# 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 $CO_2$, CO and $CH_4$. 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 XGA301A1:** | 250mm x 263mm x 150mm |
| **Panel-mount XGA301:** | 4U - 177 x 300mm (H x W) |
| **XGA301A2/A3:** | 350mm x 263mm x 150mm |
| **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.<br>2x alarm relays<br>2 x 0–10 V (XGA301A1 only)<br>2 x 0–5 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<br>-100 to +20°Cdp | 0-5 barg<br>0-10 barg |

*For full specifications, see the Easidew Transmitter datasheet

# Sensor Options and Specifications

| Sensor Type | Zirconia | Electrochemical | | | | Infrared | | |
|---|---|---|---|---|---|---|---|---|
| **Measurand** | **$O_2$** | **$O_2$** | **$O_2$ (Low range)** | **CO** | **CO ($H_2$ present)** | **$CO_2$** | **$CH_4$** | **CO** |
| **Accuracy** | ±1% of reading (logarithmic scale) or 0.5ppm whichever is greater. | ±1% of full scale at 25°C 1013mbar | ±2% of full scale at 25°C 1013mbar | | | ±2% of full scale at 25°C 1013mbar | | |
| **Inlet Pressure** | 1barg max | 0.7 – 1.4bara | | | | 0.7 – 1.4bara | | |
| **Response Time** | Approx 5 seconds for a 90% step change (gas flow rate of 1 Nl/min-1) | Approximately 30 seconds (T90) | | | | Approximately 30 seconds (T90) | | |
| **Stablility** | ±2% of reading per month | | | | | ±2% of range (over 12 months) | | |
| **Life Expectancy** | >17,500 hours | ~10yrs | | | | ~10yrs | | |
| **0-100%** | | | | | | ✓ | ✓ | ✓ |
| **0-30%** | ✓ Output can be user configured 0-10ppm, up to 0-30% | ✓ | | | | ✓ | ✓ | ✓ |
| **0-10%** | | | | | | ✓ | ✓ | ✓ |
| **0-5%** | | | | | | ✓ | ✓ | |
| **0-3%** | | | | | | ✓ | | ✓ |
| **0-1%** | | | ✓ | | | ✓ | | |
| **0-5000ppm** | | | | ✓ | | ✓ | ✓ | |
| **0-2000ppm** | | | | ✓ | ✓ | ✓ | | ✓ |
| **0-1000ppm** | | | | ✓ | ✓ | ✓ | | |
| **0-500ppm** | | | | ✓ | ✓ | ✓ | | |

**Michell Instruments** 48 Lancaster Way Business Park, Ely, Cambridgeshire, CB6 3NW
Tel: +44 (0) 1353 658000, Fax: +44 (0) 1353 658199, Email: uk.info@michell.com, Web: www.michell.com/uk

**Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.**
**Issue no: XGA301_97489_V2_UK_Datasheet_0417**