1 YEAR
WARRANTY

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User's Guide

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OMEGA CDCE-90-X Series Conductivity Sensor

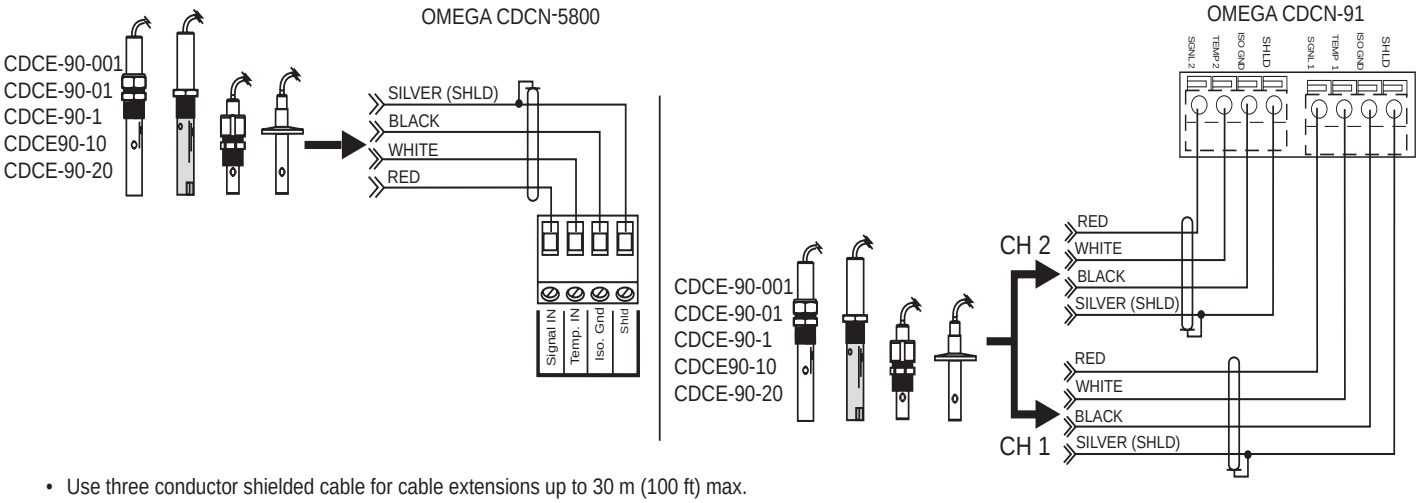
WARNING!

SAFETY INSTRUCTIONS FOR IN-LINE ELECTRODE INSTALLATION

1. Do not remove from pressurized lines.
2. Do not exceed maximum temperature/pressure specifications.
3. Wear safety goggles or face shield during installation/service.
4. Do not alter product construction.

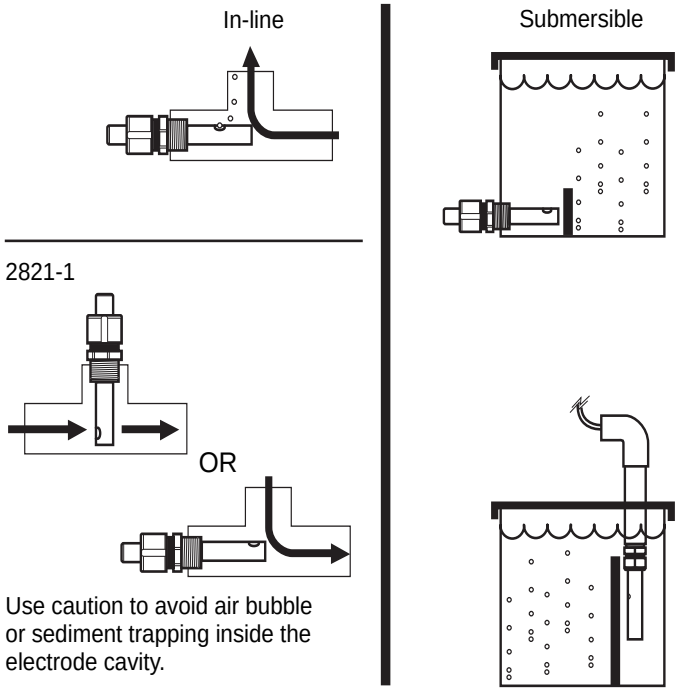
Failure to follow safety instructions may result in severe personal injury!

1. Wiring



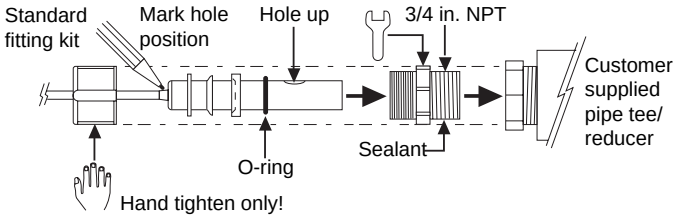
- Use three conductor shielded cable for cable extensions up to 30 m (100 ft) max.
- Shield must be maintained through cable splice

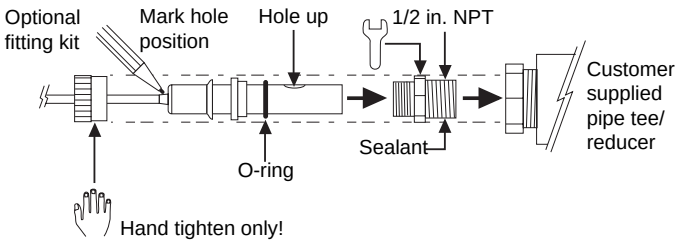
2. Recommended Position



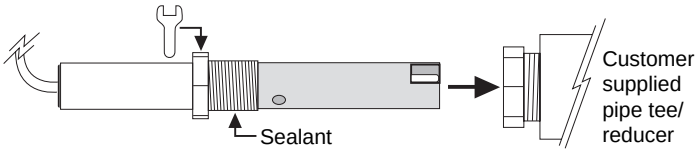
Use caution to avoid air bubble or sediment trapping inside the electrode cavity.

3. CDCE-90-001/CDCE-90-01/CDCE-90-1 In-line Installation

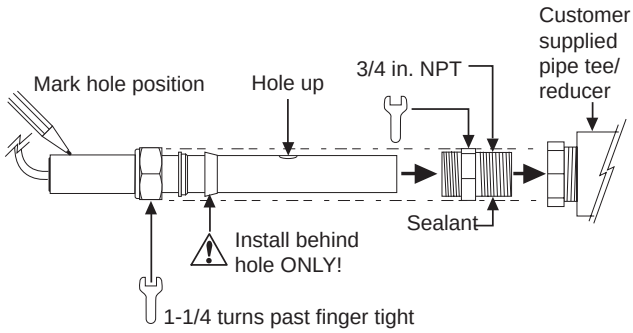




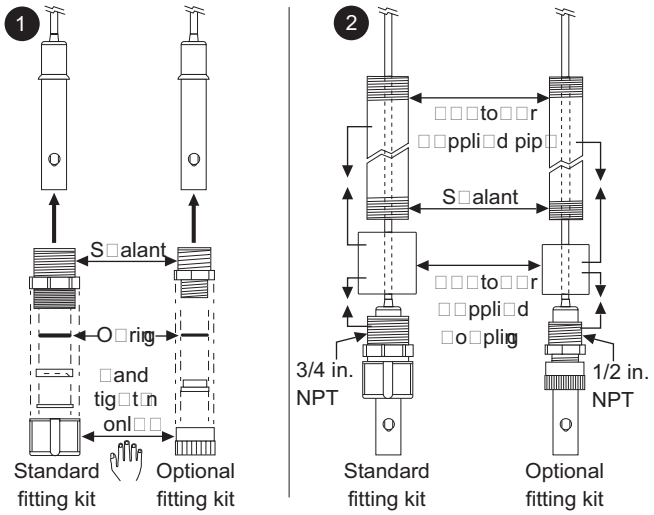
4. CDCE-90-10 In-line Installation



5. CDCE-90-20 In-Line Installation

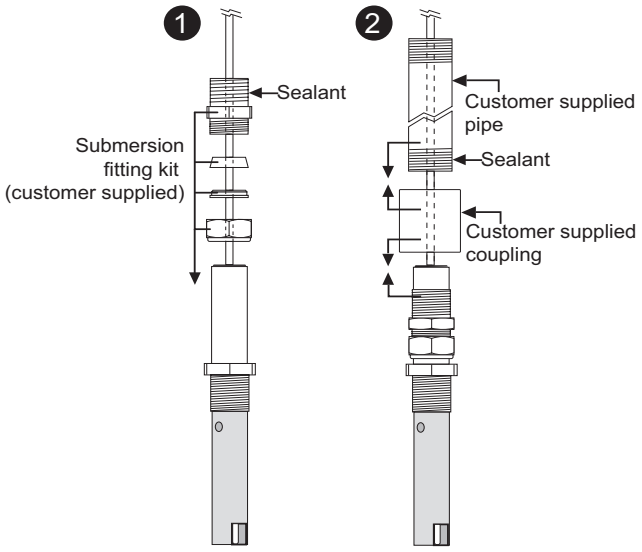


6. CDCE-90-001/CDCE-90-01/CDCE-90-1 Submersible Installation

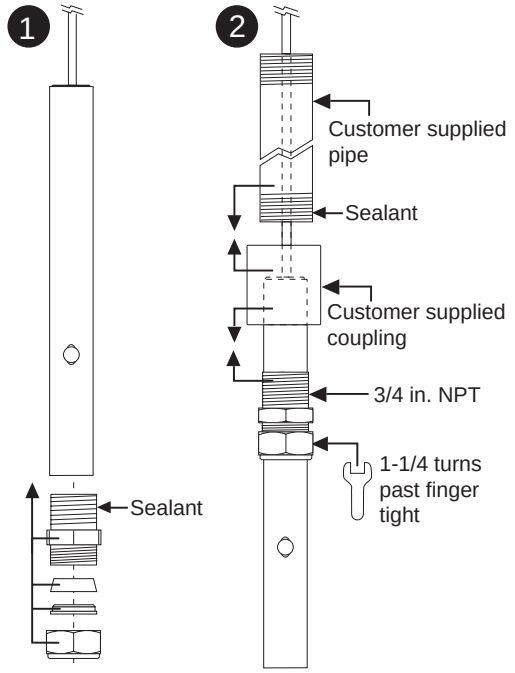


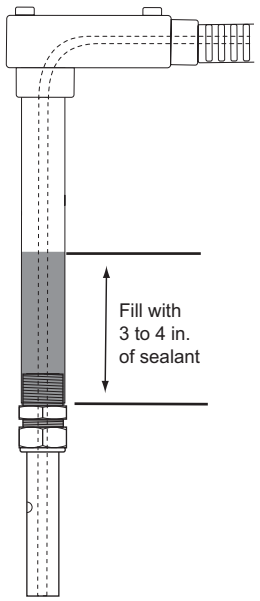
7. CDCE-90-10 Submersible Installation

This sensor can be submerged via optional submersion adapter.



8. CDCE-90-20 Submersible Installation





Attach 3/4 in. watertight pipe to the top of the sensor. Secure the threaded connection to prevent any leakage.

For additional defense against possible accumulation of condensation at the back seal area of the sensor, fill the lower 3-4 inches (75-100 mm) of conduit or extension pipe with a flexible sealant such as silicone.

9. Specifications

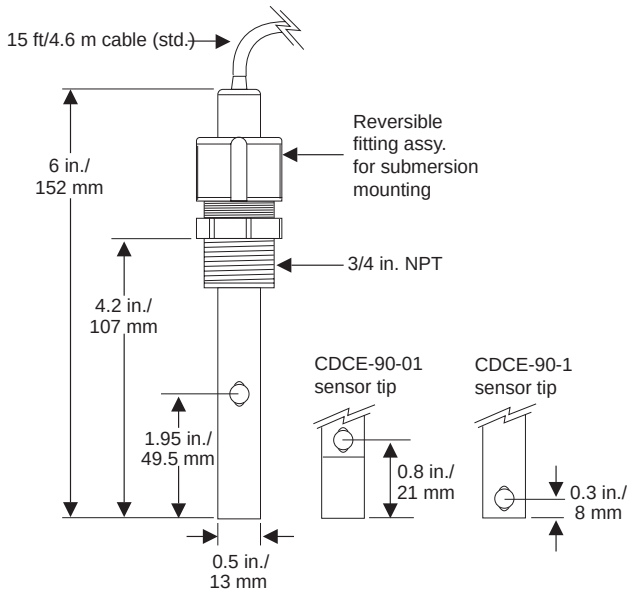
Alternate wetted materials and overall lengths are available through special order. Cable length extensions to 100 ft. (30 m) are available through special order. For resistivity measurements above 10 MΩ and/or below 20°C, maximum cable length is 25 ft. (7.6 m).

CDCE-90-001, CDCE-90-01, CDCE-90-1

- CDCE-90-001 cell: 0.01
  CDCE-90-001 range: 0.01 to 100 µS (10 kΩ to 100 MΩ)
- CDCE-90-01 cell: 0.10
  CDCE-90-01 range: 1 to 1000 µS
- CDCE-90-1 cell: 1.0
  CDCE-90-1 range: 10 to 10,000 µS

Temperature compensation: PT1000

Wetted materials:
O-rings: EPR
Insulator material: PTFE
Electrodes: 316 stainless steel
Standard fitting: Polypropylene
Max. pressure: 6.9 bar (100 psi)
Max. temperature: 100 °C (212 °F)
Optional 3-2820.391 fitting: 316 stainless steel (1/2 in. NPT)
Max. pressure: 13.8 bar (200 psi)
Max. temperature: 120 °C (248 °F)

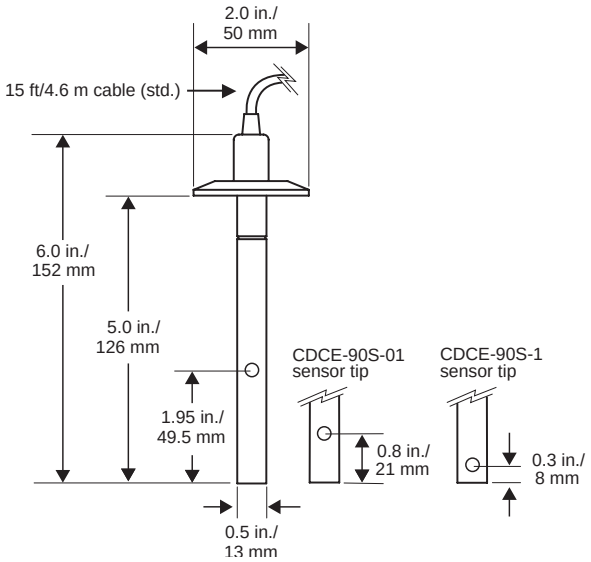


CDCE-90S-001-S15/CDCE-90S-01-S15/CDCE-90S-1-S15
CDCE-90S-001-T15

- CDCE-90S-001 cell: 0.01
  CDCE-90S-001 range: 0.01 to 100 µS (10 kΩ to 100 MΩ)
- CDCE-90S-01 cell: 0.10
  CDCE-90S-01 range: 1 to 1000 µS
- CDCE-90S-1 cell: 1.0
  CDCE-90S-1 range: 10 to 10,000 µS

Sanitary fitting size: 1 and 1½ in.
Temperature compensation: PT1000
Wetted materials:
- O-rings: EPR
- Insulator material: PTFE
- Electrodes: 316 stainless steel or titanium

Sanitary fitting: 316 stainless steel or titanium
Max. pressure: 6.9 bar (100 psi)
Max. temperature: 120 °C (248 °F)

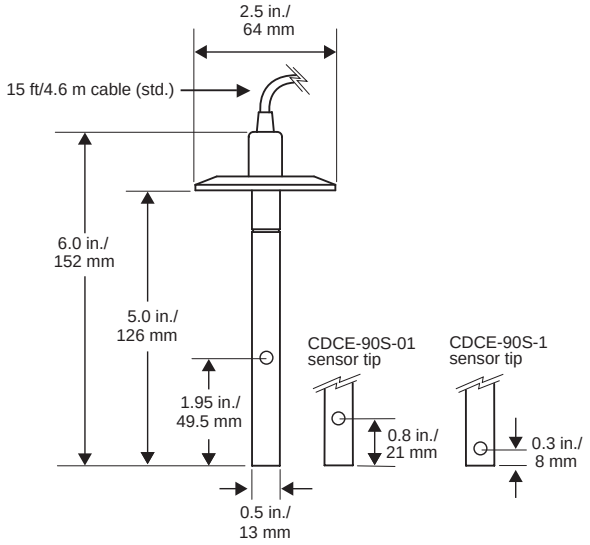


CDCE-90S-01-S20/CDCE-90S-1-S20

- CDCE-90S-001 cell: 0.01
  CDCE-90S-001 range: 0.01 to 100 µS (10 kΩ to 100 MΩ)
- CDCE-90S-01 cell: 0.10
  CDCE-90S-01 range: 1 to 1000 µS
- CDCE-90S-1 cell: 1.0
  CDCE-90S-1 range: 10 to 10,000 µS

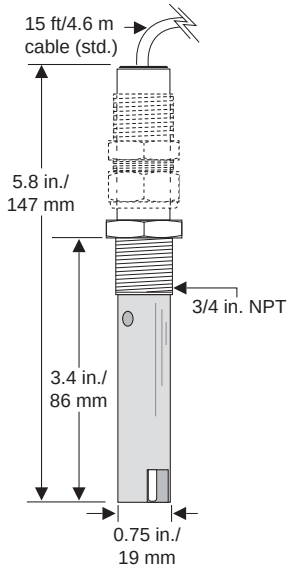
Sanitary fitting size: 2 in.
Temperature compensation: PT1000
Wetted materials:
- O-rings: EPR
- Insulator material: PTFE
- Electrodes: 316 stainless steel or titanium

Sanitary fitting: 316 stainless steel or titanium
Max. pressure: 6.9 bar (100 psi)
Max. temperature: 120 °C (248 °F)



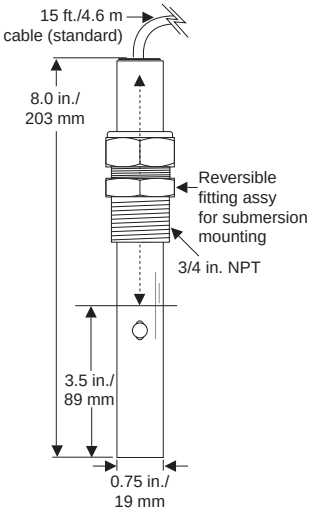
CDCE-90-10

Cell:	10.0
Range:	100 to 200,000 µS
Temperature compensation:	PT1000
Wetted materials:	
• O-rings:	EPR
• Insulator material:	CPVC
• Electrodes:	316 stainless steel
Standard fitting:	316 stainless steel
Max. pressure:	6.9 bar (100 psi)
Max. temperature:	95 °C (203 °F)



CDCE-90-20

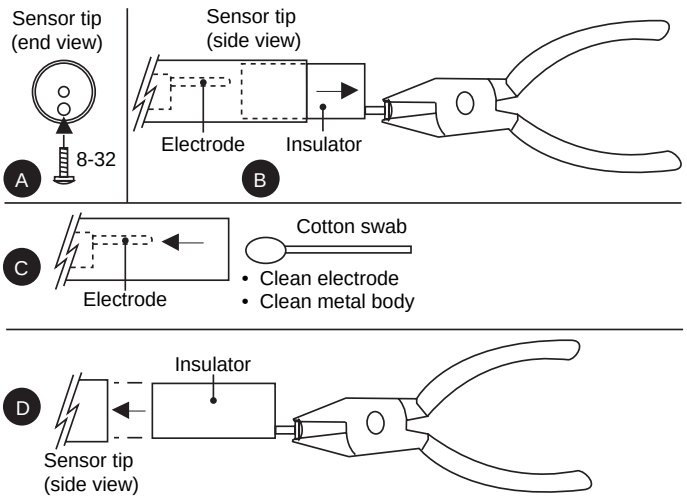
Cell:	20.0
Range:	200 to 400,000 µS
Temperature compensation:	PT1000
Wetted materials:	
• O-rings:	EPR
• Insulator material:	PEEK®
• Electrodes:	316 stainless steel
Fitting:	316 stainless steel
Max. pressure:	6.9 bar (100 psi)
Max. temperature:	150 °C (302 °F)



10. Maintenance

Any coatings on electrodes will cause readings to drift or show poor response. Clean metallic surfaces with a mild detergent and a non-abrasive brush or cotton swab.

CDCE-90-20 Sensor Tip Removal Procedure:



WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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M2975/0217