

This paper supplements the *Instruction Manual – 54051 TM10 Thermo-Collector*, IM 54051-E, with explanations about the function newly added to Model 54051, TM10 Thermo-Collector.

■ Change of Specifications (Page 78)

● Features

Measuring range and measurement resolution

External probe input channel (Ach)

Measuring range: $-30 \sim 200^{\circ}\text{C}$ (-22 to 392°F), with a resolution of 0.1 or 1°C (0.1 or 1°F)
(using only the dedicated probe)

Accuracy

Measuring range of $-30 \leq ^{\circ}\text{C} < -20$ is added to the accuracy of the external probe input channel (Ach).

Regarding the conditions, refer to Page 78.

Measuring range	Accuracy
$-30 \leq ^{\circ}\text{C} < -20$ ($-22 \leq ^{\circ}\text{F} < -4$)	$\pm 1.0^{\circ}\text{C}$ (Typical) ($\pm 1.8^{\circ}\text{F}$ (Typical))

■ Change of Measuring Range (Page 81)

● External probe (optional) specifications

Standard needle probe (Model: 900 10) *NOTE

Measuring range: -30 to 200°C (-22 to 392°F)

Range	Accuracy
$-30 \leq ^{\circ}\text{C} < -20$ ($-22 \leq ^{\circ}\text{F} < -4$)	$\pm 1.0^{\circ}\text{C}$ (Typical) ($\pm 1.8^{\circ}\text{F}$ (Typical))
$-20 \leq ^{\circ}\text{C} \leq 0$ ($-4 \leq ^{\circ}\text{F} \leq 32$)	$\pm 0.5^{\circ}\text{C}$ (Typical) ($\pm 0.9^{\circ}\text{F}$ (Typical))
$0 < ^{\circ}\text{C} < 100$ ($32 < ^{\circ}\text{F} < 212$)	$\pm 0.5^{\circ}\text{C}$ ($\pm 0.9^{\circ}\text{F}$)
$100 \leq ^{\circ}\text{C} < 150$ ($212 \leq ^{\circ}\text{F} < 302$)	$\pm 1.0^{\circ}\text{C}$ (Typical) ($\pm 1.8^{\circ}\text{F}$ (Typical))
$150 \leq ^{\circ}\text{C} \leq 200$ ($302 \leq ^{\circ}\text{F} \leq 392$)	$\pm 2.0^{\circ}\text{C}$ (Typical) ($\pm 3.6^{\circ}\text{F}$ (Typical))

High speed needle probe (Model: 900 11) *NOTE

Measuring range: -30 to 200°C (-22 to 392°F)

Range	Accuracy
$-30 \leq ^{\circ}\text{C} < -20$ ($-22 \leq ^{\circ}\text{F} < -4$)	$\pm 2.0^{\circ}\text{C}$ (Typical) ($\pm 3.6^{\circ}\text{F}$ (Typical))
$-20 \leq ^{\circ}\text{C} \leq 150$ ($-22 \leq ^{\circ}\text{F} \leq 302$)	$\pm 1.5^{\circ}\text{C}$ (Typical) ($\pm 2.7^{\circ}\text{F}$ (Typical))
$150 < ^{\circ}\text{C} \leq 200$ ($302 < ^{\circ}\text{F} \leq 392$)	$\pm 2.5^{\circ}\text{C}$ (Typical) ($\pm 4.5^{\circ}\text{F}$ (Typical))

Surface probe (Model: 900 12) *NOTE

Measuring range: -30 to 200°C (-22 to 392°F)

Range	Accuracy
$-30 \leq ^{\circ}\text{C} < -20$ ($-22 \leq ^{\circ}\text{F} < -4$)	$\pm 2.0^{\circ}\text{C}$ (Typical) ($\pm 3.6^{\circ}\text{F}$ (Typical))
$-20 \leq ^{\circ}\text{C} \leq 150$ ($-22 \leq ^{\circ}\text{F} \leq 302$)	$\pm 1.5^{\circ}\text{C}$ (Typical) ($\pm 2.7^{\circ}\text{F}$ (Typical))
$150 < ^{\circ}\text{C} \leq 200$ ($302 < ^{\circ}\text{F} \leq 392$)	$\pm 2.5^{\circ}\text{C}$ (Typical) ($\pm 4.5^{\circ}\text{F}$ (Typical))

Rounded end probe (Model: 900 13) *NOTE

Measuring range: -30 to 200°C (-22 to 392°F)

Range	Accuracy
$-30 \leq ^{\circ}\text{C} < -20$ ($-22 \leq ^{\circ}\text{F} < -4$)	$\pm 1.0^{\circ}\text{C}$ (Typical) ($\pm 1.8^{\circ}\text{F}$ (Typical))
$-20 \leq ^{\circ}\text{C} \leq 0$ ($-4 \leq ^{\circ}\text{F} \leq 32$)	$\pm 0.5^{\circ}\text{C}$ (Typical) ($\pm 0.9^{\circ}\text{F}$ (Typical))
$0 < ^{\circ}\text{C} < 100$ ($32 < ^{\circ}\text{F} < 212$)	$\pm 0.5^{\circ}\text{C}$ ($\pm 0.9^{\circ}\text{F}$)
$100 \leq ^{\circ}\text{C} < 150$ ($212 \leq ^{\circ}\text{F} < 302$)	$\pm 1.0^{\circ}\text{C}$ (Typical) ($\pm 1.8^{\circ}\text{F}$ (Typical))
$150 \leq ^{\circ}\text{C} \leq 200$ ($302 \leq ^{\circ}\text{F} \leq 392$)	$\pm 2.0^{\circ}\text{C}$ (Typical) ($\pm 3.6^{\circ}\text{F}$ (Typical))

*NOTE: The external probe assumes the condition where it is dipped in the liquid being mixed to a half dimension of the temperature measurement section.

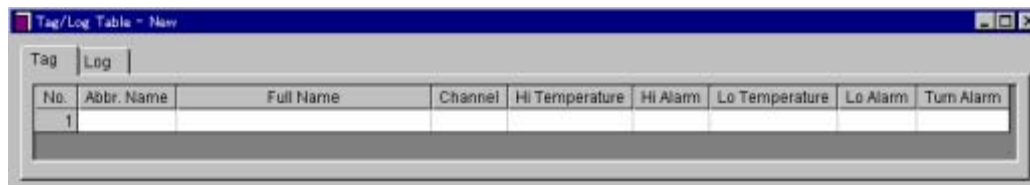
■ Added Function 1

This “Added Function 1” is a function for the application. Read the following explanation with that in “4.3 Setups required to use the collector function” (p.35) and “4.4 Setups required to use the logging function” (p. 40) in the instruction manual.

Tag and log settings can be selected from a list of the settings you have made for loading and set up in the TM10 Thermo-Collector.

1. Creating a New File of Tag and Log Settings


From the **File** menu, choose **Tag/Log Table**, then **New**. A document window titled "Tag/Log Table", as shown below, then opens.

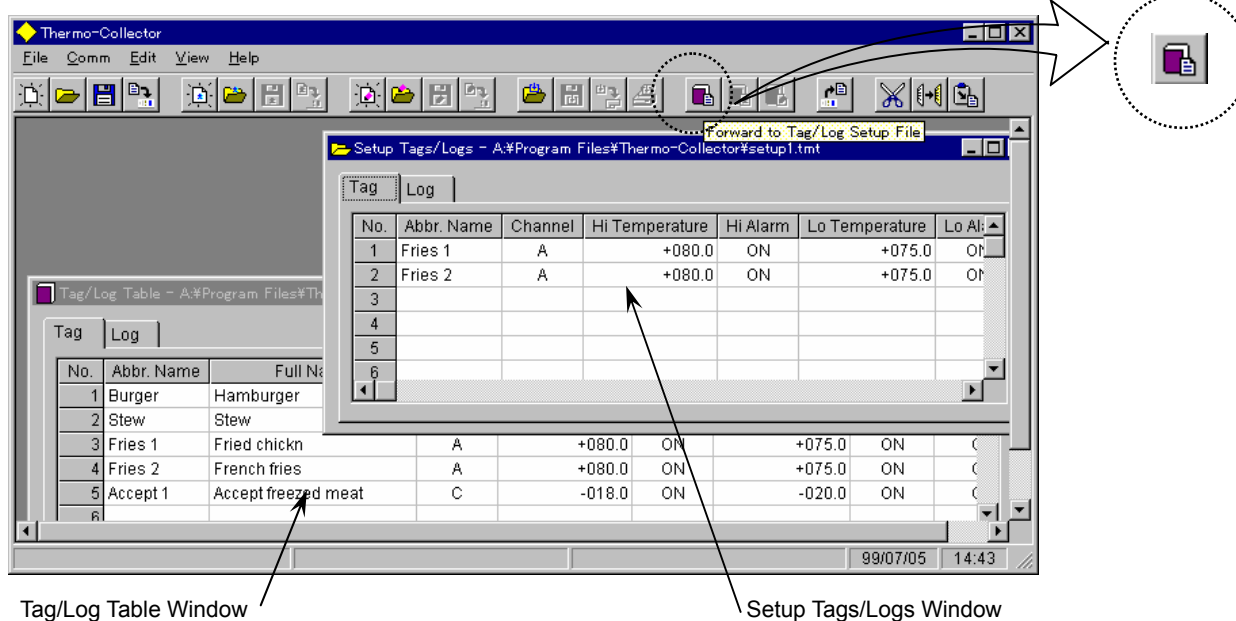


Enter a value in each cell in the same way as in the standard Setup Tags/Logs window (a document window in the Thermo-Collector). Rows can be inserted and added using the commands in the shortcut menu, which opens by a right-click or by using the keystrokes Ctrl+I and Ctrl+R.

2. Selecting the Setup Data to Be Loaded to TM10 Main Unit

In the Tag/Log Table window, double-click the name of the tag or log whose setting is to be loaded to the TM10 main unit. The row of the selected tag or log setting then appears highlighted in yellow. To clear the selection, double-click it again.

After selecting the row of a particular tag or log setting, click , and the selected setting will be copied to the Setup Tags/Logs window. Note that, the abbreviated name, not the full name, is copied as the name.



3. Saving the File of Tag and Log Settings

To save the settings you made in the Tag/Log Table window, click **File** and choose **Tag/Log Table** then **Save As**.

4. Automatic Replacement of Tag and Log Names with Full Names

Instead of the abbreviated tag and log names, the longer, more descriptive (full) tag and log names set in the tag and log setting list can be stored along with measured data to an Excel worksheet file.

When importing a batch of measured data from the TM10 main unit into an Excel worksheet file, Thermo-Collector searches through the **Abbr. Name** column in the specified file of tag and log settings for names that match the tag or log names of the received data. If it is found, Thermo-Collector fetches the full name corresponding to the abbreviated name from the list, and stores that full name in the Excel worksheet file instead of the abbreviated name.

To enable this automatic replacement, choose **Tag/Log Table** then **Select Reference Table** from the **File** menu. Then, select the reference list file in the dialog box that appears consequently. Once the reference list file is selected, its filename will be displayed in the leftmost section of the status bar in the Thermo-Collector window.

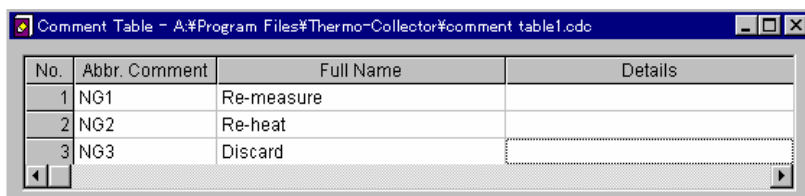
■ Added Function 2

This “Added Function 2” is a function for the application and for the operation in the main unit. Read the following explanation with that in “4.3 Setups required to use the collector function” (p.35), “4.4 Setups required to use the logging function” (p. 40) and “Temperature Measurement” part (p.56) in the instruction manual.

Comments for recording in the TM10 can be set. A comment from up to 32 previously set comments can be stored in the memory of the TM10 together with each measured value. For example, setting a comment describing the action required when the result of measurement is no good, such as "Re-measure" or "Discard," informs the user of the consequently performed process.


1. Setting Comments

From the **File** menu, choose **Comment Table**, then **New**. A document window titled "Comment Table", as shown below, then opens.



Enter comments. Abbreviated comments can be up to eight characters long.

Open the Setup Comments window (a document window) by choosing **Setup Comments** then **New** from the **File** menu. In the Comment Table window, select the comment to be set in the TM10 main unit by

double-clicking it, and then click . The selected comment is then copied to the Setup Comments window. Note that, the abbreviated comment, not the full comment, is copied as the comment.

2. Loading Comments to TM10 Main Unit

To load the comments thus set, click . The comments loaded in the TM10 main unit can be viewed and modified by pressing the FUNC, 0, and then 2 keys.

3. Storing Comments from TM10 Main Unit

When a tag name is shown on the LCD display of the TM10 main unit (namely, when pressing the MEMORY key on the TM10 would store the measured value to memory), press the 4 key. A set comment is then displayed. Pressing the ▲ and ▼ keys calls up the set comments in order. Call up the desired comment and press the SET key. Doing so will store the comment to memory together with the measured value.

4. Saving the File of Comments

To save the comments you set in the Comment Table window, click **File** and choose **Comment Table** then **Save As**.

5. Automatic Replacement of Comments with Full Comments

Instead of the abbreviated comments, the longer, more descriptive (full) comments set in comment lists can be stored with measured data to Excel worksheet files.

When importing a batch of measured data from the TM10 main unit into an Excel worksheet file, Thermo-Collector searches through the **Abbr. Comment** column in the specified file of a comment list for those that match the comments in the received data. If it is found, Thermo-Collector fetches the full comment corresponding to the abbreviated comment from the list, and stores that full comment in the Excel worksheet file instead of the abbreviated comment.

To enable this automatic replacement, choose **Comment Table** then **Select Reference Table** from the **File** menu. Then, select the reference list file in a dialog box that appears consequently. Once the reference comment list file is selected, its filename will be displayed in the section third from the left on the status bar of the Thermo-Collector window.

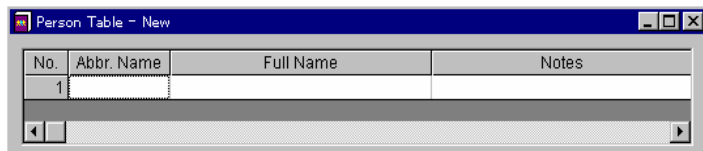
■ Added Function 3

This “Added Function 3” is a function for the application. Read the following explanation with that in “4.3 Setups required to use the collector function” (p.35) and “4.4 Setups required to use the logging function” (p. 40) in the instruction manual.

Person settings can be selected from a list of the settings you have made for loading and set up in the TM10 Thermo-Collector.

1. Creating a New File of Person Settings


From the **File** menu, choose **Person Table**, then **New**. A document window titled "Person Table," as shown below, then opens.

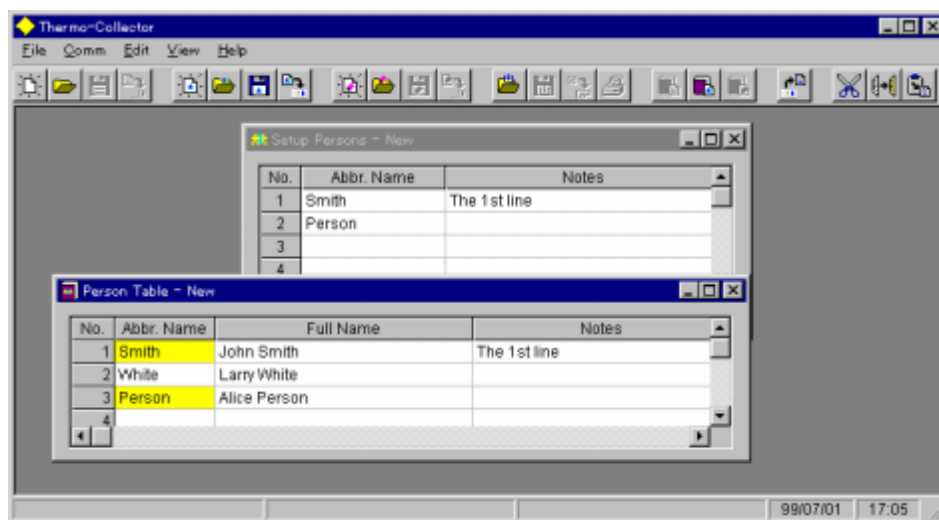


Enter a value in each cell in the same way as in the standard Setup Persons window (a document window). Rows can be inserted and added using commands on the shortcut menu, which opens by a right-click or by using the keystrokes Ctrl+I and Ctrl+R.

2. Selecting the Person Setting to Be Loaded to TM10 Main Unit

In the Person Table window, double-click the person setting to be loaded to the TM10 main unit. The row of the selected person setting then appears highlighted in yellow. To clear the selection, double-click it again.

After selecting a person setting, click , and the selected setting will be copied to the Setup Persons window. Note that the abbreviated name, not the full name, is copied as the person name.



3. Saving the File of Person Settings

To save the file of person settings, click **File** and choose **Tag/Log Table** then **Save As**.

4. Automatic Replacement of Person Names with Full Person Names

Instead of abbreviated person names, the full person names set in the person setting list can be stored along with measured data to an Excel worksheet file.

When receiving a batch of measured data from the TM10 main unit to an Excel worksheet file, Thermo-Collector searches through the **Abbr. Name** column in the specified file of a person setting list, and find same name as each person name contained in the received data. If it is found, Thermo-Collector fetches the full name corresponding to the abbreviated name from the list, and stores that full name in the Excel worksheet file, instead of the abbreviated name.

To enable this automatic replacement, choose **Person Table** then **Select Reference Table** from the **File** menu. Then, select the reference list file in a dialog box that appears consequently. Once the reference list file is selected, its filename will be displayed in the section second from left on the status bar of the Thermo-Collector window.