

**Model 4TX pH & ORP Meter,
Analyzer & Controller**



**Model 2TX Isolated 2-Wire
pH & ORP Transmitter**



**Rosemount 1056 Single or Dual
pH / ORP / ISE Analyzer &
Transmitter**



**Rosemount 54epH pH / ORP / ISE
Transmitter / Analyzer / Controller**



**Rosemount 5081 pH / ORP
Transmitter & Analyzer**



**Rosemount XMT Two-Wire
pH/ORP Analyzer w/ HART**



Advanced Sensor Technologies, Inc.

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Manufacturing Long-Lasting Industrial pH Sensors, ORP sensors, Ion Selective Sensors & Conductivity Sensors for Difficult Inline Process Control Measurement and Monitoring Applications. Supplying Research Grade pH Electrodes, ORP Electrodes, Ion Selective Electrodes and Conductivity Electrodes for Laboratory Testing. Offering industry leading product developments and research services for OEM manufacturers and resellers requiring pH, ORP and Ion Selective Measurements for Medical In-Vitro and In-Vivo Applications and Industrial Inline, Immersion and Submersible Measurements

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4TX 4-Wire Transmitter for pH, ORP and Temperature Measurements

The Right Features To Measure,
Analyze And Control pH & ORP



- 4 programmable on/off relays: 4 for pH or 4 for ORP.
- 1 manual on/off relay for electrode wash.
- Automatic temperature compensated (ATC)
- Displays absolute and relative ORP.
- Programmable per relay for customized control.
- Isolated & reversible 4-20 mA output for pH or ORP. This output can be used as a proportional output.
- DC voltage output for pH/ORP pre-amplifier
- RS-485 output for remote access computer. This allows multiple units to be connected, ganged, together.
- Large LCD displays accurate and stable readings.
- Simultaneous display of: pH or ORP with temperature, and relay status.
- Quick And Easy Setup, Intuitive Operation
- Convenient calibration with automatic buffer recognition of US and European buffer sets.
- Calibration data is stored in memory and is ready for use on power up (no battery backup required).
- Standard ¼ DIN size with panel mount bracket standard.

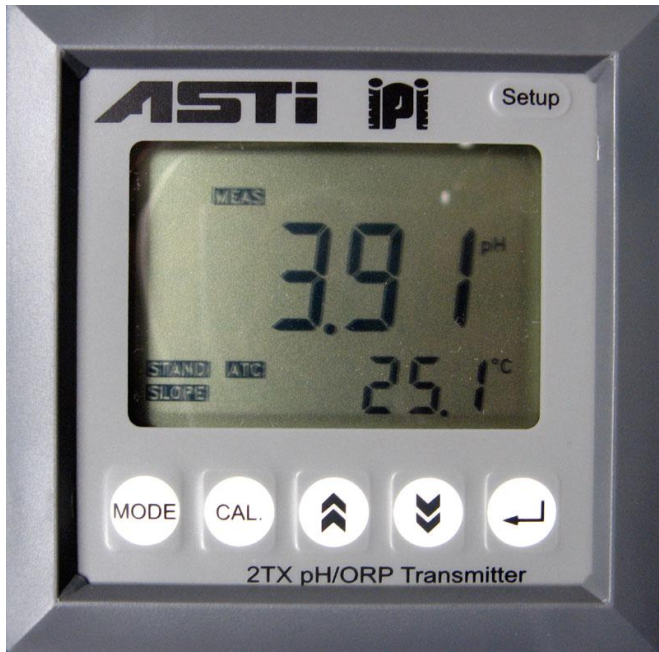
pH, ORP & Temperature Specifications

| | | |
|------------------------|------------------------|--|
| | Range | |
| pH | | -2.00 to +16.00 pH |
| mV (Absolute/Relative) | | -2500 to 2500 / -6499 to 6499 |
| Temp | | -10.0 to +120.0 °C |
| | Resolution | |
| pH | | 0.01 pH |
| mV (Absolute/Relative) | | 1 mV / 1 mV |
| Temp | | 0.1 °C |
| | Accuracy | |
| pH | | ± 0.1 % pH ± 1 LSD |
| ORP | | ± 0.1 % ORP ± 0.1 ORP |
| Temp | | ± 0.1 °C |
| | General | |
| pH Temp Compensation | | Auto -10.0 to +120.0 °C |
| pH Buffer Recognition | | 4.00, 4.01, 6.86, 7.00, 9.18, 10.01 |
| pH Buffer Temp Range | | 0 to 60 °C |
| pH Offset Recognition | | ± 100 mV @ pH 7.00 ± 108.3 mV @ pH 6.86 |
| pH Slope Recognition | | ± 30% for pH 4.01, 9.18, 10.01 |
| Input Impedance | | > 10 ¹³ Ohms |
| Preamplifier Output | | ± 5V DC with Common (Ref) |
| | Temperature | |
| Temperature Sensor | | 10K Therm. 3K Balco & 1K Pt |
| | 4-20 mA Output | |
| Current Output Range | | 4-20 mA isolated |
| Current Output Scale | | Programmable, linear or log |
| Maximum Load | | 500 Ohms |
| Accuracy | | ± 0.02 mA |
| Isolation Voltage | | 500 V DC |
| | Relays | |
| Control Type | | 5 ON/OFF Controls |
| Relay Output | | 5A @ 115VAC, 2.5A @ 230VAC |
| | Other / General | |
| Power Supply | | 115 VAC/230 VAC @ 50/60 Hz |
| Security | | 4-digit password |
| Digital Communication | | RS-485 |
| Display Size | | 16mm wide by 8.5mm tall |
| Ambient Temp Range | | 0 to 50 °C |
| Case | | IP65, ¼ DIN case, 148mm depth |
| Weight | | 940 grams |

- Standard terminal block for tinned leads connectors.
- ATC supported: Pt-1000, 10k thermistor or 3K Balco.
- Analyzer is in a complete watertight case (IP65).
- Displays slope (efficiency) to optimize maintenance.
- Password protection for better security & stability.
- **CE Approved**

2TX 2-Wire Transmitter for pH, ORP and Temperature Measurements

Reliable & Affordable Isolated 2-Wire
Loop Powered pH & ORP Transmitter



Ease-of-use & Reliability Is our Priority

- Large LCD Display of pH or ORP plus Temperature
- Power Down Flash Memory: Stores all calibration & parameter data even if the unit is powered down
- 6 Button easy to use Keypad w/ Intuitive Large Screen LCD Menu
- 1 or 2 Point pH Calibration
- Buffer Select: (4.01, 7.00, 10.01) or (4.00, 6.86, 9.18)
- Supports External Preamplifiers for Low Noise Operation and Extended Cable Lengths up to 500 feet from 6TX meter
- Wide Operational Range of 12 V to 36 V DC
- Excellent Input / Output Signal Isolation
- Scalable 4 to 20 mA Output
- EFF, Electrode Efficiency Function
- Auto ATC Temperature Sensor Select or Manual ATC
- Selectable ATC: 3K Balco, Pt-100, Pt-1000, or 10K Thermistor
- IP-65 Waterproof and Dustproof Enclosure
- ¼ DIN Package, Dimensions: ¼ DIN x 148 mm Depth
- CE Approved

| pH and Temperature Specifications | |
|---|---------------------|
| pH Range | -2.00 to 16.00 pH |
| pH Resolution | 0.01 pH |
| pH Accuracy | ±0.01 pH ± 1 LSD |
| Temperature Range | -10.0 to 120.0 °C |
| Temperature Resolution | 0.1 °C |
| Temperature Accuracy* | ±0.3 °C |
| ORP & Transmitter Specifications | |
| ORP / mV Range | - 1000 to + 1000 mV |
| ORP / mV Resolution | 1 mV |
| ORP / mV Accuracy | ± 1 mV |
| Electrode Input Impedance | >10 ¹² Ω |
| Signal Output | 4.0 to 20.0 mA |
| Over Range Current Output | 21.00 mA |
| Under Range Current Output | 3.80 mA |
| pH Electrode Offset & Slope Recognition | |
| pH Electrode Offset | ± 90 mV |
| pH Electrode Slope Recognition | ± 30 % |

Quality Assured Engineering



Model 1056 Single & Dual Channel pH, ORP & Ion Selective (ISE) 4-Wire Transmitter & Analyzer

- Chemically & Mechanically Resilient Polycarbonate NEMA 4X / CSA 4 IP65 Enclosure - Standard 1/2 DIN Cutout
- 115/230 VAC & 24VDC 4-Wire Power Operation Standard (Offered both with & without Relays)
- **Available in any combination of Single or Dual Channel pH / ORP / ISE Configurations**
- Extremely cost effective solution to simple pH, ORP & ISE Analyzer / Transmitter Requirements
- Automation Temperature Compensation via 100 or 1000 Ohm Platinum Temperature Compensation Element (Available in Standard and ACCU-TEMP configurations)
- Dual Isolated & Independent 0-20 & 4-20 mA outputs for Signal and/or temperature standard, fully user configurable
- New Large LCD Display with touch membrane keypad - Menu Driven Interface and Programming
- Automatic Temperature Compensation from 0 to 150 °C (32 to 302 °F)

| Measurement | Input | Measurement Range | Outputs | Calibration Points | Compatible Sensor(s) | Special Features |
|---------------------|--|--|---|---|---|--|
| Ion Selective (ISE) | Single or Dual Channel - Ion Selective Solid State & Organic Membrane | 5 Decades Maximum Concentration Range from 1 ppb to 1 Molar (varies with each ion; please inquire to ASTI) | - Analog 0-20 mA or 4-20 mA output for pH/ORP/ISE or temperature for each input channel | - 2 point user defined to determine ISE slope - 1 point user defined for ISE standardize to correct for offset (drift) | - Any Suitable ASTI ISE Sensor with 100 or 1000 Ohm Platinum TC - Any Suitable ASTI ISE Sensor with 100 or 1000 Ohm Platinum TC & 1056 compatible preamplifier | - User/Default Sensor Diagnostics for pH/ORP/ISE element and reference resistance - Cost Effective Solution for Single and Dual Channel pH/ORP/ISE measurements |
| pH/ORP | Single or Dual Channel - pH/ORP | - 0 to 14 pH (standard) - 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 | - 2 point auto buffer recognition for pH for slope determination - 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 - Any Suitable ASTI pH/ORP Sensor with 100 or 1000 Ohm Platinum TC & 1056 compatible preamplifier | - User/Default Sensor Diagnostics for pH/ORP/ISE element and reference resistance - Cost Effective Solution for Single and Dual Channel pH/ORP/ISE measurements |



54e pH, ORP, Ion Selective Analyzer & Controller

- 110V AC, 220V AC or 24V DC Operation Standard
- Three On/Off (SPDT) 3 / 5 - Amp Relays Standard, plus One dedicated Fault Alarm
- Complete measurement & reference electrode diagnostics feature standard
- CE Certification for Class I Division II Areas
- Dual Isolated & Independent 0-20 & 4-20 mA outputs for Signal and temperature standard, full user configurable
- HART[®] Protocol Option Available
- TPC & PID Controller Option for 3-Relay Outputs & 4-20 mA outputs Available
- Chemically & Mechanically Resilient IP65 epoxy painted Aluminum NEMA 4X Enclosure
- Backlit large LCD Display with touch membrane keypad
- Automatic Temperature Compensation from -15 to 120 °C (5 to 248 °F)

| Measurement | Input | Measurement Range | Outputs | Calibration Points | Compatible Sensor(s) | Special Features |
|---------------|--|---|---|---|---|---|
| pH | Single Channel - pH | - 0 to 14 pH (standard) - Fully Scalable (with zero suppression) from 1 to 13 pH units | - 1 @ 0-20 mA or 4-20 mA for pH - 1 @ 0-20 mA or 4-20 mA for pH or Temperature | - 2 point auto buffer recognition - 2 point user defined | - Any ASTI pH Sensor with 100 Platinum TC & Solution Ground or - Any ASTI pH with Sensor integrated 54e preamplifier | - User/Default Sensor Diagnostics for pH glass resistance - User/Default Sensor Diagnostics for reference element |
| ORP | Single Channel - ORP | -1400 to +1400 mV (standard) - Fully Scalable (with zero suppression) from 100 to 2800 mV units | - 1 @ 0-20 mA or 4-20 mA for ORP - 1 @ 0-20 mA or 4-20 mA for ORP or Temperature | - 2 point auto buffer recognition - 2 point user defined | - Any ASTI pH Sensor with 100 Platinum TC & Solution Ground or - Any ASTI pH with Sensor integrated 54e preamplifier | - User/Default Sensor Diagnostics for ORP Element - User/Default Sensor Diagnostics for reference element |
| Ion Selective | Single Channel - Ion Selective Solid State & Organic Membrane | 5 Decades Maximum Concentration range from 1 ppb to 1M (varies with each ion; please inquire to ASTI) | - 1 @ 0-20 mA or 4-20 mA for ISE - 1 @ 0-20 mA or 4-20 mA for ISE or Temperature | - 2 point auto buffer recognition - 2 point user defined | - Any ASTI pH Sensor with 100 Platinum TC & Solution Ground or - Any ASTI pH with Sensor integrated 54e preamplifier | - User/Default Sensor Diagnostics for ISE element resistance - User/Default Sensor Diagnostics for reference element |

Model 5081 pH & ORP Transmitter, Analyzer, Controller



- 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.
- Continuous 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.

| Measurement | Input | Measurement Range | Outputs | Calibration Points | Compatible Sensor(s) | Special Features |
|-------------|-------------------------|------------------------------------|--|--|--|--|
| pH | Single Channel - pH | - 0 to 14 pH (standard) | - 1 @ 0-20 mA or 4-20 mA for pH - 1 @ 0-20 mA or 4-20 mA for pH or Temperature | - 2 point auto buffer recognition - 2 point user defined | - Any ASTI pH Sensor with 100 Platinum TC & Solution Ground or - Any ASTI pH with Sensor integrated 54e preamplifier | - User/Default Sensor Diagnostics for pH glass resistance - User/Default Sensor Diagnostics for reference element |
| ORP | Single Channel - ORP | -1400 to +1400 mV (standard) | - 1 @ 0-20 mA or 4-20 mA for ORP - 1 @ 0-20 mA or 4-20 mA for ORP or Temperature | - 2 point auto buffer recognition - 2 point user defined | - Any ASTI pH Sensor with 100 Platinum TC & Solution Ground or - Any ASTI pH with Sensor integrated 54e preamplifier | - User/Default Sensor Diagnostics for ORP Element - User/Default Sensor Diagnostics for reference element |



XMT 2-Wire pH & ORP Transmitter & Analyzer

- Chemically & Mechanically Resilient IP65 epoxy painted Aluminum NEMA 4X / CSA 4 Enclosure
- True Two-Wire Transmitter requires minimal wiring and power
- Available for Pipe/Wall and Panel Mounting Installation Styles
- Panel Mounting Enclosure conveniently fits into 1/2 DIN cutout
- Isolated & Fully Scalable 4-20 mA outputs for Signal and/or temperature are standard, user configurable
- Digital HART & FOUNDATION FieldBus Protocols allow for excellent remote administration, control and monitoring
- FM, CSA & ATEX Certifications for Class I Division I Explosion-Proof Areas as a Intrinsically Safe & Non-Incendive Device
- Backlit large LCD Display with touch membrane keypad
- Automatic Temperature Compensation from -15 to 130 °C (5 to 212 °F)

| Measurement | Input | Measurement Range | Outputs | Calibration Points | Compatible Sensor(s) | Special Features |
|-------------|-------------------------|--|---|---|---|--|
| pH | Single Channel - pH | - 0 to 14 pH (standard) - Fully Scalable from 1 to 13 pH units | - 1 @ 4-20 mA for pH - 1 @ 4-20 mA for Temperature | - 2 point auto buffer recognition - 2 point user defined | - Any ASTI pH Sensor with 100 Platinum TC & Solution Ground or - Any ASTI pH with Sensor integrated XMT preamplifier | Cost Effective pH & ORP Meter for Explosion-Proof Applications |
| ORP | Single Channel - ORP | -1400 to +1400 mV (standard) - Fully Scalable from 100 to 2800 mV units | - 1 @ 4-20 mA for pH - 1 @ 4-20 mA for Temperature | - 2 point auto buffer recognition - 2 point user defined | - Any ASTI pH Sensor with 100 Platinum TC & Solution Ground or - Any ASTI pH with Sensor integrated XMT preamplifier | Cost Effective pH & ORP Meter for Explosion-Proof Applications |