Westinghouse

Thermoguard Motors

INDUSTRIAL DEPARTMENT

I. L. 2082

2800

INSTRUCTIONS

Thermoguard Protection

Automatic starters or controllers are usually equipped with Thermal or Dash-Pot Type Overload Devices which protect the motors from the effects of the four following conditions, viz:

1 - Failure to start
2 - Stalled condition
3 - Continuous overload
4 - Phase failure

Manual face plate starters or speed regulators are regularly equipped with a low-voltage release coil but no other protective features are incorporated in the starter, therefore, they do not protect the motor against the above conditions.

THERMOGUARD motors are equipped with a Built-In Watchman which is mounted directly in the motor. The motor thermostat is provided with two leads which can be connected in the control circuit in a manner that will cause the controller to disconnect the motor from the source of power or give a warning signal when the thermostat operates, due to overheating of the motor.

It is the usual practice to mount the thermostat for A-C. Induction motors on the stator iron while in the case of fan-cooled or enclosed induction motors, D-C. motors and synchronous motors, the thermostats are mounted on the windings.

Motors which bear a THERMOGUARD name plate are automatically protected against overheating due to the following causes:

1 - Too frequent starting
2 - Frequently repeated overloads
3 - High room temperatures
4 - Abnormal voltage
5 - Ventilation failure

In the case of manual starters provided with low-voltage release, the THERMOGUARD motor is protected against overheating, due to continuous overload or phase failure as well as the five (5) causes listed above. The thermostat will not protect the motor against overheating, due to failure to start or if it stalls.

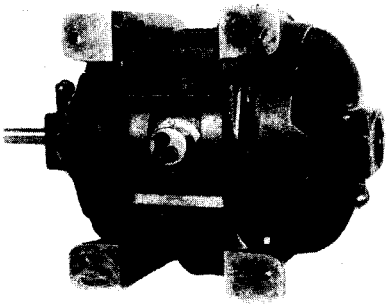

FIG. 1 - THERMOGUARD MOTOR - IN THIS CASE THE THERMOSTAT IS MOUNTED ON THE BOTTOM OF THE MOTOR.

(It should be definitely understood that the Motor Thermostat or any control devices do not protect the driven machine against damage, due to sudden jamming. This protection can be provided only by shear pins or similar devices).

ADJUSTMENTS

Temperature setting of thermostat is not adjustable. Thermostat is set at factory for proper operation. No changes should be made after installation

RENEWAL PARTS FOR THERMOSTAT

No parts of the thermostat will be supplied. In case of replacement complete new thermostat must be installed. In ordering give complete reading of name plate on the motor and also the reference number on the THERMOGUARD name plate.

ELECTRICAL CONNECTIONS

Thermostat leads are marked K_1 and K_2. Connect as shown on following diagrams. For use with special control devices, check control manufacturer for proper method of connection. The contacts of the thermostat are normally closed.

(1) THERMOSTAT ARRANGED TO STOP MOTOR

Conditions where THERMOGUARD motors may be arranged to stop when their temperature approaches a dangerous condition.

(A) Unattended applications.

(B) Applications where stopping of the motor will not seriously interfere with production.

The contacts of the Thermostat used on THERMOGUARD motors are normally closed. When heated to a predetermined temperature the bi-metallic disc causes the contacts to snap open and break the control circuit.

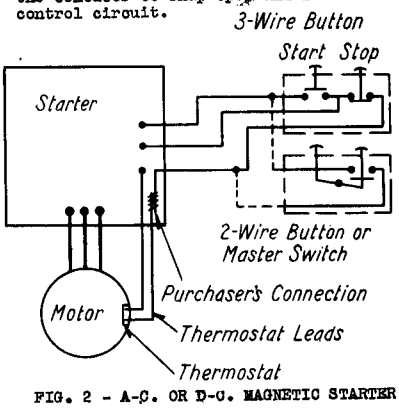

FIG. 2 - A-C. OR D-C. MAGNETIC STARTER

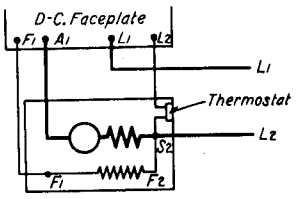

FIG. 3 - D-C. FACE PLATE

TYPE A AUTO-STARTER; CIRCUIT-BREAKER STARTERS. (CONNECT THERMOSTAT IN SERIES WITH LOW-VOLTAGE RELEASE COIL).

DRUM CONTROLLERS WITH PROTECTIVE PANEL. (CONNECT THERMOSTAT BETWEEN TERMINAL 9 ON LINESTARTER OR PROTECTIVE PANEL AND DRUM CONTROLLER RESET SWITCH).

Built-in Watchman

(2) THERMOSTAT ARRANGED TO GIVE AN ALARM SIGNAL

After a motor is shut down, due to overheating, it cools slowly and some time is required for the Thermostat to cool sufficiently to reset. In general, the larger motors require a greater time to cool. For some processes where a loss of products or other hazards occur when a motor ceases to operate the Built-In Thermostat should be arranged to cause a bell to ring or a lamp to be illuminated to give an advance warning of the approach of a dangerous condition.

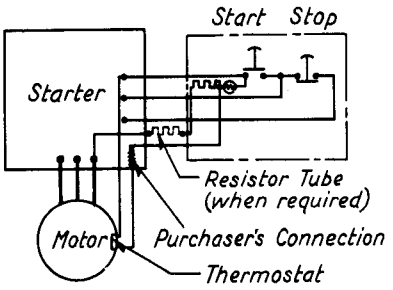

FIG. 4 - TYPE C-38 PUSH BUTTON WITH INDICATING LIGHT. LAMP LIGHTS WHEN THERMOSTAT OPERATES.

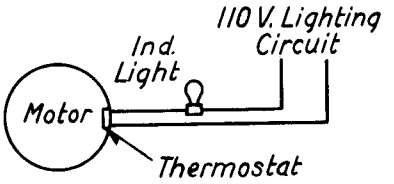

FIG. 5 - THERMOSTAT CONNECTED IN SERIES WITH LAMP IN LIGHTING CIRCUIT. LAMP GOES OUT WHEN THERMOSTAT OPERATES.

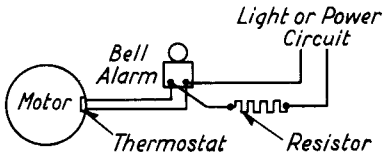

FIG. 6 - THERMOSTAT CONNECTED TO BELL ALARM (HORN OR LIGHT). BELL RINGS WHEN THERMOSTAT OPERATES.

FIG. 7 - THERMOGUARD MOTOR - WITH THERMOSTAT MOUNTED ON A STRIP OF COPPER INSERTED BETWEEN THE END TURNS OF THE STATOR WINDINGS.

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