

TELEDYNE ANALYTICAL INSTRUMENTS



MODEL 2120 **Nitrogen in Argon Analyzer**

Nitrogen impurity measurement

The detection of nitrogen is critical to determining system integrity in argon gas supply systems. TAI's Model 2120 provides fast and accurate analysis of nitrogen (indicative of air contamination) with field proven emission spectroscopic technology.

Benefits

- Proven reliability
- Unsurpassed detection

High signal gain provided by a PMT, coupled with improved noise rejection of the frequency selective amplifier, gives the 2120 the sensitivity to measure low parts per billion (ppb) Limits of Detection (LOD) for nitrogen impurities.

- Continuous analysis

On line continuous trending of nitrogen concentration with no need for sample injection or separation columns.

- Impervious to high level impurity upset

Exposure to atmosphere or high impurity concentrations does not result in damage to the analytical cell.

- Minimal long term drift in signal for less frequent calibration and increased reliability
- Non-depleting cell for extended operation provides long life and low maintenance

- Patented Electro-Optical Modulation eliminates unwanted noise and drift, generating a modulated signal without the use of a mechanical chopper.

Applications

- Argon production - Monitor product purity prior to and during tank fill or switchover
- Quality Control for truck fills and gas cylinders - QA / QC to determine product purity
- Gas management / Monitoring systems - Detect purifier breakthrough or trace nitrogen impurities throughout the process

- New line certification - An exceptional response time makes the 2120 an ideal choice for new line certification or line certification after weldment
- Specialty steel manufacturing - Monitor for impurities in production of specialty steels where nitrogen content is critical to the process
- Semiconductor manufacturing - Purifier break-through detection, assuring UHP argon supply

Features

- Guaranteed 10 ppb sensitivity
- Measuring system based on spectral emission of argon plasma
- Exceptional detector performance by utilizing patented electro-optical modulation
- On-line continuous trending
- Precision flow control
- Fast response; fast recovery
- 4-20 mA output
- Dry contacts for over range indication and range selection indication
- No valves, columns, or carrier gas
- No radioactive source
- No sensor or detector to replace
- Maintenance free
- Available in two CE approved configurations
 - 0-2 / 0-20 ppm
 - 0-20 / 0-200 ppm

Built for Reliability and Performance

Model 2120 Nitrogen in Argon Analyzer

Specifications

Measurement ranges:

0-2 / 0-20 ppm model 0-2 ppm N2 in Ar
 0-20 ppm N2 in Ar

0-20 / 0-200 ppm model 0-20 ppm N2 in Ar
 0-200 ppm N2 in Ar

Sample flow required: 2 cfh-NPT (0.88 slpm)

Ambient temperature limits: 60 - 95°F (16 - 35°C)

Maximum pressures: 10 psig (69 kPa) at sample inlet
 6 psig (41 kPa) on analytical cell

Nominal sample inlet pressure: 2-7 psig (14 - 48 kPa)

Power required:

0-2 / 0-20 ppm model ~300 W, 115/230 VAC, 50/60 Hz

0-20 / 0-200 ppm model ~100 W, 115/230 VAC, 50/60 Hz

Output: 4-20mA

Dry contacts for Range Selection
Indication, rated for 2.0 A at 30 VAC

Dry contacts for Over Range
Indication, rated for 0.5 A at 30 VAC

Accuracy: ±0.02 ppm N2 in Ar on 0-2 ppm
 range

±0.25 ppm N2 in Ar on 0-20 ppm
range

±2.50 ppm N2 in Ar on 0-200 ppm
range

Sample connections: 1/4" VCR sample inlet
 1/4" Swagelock vent

Sensitivity: ±0.01 ppm N2 in Ar

Dimensions: 5.25" H x 16.625" W x 14.625" D
 (13.34 x 42.23 x 37.15 cm)

Weight: 25 lb (11.3 kg)

Recommended calibration gases for Argon models:

For 0-2 ppm range:

zero gas: N2 free Argon

span gas: 16-20 ppm N2 in Argon

For 0-20 ppm range:

zero gas: 0-2 ppm N2 in Argon

span gas: 16-20 ppm N2 in Argon

For 0-200 ppm range:

zero gas: 0-2 ppm N2 in Argon

span gas: 160-200 ppm N2 in Argon

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Warranty

Instrument is warranted for 1 year against defects in material or workmanship

NOTE: Specifications and features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. All specifications and features are subject to change without notice.

