

3M™ Temperature Logger TL Series and PC Software

Intended Use: The 3M™ Temperature Loggers are intended to be used for the monitoring and recording of environmental temperatures during storage and transport of temperature sensitive goods:

- For food use it must be used only when fully sealed in a container approved for direct food contact. The device itself should not be placed in direct contact with food.
- It is not intended for any medical diagnostic use.
- Any other use of this product not recommended by 3M constitutes misuse.

Safety Information Explanation of Warning Symbols:



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 the safety alert symbol. It 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 Lithium Battery.



Caution: Do Not Incinerate.



Warning: Read Accompanying Documentation.

! WARNING:

- **To reduce the risk 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 that stated in the intended use statement.
 - Do not use this product in potentially flammable / explosive environments.
- **To reduce the risk associated with food contamination:**
 - Do not use with damaged or unsealed bag.
 - 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 operating and collecting data from the temperature logger.

! CAUTION: To reduce the risk 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 for 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 into 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 +30°C to +60°C: Class '2'
- From -20°C to +30°C : Class '1'
- 'S' (storage) and 'T' (transport)
- Environment; 'C' and 'D'

Must be sealed in supplied bag when used in food industry

- **EMC Directive conformance statement:**

This product is in conformity 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™ 2000 or XP with 64MB RAM, 256 VGA color monitor with 30 MB free space, CD-ROM drive and a USB port.

Storage: Store the 3M™ Temperature Logger TL20 products prior to use in a clean, dry environment in non-condensing conditions between 2°C (35°F) and 32°C (90°F).

Product Use: All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M’s control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user’s knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user’s method of application. This product is not intended for any medical diagnostic use. Any use of this product that is inconsistent with the intended use statement is not recommended by 3M.

Warranty and Limited Remedy: Unless stated otherwise in 3M’s product literature, packaging inserts or product packaging for individual products, 3M warrants that each 3M product meets the applicable specifications at the time 3M ships the product. Individual products may have additional or different warranties as stated on product literature, package inserts or product packages. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user’s application. If the 3M product is defective within the warranty period, your exclusive remedy and 3M’s and seller’s sole obligation will be, at 3M’s option, to replace the product or refund the purchase price.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

Product manufactured in China for 3M.

3M™ Temperature Logger TL20 - Quick Start Up User Instructions

I. PC Software

A) Installation (*):

1. Install PC Software.
2. Set PC Software language during installation.
3. Consider the option to set an Administrator Password to allow overriding individual user passwords in each 3M TL20 when appropriate.

B) Using the PC software (*):

1. **Select the [Setup] tab** to set the parameters in the 3M TL20 suitable for the specific shipment of temperature sensitive goods:
 - 1) Set Data Logging Frequency in minutes. The maximum number of recording days will automatically appear in the lower line.
 - 2) Set maximum duration from one day to the maximum allowed.
 - 3) Set temperature unit in degrees Celsius (°C) or degrees Fahrenheit (°F).
 - 4) Set the Upper and Lower Temperature Limits (-20°C to 60°C / -4°F to 140°F).
2. **Advance Configuration** [Chose from toolbar: Setup → Advance Configuration]:
 - 1) Set Start Up options: **Manual or Automatic/Manual.**
 - a. Manual Start Up: Press the Red [Start/Stop] button for three seconds, green LED will flash six times to confirm the activation. The 3M TL20 will start logging temperature when it reaches the Manual Delay time if it is set previously.
 - b. Automatic/Manual Start Up: The 3M TL20 will start logging temperature automatically after pressing the [Load Configuration] button on the PC Software and reach the Automatic Delay time if it is set previously. For this option, user can also start the logger manually and in this way override the Automatic time set previously. Also in this case, the manual delay will be applied if selected.
 - c. Set Manual Delay before starting the 3M TL20: from 0 to 240 minutes (4 hours).
 - d. The 3M TL20 will start logging temperature automatically after it has reached Manual Delay time set previously. This will requires the user to push [Start/Stop] button on the 3M TL20 to initiate the delay.
 - e. Set Automatic Delay before starting the 3M TL20: from 0 to 168 hrs (7 days).
 - f. The 3M TL20 will start logging temperature automatically when it reaches the Automatic Delay time set previously.
 - g. Set Stop options to terminate the temperature recording: Automatic or Automatic/Manual.
 - h. Automatic Stop: The 3M TL20 will stop logging temperature automatically when it reaches the pre-set time in section (I.B.1.b.).
 - i. Automatic / Manual Stop: 3M TL20 will stop logging temperature automatically when it reaches the pre-set time in section (I.B.1.b.) or it can be manually stopped at any time by pressing the Red [Start/Stop] button for three seconds or longer. Red LED will flash six times.
 - 2) Set **LED Flashing Option** during temperature measurement (Auto blinking features):
 - a. Option 1: No LED flashing.
 - b. Option 2: Real time red LED flashing (in 20 seconds interval) only during the period of time when the temperature is actually out of the preset limits. No flashing when the temperature returns within the pre-set limits.
 - c. Option 3: Continuous LED flashing. a) Green LED flashing (in one minute intervals) if all the data are within range. b) Red LED flashing (in 20 second intervals) if at least one data point is out of range.
 - d. PLEASE NOTE: The use of option 2 and 3 of LED lights flashing can significantly reduce battery life. It is recommended to use option 1 (no flashing) for applications of continuous monitoring longer than four weeks.
 - 3) Set **Password Setting Options** (User Password).
 - a. Password is optional; default configuration on PC software requires no password. If any password is required during reuse, the 3M TL20 will remind user to input.
 - b. Each password ranges between 6–12 characters and consists of English alphabet and numeric digits only.
 - c. Complete Shipper Information (Picture and Comments).
 - 4) **Picture**: this will allow users to customize their 3M TL20 with a corporate logo. The picture is limited to 8K bytes in file size (about 100 x 100 pixels) and in JPEG format; user must resize it to fulfill this requirement.
 - 5) **Comments**: window for shipper information is limited to 200 characters. Comments are stored to the 3M TL20 when loading configuration to it. Comments are included automatically in the report.

C) Default Settings: Software is pre-set with the following values:


1. Data Logging Frequency: 15 minutes
2. Duration: 75 days
3. Temperature unit in degrees Celsius (°C)
4. Upper Limit: 8°C / Lower Limit: 2°C
 - 1) **Advance Configuration:**
 - a. Start Up options: Manual
 - b. Manual Delay: 60 minutes
 - c. Automatic Delay: 0 hour
 - d. Stop options: Automatic/Manual
 - e. LED Option: No LED flashing
 - f. Password Setting: No password (Admin and User)

II. Operation

A) **Sender Site**

Initial set up process of the 3M™ Temperature Logger TL20 at the sender site:

1. Connect the 3M TL20 to your PC with the USB interface cable provided.
2. After the 3M TL20 is connected to the PC, press [WAKE-UP] button to activate it. Both LEDs will flash simultaneously for 3 seconds (6 times). The 3M TL20 has to be activated by pressing the [WAKE-UP] button before transferring any information between the PC and 3M TL20. The 3M TL20 stays awake for approximately 5 minutes. User must press the [WAKE-UP] button again if transfer of any information between 3M TL20 to the PC or vice versa is required.
3. Press [Load Configuration] button to upload the setting data into the 3M TL20 to start the logging operation. When confirming a successful upload, an “OK” indication will appear at the bottom left side of your screen.
4. The setting configuration can be saved with the appropriate name for further use [File→ Save Setting].

 : If the 3M TL20 will be placed in direct food contact, it must be inserted and sealed in the supplied food-grade plastic bag.

B) **How to check if the 3M TL20 is operating properly:**

By pressing the [CHECK] button of the 3M TL20, you can determine the following:

1. **No lights** means it is not running.
2. **Red light** means the 3M TL20 is running and at least one data point is outside the preset limits.
3. **Green light** means the 3M TL20 is running and all the data points are inside the preset limits.

C) **Receiver Site**

1. **Downloading the time / temperature data at the receiver site:**

- 1) Open the PC Software.
- 2) Connect the 3M TL20 to your PC with the USB interface cable provided.
- 3) Press [WAKE-UP] button to activate the 3M TL20. Both LED's will flash simultaneously for 3 seconds (6 times).
- 4) Press [Read Data from the 3M TL20] button in the PC Software.
- 5) The [Graphic] tab in the PC software will appear automatically with all the recorded data points.
- 6) The actual data of a specific point can be seen in the small window by clicking over that point in the graphic image.
- 7) You can Zoom In by selecting a specific area in the graphic image.
- 8) Press the [Data table] tab to see the spreadsheet table containing all the recorded temperature/ time data.
- 9) Select the [Summary] tab to view a summary table containing all the main data statistics.
- 10) Select the [Report] tab to view the report window and select parameters for standard or customer report.
- 11) To save downloaded data, press [File→ Save Data Table].

2. **Reading saved data:**

- 1) Reading through 3M TL20 software: [File→ Load Data Table].
- 2) Open a saved file and an Excel spreadsheet will open automatically with the data saved. This is a read-only encrypted file.

3. **To reuse the 3M TL20:**

- 1) Press [File→ New configuration] in the PC software.
- 2) Press [WAKE-UP] button in 3M TL20.
- 3) Set new parameters or load saved settings [File→ Load Setting] and go to A) **Sender Site: Initial set up process.**

* For additional information, please read the Operation Manual in the PC software or call the 3M Help Line.

PLEASE NOTE: technical, compliance and user instruction information in English is included in the 3M™ Temperature Logger TL20 Version 4.0 Installation Software and is downloadable as a PDF file in the following website: www.3m.com/temperaturelogger

ATTENZIONE: tutte le informazioni tecniche, avvertenze e istruzioni d'uso in italiano sono contenute nel software di installazione 3M TL20 Versione 4.0 e sono inoltre consultabili e scaricabili nel formato PDF dal sito internet: www.3m.com/temperaturelogger

ATENCION: Toda la información técnica, advertencias e instrucciones de uso en Español están incluidas en el software de instalación del 3M TL20 Versión 4.0 y son descargables en formato PDF desde el sitio web: www.3m.com/temperaturelogger

VEUILLEZ NOTER: Tous les renseignements relatifs aux données techniques, directives d'utilisation et à la conformité sont énoncés en français dans le logiciel d'installation version 4.0 de l'appareil de série TL20 et peuvent être téléchargés comme fichiers PDF à partir du site Web suivant : www.3m.com/temperaturelogger

ACHTUNG: Die 3M™ Temperaturlogger TL20 Version 4.0 Installationssoftware enthält Informationen zu Technik, Erfüllungs- und Benutzeranweisungen in englischer Sprache. Diese stehen als PDF-Datei auf der folgenden Webseite zum Download zur Verfügung: www.3m.com/temperaturelogger

VENNLIGST MERK: informasjon på engelsk angående brukeranvisning, teknisk data og gjeldende overensstemmelser inkluderes i 3M™ Temperaturlogger TL20 Versjon 4.0 installasjonsprogramvare, og kan nedlastes som en PDF-fil fra følgende nettsted: www.3m.com/temperaturelogger

请注意：3M™温度记录仪TL20系列-
安装软件（版本4.0）中，有相关的技术资料、法规标准符合情况和用户使用指南（英文）；这些资料的PDF文件可从下列网站下载：
www.3m.com/temperaturelogger

ご注意: 英語で記された、技術的、順守についておよび取扱説明書の各情報は、
3M™ 温度ロガー TL20 バージョン 4.0 I インストール
ソフトウェアに含まれており、次のウェブサイト、www.3m.com/temperaturelogger
から、PDF ファイルとしてダウンロードできます。