

# SIEMENS

## Installation Instructions Model FDT421

Heat Detector

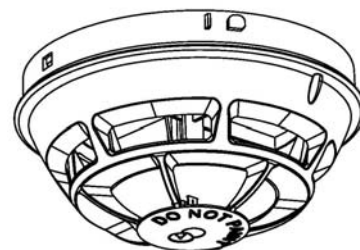


Figure 1  
FDT421

These instructions are written in accordance with the installation guidelines of NFPA 72, National Fire Alarm Code, The Installation of Fire Alarm Systems.

### CAUTION

#### Detection Device Storage

DO NOT install this detection device until all construction is completed.

DO NOT store this detection device where it can be contaminated by dirt, dust, or humidity.

### DETECTOR PLACEMENT

Locate Model FDT421 on the ceiling, at least 4 inches from the side walls. For an ideal, smooth ceiling condition, place the detectors at a maximum center spacing of 50 feet (2500 square feet).

Actual job conditions must determine detector spacing. Consider environmental factors including ambient temperature fluctuation, and the nature of the fire hazard. Room or area configuration and ceiling type (sloped or flat, smooth or beamed) also dictates placement.

Should questions arise regarding detector placement, follow the drawings provided and/or approved by Siemens Industry, Inc., or by its authorized distributors. This is extremely important! The detector placements shown on these drawings were chosen after a careful evaluation of the area being protected. Siemens Industry, Inc.'s extensive experience in design of the system assures the best detector placement by following these drawings.

### TEMPERATURE – HUMIDITY – PRESSURE

The operating temperature range for the FDT421 detectors is 32°F (0°C) to 100°F (38°C). The thermal alarm temperature depends on the parameter selected. Use these detectors in environments where the humidity does not exceed 95% (non-condensing). Normal changes of atmospheric pressure do not affect detector sensitivity.

### LED INDICATOR OPERATION

The Model FDT421 contains an LED indicator capable of flashing either one of three distinct colors: green, yellow, or red. The microprocessor-based detector monitors the following:

- Internal sensors and electronics

Based on the results of the monitoring, the LED indicator flashes the following:

Flash Color	Condition	Flash Interval (Seconds)
Green*	Normal supervisory operation.	10
Yellow	Detector is in trouble and needs replacement.	4
Red	Alarm	1
No Flashes	Detector is not powered, or replacement is needed.	-

\*LED can be turned off. Please follow the corresponding description of the Panel used.

### DETECTOR PROGRAMMING

Each detector must be programmed to respond to a unique system address between 001 - 252.

- To program the detector address, use the Model DPU Device Programming Unit. Refer to the DPU Manual, P/N 315-033260.
- Record the loop and device number (system address) for the detector on the detector label and on the base to prevent installing the detector in the wrong base. The optional DPU label printer can be used for this purpose.

Each detector provides pre-programmed parameter sets which can be selected by the panel. Please follow the corresponding descriptions of the panel used.

- Fixed 135°F (57°C)
- Fixed 145°F (63°C)
- Fixed 155°F (68°C)
- Fixed 165°F (74°C)
- Fixed 174°F (79°C)
- Rate-of-rise detection: 15°F/min (8.3°C) at fixed 135°F (57°C)
- Rate-of-rise detection: 15°F/min (8.3°C) at fixed 174°F (79°C)

Additionally the detector can be configured by some panels to have a low temperature warning at 40°F (4.4°C).

## WIRING

Detector bases for Model FDT421 should be connected as shown in Figure 2.

### DETECTOR MOUNTING

To ensure proper installation of the detector head into the base, be sure the wires are properly dressed at installation:

- Position all wires flat against the base.
- Take up all slack in the outlet box
- Route wires away from connector terminals.

### TO INSTALL DETECTOR HEAD:

- Rotate detector counterclockwise while gently pressing on it until the detector seats fully into base.
- Then rotate the detector clockwise until it stops and locks in place. Insert optional locking screw (Order Model LK-11).

### TO REMOVE DETECTOR HEAD:

- Loosen locking screw, if installed. Then rotate the detector counterclockwise until stop is reached.
- Pull detector out of base.

## DETECTOR TESTING

Only qualified service personnel should test. To assure proper operation of the detector and control panel, the Functional Test should be conducted. The minimum test schedule may be found in the current edition of NFPA 72 for installations in the U.S.

The detectors can be tested individually using the DPU. Refer to the DPU Manual, P/N 315-033260.

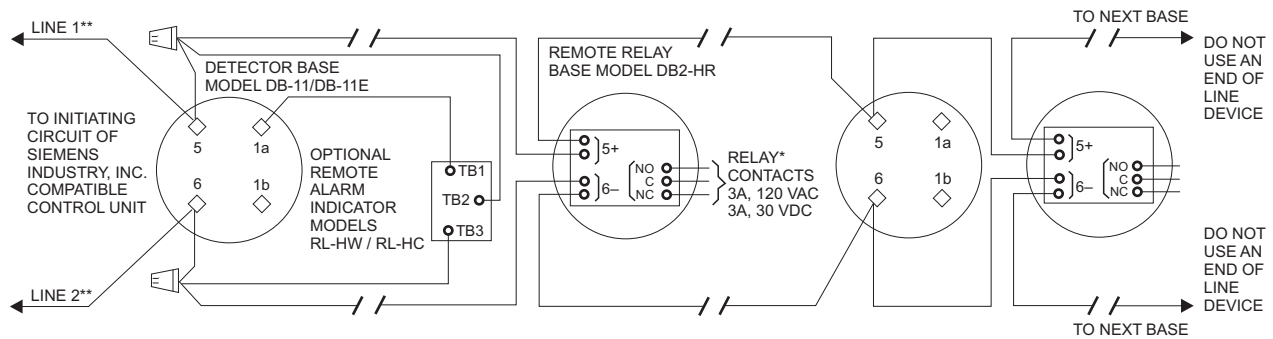
## MAINTENANCE

No special maintenance procedures are required for the FDT421. The control unit automatically indicates the trouble message for any detector. This detector may need replacement.

**CAUTION:** UNDER NO CIRCUMSTANCES IS THE DETECTOR HEAD TO BE DISASSEMBLED. NO REPAIRS SHOULD BE ATTEMPTED.

## DO NOT PAINT

The detector/base plastic is marked **DO NOT PAINT**. This is intended to prohibit painting during routine maintenance of the occupancy which can affect proper operation of the detector.



\*The relay contacts are shown after System reset, which represents the non-alarm condition.

\*\*FDT421 is a polarity insensitive detector. Line 1 and Line 2 can be either line of the loop.

Figure 2  
Installation and Wiring Diagram