

# tempmate.<sup>®</sup>-S1 PRO

## Manual



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## 1. Introduction

tempmate.®-S1 PRO data loggers were especially developed to monitor temperature-sensitive products throughout the entire cold chain. Thanks to customer-specific settings being made directly in our factory, the tempmate.®-S1 PRO data loggers are ready to record the relevant refrigeration data immediately. The automatically created PDF and CSV reports contain extensive information that you can use to assess the goods being monitored: data curve, statistical values such as MIN, MAX, AVG, MKT, and every single measurement value shown in a detailed summary page of the report in both CSV and PDF format.

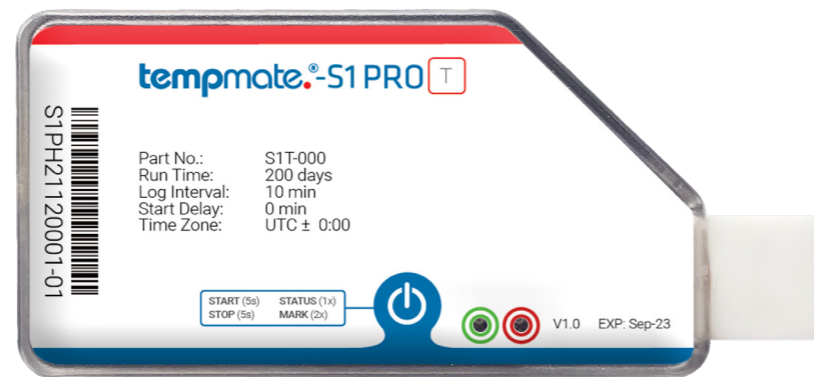
## 2. Intended Use

This product is designed to be used for measuring temperature and humidity in any conditions that the customer wants.

## 3. Disposal

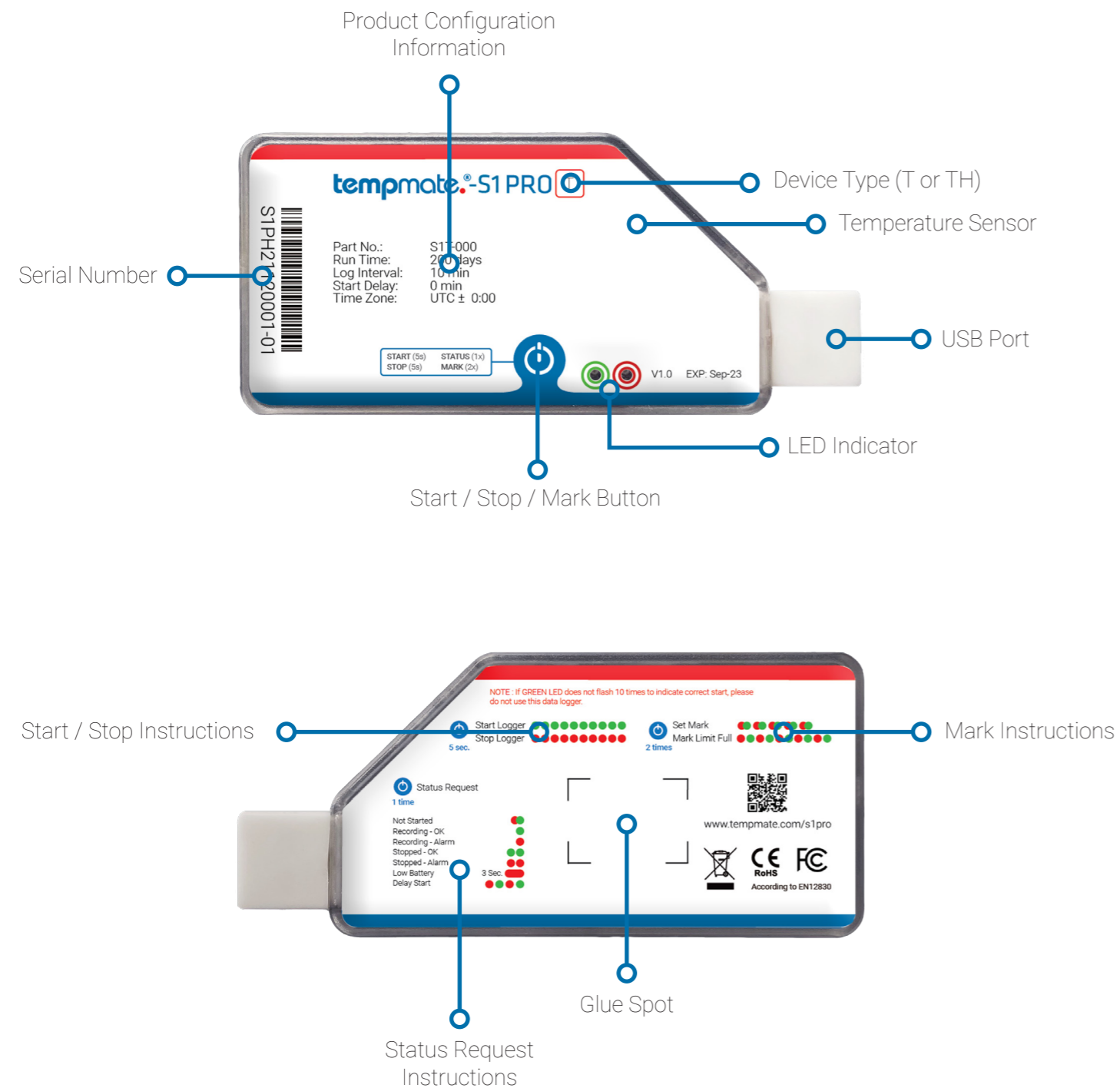
Please dispose the datalogger at an appropriate recycling center. Further information can be obtained from your local disposal company and public institutions.

## 4. tempmate.®-S1 PRO Models

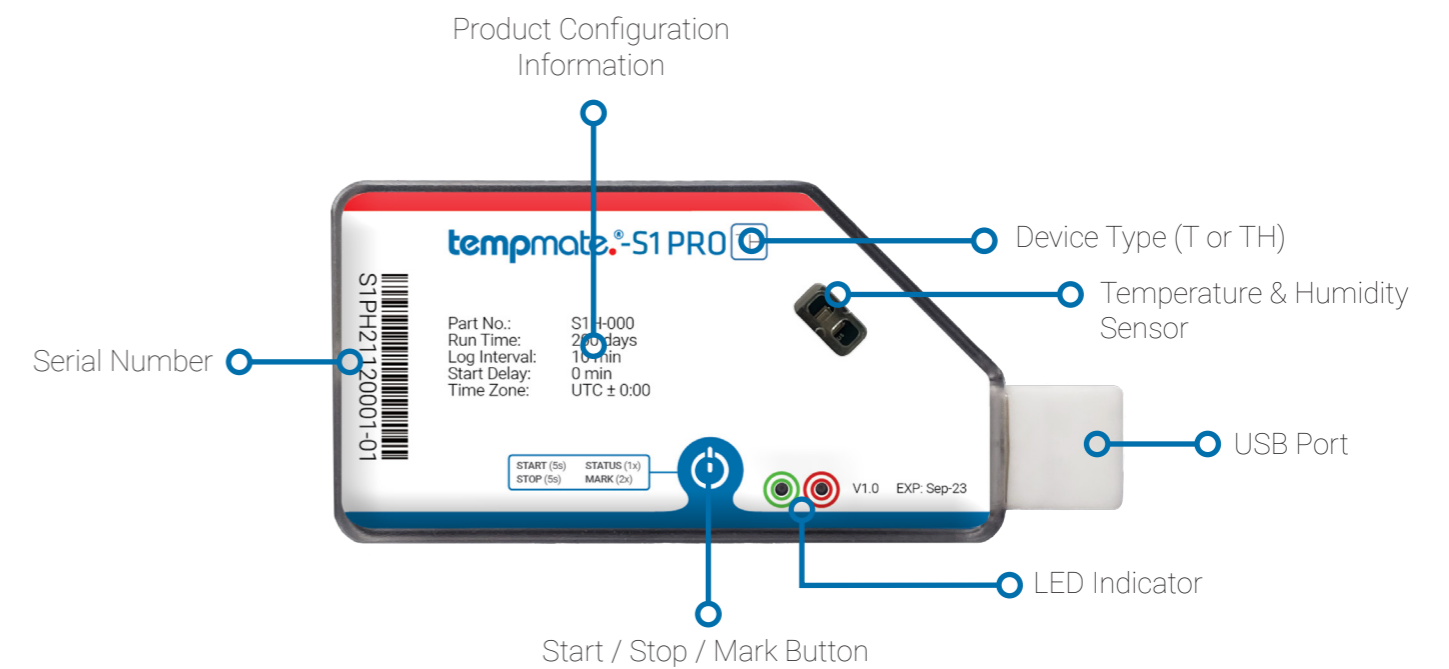


One-way	●	●
Temperature	●	●
Rel. humidity		●

## 5. Device Description T



## 6. Device Description TH



## 7. Quick Start Guide

Start Button

Green LED

Red LED

### Application

01 Keep button pressed for minimum 5 seconds to start recording

02 Add started **tempmate**.<sup>®</sup>-S1 PRO to your shipment

03 Connect stopped logger directly to USB port

04 The PDF report will be generated automatically

### LED Indication

5 sec.	Start Logger	<b>Rec.</b>		2 times	Set Mark	<b>Mark</b>	
	Stop Logger	<b>Stop</b>			Mark limit full	<b>Mark</b>	

## 8. Status Request

To check the status of the device, press the button once and pay attention to the LED pattern. The pattern of the LED sequence is displayed on the back of the device.

1 time

Not started	
Low battery	<b>3 sec.</b>
Recording-OK	
Recording-Alarm	
Stopped-OK	
Stopped-Alarm	
Delay Start	

**Not Started:**  
The green and red LEDs flash once if the device has not yet been started.

**Recording – OK:**  
The green LED flashes once when the device is recording without logged alarms.

**Recording – Alarm:**  
The red LED flashes once when the device is recording with logged alarms.

**Stopped – OK:**  
The green LED flashes twice when the device is stopped without logged alarms.

**Stopped – Alarm:**  
The red LED flashes twice when the device is stopped with logged alarm.

**Low Battery:**  
The red LED lights up for 3 seconds when the device has a critical battery level.

**Delay Start:**  
The red and green LED flash in turns 2 times to indicate a start delay.

## 9. Operation and Usage (Modes of Usage)

### 9.1 Default/Standard Configuration

Time Zone:	UTC ±00.00
Temperature Unit:	Celsius
Start Delay:	No Delay
Log Interval:	10 Min
Stop mode:	Stop by Button

The device will be shipped in this default configuration. Keep the start/stop button pressed for at least 5 seconds to start logging in default / standard configuration. The green LED will blink 10 times to indicate a successful start.

### 9.2 Delay Configuration Mode (Defined by user)

Time Zone:	User Defined
Temperature Unit:	User Defined
Start Delay:	User Defined
Log Interval:	User Defined
Stop mode:	Stop by Button / Stop when Full

1. Connect the device to your PC via the integrated USB port.
2. Red and green LED start to flash.
3. Open the configuration tool preinstalled on the logger and enter your required start delay.

Once configured in delay mode, keep the start/stop button pressed for at least 5 seconds to start the logger. The green LED will blink 10 times to indicate a successful start and start a delay time counter. This timer will count until the configured delay has expired. The data logging will automatically.

**Example:** If the configured delay is 20 minutes, the device will start logging 20 minutes after starting the logger by pressing the button for at least 5 seconds.

### 9.3 Scheduled time configuration mode (Defined by user)

Time Zone:	User Defined
Temperature Unit:	User Defined
Start Delay:	User Defined
Log Interval:	User Defined
Stop mode:	Stop by Button / Stop when Full

1. Connect the device to your PC via the integrated USB port.
2. Red and green LED start to flash.
3. Open the Configuration tool preinstalled on the logger and enter your required start time.

After configuration in schedule mode, press and hold the Start/Stop button for at least 5 seconds to start the logger. The green LED flashes 10 times to indicate a successful start and to start a delay time counter. The counter will trigger an automatic start to log at the date/time you selected.

**Example:** The current date is 01-Jan-2022 and the configured scheduled date and time is 05-Jan-2022 at 10:00:00.

- Keep the start/stop button pressed for at least 5 seconds any time before Jan-2022 10:00:00. The green LED will flash 10 times to indicate a successful start, but the recording will not start until Jan-2022 10:00:00.
- If you start the device after the set date/time, the device will start recording immediately.

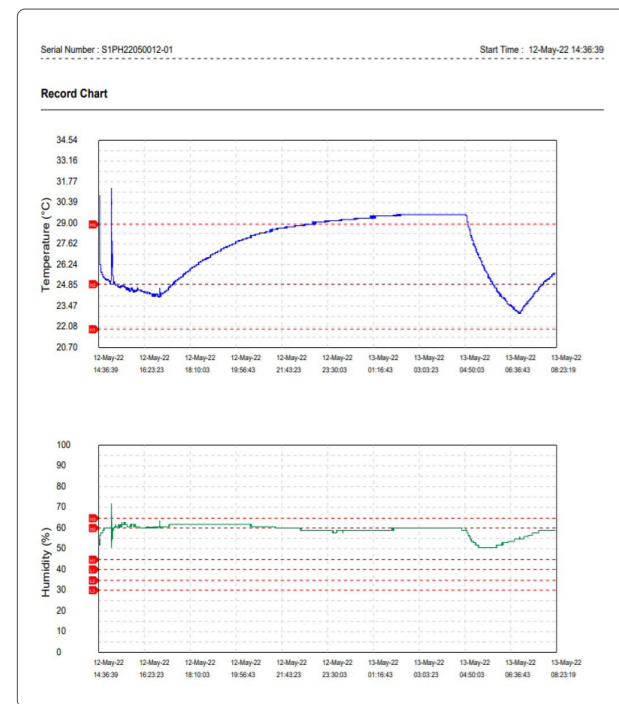
## 10. Mark Function

To visually highlight certain events in your data report, you have the possibility to set marks. To do this, press the start/stop button twice in a row. The red and green LEDs flash in turn 5 times to indicate a successfully set mark. You can set up to 10 marks.

## 11. Generating PDF

Please follow the steps below to generate your PDF report:

1. Connect the device to your PC via the built-in USB port.
2. The red and green LED will start flashing simultaneously when your PDF report is generated successfully.
3. The data logger can now be accessed as a USB flash drive. Here you can access your report. By running the "generatograph.exe" additionally the PDF report with the graph can be generated.



Temperature Threshold		Alarm Delay	Alarm Type	First Alarm	Total Events	Longest Time	Total Time
H2	<25.0 °C	00h 15m	Single	12-May-22 22:52:59	1	00d 00h 00m 40s	00d 00h 00m 40s
H1	<25.0 °C	00h 15m	Single	12-May-22 14:46:39	3	00d 07h 05m 48s	00d 20h 47m 38s
L1	>18.0 °C	00h 30m	Single	12-May-22 15:01:39	1	00d 01h 15m 58s	00d 01h 15m 58s
L2	>18.0 °C	00h 30m	Single	00-00-00 00:00:00	0	00d 00h 00m 00s	00d 00h 00m 00s
L3	>18.0 °C	00h 15m	Single	00-00-00 00:00:00	0	00d 00h 00m 00s	00d 00h 00m 00s

Humidity Threshold		Alarm Delay	Alarm Type	First Alarm	Total Events	Longest Time	Total Time
H2	<60.0 %RH	00h 15m	Single	00-00-00 00:00:00	0	00d 00h 00m 00s	00d 00h 00m 00s
H1	<60.0 %RH	00h 15m	Single	12-May-22 14:56:33	3	00d 07h 07m 56s	00d 09h 42m 24s
L1	>60.0 %RH	00h 30m	Single	00-00-00 00:00:00	0	00d 00h 00m 00s	00d 00h 00m 00s
L2	>60.0 %RH	00h 15m	Single	00-00-00 00:00:00	0	00d 00h 00m 00s	00d 00h 00m 00s
L3	>60.0 %RH	00h 30m	Single	00-00-00 00:00:00	0	00d 00h 00m 00s	00d 00h 00m 00s

## 12. FAQ

### 12.1 Can I change the battery of the tempmate.®-S1 PRO?

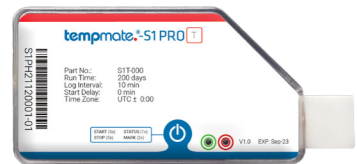
The tempmate.®-S1 PRO is a single-use datalogger. Once stopped you cannot reuse the logger and the battery can't be replaced.

### 12.2 What is the difference between the tempmate.®-S1 PRO T and tempmate.®-S1 PRO TH?

The tempmate.®-S1 PRO T can monitor and store temperature only, whereas the tempmate.®-S1 PRO TH can monitor and store both temperature and humidity.

### 12.3 What time is shown for the analysis?

The tempmate.®-S1 PRO data loggers have an integrated real-time clock (RTC). This is set to UTC±0 before leaving the factory, and is therefore used for the tempmate.®-S1 PRO's PDF analysis. The starting time is therefore documented with to-the-second accuracy, and the stop time always corresponds to the last measurement interval when it was stopped. This time zone can also be configured as per the customers need by changing the time zone setting from the configure tool.



## Main Technical Specifications tempmate.®-S1 PRO T

Recording Options	Single-Use
Dimension [mm]	86 x 40 x 8.7mm
Weight [g]	15.2g
Casing	Hardcase with removable cap
Battery	CR2450 lithium metal button cell battery
Connection Interface	USB 2.0, A-Type (integrated)
Protection Class	IP66
Shelf Life	24 months
Temperature Range	-30 °C to 70 °C
Temperature Accuracy	±0.3°C (-30 to 70°C)
Temperature Resolution	0.1 °C
Humidity Range	Available with the tempmate.®-S1 PRO TH
Humidity Accuracy	Available with the tempmate.®-S1 PRO TH
Humidity Resolution	Available with the tempmate.®-S1 PRO TH
Memory Capacity (measurements)	32,000 values (T)
Run Time (Logging Interval)	Up to 200 days (10 min.) = Standard Model, Other models only on request
Data Export	PDF & CSV
Alarm Configuration	Up to 6 points temperature, customizable
Startup Mode	Button (optional preprogrammed scheduled start)
Stop Mode	Button (optional preprogrammed scheduled stop)
Software	PDF or CSV reader
Reprogrammable	Inbuilt offline configurator tool
Validation Certificate	Available as PDF on memory of the device
Conformity	CE, EN12830, RoHS, FCC, RTC DO-160
Log Interval	User defined: 1 min. to 1440 min. (10 min. as standard setting preconfigured)
Mark Readings	Option to mark up to 10 readings
Connectivity	Through USB port
Alarm Type	Single / Cumulative
Case Material	Food Grade Plastic (Polycarbonate)
Packaging	Hardcase with removable USB-cap



## Main Technical Specifications tempmate.®-S1 PRO TH

Recording Options	Single-Use
Dimension [mm]	86 x 40 x 8.7mm
Weight [g]	15.2g
Casing	Hardcase with removable cap
Battery	CR2450 lithium metal button cell battery
Connection Interface	USB 2.0, A-Type (integrated)
Protection Class	IP64
Shelf Life	24 months
Temperature Range	-30 °C to 70 °C
Temperature Accuracy	±0.3°C (-30 to 70°C)
Temperature Resolution	0.1 °C
Humidity Range	0 - 100 %rH
Humidity Accuracy	±3%rH (0 to 100%rH)
Humidity Resolution	1 %rH
Memory Capacity (measurements)	32,000 values (each, T & TH)
Run Time (Logging Interval)	Up to 200 days (10 min.) = Standard Model, Other models only on request
Data Export	PDF & CSV
Alarm Configuration	Up to 6 points temperature and 6 points humidity, customizable
Startup Mode	Button (optional preprogrammed scheduled start)
Stop Mode	Button (optional preprogrammed scheduled stop)
Software	PDF or CSV reader
Reprogrammable	Inbuilt offline configurator tool
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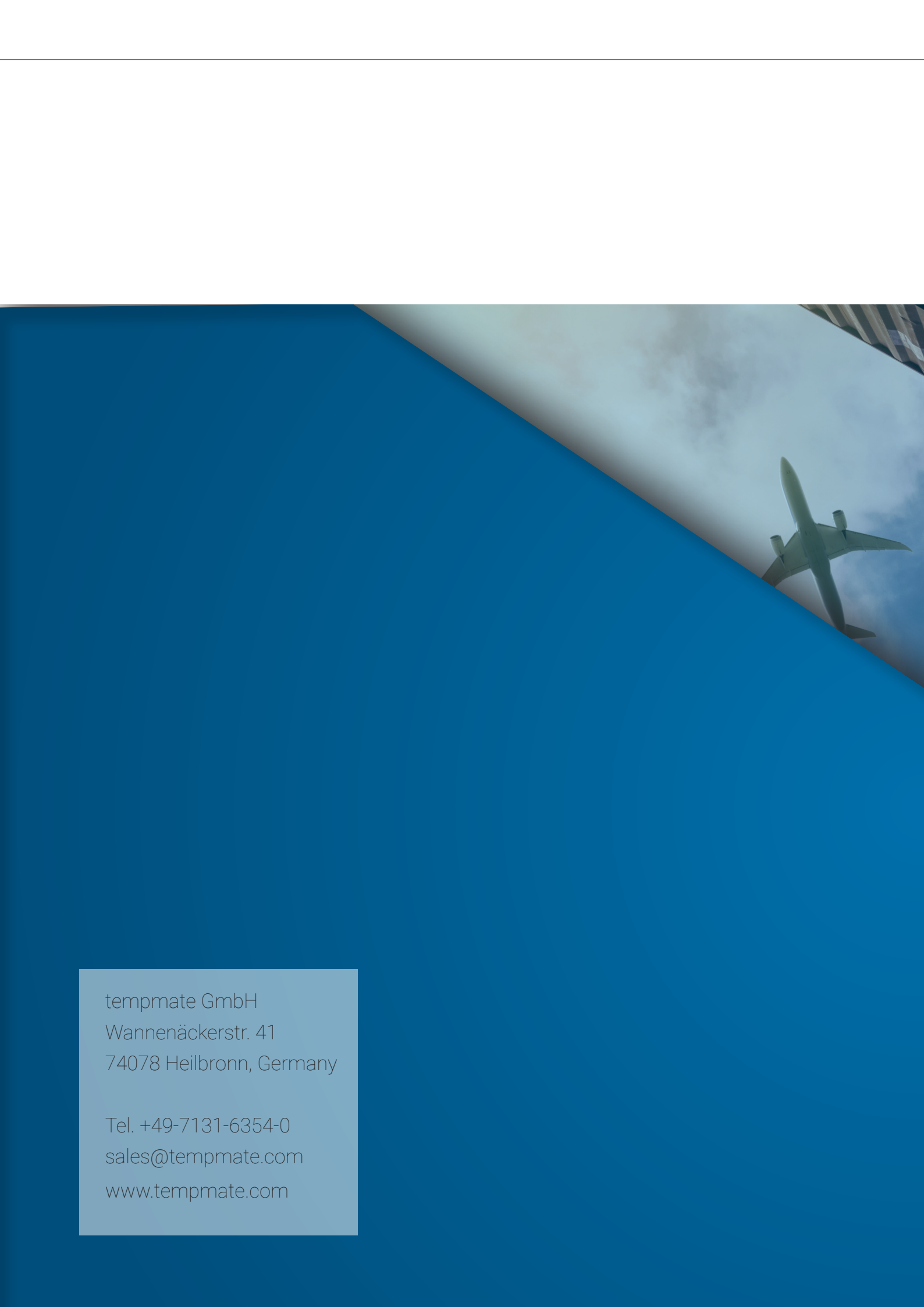
## Contact Information



Do you have any questions? Please contact us - our experienced team will be happy to support you.

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