



## 5081 (2-wire)

### Model 5081 pH & ORP 2-Wire Loop-Powered Transmitter & Analyzer



[pH/ORP/ISE Sensors WITHOUT preamplifier Hook-Up Schematic](#)  
[pH/ORP/ISE Sensors WITH preamplifier Hook-Up Schematic](#)  
[pH/ORP/ISE Sensors with Mini External Preamplifier Hook-Up Schematic](#)  
[Guide to quick disconnect Q7M/Q7F snap cable system for Rosemount transmitters](#)

- The Transmitter has a rugged, weatherproof , corrosion-resistant enclosure.
- NEMA 4X and IP65 of epoxy-painted aluminum.
- This enclosure also meets NEMA 7B explosion-proof standards.
- 24V DC Operation Standard, 12 V minimum and 42.4 maximum.
- Continous Diagnostics monitor sensor performance and warns of failure (FAULT) or approaching failure (WARNING).

- CE Certification for Class I, Division I Areas and FM group A-G.
- Automatic Two-Point Buffer Calibration reduces errors.
- Choice of Communication Protocol: HART® or Foundation Fieldbus.
- Non-Volatile Memory retains program settings and calibration data during power failures.
- Solution Temperature Compensation converts measured pH into the pH at 25°C.

**[Product Specifications for Hart & Fieldbus \(242K-PDF\)](#)**

**[5081 pH/ORP Operation Manual \(2,465K-PDF\)](#)**

| Measurement             | Input   | Measurement Range  | Outputs  | Calibration Points   | Compatible Sensor(s)  | Special Features  |
|-------------------------|---|--|--|--|---|---|
| pH/ORP                  | Single or Dual Channel<br>– pH/ORP            | – 0 to 14 pH (standard)<br>– Fully Scalable from 1 to 13 pH units  | – Analog 0-20 mA or 4-20 mA output for pH/ORP/ISE or temperature for each input channel<br>– Optional HART or ProfiBUS Digital Outputs   | – 2 point auto buffer recognition for pH for slope determination<br>– 1 point user defined pH standardize calibration to correct for offset (drift)  | – Any Suitable ASTI pH/ORP Sensor with 100 or 1000 Ohm Platinum TC<br>– Any Suitable ASTI pH/ORP Sensor with 100 or 1000 Ohm Platinum TC & 1056 compatible preamplifier | – Excellent option for severe service pH & ORP measurement in areas with flammable gas and corrosive environments.  |
| Contacting Conductivity | Single or Dual Channel<br>– Conductivity Cell | – Cell from 0.01 to 10.0, user selectable<br>– Ranges from 0-200 microSiemens (0.01/cm) to 0-200 milliSiemens (10.0/cm) as mates with cell | – Analog 0-20 mA or 4-20 mA output for Conductivity or temperature for each input channel<br>– Optional HART or ProfiBUS Digital Outputs | – Zero Calibration (Capitance)<br>– Cell Constant calibration to find exact effective (apparent) cell constant in standard solution or process media | – Any Suitable Contacting Conductivity Sensor with 1000 Ohm Platinum TC   | – Support for displaying in concentration units of acids, bases and electrolytes as well as salinity<br>– Special ultrapure water temperature compensation and support for display in resistivity units |

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| <p>Toroidal Conductivity (Contactless Inductive)</p> | <p><i>Single or Dual Channel</i><br/>– Toroidal Conductivity Sensor</p> | <p>– Range from 0.050 to 2,000 milliSiemens (2 Siemens)</p> | <p>– Analog 0-20 mA or 4-20 mA output for Conductivity or temperature for each input channel<br/>– Optional HART or ProfiBUS Digital Outputs</p> | <p>– Zero Calibration (Capitance)<br/>– Cell Constant calibration to find exact effective (apparent) cell constant in standard solution or process media</p> | <p>– Any Suitable Toroidal Conductivity Sensor with 20/20 Windings and 1000 Ohm Platinum TC</p> | <p>– Support for displaying in concentration units of acids, bases and electrolytes as well as salinity<br/>– Excellent choice for strong acid, strong base and strong electrolyte solutions at elevated temperatures</p> |
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