

## 1.0 Scope

- 1.1 The system shall measure pressure and temperature.
- 1.2 The system shall communicate via a standard SDI-12 v1.3 interface and via Modbus® RTU.
- 1.3 The sensor shall fit inside 1-inch, schedule 40 and schedule 80 PVC casing or larger.
- 1.4 The system shall be delivered fully assembled and custom-sized for each well.
- 1.5 The system shall be an **INW PT12 (SDI-12) Submersible Pressure/Temperature Sensor**, manufactured by Seametrics.

## 2.0 Sensor Design

- 2.1 The sensor shall measure pressure and temperature.
- 2.2 Pressure measurements shall be accurate to  $\pm 0.05\%$  FSO at 20° C, typical/static ( $\pm 0.25\%$  FSO at 20° C for 1 psi version, typical/static).
- 2.3 The sensor shall be available in absolute or gauge pressure versions.
- 2.4 The sensor shall be no larger than 0.75" in diameter (0.84" for 1 psi version).

## 3.0 Cable Assembly Design

- 3.1 The cable shall be polyurethane, ETFE, or polyethylene jacketed.
- 3.2 The cable shall be vented to atmosphere, with a desiccant assembly at the well-head to prevent buildup of moisture in the vent tube, for gauge version sensors.
- 3.3 The cable shall be continuous with no splices.
- 3.4 The cable shall terminate with either
  - a) Tinned wires plus shield
  - or
  - b) An M6 connector
- 3.5 The cable connection to the sensor shall be waterproof up to a pressure of at least 325 psi to prevent leakage of fluid inside the sensor housing.
- 3.6 The cable shall have a breaking strength of at least 138 lbs.
- 3.7 All connecting fittings shall be capable of supporting a working tensile load of 50 lbs.

**Acceptable sensors shall be INW PT12 (SDI-12) Submersible Pressure/Temperature Sensor or approved equal.**