

# Portable Universal Circular Chart Recorder

PATENTS PENDING

## 5 Models Available

Choice of White or Gray to Meet Your Needs!

### 5 Models Available!

- 1 Temperature/Humidity with Wired Probe
- 2 Temperature/Humidity with Remote Wireless Probe
- 3 Dual Process-Voltage or Current
- 4 Dual Thermocouple
- 5 pH/Temperature

### CTXL Series



Optional†

- ✓ Large, 200 mm (8") Scale
- ✓ 1, 7 or 32 Day Recording
- ✓ Easy to Read Dual Channel Backlit LCD Readout
- ✓ Convenient Front Panel Programming/Operation
- ✓ Monitors Min/Max/Avg Values
- ✓ High/Low Audible/Visual Alarms
- ✓ Dual High Alarm Relays, Dual Low Alarm Voltage Outputs
- ✓ Double Sided Charts with Magnetic Mount Hub
- ✓ Benchtop or Wall Mount with Built-In Chart Lights
- ✓ Powered by 4 D Batteries or Universal AC Adaptor
- ✓ Data Logging PC Software Included

The CTXL Series circular chart recorders combine form and function in an easy to use two-channel circular chart recorder with a large, 200 mm (8") diameter chart, and dual channel LCD readout. Depending on your application, the CTXL is available to measure ambient temperature and humidity (with an available wireless option capable of up to 90 m (300') (line of sight), dual thermocouple, dual process (1 V, 5 V, 10 V, or 0/4 to 20 mA), or pH/temperature.

The CTXL has a custom LCD readout that displays the current values of both channels, and can indicate the min, max or average input values as well. The display also indicates the chart speed (1, 7 or 32 day), battery status, high and low alarm indication, keypad lockout status, and battery life. Additional features of the CTXL include dual relays with contact closures for high alarms, and dual voltage outputs for low alarms to drive external relays. A built-in audible

buzzer also informs the user of an alarm condition. A hidden key (White Box) can lockout unauthorized access to the front keypad, preventing changes to the recorder settings.

The CTXL features a rugged, ABS enclosure, suitable for industrial environments, but it's also intended to fit right in to other environments, such as museums, art galleries, computer rooms, labs, clean rooms, even hospitals. The CTXL is designed for both benchtop and wall mount operation; a convenient base rotates out of the way, and is hidden by a decorative foot cover for wall mount use.

Each unit comes complete with 120 assorted double-sided charts, 2 pen sets, extra chart light, universal ac adaptor, 4 "D" cell alkaline batteries, RS232 cable and adaptor, software CD, wall mounting kit, and operator's manual. CTXL-TRH models are also supplied with sensor probe and clip, and 1.8 m (6') probe extension cable.

† Refer to accessories chart for NIST calibration ordering information.



# Temperature/Relative Humidity Recorder

Choice of White or Gray to Meet Your Needs!

Large 200 mm (8") 2-Sided Chart

MODEL #1  
CTXL-TRH



Optional†

**PATENTS PENDING**

- ✓ -17 to 49°C (2 to 120°F) and 2 to 98% RH Ranges
- ✓ Detachable Sensor Probe for Direct Attachment or Remote Mounting
- ✓ Available Wireless Sensor Model
- ✓ Windows-Based PC Data Logging Software Included
- ✓ Specialty Chart Papers Available for Custom Applications
- ✓ Benchtop or Wall Mount with Built-In Chart Lights



CTXL-TRH recorder, shown smaller than actual size.

The CTXL-TRH recorder is designed for both local and remote monitoring of temperature and relative humidity. The standard sensor probe clips to the side of the unit, or may be detached and mounted up to 12 m (40') away, using available extension cables. For even longer distances, the recorder is available with a wireless probe, which can be placed up to 90 m (300') line of sight, or 33 m (110') indoors away from the recorder. Simply plug-in the wireless receiver in place of the probe into the recorder, and you're ready to go.

The CTXL-TRH is available with specialty paper charts, with optimal ranges marked right on the chart, so you can easily see from a distance that the temperature and humidity readings are within range.

The CTXL-TRH comes with a Windows-based application

program that allows the user to monitor the temperature and relative humidity using their PC. You can log the data to a file, as well as display the information on a custom on-screen chart; set the alarms on the recorder, and display their status on-screen. You can also re-scale the recorder chart paper, setting temperature and %RH limits anywhere within the range of the unit. This allows you to use the 8" chart to display narrow temperature and humidity bands, for greater resolution.

## Specifications

(See Common Specifications on Page S-44)

### Temperature:

**Range:** -17.7 to 49°C (0 to 120°F)

**Display Accuracy:** ±1°C (2°F)

**Chart Accuracy:** ±1.5°C (3°F)

**Display Resolution:** 0.1° (F or C)

### Relative Humidity:

**Range:** 0 to 98% RH

**Display Accuracy:** ±3% RH, 15 to 90% RH @ room temperature; ±5% RH, <15 or > 90% RH @ room temperature

**Chart Accuracy:** ±4% RH, 15 to 90% RH, ±6% RH, <15 or >90% RH

**Display Resolution:** 1% RH

### Remote Probe:

12.2 m (40') max distance

### Temperature/Humidity Sensor:

Digital sensor

### Probe Disconnect:

Pens will go to the Home position; Display will show "Prb Err". Chart motor will continue to run

### Alarm Set Point Resolution:

**Temperature:** 0.5°C or °F

**Humidity:** 1%RH

### Alarm Deadband:

**Temperature:** 0.5°C or °F

**Humidity:** 3% RH

† Refer to accessories chart for NIST calibration ordering information.

**Large 200 mm (8") 2-Sided Chart**

**PATENTS PENDING**

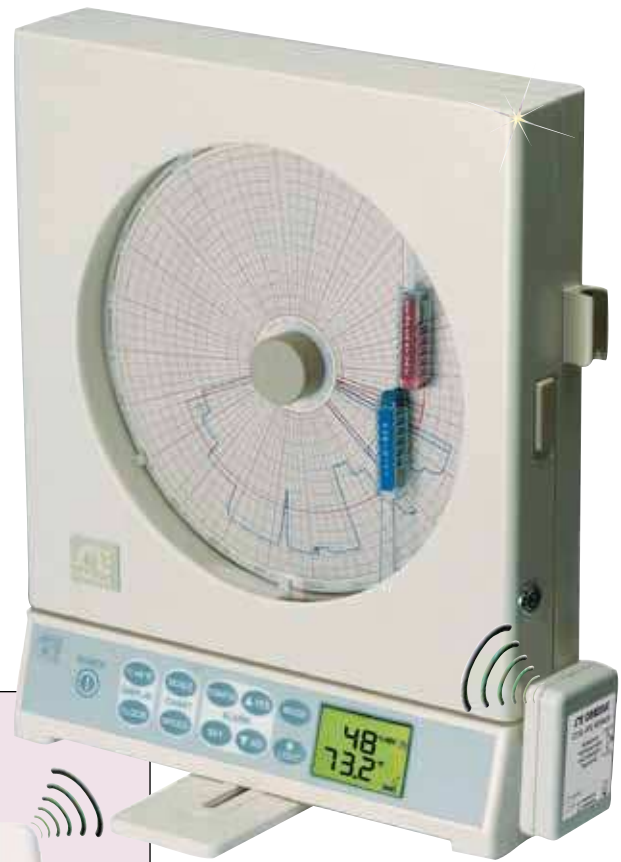
**MODEL #2 CTXL-TRH-W**



- ✓ Record Temperature/Humidity with Remote Wireless Probe
- ✓ RF Range 90 m (300') Line of Sight and 33 m (108') Indoors
- ✓ 1, 7 or 32 Day Recording
- ✓ Easy to Read Dual Channel Backlit LCD Readout
- ✓ Convenient Front Panel Programming/Operation
- ✓ Monitor Min/Max/Avg Values
- ✓ High/Low Audible/Visual Alarms
- ✓ Dual High Alarm Relays, Dual Low Alarm Voltage Outputs
- ✓ Double Sided Charts with Magnetic Mount Hub
- ✓ Benchtop or Wall Mount with Built-In Chart Lights
- ✓ Powered by 4 "D" Batteries or Universal AC Adaptor

**Choice of White or Gray to Meet Your Needs!**

**Wireless Transmitter—Up to 90 m (300') from Recorder**



Remote wireless temperature/humidity transmitter, included, shown smaller than actual size.

CTXL-TRH-W-99 temperature/humidity recorder with remote wireless transmitter, shown smaller than actual size.

**Specifications**

(See Common Specifications on Page S-44)

**Transmitter**

- Transmit Sample Rate:** 2 sec up to 2 min
- Radio Frequency:** ISM 915 MHz or ISM 868 MHz
- Approvals:**
  - CTXL-TRH-(\*)-W9: FCC, Class A
  - CTXL-TRH-(\*)-W8: CE
- RF Link Range:**
- Outdoor Line of Sight:** Up to 90 m (300')
- Indoor/Urban:** Up to 33.5 m (110')
- Computer Interface:** USB, to change transmit interval, frequency and channel ID
- Operating Ambient:** -18 to 49°C (0 to 120°F), 2 to 98% RH
- LED Indicators:** Red LED for Low Battery and other communication error indications; Green LED for transmit indication
- Power:** One 3.6 Vdc "AA" Lithium Battery, 2400 mAH capacity, or optional ac adaptor, UNI-AC-100/240-5V

**Battery Life:** 1 year typical, at 1 minute transmission rate

**Receiver**

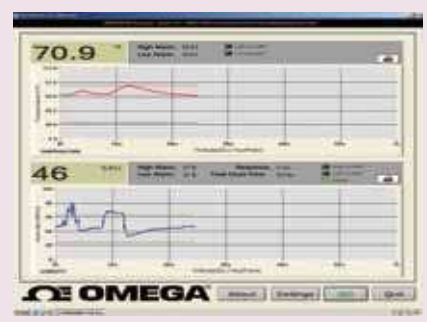
**Computer Interface:** USB, to change receive interval, frequency and channel ID

**Operating Ambient:** -18 to 49°C (0 to 120°F), 2 to 98% RH  
**LED indicators:** Red LED for comm. error indications, Green LED for receive indication  
**Power:** From the CTXL recorder through the round DIN connector  
 † Refer to accessories chart for NIST calibration ordering information.

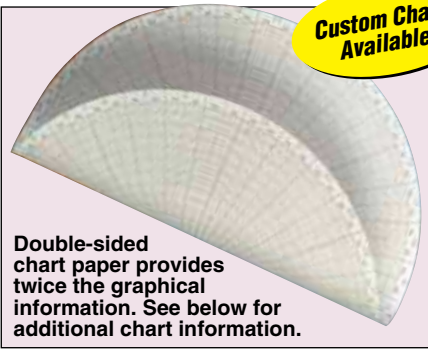
**Application Software Included!**

- Monitors Temperature and Humidity
- Line Graph and Store of Readings in Real Time and Download of Recorded Data
- Set the Line Graph Scales to Auto, Logarithmic, or Manual
- Re-Scale the Recorder Chart Paper
- Print Line Graphs to a Printer

**Application Software Included**



**Custom Charts Available!**



Double-sided chart paper provides twice the graphical information. See below for additional chart information.

## To Order

Model No.	Description	Color	Wireless
CTXL-TRH-W	Temperature/RH recorder	White	—
CTXL-TRH-G	Temperature/RH recorder	Gray	—
CTXL-TRH-W-(* )	Temperature/RH recorder	White	Y
CTXL-TRH-G-(* )	Temperature/RH recorder	Gray	Y

\* Specify wireless type: "W9" for USA/Canada (915 MHz) or "W8" for Europe (868 MHz)

## Double-Sided Charts†

Model No.	Description
CT485-CDF	100 charts, 1 day (am/pm), °F
CT485-CDC	100 charts, 1 day (am/pm), °C
CT485-C24F	100 charts, 1 day (24 hr), °F
CT485-C24C	100 charts, 1 day (24 hr), °C
CT485-CWF	100 charts, 7 day, °F
CT485-CWC	100 charts, 7 day, °C
CT485-CMF	100 charts, 32 day, °F
CT485-CMC	100 charts, 32 day, °C
CT485-CSP	120 charts, 20 each, 1 day (am/pm), 7 day, 32 day, °F and °C (one included with unit)

†† To order a package of 600 double sided charts, add suffix "-6" to model number for additional cost.

## CTXL-TRH Units Include 120 Double-Sided Charts FREE!

(20 each of 1-day, °F; 1-day, °C; 7-day, °F; 7-day, °C; 32-day, °F; 32-day °C).

Additional charts can be ordered as 1 pack of 100 or 6 packs of 100 (see "Charts" table below left).

## Double-Sided Specialty Charts (pkg of 20)

### To Order

Model No.	Description	Optimal Band Range
CT485-MW(* )	Museum/art gallery, 7 day	18.3 to 22.2°C (65 to 72°F), 40 to 50% RH
CT485-MM(* )	Museum/art gallery, 32 day	18.3 to 22.2°C (65 to 72°F), 40 to 50% RH
CT485-HW(* )	Hospital, 7 day	20 to 23.3°C (68 to 74°F), 40 to 50% RH
CT485-HM(* )	Hospital, 32 day	20 to 23.3°C (68 to 74°F), 40 to 50% RH
CT485-LW(* )	Lab/clean room, 7 day	20 to 23.9°C (68 to 75°F), 40 to 55% RH
CT485-LM(* )	Lab/clean room, 32 day	20 to 23.9°C (68 to 75°F), 40 to 55% RH
CT485-PW(* )	Computer room/office, 7 day	18.3 to 23.9°C (65 to 75°F), 45 to 60% RH
CT485-PM(* )	Computer room/office, 32 day	18.3 to 23.9°C (65 to 75°F), 45 to 60% RH

\* Specify temperature units, "C" for °C or "F" for °F.

## Accessories

Model No.	Description
CTXL-PT-(* )	Wireless Temperature/Humidity probe transmitter, to retrofit a CTXL-TRH unit
CTXL-PR-(* )	Wireless Temperature/Humidity receiver, to retrofit a CTXL-TRH unit
UNIV-AC-100/240-5V	Universal (110/240 Vac, 50/60 Hz) 5 Vdc adaptor, to power CTXL-PT externally
UNIV-AC-100/240	Universal (110/240 Vac, 50/60 Hz) 9 Vdc adaptor
CTXL-CABLE-6	1.8 m (6') sensor extension cable (replacement)
CTXL-CABLE-10	3 m (10') sensor extension cable
CTXL-CABLE-25	7.6 m (25') sensor extension cable
CTXL-CABLE-6-S	3 m (10') sensor extension cable
CT485B-CAL-KIT	RH calibration kit, 33 and 75% RH salt solutions
CAL-3-CTXL†	NIST-traceable calibration
CT485B-MAG	Chart magnetic hub
CT485-PS	Pen set, one each red and blue pens
CT485-PS-6	Six pen sets, six each red and blue pens
CTXL-RP-W-CAL-3	Temperature/humidity sensor probe (white) with CAL-3 certificate
CTXL-RP-G-CAL-3	Temperature/humidity sensor probe (gray) with CAL-3 certificate
CTXL-RP-W	Temperature/Humidity sensor probe (white)
CTXL-RP-G	Temperature/Humidity sensor probe (gray)
CT485B-CLIP-KIT	Sensor clip kit
OM-NOMAD-BATT	3.6V "AA" lithium replacement battery for CTXL-PT wireless transmitter

\* Specify wireless type: "W9" for USA/Canada (915 MHz) or "W8" for Europe (868 MHz). To retrofit a CTXL-TRH recorder with wireless capability, one transmitter (CTXL-PT) and one receiver (CTXL-PR) are required.

Each unit comes complete with sensor probe and clip, 120 assorted double-sided charts, 2 pen sets, 1.8 m (6') remote sensor cable, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal (110/240 Vac, 50/60 Hz) 9 Vdc adaptor, and operator's manual.

Ordering Example: CTXL-TRH-W-W9, white temperature/relative humidity recorder with remote/wireless probe, CT485-CWF, chart paper (100 double sided sheets, 7 day, °F)

# Dual Input Process Recorder

Large 200 mm (8") 2-Sided Chart

Choice of White or Gray to Meet Your Needs!

**MODEL #3  
CTXL-DPR**



Optional

- ✓ Models Available for Voltage or Current Input
- ✓ Voltage Models Selectable for 1, 5 or 10V Inputs
- ✓ Current Models Selectable for 0 to 20 or 4 to 20 mA Inputs
- ✓ ±1% FS Display Accuracy
- ✓ Windows® Based PC Data Logging Software Included
- ✓ Benchtop or Wall Mount with Built-In Chart Lights
- ✓ Data Logging PC Software Included



**PATENTS  
PENDING**

CTXL-DPR recorder, shown smaller than actual size.

The CTXL-DPR is a dual input process recorder, available with either voltage or current inputs. Both input channels are set to the same input range; the voltage input model has selectable ranges of 0 to 1, 0 to 5 and 0 to 10V, while the current model is selectable between 0 to 20 and 4 to 20 mA ranges. Standard charts are scaled for 0 to 100%; the user can also scale the chart paper to show a portion of the full range.

## Specifications

(See Common Specifications on Page S-44)

**Input Types:** Process voltage (DPR-V) or current (DPR-I)

**Input Connection:** mini DIN connector

**Input Ranges:** Both input channels configured to same input range

**CTXL-DPR-V:** 0 to 1V, 0 to 5V or 0 to 10V

**CTXL-DPR-I:** 4 to 20 mA or 0 to 20 mA

**Display Accuracy:** ±1.0%FS

**Standard Chart Scale:** 0 to 100%

**Out of Range Input:** Display will flash. Chart motor will continue to run

**Alarm set point Resolution:** 1%

**Alarm Deadband:** 3%

**Excitation Voltage:** 15Vdc @ 50 mA

To Order			
Model No.	Description	Color	Input
CTXL-DPR-W-V	Dual input process recorder	White	Voltage
CTXL-DPR-G-V	Dual input process recorder	Gray	Voltage
CTXL-DPR-W-I	Dual input process recorder	White	Current
CTXL-DPR-G-I	Dual input process recorder	Gray	Current

## Double-Sided Charts

Model No.	Description
CTXL-DPR-CD	100 charts, 1 day (am/pm), 0 to 100%
CTXL-DPR-CW	100 charts, 7 day, 0 to 100%
CTXL-DPR-CM	100 charts, 32 day, 0 to 100%
CTXL-CSP-P	120 charts, sample pack (one included with unit)

## Accessories

Model No.	Description
CAL-3-CTXL†	NIST-traceable calibration
UNIV-AC-100/240	Universal 9 Vdc adaptor
CTXL-CABLE-6-S	1.8 m (6') analog input extension cable, stripped leads termination
CT485-PS	Pen set, one each red and blue pens
CT485-PS-6	Six pen sets, six each red and blue pens

Each unit comes complete with 120 assorted double-sided charts, 2 pen sets, 1.8 m (6') input cable, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal ac adaptor, and operator's manual.

**Ordering Example:** CTXL-DPR-W-V, white dual voltage input recorder, CTXL-DPR-CW, chart paper (100 double-sided sheets, 7 day, 0 to 100%).

# Dual Input Thermocouple Recorder

**MODEL #4  
CTXL-DTC**



**PATENTS  
PENDING**

**Choice of White  
or Gray to Meet  
Your Needs!**

CTXL-DTC  
recorder,  
shown smaller  
than actual size.

**Large 200 mm  
(8") 2-Sided  
Chart**



- ✓ **User Selectable for J, K or T Type Thermocouple Input**
- ✓ **Universal Thermocouple Connector Compatible with Standard and Miniature Connectors**
- ✓ **Up to  $\pm 1.5^{\circ}\text{C}$  ( $2.7^{\circ}\text{F}$ ) Display Accuracy**
- ✓ **Benchtop or Wall Mount with Built-In Chart Lights**
- ✓ **Data Logging PC Software Included**

The CTXL-DTC is a dual input thermocouple recorder, both input channels are set to the same calibration; the user can select either J, K or T type thermocouple calibration. Input connections are via UST type universal thermocouple connector that is compatible with both standard (type OST) and miniature (type SMP) thermocouple connectors.

The recorder comes with standard chart papers for J, K, and T Type thermocouple inputs. The blank chart paper can be used to re-scale the chart paper within the operating chart scale.

## Specifications

(See Common Specifications on Page S-44)

**Input Types:** Dual J, K, or T thermocouple; user programmable from PC

**Input Connection:** Universal connector, compatible with both standard (type OST) and miniature size (type SMP) thermocouple connectors

### Display Range:

**Type J:** -100 to  $700^{\circ}\text{C}$   
(-148 to  $1292^{\circ}\text{F}$ )

**Type K:** -100 to  $1000^{\circ}\text{C}$   
(-148 to  $1832^{\circ}\text{F}$ )

**Type T:** -100 to  $300^{\circ}\text{C}$   
(-148 to  $572^{\circ}\text{F}$ )

**Display Accuracy:**  
Type K:  $\pm 2^{\circ}\text{C}$  ( $4^{\circ}\text{F}$ )  
Types J and T:  $\pm 1.5^{\circ}\text{C}$  ( $3^{\circ}\text{F}$ )

### Standard Chart Scales:

**Type J:** -40 to  $260^{\circ}\text{C}$   
(-40 to  $500^{\circ}\text{F}$ )

**Type K:** -40 to  $560^{\circ}\text{C}$   
(-40 to  $1040^{\circ}\text{F}$ )

**Type T:** -40 to  $160^{\circ}\text{C}$   
(-40 to  $320^{\circ}\text{F}$ )

**Open Thermocouple Input:** Pens will go to the Home position; display will show "Prb Err". Chart motor will continue to run

**Out of Range Input:**  
Display flashes

**Alarm Set Point Resolution:**  
 $1^{\circ}\text{C}$  or  $^{\circ}\text{F}$

**Alarm Deadband:**  $3^{\circ}\text{C}$  or  $^{\circ}\text{F}$

## To Order

Model No.	Description	Color
CTXL-DTC-W	Dual input thermocouple recorder	White
CTXL-DTC-G	Dual input thermocouple recorder	Gray

## Double-Sided Charts

Model No.	Description
CTXL-DTC-(*)-CD	100 charts, 1 day (am/pm)
CTXL-DTC-(*)-CW	100 charts, 7 day
CTXL-DTC-(*)-CM	100 charts, 32 day
CTXL-CSP-T	120 charts, sample pack (one included with unit)

## Accessories

Model No.	Description
CAL-3-CTXL†	NIST-traceable calibration
UNIV-AC-100/240	Universal 9 Vdc adaptor
CT485-PS	Pen set, one each red and blue pens
CT485-PS-6	Six pen sets, six each red and blue pens

\* Specify chart range: "R1" for  $-40$  to  $560^{\circ}\text{C}$  ( $-40$  to  $1040^{\circ}\text{F}$ ), "R2" for  $-40$  to  $260^{\circ}\text{C}$  ( $-40$  to  $500^{\circ}\text{F}$ ), or "R3" for  $-40$  to  $160^{\circ}\text{C}$  ( $-40$  to  $320^{\circ}\text{F}$ )

Each unit comes complete with two SC-GG-K-30-36-PP thermocouples, 120 assorted double-sided charts, 2 pen sets, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal ac adaptor, and operator's manual.

**Ordering Example:** CTXL-DTC-G, gray dual thermocouple input recorder, CTXL-DTC-R1-CW, chart paper [100 double-sided sheets, 7 day,  $-40$  to  $560^{\circ}\text{F}$  ( $-40$  to  $1040^{\circ}\text{F}$ ) range].

# pH/Temperature Recorder

**MODEL #5  
CTXL-PH**



Optional†

- ✓ Record pH with Automatic Temperature Compensation
- ✓ Standard BNC pH Electrode Connector
- ✓ Pt100 RTD Temperature Sensor ATC
- ✓ Benchtop or Wall Mount with Built-In Chart Lights
- ✓ Data Logging PC Software Included

The CTXL-PH is a high accuracy pH and temperature recorder, compatible with any standard pH electrode. The CTXL-PH also measures temperature from a pH electrode with built-in Pt100 RTD sensor for automatic temperature compensation for pH measurement. Standard charts feature 0 to 12 pH and 0 to 120°C ranges, while the recorder can display 0 to 14 pH and 0 to 100°C on the digital readout. The user can also scale the chart paper to show a portion of the full ranges, ie, from 6 to 8 pH and from 50 to 75°C, for greater resolution.

## Specifications

(See Common Specifications on Page S-44)

### pH Input:

- Connection: BNC connector
- Display Range: 0 to 14 pH
- Chart Scale: 0 to 12 pH
- Accuracy: 0.1 pH, chart and display

### Resolution:

- Chart Paper: 0.1 pH
- Display: 0.01 pH
- Input Impedance:  $10^{12}$   $\Omega$ , typical
- Automatic Temperature Compensation: 0 to 100°C (32 to 212°F)

### Temperature Input

- Input: Pt100 RTD, 0.00385 curve
- Connection: Terminal block
- Display Range: 0 to 100°C (32 to 212°F), chart and display
- Chart Scale: 0 to 120°C
- Accuracy: 1°C, chart and display
- Resolution:
  - Chart Paper: 1°
  - Display: 0.1



Large 200 mm (8") 2-Sided Chart

Choice of White or Gray to Meet Your Needs!

CTXL-PH, pH/temperature recorder, shown smaller than actual size.



pH electrode and buffer solution sold separately.

**PATENTS PENDING**

To Order		
Model No.	Description	Color
CTXL-PH-W	pH/temperature recorder	White
CTXL-PH-G	pH/temperature recorder	Gray

\*\* To form a complete system, add pH electrode (listed in accessories).

### Double-Sided Chart

Model No.	Description
CTPH-CDC	100 charts, 1 day (am/pm), 0 to 12 pH/0 to 120°C
CTPH-CWC	100 charts, 7 day, 0 to 12 pH/0 to 120°C
CTPH-CMC	100 charts, 32 day, 0 to 12 pH/0 to 120°C
CTPH-CSP	120 charts, sample pack (one included with unit)

### Accessories

Model No.	Description
PHE-7352-15-PT100	Heavy-duty pH electrode with Pt100 RTD temperature sensor
PHE-6510	Submersion pH electrode, CPVC (mounting assembly required), visit <a href="http://newportUS.com/phe-6510">newportUS.com/phe-6510</a>
PHE-6511	Submersion pH electrode, PVDF (mounting assembly required), visit <a href="http://newportUS.com/phe-6510">newportUS.com/phe-6510</a>
PHE-1311	General purpose pH electrode
PHA-4	4 pH buffer solution, 475 ml bottle
PHA-7	7 pH buffer solution, 475 ml bottle
PHA-10	10 pH buffer solution, 475 ml bottle
UNIV-AC-100/240	Universal 9 Vdc adaptor
CAL-3-CTXL†	NIST-traceable calibration
CT485-PS	Pen set, one each red and blue pens
CT485-PS-6	Six pen sets, six each red and blue pens

Each unit comes complete with 120 assorted double-sided charts, 2 pen sets, wall mount kit, 4 "D" cell batteries, RS232 cable and adaptor, software CD, universal ac adaptor, temperature compensation resistor and operator's manual.

pH Electrode sold separately.

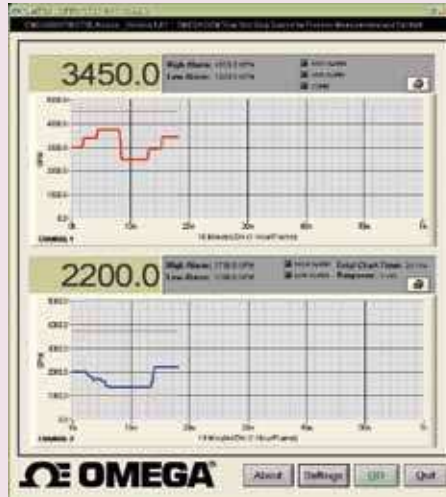
**Ordering Examples:** CTXL-PH-W, white pH/temperature recorder, PHE-6510, submersible pH electrode (CPVC) and PHEH-65-10-PT100, mounting assembly with 100  $\Omega$  Pt RTD automatic temperature compensation. For more information visit [newportUS.com/phe-6510](http://newportUS.com/phe-6510)

## Keypad Buttons

- Clock** – Display Time & Date for 3 seconds
- °C◀▶°F** – Toggle Temperature Units (Temp units)
- Scale** – Sets the Chart Scale for °C or °F (Temp units)
- Speed** – Sets Chart Speed for 1, 7 or 32 Day Operation
- Config** – Enter Configuration Menu
- Set** – Enable/Disable Alarms
- ▲ Yes** – Increase Set Value
- ▼ No** – Decrease Set Value
- Mode** – Display Min, Max, Average; also T1-T2 (thermocouple model)
- Light** – Chart Light and Display Backlight Switch
- White Box** – User Lockout

## Common Specifications

- Display:** Custom, 4-digit, dual LCD with backlight
- Display Sampling Rate:** 2 sec
- Display Modes:** Max, min, avg, T1 – T2
- Chart Response Time:** 0.5, 3.5, 16 min for 1, 7, and 32 days, respectively
- Keypad Response:** 350 ms
- Chart Paper:** 203 mm (8") circular, linear radial divisions, double sided
- Chart Drive:**
  - Type:** Stepper motor
  - Accuracy:** 1% rotation
- Chart Hold-Down:** Magnetic hub
- Pen Drive:**
  - Type:** Stepper motor, linear screw drive
  - Deadband:** 0.5°C or °F and 3% RH
  - Pen Lift:** Automatic on door opening—pens are door mounted and swing clear of the chart when door opens
- Clock:** Time (24 hr clock) and date
- Clock Battery Backup:** Holds clock information for 14 days when main power is removed
- Audible Alarm:** Piezoelectric beeper
- Alarm Outputs:**
  - Relay Contacts:** Two, rated 2 A @ 30 Vdc (high alarm)
  - Voltage Output:** Two, rated 100 mA to drive an external relay (low alarm)
- Operating Ambient:** 0 to 49°C (32 to 120°F); 2 to 98% RH
- Power:** 4 "D" alkaline batteries and ac adaptor (included)
- Battery Life:** 3 months under normal conditions
- AC Adaptor:** 100 to 240 Vac input, 9 Vdc @ 1.7 A output
- Battery Status:** Indicator on LCD; shows 100, 75%



CTXL-DPR PC Application



CTXL-TRH–Temperature/Humidity Local Display



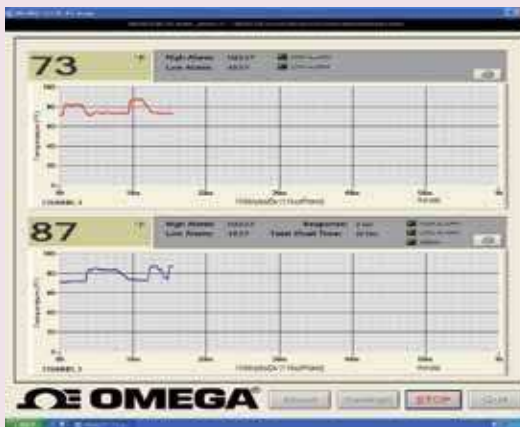
CTXL-DPR–Dual Process Local Display



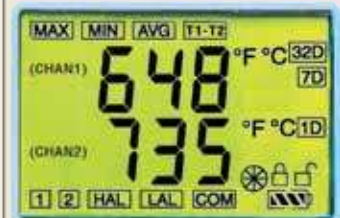
CTXL-PH PC Application



CTXL-PH–pH & RTD Local Display



CTXL-DTC PC Application



CTXL-DTC–Dual Thermocouple Local Display

**Serial PC Communications:** RS232, 2-way, 9600 baud

**Memory:** 256K EEPROM (2.8 chart revolutions worth of data)

**Lock/Unlock (White Box) Key:** Press and hold for 3 seconds to enable/disable; when in lock mode, all keys are inactive except for the power, light, mode, clock and lock/unlock keys

**Mounting:** Keyhole slots for wall mounting; foot cover for bench top use

**Case:** ABS plastic

**Dimensions:** 33.5 H x 27.1 W x 6.7 cm D (13<sup>3</sup>/<sub>16</sub> x 10<sup>1</sup>/<sub>16</sub> x 2<sup>5</sup>/<sub>8</sub>" )

**Weight:** Approx. 3.2 kg (7 lb) with batteries