XGA301 Industrial Gas Analyzer

The XGA301 Industrial Gas Analyzer from Michell Instruments provides a convenient platform to measure oxygen, dew point and other gases such as CO₂, CO and CH₄. The analyzer can be supplied in one of two bench-mounted chassis and with up to three sensors fitted.

**Highlights**

- Sensor choices from zirconia, galvanic electrochemical, infrared and ceramic impedance technologies
- Variable speed pump (optional)
- Intuitive HMI with back-lit display
- Two fully-programmable alarms
- 2 x voltage outputs and 2 x 4–20 mA outputs
- Digital RS232 output
- Software package includes live graphing and Excel™ compatible data-logging
- Password protection
- Panel mounting bezel for XGA301A1 variant

**Applications**

- Convection reflow oven control
- Laboratory scale experiments
- Combustion process in lean-burn applications — e.g. engine performance testing
- Industrial processes — e.g. wave soldering and vacuum welding
- Glove boxes
- Food production (nitrogen blanketed)
**Technical Specifications**

**Monitor**
- **Operating temperature**: +5 to +35°C
- **Warm-up time**: 3 to 4 minutes @ +20°C
- **Maximum inlet temperature**: +50°C
- **Sample flow rate**: 0 to 1.2 Nl/min, user-selectable with pump
- **Maximum inlet pressure**: 1 barg

**Display**
- **XGA301A1/A2**: 16 x 2 character (9mm) back-lit LCD,
- **XGA301A3**: 20 x 4 character (9mm) back-lit LCD

**Sample connections**
- **Standard**: 4mm ID / 6mm OD nipple — gas fittings on front panel
- **Optional**: Rectus™ or Swagelok® 6mm fittings. Rear panel fittings for XGA301A1 only

**Dimensions (H x W x D)**
- **XGA301A1**: 290 x 250 x 250mm (11.4 x 9.8 x 9.8")
- **Panel-mount XGA301**: 4U (177) x 300 x 290mm
- **XGA301A2/A3**: 195 x 355 x 340mm (13.8 x 10.4 x 5.9")

**Weight**
- **XGA301A1**: 3.5kg
- **XGA301A2/A3**: 4 to 5.5kg

**Electrical Specifications**
- **Analog Outputs**: 2x 4-20mA outputs, assignable to any of the fitted sensors.
- **2x alarm relays**
- **2 x 0–5 V (XGA301A1 only)**
- **2 x 0–10 V (XGA301A2/A3 only)**

**Digital output**: RS232 ASCII

**Power supply**: 90-260 V AC, 50/60 Hz

**Moisture and Pressure Sensors**
- **Sensor Type**: Water Dew Point*
- **Pressure (2m lead), remote sensor**
  - **Accuracy**: ±2°Cdp of reading
  - **<±0.25% of full scale standard, enhanced accuracy of 0.1% and 0.05% available at extra cost**
  - **Ranges**: -65 to +20°Cdp
  - **-100 to +20°Cdp**

**Sensor Options and Specifications**

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Zirconia</th>
<th>Electrochemical</th>
<th>Infrared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurand</td>
<td>O₂</td>
<td>O₂ (Low range)</td>
<td>CO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO₂</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CH₄</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>±1% of reading (logarithmic scale) or 0.5ppm whichever is greater.</td>
<td>±1% of full scale at 25°C 1013mbar</td>
<td>±2% of full scale at 25°C 1013mbar</td>
</tr>
<tr>
<td><strong>Inlet Pressure</strong></td>
<td>1barg max</td>
<td>0.7 – 1.4bara</td>
<td>0.7 – 1.4bara</td>
</tr>
<tr>
<td><strong>Response Time</strong></td>
<td>Approx 5 seconds for a 90% step change (gas flow rate of 1 Nl/min-1)</td>
<td>Approximately 30 seconds (T90)</td>
<td>Approximately 30 seconds (T90)</td>
</tr>
<tr>
<td><strong>Stability</strong></td>
<td>±2% of reading per month</td>
<td>±2% of range (over 12 months)</td>
<td></td>
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<tr>
<td><strong>Life Expectancy</strong></td>
<td>&gt;17,500 hours</td>
<td>~10yrs</td>
<td>~10yrs</td>
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**Maximum dimensions including needle valve and with the feet extended.**

*For full specifications, see the Easidew Transmitter datasheet.*