

## Trigger Setting and Cumulative Alarm Delay Instructions

MadgeTech has incorporated the following features into the ETR101A and TC101A data loggers:

- **Trigger Settings:** Applying trigger settings will program the data logger to only record temperatures above or below a certain degree.
- **Cumulative Alarm Delay:** The red LED on the ETR101A or TC101A will blink after data has been recorded for a user specified amount of time.

The first thing you need to do when applying trigger settings is to change the preferences on the thermocouple you are using so that you can get a reading in degrees Celsius or degrees Fahrenheit instead of mV.

1. Select the "View Menu", then "Preferences" from the menu item list located in the top left corner of the MadgeTech software window. Doing so will open up the preferences window.
2. At the top of that Preferences window, there will be 6 tabs: you want to click the "Data" tab (tab 4 from the left). In the middle of the window, there will be a section labeled "Unit Preferences" with two drop down boxes labeled "Select Unit Type" and "Select Preferred Units". This is where you are going to choose your preferred measurement units.
3. In the first box labeled "Select Unit Type" click on the drop down arrow and select "Thermocouple Voltage." This states that you want to change the measurement unit the thermocouple is recording.
4. In the second box labeled "Select Preferred Units" click on the drop down arrow and select either "Degrees C," or "Degrees F", depending on what measurement unit you will be using.
5. Click "OK" in the bottom right hand corner to close the window. This will save the measurement units.

Now that you have the proper measurement unit selected for your thermocouple, you can apply the trigger settings to your logger. This process will clear the readings on the data logger, please make sure that you have downloaded any data that you may need off the device.

1. To do this, have the MadgeTech software open with your ETR101A or TC101A plugged in through the IFC200.
2. Select the "Device" menu then select "Start Device". Click "Yes" to clear all readings and the Start Device window will now be open.

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- a. Note: If you get a message that says "Unable to find an active device", click "OK". Click on the "Communication" menu, then "Autoconfigure Port". This will automatically find the data logger and bring up a message that says "Found a ETR101A or TC101A on [COM Port] (115,200)". Click "OK" to close the prompt and then click "OK" to close the Device Status box. Repeat step #2.
3. On the right side of the box there will be options listed. Click the option that says "Trigger Settings." The Trigger Settings window will now open.
4. At the bottom of this window will be the option to "Change". Click "Change". From here you can enable the high and/or low trigger setting(s).
5. For most diesel exhaust applications, the high trigger setting is typically the most important and should be enabled, however you may enable the low trigger as needed. Enter the value(s) the data logger will start recording at once the temperature has met or exceeded this specified limit.
6. The "Fill Memory on First Trigger" and "Trigger Sample Count" refers to the number of readings the device will take after the trigger has been breached.
  - a. Checking the "Fill Memory on First Trigger" will fill the memory of the data logger, after the first time it has exceeded a trigger. In most applications this box will be left unchecked.
  - b. The trigger sample count is the number of readings the data logger will record after the temperature has exceeded the set trigger(s). For example: If you have a high trigger set at 30°C, and the temperature goes to 31°C the logger will begin recording the number of points that you have filled into the trigger sample count box.
7. Once the settings have been programmed, click "Save" to save the changes. Then click "OK" to close the Trigger Settings box.

To program a cumulative alarm setting so that the red LED on the data logger will blink every second after the device records data for the accumulated, user specified, time period (i.e. a 24 hour period), do the following:

1. From the Start Device window, click the option that says "Alarm settings." That will open the alarm settings window where you can enable the alarm settings.
2. Click "Change" at the bottom of the window and then check the box labeled "Enable Alarm Settings". Now you can set the high and low alarm in each field.

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3. Under the "Cumulative Alarm Delay" box you can set the time duration the device should record for, to trigger the red LED. This can be set in days, hours, minutes, and seconds. (For example: if you want the LED indicator to start blinking 24 hours after a temperature breach, enter 1 days, 0 hours, 0 minutes, and 0 seconds.)
4. Once you have entered in your temperature settings into the required fields, you can click "Save", then "Yes". A box will appear stating the Alarm settings were written successfully. Click "OK". Click "OK" to close the alarm settings box. You will then be back to the "Start Device" window.
5. Select your start method, reading rate, and then start the device.

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