



## 2-Wire Isolated Conductivity Transmitter System

CDTX-45 and CDE-45P System

**\$1190**

Meter and Sensor System



- ✓ PEEK™ Sensor Body Construction
- ✓ 4-Electrode Sensor Type
- ✓ Electrode Coating Rejection Diagnostic
- ✓ Universal Mounting Configurations
- ✓ Microprocessor-Based System
- ✓ Large Dual Display Format
- ✓ Loop Powered, Fully Isolated

### Sensor Features

The sensor housings are constructed of PEEK, a high performance thermoplastic that provides outstanding mechanical strength and chemical resistance. Multiple sealing materials are used to preserve sensor integrity over a wide range of applications.

The four electrodes used in the cell are made of titanium for greater chemical resistance. Two of these electrodes are used to establish the sensor drive potential. The other two electrodes sense the flow of current between the drive electrodes and maintain the proper drive potential. The current that flows between the two drive electrodes is directly proportional to solution conductivity.

With conventional two-electrode sensors, as the process solution begins to coat the electrode surfaces, the sensor output signal begins to decrease. This produces an artificially low conductivity measurement.

The CDTX-45 four-electrode system uses electrode diagnostics to compensate for the effects of fouling. As the two drive electrodes become coated by the process solution, a feedback mechanism involving the two sensing electrodes detects the decrease in drive potential and automatically re-establishes the proper drive potential. When the degree of coating reaches a limit where compensation is no longer possible, the diagnostic actuates an alarm to signal that the sensor requires cleaning.

The unique drive/control scheme of this system allows a single sensor configuration to be used reliably over a wide conductivity range. This system eliminates the requirement for multiple sensors with varying cell constants that are restricted to narrow operating ranges.

### Transmitter Features

The microprocessor-based transmitter is loop-powered and fully isolated for high service reliability. The transmitter includes



CDTX-45, meter/transmitter, \$759, shown smaller than actual size.

devices to protect the system from power surge and brownout events.

The large, high contrast, super-twist display provides excellent readability over a wide operating temperature range, even in low light conditions. The main display line consists of large, segmented characters with measurement units. The secondary display line utilizes easily readable dot matrix characters for clear

CDE-45P, electrode, \$431, shown smaller than actual size.

Meter and electrode sold separately.

**AVAILABLE FOR FAST DELIVERY!**

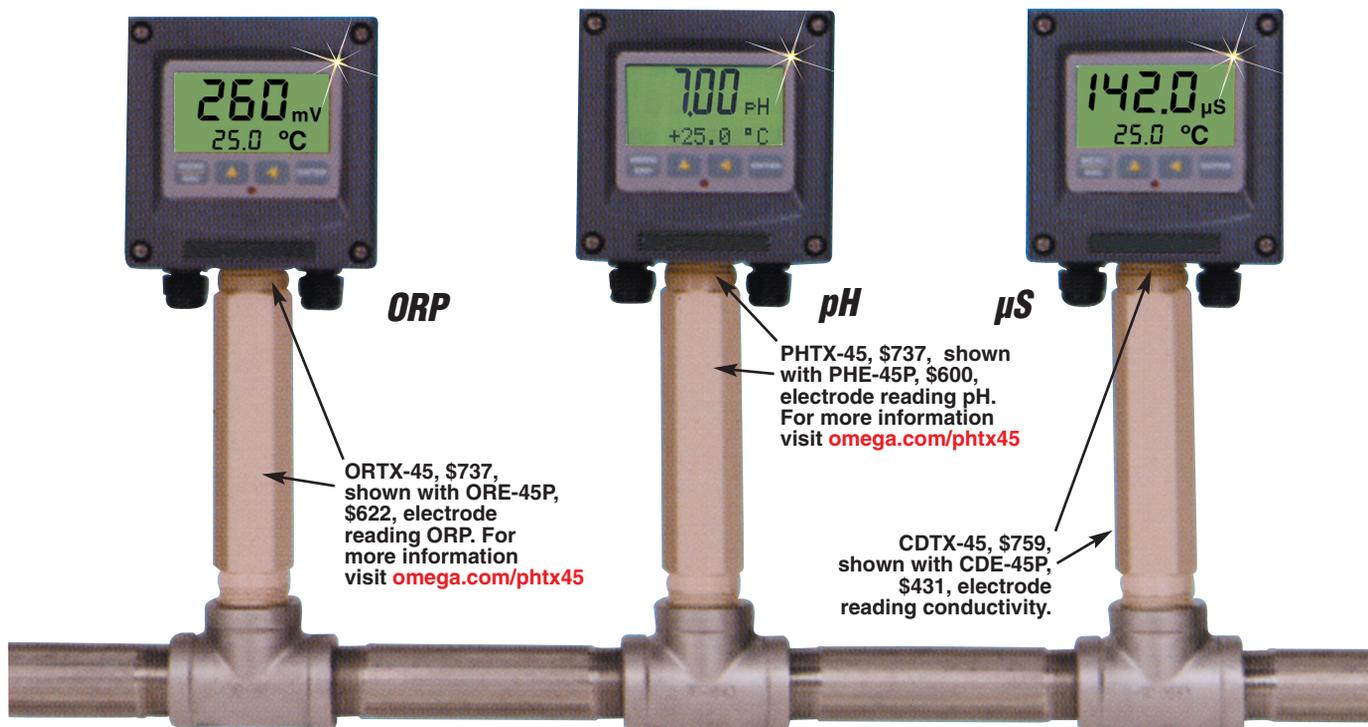
To Order (Specify Model Number)		
Model No.	Price	Description
CDTX-45	\$759	Conductivity meter/transmitter, electrode sold separately
CDE-45P	431	Conductivity electrode
PSU-93	40	Unregulated power supply, 16 to 23 Vdc
PHTX-45-SMH	191	Submersion mounting hardware, 1.8 m (6')
ES-2249	122	Reference Book: Wastewater Engineering 

Comes complete with operator's manual.

**Ordering Examples:** CDTX-45, conductivity transmitter, and CDE-45P electrode, \$759 + 431 = \$1190. CDTX-45, conductivity transmitter, and CDE-45P, electrode, PHTX-45-SMH, submersion mounting hardware, \$759 + 431 + 191 = \$1381.



## CDTX-45 An In-Line Application Solution



**ORP**

ORTX-45, \$737, shown with ORE-45P, \$622, electrode reading ORP. For more information visit [omega.com/phtx45](http://omega.com/phtx45)

**pH**

PHTX-45, \$737, shown with PHE-45P, \$600, electrode reading pH. For more information visit [omega.com/phtx45](http://omega.com/phtx45)

**μS**

CDTX-45, \$759, shown with CDE-45P, \$431, electrode reading conductivity.

display of calibration and diagnostic messages. Two of four measured parameters may be displayed simultaneously.

Four-button programming provides intuitive navigation through the menu-driven user interface. The 4 to 20 mA transmitter output can be configured to represent any portion of the measurement range. Output HOLD, ALARM and SIMULATION features provide the user with complete control of the system output under any condition.

Diagnostic messages provide a clear description of system condition, which eliminates confusing error codes that must be looked up in the operator's manual.

The flexible calibration method includes stability monitors that check temperature and main parameter stability before accepting data.

### Specifications

#### CDE-45P Sensor

**Accuracy:** 0.3% of span ( $\pm 0.1 \mu\text{S}$ )

**Repeatability:** 0.3% of span ( $\pm 0.1 \mu\text{S}$ )

**Sensitivity:** 0.05% of span ( $\pm 0.1 \mu\text{S}$ )

**Stability:** 0.1% of span per 24 hours, non-cumulative

**Warm-up Time:** 7 sec

**Supply Voltage Effects:**  $\pm 0.05\%$  span

**Instrument Response Time:** 12 sec

**Temperature Drift:** Span or zero, 0.03% of span/ $^{\circ}\text{C}$

**Max Cable Length:** 18.3 m (60')

#### CDTX-45 Transmitter

**Analog Outputs:** Dual 4 to 20 mA outputs. Output one programmable for conductivity. Output 2 programmable for temperature or conductivity; 550  $\Omega$  max load for each output. Outputs ground isolated and isolated from each other

**Displayed Parameters:** Main input, 0.0  $\mu\text{S}$  to 2000 mS, % Concentration, sensor temperature [-10.0 to 110.0 $^{\circ}\text{C}$  (14 to 230 $^{\circ}\text{F}$ )], loop current (4.00 to 20.00 mA)

**Main Parameter Ranges:** Automatic or manual; 0.0 to 2.0  $\mu\text{S}$ , 0.0 to 20.0  $\mu\text{S}$ , 0 to 200  $\mu\text{S}$ , 0 to 2000.00  $\mu\text{S}$ , 0.00 to 2.00  $\mu\text{S}$

**Display:** Large, high-contrast, Super-Twist (STN) LCD; 4-digit main display with sign, 19.1 mm (0.75") 7-segment characters; 12-digit secondary display, 7.6 mm (0.3") 5 x 7 dot matrix characters

**Keypad:** 4-key membrane type with tactile feedback, polycarbonate with UV coating, integral EMI/static shield and conductively coated window

**Operating Ambient:** -20 to 60 $^{\circ}\text{C}$  (-4 to 140 $^{\circ}\text{F}$ ), 0 to 95% RH, non-condensing



**EMI/RFI Influence:** Designed to EN 61326-1

**Output Isolation:** 600V galvanic isolation

**Filter:** Adjustable 0 to 9.9 minutes

additional damping to 90% step input

**Temperature Input:** Selectable Pt1000 or Pt100 RTD

**Power:** 16 to 35 Vdc (2-wire device)

**Enclosure:** NEMA 4X, polycarbonate, stainless steel hardware, weatherproof and corrosion resistant

**Conduit Openings:** Three PG-9 openings with gland seals

**Dimensions:** 112 H x 112 W x 89 mm D (4.4 x 4.4 x 3.5")

**Mounting Options:** Wall, panel, pipe/header

**Weight:** 0.45 kg (1 lb)

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