

Thermal Overload Relays

TR series

■ Features

● Manual trip

These relays can be manually tripped for sequence inspection by pressing manual trip bar (TR-0N/3, TR-5-1N/3). A sequence inspection will be performed when the test button is pulled out. When the test button is pressed in, only the NC contact will turn OFF. The original status will be restored when the test button is then released. (TR-N2/3 to N8/3)

● Trip-free mechanism

Even if the reset button is carelessly pressed, this relay trips without trouble (Trip-free mechanism).

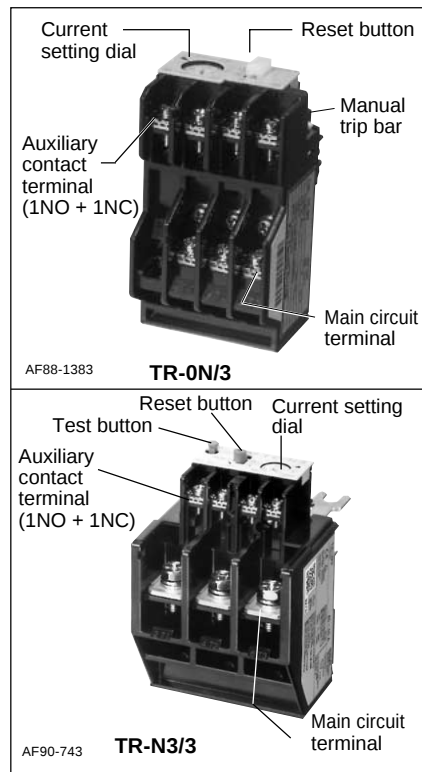
● Easy visual checking of operating status

Trip indicator and manual trip bar permit visual check of tripping status.



● Dial ampere setting

The setting dial uses a RC (Rated Current) marking which is set to the motor full load current.



■ Versatile optional accessories

Trip indicator



AF00-291

Reset release



AF00-585

Base unit for separate mounting



AF00-159

■ Optional accessories

Description			Type	Ordering code	Used with thermal overload relay
Reset release	Lead length	300 mm 500 mm 700 mm	SZ-R1 SZ-R2 SZ-R3	TZ1R1 TZ1R2 TZ1R3	TR-0N/3, TR-5-1N/3, TK-0N, TK-5-1N
You can reset these relays remotely on the front panels of switchboards.	Lead length	300 mm 500 mm 700 mm	SZ-R4 SZ-R5 SZ-R6	TZ2R4 TZ2R5 TZ2R6	TR-N10 to N14, TK-N10 to N14
					TR-N2/3 to N8/3, TK-N2 to N8
Trip indicator	100–110V AC 50/60Hz 200–220V AC 50/60Hz		SZ-L100 SZ-L200	TZ1L100 TZ1L200	TR-0N/3, TR-5-1N/3, TK-0N, TK-5-1N TR-N10 to N14, TK-N10 to N14
Easier checking of trip status	100–110V AC 50/60Hz 200–220V AC 50/60Hz		SZ-L100N2 SZ-L200N2	TZ2L100N2 TZ2L200N2	TR-N2/3 to N8/3, TK-N2 to N8
Dial cover For protection against the current setting being changed in error			SZ-DA	SZ1DA	TR-0N/3, TR-5-1N/3, TK-0N, TK-5-1N TR-N2/3 to N14/3, TK-N2 to N14
Base unit for separate mounting			SZ-HB	TZ1HB	TR-0N/3, TK-0N
The unit can be screw-mounted and rail-mounted.			SZ-HC	TZ1HC	TR-5-1N/3, TK-5-1N
			SZ-HD	TZ2HD	TR-N2/3, TK-N2
			SZ-HE	TZ2HE	TR-N3/3, TK-N3
Terminal cover			SZ-T10	SZ1T10	Base unit for separate mounting SZ-HB
			SZ-T11	SZ1T11	Base unit for separate mounting SZ-HC
			SZ-T14	SZ2T14	For separate mounting TR-N2H/3, TK-N2H
			SZ-T15	SZ2T15	For separate mounting TR-N3H/3, TK-N3H
			SZ-RN6T	SZ2RN6T	For separate mounting TR-N6H/3, TK-N6H
			SZ-T12	TZ1T12	TR-0N/3, TK-0N
			SZ-T13	TZ1T13	TR-5-1N/3, TK-5-1N
			SZ-T16	SZ2T16	TR-N2/3, TK-N2
			SZ-T17	SZ2T17	TR-N3/3, TK-N2

■ Selection guide/Standard type

On-contactor mounting	3-element	TR-0N/3 (TR13DW) TR-0N (TR13NW)		TR-5-1N/3 (TR20DW) TR-5-1N (TR20NW)		TR-N2/3 (TR35BDW) TR-N2 (TR35BNW)		TR-N3/3 (TR65BDW) TR-N3 (TR65BNW)	
Separate mounting	3-element	TR-0NH/3 (TR13DH) TR-0NH (TR13NH)		TR-5-1NH/3 (TR20DH) TR-5-1NH (TR20NH)		TR-N2H/3 (TR35BDH) TR-N2H (TR35BNH)		TR-N3H/3 (TR65BDW) TR-N3H (TR65BNW)	
Contactor to be combined		SC-03	SC-0 SC-05	SC-4-0	SC-4-1 SC-5-1	SC-N1	SC-N2	SC-N2S	SC-N3
Ampere setting range (A)	Code	A	0.1 – 0.15	0.1 – 0.15	0.1 – 0.15	0.1 – 0.15			
		B	0.13 – 0.2	0.13 – 0.2	0.13 – 0.2	0.13 – 0.2			
		C	0.15 – 0.24	0.15 – 0.24	0.15 – 0.24	0.15 – 0.24			
		D	0.2 – 0.3	0.2 – 0.3	0.2 – 0.3	0.2 – 0.3			
		E	0.24 – 0.36	0.24 – 0.36	0.24 – 0.36	0.24 – 0.36			
		F	0.3 – 0.45	0.3 – 0.45	0.3 – 0.45	0.3 – 0.45			
		G	0.36 – 0.54	0.36 – 0.54	0.36 – 0.54	0.36 – 0.54			
		H	0.48 – 0.72	0.48 – 0.72	0.48 – 0.72	0.48 – 0.72			
		J	0.64 – 0.96	0.64 – 0.96	0.64 – 0.96	0.64 – 0.96			
Specify the setting range code when ordering.		K	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2			
		L	0.95 – 1.45	0.95 – 1.45	0.95 – 1.45	0.95 – 1.45			
		M	1.4 – 2.2	1.4 – 2.2	1.4 – 2.2	1.4 – 2.2			
		N	1.7 – 2.6	1.7 – 2.6	1.7 – 2.6	1.7 – 2.6			
		P	2.2 – 3.4	2.2 – 3.4	2.2 – 3.4	2.2 – 3.4			
		R	2.8 – 4.2	2.8 – 4.2	2.8 – 4.2	2.8 – 4.2			
		S	4 – 6	4 – 6	4 – 6	4 – 6	4 – 6	4 – 6	
		T	5 – 8	5 – 8	5 – 8	5 – 8	5 – 8	5 – 8	
		U	6 – 9	6 – 9	6 – 9	6 – 9	6 – 9	6 – 9	
		V	7 – 11	7 – 11	7 – 11	7 – 11	7 – 11	7 – 11	7 – 11
		W		9 – 13	9 – 13	9 – 13	9 – 13	9 – 13	9 – 13
		X			12 – 18	12 – 18	12 – 18	12 – 18	12 – 18
		Q				16 – 22			
		B					18 – 26	18 – 26	18 – 26
		E					24 – 36	24 – 36	24 – 36
		F							28 – 40
		I						32 – 42	
		G							34 – 50
		J							45 – 65
		O							48 – 68
	L							53 – 80*	
	M							65 – 95*	
	I							85 – 105*	

On-contactor mounting	3-element	TR-N5/3 (TR80BDW)		TR-N6/3 (TR1CBDW)	TR-N7/3 (TR1FBDW)	TR-N8/3 (TR1JBDW)	TR-N10/3 (TR2CBDW)	TR-N12/3 (TR4ABDW)		TR-N14/3 (TR8ABDW)	
	2-element	TR-N5 (TR80BNW)		TR-N6 (TR1CBNW)	TR-N7 (TR1FBNW)	TR-N8 (TR1JBNW)	TR-N10 (TR2CBNW)	TR-N12 (TR4ABNW)		TR-N14 (TR8ABNW)	
Separate mounting	3-element	-		TR-N6H/3 (TR1CBDW)	-	-	TR-N10H/3 (TR2CBDH)	TR-N12H/3 (TR4ABDH)		TR-N14H/3 (TR8ABDH)	
	2-element	-		TR-N6H (TR1CBNW)	-	-	TR-N10H (TR2CBNH)	TR-N12H (TR4ABNH)		TR-N14H (TR8ABNH)	
Contactor to be combined		SC-N4	SC-N5A	SC-N6	SC-N7	SC-N8	SC-N10	SC-N11	SC-N12	SC-N14	
Ampere setting range (A)	Code	B	18 – 26	18 – 26							
		E	24 – 36	24 – 36							
		F	28 – 40	28 – 40							
		G	34 – 50	34 – 50							
		J	45 – 65	45 – 65	45 – 65	45 – 65					
		L	53 – 80	53 – 80	53 – 80	53 – 80					
		M		65 – 95	65 – 95	65 – 95	65 – 95				
		I		85 – 105							
		N			85 – 125	85 – 125	85 – 125	85 – 125			
		P			110 – 160*	110 – 160	110 – 160	110 – 160	110 – 160	110 – 160	
		R					125 – 185	125 – 185	125 – 185	125 – 185	
		S						160 – 240	160 – 240	160 – 240	
		T							200 – 300	200 – 300	
U								240 – 360	240 – 360		
V								300 – 450	300 – 450		
W									400 – 600		

Notes: • TR-N10/3 to N14/3 types are provided with CTs.
• Max. setting ranges of these starters are as shown in the table on the right.
• When ordering the thermal overload relays for starter use, select the applicable setting range.
(): Basic ordering code (When ordering phase-loss protective type, enter the version code E instead of D)
*: Separate mounting only

Motor starter	Maximum applicable heater range (A) 200–240V	380–440V
SW-03/3H	7–11	6–9
SW-4-0/3H	12–18	12–18
SW-N1/3H	24–36	24–36
SW-N2S/3H	34–50	34–50
SW-N4/3H	53–80	53–80
SW-N6/3H	85–125	85–125