



Process &

**Environmental
Analysis Solutions**

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Process Sense™

NON-DISPERSIVE INFRARED CHAMBER CLEAN ENDPOINT

The Process Sense endpoint sensor is a small, low-cost SiF₄ sensor specifically designed for Remote Plasma Chamber Clean Endpoint detection for silicon-based CVD deposition chambers. Process Sense is based on infrared absorption, the only technique applicable to all plasma cleaning processes (in-situ and remote). The Process Sense gets mounted onto a bypass on the rough line, ensuring no effect on deposition hardware. The signal level reported by the Process Sense, which is proportional to SiF₄ concentration, can be used to determine the completion of the chamber clean process.

Features & Benefits

- Reduced chamber clean times
- Reduced chamber clean cost
- Minimum particle events
- Reduced NF₃ usage
- Reduced power consumption
- Increased wafer throughput of CVD tool
- Accurate determination of chamber clean endpoint
- Low-cost filter-based analyzer

Applications

- Chamber clean endpoint for SiF₄
- Sensitivity to SiF₄ down to 1ppm
- Simple analog output for reported concentration signal
- Silicon Oxides (USG, FSG, PSG, BSG, BPSG)
- Silicon Nitrides
- Polysilicon
- Silane or TEOS processes



Specifications and Ordering Information

Measurement Ranges

SiF ₄	1 – 200 ppm (at 760 Torr)
Detection Limit	1 ppm SiF ₄ (at 760 Torr)
Response Time	1 second report rate
Calibration Accuracy	±10%

Electrical

Connector	DB25 (DB15 adapter available)
Input Power	24 VDC (2 amp)

Size

Dimensions	38 x 12 x 13 cm (15 x 4.5 x 5 in)
Weight	2.5 kg (5.5 lbs)

Output

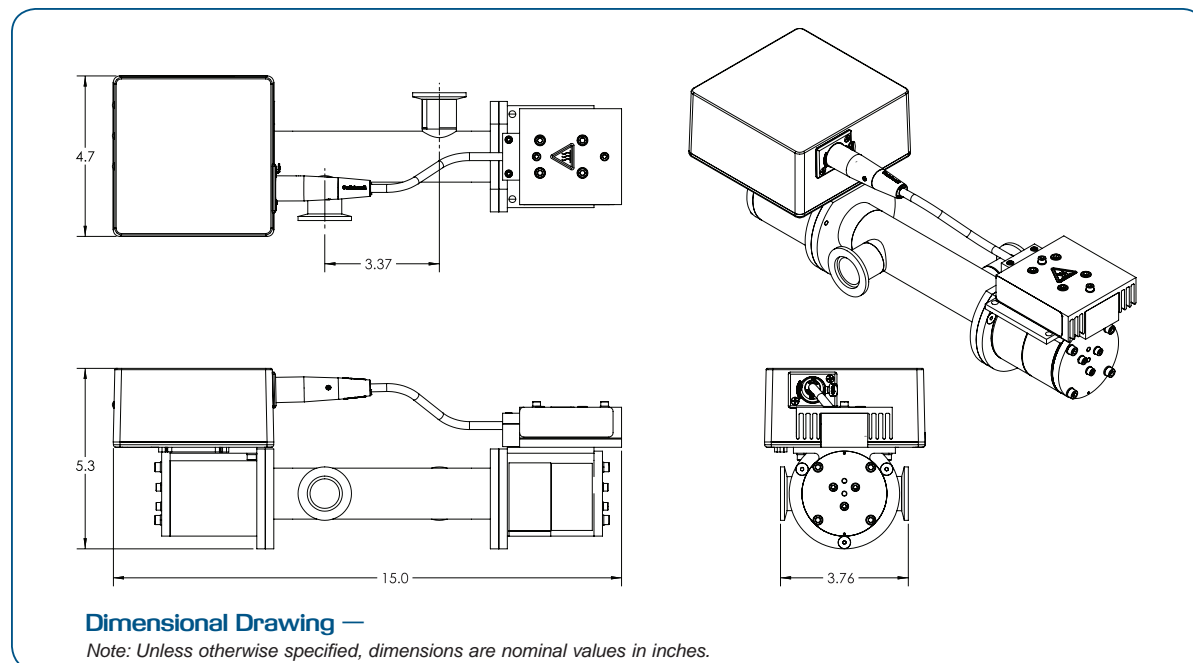
Analog 1 (AO1)	0 – 10 V (1x SiF ₄ concentration)
Analog 2 (AO2)	0 – 10 V (20x SiF ₄ concentration)
Digital Out	Fault signals

Sample Conditions

Pressure	1 – 760 Torr
Temperature	25 – 60°C
Hardware Fittings	NW25, NW40, NW50 (others available upon request)

Compliance

CE



Please contact your local MKS office for price and availability information.



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