SOFRIGAM°

Sofrigam Manager
User Manual

MANUAL CONTENTS

DETAILED SUMMARY

INSTALLING SOFRIGAM MANAGER

SOFRIGAM

The Sofrigam Manager software is not required to read recorded data, the data can be read depending on the desired settings, simply by connecting a temperature logger. However, to make a configuration, you must register the software on your computer. The procedure is simple.

1 Go to the url http://www.sofrigam.fr/caisse-refrigerante-iBox

2 Create a customer space in 2 clicks or connect directly with a username and password.

3 Click on the download link at the bottom of the page

CUSTOMER AREA

Please log in to access the private space on this site

E-mail* [   ]

Password* [   ]   Forgotten your

password?

☐ Remember me

[Log in]   Register

SOFRIGAM MANAGER
The Sofrigam Manager software enables the user to configure and download the iBox logger.

Download the software

Operating systems, distinctive features

Installation for Windows:
Save a copy of the Sofrigam Manager file (*.exe) and save it to the desired location. No installation required. The application can be launched from any directory.

Installation for Mac OS X:
Click on the Sofrigam Manager file. A window containing the Sofrigam Manager application opens. Simply move the application to the "Applications" folder. The Sofrigam Manager application can be launched directly from this folder.

NAVIGATING IN THE USER INTERFACE

Navigation within Sofrigam Manager can be done via the main buttons of the interface or via the file menu in the main bar. The possibilities are the same except that in "Edit" it is possible to load a previously saved configuration. The elements of the different tabs are customizable (data displayed, colors of the graphs etc.). Refer to the "Customization" chapter.

Display connected loggers. Check/uncheck to display data or not

Logger Configuration Tab. (see configuration chapter)

Data management tabs: graphic display (figure 1 opposite). Calling back configuration and saved data (2)

Last saved file

One-click data backup, in the desired format, to the location set in the preferences

View/Close the explorer

Configuration buttons to start recording

1 CONNECT   **2** SAVE   **3** CONFIGURE   **4** CUSTOMIZE

- ✓ Connection via the USB port of the logger
- ✓ Automatic display of saved data
- ✓ File structure

When the logger is connected to the USB port, the data files are instantly generated (ZLG, CSV, PDF and TXT). The files all have the same structure:

- Calling back the configuration
- Temperature reading according to the intervals defined during configuration
- Graph (PDF only)

The ZLG file

The ZLG is an exclusive Sofrigam Manager file format containing the recorder information (type, serial, firmware etc.) and configuration (start and stop conditions, alarm settings etc.). saved manually or automatically when the logger is connected.

SOFRIGAM

For the PDF, since it is the most complete of the files generated by the logger and allows graphical visualization. All files consist of two parts: logger configuration call back (temperature readings intervals, start and stop mode, unit of measure, etc.) and details of the measured temperatures.

```
Specification & Configuration    ○○○○●○
Device Name:        iBox          EL  L  N  H  EH
Device Type:        Multi-use Smart Logger
Serial Number:      IB660004
Time Zone:          GMT:+1        ALARM
Firmware Version:   1.12A
Trip Number:        0
Trips Remaining:    Multiple
Temp. Unit:         Celsius
Temp. Range:        -40 to +80°C
Battery:            2.95V - 98%
Total Records:      2577
Sampling Rate:      5 sec
Start Delay:        00:05:00
Start Time:         Parameter not set
Stop Time:          Parameter not set
```

```
Alarm Status/Statistics
Type:  Temp.       Consecutive   Total       Out of Spec.
EH:   +10.00°C    00:00:00      00:01:00
H:     +8.00°C    00:00:00      00:01:00     00:00:05
L:     +2.00°C    00:00:00      00:01:00
EL:    +0.00°C    00:00:00      00:01:00
```
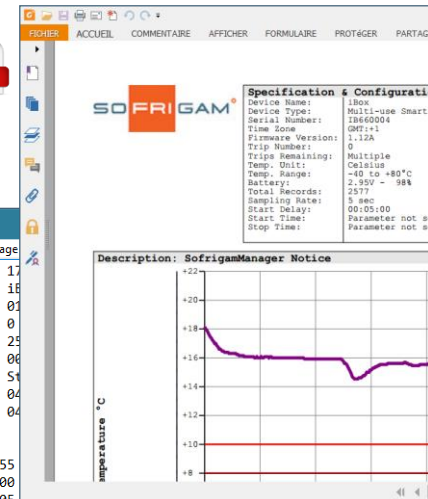
```
Summary / Statistics               File Created at: 04/01/17 18:35:01
Maximum Temperature:   +13.68°C    Status:            Stopped
Minimum Temperature:   + 3.56°C    Trip Duration:     03:34:40
Average Temperature:   + 4.37°C    Time within Spec:  03:34:35
Mean Kinetic Temp:     + 4.41°C    Started Time:      04/01/17 14:00:55
Active Bookmarks:      0           Stopped Time:      04/01/17 18:35:01
Started by:            Manual      Memory Used:       12% 2577/20000
Stopped by:            Manual      Sensor Serial:     2380000008217028
```

(1)

Top of the PDF
Configuration & Specifications

Name of the device: Data Logger template. Read only.
Serial number: Unique to the recorder.
Time zone: Time zone selected during configuration + DST (Daylight Saving Time).
Firmware version: Firmware version of the current recorder.
Number of shipments: It counts the number of uses each time the logger starts. Read only.
Remaining use: Indicates the remaining number of uses or Multiple for multi-use recorders.
Temp unit: Measure unit selected for the temperature (Celsius or Fahrenheit) during configuration.
Temp range: This is the temperature range of the recorder's sensors. In this example, it is a temperature sensor with a range of -40° C to +80° C.

Battery: Battery power and current charge level in %.
Total records: The total number of records saved in the recorder.
Measurement interval: time interval set between each record.
Start delay: Configured manual start delay.
Start Time: Automatically sets the recording start time and date.
Stop: Automatically set recording recording stop time and date
Recording duration: total recording duration

The "Alarm" box allows you to see at a glance whether a temperature threshold has been exceeded.

Specification & Configuration	
Device Name:	iBox
Device Type:	Multi-use Smart Logger
Serial Number:	IB660004
Time Zone	GMT:+1
Firmware Version:	1.12A
Trip Number:	0
Trips Remaining:	Multiple
Temp. Unit:	Celsius
Temp. Range:	-40 to +80°C
Battery:	2.95V - 98%
Total Records:	2577
Sampling Rate:	5 sec
Start Delay:	00:05:00
Start Time:	Parameter not set
Stop Time:	Parameter not set

○○○●○
EL L N H EH

ALARM

Alarm Status/Statistics

Type:	Temp.	Consecutive	Total	Out of Spec.
EH:	+10.00°C	00:00:00	00:01:00	
H:	+8.00°C	00:00:00	00:01:00	00:00:05
L:	+2.00°C	00:00:00	00:01:00	
EL:	+0.00°C	00:00:00	00:01:00	

Summary / Statistics		File Created at: 04/01/17 18:35:01	
Maximum Temperature:	+13.68°C	Status:	Stopped
Minimum Temperature:	+ 3.56°C	Trip Duration:	03:34:40
Average Temperature:	+ 4.37°C	Time within Spec:	03:34:35
Mean Kinetic Temp:	+ 4.41°C	Started Time:	04/01/17 14:00:55
Active Bookmarks:	0	Stopped Time:	04/01/17 18:35:01
Started by:	Manual	Memory Used:	12% 2577/20000
Stopped by:	Manual	Sensor Serial:	2380000008217028

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Top of the PDF Alarms

Visual reference that lets you know as soon as possible if a threshold has been crossed.

Ex: Here H is colored - High alarm has been exceeded

(EL) Very low

(L) Low

(N) Normal

(H) High

(EH) Very high

Type: Very high, high, low, very low

Temp: Alarm threshold.

Consecutive: Consecutive delay before alarm

  Ex: For the high alarm: Consecutive time above the high threshold before the high alarm is activated

  Ex: For the low alarm : Consecutive delay below the low threshold before the low alarm is activated

Total: Cumulative delay

Out of specification: Total time out of alarm threshold.

The "Summary/Statistics" box gives a summary of the statistics recorded during the transport

Specification & Configuration	
Device Name:	iBox
Device Type:	Multi-use Smart Logger
Serial Number:	IB660004
Time Zone	GMT:+1
Firmware Version:	1.12A
Trip Number:	0
Trips Remaining:	Multiple
Temp. Unit:	Celsius
Temp. Range:	-40 to +80°C
Battery:	2.95V - 98%
Total Records:	2577
Sampling Rate:	5 sec
Start Delay:	00:05:00
Start Time:	Parameter not set
Stop Time:	Parameter not set

EL L N H EH

ALARM

Alarm Status/Statistics				
Type:	Temp.	Consecutive	Total	Out of Spec.
EH:	+10.00°C	00:00:00	00:01:00	
H:	+8.00°C	00:00:00	00:01:00	00:00:05
L:	+2.00°C	00:00:00	00:01:00	
EL:	+0.00°C	00:00:00	00:01:00	

Summary / Statistics		File Created at: 04/01/17 18:35:01	
Maximum Temperature:	+13.68°C	Status:	Stopped
Minimum Temperature:	+ 3.56°C	Trip Duration:	03:34:40
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Mean Kinetic Temp:	+ 4.41°C	Started Time:	04/01/17 14:00:55
Active Bookmarks:	0	Stopped Time:	04/01/17 18:35:01
Started by:	Manual	Memory Used:	12% 2577/20000
Stopped by:	Manual	Sensor Serial:	2380000008217028

(3)

**Top of the PDF
Summary of statistics**

Maximum temperature: Maximum temperature during the trip.
Minimum temperature: Minimum temperature during the trip.
Average temperature: Average trip time.
Average kinetic temperature: MKT of the entire path using the activation energy set during configuration.

Active bookmarks: Number of markers, manually activated

Started by: Start mode
  Manual: by pressing the Start button
  Start timer: Automatic start with time and date.
  Temperature: by automatic start at the temperature threshold.

Stopped by: How the recorder was stopped
  Manual: By pressing the Stop button
  Memory full: Maximum memory capacity reached
  Reset: The recorder has performed a reset.
  Off timer: By automatic stop with date and time .

Condition: Current recorder status:
  Ready: The recorder is configured and ready to be started.
  During startup: the recorder has been started and starts the timer.
  Recording: The recorder is running and recording.
  Stopped: The recorder no longer records.

Trip Duration: Duration of trip from first to last record.
Duration in specification: Total time in alarm thresholds (no alarm).

Start time: Date and time of first recording
Stop: Date and time of last record when the trip is complete.

Memory used: Indicates memory usage in % and number of records for memory/memory size.

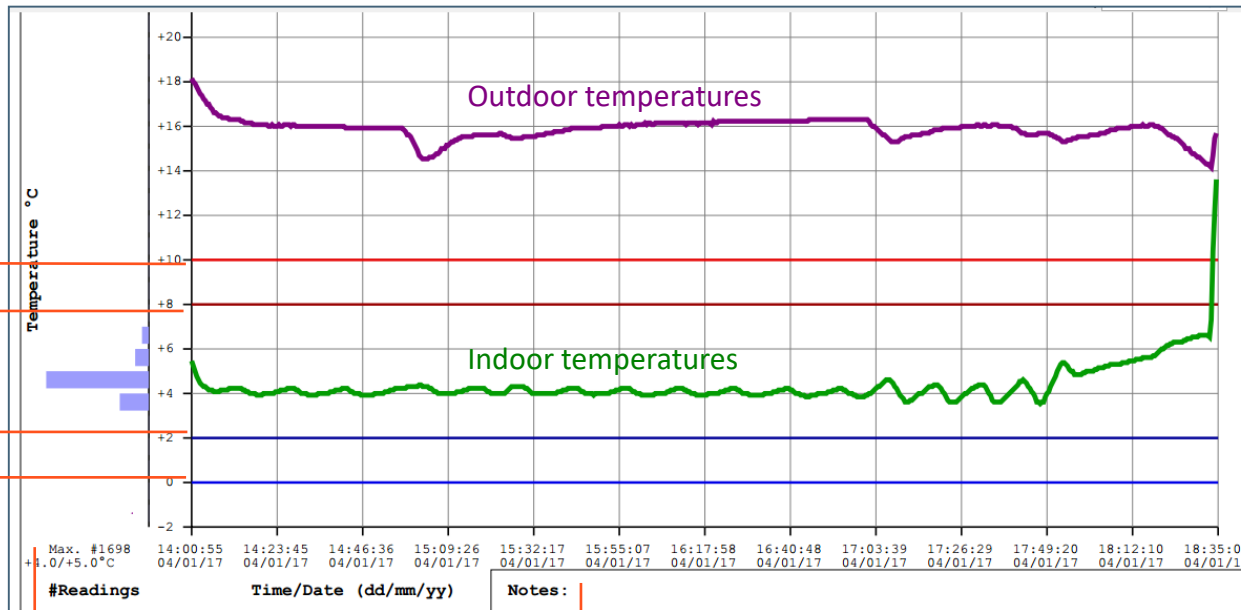**Downloaded at:** Date and time the recorder was downloaded.

In the second part of the PDF there is a graphical representation of the data recorded during the trip. The curves are plotted on a Temperature/Time (duration) axis.

Temperature range axis

4

Lower part of PDF Graphic Representation

Outdoor temperatures

Alarm

Very High (EH) and High (H)

Indoor temperatures

Alarm
Very Low (EL) and Low (L)

Time/duration axis

| Max. #1698 | 14:00:55 | 14:23:45 | 14:46:36 | 15:09:26 | 15:32:17 | 15:55:07 | 16:17:58 | 16:40:48 | 17:03:39 | 17:26:29 | 17:49:20 | 18:12:10 | 18:35:01 |
| +4.0/+5.0°C | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 | 04/01/17 |

#Readings   **Time/Date (dd/mm/yy)**   **Notes:**

The largest number of recordings is 1698 between +4/+5.

Space to write Handwritten comments.
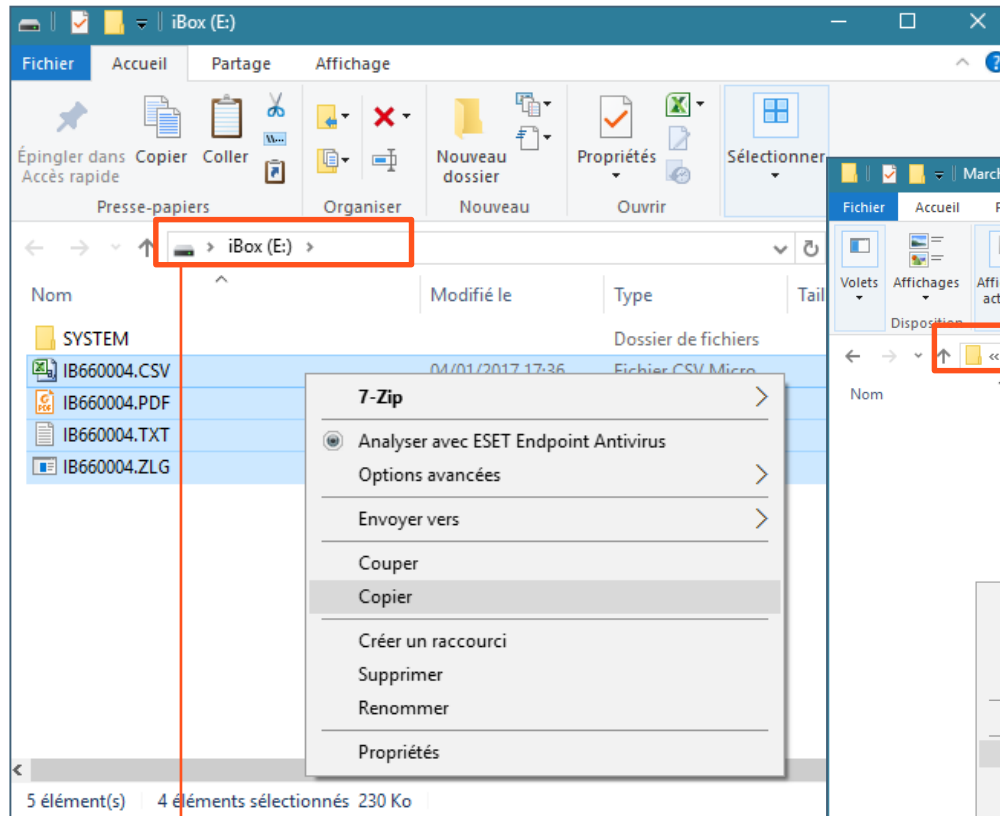
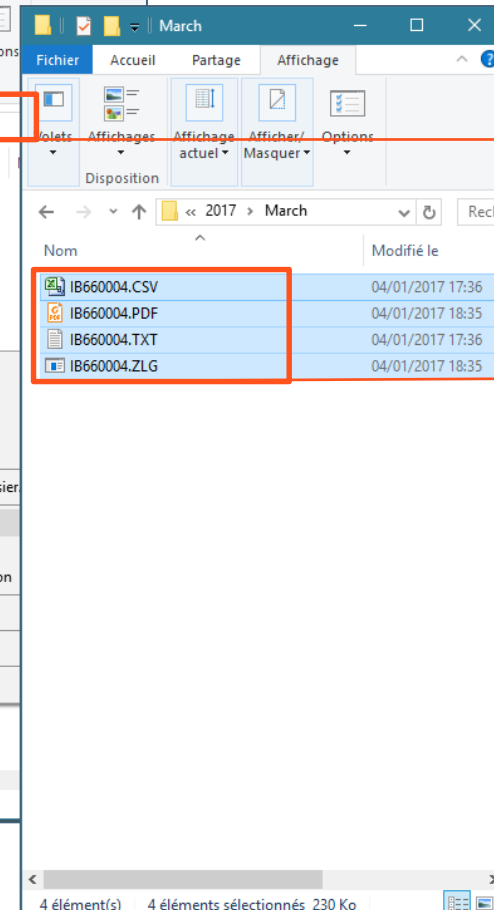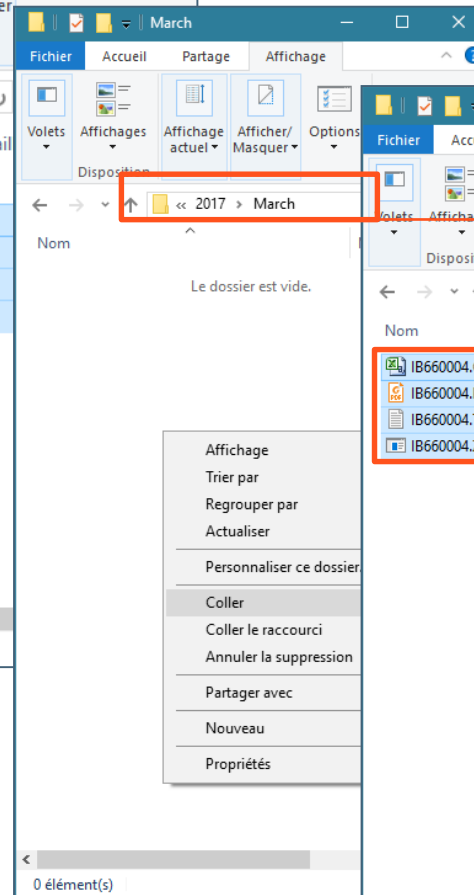**1** CONNECT   **2** SAVE   **3** CONFIGURE   **4** CUSTOMIZE

✓ From the automatically
   generated folder
✓ From Sofrigam manager:
   Save / Txt / Excel / pdf

SAVING DATA

There are two ways to save the data. When connecting the logger, without having Sofrigam manager on the workstation, it is possible to copy the logger files to a desired folder. It is also possible to save files from Sofrigam Manager with one click.

①

Save by Copy/Paste

In the folder on your disk or server, right click, paste.

Files are saved

In the storage space of the logger,
Select files, right-click, copy

SAVING DATA

When the backup is done from Sofrigam Manager, in one click the files are saved in the predefined directory in the software preferences. For more information on setting the backup directory, go to the "Customization" section of the manual.

(2)

Saving from Sofrigam Manager

Saving the configuration and data (and therefore the profile) in ZLG format, specific to the software
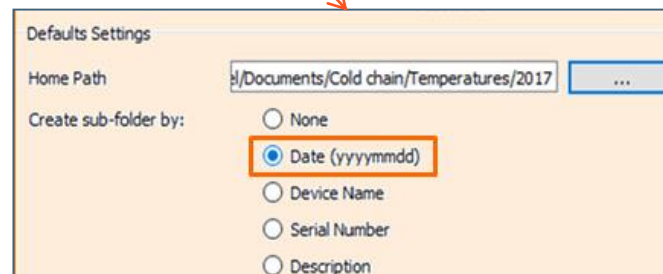
Save as text format

Save as csv format

Save as pdf format
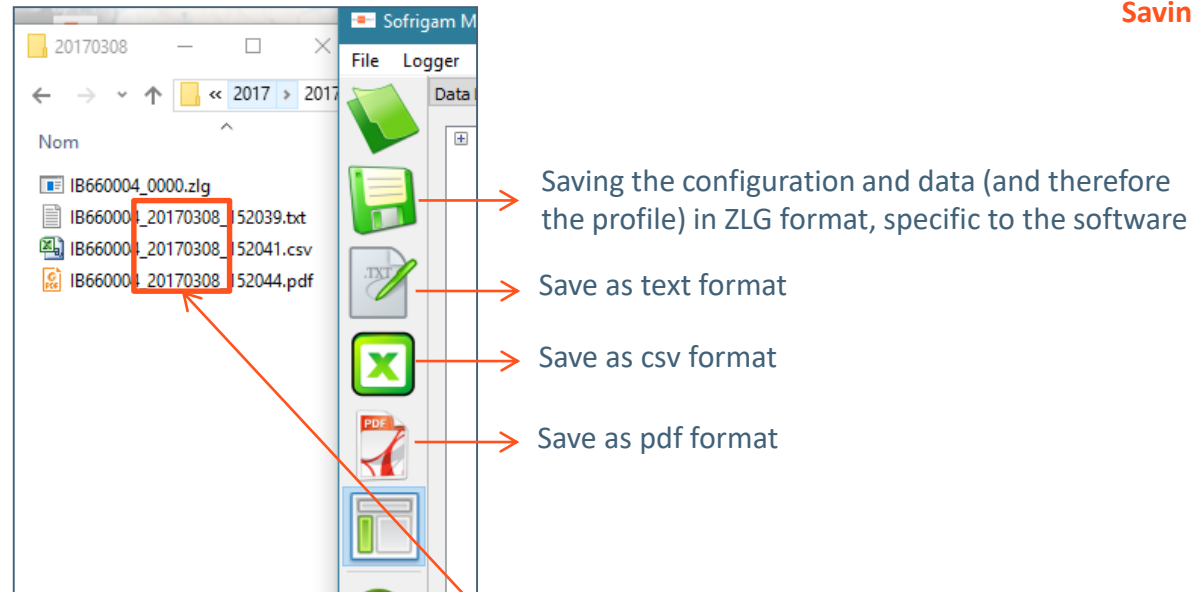
Saving preferences

It is possible to customize the following elements:

- **The structure** (date, serial number, etc.) of the file names.

- A specific **backup file**.

1 CONNECT

2 SAVE

3 CONFIGURE

4 CUSTOMIZE

✓ Connect the logger to the USB port
✓ Fill the configuration fields
✓ Configure

1 **Fill in a short description**

Description: enter a short description (type of logger, type of products, year period etc.)

Password: Must be a password for data reading (optional)

Device name: Data Logger model.

Serial number: The serial number of the data logger.

Firmware version: firmware version of the current recorder

CONFIGURING SOFRIGAM MANAGER

It is possible to configure a data logger without alarm, or with 1, 2, 3 or 4 thresholds of alarms.
Alarms can be activated or deactivated by checking the specific box.
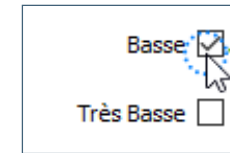
2 **Fill in the fields related to alarms**

Each alarm threshold has a **consecutive and/or total delay before the alarm** that can trigger the alarm according to a preset value, an "out-specification" duration and a type of offset.

Exemple

- **Température d'alarme haute** supérieure ou égale à 8°C sera hors spécification.
- **Température d'alarme basse** inférieure ou égale à 2°C sera hors spécification.

Warning

It is mandatory to **set a high alarm before specifying if there will be a very high alarm**. The same is true for the low and very low alarm .

CONFIGURING SOFRIGAM MANAGER

Once the description, the programmed alarms and the start and stop mode have been defined, the configuration can be started by clicking on configuration.

3 **Select the start and stop mode of the recorder**

OFF automatically after a recording time.

START

Automatically at a predefined date & time
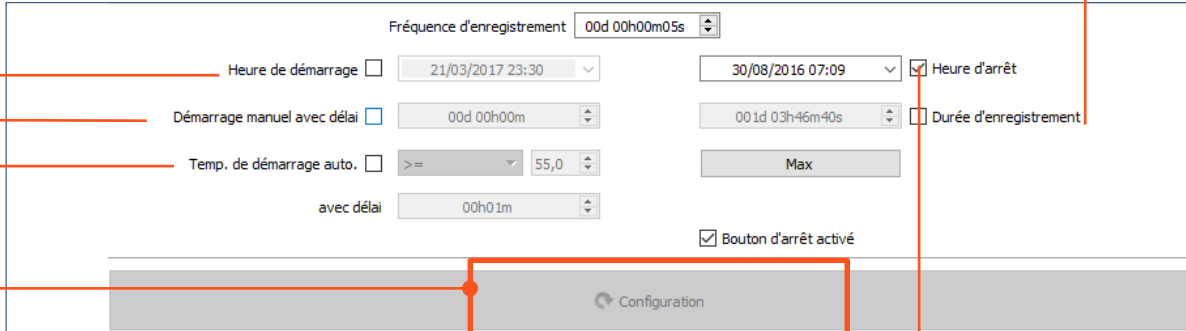
Manual, by pressing the Start key, with or without delay

Automatic over a certain temperature threshold

Fréquence d'enregistrement	00d 00h00m05s
Heure de démarrage ☐	21/03/2017 23:30 ⌄ 30/08/2016 07:09 ⌄ ☑ Heure d'arrêt
Démarrage manuel avec délai ☐	00d 00h00m 001d 03h46m40s ☐ Durée d'enregistrement
Temp. de démarrage auto. ☐	>= 55,0 Max
avec délai	00h01m
	☑ Bouton d'arrêt activé
	↻ Configuration

OFF automatically at the desired time and date.

4 **Configure**

16

Some examples.

The recorder starts manually by pressing the start button
without any delay. The recording interval is 10 minutes and stops automatically after 100 days.

Sampling rate	00d 00:10:00 ⬍ 140d 09h20m00s
Auto Start Time ☐	16/04/2016 15:23 ⌄ 16/04/2016 15:24 ⌄ ☐ Auto Stop Time
Manual Start + delay ☑	00d 00h00m ⬍ ➡ 100d 00h00m00s ⬍ ☑ Recording Duration [Max]
Auto Start with Temp. + delay ☐	>= ⬍ 55.0 ⬍ 00h10m ⬍

The recorder starts automatically at 5:15 pm on June 28, 2016. It can also be started manually by pressing the start button without any delay. The recording interval is 5 minutes and stops automatically at 17:15 on July 28, 2016.

Sampling rate	00d 00:05:00 ⬍ 070d 04h40m00s
Auto Start Time ☑	28/06/2016 17:15 ⌄ 28/07/2016 17:15 ⌄ ☑ Auto Stop Time
Manual Start + delay ☑	00d 00h00m ⬍ 070d 04h40m00s ⬍ ☐ Recording Duration [Max]
Auto Start with Temp. + delay ☐	>= ⬍ 55.0 ⬍ 00h10m ⬍

The recorder starts manually by pressing the start button with a delay of 30 minutes. The recording interval is 5 minutes stops automatically at 17:16 on June 28, 2016.

Sampling rate	00d 00:05:00 ⬍ 070d 04h40m00s
Auto Start Time ☐	28/06/2016 17:15 ⌄ 28/06/2016 17:16 ⌄ ☑ Auto Stop Time
Manual Start + delay ☑	00d 00h30m ⬍ 001d 04h00m00s ⬍ ☐ Recording Duration [Max]
Auto Start with Temp. + delay ☐	>= ⬍ 55.0 ⬍ 00h01m ⬍

The recorder starts manually by pressing the start button immediately, or starts automatically if the temperature is greater

than or equal to 55 °C for 10 consecutive minutes. The recording interval is 5 minutes and the recorder stops automatically after 70 days, 4 hours and 40 minutes.

Sampling rate	00d 00:05:00 ⬍ 070d 04h40m00s
Auto Start Time ☐	28/06/2016 17:15 ⌄ 28/06/2016 17:16 ⌄ ☐ Auto Stop Time
Manual Start + delay ☑	00d 00h00m ⬍ ➡ 070d 04h40m00s ⬍ ☑ Recording Duration [Max]
Auto Start with Temp. + delay ☑	>= ⬍ 55.0 ⬍ 00h10m ⬍

1 **CONNECT**

2 **SAVE**

3 **CONFIGURE**

4 **CUSTOMIZE**

✓ Set the backup folder
✓ File format
✓ Choice of graphic elements

CUSTOMIZATION

Sofrigam manager allows customization at several levels: backup folder, file types generated upon logger connection, file generation or not upon logger connection, graph colors, data types, or elements present in the summary pdf. To change the preferences, go to the File> Preferences menu.

Select the default directory where the files will be saved

Current Language

Country/city time or UTC format

Celsius / Fahrenheit

CSV separator character (*)

Set the activation energy value

Automatically generates and saves the desired file format in the default folder as soon as the recorder is connected.

Sofrigam Manager 1.04.94 ×

General | Graph | Data | PDF

Defaults Settings

Home Path: uments/Cold chain/Temperatures/2017/May [...]

Create sub-folder by:
- ○ None
- ● Date (yyyymmdd)
- ○ Device Name
- ○ Serial Number
- ○ Description

Language: Francais

Time Zone: Europe/Paris

Location: Europe/Paris France GMT: +1:00
Current Time at specified location: 22/03/2017 04:21:31

Temperature Unit: Celsius

Excel CSV Separator: ;

Excel Decimal: .

MKT Activation Energy (kJ/mol): 83.1447

On Logger Detection

☑ Set Tab [Configure ▼]

☐ Save ZLG   ☐ Add date and time to file name.

☐ Save TXT

☐ Save CSV

☐ Save PDF   ☑ Open PDF
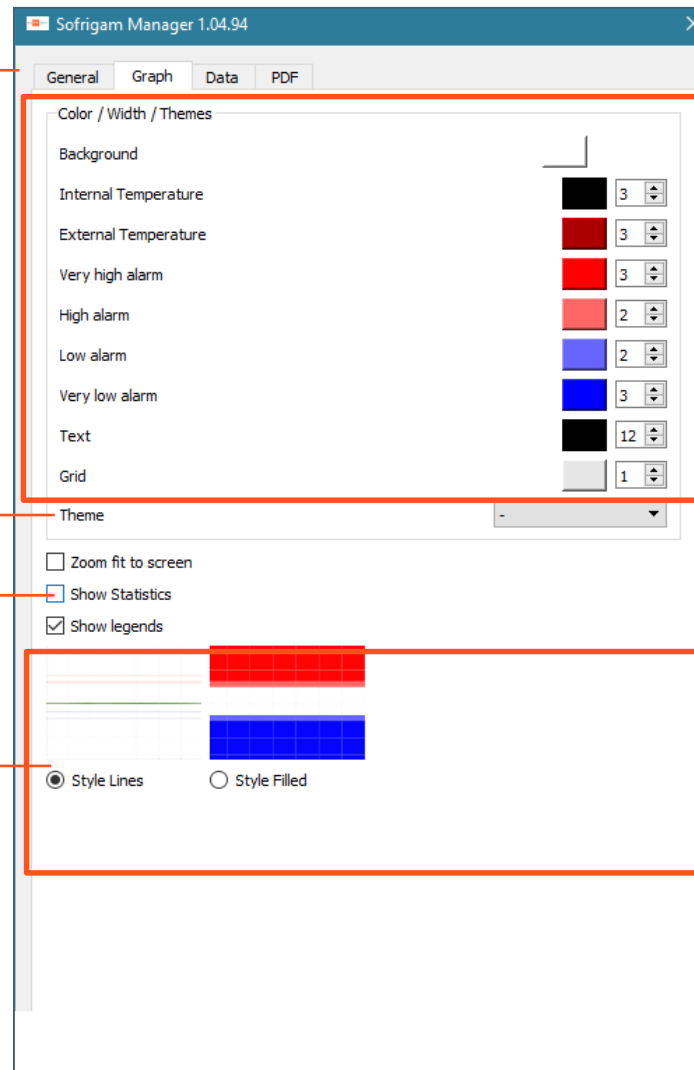
☐ Save JPG

① **"General" tab**

(*) Europe uses ";" semicolon while the US uses "," comma

CUSTOMIZATION

Color/Width/Themes: Customize all aspects of the graph such as the color and thickness of the frames

Theme choice: white, gray or black.

Default zoom to have all the information on the screen.

Style lines: select the alarm thresholds indicated by lines for each zone.

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General   Graph   Data   PDF

Color / Width / Themes

Background		
Internal Temperature	■	3
External Temperature	■	3
Very high alarm	■	3
High alarm	■	2
Low alarm	■	2
Very low alarm	■	3
Text	■	12
Grid	■	1

Theme   -

☐ Zoom fit to screen
☐ Show Statistics
☑ Show legends

◉ Style Lines   ○ Style Filled

② **"Graphic" tab**
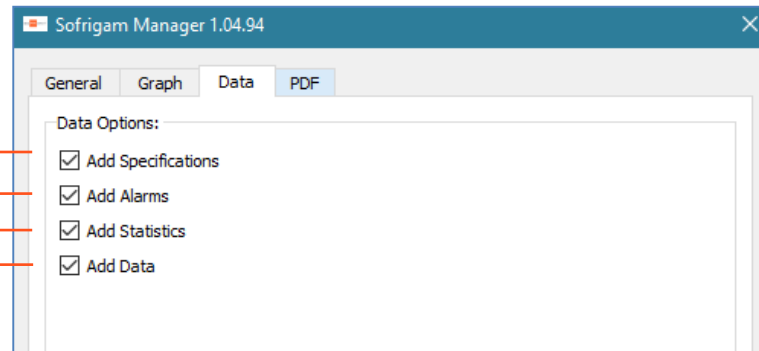
CUSTOMIZATION

ADD:

Logger information and configuration

Alarms: thresholds, delays, etc.

Basic stats: min, average, max, mkt

all recorded data

Sofrigam Manager 1.04.94

General | Graph | Data | PDF

Data Options:

- ☑ Add Specifications
- ☑ Add Alarms
- ☑ Add Statistics
- ☑ Add Data

③ "Data" tab
Select information
Visualize.

Sofrigam Manager 1.04.94

General | Graph | Data | PDF

PDF Color / Width

Curve — 2

Curve #2 — 1

Very high alarm — 1

High alarm

Low alarm

Very low alarm

Default

④ "PDF" tab
Customize PDF generated by
the data logger.
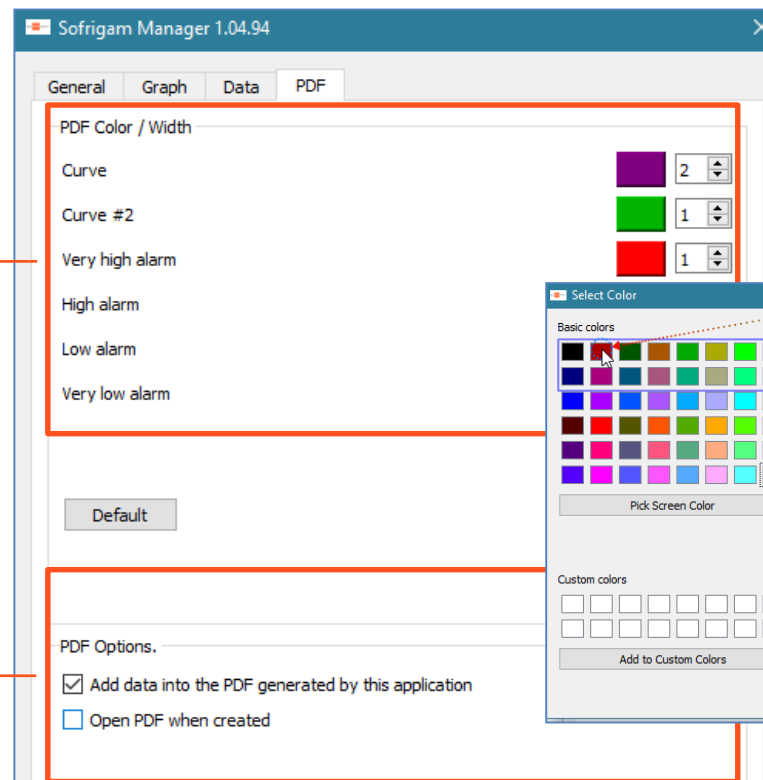
Customize the color and thickness of
the curve and of alarm thresholds

Select Color

Basic colors

Pick Screen Color

Custom colors

Add to Custom Colors

Hue: 120   Red: 0
Sat: 255   Green: 180
Val: 180   Blue: 0

HTML: #00b400

OK   Cancel

PDF Options.

- ☑ Add data into the PDF generated by this application
- ☐ Open PDF when created

Select the data to be added in the
application-generated PDF

SOFRIGAM

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