

DM231 Series with Modbus RTU Protocol Magnetostrictive Liquid Level Sensor



Proven
Magnetostrictive
Sensing
Performance
with Field
Programmable
Span.



Modbus RTU digital output for total level, interface level, temperature and system diagnostics

Accurately Measures:

- Total Level
- Interface Level
- Temperature - 5 sensors over active range.

Easy Installation

- No calibration needed

High Accuracy

- 0.01% of measured span - less than 1 mm absolute, over full measurement range.

Minimal Maintenance

- Unique diagnostic output provides float position beyond active range, as well as loss of float(s).

Explosion Proof Design

- Meets FM approved for Class 1 Div. 1, Zone 1 Explosion Proof hazardous area installations
- ATEX and CE Approvals

DM231 Magnetostrictive Liquid & Interface Level Sensor with Temperature outputs

Sensors are available in 316SS rigid designs with a choice of Single or Dual NPT mountings. Systems include an explosion-proof conduit housing containing a wiring terminal strip. All systems offer totally welded construction.

The DM231 is an Explosion Proof sensor with Modbus digital output (optional analog output converter available) for total level, interface level and temperature sensor outputs. Temperature sensors are evenly distributed over the active length of the rigid 316SS tube.

A variety of floats and mounting accessories are available to fit virtually any application. Contact your local representative to match your needs today.

Continuous Level Measurement



Continuous Level Measurement

DM231 Series

Specifications

Technology:

- Magnetostrictive

Calibration:

- None

Operating Voltage:

- 10 - 30 VDC

Output Signal:

- Modbus RTU / ASCII
- 4-20mA analog
(Via Optional Converter)

Response Time:

- 1.0 Second

Temperature Range:

- **Process:** -40°F to 257°F
+/- 1°F (-40°C to 125°C
+/- 0.5°C)
- **Ambient:** -40° F to 185° F
(-40°C to 85°C)

Pressure Rating:

- 316SS tube: 1000 psig. (69 bar)
- Float: Dependant, 316SS floats
typical to 350 psig, (24 bar)
consult factory

Resolution:

- +/- 0.0001"

Repeatability:

- +/- 0.0001"

Accuracy:

- Level: 0.01% or +/- 0.023"
(0.06mm) which ever is greater
- Temperature: +/- 1°F
(+/- 0.5°C)

Null Zone:

- 9.25" (235 mm)

Hysteresis:

- 0.002%

Deadband:

- 2.75" (70 mm)

Enclosure Rating:

- IP66, NEMA 4-4X

Probe Length:

- 316SS 20" to 288" (508 - 7315 mm)
Probes available in 1" (25 mm)
increments

Span Length:

- 8" to 276"
(203 - 7010 mm)

Minimum Liquid / Liquid**Interface Measurement:**

- ≥ 4" (100 mm)

Hazardous Area Approvals:**FM & CSA:**

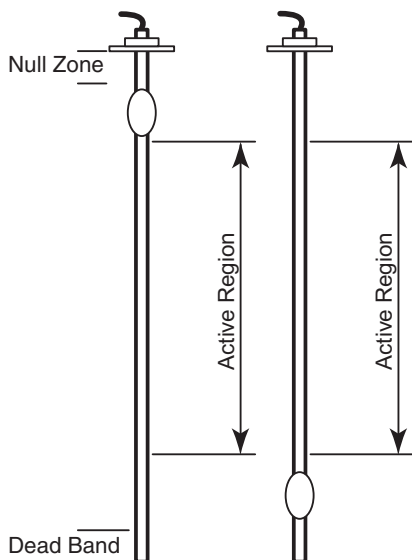
-40° ≤ Tamb ≤ 125°C Class I, II, III
Div. 1 Groups A, B, C, D T4
Class I, Div. 2 Groups A, B, C, D T4

ATEX:

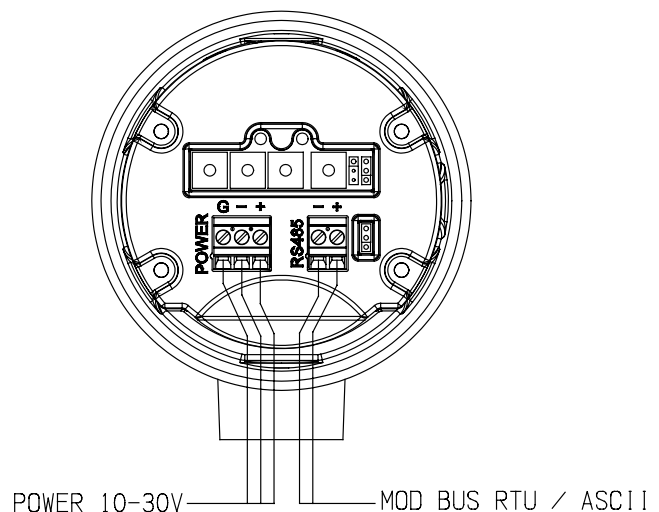
IIB T4 EEx d
Zone 1

* Specifications may change without notice

Float Diagnostic



Wiring



If Level or Interface Float are outside of active region:

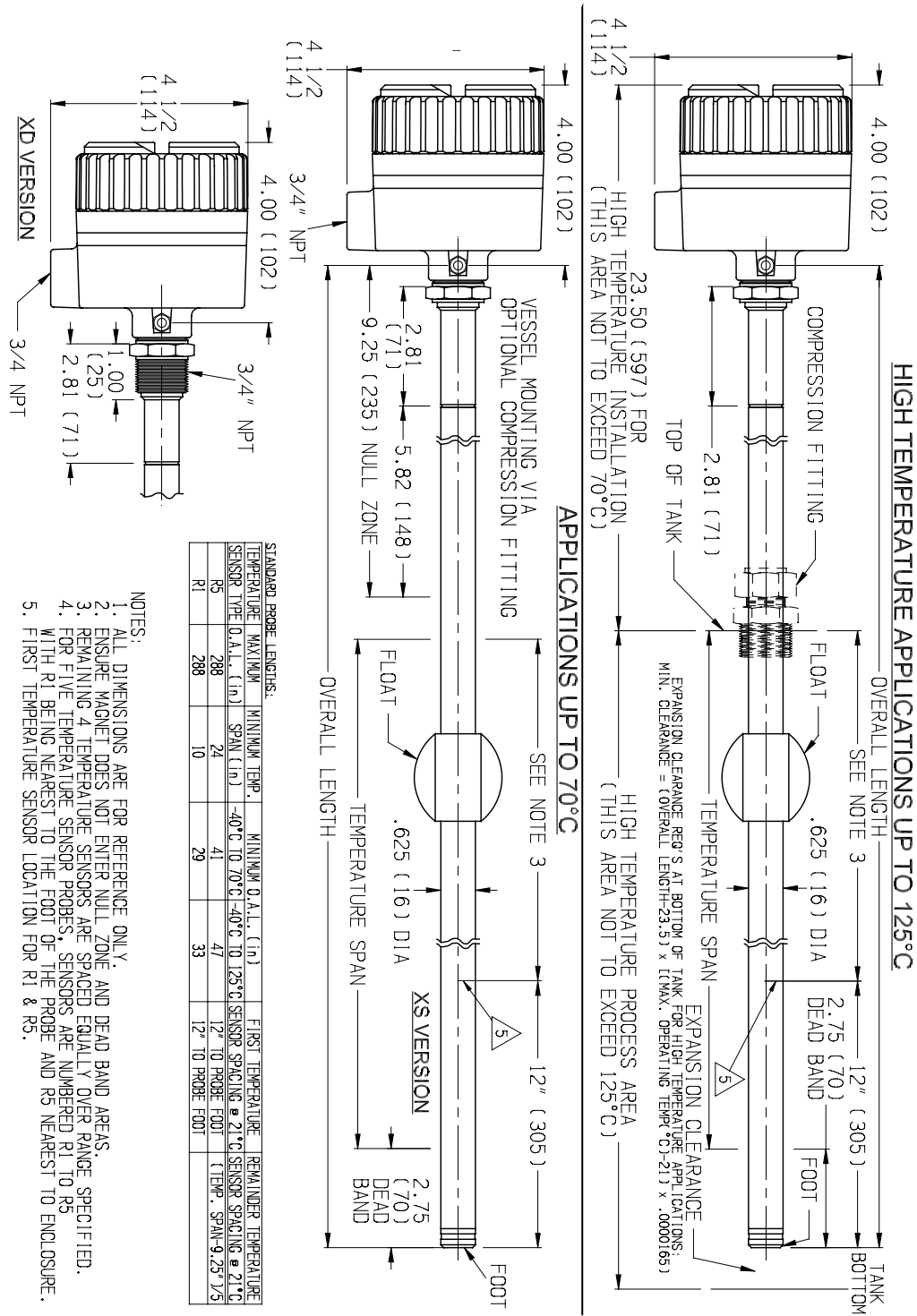
Analog Mode 3.7 mA

Modbus Mode "1000" as "product" or "interface"
reading plus Status Byte

Continuous Level Measurement

DM231 Series

Dimensions inches, (mm)



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