Moisture Monitor™
Series 3
Panametrics Moisture Analyzer

Moisture Monitor™ Series 3 is a Panametrics product. Panametrics has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.
Multifunction

The Moisture Monitor Series 3 is a dual-channel version of the Moisture Image® Series 1 top-of-the-line model in the GE Moisture Series family of analyzers. It features a two-line backlit liquid crystal display (LCD) for real time simultaneous display of any two parameters. The Moisture Monitor Series 3 measures moisture, temperature and pressure, in non-aqueous liquids and gases. There is also an option for measuring oxygen concentration in gases. In addition, the auxiliary inputs can accept readings from any sensor with 0/4 to 20 mA or 0 to 2 V output, including a variety of GE process control instruments. This feature makes the Moisture Monitor Series 3 a true multifunction analyzer, providing cost savings through system integration.

Optional Second Channel

An optional dual-channel version of the Moisture Monitor Series 3 can significantly reduce the cost-per-measurement point while providing a variety of configurations to meet the needs of specific applications.

Portable

The Moisture Monitor Series 3 is also available in a battery-powered portable configuration. Combined with built-in data logging, its portability is ideal for making spot measurements at remote sites and then bringing the data back to a central location for analysis.

TF Series or M Series Probe

The Moisture Monitor Series 3 is compatible with TF Series and M Series moisture probes. Temperature sensors on the same mount are optional. A pressure sensor is optional on the TF Series probe. Superior sensitivity, speed of response, calibration stability and wide dynamic range have made these probes the standard of performance and value in industrial moisture measurement. They are suitable for laboratory and industrial measurement applications in gases and non-aqueous liquids over a wide range of process conditions.

All moisture probe calibrations are NIST traceable.
### Series 3 Specifications

#### Electronics

**Intrinsic Safety**
Galvanic isolation and energy-limiting circuitry for all inputs (except auxiliary):
BAS01ATEX7097
II (1) G [EEx ia] IIC –20°C to 50°C;
CSA C US Class I, Division 2, Groups B,C&D T4A–Assoc.
Elec. Apparatus [Exia] and Class I, Division 1,
Groups A,B,C&D T4

**European Compliance**
Complies with EMC Directive 89/336/EEC and
73/23/EEC LVD (Installation Category II, Pollution
Degree 2)

#### Inputs
- Moisture: One or two channels
- Temperature: One or two channels
- Pressure: One or two channels
- Oxygen: One or two channels
- Auxiliary (optional): Two per installed channel; may be used for 0/4 to 20 mA and 0 to 2 V devices

#### Analog Outputs
Two per channel; internally optically isolated; 12-bit (.025% resolution)

#### Programmable Switch-Selectable Outputs
- 0 to 2 V, 10 kΩ minimum load resistance
- 0/4 to 20 mA, 400 Ω maximum series resistance

#### Digital Outputs
RS232 serial communications port; information is transmitted as ASCII characters

#### Computer-Enhanced Response
Optional: Software provides fast measurements in abrupt dry-down applications (three- to five-minute speed of response)

#### Data Logging
Up to 12 parameters simultaneously; stored in battery-backed RAM (64 kB); log length depends on number of items and time interval

#### Memory
- Standard: 64 kB RAM
- Optional: Additional 1 MB or more with PCMCIA card

#### PC Interface Software
Optional: PanaView™ instrument interface software

#### Alarm Relays
- Two optional Form C relays per channel SPDT; rated for 2 A at 28 VAC/28 VDC
- Standard and hermetically sealed (for Division 2 hazardous areas per CSA) available for high and low limits on each channel; set to any level within the range of the instrument

#### Alarm Set Point Accuracy
±0.18°F (±0.1°C) dew point

#### Display
2 line x 20 character backlit LCD

#### Display Functions
Displays two parameters

#### Power Requirements
- Universal power supply adjusts automatically for 90 to 260 VAC, 50/60 Hz
- Rechargeable battery pack (optional) lasts 8 hours under normal use and fully recharges in 16 hours

#### Temperature
- Operating: 32°F to 140°F (0°C to 60°C)
- Storage: –22°F to 158°F (–30°C to 70°C)

#### Configuration Dimensions (h x w x d)
- Rack mount: 5.22 in x 19.00 in x 17.03 in (13.26 cm x 48.26 cm x 43.26 cm)
- Bench mount: 6.35 in x 8.29 in x 17.03 in (16.13 cm x 21.06 cm x 43.26 cm)
- Panel mount: 8.25 in x 10.85 in x 17.03 in (20.96 cm x 27.56 cm x 43.26 cm)
- Weatherproof: 22.23 in x 16.23 in x 9.48 in (56.46 cm x 41.22 cm x 24.08 cm)
- Explosion proof: Consult factory

*Add 1.65 in (4.19 cm) to accommodate strain relief tabs*
## Series 3 Specifications

### Moisture Measurement

**Type**
GE TF and M Series thin-film aluminum oxide probes

**Calibration Ranges**
- Standard: 68°F to -112°F (20°C to –80°C) with data to -166°F (–110°C)
- Ultralow: -58°F to -148°F (-50°C to –100°C) with data to -166°F (-110°C)
- Extended high: 110°F to -112°F (60°C to –80°C) with data to -166°F (-110°C)

**Accuracy (Dew/Frost Point)**
- ±3.6°F (±2°C) from 110°F to -85°F (60°C to –65°C)
- ±5.4°F (±3°C) from -86°F to -166°F (-66°C to –110°C)

**Repeatability (Dew/Frost Point)**
- ±0.9°F (±0.5°C) from 110°F to -85°F (60°C to –65°C)
- ±1.8°F (±1.0°C) from -86°F to -166°F (-66°C to –110°C)

**Operating Pressure**
5 µ of Hg to 5000 psig (345 bar), limited by optional pressure sensor—see pressure sensor ranges

**Other Moisture Parameters**
Relative humidity (RH), parts per million by volume (ppmv), parts per million by weight (ppmw), parts per billion by volume (ppbv), pounds per million standard cubic feet (lb/MMSCF)

### Temperature Measurement

**Type**
Optional thermistor built into moisture probe

**Range**
-22°F to 158°F (-30°C to 70°C)

**Accuracy**
±0.9°F (±0.5°C) at -22°F (-30°C)

### Pressure Measurement

**Type**
- Optional transducer built into moisture probe
- Variety of standard GE external transmitters
- Any user-supplied pressure transmitter, 24 V powered, 4 to 20 mA

**Range**
0 to 5000 psig (1 to 345 bar); specify type and pressure range

**Accuracy**
±1% of full scale

**Pressure Rating**
Three times the span of the available range to a maximum of 7500 psig (518 bar)

### Oxygen Measurement

Optional nondepleting electrolytic oxygen sensor. Additional details and specifications are available on request.