

"HC / DA" Electrodeless Conductivity Sensors

Introduction

Anderson-Negele's Model HC1 Electrodeless Conductivity Sensors are rugged, non-fouling sensors designed for cleaning solutions with conductivity ranges from 0-200 up to 0-2,000,000 microSiemens/cm and temperature compensated over a range of 0° and 175°C. Because these sensors are electrodeless, there is no instance of polarization, process coating or contamination. For greatest performance accuracy, the HC1 can be installed in a standard 2-1/2" x 2" or 3" x 2" short outlet reducing tee, or can be ordered with our 2" x 2" special Inductive Conductivity Sensor sanitary tee.

Used in conjunction with our inductive conductivity sensor, the DA2 transmitter is specifically designed for CIP systems within the dairy, fluid food, beverage and/or biopharmaceutical markets. This loop powered transmitter has an operator interface that offers 2 lines to display conductivity, % concentration, total dissolved solids, temperature and a range selectable 4-20mA output. The NEMA 4X transmitter may be panel, wall pipe or integral sensor mounted.

Detailed specifications and ordering information can be found on the reverse. For more information, visit our website, or contact our Customer Service Department at 1-800-833-0081.

Authorizations



Features

- NEMA 4X stainless steel sensor housing
- Electrodeless design eliminates polarization and electrode coating problems
- Probe operates at temperatures up to 347°F or 175°C
- Wide measuring range from 0-200 up to 0 - 2,000,000 microSiemens/cm
- Analyzer allows multiple measurements along with built-in concentration tables viewable via a clear back-lit LCD display
- 3-A compliant



Specifications

Operational (HC1 Sensor)

Wetted Materials: PVDF (complies with 3-A) or PFA Teflon® (complies with 3-A)

Operating Temperature Range: 14° to 347°F (-10° to 175°C)

Maximum Flow Rate: 10ft. (3m) per sec.

Measuring Range: From 0-200 to 0-2,000,000 microSiemens/cm

Temperature Compensator: Pt 1000 RTD

Sensor Cable: 5-conductor (plus two isolated shields) cable with Teflon®-coated jacket; rated to 347°F (175°C); 20 ft. (6m) long

Pressure Temperature Limits: 200 psi at 347°F

Mounting: 2" Tri-Clamp® process connection for mounting in:

2" x 2" special tee (73223-A0001)

2-1/2" x 2" short outlet reducing tee

3" x 2" short outlet reducing tee

Wiring Style: Sealed cable with Strain Relief, or Sealed cable with male 1/2" NPT & Strain Relief

Operational DA2 Transmitter

Display: Two-line by 16 character LCD

Measurement: Selectable Ranges

Conductivity: $\mu\text{S/cm}$: 0-200.0 or 0-2000

mS/cm : 0-2.000, 0-20.00, 0-200.0 or 0-2000

S/cm : 0-2.000

% Concentration: 0-99.99% or 0-200%

TDS: 0-9999 ppm

Temperature: -4 to 347°F (-20 to 175°C)

Analog Outputs: 0.00-20.00 mA or 4.00-20.00mA

Ambient Conditions: -4 to 140°F (-20 to 60°C); 0-95% relative humidity, non-condensing

Temperature Compensation: Automatic from 14.0° to 347°F (-10°C to 175°C), with selection for Pt 1000 Ohm RTD temperature element or manually fixed at a user selected temperature

Memory Backup (non-volatile):

All settings retained indefinitely in EEPROM

Performance (DA2 Transmitter)

Accuracy: $\pm 0.1\%$ of span

Sensitivity: $\pm 0.05\%$ of span

Repeatability: $\pm 0.05\%$ of span

Temperature Drift: Zero and span: $\pm 0.02\%$ of span per °C

Response Time: 1-60 sec. to 90% of value upon step change (with sensor filter setting of zero)

Mechanical (DA2 Transmitter)

General: Polycarbonate; NEMA 4X (IP65) general purpose; choice of panel or wall/pipe/integral mounting hardware

Panel Mount: 3.75" w X 3.75" h X 0.75" d (95mm X 95mm X 19mm)

Wall /Pipe/Integral: 3.75" w X 3.75" h X 2.32" d (95mm X 95mm X 60mm)

Electrical (DA2 Transmitter)

Operating Power (Class 2 Power Supply)

Two-wire hookup: 16-30 VDC

Three-wire hookup: 14-30 VDC

Four-wire hookup: 12-30 VDC

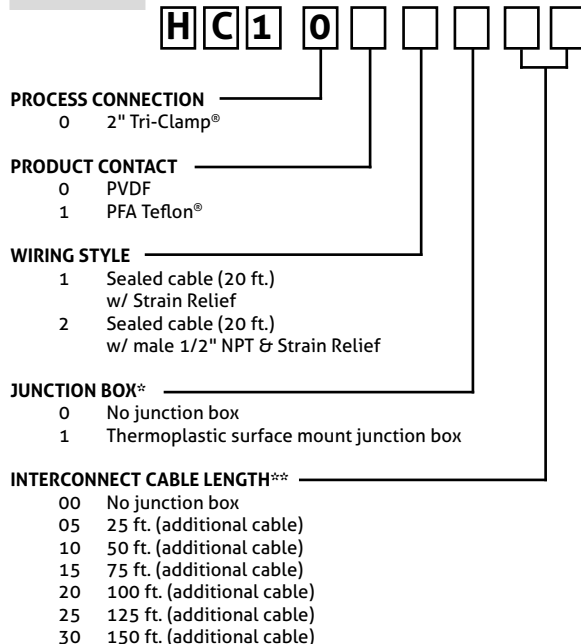
Output (Analog) One (1) isolated 0/4-20mA output; with 0.004 ma (12 bit) resolution

NOTE: These typical performance specifications are:

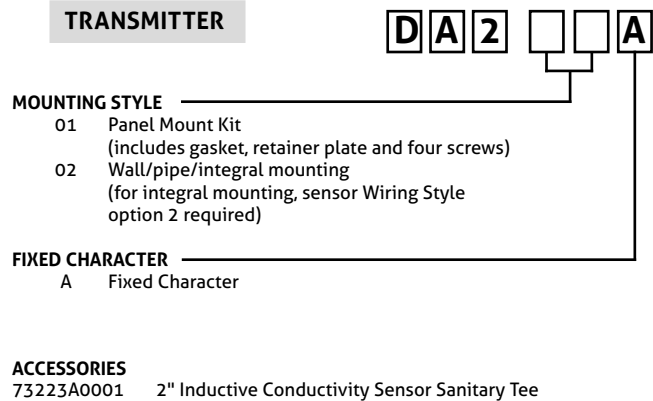
- Based on 25°C with conductivity of 500 $\mu\text{S/cm}$ and higher. Consult Anderson Instrument for applications in which conductivities are less than 500 $\mu\text{S/cm}$.
- Derated above 100°C to the maximum displayed temperature of 175°C. Consult Anderson Instrument for details.

Order Information

SENSOR



TRANSMITTER



NOTES:

- * Junction box required where interconnect distances of more than 20 ft. (6m) are required.
- ** This 6-conductor must be used to connect between the junction box and the receiver.