PLMa PhyMetrix Loop-powered Moisture Analyzer

PhyMetrix®

Leading edge Nanosensor Technology

Unique State-of-the-art Features

- **HART** interface compliant
- 4/20 mA Loop Powered
- Built-in self-test and diagnostics
- Wide loop voltage range 5VDC to 28VDC
- Built-in temperature compensation
- Optional 2-wire RS-485 **Modbus** ASCII or RTU

actual size
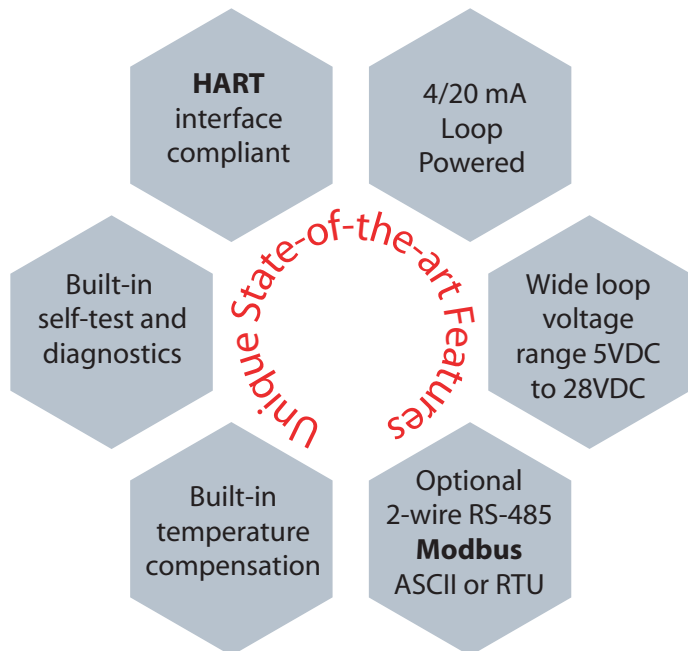
more FEATURES

- -110˚C to +20˚C dewpoint Sensor
- Fast, Accurate and Repeatable
- Small & Lightweight
- State-of-the-art electronics & software
- 316 Stainless Steel & PTFE wetted parts
- NIST calibrations
- Stainless Steel IP68 housing
- Protection from reversed polarity
- Robust Industrial M12 connector, IP68 protection
- 3/4"-16 process interface threads with Viton O-ring
- Interfaces to a variety of panel meters
- Molded IP67 cables available for harsh environment
- Units of measure ˚C & ˚F dewpoint, ppmV, ppmW, μB H_2O vapor pressure, grams of H_2O / m^3, Lbs H_2O /10^6 standard cubic feet in Natural Gas.

APPLICATIONS

- Petrochemical
- Industrial Gases
- Natural Gas
- Power Generation
- Furnace Gas / Heat Treating
- Air Dryers
- Pharmaceutical
- Aerospace
- Medical

PhyMetrix, Inc.
Moisture Measurement
Innovation at work

PhyMetrix®

- ◆ Test
- ◆ Measure
- ◆ Calibrate
- ◆ Quick
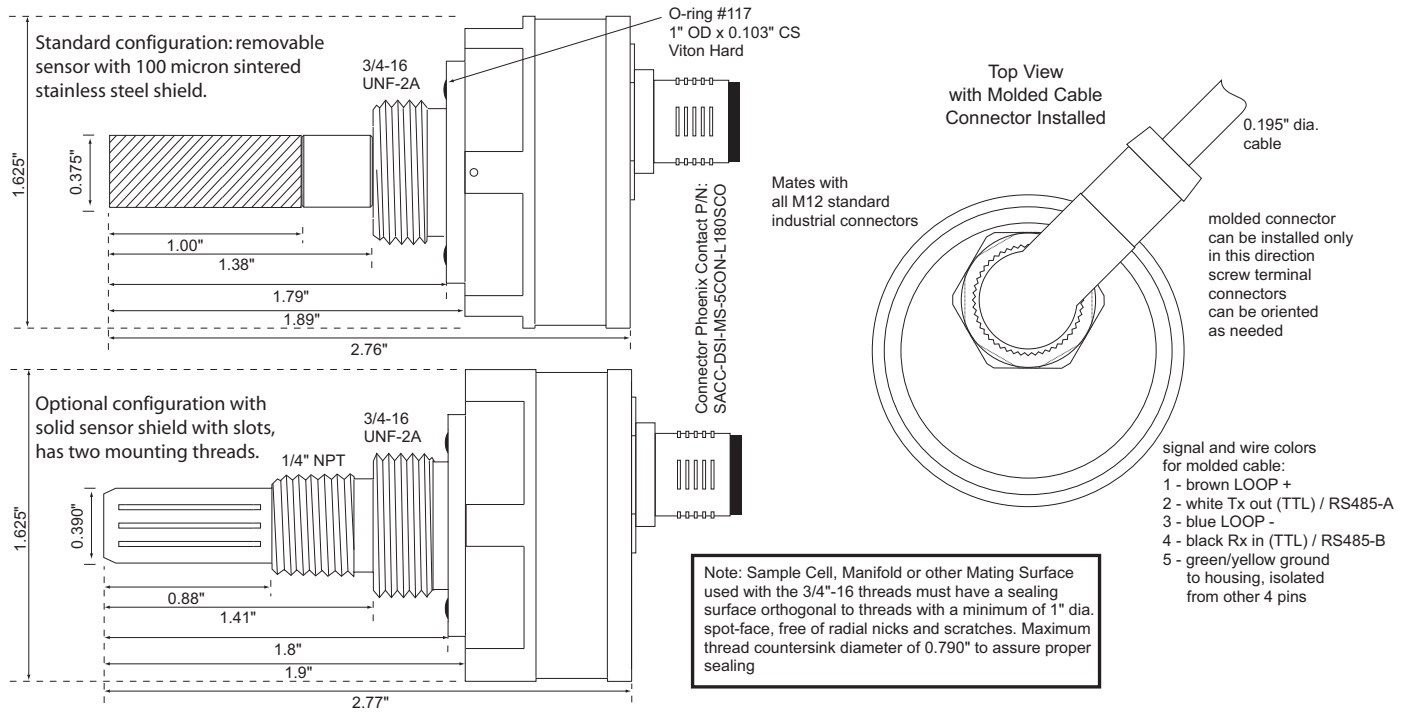- ◆ Reproducible
- ◆ NIST Traceable

Proudly Designed, Developed and Manufactured in the USA

PLMa PhyMetrix Loop-powered Moisture Analyzer

PhyMetrix®

Mechanical

Standard configuration: removable sensor with 100 micron sintered stainless steel shield.

3/4-16 UNF-2A

O-ring #117
1" OD x 0.103" CS
Viton Hard

1.625"
0.375"
1.00"
1.38"
1.79"
1.89"
2.76"

Optional configuration with solid sensor shield with slots, has two mounting threads.

3/4-16 UNF-2A
1/4" NPT

1.625"
0.390"
0.88"
1.41"
1.8"
1.9"
2.77"

Connector Phoenix Contact P/N: SACC-DSI-MS-5CON-L180SCO

Top View
with Molded Cable
Connector Installed

0.195" dia. cable

Mates with all M12 standard industrial connectors

molded connector can be installed only in this direction screw terminal connectors can be oriented as needed

Note: Sample Cell, Manifold or other Mating Surface used with the 3/4"-16 threads must have a sealing surface orthogonal to threads with a minimum of 1" dia. spot-face, free of radial nicks and scratches. Maximum thread countersink diameter of 0.790" to assure proper sealing

signal and wire colors for molded cable:
1 - brown LOOP +
2 - white Tx out (TTL) / RS485-A
3 - blue LOOP -
4 - black Rx in (TTL) / RS485-B
5 - green/yellow ground to housing, isolated from other 4 pins

PLMa Technical Specifications

Moisture Sensor	Range: -110°C to +20°C dewpoint (-166°F to +68°F dewpoint) Accuracy: ±2°C temperature corrected Repeatability: 0.8°C Response time: 95% of step change in 3 min. Sample flow: >1 LPM
Temperature Sensor	Range: -40°C to +70°C Accuracy: ±2°C
Ergonomics	Easy and quick installation, no tools required.
Electrical	5VDC to 28VDC two wire loop operation 4mA to 20mA Housing isolated from 4-20mA Loop Measurement resolution of moisture sensor: 1pF resulting in less than 0.01°C 5 pin M12 industrial connector IP68 when mating connector fully engaged Mating connectors with molded cables approved for Hazardous Location use available Two conductor cable min. 24AWG (for total cable length >1mile min. 20AWG) To meet CE requirements cable must be shielded. Built-in digital I/O for controlling relays Optional 2 wire RS-422/485
Mechanical	All 316 Stainless Steel and PTFE wetted parts for fast response time. Enclosure all stainless steel construction IP67 protection when installed Dimensions (overall) including connector- L: 3.25" (82.6mm) Dia: 1.62" (41.3mm), flats for 1.5" wrench. process threads 3/4"-16 and 14mm x 1.25mm, optionally additional 1/4"NPT can install with either threads Weight Total: 6 oz (0.17 Kg) Pressure: 5000 PSIA (345 Bar)
Temperature Range	PLMa Analyzer: -20°C to +60°C Electronics: -40°C to +85°C Moisture Sensor: -20°C to +60°C
Miscellaneous Features	NIST traceable calibrations Units of measure: °C & °F dewpoint, ppmV, ppmW, µB H_2O vapor pressure, grams of H_2O / m^3 and Lbs H_2O /10^6 standard cubic feet in Natural Gas. Digital & Analog: Two Wire 4/20mA loop with HART® Transmitter stores all HART setup Optional Modbus: 2 wire RS-485 ASCII or RTU

ORDERING INFORMATION	Part Number
PhyMetrix Loop-powered Moisture Analyzer Model: **PLMa** Included Accessories: M12 mating Connector with molded 10 feet (3 meter) cable	**PLMa**
Solid Sensor Shield	suffix **-S**
Modbus RS-485 option specify ASCII or RTU	suffix **-M**
Intrinsically Safe ATEX option	suffix **-I**

Represented by:

Doc. Revision 4