56 (4-wire)

Model 56 Single & Dual Channel pH, ORP, Ion Selective (ISE), Contacting and Toroidal Conductivity 4-Wire Transmitter, Controller & 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
Contacting Conductivity Sensor Hook-Up Schematic
Toroidal Conductivity Sensor Hook-Up Schematic

COMPARISON CHART FOR 1056, 1057 & 56 ANALYZERS

- Chemically & Mechanically Resilient Polycarbonate NEMA 4X / CSA 4 IP65 Enclosure –

Standard 1/2 DIN Cutout

- 115/230 VAC & 24 VDC 4-Wire Power Operation Standard With Relays
- **Time Proportional Control (TPC) Relays for advanced control functionality, 4 each included with each controller**
- **Available in any combination of Single or Dual Channel pH / ORP / ISE / Conductivity Configurations**
- Extremely cost effective solution to provide full realtime measurement, analysis and control for pH, ORP, ISE & Conductivity Analyzer / Transmitter / Controller Requirements
- Automatic Temperature Compensation via 100 or 1000 Ohm Platinum Temperature Compensation Element (Avaialble in Standard and ACCU-TEMP configurations)
- Quad (4 each) Isolated & Independent 0-20 or 4-20 mA outputs for Signal and/or temperature standard, fully user configurable
    - **Analog Outputs can be scaled linearly or using optional PID alogrithm to control purposes**
- **HART is Standard** and ProfiBUS available as an optional digital output
- Large LCD Display with touch membrane keypad – Menu Driven Interface and Programming
- Automatic Temperature Compensation from 0 to 150 °C (32 to 302 °F) for pH & ISE and 0 to 200 °C (32 to 392 °F) for Conductivity
- **Standard Onboard datalogging offers realtime and historical trends for all process parameters on one or two channels (depending upon analyzer configuration) for up to 30 days time. This data can be downloaded to any USB stick for further data analysis and workup with programs such as Excel. In addition, on the local display you can view graphing and trending for this realtime data as well as review recent data sets up to 30 days back.**
- **The following links provide examples for visualization of some common weak base and weak acid species where the total ISE can be determined:**
    - **Total Ammonia** (NH3-N, or total ammonia as nitrogen)
    - **Total Fluoride** (Total HF, or unreacted fluoride)
    - **Total Cyanide** (Total HCN, or unreacted cyanide)
        - **Additional pH compensation algorithms for other weak acid and weak base species can be added upon request**
- **All 56 analyzers ordered in the dual ISE/pH configuration can determine total ISE. This means that you can display, output and use for control purposes the free ISE and total ISE such as total ammonia (NH3), total fluoride (HF), total cyanide (HCN) or total sulfide (H2S). A link is provided below that summarizes the 56 analyzer capabilities to compute the total ISE present from the free ISE measurement (from the ISE sensor), the pH value (from the pH sensor) and the process temperature:**

- **TOTAL ISE DETERMINATION WITH 56 DUAL ISE/pH ANALYZER**

56 Product Specifications

56 Operation Manual

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 – HART Standard or ProfiBUS Output (Optional)	– 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	– Onboard “pH Compensation” yields total ammonia, total HF (total fluoride), total cyanide and total sulfide in proper dual ISE/pH configuration
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 – HART Standard or ProfiBUS Output (Optional)	– 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	– Onboard “pH Compensation” yields total ammonia, total HF (total fluoride), total cyanide and total sulfide in proper dual ISE/pH configuration
Contacting Conductivity	*Single or Dual Channel* – Conductivity Cell	– Cell from 0.01 to 10.0, user selectable – 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 – HART Standard or ProfiBUS Output (Optional)	– Zero Calibration (Capitance) – Cell Constant calibration tofFind 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 – Special ultrapure water temperature compensation and support for display in resistivity units

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

** Ion selective measurement type must be set at time of purchase at ASTI factory. Transmitters configured for ISE measurement not sold separately but rather only as part of complete ISE system including ISE transmitter AND ISE sensor supplied complete from ASTI factory. ISE measurement must be validated for feasibility by ASTI prior to sale.*