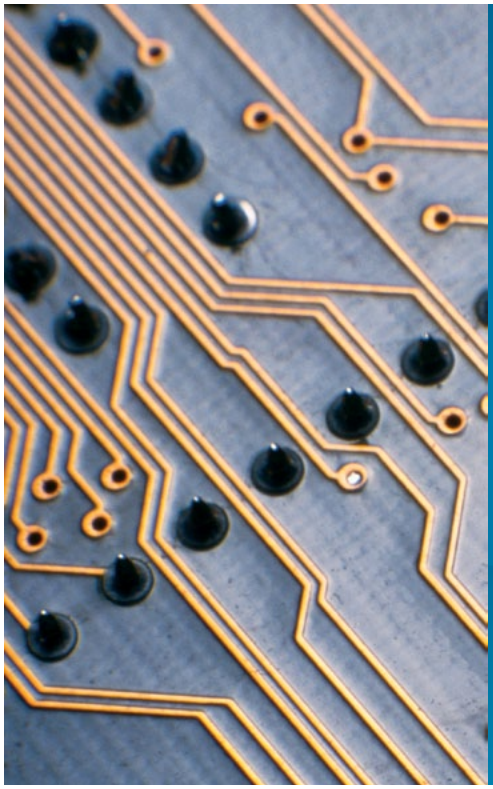
Call **800.959.0299** to speak with a sales representative
or visit us on the web at **www.analyticaltechnology.com**

2E-Resistivity**Monitor**

Model Q46C2



2-Electrode Conductivity Sensor

Low-level conductivity measurements are essential for monitoring a variety of high purity water systems. The proper operation of deionizers, reverse osmosis membranes, ion exchange systems, and heat exchangers require constant monitoring to ensure high quality production.

ATI's Model Q46C2 Conductivity Monitor provides the reliable and accurate low-level measurements required for such high purity water systems. Monitors provide large, easy-to-read LCD displays with a second display line for indication of temperature or other operational information. And for those applications where results in resistivity units are preferred, Q46C2 monitors can be programmed to display readings in Meg-ohm units instead of microSiemens.

Trace Contamination Detection

ATi ANALYTICAL TECHNOLOGY, INC.

INSTALLATION

2-Electrode Conductivity sensors can be installed in a variety of ways, including simple 1" pipe tees, union-mount pipe assemblies, and sanitary-style pipe clamps. The method used will depend on specific application requirements.

Regardless of the mounting method, 2-Electrode Conductivity sensors should always be mounted so that the sensing electrodes at the tip of the sensor are completely immersed in the process water. It is best to have sample flow directed at the sensor, but in all cases the sensor should not be mounted at the top of a horizontal pipe run to avoid entrained air problems.

CONCENTRATION / TDS MONITOR

Q46C2 monitors can also be configured to measure and display the concentration of chemicals used in various process applications. The user defined concentration table requires data on both concentration vs. conductivity and temperature vs. conductivity for the chemical of interest. The user can enter six data points each for concentration and conductivity within the specified measuring range. Temperature compensation can either be made by custom compensation table or a single linear compensation factor.

For applications where there are several chemicals dissolved in solution, the Q46C2 monitor can be configured to measure and display the concentration of total dissolved solids (TDS). The user simply enters the TDS factor that best converts the process conductivity into concentration units. Temperature compensation can either be made by custom compensation table or a single linear compensation factor.

In-Line Sensor

1-1/2" Sanitary Sensor

Submersible Sensor

FEATURES

Adaptability. Concentration version for direct display of chemical concentrations. Also available in a TDS (Total Dissolved Solids) version.

Customized Response. A user configurable table for a custom concentration curve is available.

Analog Output Options. Two isolated 4-20 mA outputs are standard, with an option for a third output if required. Default setting provides analog outputs for conductivity and temperature.

Extra Outputs. Expansion board to add a third 4-20 mA analog output.

AC or DC Power Options. Power options include universal 100-240 VAC +/- 10% or 12-24 VDC.

PID Output. Standard PID control function assignable to one analog output.

Digital Communications. Available in either Profibus-DP, Modbus-RTU, or Ethernet-IP.

Relay Contacts. Three SPDT relays are standard, with relay functions programmable for alarm, control, or trouble indication. Three additional low power relays available as an option.

Flexible Mounting. NEMA 4X (IP-66) enclosure is suitable for wall, pipe, or panel mounting.

Clear Display. Back-lit large LCD display provides clear visibility in any lighting conditions. A scrolling second line on the display provides additional information and programming prompts.

THERMAL STABILITY

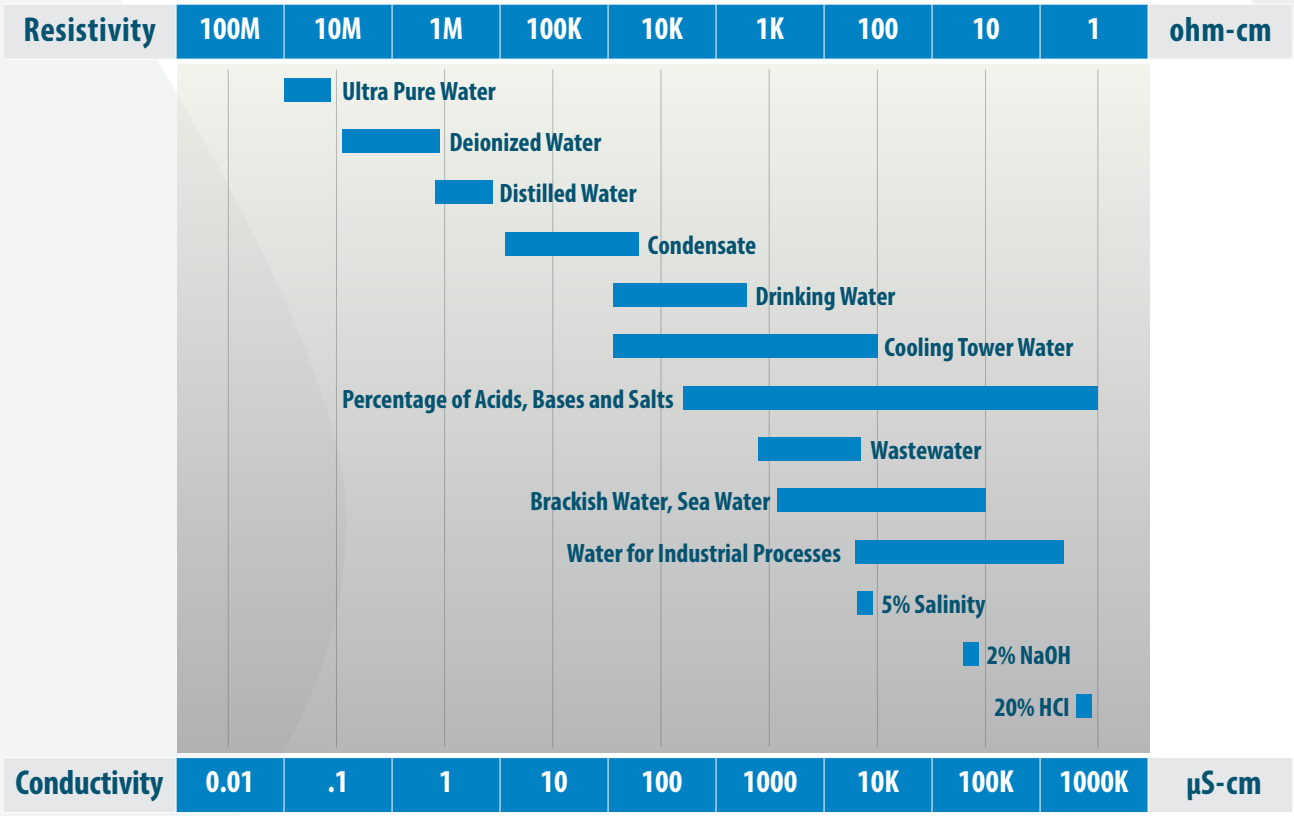
2-Electrode Conductivity sensors are designed using electrodes with large surface areas and electrode insulators with a low coefficient of thermal expansion. This type of construction allows the sensor to be used over a wide temperature range without significant change in the sensor cell constant. By maintaining the integrity of the cell constant, the 2-Electrode system provides a highly reliable conductivity measurement over a wide temperature range.

SENSOR CELL CONSTANTS

2-Electrode Conductivity sensors are classified by “cell constant” or “K”. The K value for a specific sensor relates to the electrode geometry. A sensor with a low K value is designed to provide high accuracy in low conductivity waters. However, the low K sensor is a poor choice for use in higher conductivity waters, as the response to changing conductivity becomes non-linear. A sensor with a higher K value, on the other hand, provides better accuracy in higher conductivity waters, but performs poorly in low conductivity waters. ATI’s Q46C2 system offers two sensor cell constants for use in the indicated conductivity ranges.

0.05 K Sensor: 0-2.000, 0-20.00 or 0-200.0 µS ; 0-20.00MΩ or 0.200.0 kΩ
0.50 K Sensor: 0-20.00, 0-200.0 or 0-2000 µS

CONDUCTIVITY RANGES OF TYPICAL SOLUTIONS



Q46C2 SPECIFICATIONS

ELECTRONIC MONITOR

Display Range	0-2.000 / 20.00 / 200.0 / 2000 µS
Accuracy	0.1% of selected range
Repeatability	0.1% of selected range
Non-Linearity	0.1% of selected range
Temperature Drift	0.03% of span/°C
Power	100-240 VAC +/- 10%, 50/60 Hz, 10 VA max. 12-24 VDC, 500 mA max.
Analog Outputs	Two isolated 4-20 mA, 500 Ω load max. (3rd output optional)
Relays	Three SPDT, contacts rated 6 amp @ 250 VAC, 5 amp @ 24 VDC (3 additional low power SPST non-isolated relays optional)
Display	4 digit, 0.75" numeric LCD with 12 character second line, LED back light.
Enclosure	NEMA 4X Polycarbonate V-0 Flammability
Operating Conditions	-20 to 60°C (-4 to 140°F)
Weight	6 lbs. (2.7 Kg) with Sensor
Sensitivity	0.05% of span
Digital Output	Profibus-DP, Modbus-RTU, or Ethernet-IP
Mounting	Wall mounting kit standard, Panel mount bracket and pipe u-bolts available
Size	5.6"W x 4.9"H x 6.4"D

SENSOR

Sensor Type	2-Electrode
Materials	Titanium; PEEK
Cable Length	15 ft (4.6 m) standard, 60 ft (18.3 m) max. with junction box
Temperature Limits	0-125°C
Pressure Limit	100 PSIG max.
Connection	1/2" NPT or 1-1/2" Stanitary-Style
Temperature Element	Pt1000 RTD

ORDERING INFORMATION

Model Q46C2-A-B-C-D-E-F 2-Electrode Monitor

Suffix A - Power
1 - 100-240 VAC, +/-10%, 50/60 Hz
2 - 12- 24 VDC, (requires 500 mA)

Suffix B - Sensor Type
1 - 0.05 Cell, Titanium, ½" NPT Compression fitting
2 - 0.05 Cell, Titanium, ½" fitting, with connector (Requires opt. C4)
3 - 0.50 Cell, Titanium, ½" fitting, with connector (Requires opt. C4)
4 - 0.50 Cell, Titanium, ½" NPT Compression fitting
5 - 0.50 Cell, 316SS, 1 ½" Sanitary fitting
6 - 0.05 Cell, 316SS, 1 ½" Sanitary fitting

Suffix C - Cable Length
1 - 15'
2 - 30'
3 - Special
4 - 25 ft. (7.6 m) with quick-connect plug (for sensor type B2 & B3)

Suffix D - Digital Output
1 - None
2 - Profibus-DP
3 - Modbus-RTU
4 - Ethernet-IP

Suffix E - Optional Output
1 - None
2 - One additional 4-20 mA output
3 - Three additional low power relays (SPST, 0.5 A max.)

Suffix F - Measurement Type
1 - Conductivity
2 - Concentration

ACCESSORIES

07-0100 Junction Box, NEMA 4X
31-0057 Sensor Interconnect cable
05-0094 Panel Mount Bracket
47-0005 2" U-bolt, 304SS
07-0201 1/2 DIN panel mount kit
51-0067 Conductivity Standard - 10 µS, Package of 6 100 cc bottles
09-0046 Conductivity Standard - 84 microSiemens, 500 mL

NOTES:

1 - All Sensor cable lengths greater than 30 feet require a Junction Box (07-0100) and Sensor Interconnect Cable (31-0057).

2 - Pipe mount requires two 2" U-bolts (47-0005).

3 - Sensor types B2 and B3 are not for use in extremely wet environments.

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