



# FIRE DETECTION DEVICES LTD.

THERMOFLEX® AUTOMATIC THERMOSTATS  
FOR FIRE ALARM SYSTEMS

2001-09-30



Multiple Circuit Detector, rear view, indicating one N/O contact and one N/C Contact. "N/C" is referred to in French as "N/F".

**Spec. Sheet #3 Multiple Circuit Detector.** An important addition to the THERMOFLEX line of heat detectors is the **Multiple Circuit** unit. Two separate sets of contacts are available in the following configurations: two Normally Open (N/O) contacts, two Normally Closed (N/C) contacts, or one N/O and one N/C.

Any THERMOFLEX detector can be ordered in the Multiple Circuit configuration, regardless of its operation as a rate-of-rise / fixed temperature, or fixed temperature only, with any one of the four fixed temperature ratings (135, 165, 200 and 285 degrees F.) Multiple Circuit detectors are also available as Moisture Proof (see Spec. Sheet #2) and Explosion Proof (see Spec. Sheet #4).

The Multiple Circuit detector has a suffix that describes its contact configuration:

- For two Normally Open (N/O) contacts, the designation is "-2".
- For two Normally Closed (N/C) contacts, the designation is "-2C".
- For one (N/O) and one (N/C) contact, the designation is "-2CO".

The **Model CR 135-2** is a combination Rate-of-Rise and Fixed Temperature detector. Two sets of normally open contacts will close when the ceiling temperature increases at a (minimum) rate of 8.4 Celsius degrees (15 F. Degrees) per minute. Closing one contact initiates the fire alarm sequence while closing the other contact could sound a local audible or activate a local annunciation device. Independent of the rate-of-rise operation, the fixed temperature portion consists of a spring-loaded plunger retained by a fusible alloy that releases when the ceiling temperature reaches 57 degrees Celsius, (135 degrees F). When released, the plunger strikes both sets of contacts and holds them closed.

**Spacing** on an uninterrupted ceiling is 70' (22 m) for the rate-of-rise; 40' (12.5 m) for Fixed Temperature portion.

The **Model CR 135-2C** contains two Normally Closed (N/C) sets of contacts, which both *open* when the rate-of-rise or fixed temperature portion of the detector operates. Multiple units are wired in series, and may be supervised by resistor depending on the type of Control Panel that is used. Closed Circuit is characteristic of Intrusion Alarm systems.

The **Model CR 135-2CO** contains one Normally Closed (N/C) contact and one Normally Open (N/O) contact. Usually the N/O contact is used to initiate the Fire Alarm, and the N/C contact is used as a releasing device for a local door or for shutting down specific machinery or equipment.

**Note 1 :** The designation "CF" in the model number denotes "Fixed Temperature Only" operation. The three-digit number following denotes the temperature at which the plunger is released ( 135, 165, 200 or 285 degrees F.), permanently operating the contacts.

*For Example: CF 200-2CO describes a detector that is Fixed Temperature Only, fusing at 200 degrees F., containing one N/C contact and one N/O contact.*

**Note 2:** All Multiple Circuit detectors are available as Moisture Proof or Explosion Proof. Specify with suffixes "MP" or "EWT" respectively.

*For example: CR 135-2 MP describes a detector that is a combination rate-of-rise and fixed temperature unit, fusing at 135 degrees F., containing two N/O contacts, assembled with a Moisture Proof seal plate, and has four sets of pig-tail leads (2 per each set of contacts).*

### Contact Rating

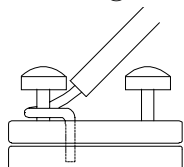
3A @ 125 VAC \* 1A @ 28 VDC \* 0.3A @ 125 VDC  
0.1A @ 250 VDC

### Dimensions

Diameter: 5.25" (13.4 cm)  
Height: 2.0" (4.85 cm)

### Weight:

0.34 lb. (156 gm)



All wiring must be installed in compliance with the local Electrical Code using approved cable, AWG 18 minimum. Begin electrical connections by stripping approximately 1" (2.5 cm.) from the end of each wire. Insert the stripped end into the wire-retaining hole in the terminal bar, wrap clockwise around the terminal screw, and tighten. Circuit wiring must be broken at each terminal to ensure proper supervision.