



## Description

The Model Ultra FL800 is an advanced multi-spectrum infrared (MSIR) flame detector based on the Artificial Intelligence Recognition Technology. The Ultra FL800 is provided with wider field of view and further detection range because of a multi-spectrum infrared sensor array with a sophisticated BP Neural Network Technology system .

The Ultra FL800 can see typical fires such as those produced by alcohol, heptane, gasoline, jet fuels and hydrocarbons. In addition, it can also detect and identify non-flame signals, for example arc-welding, hot objects, sunlight and moonlight. The Ultra FL800 is designed to only alarm for the conditions that caused by real flame signal, and highly immune to false alarms for non-flame signals.

The Ultra FL800's electronics are housed in a stainless steel explosion-proof enclosure. The detector is available with the following output configurations:

- 4-20mA stepped output
- Dual RS485 communications
- HART communication
- Warning, alarm and fault relays

## Benefits

- Increased range and wide FOV (field of view)
- Provides excellent false alarm immunity
- Build in test for optical path integrity and electronic circuitry.
- Versatile for use in a variety of applications
- Support diagnostic PC software
- Used to check all outputs (used with test lamp)

## Applications

- Aircraft Hangars
- Chemical Plants
- Compressor Stations
- Drilling and Production Platforms
- Electrostatic Paint Spray Booths

## Multi-Spectrum Infrared Flame Detector



## Features

- Multi-Spectrum IR (MSIR) Sensor Array
- BP Neural Network Technology (NNT)
- Continuous Optical Path Scanning (COPS)
- Redundant Communication Outputs
- Event Logging
- Test Mode

- Fuel Loading Facilities
- Gas Turbines
- LNG/LPG Processing and Storage Facilities
- Refineries

# MODEL Ultra FL800

## System Specifications

- Spectral Range:** 2 - 5 microns (IR)  
**Maximum Range:** 65 m  
**Typical Response Time:** ≤ 3s (at 30m with n-Heptane fire 0.1 square meter)  
≤ 5s at 65m
- Maximum Field of View:** 90° Horizontal / Vertical
- Accessories:** Test lamp, mounting bracket
- Classification:**  
Explosive-proof: II 2G Ex db IIC T5 Gb ( Ta = - 40°C to + 85°C )  
II 2G Ex db IIC T6 Gb ( Ta = - 40°C to + 70°C )  
II 2D Ex tb IIIC T100°C Db IP67
- Protection Level : IP67  
SIL 2 Certified
- Display Type :** LED Displays
- Warranty:** Two Years

## Electrical Specifications

- Input Power:** 20-36 VDC , 24 VDC @ 150mA (3.6W)
- Analog Signal:** 0-20 mA (600 ohms maximum)  
3.5-20 mA (HART)
- Fault Mode:** 0 mA to 0.2 mA
- Test Mode:** 8.0 mA , ± 0.2 mA
- COPS Fault:** 2 mA , ± 0.2 mA
- Ready Mode:** 4.5 mA , ± 0.2 mA
- WARN Mode:** 16 mA , ± 0.2 mA
- ALARM Mode:** 20 mA , ± 0.2 mA
- Relay Contact Rating:** 5 A @ 250 VAC, 5 A @ 30 VDC res.max
- Baud Rate:** 4800, 9600, 19200, or 38400 bit/s
- HART:** HART 7, HART Device Descriptor Language available.AMSaware
- Standard Configuration:** Ultra FL800-1-1-1

## Environmental Specifications

- Operating/Storage Temperature Range:**  
- 40°F to + 185°F (- 40°C to + 85°C)
- Operating Humidity Range:**  
0% to 95% RH, non-condensing

## Mechanical Specifications

- Housing:** 316 Stainless steel
- Weight:** 2.5 kg
- Cable Entries :** Two entries 3/4 ins NPT, others optional

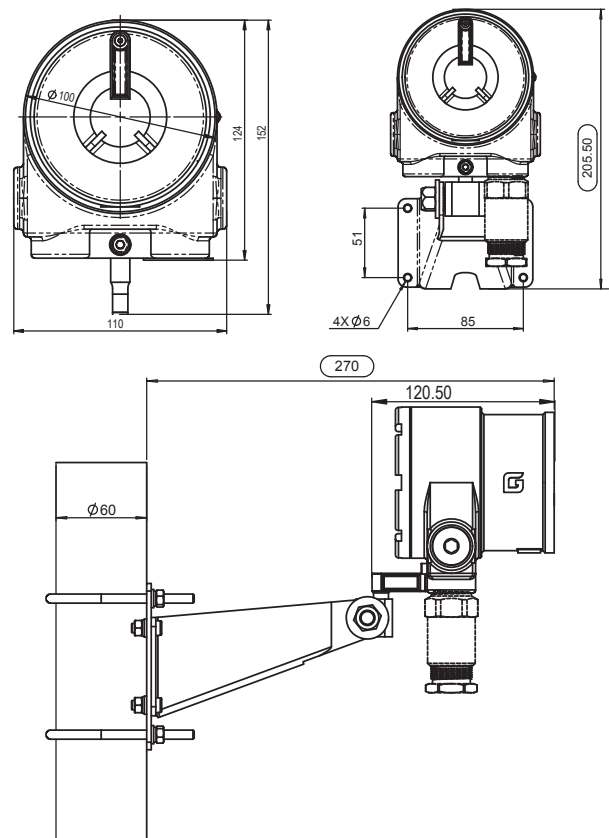


Figure 1: Outline and Mounting Dimensions