

IC5882D TEMPERATURE-COMPENSATED THERMAL OVERLOAD RELAY

Before any adjustments, servicing, parts replacement or any other act is performed requiring physical contact with the electrical working components or wiring of this equipment, the POWER SUPPLY MUST BE DISCONNECTED.

DESCRIPTION

The IC5882D form is identical to IC5882C, except that the D form has a special mounting plate for high-shock applications.

The IC5882D temperature-compensated thermal-overload relay consists essentially of an expansion tube or tubes, a heater or heaters, a set of control 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, 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 control contacts are not badly burned. If necessary, clean the contacts with a fine file.

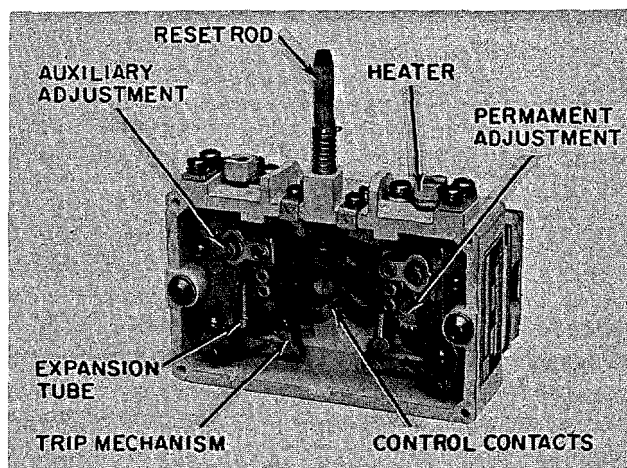


Fig. 1. IC5882D overload relay
with covey removed

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

Under no circumstances should the relay be mechanically tripped by forcing 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	Heater Cat. No.	Heater Rating Amp	Application Motor Full-load Current in Amp
IC5882D111, 121, 112 and 122 (NEMA Size 1 and 2)			IC5882D112 and D122 ONLY (NEMA Size 2)		
81D303	0.44	0.37 - 0.38	81D360	28.5	22.6 - 24.9
81D304	0.48	0.39 - 0.42	81D361	31.3	25.0 - 27.3
81D305	0.53	0.43 - 0.46			
81D306	0.58	0.47 - 0.50	81D362	34.5	27.4 - 30.0
81D307	0.64	0.51 - 0.56	81D363	37.9	30.1 - 33.0
			8 10364	41.7	33.1 - 36.4
81D308	0.71	0.57 - 0.62			
81D309	0.77	0.63 - 0.67	81D365	46.0	36.5 - 40.0
81D310	0.85	0.68 - 0.74	81D366	50.6	40.1 - 44.2
81D311	0.94	0.75 - 0.82			
81D312	1.03	0.83 - 0.90			
			IC5882D113 and D123 (NEMA Size 3)		
81D313	1.14	0.91 - 0.99			
81D314	1.25	1.00 - 1.09	81D400	28.5	22.6 - 24.9
81D315	1.37	1.10 - 1.20	81D401	31.3	25.0 - 27.3
81D316	1.50	1.21 - 1.31	81D402	34.5	27.4 - 30.0
81D317	1.65	1.32 - 1.44			
			81D403	37.9	30.1 - 33.0
81D318	1.82	1.45 - 1.59	81D404	41.7	33.1 - 36.4
81D319	2.00	1.60 - 1.74	81D405	46.0	36.5 - 40.0
81D320	2.20	1.75 - 1.92	81D406	50.6	40.1 - 44.2
81D321	2.42	1.93 - 2.11	81D407	55.7	44.3 - 48.6
81D322	2.65	2.12 - 2.31			
			81D408	61.3	48.7 - 53.6
81D323	2.92	2.32 - 2.55	81D409	67.4	53.7 - 58.8
81D324	3.20	2.56 - 2.80	81D410	74.1	58.9 - 64.7
81D325	3.54	2.81 - 3.09	81D411	81.5	64.8 - 71.1
81D326	3.92	3.10 - 3.42	81D412	89.7	71.2 - 78.3
81D327	4.3	3.43 - 3.75			
			81D413	98.6	78.4 - 86.0
81D328	4.7	3.76 - 4.10	81D414	108.0	86.1 - 94.0
81D329	5.2	4.11 - 4.54	81D415	119.0	94.1 - 103.0
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			

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