NITTAN

HEAT DETECTOR EXPLOSION PROOF TYPE FFH-2E Series

Description

The FFH detector units are the “heart” of many Fire Protection Systems. These highly reliable devices have been a standard of the industry for over years. Many thousands of these units are now in use controlling the release of extinguishing agent such as CO2, water, or dry chemicals, and others. In some systems the device is used as an ALARM device, to sense overheat or fire, and alert personnel. In other systems, it is used as a RELEASE device, to sense fire and actuate fire attack systems.

The FFH detector units have met with wide acceptance because they are designed with RATE COMPENSATION. This provides a unique advantage over both fixed temperature and rate-of-rise types of detectors because only the FFH unit accurately senses the surrounding air temperature regardless of the fire growth rate. At precisely the predetermined danger point, the system is activated.

Fixed temperature detectors must be completely heated to alarm temperature and therefore a disastrous lag in time may occur with a fast rate fire. Rate-of-rise devices, on the other hand, are triggered by the rate of increase in ambient temperature and are subject to false alarms caused by harmless, transient thermal gradients such as the rush of warm air from process ovens.

Applications

- Protection of factories, schools, offices, libraries, etc.
- Hazardous area
- Paint spray booths
- Dust Collectors

Features

- Rate-Compensation Heat Detector
- Explosion-proof type
- Rugged - withstands shock and vibration
- Versatile - offers various temperature settings 60℃, 70℃, 80℃, 90℃, 100℃, 120℃, 150℃
- Durable - long lasting stainless steel shell
- Contact capacity 30VDC, 100mA
- Explosion proof grade : d2G4

Operating Principle

The secret of the unit’s sensitivity is in the design (Figure 1). The outer shell is made of a rapidly expanding alloy which closely follows changes in surrounding air temperature. The inner struts are made of a lower expanding alloy. Designed to resist thermal energy absorption and sealed inside the shell, the struts follow temperature changes more slowly.

A slow rate fire (Figure 2) will heat the shell and struts together. At the “set point,” the unit will trigger, actuating the alarm or releasing the extinguishing agent.

A transient rush of warm air may expand the shell, but not enough to trigger the unit. By ignoring transient warm air excursions, the FFH unit virtually eliminates false alarms prevalent with rate-of-rise devices.

If a fast rate fire (Figure 3) starts, the shell will expand rapidly. The struts will close, actuating the alarm or releasing the agent. The faster the fire rate of growth, the sooner the FFH unit will react.

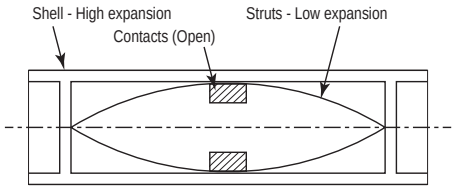

FIGURE 1 READY

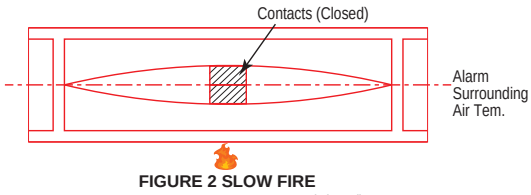

FIGURE 2 SLOW FIRE

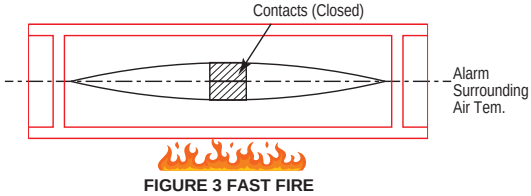

FIGURE 3 FAST FIRE

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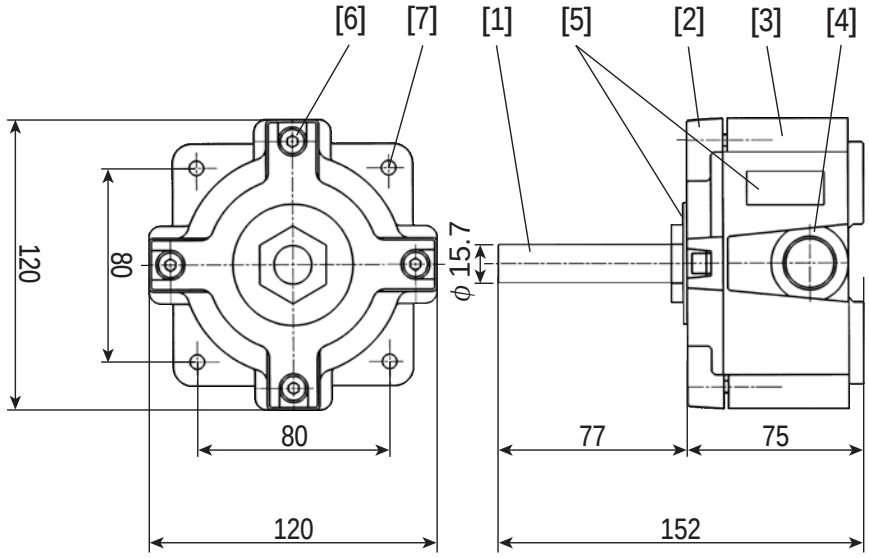
Dimensions



1. Sensing Element
2. Terminal Cover
3. Terminal Box
4. Wiring Inlet
5. Name Plate
6. Hexagon Bolt
7. Mounting Hole

(mm)

Ordering Information

Model Name	Description
FFH-2E060	Rate-Compensation Heat Detector (Explosion Proof Type/ 60℃)
FFH-2E070	Rate-Compensation Heat Detector (Explosion Proof Type/ 70℃)
FFH-2E080	Rate-Compensation Heat Detector (Explosion Proof Type/ 80℃)
FFH-2E090	Rate-Compensation Heat Detector (Explosion Proof Type/ 90℃)
FFH-2E100	Rate-Compensation Heat Detector (Explosion Proof Type/ 100℃)
FFH-2E120	Rate-Compensation Heat Detector (Explosion Proof Type/ 120℃)
FFH-2E150	Rate-Compensation Heat Detector (Explosion Proof Type/ 150℃)
FJB-1EP	Blind Plug for Explosion Proof Type Fixed Temp. Heat Detector
FHT-3E	Heat Detector Tester for FFH heat detector

Specifications

Specifications	FFH
Classification	1st Class, Explosion Proof Type
Contact Capacity	DC30V, 100 mA
Explosion Proof Grade	d2G4
Lead Wire Length	200 mm ±10%
Weight	Apx. 950 g
Operating Temperature Range	60℃, 70℃, 80℃, 90℃, 100℃, 120℃, 150℃

All specifications are subject to change without any notice.
For more information, contact with NITTAN.

Distributed By

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