



OVERLOAD PROTECTION ASSEMBLY FOR USE WITH GCA SIZE 6 CONTACTORS

DESCRIPTION

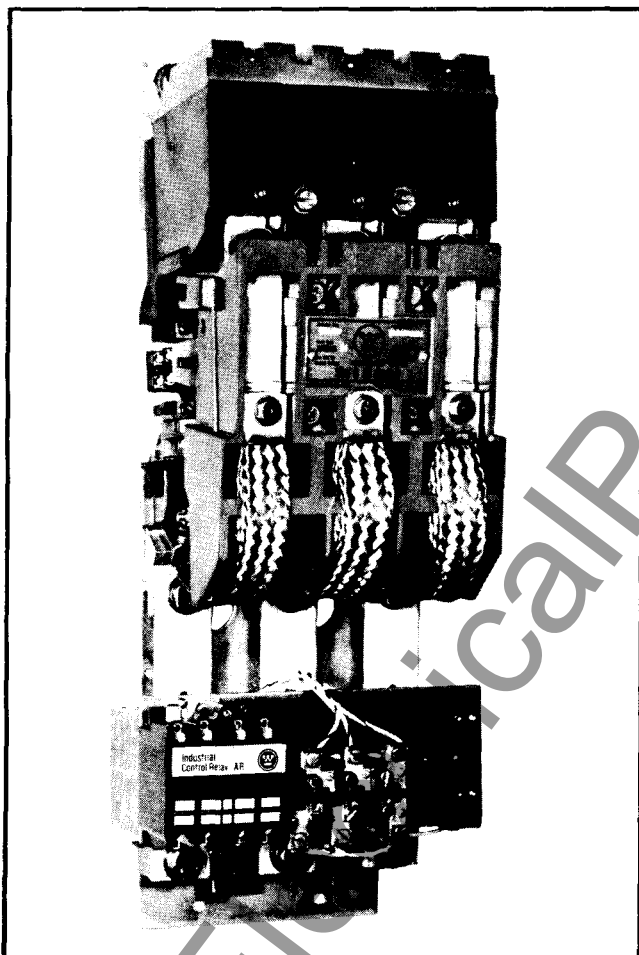


Fig. 1 (Photo BD 72-0011) Overload Protection Assembly Mounted on the Type GCA Size 6 Contactor.

A typical overload protection assembly consists of 3 Type GCO Current Transformers, a 3 pole Type A Thermal Overload Relay and a Type AR Control Relay (optional). These parts, assembled on load connection straps, insulator and mounting panel, make up the unit shown in Fig. 2. This unit is easily mounted on a Type GCA size 6 contactor as shown in Fig. 1. Outline dimensions and the location of the Type A Relay Reset rod are shown in Fig. 3.

RATINGS

The combination of Type GCO 600/5 Ratio Current Transformers, Type A Thermal Overload Relay, and Type GCA Size 6 Contactor is intended to provide motor overload protection for full load amperes (FLA) from 220 to 600 amps, 600 volts. See Fig. 4 for heater selection table.

ADDITIONAL DESCRIPTIVE INFORMATION

Additional information and detail instructions are available in the following Instruction Leaflets:

- Type A Thermal Overload Relay, 3 pole, see I.L. 13193
- Type GCA Size 6 Contactor, see I.L. 15-825-15A
- Type GCO Current Transformers, see below

TYPE GCO CURRENT TRANSFORMERS

The Type GCO Current Transformers were specially designed to mount in this overload protection assembly and operate the Type A Overload Relay.

600/5 ratio transformers are identified by a red case and molded nameplate. The single turn primary wind-

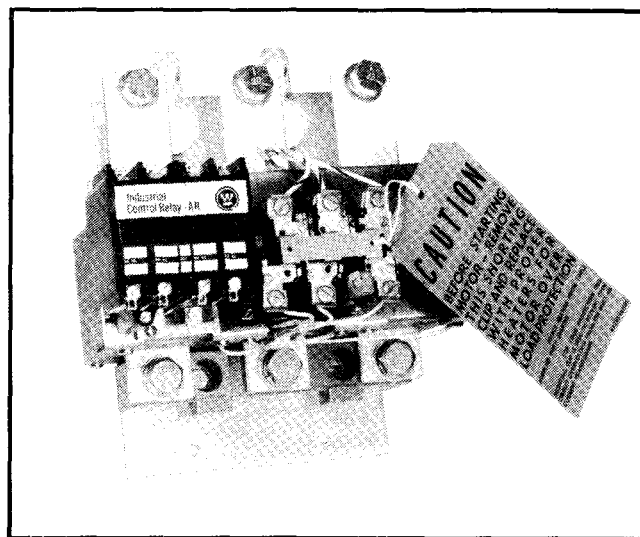


Fig. 2 (Photo BD 72-0012) Overload Protection Assembly with 3 pole Type A Thermal Overload Relay, 3 Type GCO Current Transformers, AR Relay and shorting clip with caution tag.

ing is provided by the load connection straps. The secondary wires are color coded for polarity identification-one white, the other black.

For special applications, 800/5 (grey case) and 1000/5 (green case) ratios are available.

These Type GCO current transformers must not be used to power auxiliary devices and must never be energized with the secondary leads open circuited since the open circuit overvoltage can damage the transformer.

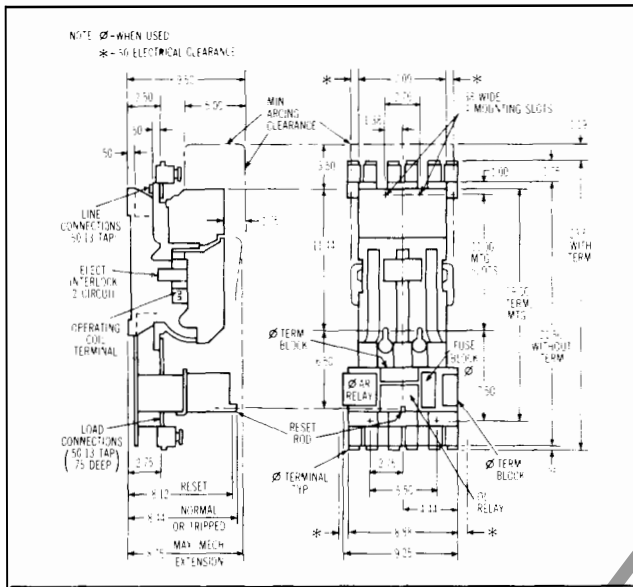


Fig. 3 (From Dwg. 3496C85) Outline and Reset Rod Location for Overload Protection Assembly Mounted on Type GCA Size 6 Contactor.

INSTALLATION

This industrial type control is designed to be installed, operated, and maintained by adequately trained workmen. These instructions do not cover all details, variations, or combinations of the equipment, its storage, delivery, installation, check-out, safe operation, or maintenance. Care must be exercised to comply with local, state, and national regulations, as well as safety practices, for this class of equipment.

The overload protection assembly shown in Fig. 2 is supplied ready to be mounted to the load connectors of the Type GCA Size 6 Contactor with the 1/2-13 bolts supplied, as shown in Fig. 1.

The Type A Overload Relay shorting clip and caution tag shown in Fig. 2 are supplied to prevent damage to the Type GCO transformers if they are inadvertently energized with the secondary leads open circuited. This might occur prior to heater installation when heaters are ordered separately. Overload heaters, properly selected from Fig. 4 Heater Selection Table, must be installed to provide motor overload protection.

For further installation and maintenance information, see I.L. 15-825-15A.

HEATER SELECTION

The Type A Thermal Overload Relay is available in two basic types - - the Type AN (non-compensated) and the Type AA (ambient compensated).

Type AN Thermal Overload Relay (Red Reset Rod)

The Type AN Thermal Overload Relay (non-compensated) is not compensated for ambient temperature variations and is identified by its red reset rod. When used where motor and relay ambients differ, select heaters from Fig. 4 using adjusted motor current as follows:

Decrease rated motor full load amperes (FLA) 1% (.01) for each degree centigrade (°C) motor ambient exceeds relay ambient;

Increase rated motor full load amperes (FLA) 1% (.01) for each degree centigrade (°C) relay ambient exceeds motor ambient.

Type AA Thermal Overload Relay (Black Reset Rod)

The Type AA Thermal Overload Relay (ambient compensated) is compensated for ambient temperature variations and is identified by its black reset rod. Select heaters from Fig. 4 regardless of ambient temperature variations between motor and relay.

MOTOR FULL LOAD CURRENT - FOR USE WITH THREE HEATERS ONLY					
Open Starter		Enclosed Starter		Heater	
Type AA13 Compensated OL Relay	Type AN13 Non-Compensated OL Relay (1)	Type AA13 Compensated OL Relay	Type AN13 Non-Compensated OL Relay (1)	Code Marking	Style
236-259	236-259	236-259	219-239	FH24	177C524G24
260-283	260-283	260-283	240-263	FH25	177C524G25
284-310	284-310	284-310	264-287	FH26	177C524G26
311-340	311-340	311-340	288-316	FH27	177C524G27
341-374	341-374	341-374	317-347	FH28	177C524G28
375-411	375-411	375-411	348-381	FH29	177C524G29
412-448	412-448	412-448	382-417	FH30	177C524G30
449-489	449-489	449-489	418-455	FH31	177C524G31
490-527	490-527	490-527	456-494	FH32	177C524G32
528-585	528-585	528-540	495-540	FH33	177C524G33
586-600	586-600			FH34	177C524G34

- (1) Based on outside ambient of 40° C (104° F).
- (2) Relay will ultimately trip at 125% of the minimum full load current shown in the table above.
- (3) Type AA13 ambient compensated OL relays have black reset rods.
- (4) Type AN13 non-compensated OL relays have red reset rods.
- (5) Heaters must be installed with the serpentine heating element portion away from the reset rod.
- (6) Heater currents are not those shown above, but obtained from the secondaries of 600/5 current transformers.
- (7) The table above is given for a 100% setting of the adjustment knob on the bottom of the relay. Turning the knob towards the 85% setting will result in the relay tripping in shorter time. Turning the knob towards the 115% setting will result in the relay tripping at a longer time.

Fig. 4 Overload Protection Table – For Use with GCA Size 6 Contactors From Dwg. 2084A49

RENEWAL PARTS

Complete renewal parts data is listed in RPD 16-100B6.



Westinghouse Electric Corporation
General Control Division
Asheville, N. C. 28813

Printed in U.S.A.