GEH-894F
Supersedes GEH-894E

INSTRUCTIONS

CR2824-1

TEMPERATURE OVERLOAD RELAYS

Also for Form.....Relay

The CR2824-1 single-pole overload relay has a heating element (A) carrying the motor current which in the event of an overload causes a thermostatic strip (B) to deflect sufficiently to trip latch (C) and open the contacts, which are normally connected in the coil circuit of the controller with which the relay is used, thereby disconnecting power from the motor.

After tripping, an interval is required for the cooling of the thermostatic strip, after which the relay may be reset by pulling down on knob (D).

Application

The heaters are of the interchangeable type, and by selecting the proper size of heater from the table on the back of this sheet, the correct rating will be secured for any value of motor full-load current within the limits indicated. In addition, heaters should not be selected for motor ratings in excess of the rating of the controller with which the relay is used. If the relay is mounted in a small enclosure or other location where the ambient temperature exceeds that of the motor by approximately 15 deg C, a heater one size larger than would ordinarily be selected should be used.

The Heater Amp given in the accompanying table is the approximate value of current on which the relay will ultimately trip in a 40 degree C ambient.

The relays are for use on circuits of 600 volts or less. For higher voltages, or motor currents in excess of the relay rating, current transformers may be used. The contacts will carry continuously 15 amperes, and make or carry momentarily 50 amperes, but should not be used to interrupt current in excess of the values listed below.

	AC				DC		
Volts	110	220	440	550	115	230	550
Amp	30	20	4	3	1.0	0.3	0.1

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purpose, the matter should be referred to the General Electric Company

To protect the relay, the controller, and the power supply system against excessive current resulting from short circuits, fuses should be provided that have a rating not exceeding four times the motor full-load current, or some other branch-circuit protective device should be installed in accordance with the National Electrical Code.

Installation

The relay should be mounted in the vertical position as shown in Fig. 1, and located, if possible, near the motor or in a place where the temperature conditions are approximately the same as that of the motor.

The heaters should be mounted according to instructions given on the relay heater carton. The screws holding the heater in place must be properly tightened.

DO NOT BEND OR TAMPER WITH THE THERMOSTATIC STRIP

No adjustment of the relay should be attempted other than changing heaters. If for any reason the bimetallic tripping element is bent or damaged so as to cause improper operation, a new tripping element, Cat. 4316428G1, should be installed.

Renewal Parts

It is not recommended that renewal parts be supplied other than heaters or tripping elements.

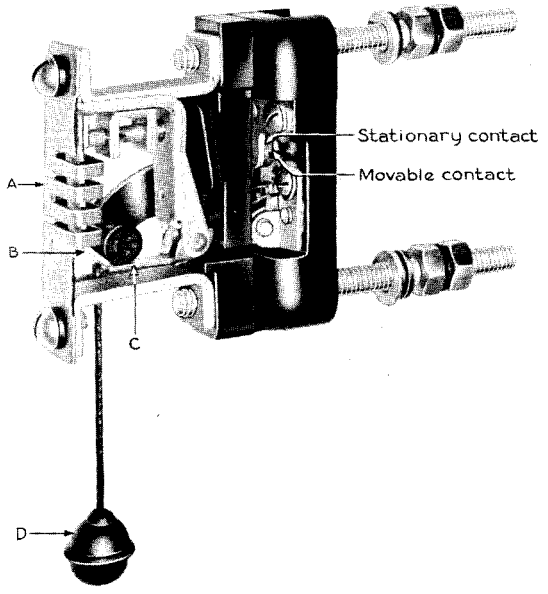

Fig. 1. CR2824-1 temperature overload relay

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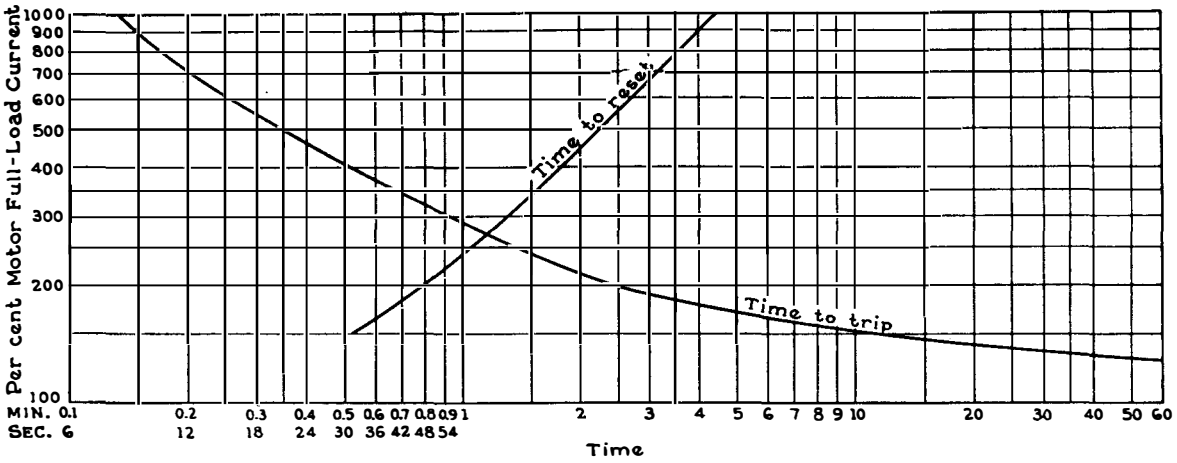

Fig. 2. Average tripping curve for CR2824 temperature overload relay

RELAY HEATERS FOR CR2824-1A WITH PUNCHED SUPPORTING POSTS

Heater Cat. No.	Motor Full Load Amperes *	Heater Amp	Heater Cat. No.	Motor Full Load Amperes *	Heater Amp
81D53	0.27 – 0.31	0.34	81D25	7.19 – 8.00	8.8
81D54	0.32 – 0.36	0.4	81D26	8.01 – 8.55	9.4
81D55	0.37 – 0.42	0.46	81D200	8.56 – 9.73	10.7
81D1	0.43 – 0.47	0.52	81D201	9.74 – 10.4	11.4
81D2	0.48 – 0.56	0.63	81D202	10.5 – 11.5	12.9
81D3	0.57 – 0.68	0.75			
81D4	0.69 – 0.80	0.88	81D204	11.6 – 12.9	14.2
81D5	0.81 – 0.85	0.93	81D205	13.0 – 14.5	16
81D6	0.86 – 0.95	1.05	81D33	14.6 – 15.8	17.4
81D7	0.96 – 1.05	1.15	81D34	15.9 – 17.4	19.1
81D8	1.06 – 1.13	1.25	81D35	17.5 – 18.4	20.2
81D9	1.14 – 1.25	1.38	81D36	18.5 – 20.3	22.4
81D10	1.26 – 1.37	1.51	81D37	20.4 – 21.3	23.4
81D11	1.38 – 1.51	1.66	81D206	21.4 – 24.6	26
81D12	1.52 – 1.65	1.85	81D207	24.7 – 26.8	29.3
81D13	1.66 – 1.82	2.0			
81D14	1.83 – 2.09	2.3	81D40	26.9 – 29.7	32.7
81D15	2.10 – 2.36	2.6	81D208	29.8 – 33.6	37
81D16	2.37 – 2.64	2.9	81D209	33.7 – 36.8	40.5
81D17	2.65 – 3.09	3.4	81D210	36.9 – 41.0	45.5
81D18	3.10 – 3.59	3.95	81D211	42.0 – 47.0	55
81D19	3.60 – 3.91	4.3	81D47	48.0 – 55.0	61
81D20	3.92 – 4.32	4.75	81D212	56.0 – 61.0	68
81D21	4.33 – 5.00	5.5	81D49	62.0 – 67.0	73
81D22	5.01 – 5.68	6.25	81D213	68.0 – 73.0	80
81D23	5.69 – 6.45	7.1	81D56	74.0 – 84.0	92
81D24	6.46 – 7.18	7.9	81D51	85.0 – 96.0	107

RELAY HEATERS FOR CR2824-1B WITH SQUARE SUPPORTING POSTS

Heater Cat. No.	Motor Full Load Amperes *	Heater Amp	Heater Cat. No.	Motor Full Load Amperes *	Heater Amp
81D44	41 – 45	50	81D49	82 – 87	97
81D45	46 – 50	58	81D50	88 – 102	113
81D46	51 – 61	68	81D51	103 – 117	130
81D47	62 – 67	75	81D52	118 – 135	150
81D48	68 – 81	90			

* For 40 C rise, continuous rated motors only (approx. 125 per cent protection). For 50- or 55-degree rise continuous rated motors, multiply motor full-load current by 0.9 and use this value for heater selection from the above tables.

GENERAL PURPOSE CONTROL DEPARTMENT

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