THERMOTRACK-ONLINE User Manual

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I.   Install the TBO Link software

TBO Link is a free program that you can install on multiple PCs to program and read the Buttons. It will synchronise data with our Thermotrack-Online private space so you can share information with the other users
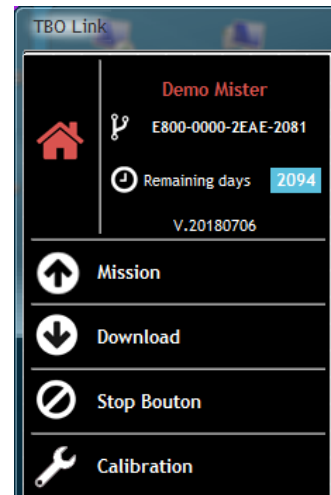
Download it from this link and follow the installation instructions.
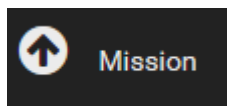
Enter you login and password.

You are then able to

- Mission Buttons
- Download Buttons
- Stop Missions
- Set Calibration parameters

In the upper left corner, you will also see the date of expiration of the USB reader you are using

If you have lost your password, you can receive it again by email.

II.   Start a new mission

Place a Button on the reader and press OK.

A.   Prepare a mission

There are 2 ways to mission a Button

- By choosing each parameter each time.
- By using a Mission Profile. (time saving option)

1.   Choosing each parameter

If you don't want to create a profile, leave this field empty and go to the next one.

Description 1 and 2	Enter a description of your choice
Recipient	You can choose one of the users of your Thermotrack-Online Platform. This user will receive an Email with the mission's details, as soon as you have missioned the Button. As soon as this user will read the Button, you will receive a confirmation by Email
Sample rate	Indicate the frequency at which you want the Button to log the temperature. The higher the sample rate is, the longer the duration of the mission is.
Resolution	(Buttons 22L and 22T only): Choose the required resolution. If you choose 0.1°C, you will have a memory of 4096 points. If you choose a resolution of 0.5°C, you will have a memory of 8192 points
Count down	Choose the time before the mission starts

Start if temperature alarm	(22L and 22T only): If you tick this box, the Button will start to register only when it reaches one of the temperature alarm thresholds
Rollover	If you tick this box, when the memory of the Button is full, the first measurement will be erased and replaced by the 2049th (4096th or 8192th for a 22L or 22T), and so on
High alarms, **low alarms**	Enter here the maximal and minimal threshold for the Button.
Temporizations	Enter here the tolerance for the alarms temporizations. You can decide that an alarm is not critical if its duration is lower than the temporization. In this case, it appears in orange in the list of alarms
Free text or Table	You can add a text in a free text field or in a tabulated form, in order to give information on this mission

Useful Tip!

This **Free text** is important if the Button will be downloaded multiple times.

For example it is permanently assigned to the same Fridge, vehicle or shipment box, enter the vehicle or box name in that field. It will be displayed in the Description of the Button each time you read it

Once the Button is set, that information will be sent to Thermotrack-Online so it is listed in the list of pending missions.

In the TBO link software, it will also be listed

2.   Using a mission Profile

A mission profile will help you save a lot of time.
All standard parameters you often use are set, so you can mission Thermo Buttons very quickly.

Examples:

- Shipments to be kept at +2/+8°C
- Shipments to Customer XYZ and to be kept at +15/+25°C

Create new profiles using the icon or select one in the list

Once you have created a profile, you just have to select it in the list. The mission parameters will appear automatically. Enter the mission names (Descriptions 1 and 2) then, click "Mission" to start the mission.

III. Download a Thermo Button
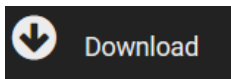
A. Download a Button that has a mission in progress:

Place the Button on the reader. The window shows you which mission this button is assigned to
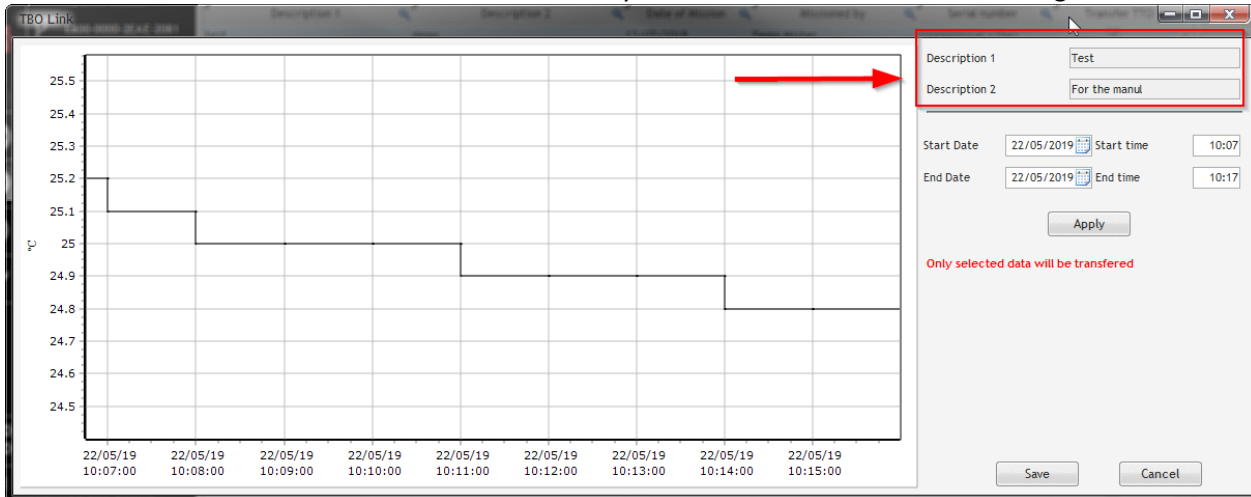
Zoom to select the period you want to see and keep and click "Save"

Data is displayed in your web browser. It is saved and assigned to the correct mission name

In the list of missions, the status makes the transition from « in progress » to « Downloaded ».

The temperature data and the graph are displayed.

Description 1	Description 2	Start date	End date	Missioned by	Downloaded by	Status
		17.45	03.52			
⊕ Test	For the manul	22/05/2019 10:07	22/05/2019 10:17	Demo Mister	Demo Mister	**Downloaded**

An Email is automatically sent to the user who missioned the Button
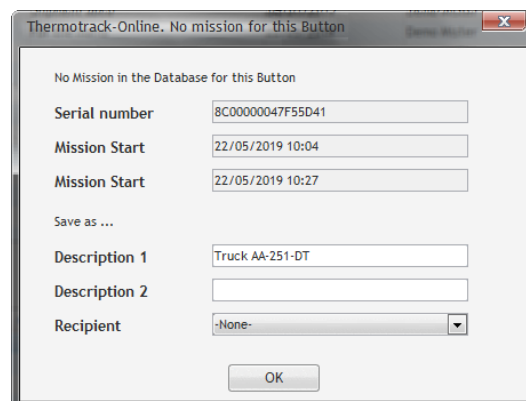
B. Download a Button that has already been downloaded:

You can download a Button several times.

Enter the Description 1 and 2.

If the Button has been set with an internal ID when missioned, it will be displayed in the Description 1 field

See Tip! Page 4

Thermotrack-Online. No mission for this Button

No Mission in the Database for this Button

Serial number	8C00000047F55D41
Mission Start	22/05/2019 10:04
Mission Start	22/05/2019 10:27

Save as ...

Description 1	Truck AA-251-DT
Description 2	
Recipient	-None-

OK

C.   Download a Button that has not been missioned with Thermotrack-Online
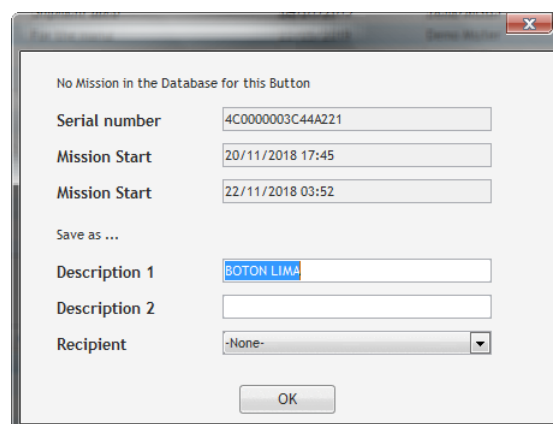
If the Button has not been mission with Thermotrack Online, you still can download it.

Zoom to select the period you want to see and keep.

When you click "Save" a window will enable you to name that Mission by entering Description 1 and 2 and select a recipient

In case there is a free text in the memory, this will appear in the Description 1.

Once save, data will be displayed on the cloud

No Mission in the Database for this Button

Serial number	4C0000003C44A221
Mission Start	20/11/2018 17:45
Mission Start	22/11/2018 03:52

Save as ...

Description 1	BOTON LIMA
Description 2	
Recipient	-None-

OK

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IV.   List of missions

By default, Thermotrack-Online gives you the mission list of the 30 last days. If you want to see another period of time, select it with the calendars.

You can sort the list of missions in ascending order by clicking the columns headers.
Click twice to sort it in descending order.

You can also the "Sort by" button or type the description of a mission directly in the field "Search".

Description 1	Description 2	Date of download	Date of mission	Missioned by	Downloaded by	Status	Serial number
BUREAU QUALITE	BOUTON N°5		24/05/2016	Demo Mister		In progress	6C0000001F608A41
Microgiene	Test	18/05/2016	18/05/2016	N/A	Demo Mister	Downloaded	9C0000002CFF7C21
SOVILEG T1	couplé debitmetre		09/05/2016	audrey salomon		In progress	1B00000031EAB221
SOVILEG T2	T2 couplé debitmetre		09/05/2016	audrey salomon		In progress	9300000031F8E121
SOVILEG T3	T3 couplé debitmetre		09/05/2016	audrey salomon		In progress	8C00000032001D21

On the right part, 2 icons enable to modify the descriptions of the mission you have selected in the list, or to delete it.

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V.   Download details

When reading a Button, you can access 5 tabs: Status, Alarms, List, Graph and Note Pad.

A.   Status

The status gives you the details on the Button used and on how it has been programmed.

- The icon PDF enables to print the graph
- The Excel icon sends the temperature data and the status in an Excel file

B.   Alarms

They indicate the duration and the medium temperature of each period above or below the thresholds.

- In red, the high alarms
- In blue, the low alarms
- In orange, the high or low alarms with a duration lower than the temporization indicated in status.

High alarms 9

Start date	Start time	End date	End time	Duration	Average value
18/03/2016	15:23	18/03/2016	15:43	00:20:00	26.0 °C
18/03/2016	17:13	18/03/2016	17:23	00:10:00	25.2 °C
18/03/2016	18:33	19/03/2016	12:03	17:30:00	26.7 °C
19/03/2016	13:23	21/03/2016	11:53	22:30:00	27.4 °C

Low alarms 2

Start date	Start time	End date	End time	Duration	Average value
16/02/2016	21:06	16/02/2016	21:16	00:10:00	-18.3 °C
16/02/2016	21:41	17/02/2016	11:56	14:15:00	-22.3 °C

C.   Values

It gives the list of the logged temperatures.

- In red, the temperatures higher than the maximal threshold
- In blue, the temperatures lower that the minimum threshold

Date Time	Temperature
18/03/2016 15:23	26.3 °C
18/03/2016 15:33	25.7 °C
18/03/2016 15:43	24.7 °C
18/03/2016 15:53	24.2 °C
18/03/2016 16:03	24 °C

You can print the temperature in PDF or export it to excel.

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Another table shows the number of measurements, the maximum value, the minimum value and the average.

| Number of measurements	1450
Max	28.2 °C
Min	21.5 °C
Average	26.4 °C

D.   Graph

The graph shows the temperatures and the minimum and maximum alarm thresholds.

Move the cursor on the graph and you will see the value, the date and time corresponding.

You can make a zoom on the graph using the mouse. Just select a start point in the high and left corner, press the mouse and go to the right and down corner. This zoom also adjusts the list of temperatures, the mini and maxi values, the average and the list of alarms.

To print the graph, use the PDF icon. You can then print the document of archive it. The PNG icon enables to save a picture of the graph.
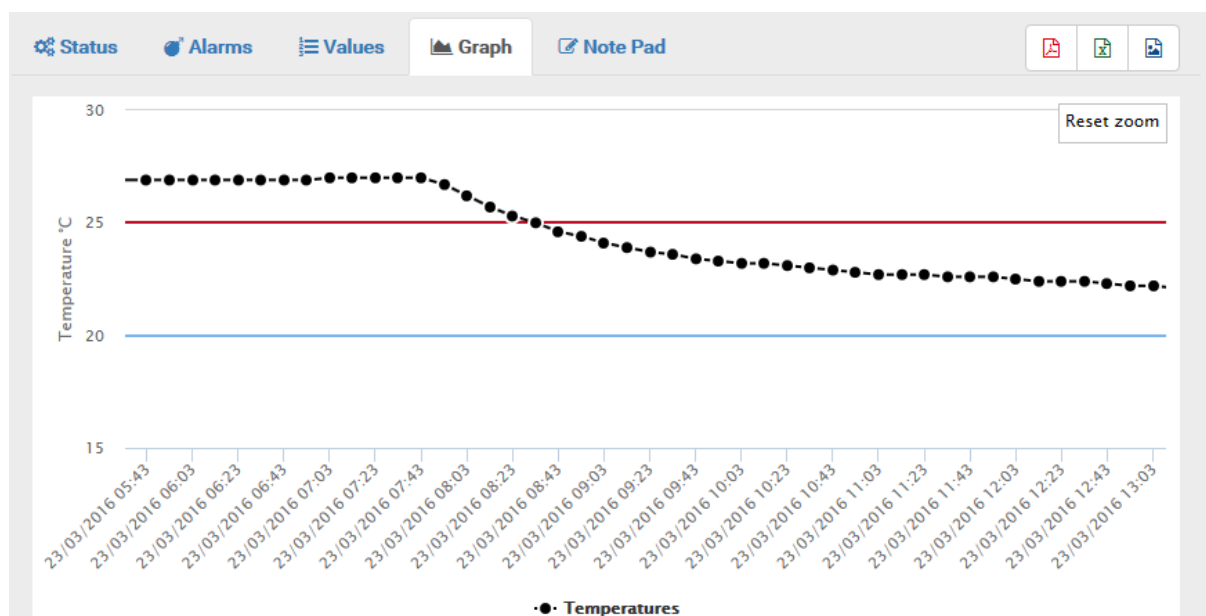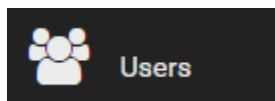

E.   Note-Pad

The Note Pad gathers any type of information that users can enter to comment a mission.

Each time one reads a button, a record is added in the note pad together with the user name, date and time of the download, with the commentary entered by the user.

You cannot delete commentaries. Each commentary is indicated with the surname and name of the user, the date and time of the commentary.

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VI.   Users (administrators only)

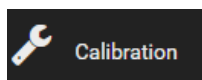This menu enables you to give access to Thermotrack-Online to other users (customers, suppliers, colleagues, etc.).

You can thus Add, Modify or Delete users

A.   Add users

Enter the complete data of the user.

Profile	Choose between Administrator and User. An administrator can carry out every kind of operation, including the right to add other administrators and users.
TB Net Connect Address:	You have to fill in this field only if the user has a TB Net Connect. Enter the MAC address of the TB Net Connect that will be used by the user. This address is indicated on the TB Net Connect and has to be entered in this format 00:00:00:00:00:00
Mobile ID	Thermotrack-Online automatically assigns an ID for each user. If this user reads the Thermo Buttons with Thermotrack Mobile, he can enter his ID in his phone to indicate that he has carried the downloads
Login	Choose a login. This login cannot be modified.
Password	Choose a password. This password can be modified later on
Preferences	Choose the language, temperature and date format preferences for the user
Password validity:	If you choose « Yes », the user will have to change his password after 90 days. His new password will have to be different from the previous one. We strongly advise this option to comply the standard FDA 21CFR part 11.
Rights	If you create a user, you have to choose the operations he is allowed to carry out. By default, the user has no rights. An Administrator has all rights offered by Thermotrack-Online

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VII. Calibration

This function enables to enter the data from a calibration certificate to correct the value of the Thermo Button.

Press "New" to add the calibration parameters of a new button.

Place a Button on the reader, then press the lens icon to read its serial number. The software will also recognize the type of Button.

Then choose the type of correction you want to make.

- Quadratic: The system will use a 4th degree polynomial correction. In that case, you will need 3 calibration points. This method is more accurate and will also calibrate outside the first and the last point.
- Linear: The correction will be linear between each calibration point. There will not be any calibration outside this first and the last point. You need minimum 2 points and you can enter 5 points maximum.
- Offset: When choosing the linear method and 1 single point, you can correct the values by offset.
- Calibration date / validity: By default, the calibration date is the current day. The default validity is 360 days.

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VIII. Read the Thermo Buttons with a TB Net Connect

A. Package:

Your temperature control system is delivered with the following elements:

- 1 TB Net Connect
- 1 Power supply 230/9V
- 1 Thermo Buttons reader

B. Connect the TB Net Connect:

- Connect your TB Net Connect on the power supply.

- Connect your TB Net Connect on your network with the RJ45 cable. If you don't have network, you can connect the TB Net Connect directly on your computer. In this case, you need a straight cable. You can find it in any IT store.

C. If you use fixed IP addresses:

- Download the program « Microchip Ethernet Discoverer.exe » by clicking this link

- Plug the TB Net Connect directly on the Ethernet port (network socket) of your PC and run the Microchip Ethernet Discoverer program. The TB Net Connect will be automatically detected.
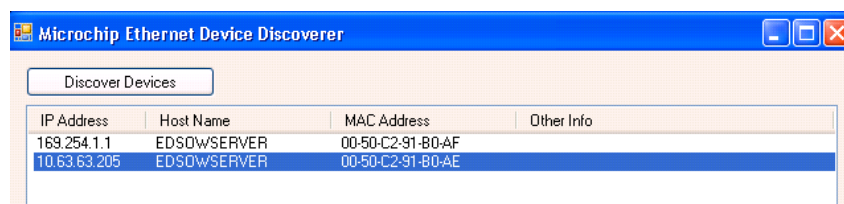
- Read the IP address displayed in the Microchip Ethernet Discoverer window and set your local network connection with a similar address.
  Example:
    - If the address displayed in the window is 192.168.1.10
    - Set your PC with an address like 192.168.1.20
  Warning: Before modifying the IP address of your PC, note the address that has been used until now.

- Double click on the TB Net Connect that you want to set up. The following page will be displayed in your Internet browser.

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- Use the menu « Web Server ». The login is « admin »; the password is « eds ». After having entered these identification data, the IP address configuration window will be displayed.
- In the field « Host Name » indicate a name for this TB Net Connect. Example TBNC
- Untick the box « Enable DHCP »
- Enter the IP addresses given by your network administrator
- Click « Save »
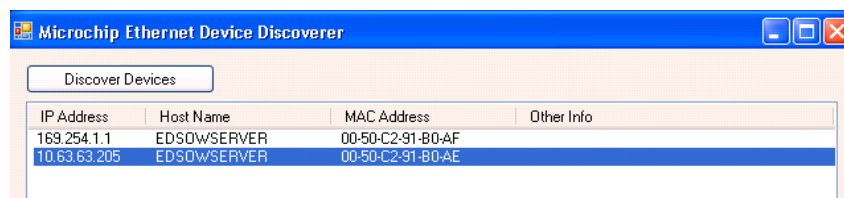

- Connect the TB Net Connect to your network
- Reset your computer IP address with the address used previously
- Then, follow the setting instructions

D.   If you use dynamic IP addresses (DHCP):

- Download the program « Microchip Ethernet Discoverer.exe » by clicking this link
- Plug the TB Net Connect directly on the Ethernet port (network socket) of your PC and run the Microchip Ethernet Discoverer program. The TB Net Connect will be automatically detected.

- In this window, double click the TB Net Connect to open the configuration page.

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- Follow the setting instructions

E. Set the TB Net Connect for Thermotrack Online:

In the menu situated on the left of the page, choose the option "POST http". The login is "admin" and password "eds". The following window will be displayed:

- Tick the box « Enable » and in the URL field enter the following address :
  http://www.thermotrack-online.com/php/Post_TbNetConnect.php

- Click « Save »

In the menu situated on the left of the page, choose the option "System". The login is "admin"; the password is "eds". The following window will be displayed:

- Tick the box eXtentible Markup Language (.XML)
- Tick the box Include MAC address in Thermochron file
- Action on Data Retrieval: Choose Do Nothing.
- Click « Save »

F.   Read the Thermo Buttons with the TB Net Connect:

- Plug the TB net Connect on the power supply. Place the Thermo Button on the reader (which has to be connected on the RJ12 socket of the TB Net Connect).
- The « Download » led indicates that the data are been downloaded.
- The High and low alarm detected LEDs indicate that the Button has registered temperatures above or below the thresholds.
- The "Ready/Download completed » indicate that the download is finished.
- When the TB Net Connect is connected to your Ethernet network, the data are transferred directly to Thermotrack Online.
- In the list of missions of Thermotrack Online, the status of the mission will be "Downloaded" and the name of the user associated to the TB Net Connect (see section "Create users") is indicated in the field "Downloaded by".

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