## INTRODUCTION

The thermal trip switch is offered as a standard accessory on Falk fluid couplings. It will provide protection against overheating if the coupling leaks fluid or is overloaded.

## OPERATION

Thermal trip plugs are used in place of the standard fusible FILL plugs. They are available for two release temperatures: 284°F (140°C) and 392°F (200°C). If an overload, jam, stall or fluid leak occurs the coupling slip will increase. Continuous high slip will cause the fluid temperature to rise. At the designated temperature the trip plug pin will extend and trip the limit switch and sound an alarm or cut out the drive motor, Figure 1. Refer to Trouble Shooting section of service manual furnished with the coupling to determine cause if coupling related.

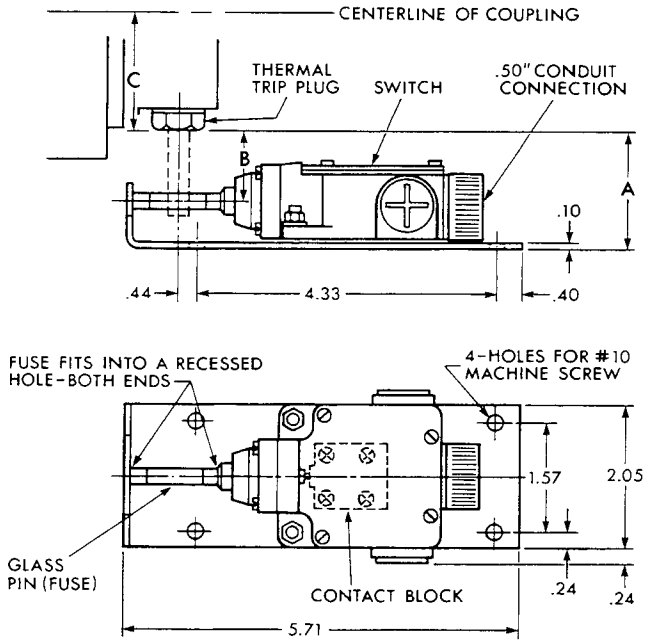


Figure 1

**Table 1 MOUNTING DIMENSIONS—Inches**

| Dimension | COUPLING SIZE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 185 | 235 | 270 | 320 | 370 | 420 | 480 | 584 | 660 | 760 | 870 |
| A | 1.16 | 1.16 | 1.16 | 1.26 | 1.26 | 1.26 | 1.26 | 1.26 | 1.26 | 1.26 | 1.26 |
| B | .53 | .53 | .53 | .63 | .63 | .63 | .63 | .63 | .63 | .63 | .63 |
| C | 4.3 | 5.3 | 5.6 | 6.7 | 7.6 | 8.6 | 9.8 | 11.9 | 13.7 | 15.3 | 17.3 |

**CAUTION: Check coupling fluid to make certain it has not overheated. Overheated fluid which becomes dark in color and gives off a burnt odor, must be changed.**

The system can be reactivated by replacing the trip plug and glass pin (fuse).

**CAUTION: DO NOT use a thermal trip switch on Type HF41 couplings without a proximity cut out switch. Refer to Factory for information.**

During normal operation, the glass fuse holds the switch contact in the activated or changed position, Figure 2. When the glass fuse is broken or removed, the electrical contacts will be as shown in Figure 3. Prior to installation, check switch contact function with and without glass fuse. If contact action does not change when glass fuse is in place, remove contact block, Figure 4, and turn small adjustment hex screw counter clockwise one full turn. Reinstall contact block and check switch contact function with and without fuse. Adjust until proper action is obtained.

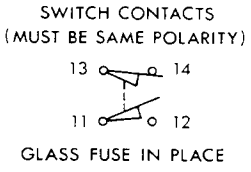


Figure 2

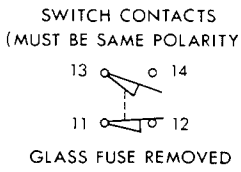


Figure 3

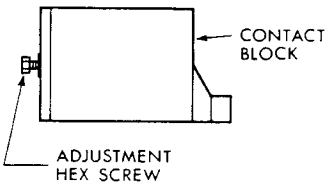


Figure 4

## INSTALLATION

**CAUTION: Lock out power source and remove all external loads from unit before servicing unit or accessories.**

1. Thermal trip plugs are installed at the Factory when the thermal trip switch is ordered with the fluid coupling. If the thermal trip switch is being added to a coupling already in service, proceed as follows: Thermal trip plug may be installed in either fill or drain hole, except on Sizes 320, 760 and 870 where it MUST be installed in the hole located in the thin perimeter flange side to provide for switch clearance. Replace remaining fill or drain plug with either a 392°F (200°C) fusible or a solid plug. The fusible plug should normally have a higher temperature limit than the thermal trip plug or be a solid plug.
2. Provide a rigid mounting surface for thermal trip switch. Refer to Figure 1 and mounting dimensions in Table 1.
3. Locate and install trip switch as shown in Figure 1. Rotate fluid coupling by hand to ensure clearance between fluid coupling and trip switch housing.
4. A qualified electrician must wire thermal trip switch in conformance with local or applicable codes. See recommended fail-safe wiring diagrams, Figures 5 and 6. Each application must be reviewed for correct circuit design by a qualified electrician.

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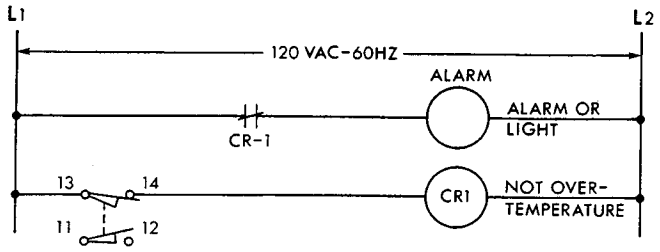


**Figure 5**

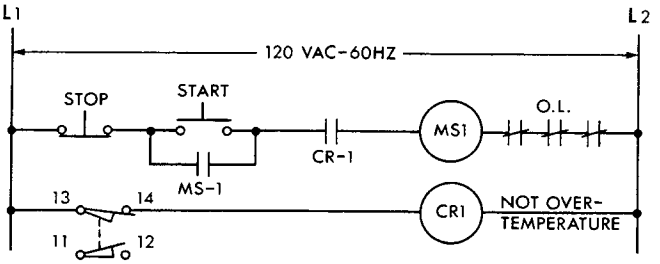


**Figure 6**

5. Before start-up check switch contact function, i.e. alarm, light, etc., without fuse to make certain switch operates correctly.

## SWITCH SPECIFICATIONS

- **Switch:** Falk B/M No. 764209
- **Glass Fuse:** Falk Part No. 932721, Types 3AG or AGC, Any Amperage
- **Electrical Rating*****

| Voltage | | 120V | 240V | 480V | 600V |
|---|---|---|---|---|---|
| AC 60 Hz PF = 35 | Make Amps | 60 | 30 | 15 | 12 |
| | Break Amps | 6 | 3 | 15 | 12 |
| DC (Amps) | | 11 | 55 | ... | ... |
| Power (Watts) | | 60 | 60 | 60 | 60 |

* 10 amp thermal current (NEMA A600)

- **Electric Life:** 1 million operations
- **Contact Configurations:** 1NO-1NC single pole, double break, snap action
- **Contact Resistance:** Less than 25mΩ
- **Enclosure:** NEMA 1, 4, 12, 13 IP665. Refer to the Factory for explosion proof requirements.
- **Repeatability:** 0.05mm (0.002 in.) on tripping point
- **Housing:** Die-cast zinc alloy
- **Operating Temperature:** −13° to +158°F (−25° to +70°C)
- **Storage Temperature:** −40° to +158°F (−40° to +70°C)
- **Shock Resistance:** 50G
- **Vibration Resistance:** 25G from 10 to 500Hz
- **Mechanical Life:** 20 million