



D85 Unitized Flame Detector

Forney's D85 series flame detectors provide unparalleled ease of installation and operation, with fully automatic flame characterization and optimum gain detection.

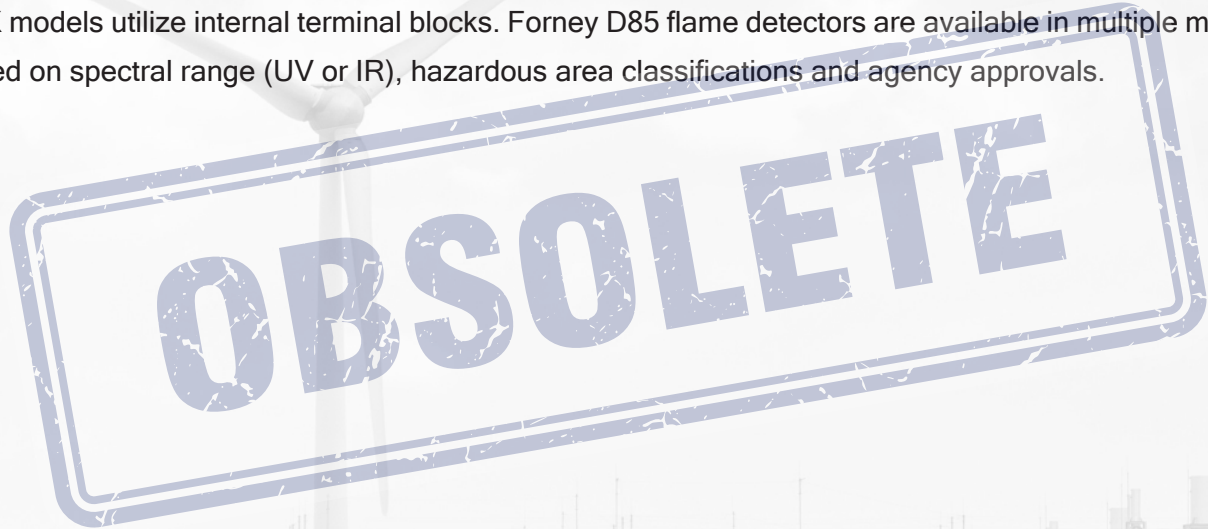


PRODUCT OVERVIEW

The Forney D85 series is a microprocessor based flame detector utilizing a solid state flame detection sensor. The D85 incorporates an internal flame relay with automatically set ON/OFF thresholds and advanced programming features for fine tuning.

Forney's D85 detects the modulation of the target flame's amplitude (flame "flicker") over a wide frequency. During the detector setup the amplitudes of the target flame are automatically stored in the flame detector along with optimum ON/OFF criteria. The appropriate sensor gain is also automatically selected and stored. Forney D85 detectors incorporate full self-diagnostic and electronic self-checking.

Forney D85 flame detectors are powered by 24Vdc with standard analog 4-20mA flame signal strength output. Electrical connection is via an 8-pin electrical quick-disconnect (QD) fitting for standard models. CEX models utilize internal terminal blocks. Forney D85 flame detectors are available in multiple models based on spectral range (UV or IR), hazardous area classifications and agency approvals.



FEATURES & BENEFITS

- Rapid installation and configuration with quick disconnects and fully automated tuning.
- Advanced, programmable settings for more demanding applications.
- Expanded diagnostic analysis for superior flame characterization and troubleshooting.
- Multiple UV and IR flame detection options support a wide range of combustion processes including: industrial burners, duct burners, refinery applications, low NOx burners, waste fuel units and incinerators.
- Integrated sensor and electronics eliminates need for external amplifiers.
- Standard NEMA 4X, IP66 housing for Class I, Div 2 environments.
- Optional CEX models for ATEX Ex II 2 G/D environments.
- Safety Integrity Level 3 (IEC 61508).

OBSOLETE

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Part Number for D85 Detector Heads

D85	_ _	_ _	_ _ _	_ _
Base Model	Sensor UV IR	Mount FM = Front Mount FO = Fiber Optic	Electrical Connection QD = Quick Disconnect CEX = CEX compliant	Optional Filter K3 = K3 Filter (for UV only)

Sample Part Number: **D85 UV FM QD** _ _ = D85 Model with UV sensor, Front Mount and Quick Disconnect Connection.

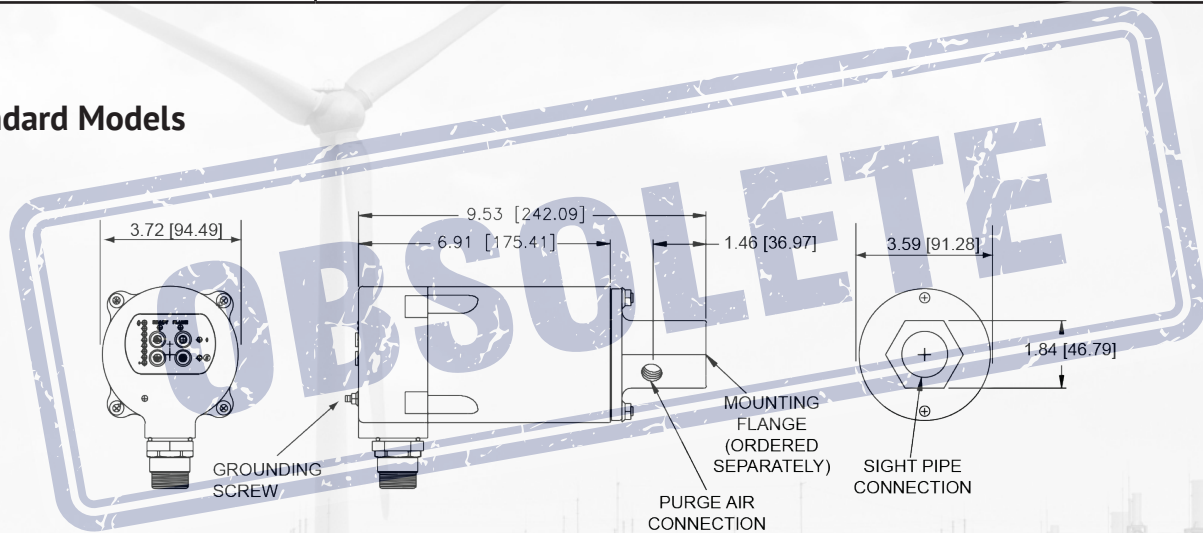
Mechanical Specifications:

Housing Material:	Standard Models: Engineered material - GE Valox	CEX Models: Aluminum, painted finish
	Standard Models: NEMA 4X, IP66 / Class I Div II	CEX Models: Ex II 2 G/D, ATEX certified
Detector Weight:	Standard Models: 3.30 lbs (1.5kg)	CEX Models: 9.5 lbs (4.3kg)
Cooling / Purge Air Requirements:	Source: Clean, dry, cool	
	Volume: 10 SCFM (113 l/min) at 3/8" threaded mounting flange, or 1 inch "Y" fitting, mounted on scanner sight pipe. Temperature near the upper limit of the operating range and/or dirty fuels may require up to 15 SCFM (425 l/min).	
	Pressure: Adequate to overcome furnace or windbox pressure	
Environmental:	-40° F to + 150°F (-40°C to +65°C), 0-95% relative humidity, non-condensing	
Mounting (Ordered Separately):	Standard Models:	P/N 35-318-1, Standard, non-metallic, 1" NPT female pipe mount flange with 3/8" NPT female cooling air connection
		P/N 35-318-2, Standard, non-metallic, 1" BSP female pipe mount flange with 3/8" BSP female cooling air connection
		P/N 129-182-1, Optional, aluminum 1" NPT kit for standard models with 3/8" NPT female cooling air connection
		P/N 129-182-2, Optional, aluminum 1" BSP kit for standard models with 3/8" BSP female cooling air connection
	CEX Models:	P/N 129-168-1, 1" NPT female pipe mount flange with 3/8" NPT female cooling air connection
		P/N 129-168-2, 1" BSP female pipe mount flange with 3/8" BSP female cooling air connection
Optical:	UV Models:	295 to 340 nanometers (K3 option 310-500 nanometers);
	IR Models:	830 to 1100 nanometers

Electrical Specifications:

Input Power:	24 Vdc, +20%, -15% supply current 200mA
Electrical Connection:	Standard Models: 8-pin quick disconnect CEX Models: internal terminal blocks
Relay Output:	FLAME RELAY, SPST (N.O.) FAULT RELAY, SPST (N.C.)
Contact Rating:	Minimum: 10mA @ 5 Vdc Maximum: 2A@30 Vdc, 2A@230 Vac Resistive load
Analog Output:	Optically isolated 4-20mA dc current referenced to 24 Vdc common, maximum connected load: 750 Ohms. Forney recommends the 60-2685-X 24 Vdc power supply for best performance and for a SELV rating of the 4-20mA analog output leads.
Status Indication:	Multiple LED indication for flame signal strength, flame relay, ready, target, background select and fault codes.
Cable Specification:	Quick Connect P/N 401119-xx, Bulk Cable P/N 401119-00 Multi-core, 8 (color coded) Eight #18 AWG with foil wrap and overall braided shield. PLTC-ER rating. Temperature Rating: -40°F to 221°F (-40°C to 105°C) Cable Jacket: PVC (fl ame-retardant, low smoke, zero halogen) Nominal O.D. 0.44" (11.2 mm); Maximum O.D. 0.48" (12.2 mm)

Standard Models



CEX Models

