

## 3M™ Temperature Logger TL30 and PC Software

**Intended Use:** The 3M™ Temperature Logger TL30 is designed to monitor and record the environmental conditions of temperature-sensitive goods in transit and in storage.

- If this product is used with food, make sure to completely seal this product in a plastic bag designed for direct contact with food. Do not allow this product to make direct contact with food.
- Do not use this product for any medical diagnosis.
- Use this product for only purposes recommended by 3M.

### **Information on Safety Indications:**



**WARNING:**

Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.



**CAUTION:**

Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or property damage.



This is a safety alert symbol that is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



**Caution:**

Contains a lithium battery.



**Caution:**

Do not incinerate.



**Warning:**

Read accompanying documentation.



**WARNING:**

- **To reduce risks associated with fire, explosion, and/or food contamination:**
  - Read, understand, and follow the safety information contained in all accompanying documentation.
  - Do not use this product for purposes other than those stated in the intended use statement.
  - Do not use this product in potentially flammable or explosive environments.
- **To reduce risks associated with food contamination:**
  - Do not use this product with damaged or unsealed bags.
  - Do not use the collected data if there are reasons to believe that device failure or misuse has occurred.
  - Provide appropriate instructions and training to all personnel who operate the temperature logger or collect data from it.



**WARNING:**

**To reduce risks associated with fire, explosion, and/or food or ground water contamination:**

- Always dispose of this product in a manner consistent with local, regional, and national regulations.
- Lithium battery enclosed. Do not incinerate.

**United States of America:**

### **FCC and I.C. Information:**

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **Canada:**

- This Class B digital apparatus complies with Canadian ICES-003.
- Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### **European Union:**

This device complies with EN standard 12830:1999 (Temperature Recorders for Chilled and Frozen Foods):

- From -40°C to +70 °C – Class: ‘1’
- ‘S’ (storage) and ‘T’ (transport)
- Environment: ‘C’ and ‘D’

Must be sealed in a supplied bag when used in food industry

### **EMC Directive conformance statement:**

This product conforms with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. This product has been tested and found to comply with the limits for Class B Equipment according to CISPR 22 / European Standard EN 55022 and CISPR 24 /European Standards EN 61000-4-3, EN 61000-4-2 on Immunity.



**This device is compliant with the EU Directive 2002/95/EC – RoHS (Restriction of the use of certain hazardous substances in electrical and electronic equipment).** “RoHS compliant” means that the product or part does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s knowledge and belief based on information provided by third party suppliers to 3M.

### **Computer System Requirements:**

Hardware: IBM® compatible Pentium® PC or higher.

Software: Windows® 7 / Windows Vista® / Windows® XP / Windows® 2000 with 64MB RAM Free, 256 color monitor XVGA (resolution 1024x768) with 30 MB free space, CD-ROM drive and USB Port 1.1 and 2.0 compatibility, USB mini B USB cable.

Store the 3M™ Temperature Logger TL30 products prior to use in a clean, dry environment in non-condensing conditions between 2°C (35°F) and 32°C (90°F).

## **3M™ Temperature Logger TL30 Quick Startup User Instructions**

### **I. PC Software**

#### **a) Installation**

1. Open the Setup file.
2. Select a PC Software language during installation.

#### **b) Using PC Software**

1. Select the [Setup] tab to configure the 3M TL30:
  - 1) Set Data Logging Frequency in minutes. The maximum number of recording days will automatically appear in the lower line.
  - 2) Set the maximum duration in the range of one day to the maximum days allowed. NOTE: The setting for the LED option in the Advanced Settings will also affect the total number of days allowed. If you choose the “Continuous LED Flashing” setting then the total number of days that the TL 30 will capture will be reduced because it factors in battery life. To get the maximum number of days allowed, select the “No LED Flashing option”.
  - 3) Set the temperature unit as degrees Celsius (°C) or degrees Fahrenheit (°F).
  - 4) Set the Upper and Lower Temperature Limits (-40°C to 70°C/-40°F to 158°F).
2. Advanced configuration:
  - 1) Set the Startup option: Automatic + Manual /Manual.
    - a. Manual Startup: Press the [Start/Stop] button on the 3M TL30 for three seconds and the green LED will flash six times to confirm the activation. If Manual Delay Time has been set, the 3M TL30 will start logging temperatures when it reaches the time.
    - b. Automatic+Manual Startup: Press the [Configure Logger] button in PC Software. If the Automatic Delay Time has been set, the 3M TL30 will automatically start logging temperatures when it reaches the time. You can also press the [Start/Stop] button to start the 3M TL30 manually with the Manual Delay Time applied.
    - c. Set the Manual Delay Time in the range of 0 to 240 minutes (4 hours).
    - d. The 3M TL30 will automatically start logging temperatures when it reaches the time. To make this happen, you need to push the [Start/Stop] button on the 3M TL30 to initiate the delay.
    - e. Set the Automatic Delay Time up to 7 days.
    - f. The 3M TL30 will automatically start logging temperatures when it reaches the time.
  - 2) Set the Stop option: Automatic /Automatic+Manual.
    - a. Automatic Stop: The 3M TL30 will automatically stop logging temperatures when it reaches the number of the recording days in the [Setup] tab.


- b. Automatic/Manual Stop: The 3M TL30 will automatically stop logging temperatures when it reaches the number of the recording days in the [Setup] tab. You can also manually stop the 3M TL30 by pressing the [Start/Stop] button on the 3M TL30 for more than three seconds. The red LED will flash six times.
- 3) Set the LED Flashing option during temperature measurement (automatic blinking feature).
    - a. Select from the following options:
      - No LED flashing
      - Real-time LED flashing: The red LED flashes at 20-second intervals when the temperature exceeds the lower or upper limit preset in the [Setup] tab. It stops flashing when the temperature returns within the preset limits.
        - Continuous LED flashing: a) The green LED flashes at one-second intervals when all data points are within the temperature limits. b) The red LED flashes at 20-second intervals when one or more data points exceed the temperature limits.


Note: The use of Real-time LED flashing or Continuous LED flashing may significantly reduce battery life. We recommend using No LED flashing for continuous monitoring longer than two weeks.
  - 4) Set the Password Setting option.
    - a. A password is optional. PC Software requires no password by default. If a password is required during reuse, you will be asked to input one.
    - b. A password should consist of 6 to 12 English alphabet letters and/or numeric digits.
    - c. Once you set the password, there is no way to override the device if you forget the password, so you need to make sure it is saved in a secure location.
  - 5) Provide shipper information (picture and comments).
    - a. Picture: This will allow you to customize your 3M TL30 using a corporate logo. The picture is limited to 8K bytes (approximately 100 × 100 pixels) in its file size and should be in the JPEG format. You may have to resize your picture to meet the requirements.
    - b. Comments: The window for shipper information is limited to 200 letters. Comments are stored to the 3M TL30 when the configuration is loaded to it. The comments are automatically included in the report.

## II. Operation

### a) Loading the configuration at the sender site

1. Use the accompanying USB cable to connect the 3M TL30 to your PC.
2. Press the [Configure Logger] button to upload the configuration data into the 3M TL30 and start the automatic logging operation. When a successful upload is confirmed, an “Have Configuration” indication will appear at your screen.
3. You can save the configuration under an appropriate name for future use by selecting [File → Save Setting].

 **CAUTION:** If the 3M TL30 is used with food, make sure to seal the 3M TL30 in a plastic bag designed for direct contact with food.

 **CAUTION:** Repeatedly using the 3M TL30 under sharp temperature changes or operating it out of the specified temperature range will result in recording of abnormal values, a failure in the logger, or reduced battery life.

### b) Checking proper operation of the 3M TL30

Press the [Check] button on the 3M TL30 to determine that:

- **The 3M TL30 is not running (no LEDs are turned on);**
- **The 3M TL30 is running and one or more data points exceed the temperature limits (the red LED is turned on); or**
- **The 3M TL30 is running and all data points are within the temperature limits (the green LED is turned on).**

**c) Downloading the time/temperature data at the receiver site**

1. Open PC Software.
2. Use the USB interface cable to connect the 3M TL30 to your PC.
3. Press the [Read data from Logger] button in PC Software.
4. The [Graphic] tab of PC Software will automatically appear along with all the recorded data points.
  - You can see the actual data of a specific point in the upper-right small window by clicking on the point in the graphic image.
  - You can zoom in by selecting a specific area in the graphic image.
5. Select the [Data table] tab to see the list of all the recorded temperature/time data.
6. Select the [Summary] tab to view a data summary.
7. Select the [Report] tab to create a report in a desirable format.
8. To save downloaded data, select [File → Save Data Table].

**d) Reading a data table**

1. Select [File → Load Data Table] to read saved data.
2. Open a saved file and the data will appear in PC Software.

**e) Reconfiguring the 3M TL30**

1. Select [File → New Configuration] in PC Software.
2. Follow the instructions in “a) Loading the configuration at the sender site.”

\* For more information, call the 3M Customer Call Center.

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