TagTemp-USB

TEMPERATURE LOGGER – INSTRUCTIONS V 1.0x C

1 INTRODUCTION

TagTemp-USB is a small portable electronic temperature logger. Its internal sensor measures local environment temperature and logs such values in an electronic memory. Logged data, or ACQUISITIONS, can be later viewed and analyzed on a PC where they can be opened in tabular and graph forms.

The **LogChart II** software enables to set up the equipment operation mode. It is also used for viewing acquisitions. Other parameters such as end of measurements, logging interval, etc., are easily defined through the **LogChart II** software.

Acquisitions can also be exported to be analyzed in other applications, such as spreadsheet programs.

1.1 IDENTIFICATION

The identification label is on the equipment body. Check if the features described are in accordance with your order.

Fig. 01 – Front view of the device

Status indicator: This visual indicator reports the status of operation of equipment through the number of flashes that occur in an interval of **five** seconds. The states of operation are:

- **One flash**: The device is waiting to start the log in memory (standby) or completed a series of logs in memory;
- **Two flashes**: the device is performing logs in memory;
- **Three flashes**: the device is or has gone through an alarm condition and is not performing logs in memory;
- **Four flashes**: the device is or has gone through an alarm condition and is performing logs in memory.

2 TECHNICAL DATA

Measure Range	Temperature: –20.0 °C to 70.0 °C.
Accuracy	± 0.5 °C @ 25 ºC. ± 1 °C max. along the entire measured range. **Note**: A measure error can be fixed using the **OFFSET** parameter in the **LogChart II** software.
Measurement Resolutions	Temperature: 0.1 °C.
Memory capacity	32.000 (32 k) logs.
Measurement Interval	5 seconds min. 18 hours max.
Supply	3.0 V lithium battery (CR2032), built-in
Estimated battery autonomy	• More than 400 days – Sampling rate of 1 minute. • More than 500 days – Sampling rate of 30 minutes.
Operating temperature	From -20 °C to 70 °C
Case	PC-ABS
Protection	Product suitable for applications requiring up to **IP67** degree of protection. See item "Special Care".
Dimensions	55 x 37,5 x 15 mm
Equipment -PC data transfer time	Proportional to the number of records. 20 seconds to 32,000 records.
PC Interface	Micro-USB cable
LogChart II software operation environment	Configurator software for Windows ® 8, 7 and XP. Menus in Portuguese, English or Spanish. Sets up, reads and displays data on the screen.

3 OPERATION

It is only possible to operate the equipment after the **LogChart II** software is installed to a PC, according to the steps described in **LogChart II Software** section of this manual. The communication between equipment and PC is performed with the aid of the micro-USB cable.

The equipment operation mode set up is defined in advance by using the **LogChart II** software. Each setting must be defined and the consequences observed.

The equipment starts and stops logging as defined in settings.

4 LOGCHART II SOFTWARE

4.1 INSTALLING LOGCHART II

The **LogChart II**, application is used to configure the parameters for data transfer. To install the **LogChart II**, run the file **LC_II_Setup.exe** available on our web site.

4.2 RUNNING LOGCHART II

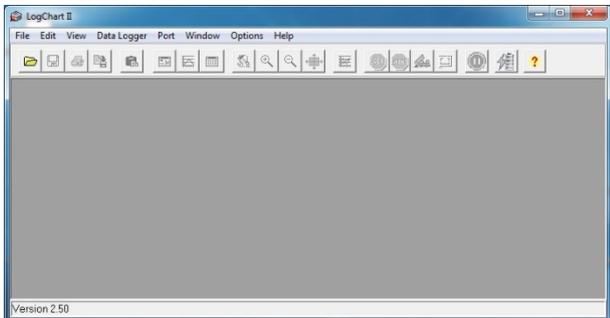When you open **LogChart II** the main window is displayed.

Fig. 02 – **LogChart II** main window

Next, select the serial port that the communication interface will use in the "Port" menu.

Check which serial is available. Usually COM2 is free, once the mouse uses COM1. The chosen port will be chosen by default next times the **LogChart II** is initiated. When a valid port is selected, the icons below are displayed.

Fig. 03 – Icons enabled when the communication port selected is a valid port

4.3 CONFIGURING THE EQUIPMENT

For device configuration is necessary that the communication interface is connected to the computer, using the selected port described in the previous section. See figure below.
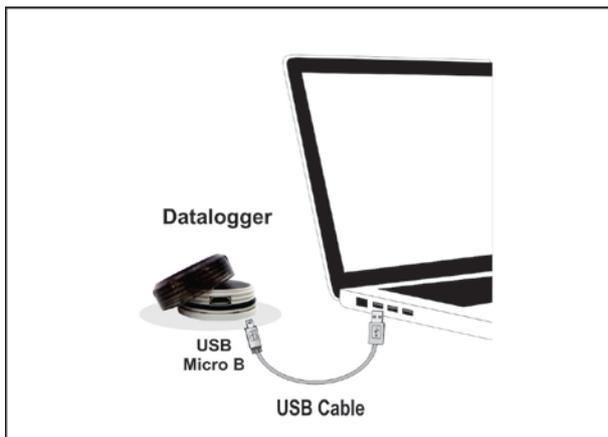

Fig. 04 – Communication via USB cable

After the serial port is selected, click on the button:

The **Parameters Configuration** screen is displayed. In this screen the user can define the equipment operation mode and also obtains general information about the device.
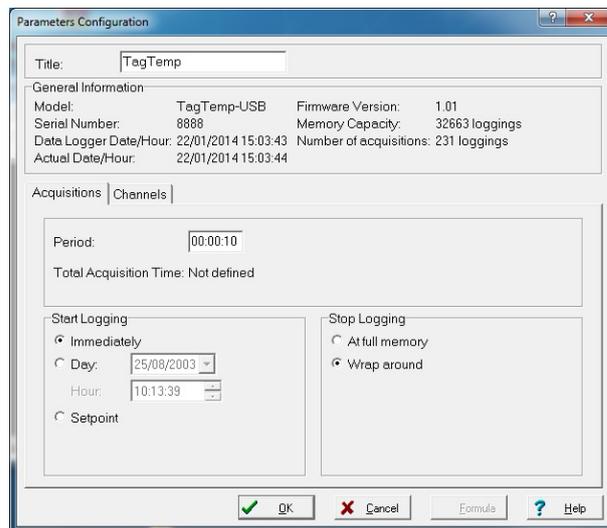

Fig. 05 – Configuration window

Fields are:

1- Title: In this field, the user identifies the equipment by assigning it a name.

2- General information: Area with information about the equipment, such as Model, Serial Number, equipment Date/Time, PC Date/Time, firmware version, memory capacity and number of acquisitions stored in memory.

In this field, time is constantly updated while the communication between equipment and computer is taking place.

3- Readings: Presents a series of parameters that define the acquisition process.

Interval: Defines the interval between readings: The minimum interval is (5) seconds and maximum is (18) hours.

Note: When the type of value logged is minimum, maximum or average values, the minimum interval is 50 seconds.

Estimated time: In this parameter, the equipment informs the user how long it will take to occupy the full memory, in the conditions set up during configuration.

Start of Readings: Readings can be started in one of three different modes:

- **Immediately**: start as soon as set up is ready and sent (OK) to the equipment.

- **Date**: readings start at predefined date and time.

- **Setpoint**: acquisitions start when a **temperature** setpoint is reached. In this option, the setpoint value is defined in the Channels field, where the Alarm parameter is replaced by setpoint.

Stop loggings: Options for the end of readings are:

- **Full Memory**: readings can be stored up to the full memory capacity is reached.

- **Don't stop (Wrap around)**: readings are continuous, replacing old records with new ones as the number of readings overpass the memory capacity.

4- Channels: Displays other parameters related to temperature measurement:

Unit: Defines the unit of the value measured: **ºC** or **ºF** for channel 1 (temperature).

Value: It defines how the value measured will be registered. Options are:

- **Instantaneous**: The value logged will be exactly the value measured at each interval defined. Measurement is taken at the end of the defined interval. The minimum interval between measurements is 5 seconds.

- **Average**: The registered value will be the average of ten measurements made on logging interval. The minimum time between each record is 50 seconds.

- **Maximum**: The value logged will be the maximum value found within ten consecutive measurements taken within a predefined interval. The minimum interval between measurements is 50 seconds.

- **Minimum**: The value logged will be the minimum value found within ten consecutive measurements taken within a predefined interval. The minimum interval between measurements is 50 seconds.

Offset: Makes possible to correct the value logged.

Alarm: Defines limit values that, when exceeded, characterize an alarm condition. Alarm events are informed to the user through a flashing mode of the **Alarm Indicator**.

After filling all the fields select "**OK**" and settings will be sent to the equipment.

4.4 STOP / PAUSE / RESUME BUTTONS

These buttons will be enabled once the device is fully configured.

The **Stop** button allows stop records permanently, so that the device will only register again after a new configuration by the user.

The **Pause / Resume** button action sends the appropriate command, depending on the current registration status:

If the records are **In Progress** and pressing this button, it will be send a command to **Pause** the records.

Pause: pauses the registry allowing it to be resumed later using the **Resume** button.

If registration is **Paused** and pressing this button, it will be send a command to **Resume** the records.

Resume: Resumes the records that were interrupted by the **Pause** command, without erasing the previous registers of the device memory, using the same parameter settings previously configured.

5 OFFLOADING AND DATA VISUALIZATION

Data collected are send from equipment to PC. Data can be collected any time, at the end of the acquisition process or while they are being acquired. If data collection takes place during the acquisition process, the process will not be interrupted, following the equipment configuration.

It is important to "wake up" the equipment before starting communication.

5.1 OFFLOADING DATA

Data offload is accomplished by clicking the button **Offload Data**:

During data transference, a status bar indicates remaining data to be transferred. Data offloading time is proportional to the number of readings logged.

5.2 VISUALIZING DATA

At the end of values transfer, data can be displayed in a graphical form.

5.2.1 Chart Window

It is possible to select a region of the chart to zoom in. Zoom commands can be accessed through the *View* menu or through zoom icons from the task bar.

It is also possible to select an area from the chart to zoom in by clicking and dragging the mouse, thus creating a zoom region starting from the upper left corner on the chart area.

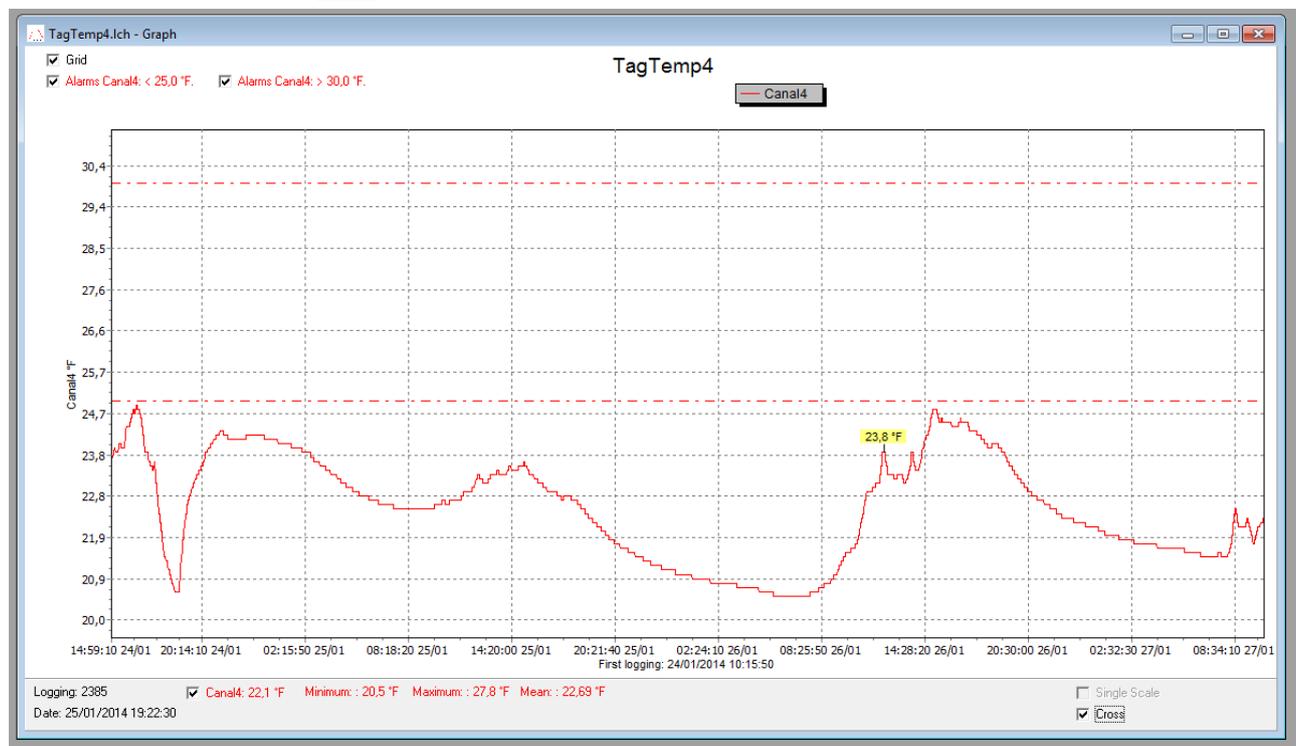The graphic curves can be vertically dragged with a right-click and dragging the mouse up and down.

Fig. 06 - Chart window

5.2.2 Measures Table Window

To display measurements in a tabular form, press the icon **Table View**:

Values are presented in a tabular form, listing the measurement time and value.

Fig. 07 – Screenshot showing the measurement table

5.2.3 General information table

This window shows some information about the equipment whose data were just read and its configuration. The screen can be displayed by pressing the icon **Parameter Viewing:**

Fig. 08 – General information window

5.3 EXPORTING DATA

Logged data can be exported to different file formats, for further analysis. To export, access File/Export or click the icon:

5.4 EXPORTING THE DATA REGISTERED

Battery Level: Indicates the level of battery voltage. When the battery reaches a low level voltage, immediate replacement is recommended to ensure that the equipment will be continue to function properly.

Device Status: Summarizes the state of the device, including its memory, and the occurrence of alarm events to the time of the opening of the Diagnostic page.

6 BATTERY REPLACEMENT

⚠	Replace battery with Panasonic lithium battery Part No. CR 2032 only.
	Usage of another battery may present a risk of fire or explosion.

Replacement procedure is described as follows:

- Remove the plastic cover.

Fig. 9

- With a small screwdriver, carefully remove the circuit board and battery

Fig. 10

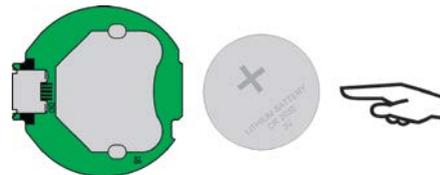- Insert a new battery and reattach the electronic board in the cabinet.

Fig. 11

- Carefully connect the USB connector into the housing with the battery downward.

Fig.12

7 MOST FREQUENTLY FOUND PROBLEMS

The LED is not flashing: The LED flashing light is intentionally weak, and it can be difficult to see it in clear environments, certify it is really not flashing.

Communication with the equipment fails:

Make sure the COM port is selected correctly and there is no other program using the same port during communication attempts;

Make sure there is no physical obstacle blocking the infrared signal;

Make sure the cable is well connected to the PC port;

Make sure the port selected does not present any problem.

8 SPECIAL CARE

When handling the device and its battery, observe the following:

- When the device is opened, avoid touching the electronic components and the printed circuit board to avoid electrostatic discharge damages.

- Pay close attention to battery polarity.

- When closing, the cover and its sealing must be mounted correctly and carefully to ensure the enclosure sealing.

- Used batteries must be disposed in accordance to local regulations. Don't try to recharge, dismount or heat, since explosion may occur.