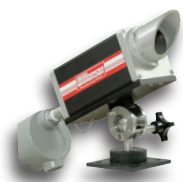


## Flame Intensity Monitor (FI)

Williamson Flame Intensity Monitors (FI) are the single-wavelength sensors of choice for a variety of flare applications where the more sophisticated dual-wavelength flare products are not appropriate or are not required. Products specifically designated for flame intensity monitoring applications include:

- Pilot Monitoring of Hydrogen, Ammonia or CO Flames
- Pilot Monitoring of Ground Flares and Landfill Flares
- Flame Intensity Monitoring



Model FI5-40-N4  
Model FI2-35-N4  
Model FI2-100-N4  
NEMA4X / IP65 Housing



Model FI2-35-EXP  
Model FI2-100-EXP  
Model FI2-200-EXP  
Explosion Proof Housing



Model FI2-35-EXPSS  
Model FI2-100-EXPSS  
Model FI2-200-EXPSS  
Explosion Proof  
Stainless Steel Housing



## High Performance FI Sensors

The Williamson Flame Intensity Monitor utilizes single-wavelength technology and thoughtful wavelength selection to sense the presence and intensity of flames of all types. The FI class sensors are ideal when viewing hydrogen, ammonia, CO and other flames. This lower-cost technology is also commonly used as a pilot flame detector for ground flares and landfill flares where the viewing distance is less than about 300 feet or 100 meters.

- Thoughtful wavelength selection for maximum sensitivity
- Model FI2 is recommended for Hydrogen and Ammonia, Model FI5 is recommended for CO Flames
- Ideal as a Pilot Monitor for Ground Flares and Landfill Flares
- Increased sensitivity compared to UV flame detectors
- Adjustable Sensitivity for Optimum Performance

Typical Configuration		
Part Number	Flame Type	Area Classification
FI2-35-D-IM-N4	Hydrogen & Ammonia	Non-Hazardous
FI2-35-D-IM-EXP	Hydrogen, Ammonia, & H-C	Hazardous
FI5-40-D-IM-N4	CO & H-C	Non-Hazardous

Instrument Datasheet for the Williamson Flame Intensity Monitor (FI)  
Designed & Manufactured by Williamson Corporation, Concord, MA 01742

## Flame Intensity Monitor Specifications

Output Scale	0-1000 Dimensionless
Control Parameter	0-1000 Dimensionless
Spectral Response	Proprietary Narrow Waveband Monitoring Flame Intensity
Optical Resolution	D/35, D/40, D/100, D/200
Maximum Distance	Pilot Monitoring: 600 feet, 183m Flame Intensity Monitoring: 2000 feet, 610m
Response Time	Adjustable 0.1 second to 24 seconds
Analog Outputs	4-20mA or 0-20mA output (max impedance 1000 ohms)
Alarms	Sensor: One SPST Relay Alarm Output 2A@120 or 250 Vac
Digital Interface	Bi-Directional RS485 and RS232 communications
Human Interface	Built-in Menu System
Measured Parameters	Filtered Signal, Unfiltered Signal, Ambient Temperature
Input Power	Stand-Alone Sensore: 24Vdc (300mA)
Ambient Temperature Limits	Sensor: -40 °F to 150 °F / -40 °C to 65 °C
Dimensions (L x W x H)	N4 Sensor: 16in x 7in x 8in (406mm x 178mm x 203mm) EXP Sensor: 10.7in x 5.4in x 10in diameter (272mm x 137mm x 254mm diameter)
Weight	N4 Sensor and Swivel Bracket: 7.8 lbs. (3.5 kg) EXP Sensor and Swivel Bracket: 11.6 lbs. (5.3 kg) EXPSS: 25 lbs. (11.3 kg)
Warranty	2 Years
Safety Integrity Level (SIL)	Level 2
Environmental Protection Ratings	N4: NEMA 4X IP656 EXP: NEMA 4X IP66

## Hazardous Classifications for EXP Models

Temperature Rating	T6
ATEX	II 2 G Ex db IIB+H2 T6 Gb IP66
IECEX	Ex d IIB+H2 T6 Gb
USA	Class I, Zone 1 AEx db IIB+H2 T6 Gb Class I Div 2 Groups BC&D T6 Type 4X
Canada	Class I Div 1 Groups BC&D T6 IP66 Type 4X Ex db IIB+H2 T6 Gb
India	CCOE