

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range (A)	
Setting Ranges (A)	TK-12a	0.1...0.16	TK-32a
	TK-32a	0.16...0.25	TK-63a
	TK-63a	0.25...0.4	TK-95a
	TK-95a	0.4...0.63	TK-120a
	TK-120a	0.63...1	TK-150a
	TK-150a	1...1.6	TK-225a
	TK-225a	1.6...2.5	TK-300a
	TK-300a	2.5...4	TK-400a
	TK-400a	4...6	TK-500a
	TK-500a	6...9	TK-630a
	TK-630a	9...13	TK-800a
	TK-800a	13...18	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Type		Setting Range	
12	TC-6a, 9a, 12a, 18a	0.1...18A	
32	TC-9b, 12b, 18b, 22b, 32a, 40a	0.1...40A	
63	TC-50a, 65a	4...65A	
95	TC-75a, 85a, 100a	7...100A	
150	TC-130a, 150a	34...150A	
225	TC-185a, 225a	65...240A	
400	TC-265a, 330a, 400a	85...400A	
800	TC-500a, 630a, 800a	200...800A	

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact a qualified service technician when you need maintenance. Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

Authorized Dealer

ELECTRIMEC ASIA PACIFIC PTE LTD
 17 Tuas Street
 Singapore 638454
 Tel : (65) 6896 2979
 Fax : (65) 6896 2925
 Email: elecmecc@singnet.com.sg

TERASAKI CIRCUIT BREAKERS (S) PTE LTD
 17 Tuas Street
 Singapore 638454
 Tel : (65) 6744 9752
 Fax : (65) 6748 7592
 Email: teccs@pacific.net.sg



Type
TSZ-32
TSZ-63
TSZ-95
TSZ-150/S

Separate Mounting Units
 These accessories are used to mount the relays separately from contactors. If a relay is combined with a unit, it can be mounted on DIN rail or panel by fixing screws.

Type
TSM-4R
TSM-5R
TSM-6R

Remote Reset Units
 These accessories are used to reset the relays on the panel door.

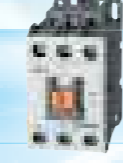
Type
TKM-9
TKM-50

Capacitor Unit
 Capacitor unit is connected to the terminals of the contactor to reduce the high inrush current.



Frame Size	18AF	22AF	40AF	65AF	100AF	150AF
Type	TC-6a, 9a, 12a, 18a	TC-9b, 12b, 18b, 22b	TC-32a, 40a	TC-50a, 65a	TC-75a, 85a, 100a	TC-130a, 150a
Control Voltage [Uc]	24, 32, 36, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 415, 440, 500, 550V					
50/60Hz Inrush [VA]	58/56	58/56	53/50	110/104	229/216	108/104
50/60Hz Holding [VA]	9.0/6.0	9.0/6.0	12.0/9.0	13.0/10.0	17.0/13.0	18.0/21.0
Heat Dissipation [W]	2.1/1.5	2.1/1.5	2.7/2.2	2.8/2.4	5.4/4.7	2.7/3.6
Operating Time	Closing [ms]: 12...22, 12...22, 12...22, 12...22, 15...30, 20...40; Opening [ms]: 4...19, 4...19, 4...19, 4...19, 10...30, 60...70					
DC Coil	Control Voltage [Uc]: 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250; Voltage Limit [Uc]: 24, 48, 110, 220					
DC 110V Inrush [W]	9	9	7	9	18	213
Time Constant (L/R) [ms]	28	28				

TC Type Magnetic Contactors



Frame size			18AF				22AF				
Type			TC-6a	TC-9a	TC-12a	TC-18a	TC-9b	TC-12b	TC-18b	TC-22b*	
Type	screws clamp terminals		●	●	●	●	●	●	●	●	
Number of poles			3pole				3pole				
Rated operational voltage, Ue			690V				690V				
Rated insulation voltage, Ui			690V				690V				
Rated frequency			50/60Hz				50/60Hz				
Rated impulse withstand voltage, Uimp			6kV				6kV				
Maximum operating rate in operating cycles per hour(AC3)			1800 operations per hour				1800 operations per hour				
Durability	Mechanical		15 mil. operations				15 mil. operations				
	Electrical		2.5 mil. operations				2.5 mil. operations				
Current and power	AC-1, Thermal current	A	25	25	25	32	25	25	32	40	
	AC-3	200/240V kW	2.2	2.5	3.5	4.5	2.5	3.5	4.5	5.5	
		A	9	11	13	18	11	13	18	22	
		380/440V kW	3	4	5.5	7.5	4	5.5	7.5	11	
		A	7	9	12	18	9	12	18	22	
		500/550V kW	3	4	7.5	7.5	4	7.5	7.5	15	
		A	6	7	12	13	7	12	13	20	
		690V kW	3	4	7.5	7.5	4	7.5	7.5	15	
		A	4	5	9	9	6	9	9	18	
		UL rating (50/60Hz)	A	25	25	25	32	25	25	40	40
UL rating (50/60Hz)	Continuous current	A	25	25	25	32	25	25	40	40	
	Single phase	110-120V HP	0.5	0.5	0.75	1	0.5	0.75	1	2	
		220-240V HP	1.5	1.5	2	3	1.5	2	3	3	
		200-208V HP	2	2	3	5	2	3	5	7.5	
	Three phase	220-240V HP	3	3	5	7.5	3	5	7.5	10	
		440-480V HP	5	5	7.5	10	5	7.5	10	15	
		550-600V HP	7.5	7.5	10	15	7.5	10	15	20	
		NEMA size		00	0	0	00	00	0	1	
		AC control	Weight kg	0.33				0.34			
		DC control	Size(W x H x D) mm	45 x 73.5 x 82				45 x 73.5 x 86			
Size and weight	DC control	Weight kg	0.5				0.51				
	AC control	Size(W x H x D) mm	45 x 83 x 113.7				45 x 73.5 x 117.7				
Auxiliary(standard)			1a or 1b				1a1b				
Auxiliary	Side mount		TSU-01				TSU-01				
	Front mount		TSU-20, 11, 02, 40, 31, 22, 13, 04				TSU-20, 11, 02, 40, 31, 22, 13, 04				

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

40AF		65AF		100AF				
	TC-32a	TC-40a	TC-50a	TC-65a	TC-75a	TC-85a	TC-100a	
Type	●	●	●	●	●	●	●	
Number of poles	3pole		3pole		3pole			
Rated operational voltage, Ue	690V		690V		690V			
Rated insulation voltage, Ui	1000V		1000V		1000V			
Rated frequency	50/60Hz		50/60Hz		50/60Hz			
Rated impulse withstand voltage, Uimp	8kV		8kV		8kV			
Maximum operating rate in operating cycles per hour(AC3)	1800 operations per hour		1800 operations per hour		1800 operations per hour			
Durability	Mechanical	12 mil. operations		12 mil. operations		12 mil. operations		
	Electrical	2 mil. operations		2 mil. operations		2 mil. operations		
Current and power	AC-1, Thermal current	50	60	70	100	110	135	160
	AC-3	7.5	11	15	18.5	22	25	30
		32	40	55	65	75	85	105
		15	18.5	22	30	37	45	55
		32	40	50	65	75	85	105
		18.5	22	30	33	37	45	55
		28	32	43	60	64	75	85
		37	22	30	33	37	45	45
		20	23	28	35	42	45	65
		50	60	70	100	110	135	160
UL rating (50/60Hz)	Continuous current	2	3	3	5	5	7.5	10
	Single phase	5	7.5	10	15	15	15	20
		7.5	15	20	25	25	30	30
		10	15	25	30	30	40	40
	Three phase	20	30	40	50	50	60	75
		25	30	50	60	60	75	75
		2	3	2	2	2	3	3
		0.55	0.77	1.05	1.3	1.93	2.8	3
		69 x 83 x 93	69 x 83 x 120	79 x 106 x 122	79 x 106 x 149	94 x 140 x 137	94 x 140 x 174	94 x 140 x 174
		2a2b	2a2b	2a2b	2a2b	2a2b	2a2b	2a2b
Auxiliary(standard)	TSU-01	TSU-01	TSU-01	TSU-01	TSU-01	TSU-01	TSU-01	
Auxiliary	Side mount	Side mount	Side mount	Side mount	Side mount	Side mount	Side mount	
	Front mount	Front mount	Front mount	Front mount	Front mount	Front mount	Front mount	

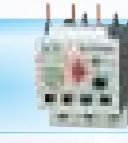
TC Type Magnetic Contactors



Frame size			150AF		225AF		
Type			TC-130a	TC-150a	TC-185a	TC-225a	
Type	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	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	
		UL rating (50/60Hz)	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
		AC control	Weight kg	2.4		5.4	
		DC control	Size(W x H x D) mm	95 x 158 x 132		138 x 203 x 181	
Size and weight	DC control	Weight kg	2.3		138 x 203 x 181		
	AC control	Size(W x H x D) mm	95 x 158 x 132		138 x 203 x 181		
Auxiliary(standard)			2a2b		2a2b		
Auxiliary	Side mount		TSU-01		TSU-100 (Max.4NO4NC)		
	Front mount		TSU-20, 11, 02, 40, 31, 22, 13, 04		-		

400AF			800AF				
	TC-265a	TC-330a	TC-400a	TC-500a	TC-630a	TC-800a	
Type	●	●	●	●	●	●	
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		2.5 mil. operations		2.5 mil. operations	
	Electrical	1 mil. operations		0.5 mil. operations		0.5 mil. operations	
Current and power	AC-1, Thermal current	300	350	450	580	660	900
	AC-3	80	90	125	147	190	220
		265	330	400	500	630	800
		147	160	200	265	330	440
		265	330	400	500	630	800
		147	160	200	265	330	500
		225	280	350	400	500	720
		160	200	250	300	400	500
		185	225	300	380	420	630
		300	350	450	580	660	900
UL rating (50/60Hz)	Continuous current	-	-	-	-	-	-
	Single phase	-	-	-	-	-	-
		75	100	125	150	200	200
		100	125	150	200	250	300
	Three phase	200	250	300	400	500	600
		200	250	300	400	500	600
		5	5	5	6	6	7
		9.2	22.4	28.5 x 312 x 242	28.5 x 312 x 242	28.5 x 312 x 242	28.5 x 312 x 242
		2a2b	2a2b	2a2b	2a2b	2a2b	2a2b
	Auxiliary(standard)	TSU-100 (Max.4NO4NC)		TSU-100 (Max.4NO4NC)		TSU-100 (Max.4NO4NC)	
Auxiliary	Side mount	Side mount	Side mount	Side mount	Side mount	Side mount	
	Front mount	Front mount	Front mount	Front mount	Front mount	Front mount	

TK Type Thermal Overload Relays

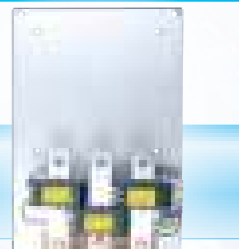
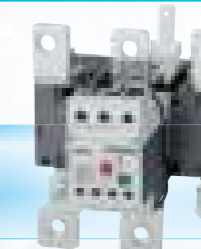


Type		TK-12a	TK-32a
Type	Screws clamp terminals	●	●
Rated operational voltage, Ue		690V	690V
Rated insulation voltage, Ui		690V	690V
Rated impulse withstand voltage, Uimp		6kV	6kV
Trip class		10A, 20	10A, 20
Setting range		0.1-18A	0.1-40A
Size and weight	Weight kg	0.1	0.17
	Size(W x H x D) mm	45 x 73.2 x 63.7	45 x 75 x 90

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

TK-32a		TK-63a		TK-95a	
Type	●	●	●	●	●
Rated operational voltage, Ue	690V	690V	690V	690V	690V
Rated insulation voltage, Ui	690V	690V	690V	690V	690V
Rated impulse withstand voltage, Uimp	6kV	6kV	6kV	6kV	6kV
Trip class	10A, 20	10A, 20	10A, 20	10A, 20	10A, 20
Setting range	0.1-40A	4-65A	7-100A	7-100A	7-100A
Size and weight	Weight kg	0.17	0.31/0.33	0.48/0.5	0.48/0.5
	Size(W x H x D) mm	45 x 75 x 90	55 x 81 x 100	70 x 97 x 110	70 x 97 x 110

TK Type Thermal Overload Relays



Type		TK-150a	TK-225a
Type	Screws clamp terminals	●	●
Rated operational voltage, Ue		690V	690V
Rated insulation voltage, Ui		690V	690V
Rated impulse withstand voltage, Uimp		6kV	6kV
Trip class		10A, 20	10A, 20
Setting range		34-150A	65-240A
Size and weight	Weight kg	0.67	2.5
	Size(W x H x D) mm	95 x	