

## 2.1.2 Selection Guide of the Current Transformers for TH-N600KP

Table 2.1.2

Current Transformer for TH-N600KP	Heater Designation(A)		250	330	500	660
	Setting Range(A)		200~300	260~400	400~600	520~800
	Current Transformer Ratio		400/5A	500/5A	750/5A	1,000/5A
	Current Transformer Capacity		At least 15VA			
	Recommended MITSUBISHI Current Transformer Model Number	Cable wiring	CW-15L 400/5A 15VA	CW-15L 500/5A 15VA	CW-15L 750/5A 15VA	—
Bus bar wiring		CW-15LM 400/5A 15VA	CW-15LM 500/5A 15VA	CW-15LM 750/5A 15VA	CW-40LM 1000/5A 40VA	

\* Current transformer to be supplied by customer.

## 2.1.3 Technical Data

Table 2.1.3

Three heater type Two heater type	TH- TH-	N12(CX)KP N12(CX)	N18(CX)KP N18(CX)	N20(CX)KP N20(CX)	N20TA(CX)KP N20TA(CX)	N60(CX)KP N60(CX)	N60TAKP N60TA	N120KP N120	N120TAKP N120TA	N220RHKP N220RH	N400RHKP N400RH	N600KP N600		
Max. setting current	A	13	18	22	40	65	105	100	150	220	400	800		
Range of setting current	A	0.1-13	2.8-18	0.2-22	18-44	12-65	54-105	34-100	85-150	65-250	85-400	200-800		
Rated insulation voltage	V	690	690	690	690	690	690	690	690	1000	1000	690		
Permissible ambient temperature	°C	-25 to +55												
Single phase protection		Types TH-N □□□ KP provide the protection.												
Bimetal heating		Direct									Via CTs		Via CTs <sup>1</sup>	
Max. heater dissipation per current path	Min. setting	W	0.8	0.9	0.8	1.4	1.7	2.4	2.5	3.2	2.5	2.5	2.5	
	Max. setting	W	1.8	2.2	2.2	3.5	4.9	5.2	7.1	8.6	6.0	6.0	6.0	
Auxiliary contact		1NO + 1NC												
Rated operating current of aux. contacts	Category	NO	120V		240V		500V		120V		240V		500V	
			A	2	1	0.5	3	2	1					
AC-15	contact	NC	120V		240V		500V		48V		110V		220V	
			A	2	1	0.5	0.5	0.2	0.1					
DC-13	contact	Category	120V		240V		500V		48V		110V		220V	
			A	2	1	0.5	0.5	0.2	0.1					
Main terminal screw size	Line side	mm	—		M4	M4	M6	M6	M8	M8	—	—	M4	
			Load side	mm	M3.5	M4	M4	M5	M6	M6	M8	M8	M10	M12
Standard wire sizes recommended	Heater designation-wire size	(mm <sup>2</sup> )	0.24A-2		3.6A-2		0.24A-2		22A-5.5		15A-3.5		67A-22	
			11A-2	11A-2	11A-2	29/35A-8	29/35A-8	42A-14	105A-60	—	—	—		
Max. conductor size	Main	Line side	(2.5) <sup>2</sup>		—		6		—		25		—	
			Load side	mm <sup>2</sup>	2.5	6	6	16	25	38	38	60	150	240
Busbar width	Line side	mm	—		—		—		15		—		20	
			Load side	mm	—	—	—	15	20	20	20	25	30	—
Aux. contacts		mm <sup>2</sup>	2.5		4		4		4		4		4	

Notes: 1. Used with current transformer (to be supplied by the customer). See Table 2.1.2.  
2. When used with UN-HZ I2(CX) adaptor.

## 2.1.4 Selection Guide of Quick Trip Thermal Overload Relay

Table 2.1.4

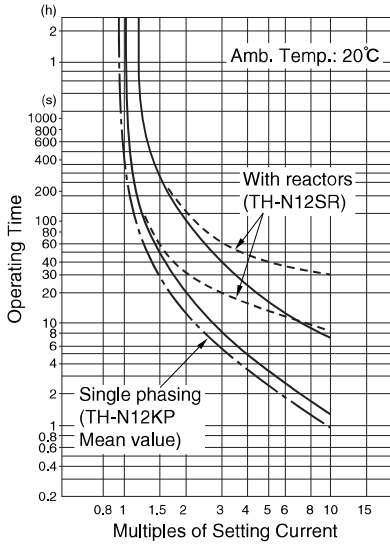
Applicable contactor	S-N10 S-N11 S-N12	S-N20 S-N21 S-N25 S-N35	S-N25 S-N35	S-N50 S-N65 S-N80 S-N95	S-N80 S-N95
Three heater type with phase failure protection	TH-N12KF	TH-N20KF	TH-N20TAKF	TH-N60KF	TH-N60TAKF
Two heater type	—	TH-N20FS	TH-N20TAFS	TH-N60FS	TH-N60TAFS
Heater setting range (Ordering designation)	1.7~2.5(2.1A) 2.8~4.4(3.6A) 4~6(5A) 5.2~8(6.6A) 7~11(9A) 9~13(11A)	1.7~2.5(2.1A) 2.8~4.4(3.6A) 4~6(5A) 5.2~8(6.6A) 7~11(9A) 9~13(11A) 12~18(15A)	18~26(22A) 24~34(29A) 30~40(35A) <sup>1</sup>	34~50(42A) 43~65(54A)	54~80(67A) 65~93(82A) <sup>2</sup>

Notes: \*1. Only for S-N35.  
\*2. Only for S-N95.

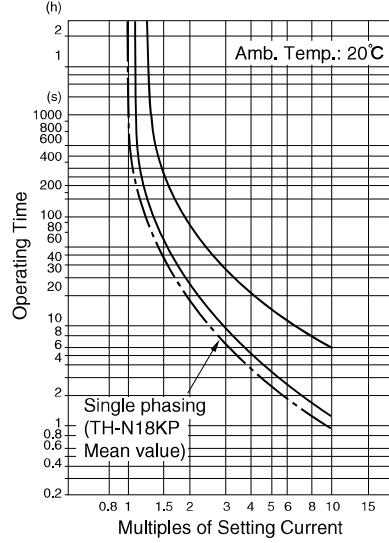
## 2.1.5 Operating Characteristics of Thermal Overload Relays

(Connecting wire size: Refer to "standard wire size" of Table 2.1.3)

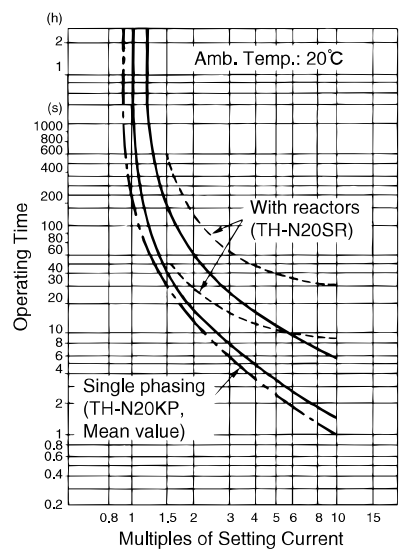
**TH-N12**  
**TH-N12KP·TH-N12SR**



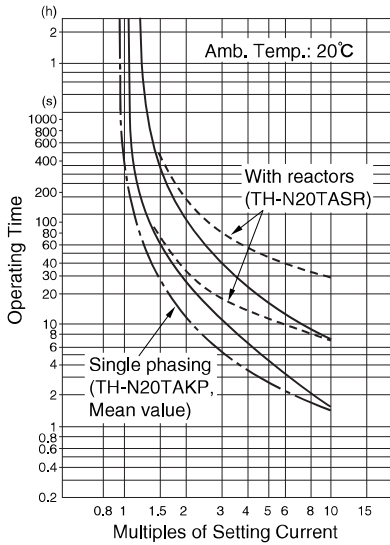
**TH-N18**  
**TH-N18KP**



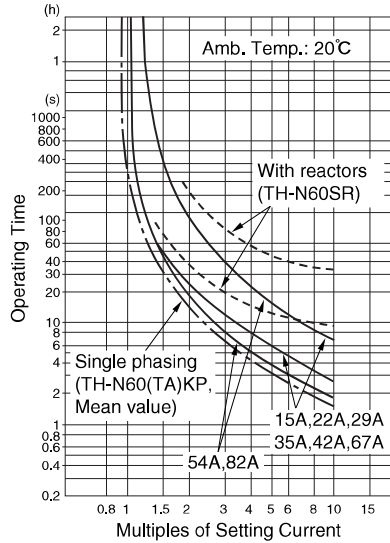
**TH-N20·TH-N20KP**  
**TH-N20SR·TH-N20KPSR**



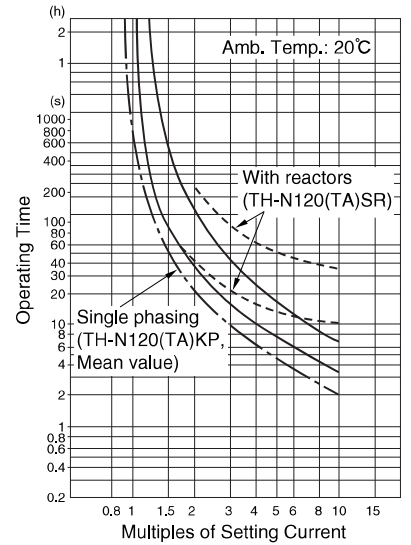
**TH-N20TA·TH-N20TAKP**  
**TH-N20TASR·TH-N20TAKPSR**



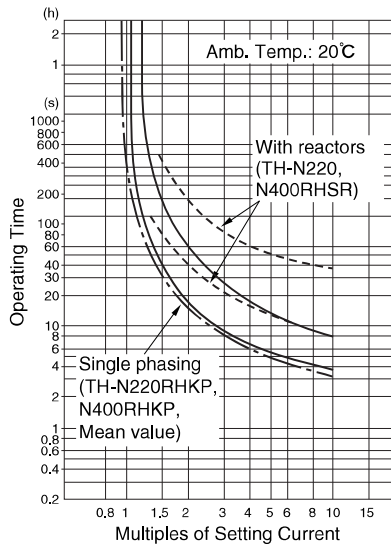
**TH-N60·TH-N60TA**  
**TH-N60KP·TH-N60TAKP**  
**TH-N60SR·TH-N60TASR**  
**TH-N60KPSR·TH-N60TAKPSR**



**TH-N120·TH-N120KP**  
**TH-N120SR·TH-N120KPSR**  
**TH-N120TA·TH-N120TAKP**  
**TH-N120TASR·TH-N120TAKPSR**



**TH-N220RH**  
**TH-N220RHKP**  
**TH-N220RHSR**  
**TH-N220RHKPSR**  
**TH-N400RH**  
**TH-N400RHKP**  
**TH-N400RHSR**  
**TH-N400RHKPSR**



**TH-N600**  
**TH-N600KP**  
**TH-N600SR**  
**TH-N600KPSR**

