

## Non-Contact Pilot Monitoring

When released into the atmosphere by oil refineries, natural gas processing plants, & various other petrochemical facilities, flammable vent gases are ignited by a pilot flame.

Proper incineration of these gases is a critical safety & environmental concern. Consequently, continuous monitoring & confirmation of a lit pilot flame is an essential part of any flare operation.

While thermocouples are commonplace, they are also prone to frequent failures that lead to costly maintenance-related shutdowns & all too often compliance deviations. Williamson's non-contact infrared Pilot Monitor (PM) provides reliable feedback & superior performance.



Model PM-35-N4  
NEMA4X / IP66 Housing



Model PM-35-EXP  
Explosion-Proof Housing



Model PM-35-EXPSS  
Explosion-Proof  
Stainless Steel Housing

## High Performance PM Sensors

Williamson's Pilot Monitor (PM) utilizes proven dual-wavelength technology to sense the presence of the small, distant pilot flame. This enables the pilot monitor to view clearly through severe & varying weather conditions caused by fog, wind, rain, snow & sleet.

- 30% greater sensitivity means greater accuracy compared to competitors
- Proprietary technology provides stable readings in severe & varying weather conditions
- May be grade-mounted for easy access
- Includes Signal Dilution output for measurement validation & diagnostics
- Large Viewing area for easy alignment
- Self-regulating means no on-site calibration
- Recognized by environmental regulators as a valid monitoring method since 1984

## Pilot Monitor Specifications

Output Scale	0-100%
Spectral Response	Proprietary Narrow Wavebands - Detect the small distant pilot flame
Optical Resolution	D/35 or D/50
Maximum Distance	2000 feet, 610 m
Response Time	Less than 1 second (Response time < 1 second)
Analog Outputs	4-20mA or 0-20mA output (max impedance 1000 ohms)
Alarms	Sensor: One SPST Relay Alarm Output 2A@120 or 250 Vac
Human Interface	Built-in Menu System
Measured Parameters	Filtered Signal, Unfiltered Signal, Signal Dilution, Ambient Temperature
Input Power	Stand-Alone Sensor: 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 IP66 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

### Optimal Optical Resolution

Standard Resolution	<b>D/35</b>
High Resolution <i>(Closely Spaced Flares)</i>	<b>D/50</b>

### Typical Configurations

Part Number	Area Classification
PM-35-D-IM-N4 PM-50-D-IM-N4	Non-Hazardous
PM-35-D-IM-EXP PM-50-D-IM-EXP	Hazardous