

# QUICK REFERENCE GUIDE

## for Hazardous Location Installation



### FS & SS Series Flame Detectors and associated Test Lamps

The **Honeywell® Analytics Flame Detectors and Test Lamps** are hazardous area products. They are factory calibrated, and the robust sealed design with no moving parts allows for mounting in any orientation even in harsh environments. These products are available in either a 316 Stainless Steel or Low Copper Aluminum.

# Honeywell

#### **WARNING**

##### **RISK OF IMPROPER FLAME DETECTION**

- Install only in areas in accordance with the environmental and hazardous area ratings.
- Carefully review mounting area and position in accordance with the FS24X Plus™ FM Performance Appendix and the User Manual to ensure optimal flame detection regarding the angle of device and unobstructed view.
- Avoid potential sources of direct or indirect radiation in the flame detector field of view.
- Do not touch the sensors on the front of the electronics module.
- Avoid direct sunlight into the flame detector window – use provided sunshade, aim flame detectors down at 40 degrees or more when possible, and use multiple detectors to cover hazardous areas from different directions.
- Avoid close proximity to rapid modulation/chopping of sunlight (creating moving dark shadows) as optical sensor performance can be reduced, e.g. close trees in the wind, rotating blades.
- Use shielded cable for all wirings and ground the shield at one end as detailed in the Wiring section.
- Keep all devices and wire runs away from mercury vapor lights, variable speed drives, radio repeaters and other sources of electromagnetic interference.
- Follow local cabling and glanding rules.
- Seal all unused conduit entries and install proper drains/traps by local codes.
- Do not try to service parts inside the electronics module, there are no field serviceable parts, just module replacement.

#### **CAUTION**

##### **RISK OF PRODUCT DAMAGE**

- Do not install in an area where there are incidents of high mechanical damage.
- Protect controllers and monitors from physical damage (forklifts, etc.).
- Failure to follow all warnings cautions, and instructions may void the warranty.
- To maintain IPX6 integrity, seal conduit entries with thread sealant such as Loctite 565 or approved equivalent.

#### **WARNING**

##### **RISK OF EXPLOSION**

- Ensure power is off and no hazardous gases nor dusts are present before installing or opening the device
- Use only hazardous location approved plugs M25 or 3/4" NPT as marked on product.

##### **SPECIFIC CONDITIONS OF USE:**

#### **WARNING**

##### **ELECTROSTATIC HAZARD, DO NOT RUB WITH DRY CLOTH**

- Contact the manufacturer for dimensional information on the flameproof joint specifications if repair is required.

## Nameplate Tag

Representative Markings are displayed in the figure below.

Additional regional marks (such as South Korea and Russia) and installation specific marks (such as ABS) may also be present. See individual nameplates for specific approvals applicable to each product.

**Note:** Some products require 18 in. of conduit. (See individual nameplate for specifics).

## Electrical Ratings

- Test Lamps (battery powered): 12 VDC, 600 mA
- SS Series: Max 32 VDC, 75 mA; Relay 24 VDC, 1 A
- FS10: 12 VDC; 60 mA
- FS10-R-A: Max 29 VDC, 120 mA; Relay 24 VDC, 1 A
- FS20X and FS24X Series: Max 32 VDC, 150 mA; Relay 24 VDC, 1 A
- FS20XP and FS24XP: Consumption 18 - 32 VDC, 500 mA max; Relay 24 VDC/AC, 2 A maximum

## Installing the Flame Detector

All products are provided with a flameproof and explosion-proof enclosure and have been approved for use in Class 1 and Zone 1 environments as specified on the individual product nameplate tag.

**Note:** NFPA 72 and other local codes have specific requirements for flame detectors installations and must be consulted as necessary.

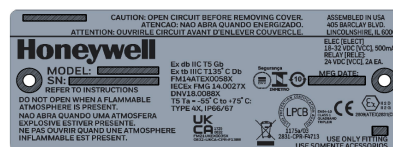
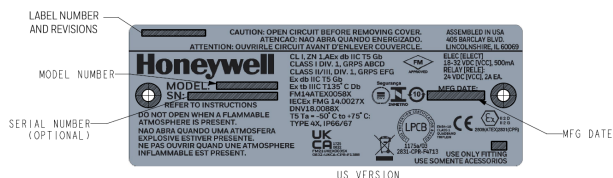
Must only be installed by appropriately trained and accredited personnel.

1. Securely mount the detector using minimum 1/4-20 or M6 sized fasteners.  
**Note:** We recommend angling all detectors down at least 40 degrees from horizontal.
2. Loosen, but do not remove the set screw on the cover assembly.
3. Loosen the 3 Philips screws and remove the electro-optical Detector Module and place face up in a safe location.  
**Note:** Do not drop the Detector Module and do not touch the sensor array.
4. Connect the cable gland or conduit to the detector enclosure via the 3/4" NPT or M25 openings, as per national electrical codes for the install location. Connect the appropriate wires rated for minimum 85°C to the field connectors provided as per the wiring diagram on the cover of the electro-optical Detector Module.  
Ensure the enclosure is properly grounded in accordance with all local codes.  
Use shielded cable for all communications connections and ground one end of the shield following the product manual.
5. Configure following the product's User Manual and Performance Appendix to this guide.  
**Note:** Refer to the fuel and sensitivity settings table to determine the correct configuration.
6. Connect the field connectors back onto the electro-optical Detector Module and secure the module into the enclosure with the Philips screws.

7. Install the cover and ensure the O-ring is compressed.  
Tighten the cap screw on the cover assembly. Make a rough Field of View (FoV) adjustment by aiming the detector at the area you want to cover.
8. Tighten all bolts when product has been fully configured and tested accordance with the product manual.

**Note:** Detector functionality and communication should be tested to confirm correct FoV and configuration in the final system.

## Generic Nameplate View



### RISK OF EXPLOSION

Do not connect test lamps to external power sources. Test lamps are battery operated only. Do not open when explosive gases are present. Charging permitted in safe environment only.

## Contact Us

### Americas

Honeywell Analytics  
405 Barclay Boulevard  
Lincolnshire, Illinois 60069  
Tel: +1 847 955 8200  
Toll free: +1 800 538 0363  
[detectgas@honeywell.com](mailto:detectgas@honeywell.com)  
Europe, Middle East, and Africa  
Honeywell International Sarl  
Z.A. La Piece 16  
1180 Rolle

### Switzerland

Main Phone: +41 21 695 30 00  
[reception.rolle@honeywell.com](mailto:reception.rolle@honeywell.com)

### Asia Pacific

Honeywell Industrial Safety  
434, Worldcup Buk-ro, Mapo-gu  
Seoul 03922  
South Korea  
Tel: +82 (0) 2 6909 0300  
[analytics.ap@honeywell.com](mailto:analytics.ap@honeywell.com)



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Manuals, software, and other information about this product are available at  
[www.honeywellanalytics.com](http://www.honeywellanalytics.com)  
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