



Tem²Contact

Contactors and Thermal Overload Relays

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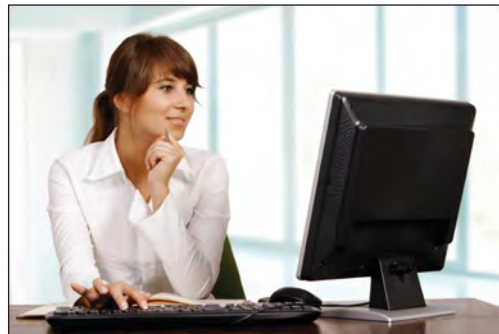
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Terasaki has ISO 9001 accreditation for the supply of all products featured in this catalogue.



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Our helpful Applications Team are at your disposal. They provide free, detailed advice on the application of our products and use industry-leading electrical design software packages.

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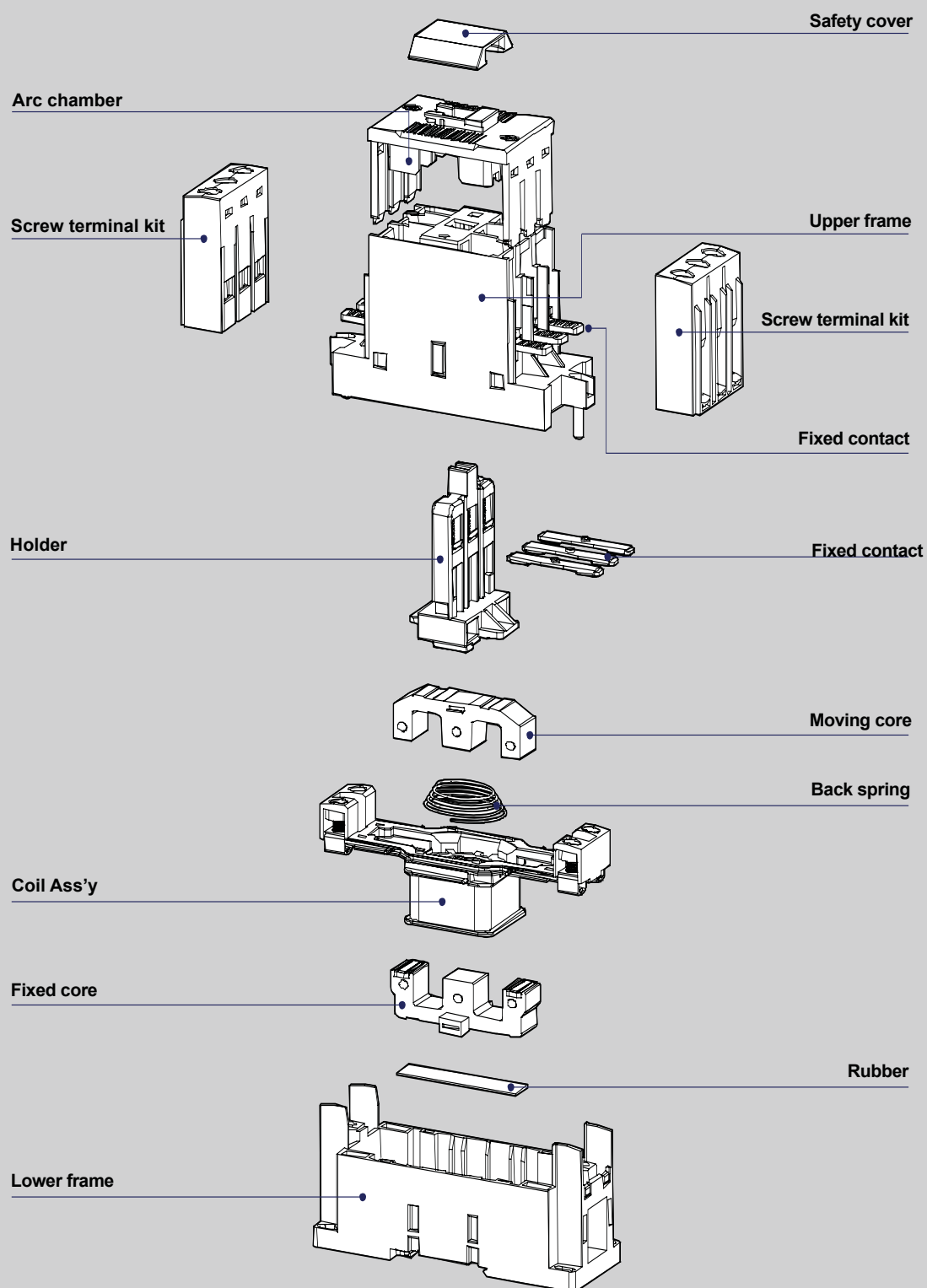
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TEMCONTACT 2

CONTACTOR INTERNAL STRUCTURE



TemContact 2 is a new range of magnetic contactors and thermal overload relays. Current ratings from 6A to 800A are available in 9 frame sizes and in 3 or 4 pole versions.

Safer

TemContact 2 has upgraded insulation voltage (from 690 to 1000V AC) and impulse withstand voltage (from 6kV to 8kV) in contactors over 40AF.

The electrical arc is extinguished entirely within the sealed unit, so that no arc flash is exposed. The sealed structure also prevents dust and humidity from entering the contactor. An optional safety cover is available which prohibits any unintended manual operation.

Applications



RATINGS AND SPECIFICATIONS

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



Model	Parameter	Unit	TC-9b	TC-12b	TC-18b	TC-22b
Number of poles			3 pole			
Frame size			22AF			
Current and Power Ratings						
Thermal current	AC1 (440V AC)	A	25	25	32	40
Switching power	200/240V AC3	kW	2.5	3.5	4.5	5.5
Switching current	200/240V AC3	A	11	13	18	22
Switching power	380/440V AC3	kW	4	5.5	7.5	11
Switching current	380/440V AC3	A	9	12	18	22
Switching power	500/550V AC3	kW	4	7.5	7.5	15
Switching current	500/550V AC3	A	7	12	13	20
Switching power	690V AC3	kW	4	7.5	7.5	15
Switching current	690V AC3	A	6	9	9	18
Continuous current, UL rating 50/60Hz		A	25	25	40	40
Switching power, single phase (UL rating 50/60Hz)	100-120V	HP	0.5	0.75	1	2
Switching power, single phase (UL rating 50/60Hz)	220-240V	HP	1.5	2	3	3
Switching power, three phase (UL rating 50/60Hz)	200-208V	HP	2	3	5	7.5
Switching power, three phase (UL rating 50/60Hz)	220-240V	HP	3	5	7.5	10
Switching power, three phase (UL rating 50/60Hz)	440-480V	HP	5	7.5	10	15
Switching power, three phase (UL rating 50/60Hz)	550-600V	HP	7.5	10	15	20
Electrical Characteristics						
Rated operational voltage, Ue	Ue	V	690			
Rated insulation voltage, Ui	Ui	V	690			
Rated frequency		Hz	50/60			
Rated impulse withstand voltage,	Uimp	kV	6			
Operation						
Maximum operating rate in operating cycles per hour	(AC3)	ops/hr	1800			
Endurance	Mechanical	million	15			
	Electrical	million	2.5			
Size and Weight						
AC Control	Weight	kg	0.34			
DC Control	Size (WxHxD)	mm	45x73.5x86			
	Weight	kg	0.51			
	Size (WxHxD)	mm	45 x 73.5 x 104			
Nema size			00	00	0	1
Auxilliary Contacts						
Auxiliary (standard)			1NO 1NC			
Side mount (optional)			TSU-01			
Front mount (optional)			TSU-20, TSU-40			

TK TYPE THERMAL OVERLOAD RELAYS



Model	Parameter	Unit	TK-32
Electrical Characteristics			
Rated operational voltage, Ue	Ue	V	690
Rated insulation voltage, Ui	Ui	V	690
Rated impulse withstand voltage, Uimp		kV	6
Setting range			
Setting range		A	0.1~40
trip class			10A,20
Size and weight			
weight	weight	kg	0.17
Size (WxHxD)	Size (WxHxD)	mm	45 x 75 x 90



TC-32a		TC-40a		TC-50a		TC-65a	
		3 pole 40AF				3 pole 65AF	
50		60		70		100	
7.5		11		15		18.5	
32		40		55		65	
15		18.5		22		30	
32		40		50		65	
18.5		22		30		33	
28		32		43		60	
18.5		22		30		33	
20		23		28		35	
50		60		70		100	
2		3		3		5	
5		7.5		10		15	
7.5		15		20		25	
10		15		25		30	
20		30		40		50	
25		30		50		60	
690				690			
1000				1000			
50/60				50/60			
8				8			
1800				1800			
15				12			
2.5				2			
0.55				1.05			
69x83x93				79x106x127			
0.77				1.3			
69 x 83 x 120				79 x 106 x 144			
1		1		2		2	
2NO2NC TSU-01 TSU-20, TSU-40				2NO2NC TSU-01 TSU-20, TSU-40			



TK-32		TK-63	
690		690	
690		690	
6		6	
0.1~40		4~65	
10A,20		10A,20	
0.17		0.31/0.33	
45 x 75 x 90		55 x 81 x 100	

RATINGS AND SPECIFICATIONS

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



Model	Parameter	Unit	TC-75a	TC-85a	TC-100a
Number of poles				3 pole	
Frame size				100AF	
Current and Power Ratings					
Thermal current	AC1 (440V AC)	A	110	135	160
Switching power	200/240V AC3	kW	22	25	30
Switching current	200/240V AC3	A	75	85	105
Switching power	380/440V AC3	kW	37	45	55
Switching current	380/440V AC3	A	75	85	105
Switching power	500/550V AC3	kW	37	45	55
Switching current	500/550V AC3	A	64	75	85
Switching power	690V AC3	kW	37	45	55
Switching current	690V AC3	A	42	45	65
Continuous current, UL rating 50/60Hz		A	110	135	160
Switching power, single phase (UL rating 50/60Hz)	100-120V	HP	5	7.5	10
Switching power, single phase (UL rating 50/60Hz)	220-240V	HP	15	15	20
Switching power, three phase (UL rating 50/60Hz)	200-208V	HP	25	30	30
Switching power, three phase (UL rating 50/60Hz)	220-240V	HP	30	40	40
Switching power, three phase (UL rating 50/60Hz)	440-480V	HP	50	60	75
Switching power, three phase (UL rating 50/60Hz)	550-600V	HP	60	75	75
Electrical Characteristics					
Rated operational voltage, Ue	Ue	V		690	
Rated insulation voltage, Ui	Ui	V		1000	
Rated frequency		Hz		50/60	
Rated impulse withstand voltage, Uimp	Uimp	kV		8	
Operation					
Maximum operating rate in operating cycles per hour	(AC3)	ops/hr		1800	
Endurance	Mechanical	million		12	
	Electrical	million		2	
Size and Weight					
AC Control	Weight	kg		1.6	
	Size (WxHxD)	mm		70 x 140 x 137	
DC Control	Weight	kg		2.8	
	Size (WxHxD)	mm		70 x 140 x 172.3	
Nema size			2	3	3
Auxilliary Contacts					
Auxilliary (standard)				2NO2NC	
Side mount (optional)				TSU-01	
Front mount (optional)				TSU-20, TSU-40	

TK TYPE THERMAL OVERLOAD RELAYS



Model	Parameter	Unit	TK-95
Electrical Characteristics			
Rated operational voltage, Ue	Ue	V	690
Rated insulation voltage, Ui	Ui	V	690
Rated impulse withstand voltage, Uimp		kV	6
Setting range			
Setting range			7~100
trip class			10A,20
Size and weight			
weight		kg	0.48/0.5
Size (WxHxD)		mm	70 x 97 x 110



TC-130a		TC-150a	TC-185a		TC-225a		TC-265a	TC-330a	TC-400a	TC-500a	TC-630a	TC-800a	
3 pole 150AF			3 pole 225AF				3 pole 400AF			3 pole 800AF			
160	210		230	275			300	350	450	580	660	900	
37	45		55	75			80	90	125	147	190	220	
130	150		185	225			265	330	400	500	630	800	
60	75		90	132			147	160	200	265	330	440	
130	150		185	225			265	330	400	500	630	800	
60	70		110	132			147	160	225	265	330	500	
90	100		180	200			225	280	350	400	500	720	
55	55		110	140			160	200	250	300	400	500	
60	60		120	150			185	225	300	380	420	630	
160	210		230	275			300	350	450	580	660	900	
10	15		15	15			—	—	—	—	—	—	
20	25		30	40			—	—	—	—	—	—	
40	40		60	60			75	100	125	150	200	200	
40	50		60	75			100	125	150	200	250	300	
75	100		125	150			200	250	300	400	500	600	
75	75		125	150			200	250	300	400	500	600	
690			690				690			690			
1000			1000				1000			1000			
50/60			50/60				50/60			50/60			
8			8				8			8			
1200			1200				1200			1200			
5			5				5			2.5			
1			1				1			0.5			
2.4			5.4				9.2			22.4			
95 x 158 x 132			138 x 203 x 181				163 x 243 x 198			285 x 312 x 242			
2.3			5.4				9.2			22.4			
95 x 158.5 x 132			138 x 203 x 181				163 x 243 x 198			285 x 312 x 242			
3	4		4	4			5	5	5	6	6	7	
2NO2NC TSU-01 TSU-20, TSU-40			2NO2NC TSU-100, TSU-100E —				2NO2NC TSU-100, TSU-100E —			2NO2NC TSU-100, TSU-100E —			



TK-150	TK-225	TK-400	TK-800
690 690 6	690 690 6	690 690 6	690 690 6
34~150 10A,20	64~240 10A,20	85~400 10A,20	200~800A 10A,20
0.67 95 x 109 x 113	2.5 147 x 141 x 184	2.6 151 x 171 x 198	11.5 360 x 530 x 212

RATINGS AND SPECIFICATIONS

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



Model	Parameter	Unit	TC-6a/4	TC-9a/4	TC-12a/4	TC-18a/4
Number of poles			4 pole			
Frame size			18AF			
Current and Power Ratings						
Thermal current		A	25	25	25	40
Switching power	200/240V AC1	kW	9	9	9	15
Switching current	200/240V AC1	A	25	25	25	40
Switching power	380/440V AC1	kW	17	17	17	27
Switching current	380/440V AC1	A	25	25	25	40
Switching power	200/240V AC3	kW	2.2	2.5	3.5	4.5
Switching current	200/240V AC3	A	9	11	13	18
Switching power	380/440V AC3	kW	3	4	5.5	7.5
Switching current	380/440V AC3	A	7	9	12	18
Continuous current, UL rating 50/60Hz		A	25	25	25	32
Switching power, single phase (UL rating 50/60Hz)	100-120V	HP	0.5	0.5	0.75	1
Switching power, single phase (UL rating 50/60Hz)	220-240V	HP	1.5	1.5	2	3
Switching power, three phase (UL rating 50/60Hz)	200-208V	HP	2	2	3	5
Switching power, three phase (UL rating 50/60Hz)	220-240V	HP	3	3	5	7.5
Switching power, three phase (UL rating 50/60Hz)	440-480V	HP	5	5	7.5	10
Switching power, three phase (UL rating 50/60Hz)	550-600V	HP	7.5	7.5	10	15
Electrical Characteristics						
Rated operational voltage, Ue	Ue	V	690			
Rated insulation voltage, Ui	Ui	V	690			
Rated frequency		Hz	50/60			
Rated impulse withstand voltage,	Uimp	kV	6			
Operation						
Maximum operating rate in operating cycles per hour	(AC3)	ops/hr	1800			
Endurance	Mechanical	million	15			
	Electrical	million	2.5			
Size and Weight						
AC Control	Weight	kg	0.33			
	Size (WxHxD)	mm	45 x 73.5 x 82			
DC Control	Weight	kg	0.5			
	Size (WxHxD)	mm	45 x 73.5 x 113.7			
Nema size			00	00	0	0
Auxilliary Contact						
Auxilliary (standard)			—			
Side mount (optional)			TSU-01			
Front mount (optional)			TSU-20, TSU-40			



TC-22a/4	TC-32a/4	TC-40a/4	TC-50a/4	TC-65a/4	TC-75a/4	TC-85a/4
4 pole 22AF	4 pole 40AF			4 pole 85AF		
40	50	60	80	100	110	135
15	18	22	30	37	41	51
40	50	60	80	100	110	135
27	35	42	56	70	76	95
40	50	60	80	100	110	135
5.5	7.5	11	15	18.5	22	25
22	32	40	55	65	75	85
11	15	18.5	22	30	37	45
22	32	40	50	65	75	85
32	45	50	70	80	90	100
2	2	3	3	5	5	7.5
3	5	5	7.5	10	15	15
7.5	7.5	10	10	15	20	25
7.5	10	10	15	20	25	30
10	20	10	30	40	50	50
15	20	25	30	40	50	50
690	690			690		
690	690			1000		
50/60	50/60			50/60		
6	6			8		
1800	1800			1800		
15	15			12		
1	1			1		
0.4	0.59			1.2		
47.2 x 80 x 86.8	59 x 83.5 x 94.5			91 x 123.5 x 117.8		
0.5	0.7			1.29		
47.2 x 80 x 113.2	59 x 83.5 x 121			91 x 123.5 x 117.8		
1	1	1	2	2	2	3
—	—			—		
TKU-1	TKU-1			TKU-1		
TSU-20, TSU-40	TSU-20, TSU-40			TSU-20, TSU-40		

RATINGS AND SPECIFICATIONS

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



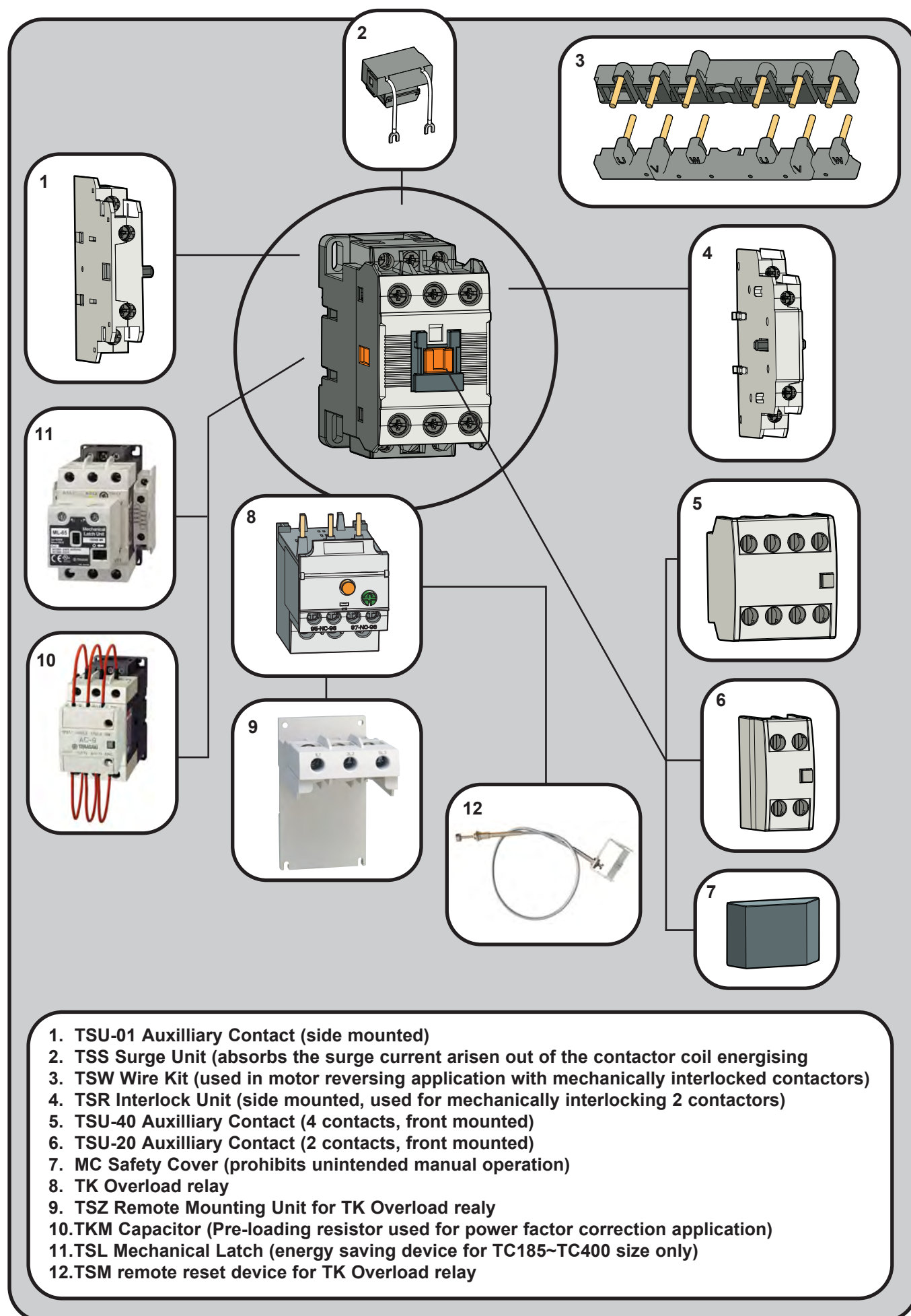
Model	Parameter	Unit	TC-100a/4	TC-130a/4	TC-150a/4	TC-185a/4	TC-225a/4
Number of poles			4 pole				
Frame size			225AF				
Current and Power Ratings							
Thermal current		A	160	165	250	300	330
Switching power	200/240V AC1	kW	57	60	76	87	100
Switching current	200/240V AC1	A	150	155	200	230	260
Switching power	380/440V AC1	kW	106	110	142	165	185
Switching current	380/440V AC1	A	150	155	200	230	260
Switching power	200/240V AC3	kW	30	37	95	55	75
Switching current	200/240V AC3	A	105	125	150	185	225
Switching power	380/440V AC3	kW	55	60	75	90	132
Switching current	380/440V AC3	A	105	120	150	185	225
Continuous current, UL rating 50/60Hz		A	160	160	210	230	275
Switching power, single phase (UL rating 50/60Hz)	100-120V	HP	7.5	10	15	15	15
Switching power, single phase (UL rating 50/60Hz)	220-240V	HP	15	20	25	30	40
Switching power, three phase (UL rating 50/60Hz)	200-208V	HP	30	40	40	60	60
Switching power, three phase (UL rating 50/60Hz)	220-240V	HP	30	40	50	60	75
Switching power, three phase (UL rating 50/60Hz)	440-480V	HP	60	75	100	125	150
Switching power, three phase (UL rating 50/60Hz)	550-600V	HP	60	75	100	125	150
Electrical Characteristics							
Rated operational voltage, Ue	Ue	V	690				
Rated insulation voltage, Ui	Ui	V	1000				
Rated frequency		Hz	50/60				
Rated impulse withstand voltage,	Uimp	kV	8				
Operation							
Maximum operating rate in operating cycles per hour	(AC3)	ops/hr	1200				
Endurance	Mechanical	million	15				
	Electrical	million	0.8				
Size and Weight							
AC Control	Weight	kg	5.6				
	Size (WxHxD)	mm	175 x 203 x 185				
DC Control	Weight	kg	5.6				
	Size (WxHxD)	mm	175 x 203 x 185				
Nema size			3	3	4	4	4
Auxilliary Contact							
Auxilliary (standard)			2N02NC				
Side mount (optional)			TSU-100, TSU100E				
Front mount (optional)							



TC-265a/4			TC-330a/4			TC-400a/4			TC-500a/4			TC-630a/4			TC-800a/4		
			4 pole									4 pole			800AF		
			400AF														
360			420			500			650			750			900		
115			135			160			245			255			310		
300			350			420			630			660			800		
215			250			300			450			470			570		
300			350			420			630			660			800		
80			90			125			147			190			220		
265			330			400			500			630			800		
147			160			200			265			330			440		
265			330			400			500			630			800		
300			350			450			580			660			900		
—			—			—			—			—			—		
—			—			—			—			—			—		
75			100			125			150			200			200		
100			100			150			200			250			300		
200			200			300			400			500			600		
200			200			300			400			500			600		
			690									690					
			1000									1000					
			50/60									50/60					
			8									8					
			1200									1200					
			15									12					
			0.5									2.5					
			9.9									26.3					
			206x243x205									346x310x244					
			9.9									26.3					
			206x243x205									346x310x244					
5			5			5			6			6			7		
			2N02NC									2N02NC					
			TSU-100, TSU-100E									TSU-100, TSU-100E					
			—									—					

ACCESSORIES

EASY TO INSTALL • SIMPLE OPERATION • RELIABLE

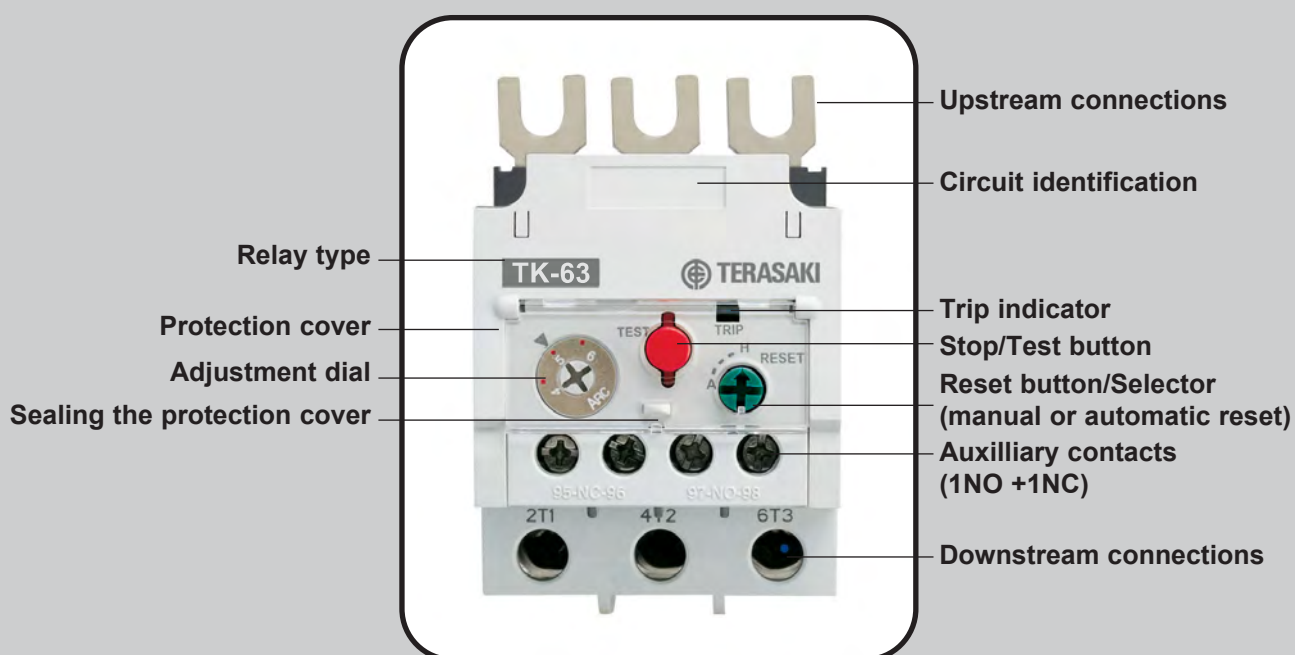


THERMAL OVERLOAD RELAYS

General description

TK type, bimetal-style overload relays are designed to protect AC circuits and motors against overloads, phase failure, long starting times and prolonged stalling of the motor.

The protection function and trip class is Differential: 3 pole-3bimetal (heater) and trip class 20.



TK-32



TK-63



TK-95



TK-150



TK-225



TK-400



TK-800





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Ratings and specifications are subject to change without notice.
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