X SERIES

TCTempX4LCD
TCTempX8LCD

4 and 8-Channel Thermocouple Temperature Data Logger with LCD Screen

*Thermocouple Probes Sold Separately

PRODUCT USER GUIDE

To view the full MadgeTech product line, visit our website at **madgetech.com**.

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MADGETECH
WE BUILD DATA LOGGERS

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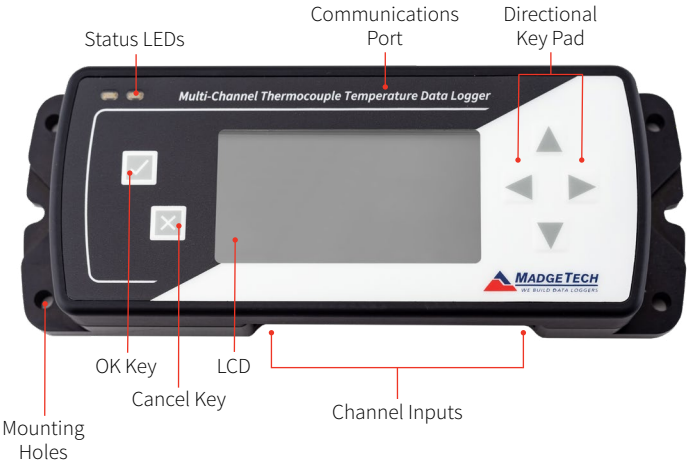
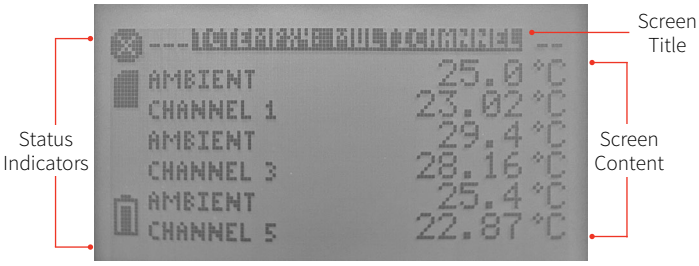
Product Overview

The TCTempX4LCD and TCTempX8LCD are four and eight channel thermocouple data loggers with an LCD screen. The device features on-screen minimum, maximum and average statistics, as well as a user configurable screen that allows for any combination of channels to be displayed. The device accepts J, K, T, E, R, S, B and N type thermocouples.

Display Overview



LCD Screen Overview

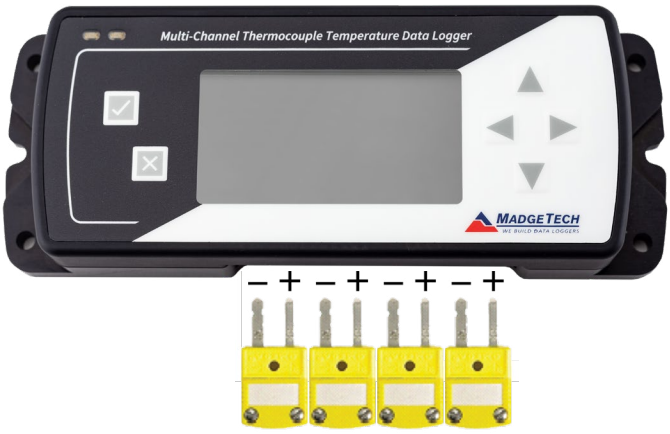


Status Indicators

- Battery Power (Full, Half-full, Empty)
- Memory Remaining (Empty, Half-full, Full)
- Device is running
- Device is stopped
- Delay Start
- Push-button (Manual) Start
- Device reset has occurred
- External power present

Thermocouple Connections

The TCTempX4LCD and TCTempX8LCD Series has 4 or 8 SMP connections. These connections allow the user to insert subminiature thermocouple plugs into the connectors on the device. The diagram below shows how to connect the individual thermocouples for each of the devices.



Warning: *Note the polarity instructions. Do not attach wires to the wrong terminals.*

Thermocouple Channel Numbers

TC5	TC6	TC7	TC8
TC1	TC2	TC3	TC4

Installation Guide

Installing the Software

The Software can be downloaded from the MadgeTech website at **madgetech.com**. Follow the instructions provided in the Installation Wizard.

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Device Operation

Connecting and Starting the Data Logger

1. Once the software is installed and running, plug the supplied USB-A to Micro USB cable into the data logger.
2. Connect the USB-A end of the cable into an open USB port on the computer.
3. The device will appear in the Connected Devices list. Highlight the desired data logger.
4. For most applications, select **Custom Start** from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click **Start**.
   - **Quick Start** applies the most recent custom start options
   - **Batch Start** is used for managing multiple loggers at once
   - **Real Time Start** stores the dataset as it records while connected to the logger
5. The status of the device will change to **Running**, **Waiting to Start** or **Waiting to Manual Start**, depending upon your start method.
6. Disconnect the data logger from the USB cable and place it in the environment to measure.

Note: *The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.*

Thermocouple Type

To change the thermocouple type:

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** Tab, in the Information Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. On the **General** Tab, change the Thermocouple type in the drop down menu.
4. Apply these changes, there will be a prompt to reset the device, select **Yes**.

Please note that the same thermocouple type must be used on all of the channels.

Downloading Data from a Data Logger

1. Connect the logger to the interface cable.
2. Highlight the data logger in the Connected Devices list. Click **Stop** on the menu bar.
3. Once the data logger is stopped, with the logger highlighted, click **Download**. You then can create a report from the saved Dataset.
4. Downloading will offload and save all the recorded data to the PC.

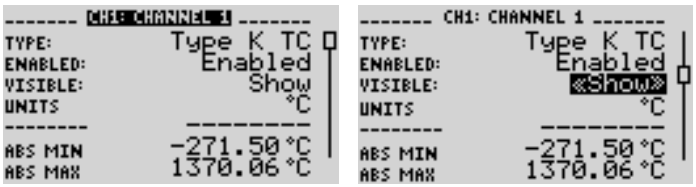
Device Functions

Channel Options

Each of the TCTempX4LCD and TCTempX8LCD's channels have several options that are configurable by the user through the device's display screen menus and the software.

Show or Hide Channels on the Home Screen

The user may choose to either show or hide channels on the home screen.



To change channel visibility from the **Home Screen**:

1. Press ☑ to view first **channel screen**
2. Use ◀ ▶ to view additional channels
3. On desired channel screen use ▲ ▼ to highlight **Visible**
4. Use to choose **Show** or **Hide**
5. Press ☒ to return to the **Home Screen**

—OR—

1. Use ▲ ▼ to highlight desired channel
2. Press ☑ to view channel screen
3. Use ▲ ▼ to highlight Visible
4. Use ◀ ▶ to choose Show or Hide
5. Press ☒ to return to the Home Screen

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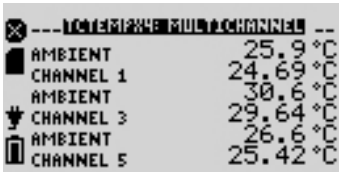
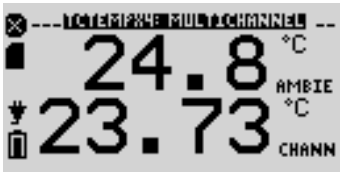
Change Channel Display Size

Channels may be viewed in a number of different sizes. The smallest size allows for an overview of several channels at once, while the largest gives at-a-glance access to one or two channels.



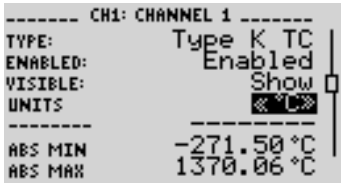


To change channel display size from the **Home Screen**:

1. Press ☒ to enter the **Main Menu**
2. Use ▲▼ to highlight **Setup Menu**
3. Press ☑ to enter the **Setup Menu**
4. Use ▲▼ to highlight **Channel Size**
5. Use ◀▶ to choose the desired channel size
6. Press ☒ once to return to the **Main Menu**
7. Press ☒ again to return to the **Home Screen**

Change Channel Units

Channels can be customized to display readings in a variety of convenient units. Units available for selection will vary according to channel type.



Note: *Changing display units will not affect logged data.*

To change channel display from the **Home Screen**:

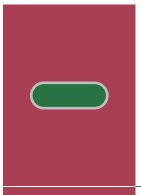
1. Press ☑ to view first **channel screen**
2. Use ◀▶ to view additional channels
3. On desired channel screen use ▲▼ to highlight **Units**
4. Use ◀▶ to choose the desired unit option
5. Press ☒ to return to the **Home Screen**

—OR—

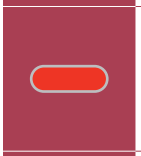
1. Use ▲▼ to highlight desired channel
2. Press ☑ to view **channel screen**
3. Use ▲▼ to highlight **Units**
4. Use ◀▶ to choose the desired unit option
5. Press ☒ to return to the **Home Screen**

Note: *Press ☒ to update all channels.*

LED Functionality



Primary LED (Green):
Flashes every 15 seconds when logging.
Flashes every 5 seconds when in delay start.
Flashes on key press.



Secondary LED (Red):
Flashes every 5 seconds when battery is low.
Flashes every 5 seconds when memory is low.

Channel LED (Blue):
Flashes when taking a reading per channel.

Device Maintenance

Battery Replacement

Materials: 3/32 inch HEX Driver (Allen Key) and a Replacement Battery (U9VL-J)

1. Remove the cover from the device by unscrewing the two screws.
2. Remove the battery from its compartment and unsnap it from the connector.
3. Snap the new battery into the terminals and verify it is secure.
4. Replace the cover taking care not to pinch the wires. Screw the enclosure back together securely.

Note: *Be sure not to over tighten the screws or strip the threads.*

Recalibration

Recalibration is recommended annually. To send devices back for calibration, visit **madgetech.com**.

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Product Support & Troubleshooting:

- Visit our Resources online at **madgetech.com/resources**.
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.

MadgeTech 4 Software Support:

- Refer to the built-in help section of the MadgeTech 4 Software.
- Download the MadgeTech 4 Software Manual at **madgetech.com**.
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.

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