The IDD 9000 Flame Detector Amplifier provides enhanced discrimination and tuning for NFPA compliant systems and offers a single retrofit solution for multiple discrete legacy amplifiers.

Product Overview

Reliable flame detection and burner-to-burner discrimination in multi-burner boilers is significantly more challenging with the NFPA 85 requirement to prove “flame not detected” prior to burner start-up. This NFPA requirement along with difficult discrimination challenges, such as low NO\textsubscript{x} burners and opposed fired boilers, are demanding more powerful signal analysis and tuning capability from flame detection systems. The IDD 9000 employs a Digital Signal Processor (DSP) based flame signal processing method to offer advanced tuning capabilities necessary for a NFPA compliant system.

The IDD 9000 Flame Amplifier is designed for easy upgrade of existing Forney flame amplifiers with most installations simply requiring a flame amplifier replacement and reconnection of existing wires to improve flame detection and discrimination. The IDD 9000 is available in panel or rack mount; single or dual channel configurations. The dual channel configurations use two fully independent channels to support two flame detectors simultaneously.

Compatibility

- Amplifier Upgrades - The IDD 9000 can replace most Forney flame amplifiers, panel or rack mount, in any application with complete compatibility.
- Flame Detector - Works with all versions of Forney’s IDD and UV-4 detectors.
- Analog Output - Flame intensity output is available in either 0-10 VDC or 4-20 mA.

Features & Benefits

- Enhanced Discrimination and Tuning - Increased IDD frequency response options along with spectrum weighting capability for tuning to unique flame patterns.
- Storage for eight operating profiles allows BMS controlled or manual file switching for instantaneous recall of optimized performance for a variety of fuels and burner operating conditions.
- Flame signal processing can be IR only or UV only on each channel.
- Connecting an IDD and UV-4 flame detector to one dual channel IDD 9000 amplifier allows supervision of a burner/igniter pair.

Approvals

- All IDD 9000 Amplifiers are Factory Mutual (FM) approved
- PM IDD 9000 has the CE Marking
**IDD 9000 Flame Detector Amplifier**

**Products and Accessories:**

- Dual Channel Panel Mount (PM) IDD 9000 Amplifier: Part #408100-00
- Single Channel Panel Mount (PM) IDD 9000 Amplifier: Part #408100-50
- Rack Mount (RM) IDD 9000 Amplifier - dual channel: Part #408120-01
- Amplifier Tuning Kit: Part #408103-01
- Termiflex / SMARTDisplay® terminal with 9-pin connector*: Part #408106-01
- Cable 40’ (12.2 m) for IDD: Part #399854-04
- Cable 40’ (12.2 m) for UV-4: Part #399855-04

**Compatible Flame Detectors:**

- IDD-II, Filtered, Infrared Detector: Part #38321-21
- IDD-IIU, Unfiltered, Infrared Detector: Part #38321-22
- IDD-III, Infrared Detector for Lignite: Part #38321-23
- UV-4, UV Tube Detector: Part #379189-02

*If using an older Termiflex / SMARTDisplay® terminal with a 25-pin connection, a DB25-pin to DB9-pin adapter is required (Forney Part #408107-01)

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**IDD 9000 Specifications:**

<table>
<thead>
<tr>
<th></th>
<th>Panel Mount:</th>
<th>Rack Mount:</th>
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</thead>
<tbody>
<tr>
<td>Dimensions:</td>
<td>10 1/2” x 7 7/8” x 3 7/8” (26.6 cm x 20 cm x 9.8 cm)</td>
<td>6.5 x 14 x 1.75 inches (155.6 x 355.6 x 44.5 mm)</td>
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<tr>
<td>Weight:</td>
<td>5 lbs. 3 oz. (2.35 kg)</td>
<td>1 lb 7 oz. (0.68 kg)</td>
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<tr>
<td>Approvals:</td>
<td>CE and Factory Mutual (FM)</td>
<td>Factory Mutual (FM)</td>
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<tr>
<td>Temperature:</td>
<td>32° to 140°F (0° to 60°C)</td>
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<tr>
<td>Humidity:</td>
<td>5% to 95% relative humidity, non-condensing</td>
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<tr>
<td>Power Requirements:</td>
<td>120/240 VAC, 50/60 Hz @ 12 VA</td>
<td></td>
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<tr>
<td>Output Relay Ratings (SPDT):</td>
<td>3 A at 125 VAC, 250 VAC &amp; 30 VDC</td>
<td>3 relays are available for each channel (Lamp, Main Flame &amp; Alarm).</td>
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<tr>
<td>Flame Strength:</td>
<td>4-20 mA or 0-10 VDC (sourcing)</td>
<td></td>
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<tr>
<td>Flame Failure Response Time (FFRT):</td>
<td>1.0, 2.0, 3.0 or 3.8 seconds</td>
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<td>Flame Pickup Time:</td>
<td>less than 2 seconds</td>
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<td>Nonvolatile RAM:</td>
<td>8 complete operating profiles</td>
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**Rack Mount IDD 9000**

The RM IDD 9000 is a dual channel amplifier with a separate identical CPU Processor for each channel. The right side is for Channel 1 and the left side is Channel 2. The RM IDD 9000 is designed for installation into an amplifier rack (Part # 404325-02) in an equipment cabinet.

**Panel Mount IDD 9000**

The PM IDD 9000 is available as single or dual channel. The dual channel has a separate, identical PCB motherboard for each channel. Each board contains six connectors on the side panels. Dual channel shown, bottom board is removed on single channel configuration.