Forney’s HD Flame Detector is the best available flame detector for the Power Generation, Petrochemical and Industrial markets. It provides the highest level of flame discrimination in multi-burner applications with an easy to use interface on a mobile app.

**Product Overview**

The Forney High Definition (HD) Flame Detector integrates both Infrared (IR) and Ultraviolet (UV) optical sensors along with an amplifier and high speed signal processor. The high speed signal processor is able to analyze frequency resolution allowing for precise discrimination between multiple burners and background radiation. HD Detector includes two flame relays, one for signals from each optical sensor. Four different profiles are selectable for maximum flexibility under different operating conditions. 4 to 20mA analog outputs are provided for remote display options.

An industry first mobile app is available in two configurations from the Apple Store and Google Play. The Forney HD Detector app will allow the user to select a specific detector via Bluetooth. The user can then monitor the detector on their mobile device. A live Fast Fourier Transform (FFT) is also displayed. To tune the detector, the password protected, Forney HD Detector Pro app will allow the user to specify pick up and drop outs for flame on and flame off within the two user specified frequency ranges. Any fault codes are clearly shown with Reset capability. A PC based RS485 connection capability is also available.

A single, flexible 12 wire custom cable is available in multiple lengths to make field connects simple. In many cases the existing field cabling can be reused. (Existing cables for Forney D85, UniFlame, and UniFlame II Detectors can be reused with transition adapters.)

**Benefits**

- High Definition – Maximum discrimination in difficult multi-burner environments.
- Easy to use – app available for either smart phones or tablets
- Installation friendly – lightweight housing and single flexible cable
- Robust – 2 year warranty in normal operating conditions

**Features**

- Both Infrared (IR) and Ultraviolet (UV) sensors in every unit
- High speed microprocessor based signal analysis
- Bluetooth® and RS485 Modbus communications
- Simple LED status indicators on HD Detector unit for Power, Flame Relay 1 & 2, Fault, Bluetooth®, and High Temperature
- IP 65 housing and connections
- RoHS compliant

**Worldwide Agency Approvals**

- FM, CE, IECEX, Class I Div 2, Groups B,C &D, ATEX
HD Flame Detector

Products and Accessories:

Forney HD Flame Detector
Forney HD Flame Detector - ATEX
Swivel Mount
Cable, 12 Conductor with Quick Disconnect
Cable Gland, ATEX
Bulk Cable
Cable Adapter for existing Forney Detectors

Specifications:

Environmental

Ambient Operating Temperature 
-30°C to 65°C 
(-22°F to 149°F)

Internal Operating Temperature 
Up to 85°C (185°F)

Ambient Storage and Transportation Temperature 
20°C to 50°C 
(68°F to 122°F)

Relative Humidity 
40°C (104°F), RH 95%

Vibration Sinusoidal Operating Frequency: 5 - 200 Hz 
Acceleration: 8G

Flammability Rating 
UL 94

Conformal Coatings 
RoHS Compliant

Mechanical

Housing Material 
Engineered Polymer

Weight 
1.2 Kg (2.7 lbs)

Degree of Protection 
IP65, NEMA 4X

Sight Tube Mounting 
1” NPT

Lens Temperature Rating 
538°C (1000°F)

Purge Air Flow 
Minimum 5 SCFM

Optical Sensitivity 
Responsive to oil, coal & gas flames using IR & UV spectrum

Power Supply

Steady State Current 
120 ma

Inrush Current 
350 ma

Power Consumption 
2.88 watt

External In-line Fuse 
1 Amp Fuse Required

Heat Dissipation 
1.2 Watt

Flame Relay 
Two (2) independent (fail safe)

Contacts 
SPST
24 VDC, 1 amp

Flame Failure Response Time (FFRT) 
1, 2, 3, 4 second (user adjustable)

Fault Relay 
Internally Wired

Analog Output 
Sourced 4-20 ma, one for each flame relay
Load resistance < 750 Ohm

Digital Inputs 
Two self-powered inputs for up to four file selections

Communication 
RS-485 / Modbus

Electrical connections 
Standard - Quick disconnect
ATEX version - Prewired
Prefabricated Cable 
12 Conductor (color coded)
Tinned Copper Braid Shield, Black PVC Jacket CSA CMG (UL) PLTE-ER 300V 105C, Fire Resistant - FT4, UV Resistance
Diameter -0.463” Nominal
Weight - 0.17 lb/ft

HD Flame Detector
HD-01
HD-01-ATEX-XXX
91016-63
HD-CABLE-QD-XXX
92615-17
92615-18
HD-01-XCONN-D85
HD-01-XCONN-UNFLM1
HD-01-XCONN-UNFLM2

UV/IR Fiber Optic Adapter 
358824-05

UV Flex Fiber Optic Guide Assy 
409893-XX

IR Flex Fiber Optic Guide Assy 
409892-XX

Rigid Fiber Optic Guide Assy 
409894-XX
(IR is 409894 -01 to -49 and UV is 409894 -50 to -99 length dependent)