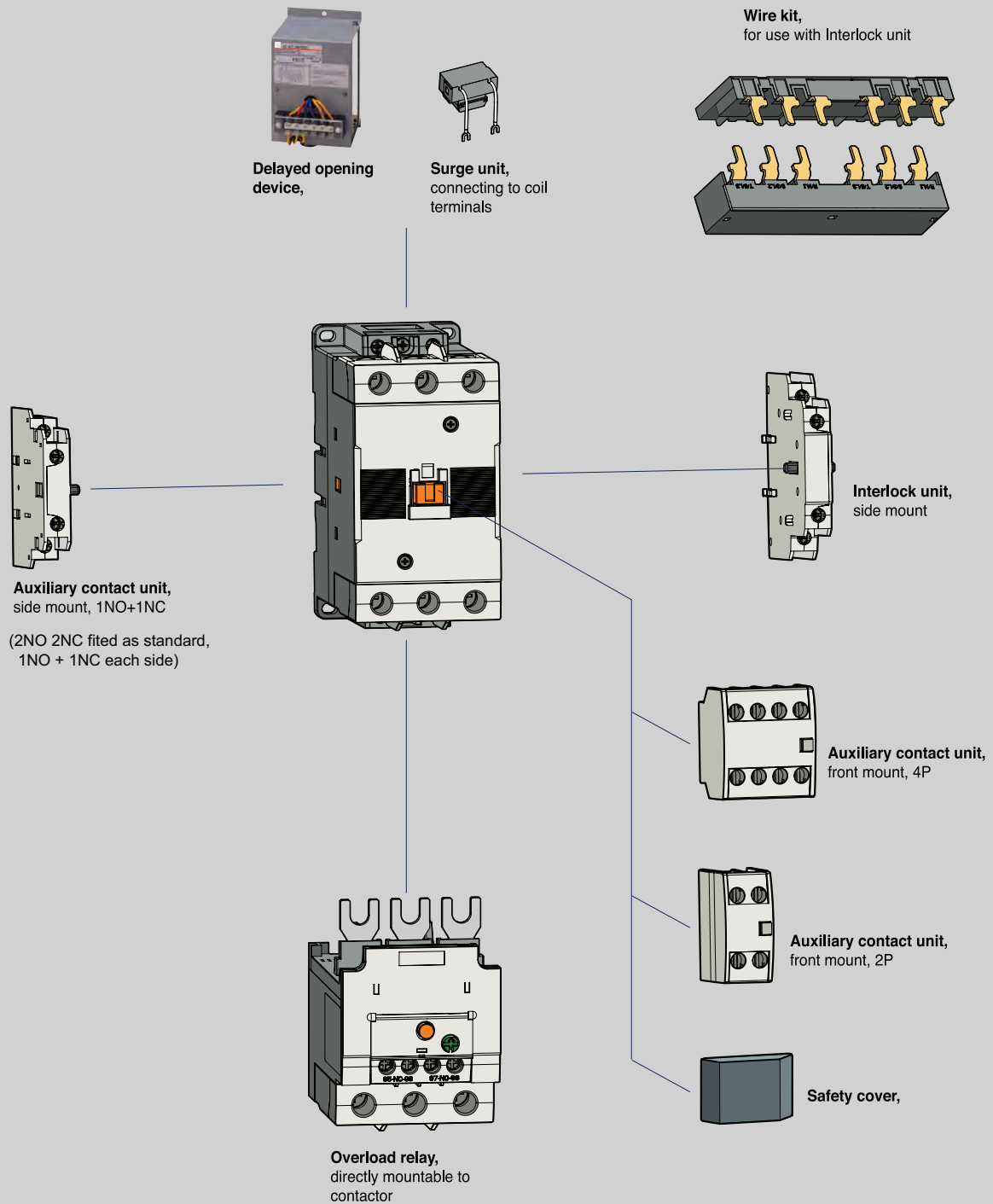
Coil voltage

AC	50Hz	24, 32, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 500, 550V
	60Hz	24, 48, 100, 110, 120, 200, 208, 220, 230, 240, 277, 380, 480, 600V
	50/60Hz	24, 48, 100, 110, 120, 200, 220, 230, 240, 380, 415, 440, 500, 550V
DC	DC	12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V

Certification

- CE(IEC)
- UL508
- CCC

Accessories



CONTACTORS (150AF)

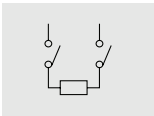
Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in the same physical size
- Front/side mountable accessories available
- Direct mountable overload relay available
- 2NO 2NC Auxiliary contact built in as standard

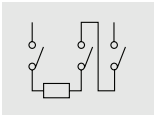
Rating



TC-150a



2pole for DC contact



3pole for DC contact

Contactor type			TC-130a		TC-150a		
			kW	A	kW	A	
AC duty	AC3	200/240V	37	130	45	150	
		380/440V	60	130	75	150	
		500/550V	60	90	70	100	
		690V	55	60	55	60	
	AC4	200/240V	22	93	30	120	
		380/440V	45	90	55	110	
	AC1	(440V AC)	-	160	-	210	
DC1 duty (L/R=1ms)	2-pole	24V	-	120	-	150	
		in series	48V	-	100	-	120
		110V	-	80	-	100	
	3-pole	24V	-	120	-	150	
		in series	48V	-	120	-	150
		110V	-	100	-	150	
DC2, 4 duty (L/R=15ms)	2-pole	24V	-	120	-	150	
		in series	48V	-	60	-	100
		110V	-	40	-	80	
	3-pole	24V	-	120	-	150	
		in series	48V	-	90	-	130
		110V	-	80	-	120	
Directly mountable Overload relay			TK-150				
Conductor size (solid, stranded) (the max. number of conducts: 2)		AWG	3~00		3~4/0		
		mm ²	35~70		35~95		
Conductor type			65/75℃ Cu-wire only				



Coil voltage

AC	50/60Hz	24, 48, 110~120, 220~240, 300, 400~440, 500V
DC	DC	24, 48, 110, 220V

Certification
• CE(IEC) • UL508 • CCC

Accessories

