

Installation Instructions For Fire/Overheat Detector

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DESCRIPTION

The Fire/Overheat Detector, shown in Figure 1, monitors for fire and overheat conditions. It can be used in areas where there are usually very high temperatures.

The detector is made from welded stainless steel and is completely sealed. It is not repairable and cannot be disassembled. The detector is set to a specified alarm temperature when it is made at the factory and the temperature cannot be adjusted.

The detector electrically connects to its related equipment through two terminal posts with threads inside. Stainless steel screws attach the wiring from the related equipment to the two terminals. The detector mechanically attaches to the monitored area by the 3/4-14 National Pipe Thread (NPT) area location. A part of the head contains 1-1/8 in. hex that has data about the detector recorded on the hex's flat surfaces with an electro-etch device. See Figure 1 and 2 below.

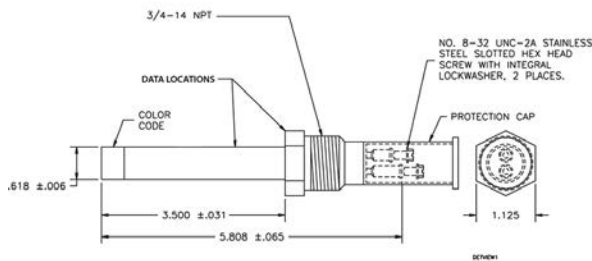


Figure 1. Fire/Overheat Detector

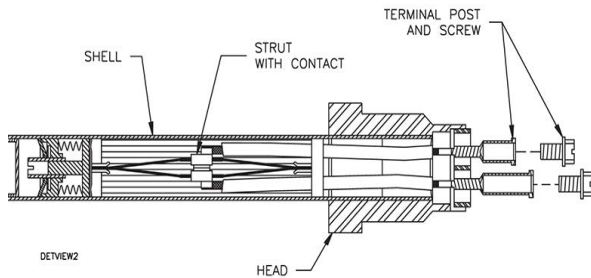


Figure 2. Detector Internal View

SCHEDULE OF LIMITATIONS FOR EX COMPONENTS:

The detector must be mounted in a suitably IEC Ex certified enclosure that complies with the appropriate requirements for zone 2 applications.

Maximum surface temperature is dependent on ambient temperatures and must be determined in the final assembly installation. The temperature rise of the outside of the shell does not exceed 2°C above ambient when carrying the rated 0.5A + 10%.



The minimum data shown on a detector is as follows:

- Manufacturer's name and address:
Fenwal Controls
400 Main Street, Ashland MA 01721 USA
- Part Number: **17343-124-XXXF** (where the XXX is the set-point in degrees Fahrenheit)
- Date Code: **XXYY** (where XX=year, YY=week)
- Rating: **0.5A, 125 VDC**
- Marking:

	Korean Cert. # 14-KB4BO-0749U Ex nC IIC T3	
	II 3 G Ex nC IIC T3 Gc +45°C ≤ Ta ≤ +440.5°C ITS03ATEX41211U	
	Taiwan OSHA certification TD 11002A	
	Class I, Division 1, Groups BCD CSA: 159064 UL: E139663	

UL Installation Requirements:

The unit must be attached to a UL Listed outlet box for use in at least the same Classes and Groups as marked on the nameplate, having a threaded opening with No. 3/4-14 NPT threads for mounting. The outlet box shall have a maximum internal volume of 10 cubic inches and conduit opening(s) designed to accept conduit not larger 3/4 inch. The unit shall be threaded to the 3/4-14 NPT thread at least five full threads engagement." Joint Between Hub and Enclosure - Threaded metal-to-metal joint. Minimum five full thread engagement

CSA Installation Requirements:

To be Certified, the overheat detector must be assembled to a CSA Certified junction box. The overall Hazardous Location Designation is governed by the Hazardous Location Rating of the junction box and not exceeding Class I, Division 1 Group B ratings.

Additional data is shown on the detector head at the end, opposite the hex end. This data is:

- Customer part number
- Customer code

The Fire/Overheat Detector has a color band on the end opposite the electrical connection points. The color band is an indication of the temperature range of the detector. Refer to the color code chart that follows for the color band of the detectors and additional data.

Table 1. Color Code Chart

Temperature ^{1,2} Set-Point	Color Band
140°F (60°C)	None
325°F (163°C)	Red
425°F (218°C)	Green
600°F (316°C)	Orange
725°F (385°C)	Grey

¹: The settings are noted by the color of the band applied to the tip of the heat detector shell of 17343-124.
²: All temps. ± 25°F (± 13.89°C)

Specified data for the Fire/Overheat Detector is given in Table 2.

Table 2. Specified Data

Specified Item or Function	Data
Temperature Range for Operation	-50°F to +825°F (-45.5°C to +440.5°C)
Electrical Contact Rating	0.5 Ampere at 125VDC
Electrical Interface Connection	2 each terminal posts with No. 8-32 UNC-2A Stainless Steel Slotted Hex Head Screws with Integral Lockwasher
Electrical Connection Torque	25 in-lb. (2.8 Nm) maximum
Electrical Connection Protection Cap	P/N RCL-10 (Vendor: Protective Closures Co., CAGE Code 99017)
Dimensions	See Figure 1
Approval	ATEX approved for Zone 2, Category 3. Type of protection "nC".

INSTALLATION

The Fire/Overheat Detector must be attached to an IP 54 rated junction box with the applicable Group and Category for the installation. The box must have a 3/4 NPT opening to install the detector.

The one who installs the detector must supply a means to prevent non-permitted decrease of clearance per IEC60079-15, paragraph 6.7.

Replacement parts must be the same part number as the part being replaced.

Bonding of the fire detector is through the 3/4 NPT thread. The installer must ensure that a ground connection is made to the IP 54 box-grounding terminal.

PROCEDURE



Do not supply more than 25 lbf in. torque to the detector's terminal screws or you can damage the detector. If the detector is damaged, you must discard it.



Do not paint the detector or let paint from another source get on the detector or it will not operate correctly.

1. Turn the detector clockwise into the related equipment's 3/4 NPT opening a minimum of 5 full turns. Torque the detector to 20 ft-lb. (27 Nm).
2. Connect the related equipment's system wiring to the detectors terminals with the No. 8-32 UNC-2A SS slotted hex head screws with integral washer. Make sure the wire connections do not touch each other. Torque the screws to a value between 20 and 25 in-lb. (2.26 and 2.82 Nm).
3. Make sure that no objects touch the detector or can touch or damage it during usual system operation
4. Keep the detector free of contamination and unwanted materials. Refer to the CLEANING section.

CLEANING

Materials

- LPS Presolve solvent
- clean lint-free cloth



Clean with solvents in an area that has good airflow. Do not clean near heat or open flame.



When you clean the detector, do not use an abrasive material or rub the detector too much. This can change its properties and result in a change in the temperature set point that makes the detector unserviceable.



Be careful when you use compressed air or gas. Always point the flow away from personnel. Compressed air or gas and the material moved by the air or gas pressure is dangerous and can cause injuries. Wear applicable eye protection.

1. Use a clean lint-free cloth wet with LPS Presolve solvent to clean the detector
2. Use nitrogen dry air at a maximum pressure of 30 psig (205 Kpa) to dry the detector.

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