Thermal overload relays with phase-loss protective device

■ Description

FUJI TK series consists of a 3-heater element thermal overload relay and an phase-loss protective device. These two elements are assembled to make the relay unit. The overload relay characteristics are designed to meet the thermal characteristics of a squirrel-cage motors at the time of overload. A FUJI ADL mechanism is also provided to protect from phase-loss. This ADL mechanism is incorporated with the overload relay.
The characteristics are coordinated with the temperature rise curve in stator winding at the time of motor phase-loss. They respond quickly to overloads.
Other features include the following.

TK-5-1N AF88-1380

TK-N6 AF00-141

A trip-free mechanism, wide-range dial ampere adjustment, manual/auto reset chageover lever, operating indicator, and ambient temperature compensators.
Types are available ranging from TK-0N to TK-N14.

■ Ordering information

Specify the following:
1. Ordering code
See pages 01/98.

■ Characteristics

The operating characteristics of a thermal overload relays
represents its tripping time and response current starting from
cold or hot state.

Cold starting characteristics

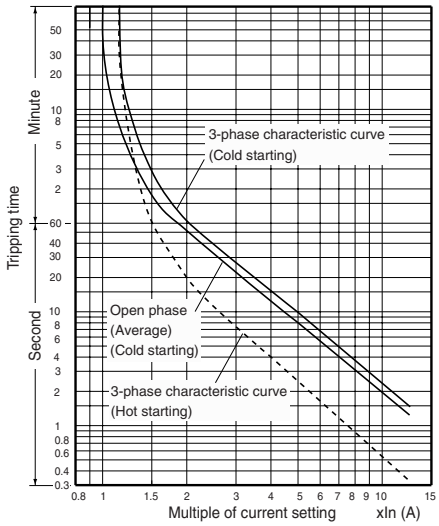
In cold starting, tripping time is measured from the time when
the temperature of the thermal overload relay is equal to the
ambient temperature.

Hot starting characteristics

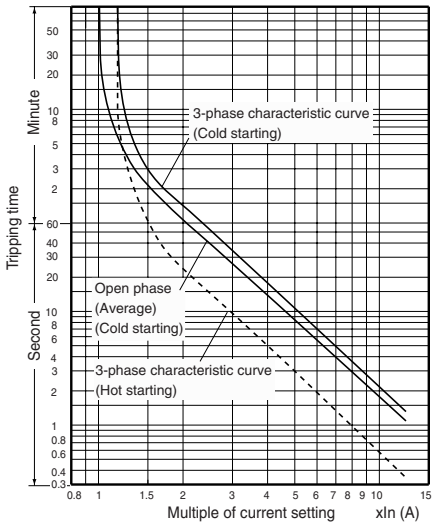
In hot starting, tripping time is measured from the time when
the thermal overload relay reaches the steady state after non-tripping current flows two hours.

Standard	When all poles are equally energized				When all poles are not equally energized			Ambient temp.
	Operating limit Non-tripping	Tripping	Overload (hot start)	Locked rotor (cold start)	Phase-loss protection	Operating limit Non-tripping	Tripping Hot start	
IEC 60947-4-1	105% Ie	120% Ie (2h max.)	class 10A 150% Ie 2min max.	class 10A 720% Ie 2 to 10s max.	Not provided	3-phase: 105% Ie	2-phase: 132% Ie	20˚C
			class 10 150% Ie 4min max.	class 10 720% Ie 4 to 10s max.			1-phase: 0 2h max.	
			class 20 150% Ie 8min max.1-phase:	class 20 720% Ie 6 to 20s max.	Provided	2-phase: 100% Ie	2-phase: 115% Ie	
			class 30 150% Ie 12min max.	class 30 720% Ie 9 to 30s max. *		1-phase: 90% Ie	1-phase: 0 2h max.	

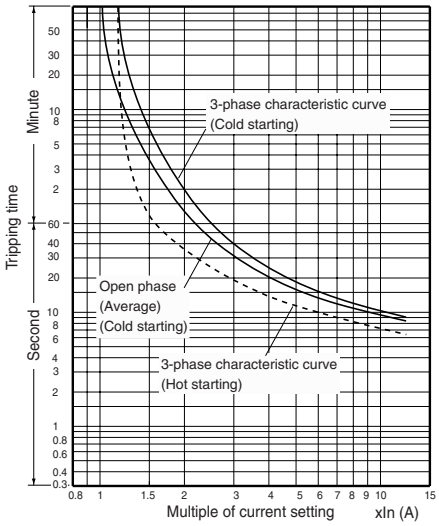
TK-0N, 5-1N
TK-0NH, 5-1NH



TK-N2, N3, N5, N6, N7, N8
TK-N2H, N3H, N6H



TK-N10, N12, N14
TK-N10H, N12H, N14H



■ Dimensions, mm

TK-0N to N14 types:
Same as standard types
See pages 01/103, 01/104.

■ Wiring diagrams

TK-0N to N14 types:
Same as standard 3-heater element types
See pages 01/107.

■ Ratings of auxiliary contact

Same as standard types.
See Page 01/102.