



Tem²Contact

Contactors and Thermal Overload Relays

OUR CUSTOMER CARE COMMITMENTS



Quality is Guaranteed

All products supplied from this Catalogue carry a guarantee against defects in materials and workmanship for a period of 12 months from date of purchase as standard.

Quality is Accredited

Terasaki has ISO 9001 accreditation for the manufacture, sale and distribution of all products featured in this Catalogue.

Technical Support is Free

We offer free technical support and application software to all customers. This could range from selecting a product for an unusual application through to carrying out a protection study.

Sales Order Line

Call our Sales Order Line where our friendly sales team are on hand to assist with your enquiries.



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TemContact 2 is a 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



Terasaki is a world class specialist in innovative circuit protection, control and system products for electrical energy distribution. We supply low-voltage circuit breakers for industrial, marine and commercial building projects.



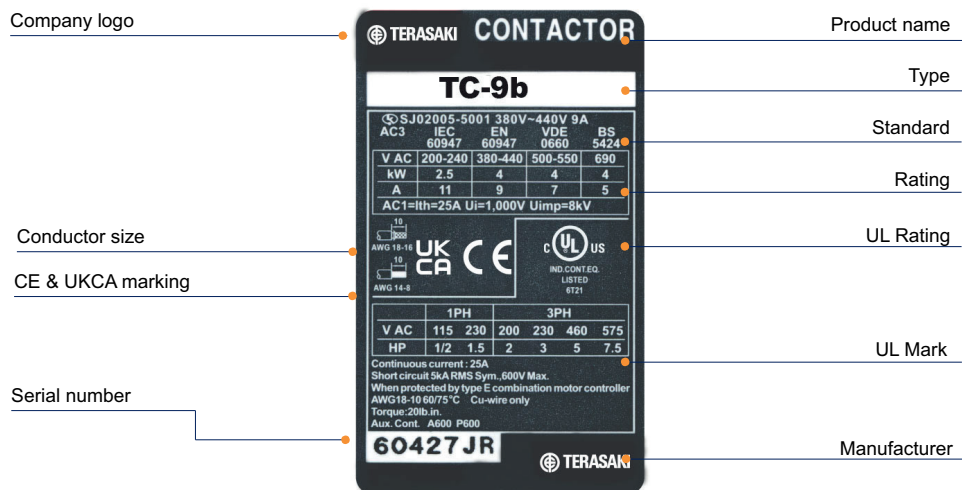
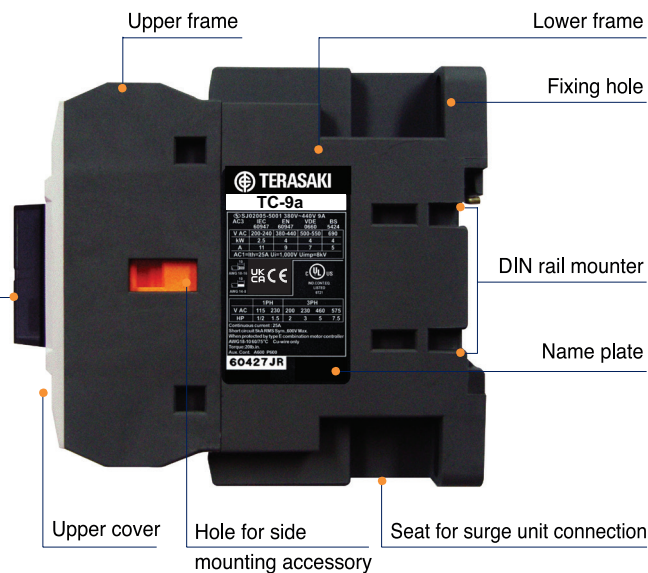
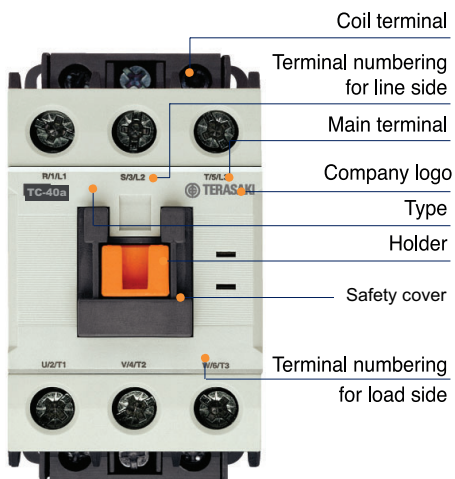
CONTACTORS AND THERMAL OVERLOAD RELAYS

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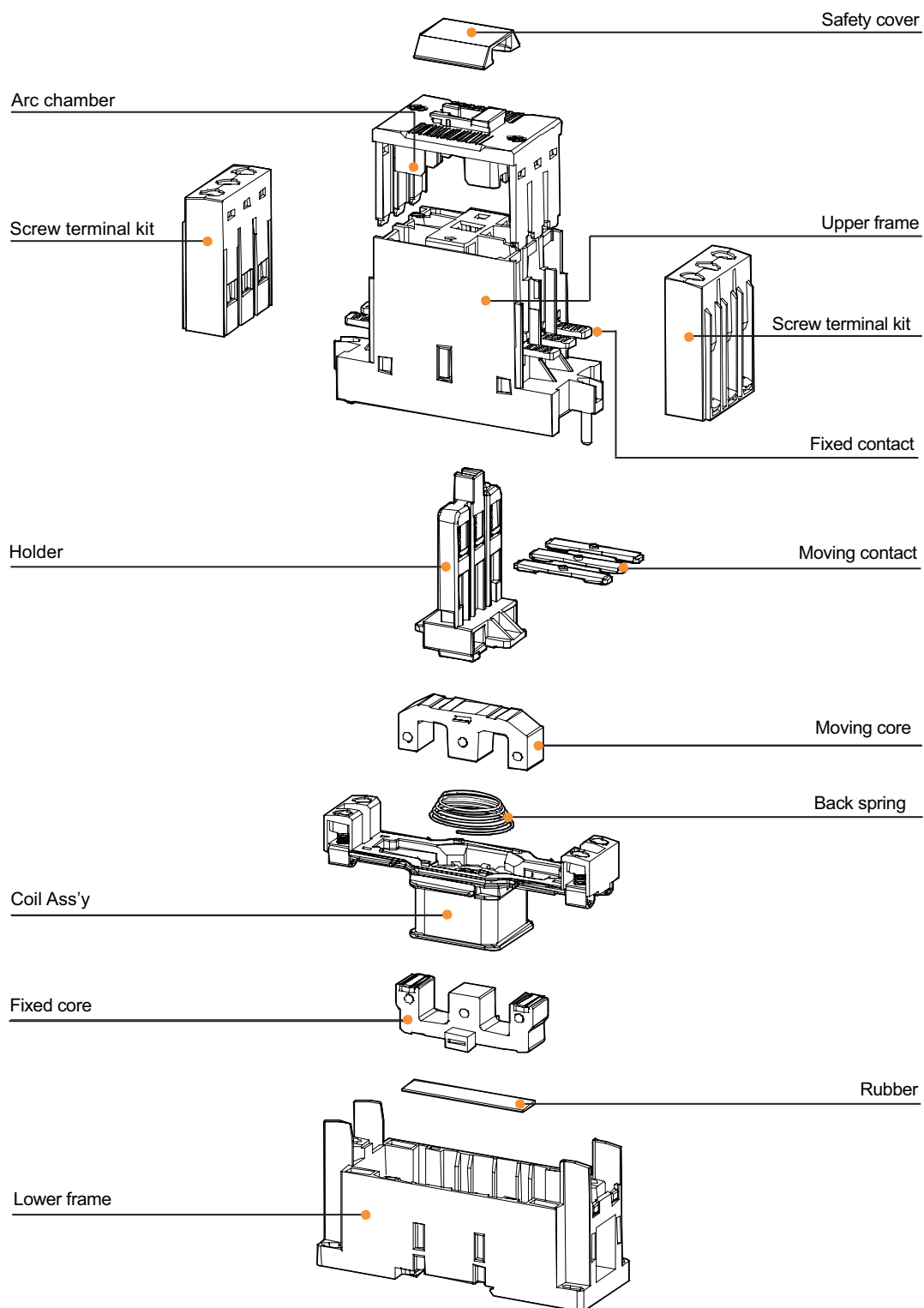


Markings





Contactor Internal Structure





Ratings and Specifications



3P CONTACTORS TO IEC 60947-4-1



Frame Size		22AF									
Type		TC-9b		TC-12b		TC-18b		TC-22b			
Screw type terminals		●		●		●		●			
Lug clamp terminals		-		-		-		-			
Number of poles		3 pole									
Rated operational voltage (Ue)		690V									
Rated insulation voltage (Ui)		690V									
Rated frequency		50/60 HZ									
Rated impulse withstand voltage (Uimp)		6kV									
Maximum operating rate in operating cycles per hour (AC3)		1800 operations per hour									
Durability		Mechanical		15 mil. operations							
		Electrical		2.5 mil. operations							
Current power											
AC1, Thermal current		(A)		kW	A	kW	A	kW	A	kW	A
				-	25	-	27	-	40	-	45
AC3	220/240V	2.5	11	3.5	13	4.5	18	5.5	22		
	380/440V	4	9	5.5	12	7.5	18	11	22		
	500/550V	4	7	7.5	12	7.5	13	15	20		
	690V	4	6	7.5	9	7.5	9	15	18		
	1000V	-	-	-	-	-	-	-	-		
Rated current											
Rated Short-time withstand current (IEC60947)		1s (A)	250		280		300		400		
		10s (A)	110		120		154		186		
		30s (A)	70		80		100		130		
		1min. (A)	61		61		84		90		
		3min. (A)	45		50		60		60		
		10min. (A)	30		30		40		50		
		≥ 15min. (A)	26		28		30		45		
Size and weight											
AC Control		Weight (kg.)		0.34							
		Size (WxHxD) (mm.)		45 x 73.5 x 87.4							
DC Control		Weight (kg.)		0.41							
		Size (WxHxD) (mm.)		45 x 73.5 x 103.6							
Auxiliary Contacts											
Auxiliary (standard)		1NO 1NC									
Side mount (optional)		TSU-01									
Front mount (optional)		TSU-20, TSU-40									

Note: Minimum conduct current of Auxiliary contactor is DC17V5mA.



TK TYPE THERMAL OVERLOAD RELAYS



Model		TK-32	
Screw type terminals		●	
Lug clamp terminals		-	
Rated operational voltage (Ue)		690V	
Rated insulation voltage (Ui)		690V	
Rated impulse withstand voltage (Uimp)		6kV	
Setting range A		0.1~40	
Trip class		10A, 20	
Size and weight			
Weight (kg.)		0.17	
Size (WxHxD) (mm.)		45 x 75 x 90	



40AF				65AF			
TC-32a		TC-40a		TC-50a		TC-65a	
●		●		●		●	
-		-		●		●	
3 pole				3 pole			
1000V				1000V			
1000V				1000V			
50/60Hz				50/60Hz			
8kV				8kV			
1800 operations per hour				1200 operations per hour			
12 mil. operations				12 mil. operations			
2 mil. operations				2 mil. operations			
kW	A	kW	A	kW	A	kW	A
-	55	-	60	-	100	-	115
7.5	32	11	40	15	55	18.5	65
15	32	18.5	40	22	50	30	65
18.5	28	22	32	30	43	33	60
18.5	20	22	23	30	28	33	35
22	17	22	17	30	23	30	23
600		700		1000		1050	
260		300		550		700	
160		190		330		380	
100		120		250		270	
70		80		150		260	
55		65		90		120	
50		60		87		96	
0.55				1.05			
69 x 83 x 90				79 x 106 x 119			
0.77				1.3			
69 x 83 x 117.1				79 x 106 x 146.4			
2NO2NC				2NO2NC			
TSU-01				TSU-01			
TSE-20, TSU-40				TSU-20, TSU-40			

i TK TYPE THERMAL OVERLOAD RELAYS



TK-32		TK-63	
●		●	
-		●	
690V		690V	
690V		690V	
6kV		6kV	
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



Frame Size		100AF													
Type		TC-75a		TC-85a		TC-100a									
Screw type terminals		●		●		●									
Lug clamp terminals		●		●		●									
Number of poles		3 pole													
Rated operational voltage (Ue)		1000V													
Rated insulation voltage (Ui)		1000V													
Rated frequency		50/60 HZ													
Rated impulse withstand voltage (Uimp)		8kV													
Maximum operating rate in operating cycles per hour (AC3)		1200 operations per hour													
Durability		Mechanical		12 mil. operations											
		Electrical		2 mil. operations		1 mil. operations									
Current power															
		kW		A		kW		A							
AC1, Thermal current		(A)		-		125		-		160					
AC3		220/240V		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		55		65	
		1000V		37		28		37		28		37		28	
Rated current															
Rated Short-time withstand current (IEC60947)		1s (A)		1100		1200		1320							
		10s (A)		750		800		900							
		30s (A)		400		450		500							
		1min. (A)		300		350		400							
		3min. (A)		220		270		270							
		10min. (A)		140		170		180							
		≥ 15min. (A)		114		150		160							
Size and weight															
AC Control		Weight (kg.)		1.93											
		Size (WxHxD) (mm.)		94 x 140 x 135.8											
DC Control		Weight (kg.)		2.8											
		Size (WxHxD) (mm.)		94 x 140 x 172.3											
Auxiliary Contacts															
Auxiliary (standard)		2NO2NC													
Side mount (optional)		TSU-01													
Front mount (optional)		TSU-20, TSU-40													

Note: Minimum conduct current of Auxiliary contactor is DC17V5mA.



TK TYPE THERMAL OVERLOAD RELAYS



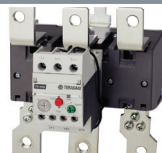
Model		TK-95	
Screw type terminals		●	
Lug clamp terminals		●	
Rated operational voltage (Ue)		690V	
Rated insulation voltage (Ui)		690V	
Rated impulse withstand voltage (Uimp)		6kV	
Setting range A		7~100	
Trip class		10A, 20	
Size and weight			
Weight (kg.)		0.48/0.5	
Size (WxHxD) (mm.)		70 x 97 x 110	



150AF				225AF				400AF						800AF					
TC-130a		TC-150a		TC-185a		TC-225a		TC-265a		TC-330a		TC-400a		TC-500a		TC-630a		TC-800a	
●		●		●		●		●		●		●		●		●		●	
●		●		●		●		-		-		-		-		-		-	
3 pole				3 pole				3 pole						3 pole					
1000V				1000V				1000V						1000V					
1000V				1000V				1000V						1000V					
50/60Hz				50/60Hz				50/60Hz						50/60Hz					
8kV				8kV				8kV						8kV					
1200 operations per hour				1200 operations per hour				1200 operations per hour						1200 operations per hour					
5 mil. operations				5 mil. operations				5 mil. operations				2.5 mil. ops		2.5 mil. operations					
1 mi. operations				1 mil. operations				1 mil. operations				0.5 mil. ops		0.5 mil. operations					
kW	A	KW	A	kW	A	KW	A	kW	A	KW	A	kW	A	KW	A	kW	A	KW	A
200	-	250	-	300	-	350	-	400	-	500	-	520	-	700	-	900	-	1050	-
37	130	45	150	55	185	75	225	80	265	90	330	125	400	147	500	190	630	220	800
60	130	75	150	90	185	132	225	147	265	160	330	200	400	265	500	330	630	440	800
60	90	70	100	110	180	132	200	147	225	160	280	225	350	265	400	330	500	500	720
55	60	55	60	110	120	140	150	160	185	200	220	250	300	300	380	400	420	500	630
75	50	75	50	132	90	132	90	147	105	147	105	147	105	280	220	280	220	280	220
1350		1800		2000		2500		3500		4000		4600		6000		7000		7500	
950		1200		1500		1700		2400		3000		4400		5050		6400		7000	
700		800		1000		1200		1500		2500		2974		4400		4500		4900	
550		600		800		1000		1100		1700		1846		3400		3500		3800	
350		450		520		700		800		1000		1313		2000		2200		2500	
200		300		350		500		600		620		760		1400		1550		1550	
175		280		320		400		500		553		699		1100		1300		1300	
2.4				5.4				9.2						22.2					
119 x 158 x 130.3				138 x 203 x 185.1				163 x 243 x 204.4						285 x 310 x 246					
2.4				5.4				9.2						22.2					
119 x 158 x 130.3				138 x 203 x 185.1				163 x 243 x 204.4						285 x 310 x 246					
2NO2NC				2NO2NC				2NO2NC						2NO2NC					
TSU-01				TSU-100, TSU-100E				TSU-100, TSU-100E						TSU-100, TSU-100E					
TSU-20, TSU-40				-				-						-					



TK TYPE THERMAL OVERLOAD RELAYS



TK-150	TK-225	TK-400	TK-800
●	●	●	●
●	●	●	●
690V	690V	690V	690V
690V	690V	690V	690V
6kV	6kV	6kV	6kV
34~150	65~240	85~400	200~800
10A, 20	10A, 20	10A, 20	10A, 20
0.67	2.5	2.6	11.5
95 x 109 x 113	147 x 141 x 184	151 x 171 x 198	360 x 530 x 212



Ratings and Specifications



4P CONTACTORS TO IEC 60947-4-1



Frame Size			18AF							
Type			TC-6a/4		TC-9a/4		TC-12a/4		TC-18a/4	
Screw type terminals			●		●		●		●	
Lug clamp terminals			-		-		-		-	
Number of poles			4 pole							
Rated operational voltage (Ue)			690V							
Rated insulation voltage (Ui)			690V							
Rated frequency			50/60 Hz							
Rated impulse withstand voltage (Uimp)			6kV							
Maximum operating rate in operating cycles per hour (AC1)			1800 operations per hour							
Durability			Mechanical				15 mil. operations			
			Electrical				0.5 mil. operations			
							0.8 mil. operations			
Current power										
			kW		A		kW		A	
			-		25		-		25	
AC1	200/240V		9	25	9	25	9	25	15	40
	380/440V		17	25	17	25	17	25	27	40
	500/550V		21	25	21	25	21	25	35	40
	690V		27	25	27	25	27	25	44	40
AC3	200/240V		2.2	9	2.5	11	3.5	13	4.5	18
	380/440		3	7	4	9	5.5	12	7.5	18
DC1 (L/R=1ms)	2-pole in series	110V	-	6	-	6	-	10	-	13
		220V	-	3	-	3	-	7	-	8
	3-Pole in series	110V	-	8	-	8	-	12	-	13
		220V	-	8	-	8	-	12	-	13
	4-Pole in series	110V	-	10	-	10	-	15	-	20
		220V	-	10	-	10	-	12	-	20
Size and weight										
AC Control			Weight (kg.)		0.33					
			Size (WxHxD) (mm.)		45 x 73.5 x 80.4					
DC Control			Weight (kg.)		0.4					
			Size (WxHxD) (mm.)		45 x 73.5 x 80.4					
Auxiliary Contacts										
Auxiliary (standard)			-							
Side mount (optional)			TSU-01							
Front mount (optional)			TSU-20, TSU-40							



22AF		40AF				85AF							
TC-22a/4		TC-32a/4		TC-40a/4		TC-50a/4		TC-65a/4		TC-75a/4		TC-85a/4	
●		●		●		●		●		●		●	
-		-		-		-		-		-		-	
4 pole						4 pole							
690V						690V							
690V						1000V							
50/60 Hz						50/60 Hz							
6kV						8kV							
1800						1800							
15 mil. operations per hour						12 mil. operations per hour							
1 mil. operations						1 mil. operations							
kW	A	kW	A	kW	A	kW	A	kW	A	kW	A	kW	A
-	40	-	50	-	60	-	80	-	100	-	110	-	135
15	40	18	50	22	60	30	80	37	100	41	110	51	135
27	40	35	50	42	60	56	80	70	100	76	110	95	135
35	40	43	50	52	60	70	80	88	100	97	110	120	135
44	40	55	50	66	60	88	80	110	100	120	110	150	135
5.5	22	7.5	32	11	40	15	55	18.5	65	22	75	25	85
11	22	15	32	18.5	40	22	50	30	65	37	75	45	85
-	15	-	25	-	25	-	35	-	35	-	50	-	50
-	10	-	12	-	12	-	15	-	15	-	20	-	20
-	20	-	25	-	35	-	50	-	65	-	75	-	80
-	20	-	22	-	30	-	40	-	50	-	55	-	60
-	30	-	32	-	40	-	60	-	70	-	80	-	100
-	25	-	30	-	35	-	50	-	60	-	70	-	70
0.4		0.59				1.2							
47.2 x 80 x 86.8		59 x 83.5 x 94.6				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							
-													
TSU-01													
TSU-20, TSU-40													



Ratings and Specifications



4P CONTACTORS TO IEC 60947-4-1



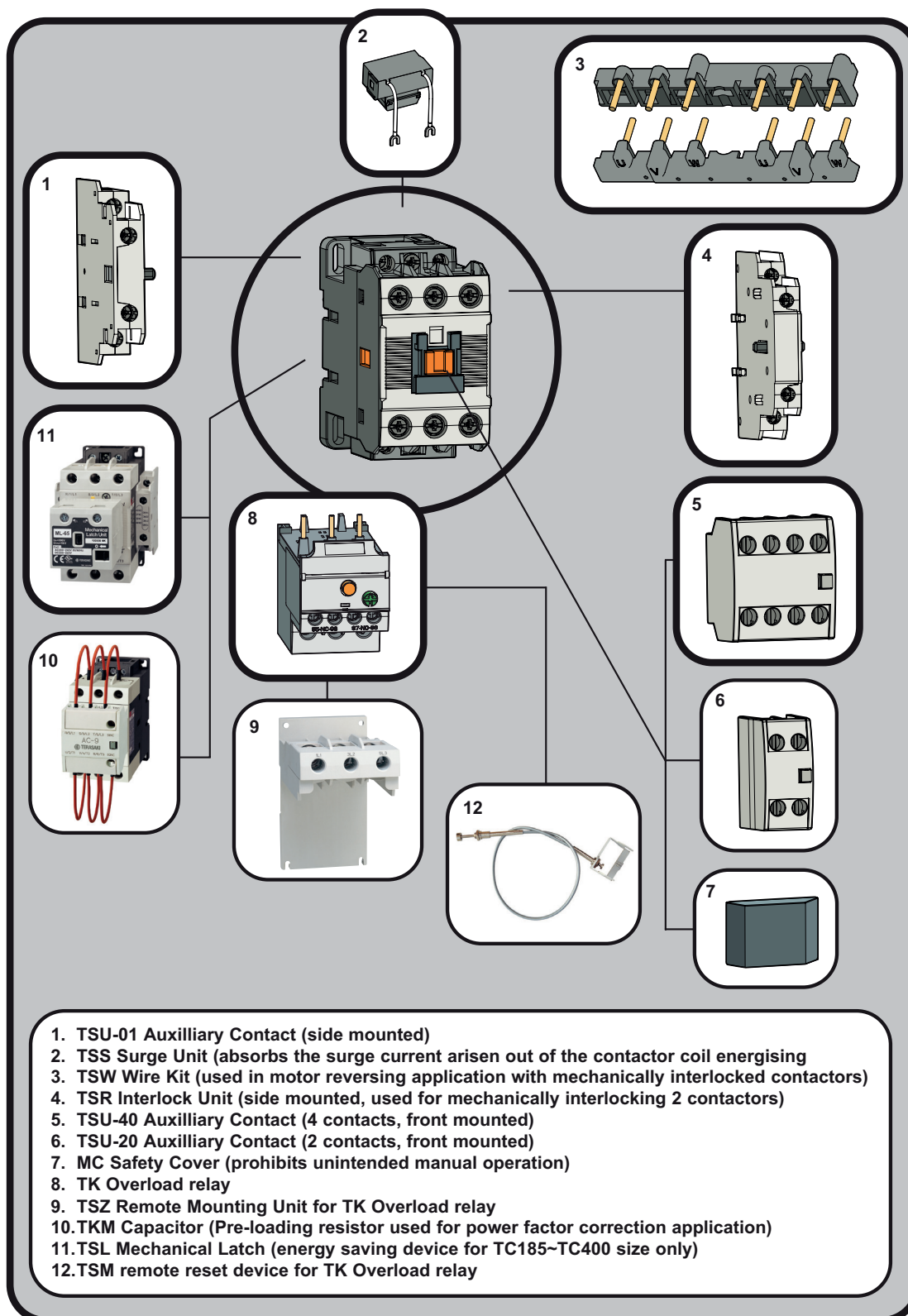
Frame Size			225AF																
Type			TC-100a/4		TC-130a/4		TC-150a/4		TC-185a/4		Tc-225A/4								
Screw type terminals			●		●		●		●		●								
Lug clamp terminals			-		-		-		-		-								
Number of poles			4 pole																
Rated operational voltage (Ue)			690V																
Rated insulation voltage (Ui)			1000V																
Rated frequency			50/60 Hz																
Rated impulse withstand voltage (Uimp)			8kV																
Maximum operating rate in operating cycles per hour (AC1)			1200 operations per hour																
Durability			Mechanical		5 mil. operations														
			Electrical		0.8 mil. operations														
Current power																			
Thermal Current (A)			kW		A		kW		A		kW		A						
			-		200		-		250		-		275		-		300		-
AC1	200/240V		57	200	60	250	76	275	87	300	100	350							
	380/440V		106	200	110	250	142	275	165	300	185	350							
	500/550V		132	200	137	250	180	275	205	300	230	350							
	690V		165	200	170	250	225	275	255	300	290	350							
AC3	200/240V		30	105	37	125	45	150	55	185	75	225							
	380/440		55	105	60	120	75	150	90	185	132	225							
DC1 (L/R=1ms)	2-pole in series	110V	-	80	-	80	-	100	-	150	-	150							
		220V	-	50	-	50	-	100	-	150	-	150							
	3-Pole in series	110V	-	100	-	100	-	150	-	180	-	220							
		220V	-	80	-	80	-	150	-	180	-	220							
	4-Pole in series	110V	-	100	-	100	-	150	-	180	-	220							
		220V	-	90	-	100	-	150	-	180	-	220							
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														
Auxiliary Contacts																			
Auxiliary (standard)			2NO2NC																
Side mount (optional)			TSU-100, TSU-100E																
Front mount (optional)			-																



400AF						800AF					
TC-265a/4		TC-330a/4		TC-400a/4		TC-500a/4		TC-630a/4		TC-800a/4	
●		●		●		●		●		●	
-		-		-		-		-		-	
4 pole						4 pole					
690V						690V					
1000V						1000V					
50/60 Hz						50/60 Hz					
8kV						8kV					
1200 operations per hour						1200 operations per hour					
2.5 mil. operations						2.5 mil. operations					
0.5						0.5					
kW	A	kW	A	kW	A	kW	A	kW	A	kW	A
-	400	-	500	-	520	-	700	-	900	-	1050
115	400	135	500	160	520	245	700	255	900	310	1050
215	400	250	500	300	520	450	700	470	900	570	1050
265	400	315	500	375	520	560	700	590	900	710	1050
335	400	390	500	470	520	710	700	740	900	900	1050
80	265	90	330	125	400	147	500	190	630	220	800
147	265	160	330	200	400	265	500	330	630	440	800
-	150	-	200	-	200	-	200	-	630	-	630
-	150	-	200	-	200	-	200	-	630	-	630
-	220	-	300	-	400	-	400	-	630	-	800
-	220	-	300	-	300	-	300	-	630	-	800
-	220	-	300	-	400	-	400	-	630	-	800
-	220	-	300	-	300	-	300	-	630	-	800
9.9						26.3					
206 x 243 x 205						346 x 310 x 244					
9.9						26.3					
206 x 243 x 205						346 x 310 x 244					
2NO2NC						2NO2NC					
TSU-100, TSU-100E						TSU-100, TSU-100E					
-						-					



EASY TO INSTALL • SIMPLE OPERATION • RELIABLE



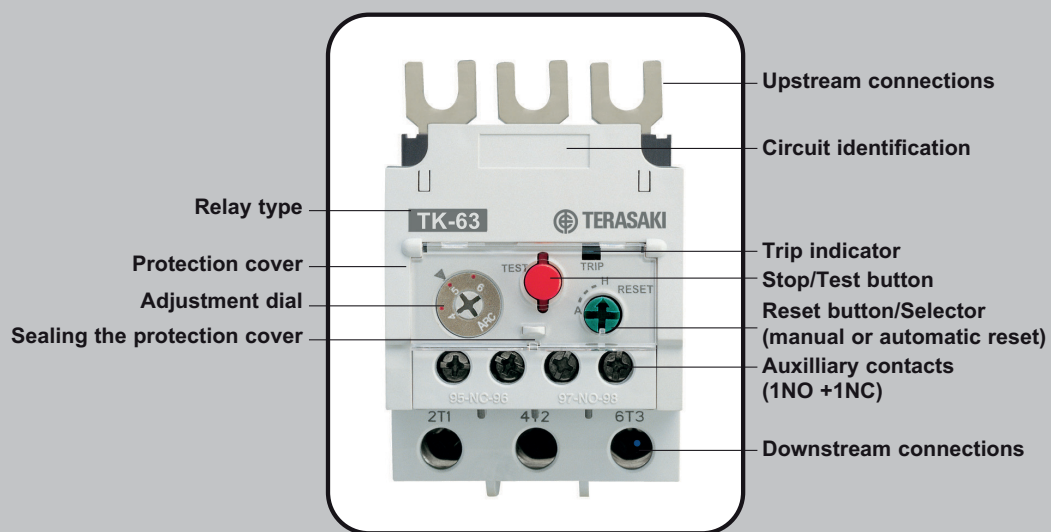


Thermal Overload Relays

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



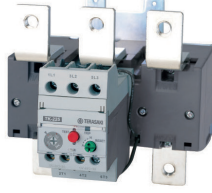
TK-95



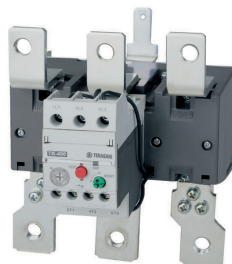
TK-150



TK-225



TK-400



TK-800



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CAT REF. 22-P75E

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