

IDD AMPLIFIER

The Forney IDD Series flame detector amplifier is an industry proven flame safety device for utility and industrial boilers. It has a wide range of tuning capabilities and output contacts that make it especially popular in the multi burner application. The IDD amplifier is available as a rack mount (RM-IDD) or panel mount (PM-IDD IIIA) and compatible with a variety of Forney flame detectors, making it suitable for coal, oil or natural gas applications.

The primary objective of any flame detector system is to detect the presence or absence of a target flame inside an enclosed furnace or combustion chamber. The challenge for most detectors is the ability to discriminate one burner flame from another. The Forney IDD flame detector amplifier has a superior capability to do just that.

The output of the Forney IDD detector, when viewing a flame, is an analogue signal with a multitude of frequencies. The IDD amplifier receives this signal and has the capability of selecting one of many discrete frequencies which best represents the "flame on" condition. This unique tuning feature allows the IDD to provide repeatable "flame on" and "flame off" status, independent of the fuel burned, burner firing rate, boiler load or number of burners in service. To further refine the tuning a "sensitivity" or gain adjustment potentiometer is available as well as multiple filter quality factor ("Q") settings*. Finally, as with all Forney flame detector amplifiers, two separate sensitivity settings (A or B) allow for switching from one to another, if boiler operating conditions require it.

*"Q" is a relative gain factor at the selected discrete frequency of the amplifier, programable within the amplifier.

- **FLAME DISCRIMINATION** – is achieved by selecting the peak flame frequency. Many discrete choices are available along with multiple filter "Q" factor settings.
- **UPGRADE CAPABILITY** – Amplifier is compatible with all versions of IDD-II and IDD-UV detectors.
- **PANEL OR RACK MOUNT** – The self contained panel mount is suitable for smaller quantities of detectors while the rack mount is best for large quantities.
- **SIMPLIFIED TROUBLE SHOOTING** – LED status displays indicate amplifier operating functions.
- **ANALOG INTENSITY** – separate flame intensity outputs of 0-10 vdc, 4-20 mA for each detector input.
- **BUILT IN SAFETY** – Electronic checking is initiated every 2 minutes to ensure that detector circuits respond to an actual loss-of-flame condition.



FLAME DETECTORS



RM-IDD Amplifier



PM-IDD IIIA Amplifier



Re-powering your world





IDD AMPLIFIER

PRODUCTS AND ACCESSORIES

PM-IDD IIIA Amplifier		Part #362379-01
RM-IDD Amplifier		Part #358317-01
Amp Rack (8 slot)		Part #404325-02
Smart Display	(for RM-IDD)	Part #364839-01
Tuning Software		Part #398474-00
Runs with PCMCIA Card AD converter		Part #91962-00
Cable 10'	(for IDD-II)	Part #399854-01

SPECIFICATIONS

	<u>Panel Mount</u>	<u>Rack Mount</u>
Factory Mutual Approval:	Yes	Yes
Maximum Temperature:	130°F (55°C)	130°F (55°C)
Minimum Temperature:	0°F (-17°C)	0°F (-17°C)
Self-Check Cycle:	120 sec	120 sec
Flame Dropout Time/FFRT:	4+0 /-.5 sec Max fixed	1-4 seconds
Flame Response Pick-up time:	<1.0 sec	1.65 sec nominal
Loss of Power Dropout Time:	0.40 ms	
Time interval between power applied and flame detected:	260 ms	
Electrical Requirements:	120/240 VAC, 50/60 Hz @ 12 va	System supplied-Backplane motherboard. Redundant 6.5VDC, +15VDC, -15VDC
Current draw per card:		1.0 Amps, 150ma, 20ma
Fuses:	2 Amp	Input 2 Amp; Meter Outputs 1/8 Amp.
Operating Voltage Limits:	100-140:190-260VAC	
<u>Contacts</u>		
Main flame:	2 Form C: 250VAC, 1000VA:48VDC, 90W	2 Form C: 250VAC, 1000VA:30VDC, 90W
Flame light:	1 Form C:380VAC, 1250VA:30VDC,150W	1Form C: 250VAC, 1000VA:30VDC, 90W
Check alarm:	1 Form C:380VAC, 1250VA:30VDC,150W	1Form C: 250VAC, 1000VA:30VDC, 90W
Analog Outputs:	-500 to +500mA; 4-20mA, 0-10VDC (seperate)	4-20mA, 0-10VDC (seperate)
Terminal Block Rating:	300V, 20 Amp.	300V, 20 Amp.
Terminal Block Type:	Compression or Ring	Compression
Wire Capacity:	1-#14GA or 2-#22GA or 2-#16GA Max.	1-#14GA or 2-#22GA or 2-#16GA Max.
Dimensions:	26.7x19.1x10.8 cm (10.5" x7.5" x4.25")	30.48x16x4.48cm (12" x6.25" x1.75")
Weight:	1.96 kg (4lbs. 5oz.)	0.47 kg (1lb. 3.2oz)
Tuning Frequency:	30 selections (18 Hz to 264 Hz)	32 selections (24 Hz to 367 Hz)
Quality Factor "Q":	15 settings (.57 to 55)	8 settings (.57 to 30)
Nonvolatile RAM:		10-year battery

Compatible Flame Detectors: IDD-II, Filtered Infrared Detector; IDD-IIU, Unfiltered, Infrared Detector; IDD-UV, Ultraviolet Detector; IDD-IIL, Infrared Detector for Lignite/High Ash Coal.

Operational parameters for the RM IDD are set with the Smart Display (HT/2000 portable terminal) while the PM IDD-IIIa are set with dip switches. Adjustable parameters are: Frequency, Filter "Q", Drop out time, Gain, Check Cycle, Check mode test and Fail test.