Conductivity/Resistivity

CDTX-90 Series
Starts at $576

Display in µS, mS, kΩ, MΩ, ppm (TDS)
Simulate Function
Programmable Temperature Compensation
Relay Options
Dual Output Option Allows Temperature and Process Signal Transmission
2 x 16 Character Dot Matrix LCD
Chemical Resistant Enclosure and Self-Healing Window
Large Pushbuttons
Clearly Marked Terminal Labels

Applications
RO/DI System Control
Rinse Tank Control
Cooling Tower, Scrubber or Blowdown Control
Environmental Study (TDS)
Desalination Monitor
Water Quality Monitoring
Leak Detection
Chemical Concentration

The CDTX-90 Series Conductivity/Resistivity Transmitter is designed for broad application and ease of setup and use. The unit can be used for conductance, resistance, or TDS signal transmission and display. Mounting can be accomplished in several options best tailored to your application requirements. Full microprocessor based electronics allow wide operating range, and long term signal stability due to the elimination or potentiometers, jumpers and dip switches.

Specifications
General
Compatible Electrodes:
OMEGA® CDCE-90-X Series Conductivity/Resistivity Electrodes (see page E-37)
Accuracy: ±2% of reading

Electronics
Starts at $576

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Electronics
Only

Enclosure:
Rating: NEMA 4X (IP65) front
Case: PBT
Window: Polyurethane coated polycarbonate
Keypad: Sealed 4-Key Silicone Rubber
Weight: Approx. 325 g (12 oz)

Display:
Alphanumeric: 2 x 16 LCD
Contrast: User selected, 5 levels

Environmental
Operating Temperature:
-10 to 70°C (14 to 158°F)
-15 to 80°C (5 to 176°F)
Relative Humidity:
0 to 95% non-condensing

Standards and Approvals:
CSA, CE, UL listed and manufactured under ISO9001

Electrical
Sensor Input Range:
Conductance: 0.055 to 400,000 µS
Resistivity: 10 KΩ to 18.2MΩ

TDS: 0.023 to 200,000 ppm
Temperature: PT1000, -25 to 120°C (-13 to 248°F)
Current Output: 4 to 20 mA, isolated, fully adjustable and reversible
Power: 12 to 24 Vdc ±5% regulated
Max Loop Impedance:
50Ω max @ 12 V, 325Ω max @ 18 V, 600Ω max @ 24 V
Update Rate: 0.5 seconds
Accuracy: ±0.03 mA @ 25°C, 24 V

Relay Output:
Mechanical SPDT Contacts:
Hi, Lo, Pulse, Off
Maximum Voltage Rating:
5 A @ 30 Vdc, or 5 A @ 250 Vac resistive load
Hysteresis: User Adjustable Max 400 pulses/min
Open Collector Output:
Hi, Lo, Pulse, Off
Open collector, optically isolated, 50 mA max, sink, 30 Vdc max,
pull-up voltage. Max 400 pulses/min

For Sales & Service
1-800-82-66342
1-800-TC-OMEGA
U.S.A. and Canada
Installation
The transmitter is available in a panel mount or a field version. Select the universal mount kit FP90UM to mount the transmitter on a surface near the sensor.

1. Panel Mount
   - All Panel mount transmitters CDTX-90-XP include a mounting bracket and gasket for a NEMA 4X (IP65) watertight panel installation. Panel mount transmitters fit into a standard 1⁄4 DIN panel cutout.

2. Universal Mount
   - The Universal Mount Kit FP90UM can be ordered separately and includes a conduit base, locking ring, and universal adapter for mounting the transmitter on a pipe, wall, or other stationary surface.
Conductivity Cells for CDCN-91, CDTX-90 and CDCN-5800 Series

CDCE-90-001, CDCE-90-01, CDCE-90-1
Cell:
- CDCE-90-001: 0.01
- CDCE-90-01: 0.1
- CDCE-90-1: 1.0
Conductivity Range:
- CDCE-90-001: 0.010 to 100 µS
  (10 KΩ to 100 MΩ)
- CDCE-90-01: 1 to 1000 µS
- CDCE-90-1: 10 to 10,000 µS
Temperature Compensation: Pt1000
Wetted Materials:
- O-Rings: EPR
- Insulator Material: PTFE
- Electrodes: 316 SS
Standard Fitting: Polypropylene
Max. Pressure: 6.9 bar (100 psi)
Max. Temperature: 100°C (212°F)
Optional Fitting: 316 SS ½ NPT
Max. Pressure: 13.8 bar (200 psi)
Max. Temperature: 120°C (248°F)

CDCE-90-10
Cell Constant: 10.0
Conductivity Range: 100 to 200,000 µS
Temperature Compensation: Pt1000
O-Ring: EPR
Insulator Material: CPVC
Electrodes: 316 SS
Fitting Material: 316 SS
Maximum Pressure/Temperature: 100 psig @ 95°C (203°F)

CDCE-90-20
Cell Constant: 20.0
Conductivity Range: 200 to 400,000 µS
Temperature Compensation: Pt1000
O-Ring: EPR
Insulator Material: PTFE
Electrodes: 316 SS
Fitting Material: 316 SS
Maximum Pressure/Temperature: 100 psig @ 150°C (302°F)

All shown smaller than actual size.
CDCE-90S-001, CDCE-90S-01, CDCE-90S-1

Cell:
- CDCE-90S-001: 0.01
- CDCE-90S-01: 0.1
- CDCE-90S-1: 1.0

Conductivity Range:
- CDCE-90S-001: 0.01 to 100 µS (10 KΩ to 100 MΩ)
- CDCE-90S-01: 1 to 1000 µS
- CDCE-90S-1: 10 to 10,000 µS

Sanitary Fitting Size: 1, 1½, 2”

Temperature Compensation: Pt1000

Wetted Materials:
- O-Ring: EPR
- Insulator Material: PTFE
- Electrodes: 316 SS or titanium

Sanitary Fitting: 316 SS or titanium

Maximum Pressure: 6.9 bar (100 psi)

Maximum Temperature: 120°C (248°F)

To Order (Specify Model Number)

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Price</th>
<th>Fitting</th>
<th>Cell Constant</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDCE-90-01</td>
<td>$298</td>
<td>% NPT</td>
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<td>% NPT</td>
<td>0.1</td>
<td>316 SS</td>
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<tr>
<td>CDCE-90-1</td>
<td>298</td>
<td>% NPT</td>
<td>1</td>
<td>316 SS</td>
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<td>CDCE-90-10</td>
<td>511</td>
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<td>CDCE-90-20</td>
<td>624</td>
<td>% NPT</td>
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<tr>
<td>CDCE-90S-01-T20</td>
<td>960</td>
<td>2.0” sanitary</td>
<td>1</td>
<td>Titanium</td>
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</table>

* For extended cable add “-100” to model number, consult Sales for price.
To Order (Specify Model Number)

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<thead>
<tr>
<th>Model No.</th>
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</thead>
<tbody>
<tr>
<td>CDTX-90-1</td>
<td>$576</td>
<td>Conductivity/resistivity transmitter field mount with 4 to 20 mA and O.C. output*</td>
</tr>
<tr>
<td>CDTX-90-2</td>
<td>675</td>
<td>Conductivity/resistivity transmitter field mount with 4 to 20 mA and 2 relays*</td>
</tr>
<tr>
<td>CDTX-90-3</td>
<td>757</td>
<td>Conductivity/resistivity transmitter field mount with 4 to 20 mA and single input/dual output*</td>
</tr>
<tr>
<td>CDTX-90-1P</td>
<td>576</td>
<td>Conductivity/resistivity transmitter panel mount with 4 to 20 mA and O.C. output</td>
</tr>
<tr>
<td>CDTX-90-2P</td>
<td>675</td>
<td>Conductivity/resistivity transmitter panel mount with 4 to 20 mA and 2 relays</td>
</tr>
<tr>
<td>CDTX-90-3P</td>
<td>757</td>
<td>Conductivity/resistivity transmitter panel mount with 4 to 20 mA and single input/dual output</td>
</tr>
</tbody>
</table>

Comes complete with operator’s manual.
* Field mount transmitters require FP90UM universal mounting kit.

Ordering Example: CDTX-90-1P conductivity transmitter panel mount, CDCE-90-1 conductivity cell, and U24Y101 power supply, $576 + 298 + 169 = $1043.

Additional cells available, see pages E-37 and E-38.

Accessories

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Price</th>
<th>Description</th>
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<tbody>
<tr>
<td>FP90UM</td>
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<td>Universal mounting kit</td>
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<tr>
<td>FP90-4X</td>
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<td>NEMA 4X (IP65) cover (panel mount)</td>
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<td>FPM-5000-LTCK</td>
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<td>Liquid-tight kit for rear cover</td>
</tr>
<tr>
<td>U24Y101</td>
<td>169</td>
<td>1000 mA power supply</td>
</tr>
</tbody>
</table>
More than 100,000 Products Available!

- **Temperature**

- **Flow and Level**
  Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

- **pH and Conductivity**
  Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

- **Data Acquisition**
  Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485, Ethernet and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

- **Pressure, Strain and Force**
  Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Pressure Transmitters, Strain Gauges, Torque Transducers, Valves

- **Heaters**