IC5882-C TEMPERATURE-COMPENSATED THERMAL OVERLOAD RELAY

DESCRIPTION

The IC5882-C temperature-compensated thermal-overload relay consists essentially of an expansion tube or tubes, a heater or heaters, a set of contacts, and necessary linkages and reset mechanism.

In operation, the expansion tube trips a set of contacts in response to temperatures produced by heaters in the tube. Mounting the tube on a framework expanding at approximately the same rate as the tube provides ambient compensation such that the relay rating changes only about three percent with each 10 C change in ambient.

ADJUSTMENT

The relay has two adjustments; a permanent one made at the factory and an auxiliary one that can be made any time. The permanent adjustment, sealed in place after being set at the factory, should not be altered. The other adjustment permits the relay to be adjusted from 90 to 110 percent of normal rating. It is shipped with the pointer set at 100 percent. If it is found advisable to change the adjustment, loosen the lock screw, turn to the desired setting, and retighten the screw.

MAINTENANCE

Servicing

If a relay does not function properly, remove the cover, see that the moving parts are free and that the tips are not badly burned. If necessary, clean the tips with a fine file.

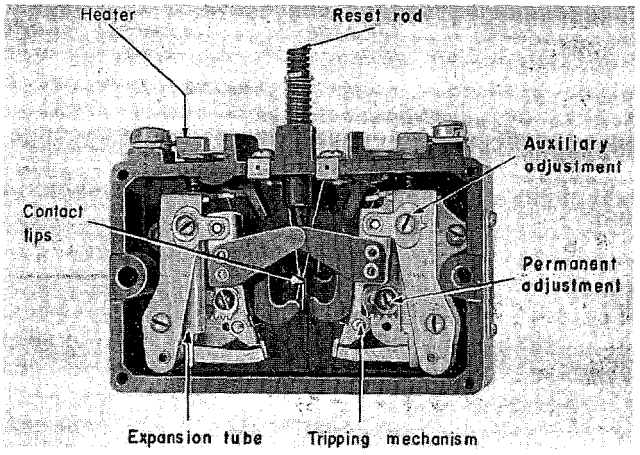

Fig. 1. IC5882-C1C overload relay with cover removed

In most cases of faulty relay operation, an entirely new relay must be installed. If any parts other than heaters are removed or replaced, recalibration of the relays is necessary.

Under no circumstances should the relay be mechanically tripped byforcing the lever which holds the tripping mechanism in place, as this will deform the expansion tube and disturb calibration.

Overload Difficulties

When an overload device has tripped and stopped a motor, it is advisable to determine the cause and make correction. If a check can be made quickly after shutdown, look for overheated bearings, jammed machinery, a blown fuse causing single-phasing on a three-phase circuit, and other possibilities. Compare the temperature of the motor with other motors running in the same room,

If the cause of overload or tripping is not apparent, check the load by means of an ammeter. If the motor is not overloaded, adjust the overload relay to a slightly higher trip setting (about. five percent) and operate again. Repeat the five percent increase as necessary to eliminate false trips. Do not adjust the relay for a setting higher than necessary. .

HEATER DATA

For Relay in Continuous-rated, 40C or 50C Ambient, Enclosed Controller

Heater Cat. No.	Heater Rating Amp	Application Motor Full-load Current in Amp
IC5882-C1 and -C2		
81D303	0.44	0.37 - 0.38
81D304	0.48	0.39 - 0.42
81D305	0. 53	0.43 - 0.46
81D306	0.58	0.47 - 0.50
81D307	0.64	0.51 - 0.56
81D308	0.71	0.57 - 0.62
81D309	0. 77	0.63 - 0.67
81D310	0.85	0.68 - 0.74
81D311	0.94	0.75 - 0.82

HEATER DATA (CONT'D)

Heater Cat. No.	Heater Hating Amp	Application Motor Full- load Current in Amp
IC5882-C1 and -C2 (CONT'D)		
81D312	1.03	0.83 - 0.90
81D313	1.14	0.91 - 0.99
81D314	1.25	1.00 - 1.09
81D315	1.37	1.10 - 1.20
81D316	1.50	1.21 - 1.31
81D317	1.65	1.32 - 1.44
81D318	1.82	1.45 - 1.59
81D319	2.00	1.60 - 1.74
81D320	2.20	1.75 - 1.92
81D321	2.42	1.93 - 2.11
81D322	2.65	2.12 - 2.31
81D323	2.92	2.32 - 2.55
81D324	3.20	2.56 - 2.80
81D325	3.54	2.81 - 3.09
81D326	3.92	3.10 - 3.42
81D327	4.3	3.43 - 3.75
81D328	4.7	3.76 - 4.10
81D329	5.2	4.11 - 4.54
81D330	5.7	4.55 - 4.98
81D331	6.25	4.99 - 5.45
81D332	6.9	5.46 - 6.03
81D333	7.6	6.04 - 6.65
81D334	8.3	6.66 - 7.25
81D335	9.2	7.26 - 8.05
81D336	10.1	8.06 - 8.83
81D337	11.1	8.84 - 9.70
81D338	12.2	9.71 - 10.6
81D339	13.4	10.7 - 11.7
81D340	14.5	11.8 - 12.7
81D341	15.9	12.8 - 13.9
81D342	17.4	14.0 - 15.2
81D343	19.3	15.3 - 16.8
81D344	21.3	16.9 - 18.5
81D345	23.6	18.6 - 20.6
81D346	25.9	20.7 - 22.5
IC5882-C2 ONLY		
81D360	28.5	22.6 - 24.9
81D361	31.3	25.0 - 27.3

HEATER DATA (CONT'D)

Heater Cat. No.	Heater Rating Amp	Application Motor Full-load Current in Amp
IC5882-C2 ONLY (Cont'd)		
81D362	34.5	27.4 - 30.0
81D363	37.9	30.1 - 33.0
81D364	41.7	33.1 - 36.4
81D365	46.0	36.5 - 40.0
81D366	50.6	40.1 - 44.2
IC5882-C3		
81D400	28.5	22.6 - 24.9
81D401	31.3	25.0 - 27.3
81D402	34.5	27.4 - 30.0
81D403	37.9	30.1 - 33.0
81D404	41.7	33.1 - 36.4
81D405	46.0	36.5 - 40.0
81D406	50.6	40.1 - 44.2
81D407	55.7	44.3 - 48.6
81D408	61.3	48.7 - 53.6
81D409	67.4	53.7 - 58.8
81D410	74.1	58.9 - 64.7
81D411	81.5	64.8 - 71.1
81D412	89.7	71.2 - 78.3
81D413	98.6	78.4 - 86.0
81D414	108.0	86.1 - 94.0
81D415	119.0	94.1 - 103.0
IC5882-C504		
82D100	75.0	59.5 - 65.2
82D101	82.3	65.3 - 71.6
82D102	90.5	71.7 - 78.7
82D103	99.0	78.8 - 86.1
82D104	110.0	86.2 - 95.3
82D105	120	95.4 - 104
82D107	133	105 - 115
82D108	145	115 - 125
82D110	158	126 - 138

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