

Introduction



Thermal overload relay TI 9C-5 is used with mini-contactor CI 5 – for protection of squirrel cage motors where compactness is required. The relay have single – phase protection, i.e. accelerated release if phase drop-out occurs. This is particularly important for motors with delta connected windings. Other features of TI 9C-5 :

- stop/ reset button
- manual/automatic reset
- test button
- double scale for direct start or Y/D start
- galvanically isolated signal contact

Ordering

Range		Max. fuse ¹⁾				HRC ²⁾ Form II	Code no.	Type
Motor starter A	Y/D-starter A	gl, gL, gG		BS 88, type T				
		type 1 A	type 2 A	type 1 A	type 2 A			
0.13 - 0.20	-	25	-	32	-	1	047H3130	TI 9C-5
0.19 - 0.29	-	25	-	32	2	1	047H3131	
0.27 - 0.42	-	25	2	32	2	1	047H3132	
0.4 - 0.62	-	25	2	32	4	1	047H3133	
0.6 - 0.92	-	25	4	32	6	3	047H3134	
0.85 - 1.3	-	25	4	32	6	3	047H3135	
1.2 - 1.9	-	25	6	32	10	6	047H3136	
1.8 - 2.8	3.2 - 4.8	25	6	32	10	15	047H3137	
2.7 - 4.2	4.7 - 7.3	25	16	32	20	15	047H3138	
4.0 - 6.2	6.9 - 10.7	35	20	40	25	15	047H3139	
6.0 - 9.2	10 - 16	50	20	50	25	35	047H3140	
8.0 - 12	13 - 20.8	63	25	63	32	35	047H3141	

¹⁾ To IEC 947-4 coordination types 1 and 2:

Coordination type 1: Any type of damage to the motor starter is permissible. If the motor starter is in an enclosure, no external damage to the enclosure is permissible. After a short-circuit the thermal overload relay shall be partially or wholly replaced.

Coordination type 2: No damage to the motor starter is permissible, but slight contact burning and welding is permissible.

²⁾ In accordance with HRC form II, TI 9C and TI 12C is suitable for operation in Canada and the USA.

Selection of thermal overload relay:

The selection of a thermal overload relay must be based on the motor full load current and the method of starting:

- With direct start range for motor starter is used.
- With star – delta start the range for Y/D starter is used.

Example:

Full load current: 12A

- With direct start the suitable motor starter range is 8.0 – 12A, i.e. thermal overload relay 047H3141
- With Y/D – start, the suitable motor starter range is 10 – 16A, i.e. thermal overload relay 047H3140