



## IDD-II Series Flame Detector

Forney's IDD-II Series Flame Detector meets the operational flexibility requirements of utilities through multiple flame detecting and discriminating capabilities.



# PRODUCT OVERVIEW

Forney's Intelligent Dynamic Detector (IDD) II Series is designed to accurately detect and discriminate the luminous flames produced by burning oil, coal, and lignite fuels.

The IDD-II (Filtered) flame detector is typically used for sensing heavy fuel oil and coal flames. The IDD-IIU (Unfiltered) flame detector is typically used for sensing light fuel oil flames. The IDD-IIIL (Lignite) flame detector is specifically designed to sense low flame frequency produced by lignite and high ash coal flames.

The IDD-II Series is used in conjunction with Forney's supporting amplifiers IDD-9000, DR-6101E, RM-IDD and IDD-IIIA.

The IDD-II's solid state circuitry amplifies a continuously changing voltage signal transmitted from the lead sulfide sensor when flame is sensed. The signal is then sent to the amplifier by way of a four conductor cable. The amplifier processes the signal and provides outputs to the burner management system.

For trouble-free operation, the detector electronics are potted within the cast steel housing. In addition, the amplifier also initiates a periodic, electronic self-check of the sensor and printed circuit board to verify proper operation of the detector assembly.

# FEATURES & BENEFITS

- **Lead Sulfide Sensor**  
Sensitive to infrared and visible light radiation prevalent in fuel oil, coal and lignite flames.
- **Dynamic Flame Sensing Circuitry**  
Senses only a dynamic flame signal, discriminates flame from hot refractory and other background conditions.
- **Compact, Durable Assembly**  
The printed circuit board and sensor are potted within a cast steel housing providing a maintenance free product.
- **Simplified System Maintenance**  
Quick disconnect, electrical and mechanical connections are used for easy replacement.
- **Fiber Optics**  
Optional fixtures are available for fiber optic applications.

## Approvals

- **Factory Mutual Approval**  
Factory Mutual (FM) approval means safe operation and lower insurance rates.
- **CE Compliant** when used with a PM IDD9000 amplifier

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## Products and Accessories:

		Standard Housing
IDD-II Infrared Detector	Filtered (#6 Oil & Coal)	Part #38321-21
IDD-IIU Infrared Detector	Unfiltered (#2 Oil, #6 Oil & Coal)	Part #38321-22
IDD-IIL, Infrared Detector	Lignite Fuel	Part #38321-23
Cooling Chamber (optional)		Part #381071-01

## Specifications:

Standard Housing	
Mounting:	1" NPT sight pipe fitting
Materials:	Cast Steel Housing, Potted Electronics
Electrical:	Supplied by Amplifier, 50 VDC and 12 VDC
Electrical Connections:	MS Bayonet connector supplied with cable, 1/2" flexible conduit required
Cooling Air Requirements:	Front mount applications - minimum cooling air flow of 10 scfm (17 m3/hr) at a maximum temperature of 120°F (48°C) Fiber optic applications - minimum cooling air flow of 15 scfm (25 m3/hr) at a maximum temperature of 120°F (48°C)
Temperature Ratings:	32°F to 140°F (0°C to 60°C)
With Cooling Chamber:	For ambient temperatures of 140°F to 200°F (60°C to 93°C) the Forney Cooling Chamber must be used.
Humidity:	0-95% relative humidity, non-condensing
Shipping Weight:	21 oz (0.60 kg)
Approvals:	Factory Mutual (FM)
Sensor / Wavelength:	IDD-IIU 400 - 3300nm IDD-II 700 - 3300nm IDD-IIL 700 - 3300nm <i>(The IDD-IIL detector has better flame flicker frequency response at lower flicker frequency ranges of &gt;5 to 18 Hz)</i>

## Standard Housing

