

ALARM MANAGEMENT

Contents

1.	Introduction.....	1
2.	Alarm triggers	1
3.	Setting alarm recipients	2
4.	Setting alarms: Disconnection of the measurement device.....	3
5.	Setting alarms: Disconnection of the Gateway	3
6.	Setting alarms: Temperature alarm limits.....	3
6.1	Adjusting alarm temperature limits	5
7.	Alarm notifications and their acknowledgements	7
8.	Removing the temperature alarm of the measurement device	7
9.	Set the measurement device to pause mode.....	8

1. Introduction

In alarm management, the unit main user defines the events that cause the alarm and to whom the alarm notification is forwarded. There can be multiple recipients of an alarm. The alarms are sent as both a text message (SMS) and an email. Alarms are sent as both text and e-mail messages. Alarm management requires that the account has a valid SmartKitchen license.

The alarm must be acknowledged in the service so that the next one can be sent. The user must take corrective measures immediately after receiving an alarm and acknowledge it in the service. The next alarm can only be sent if the previous one has been acknowledged.

2. Alarm triggers

1. Measurement device is disconnected
2. Gateway is disconnected
3. Exceeding or falling below the alarm limit set for the measurement device (temperature)

1. **A disconnection of the measurement device will cause an alarm** if the device has not transferred the measurements to the SmartKitchen service within the last 4 hours. This may be due to, for example, running out of batteries or placing the device out of range. **Always check the temperatures of the measurement devices from the service after a disconnection.**
2. **A disconnection of the Gateway device causes an alarm** if the device has not been connected to the SmartKitchen service during the last 3 hours. The connection loss may be due to, for example, poor mobile network coverage or by accidentally unplugging the Gateway and its battery power has run out. Note that a Gateway disconnection usually also causes a measurement device disconnection, which is corrected when the problem that caused the Gateway disconnection is corrected. **Always check the temperatures of the measurement devices from the service after a disconnection.**
3. **With the set temperature alarm limit**, the service user receives an alarm if, for example, the door of the freezer room is left open, or the refrigeration appliance is broken. The temperature alarm limit can be used to avoid extensive damage by preventing cold chain breakage and food spoilage.

3. Setting alarm recipients

The **unit main user** directs alarms to the desired email addresses and / or SMS numbers. To activate the contact, the recipient of the alarm must acknowledge the confirmation message sent to the e-mail address and SMS number. This ensures that the correct and functional contact information has been entered into the service.

To add the alarm recipients, select:

→ Settings → Alarm manager → Recipients of the alarms. Select "Add new recipient". After that, you choose whether to add an email address or a phone number for text messages.

By selecting an alarm on a per-user basis, it is possible to select which alarm event is forwarded to which contact as a text message and / or email. The same alarm can be transmitted to several users simultaneously. **However, we recommend that there are no more than three alarm recipients for each alarm.** This ensures that alarms are responded to. Please remember to take holiday periods into account and correctly direct the alarms during them as well.

The verification link sent to the email address must be clicked / followed to verify the email address. When the verification is complete, the text "Not verified" after the email address will disappear. A corresponding link is also sent to the entered SMS number, which is clicked to verify the phone number.

Note that a verification message will be sent as soon as OK is selected after adding the contact. If you do not receive the verification message, please check your email's spam folder.

4. Setting alarms: Disconnection of the measurement device

Settings → Alarm manager → Measurement device alarms: select which devices will send an alarm if no measurements have been transferred to the service in the last 4 hours. Disconnection alarms must always be selected for the measurement devices used in the kitchen environment.

5. Setting alarms: Disconnection of the Gateway

The Gateway device must be registered in the user account to receive alarms about disconnections. Usually, the gateway is already registered.

Settings → Alarm manager → Gateway alarms: select which gateway devices will send an alarm if they have not been connected in the last 3 hours.

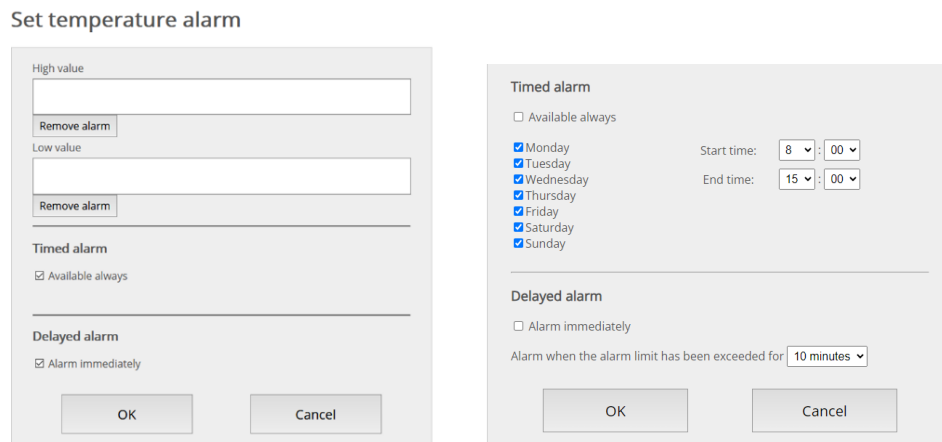
If the gateway device in use does not appear in the list, it must be registered in the account. Registration is done by selecting: **Settings → Gateway devices: Activate new gateway device** with its serial number. Enter the numerical serial number on the label of the gateway device. After activating the device, go back to Alarm manager and select the gateway to alarm.

6. Setting alarms: Temperature alarm limits

The user defined in the alarm management receives alarm when the measurement limit is exceeded or falls below (for example, the measured temperature is higher than the upper temperature limit). Alarms also appear in the SmartKitchen service, where they are easy to analyze later.

Set temperature alarm: Settings → Measurement devices: Choose the device for which you want to set an alarm. → **Set temperature limits:** Enter the highest and/or the lowest allowed value. Click OK.

Figure 1.
Temperature limits.
The timed and delayed alarm menus appear when the checkbox is unchecked.



Set temperature alarm

High value

 Remove alarm

Low value

 Remove alarm

Timed alarm
 Available always

Delayed alarm
 Alarm immediately

OK Cancel

Timed alarm
 Available always

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Start time: 8 : 00
 End time: 15 : 00

Delayed alarm
 Alarm immediately
 Alarm when the alarm limit has been exceeded for 10 minutes

OK Cancel

Timed alarms

If necessary, the user can enable alarms only at specified times. Timed alarms are enabled by unchecking the “Available always” check box. Removing the check mark brings up the days of the week and times menu. Choose from these when you want the device to respond to the alarm limits.

Delayed alarms

If necessary, the user can set a delayed alarm for devices that may momentarily exceed or fall below the set limit. To enable delayed alarms, clear the “Alarm immediately” check box. A delayed alarm is only sent when the measurement has been continuously above or below a given limit for a specified time. In this way, the user avoids the so-called “unnecessary alarms”, for example when new products are added to the freezer.

When the alarm settings are complete, click OK to save.

The service now sends alarms (by email and / or SMS) if the measured value exceeds the maximum allowed value or falls below the minimum. The latest and unacknowledged alarms are displayed on the front page of the SmartKitchen service.

On the Monitoring tab, the bell icon next to the name of the measurement device indicates which device caused the alarm. When that device is selected, the user can see the latest alarm. **The user must acknowledge the alarm. At the same time the cause can be recorded.** Previous alarms are displayed below the graph.

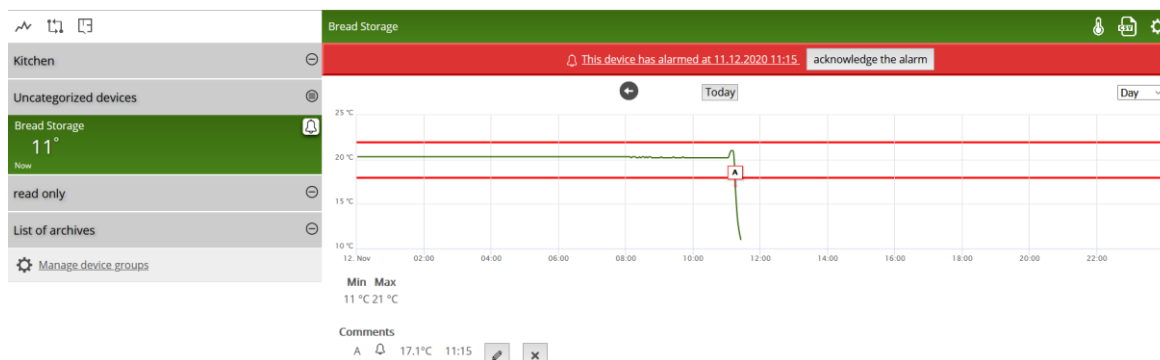


Figure 2. A temperature alarm displayed in the service.

6.1 Adjusting alarm temperature limits

A detected deviation in the operation or use of the monitored cooling device triggers an alarm. An alarm should always lead to a measure to correct the deviation. Alarm limits and alarm delays must be adjusted correctly so that the alarms are reliable and work as intended.

Note! After the installation of the self-monitoring system (for example, after a week), the alarm limits and delays of each measurement device should be checked and adjusted accordingly.

If the temperature alarm limits are incorrectly set, the alarm will not occur, even if it should. And if the measurement device alarms repeatedly giving false alarms, the real alarm is easily missed.

Dishwashers: Alarms for DWL measurement devices must be carefully planned. Can unnecessary alarms be avoided, for example by scheduling? The alarms of the DWL measurement device can only be used if the dishwasher is always used at the same time or if it is constantly on.

Examples:

Incorrectly set alarm limits.

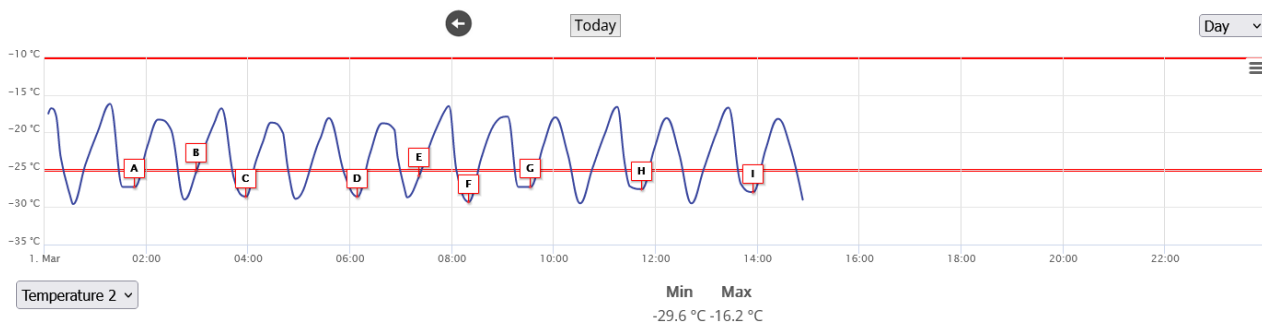
The placement of the measurement device or the temperature of the cooling device must be adjusted.



Example:

Too short delay in setting alarm limits

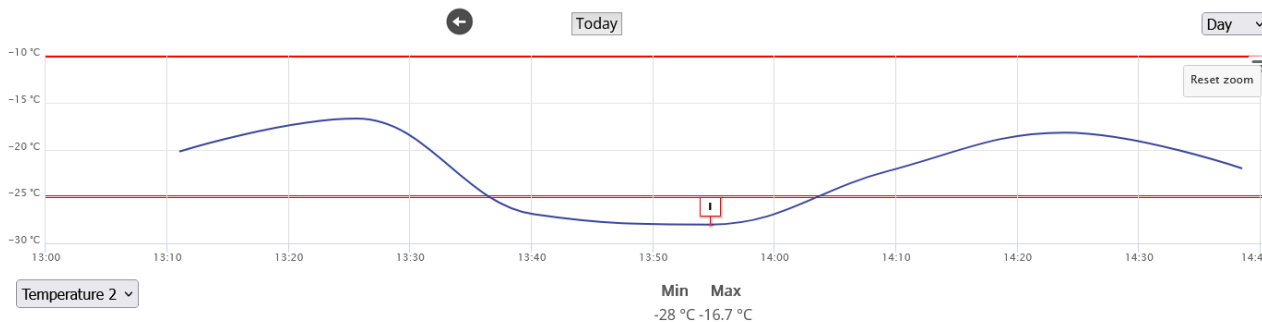
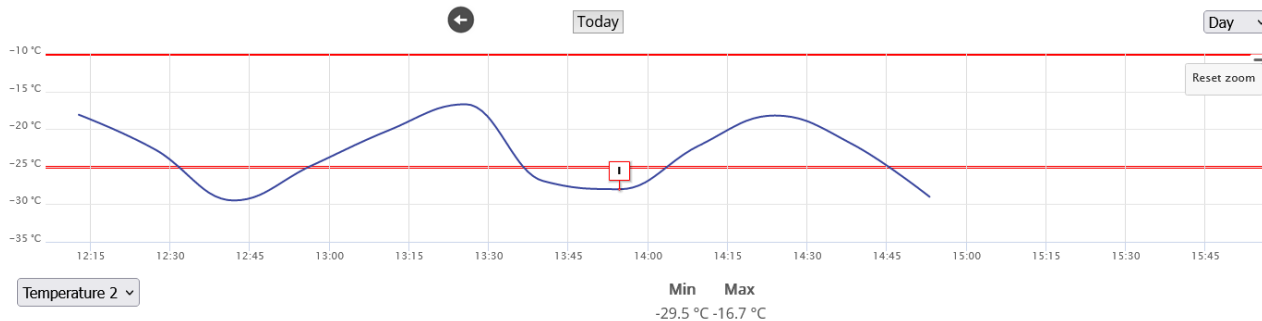
The temperature of the refrigerators changes constantly thanks to the thermostat control. If the delay was set to 60 minutes, there would be no false alarms.

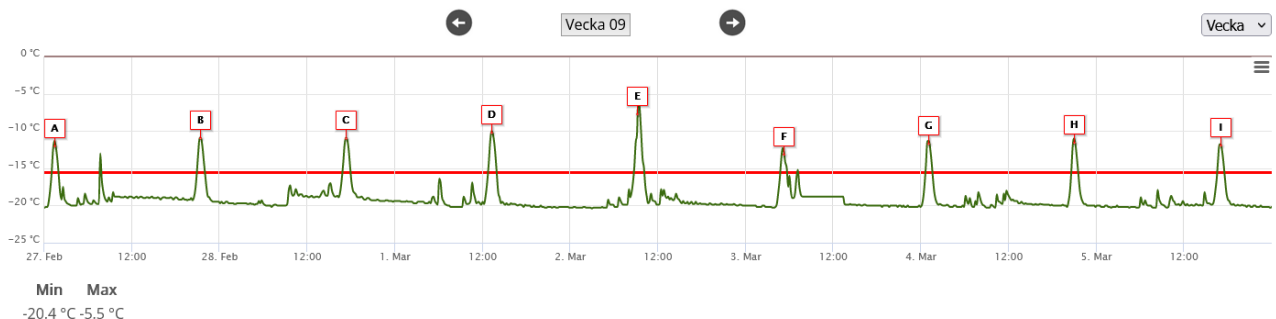


Examples:

Alarm delay too short.

The automatic defrost function of refrigerators regularly raises the temperature above the alarm limit. With a sufficiently long alarm delay, false alarms can be prevented.





In some cases, the temperature measurement limits and delays are correctly set, but still the measured temperature deviates from the accepted one and causes alarms. In this case, you should think about whether the measured temperature is a representative sample of the refrigerator's temperature or whether it is possible, for example, to change the location of the measurement device inside the refrigerator or adjust the refrigerator's temperature settings.

7. Alarm notifications and their acknowledgements

The user defined in the alarm manager will be notified by email and / or SMS about the last alarm. If the previous alarm has not been acknowledged, the service will not send a new message. However, all notifications will appear on the SmartKitchen service.

The recipient of the alarm notification must ensure that the problem that caused the alarm is fixed and the alarm is acknowledged at the service.

The prerequisite for a temperature alarm is that when the temperature changes, it breaks the set alarm limit. If the temperature is constantly on the wrong side of the alarm limit, the alarm cannot occur.

The service always shows the most recently occurred alarm. Selecting the "This device has alarmed at" link (see example in Figure 2.,page 4, "This device has alarmed at 11.12.2020 11:15") will take you to view the moment when the alarm occurred.

The alarm must be acknowledged. The next message can only be sent if the previous alarm has been acknowledged.

8. Removing the temperature alarm of the measurement device

If you want to disable the temperature alarms of the measurement device, select:

Settings → Measurement devices → Select the device from which you want to remove the alarm.
Set temperature alarm → Choose Remove alarm in the limit values.

9. Set the measurement device to pause mode

It is recommended to put the device in pause mode when it is out of use for a longer period, but you do not want to remove it from the account for good. Set the measurement device to pause mode, for example, when the kitchen refrigerator/freezer is temporarily out of use, for example due to seasonal changes or maintenance. This way, the measurement device does not cause unnecessary alarms to the service.

When the measurement device is in pause mode:

- The device does not send alarms.
- The device does not appear in the service dashboard.

The measurement data is still transferred to the service if the device is turned on. If the device is not used for a long time, it is recommended to turn off the power to save the batteries.

When the pause mode is deactivated, the measurement device continues to be used according to its settings. Alarms will come back into use and the device will appear in the service dashboard.

How to set the device to and from pause mode:

Settings → Measurement devices → Choose the device → Set the device to pause mode.

Slide the toggle to the right to turn pause mode on. The toggle color changes. When you want to put the device back into use, slide the toggle to the left.