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MAXIGARD™



CT5000 HEAT SWITCH

Introduction

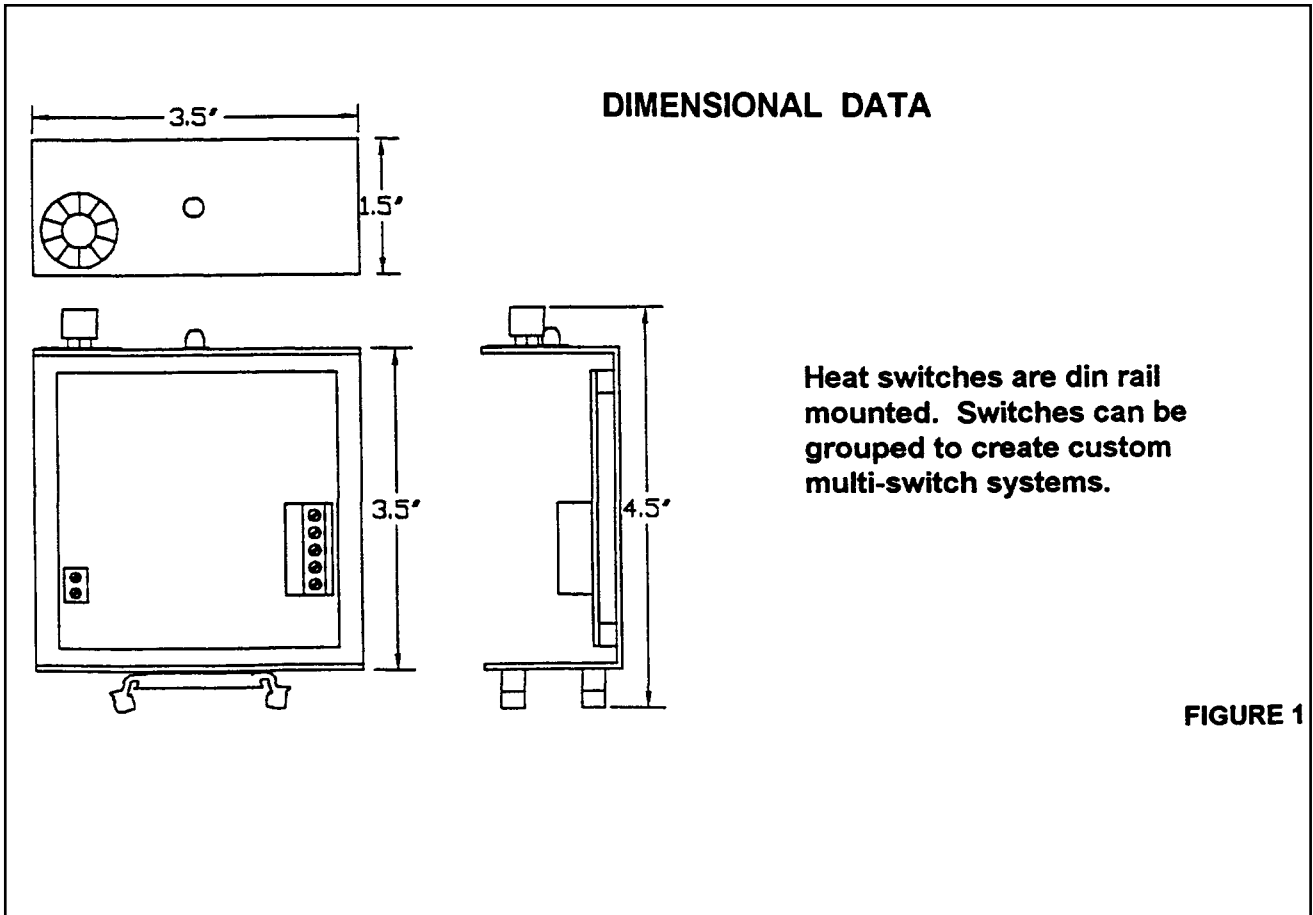
The MAXIGARD CT5000 is a thermocouple interface device and is designed to monitor the temperature of machine bearings and other temperature sensitive devices. The CT5000 is intended to alarm only if there is a deviation of several degrees from the normal operating temperature. The CT5000 is not intended for applications that require precise temperature measurement. If your application requires more accuracy, contact the factory for recommendations on alternate models. The CT5000 is precision built of quality materials and has been completely factory tested to insure trouble free operation.

Principle of Operation

The CT5000 uses types T, E, J or K type thermocouple sensors. Type must be specified when ordering. The thermocouple sensor provides a voltage signal and is sent via thermocouple extension wire to the CT5000 Heat Switch. Each switch has one adjustable set point relay. If the temperature rises above the preset trip point, the LED indicating light will turn on and the relay energizes, indicating an alarm condition. The relay can be interfaced with an auxiliary relay or directly into the motor control circuitry. The switch relay has automatic resetting and will return to its normal mode (open) when the temperature drops below the preset trip point. An auxiliary latching relay will be required if a latching function is required.

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1.0 Temperature Module Calibration

NOTE

Each module is an individual control and the relay is SPDT - 5 amp - 120 VAC

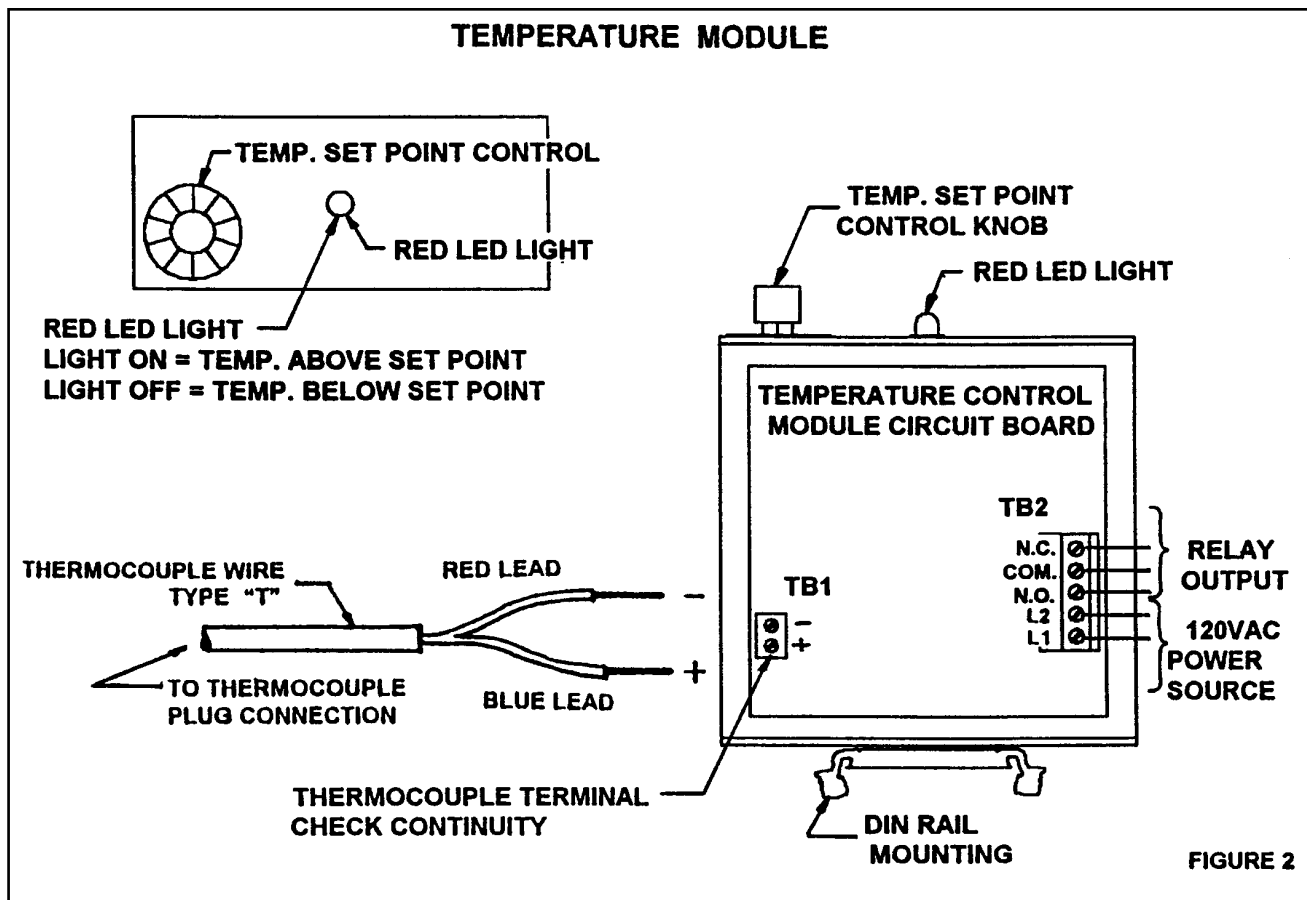
NOTE

The dial on the top of each module is for trip point setting and is scaled for (0- °F) Fahrenheit. The dial scale reading is approximate only.

- 1.1 Turn the module calibration dial to the desired approximate over heating trip point. (see figure 2, page 3)
- 1.1.1 Check and reset trip point after normal operating temperature has been established and adjust if necessary.
- 1.2 The modules' red LED indicating light will be off when the operating temperature is below the preset over heat trip point and the relay will be de-energized.
- 1.3 The red LED indicating light will be on when the operating temperature is above the preset over heat trip point and the relay will be energized

NOTE

The relay will de-energize and the LED light will turn off when the temperature drops below the over heat trip point, the module does not latch.



2.0 Energizing the Heat Switch Module

WARNING

Be sure line voltage is off before wiring, 120 VAC is preset, electrical shock could result in injury.

- 2.1** Wire 120 VAC directly to L1 and L2 on terminal block "TB2", located on the module circuit board.
(see figure 2, page 3)

3.0 Rub Block Installation and Wiring (skip to 4.0 if rub blocks are not used)

- 3.1** Install the (2) rub blocks on the elevator leg.
(see figure 3, page 5)

NOTE

The rub blocks assemblies are placed at right angles (90°) to the conveyor belt.

- 3.2** Connect the blue thermocouple wire to the female half of the blue plug attached to the rub block thermocouples, the red lead to (-) and the blue lead to (+).
(see figure 3, page 5)
- 3.3** Run a continuous blue extension thermocouple wire from the thermocouple plug to the Heat Switch module, terminal "TB1", located on the module circuit board. Make sure to maintain continuity, red (-) blue (+).
(see figure 2, page 3)

4.0 Bearing Temperature Thermocouple Installation and Wiring

NOTE

Clean area around grease fitting before removing. Avoid any dirt contamination to the bearing during installation.

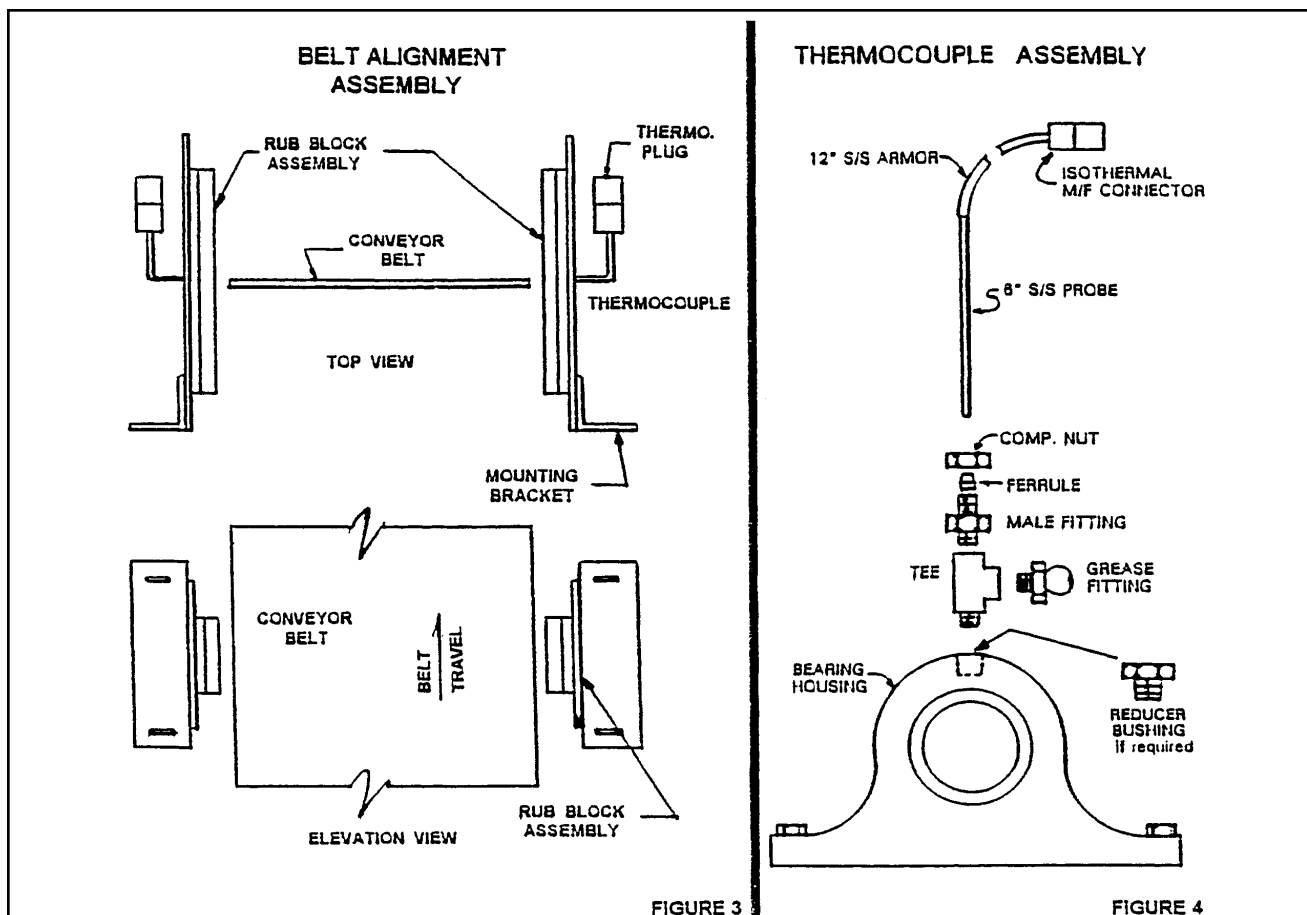
- 4.1** Remove existing grease fittings. Install the bearing thermocouple probe assemblies to the principle bearings.
(see figure 4, page 5)

- 4.1.1 If existing fitting is larger than new fitting, an adapter bushing will be required.
- 4.2 Insert thermocouple probe until the tip touches the outer race of bearing.
- 4.2.1 Tighten compression nut to secure the probe and prevent grease leakage.

CAUTION

If the bearing has an open race, the sensor probe must be positioned so it does not interfere with the retainer or moving parts.

- 4.3 Some bearings will require other methods of installing the sensor. Use care not to puncture or bend the probe or break the sensor leads.
- 4.4 Connect the blue thermocouple wire to the female half of the blue plug attached to the bearing thermocouple, the red lead to (--) and the blue lead to (+).
(see figure 4, page 5)
- 4.5 Run a continuous blue extension thermocouple wire from the thermocouple plug to the Heat Switch module, terminal "TB1", located on the module circuit board. Make sure to maintain continuity, red (--), blue (+).
(see figure 2, page 3)



LIMITED WARRANTY

Process Control Systems, Inc. will repair or replace, at their option, F.O.B. factory, any part or unit which proves to be defective in material or workmanship within five years of purchase date, provided that part of the unit was installed and operated as recommended, to be established by examination of the part or unit at the factory. Goods returned under warranty must be shipped prepaid to the factory and accompanied by the serial number, description of defect, order number and date of purchase.

This warranty shall not apply to any Maxigard™ product which shall have been repaired or altered outside of the Process Control Systems factory or has been subject to misuse, negligence or accident.

Process Control Systems, Inc. warrants its products, but not their application, and shall not be liable for any incidental or consequential damages incurred through the use or loss of use of a Process Control Systems product. No representatives or other person is authorized or permitted to make any warranty or assume for this company any liability not strictly in accordance with this guarantee.

There is no further warranty either expressed or implied beyond that set forth herein.