The Delta F NanoTrace Moisture in Ammonia Analyzer

- The DF-740 moisture-in-ammonia analyzer is the latest addition to the 700 Series moisture analyzers. Utilizing the same Tuneable Diode Laser Absorption Spectroscopy (TDLAS) as the successful DF-750 inert gas moisture analyzer, the DF 740 offers a simple to use instrument for the measurement of trace levels of moisture in ammonia.
- The DF-740 is a true process analyzer designed for long term unattended operation, and does not require back up by a skilled specialist, unlike other more expensive technologies used for this application such as FTIR (Fourier Transform Infrared) Spectroscopy.
- Exhaustive field-testing with a number of instruments has shown repeatable Lowest Detection Level (LDL) of 10ppb, excellent linearity fast response.

Moisture System Performance

- **Range**
  - 0 to 10 PPM
  - Analog output scaleable down to 0-100 PPB
- **Lowest Detection Level**
  - 10 PPB
- **Resolution – Analytical** (Sensitivity, Smallest Detectable Change)
  - 2 PPB
- **Resolution – Display**
  - 10 PPT
- **Accuracy**
  - Greater of ±5% of Reading or ±5 PPB
- **Response Time** (Typical)
  - 15 minutes to reach 90% of an upward step challenge
- **Upset Recovery Time**
  - < 5 minutes from high PPB upset to within 10 PPB of previously stable reading

Sample Requirements

- **Sample Line Temperature**: Heat Trace to 140°F (60°C)
  - Limits: 50º to 176ºF (10º to 80ºC)
  - For best results, maintain sample line at 60º C
- **Sample Flow**: 0.25 lpm at 7 to 12 psig (1.93 to 3.31 BarA).

Miscellaneous

- **Dimensions**: 19" (48.3 cm) W x 10.5" (26.7 cm) H x 22.5" (57.2 cm) D
- **Weight**: 68 lbs. (31 kg.)
- **Ambient Operating Temperature**: 50º F to 105º F (10º C to 40º C)

For more information about Delta F sensor technology, ask for the Delta F Moisture Technology Brochure.

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DF-740
NanoTrace Moisture-in-Ammonia Analyzer

Test Data
Results based on test data from Praxair Inc., Tonawanda, NY USA.

Response to step challenges

Linearity

Speed of Response

Baseline Stability

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**Performance**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Detection Level</td>
<td>10 ppb</td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>Analytical</td>
<td>2 ppb</td>
</tr>
<tr>
<td>Display</td>
<td>0.1 ppb</td>
</tr>
<tr>
<td>Accuracy (greater of)</td>
<td>±5% of reading</td>
</tr>
<tr>
<td>or ± 5 ppb</td>
<td></td>
</tr>
<tr>
<td>Speed of Response (typically)</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Time to reach 90% of an upward step challenge</td>
<td></td>
</tr>
<tr>
<td>Upset Recovery Time</td>
<td>&lt; 5 minutes</td>
</tr>
<tr>
<td>Time from high ppb upset to within 10 ppb of the previously stable reading</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>0-10 ppm</td>
</tr>
<tr>
<td>Ambient Operating Temperature</td>
<td>50º to 105º F (10º to 40º C)</td>
</tr>
<tr>
<td>Background Gas Compatibility</td>
<td>Ammonia</td>
</tr>
</tbody>
</table>

**Back Lighted Display**

- 7.4" VGA Monochrome (640x480)

**Visual Alarm Status Indicators**

- 4 moisture levels, temperature, moisture sensor diagnostic, loss of flow, zero verification-in-process, analyzer off-line, expanded range

**Relays**

- Fail-safe action upon loss of power to alarm condition
- 4 non-latching, independently assignable to alarms or indicators.
- SPDT contacts rated for 1A at 30 VDC.

**Power Requirements**

- 100-120 VAC @ 5A, 50/60 Hz (standard); 200-240 VAC @ 2.5A, 50/60 Hz (optional). Configurable at factory.

**Output Signals**

**Analog Outputs:**
- Menu scaleable single output range of 0-100 ppb up to 0-10 ppm
- Isolated 4-20 mADC, and choice of 0-1, 0-2, 0-5, or 0-10 VDC
- Expanded Range Scales
  - Two user selectable secondary analog output ranges for re-scaling the output once the primary range is exceeded

**Digital Output:**
- 2-Way RS232 or RS485, configurable at factory

**CE Conformance:**
- Added EMI/RFI and Conducted interference immunity

**ORDERING INFORMATION**

**Base Model**

- 740-0010 NanoTrace Moisture Analyzer
  - V (added to model number)
  - 230 VAC/50/60 Hz Input Power

**Outputs**

- (pick one Serial Communication)
  - 740-RS232 Two-Way Serial Communications
  - 740-RS485 Two-Way Serial Communications

- (pick one VDC Output)
  - 740-OS-1 0-1 VDC
  - 740-OS-2 0-2 VDC
  - 740-OS-5 0-5 VDC
  - 740-OS-10 0-10 VDC

**Cabinet**

- 740-KL Key Lock