

UniFlame® II Flame Detector

Forney's UniFlame® II series flame detectors utilize micro-processor based controllers in conjunction with solid state infrared (IR) and ultraviolet (UV) sensors and dual cell technology for optimal flame detection and discrimination.

Product Overview

The UniFlame® II's integrated amplifier eliminates the remote flame amplifier and incorporates two independent flame relays with electronic self-checking, adjustable ON/OFF thresholds and two 4-20 mA analog outputs from the detector. Each flame relay can be set for either sensor (one for UV, one for IR or both for UV or both for IR). Independent settings for each relay allow "locked on" detection for any type of flame.

Set-up can be done locally using the attached keypad & VFD display, via a wireless handheld programmer or with Forney Explorer Software (FEX). The optional wireless handheld programmer creates an intrinsically safe wireless set-up when using the infrared transmitter within 5 feet (1.52 meter) of the detector, eliminating the need to open the detector in order to make program changes. FEX Software allows users to monitor, display and program all detector parameters remotely, i.e. from the control room. The detector has three factory default files provided in various sensitivity levels that can be used to initiate and test the detector. The auto tune feature allows the user to learn the "flame on" and "background" conditions to automatically set the detector up.

Connecting to the UniFlame® II is done by multi-pin connectors or terminal blocks. The standard UniFlame® II has one 8-pin and one 12-pin electrical cable quick disconnect while the CEX versions use internal terminal blocks for cable connection.

Features & Benefits

MAXIMUM FLEXIBILITY

- AutoTune - Fast auto set-up by "learning" the flame and background conditions
- UniFlame® II senses both UV and IR with independent flexible discrete outputs

UNIVERSAL HOUSING

- Rugged standard housing is NEMA 4X (IP66); Class I Div 2 Group A,B,C&D; Ex nA nC IIC T4
- Alternate housing cap for ATEX, IEC Ex d IIC T6
- Removable display or remote programming
- Intrinsically safe wireless set-up when using infrared transmitter to program within 5' (1.52 m) of detector

WORLDWIDE AGENCY APPROVALS

- CULUS, FM, ATEX, DIN-DVGW, DIN-CERTO, CE, AGA, ABS, INMETRO UL-BR (not all approvals apply to all models)
- Safety Integrity Level 3 (IEC 61508)



UniFlame® II Unitized Flame Detector

Pub # 404005-24
Rev 02/2016

Products and Accessories:

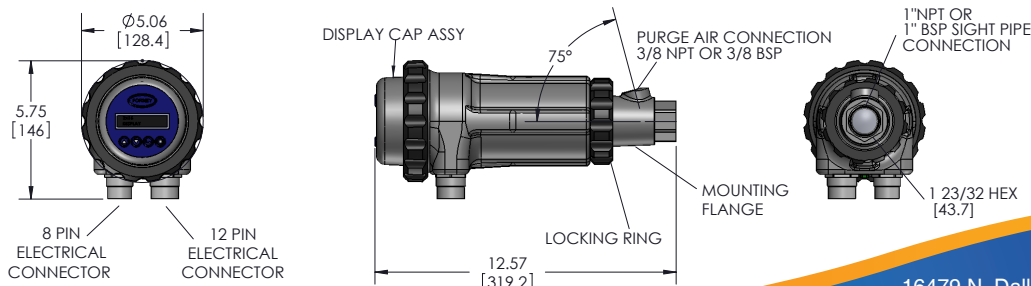
UniFlame® II		Part #401116-01 (display not included)	
UniFlame® II CEX (with VFD Display)		Part #401117-01	
UniFlame® II CEX with blank cap - NO Display		Part #401117-02	
UniFlame® II CEX Wireless (with IR transmitter)		Part #401118-01	
UniFlame® II without connectors (internal terminal blocks)		Part #401116-11 (display not included)	
UniFlame® II for UniFlame I retrofit (1-12 pin quick disconnect connector)		Part #401116-10 (display not included)	
Alphanumeric (VFD) Display with five push-button keys		Part #401116-03	
Infrared Transmitter		Part #401118-03 requires Hand-Held Tool	Part #401118-04
Blank Cap - No Display option		Part #401116-05	
FEX Software		Part #401116-04	
Swivel Mount		Part #91016-63	
Mounting Flange	1" NPT	Part #400487-01	1" BSP Part #400487-06
Cable 8 conductor	Quick Connect	Part #401119-xx	Bulk Cable Part #401119-00
Cable 12 conductor	Quick Connect	Part #401120-xx	Bulk Cable Part #401120-00
Conversion Box for UniFlame I to UniFlame II		Part #92527-03	
Wiring Harness		Part #92527-04	
UniFlame II Cooling Chamber	Standard Version	Part #92527-01	CEX version Part #92527-02

Mechanical Specifications:

Housing Material:	Cast aluminum with gray polyester powder coat finish
Housing Weight:	5.9 lbs (2.69kg), 7.1 lbs (3.22kg) CEX models, flange additional
Environmental:	NEMA 4X, IP66
Area Classification:	Standard: Class I Div 2, Groups A, B, C, D, Class II Div 2, Groups F & G CEX Version: Ex d IIC T6
Mounting:	Requires one of two threaded mounting flanges, ordered separately <ul style="list-style-type: none"> 1" NPT female pipe mount with 3/8" NPT female cooling air connection 1" BSP female pipe mount with 3/8" BSP female cooling air connection. Both flanges contain an integral heat insulating female thread insert (heat insulating nipple not required).
Mounting Flange Weight:	0.62 lbs (0.28kg)
Cooling / Purge Air Requirements:	Clean, dry, cool; 4 SCFM (113 l/min) at 3/8" threaded mounting flange, or 1 inch "Y" fitting, mounted on detector sight pipe. Temperature near the upper limit of the detector operating range and/or use with dirty/dusty fuels may require up to 15 SCFM (425 l/min).
Temperature Rating:	-40° to +150°F (-40°C to +65°C)
Humidity:	0% to 95% relative humidity, noncondensing
Agency Approvals:	cUL _{us} , FM, ATEX, DIN-DVGW, DIN-CER-TO, CE, AGA, ABS, INMETRO UL-BR (not all approvals apply to all models) Safety Integrity Level 3 (IEC 61508)

Electrical Specifications:

Input Power:	24 Vdc, +10%, -15% supply current 0.35 A, 8.5 VA
Electrical Connection:	8-pin and 12-pin screw type quick disconnect (non-CEX). "CEX" models have internal terminal blocks
Relay Output:	2 FLAME RELAYS, SPDT (N.O. and N.C.) FAULT RELAY, SPST (N.O.)
Contact Rating:	Minimum: 10mA @ 5 Vdc Maximum: 100 mA @ 30 Vdc, 100 mA @ 50 Vac
Analog Output:	Two, 4-20 mA dc current, referenced to 24 Vdc common, maximum connected load: 750 ohms
Operator Interface:	Requires one of two interfaces: <ul style="list-style-type: none"> Alphanumeric Display with five pushbutton keys. Infrared Transmitter used in conjunction with hand-held communications tool
Cable Specification:	Multi-core, 8 and 12 conductor (color coded), 18- AWG, with foil wrap and overall braided shield and drain wire. PLTC-ER rating. Maximum cable length: 1000' (305 m) Cable Jacket: PVC / black (flame-retardant, RoHS compliant) Temperature Rating: -40 F to +221 F (-40 C to +105 C) 8 conductor: Nominal O.D. 0.44" (11.2 mm), maximum O.D. 0.48" (12.2mm) 12 conductor: Nominal O.D. 0.52" (13.2 mm), maximum O.D. 0.56" (14.2mm)



Forney Corporation

16479 N. Dallas Parkway, Suite 600 • Addison, TX 75001
800-356-7740 • Fax 972-458-6650 • www.forneycorp.com