

## PRODUCT DATA SHEET

# 5100HD Gas Analyzer for the Measurement of Carbon Dioxide in Natural Gas

Carbon dioxide (CO<sub>2</sub>) is one of the highest level impurities found in well head natural gas. It must be removed to meet pipe-line quality British thermal unit (BTU) standard specifications for consumer gas and to protect pipelines from corrosion which occurs when CO<sub>2</sub> and water (H<sub>2</sub>O) combine to form carbonic acid.

The AMETEK 5100HD is an extractive-type CO<sub>2</sub> analyzer designed for hot/wet sample analysis. There is no sample conditioning for the analyzer system, just sample handling to transport the sample.

The 5100HD measures at a wavelength free of interferences from the hydrocarbons typically found in natural gas streams to provide continuous and accurate results. The 5100HD uses a sealed reference cell for continuous online optical system verification and offers high specificity, and sensitivity.

For customers looking to measure multiple components with one analyzer, the 5100HD can simultaneously measure water vapor and CO<sub>2</sub> measurements in natural gas streams.

### **Non contact measurement**

The sample never contacts the key optical components, reducing maintenance.

### **Line lock**

The wavelength of interest is constantly verified using an integrated reference.

### **Designed for use in difficult environments**

Can be installed in many environments, including those defined as hazardous.



## KEY BENEFITS

- Real-time performance monitoring
- Low maintenance cost and requirements
- Reduced downtime
- IP 65/Type 4X enclosure
- Fully-integrated sample handling

## APPLICATIONS

- Tariff or custody transfer
- Natural gas sweetening

## KEY MARKETS

- Natural gas
- Petrochemicals
- Refining

**PERFORMANCE SPECIFICATIONS**

|   |   |
|---|---|
| <b>Typical ranges &amp; performance</b> | Ranges: 0-50 ppm (min), 0-100% (max) Accuracy ±2% of reading  |
| <b>Ambient temperature</b>              | -20 to +50°C (-4 to 122°F)  |
| <b>Relative humidity</b>                | 0 to 90%, non-condensing  |
| <b>Sample flow rate</b>                 | 1 to 10 SLPM recommended (2-20 SCFH)  |
| <b>Sample cell pressure</b>             | 70 to 170 kPa absolute (10-25 psia)   |
| <b>Speed of response</b>                | <1 second photometric response<br>Total system response is dependent on sample flowrate   |
| <b>Electrical requirements</b>          | 120 VAC (108-132V); 47-63 Hz, or 240 VAC (216-264V), 47-63 Hz; 24 VDC (Consult AMETEK)  |
| <b>Power requirements</b>               | 5100HD: 450W; 105W without heater   |
| <b>Outputs</b>                          | Keypad and display<br>Fast ethernet (IEEE802.3)<br>RS485 serial port, isolated (supports Modicon Modbus RTU)<br>(1) single isolated 4-20 mA loop-powered analog output<br>(4) dry relay contacts. Contact rating 30 VAC, 60 VDC, 100 VA resistive |
| <b>Physical dimensions (W x H x D)</b>  | 5100HD 830 x 674 x 305 mm (32.7 x 26.5 x 12.0 in.)  |
| <b>Weight</b>                           | 5100HD CEC/NEC Class I Division 2: 60 Kg (132 lb)   |
| <b>Enclosure</b>                        | IP65 and Type 4X  |
| <b>Approvals and certifications</b>     | Certified to meet multiple ATEX, IECEx, CSA, NEC and Inmetro standards for hazardous areas<br>Consult AMETEK for more details   |

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