

Emergency Control

Emergency lighting control is one of the important parts among the lighting solution. Emergency lighting ensures that lighting is provided rapidly, automatically, and for a suitable length of time if the main power supply is cut, and normal electrical illumination fails. In the event of a building fire, power outage or other emergency situation, facilities of all kinds require emergency lighting to ensure occupants are able to exit the building promptly and safely. So, it is important to have user's emergency lights maintained and in working order as they need to be ready and operational in case of an emergency.

Koolmesh system also is compatible with the standard Dali emergency driver in the mainstream market, but the Koolmesh-enabled translator module is needed to transfer the Dali signal to Bluetooth signal. Which means, users can use Koolmesh app to control their standard Dali emergency and do some basic configuration.

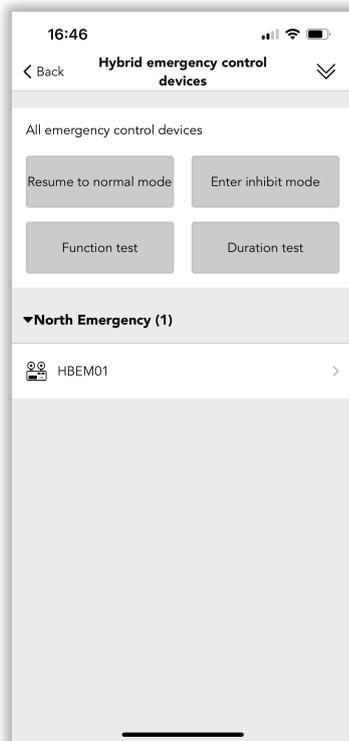
In Koolmesh app there are three sections for the emergency setting which allow user to schedule all the annual and monthly fault diagnosis, they are Emergency control devices and Dali emergency control devices and Emergency schedule settings.



Hybrid Emergency Control Devices

In this section, there are four modes which allow users to switch the status of the emergency device and start the function test and duration test manually for all the emergency devices on the network level.

Koolmesh app also lists out all the emergency devices by zone in this network which enable users to check the emergency logs and status and current status individually. Users also can schedule the self-test according to the application.



- Resume to normal mode:

When the luminaries are in emergency mode, then user can use this function to manually switch the emergency mode to the normal mode.

- Enter inhibit mode:

Activated inhibit mode makes it possible to set the emergency mode to "inhibited"; in this mode, the power can be turned off without switching to emergency mode. Normally it is for maintenance purposes, if the maintenance and inspection is needed on site, users can use this function to prevent the luminaries from switching to emergency mode. Users can use this function to activate it manually by selecting how long they would like to stay in inhibit mode, the longest time being 180H 59min.

- Function test :

This button enables users to carry out the function test manually. When the maintenance team on site they can use this function to start the test to check the health of battery. But user still need to select the start time and the time period for battery discharge, the longest testing period for battery discharge is 1H 59min.

Figure 1.1 Hybrid Emergency control devices

- Duration test:

This button enables users to carry out the duration test manually. When the maintenance team on site they can use this function to start the duration test. But user still need to select the start time and end time, users can start the test immediately or until fully charged. There is no limitation for the minimum and maximum testing period, just for testing convenience when users want to have a quick check. The shortest time can be 10s, the longest testing period is 45H 30min for emergency duration test. Please choose a suitable duration period according to the battery’s capacitance. If the duration time is set too long, the system may judge battery capacity to fail due to the battery failing to last for the preset period.

User can click the devices would like to set in the emergency list, like HBEM01, (see figure 1.5) . Koolmesh app will list out all the detail information about this emergency device.

1. Emergency logs which enable user to check all the logs of this emergency device, including the result of function test and duration test, also the emergency fault.  enable user to make a remark and signature.

※ Click  to make the remark, then the remark will be presented together with account and time right below the record, (see figure 1.2). After finished the remark, the grey icon  will become black 

All those record and remark also will be presented in the Emergency report, user can review all these via login the web platform.

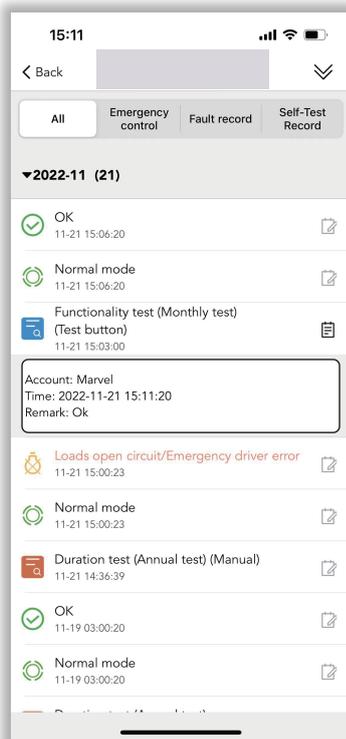


Figure 1.2 Emergency logs

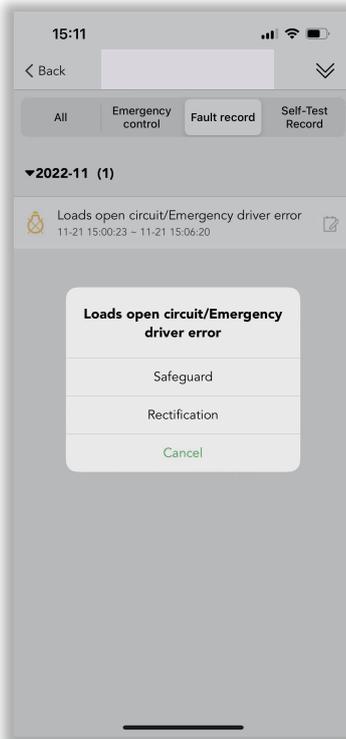


Figure 1.3 Fault record

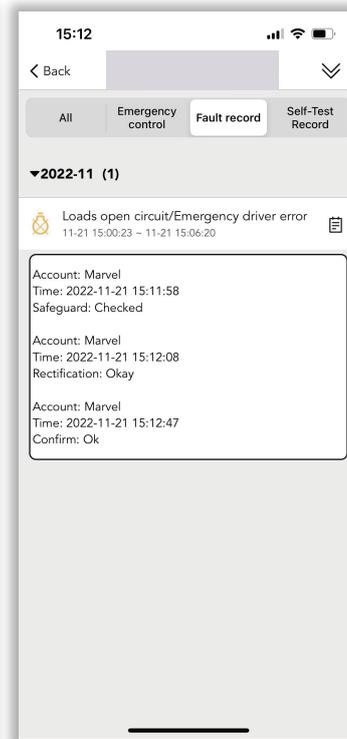


Figure 1.4 Fault record confirmation

※ Click  to make the remark, then the remark will be presented together with account and time right below fault record. (see figure 1.4)

For the Fault record, there are safeguard, rectification and confirm available for different responsible person, the “confirm” will only be available when the action and signature make by “safeguard” and “rectification” (see figure 1.3)

All those record and remark also will be presented in the Emergency report, user can review all these via login the web platform.

2. Extended emergency time which means when main power is present but was recently off, so the lamp continues to be operated in the same way as in emergency mode for a period of time, or until the battery is discharged. The longest time can be 23H 59min. It is useful to extend the emergency time when the main power is resumed after suffering from a power failure. It can prevent sudden power failure happening again due to an unstable period which could cause the luminaries flickering.
3. Emergency duration time setting which are to check the battery level conditions. The longest testing period for emergency duration is 15H. When users set the emergency duration time, please choose a suitable testing period according to the battery's capacitance. If the duration testing period is set too long, the system may judge battery capacity to fail due to that battery failing to last for the preset period.
4. Self-test scheduling which Koolmesh app will list out the schedule by month, user can set every month according to real application for "Function test" and "Duration test" (see figure 1.6)
Different function has different color, "Function test" is grey; "Duration test" is orange. User can select a certain date and hours for self-test, like date 16th 17:30.

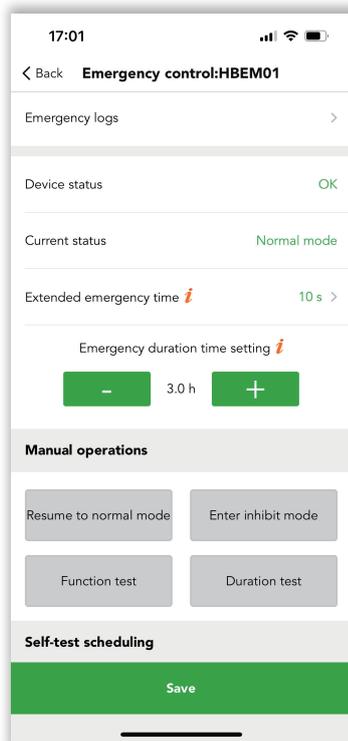


Figure 1.5 Self-test settings

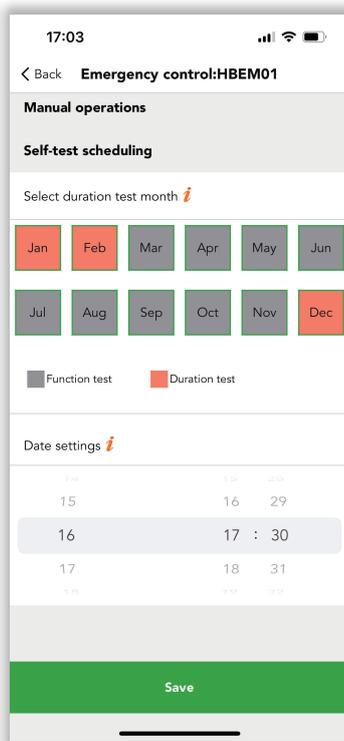


Figure 1.6 Self-test settings

✘ During the function and duration test, if there is any emergency fault found, the system will send the emergency fault notification immediately. Users can check the details by refreshing "Emergency logs" or email (set the auto-notification in the web platform in advance).

✘ After finished all the test, users can check the result via refresh "Emergency logs". Or users can check the report by Koolmesh web platform (www.iot.koolmesh.com, same account and password with Koolmesh app). System also will send the report to the registered email address where are users already set the auto-notification in the web platform in advance.

DALI Emergency Control Devices

In this section, there are four modes which allow users to switch the status of the emergency device and start the function test and duration test manually for all the DALI emergency devices on the network level.

Koolmesh also lists out all the DALI emergency devices by zone in this network which enable users to check the DALI emergency logs and device status and current status individually. Users also can schedule the self-test according to the application. And click the devices would like to set in the emergency list, like sales office 1 (HBEM8200-F).

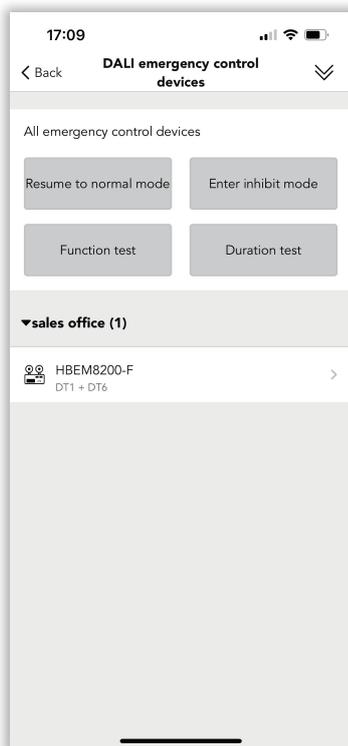


Figure 2.1 DALI Emergency control devices

- Resume to normal mode:

This button enables users to switch the inhibit mode or terminate the monthly test and annual test to normal mode, but if the emergency device is in the emergency mode, then users can not use this button to end the emergency mode.

- Enter inhibit mode:

Activated inhibit mode makes it possible to set the emergency mode to "inhibited"; in this mode, the power can be turned off without switching to emergency mode. Normally it is for maintenance purposes, if the maintenance and inspection is needed on site, users can use this function to prevent the luminaries from switching to emergency mode. Users can use this function to activate it immediately. The time for inhibit mode depends on third-party driver.

- Function test :

A quick test, usually between a few seconds and 1 min that simulates a mains failure and checks the operation of the emergency light source from the battery supply. This button enables the emergency battery switch to the function test immediately.

- Duration test:

A longer test for the rated duration, usually 1h to 3h. This duration test simulates a mains failure and checks that the battery will be able to operate the lamp for the full rated duration.

The test fails if the battery discharges before the rated duration has been reached. The battery is required to be fully charged before a duration test can be started. This button enables the emergency battery switch to the duration test immediately (but only start immediately after full charge).

User can click the devices would like to set in the DALI emergency list, like sales office 1(HBEM08200-F), (see figure 2.2) . Koolmesh app will list out all the detail information about this DALI emergency device.

1. Emergency logs which enable user to check all the logs of this emergency device, including the result of function test and duration test, also the emergency fault.  enable user to make a remark and signature.

※ Click  to make the remark, then the remark will be presented together with account and time right below the record, (see figure 2.3). After finished the remark, the grey icon  will become back 

All those record and remark also will be presented in the Emergency report, user can review all these via login the web platform.

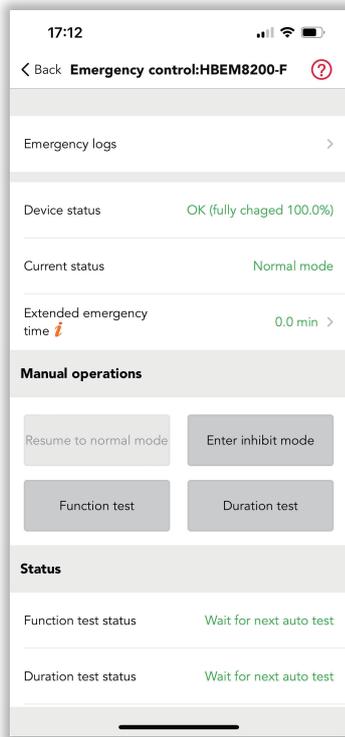


Figure 2.2 DALI Emergency device

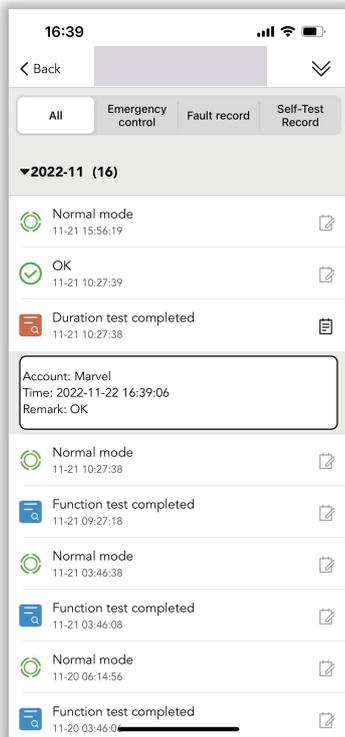


Figure 2.3 Fault record

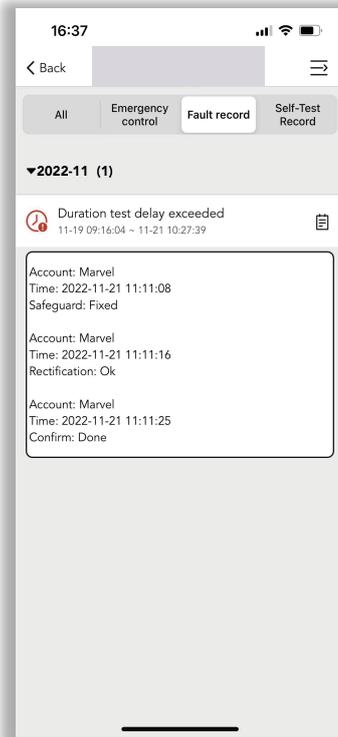


Figure 2.4 Fault record confirmation

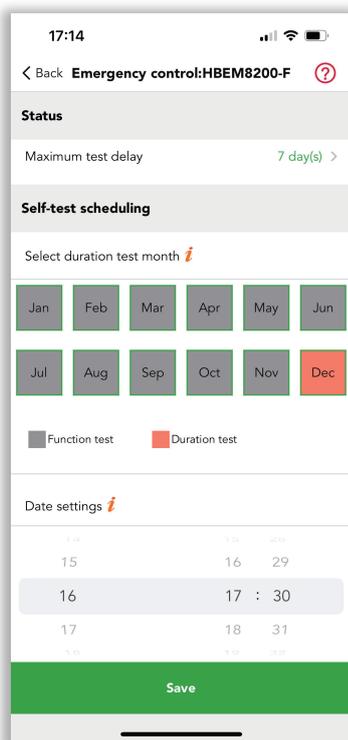
※ Click  to make the remark, then the remark will be presented together with account and time right below fault record. (see figure 2.4)

For the fault record, there are safeguard, rectification and confirm available for different responsible person, the “confirm” will only be available when the action and signature make by “safeguard” and “rectification”.

All those record and remark also will be presented in the Emergency report, user can review all these via login the web platform.

2. Extended emergency time which means main power is present but was recently off, so the lamp continues to be operated in the same way as in emergency mode for a period of time, or until the battery is discharged. The longest time can be 2H 7.5min. It is useful to extend the emergency time when the main power is resumed after suffering from a power failure. It can prevent sudden power failure happening again due to an unstable period which could cause the luminaries flickering.
3. Rated duration which user can change the time on the driver side, normally is 1H to 3H, please choose a suitable duration period according to the battery's capacitance.
4. Maximum test delay which means if the system failed to start the test when it is come to test, then it can be delay for a certain time to continue the test, the max days could be delayed is 255 days.
5. Self-test scheduling which Koolmesh app will list out the schedule by month, user can set every month according to real application for "Function test" and "Duration test" (see figure 1.6)
Different function has different color, "Function test" is grey; "Duration test" is orange. User can select a certain date and hours for self-test, like date 16th 17:30.

※ Every month can only carry out one scheduling function test or duration test, there is not possible to carry out scheduling function test and duration test at the same month.



※ During the function and duration test, if there is any emergency fault found, the system will send the emergency fault notification immediately. Users can check the details by refreshing "Emergency logs" or email (set the auto-notification in the web platform in advance).

※ After finished all the test, users can check the result via refresh "Emergency logs". Or users can check the report by Koolmesh web platform (www.iot.koolmesh.com, same account and password with Koolmesh app). System also will send the report to the registered email address where are users already set the auto-notification in the web platform in advance.

Figure 2.5 DALI Emergency time setting

Emergency Schedule Settings

To save commissioning time on site, Koolmesh also supports batch commissioning for emergency devices which enable users to copy all the parameters setting from exciting devices or use the system default profile directly. Of course, users also can add a new emergency profile according to the real application, all the detail settings please refer to Emergency control devices.

In this section, users can review the system default and all existing profiles for emergency control including those profiles created by other installers or users. Those profile with  means created by others and cannot be delete or edit, like “Customer profile” (see figure 3.1). For those profile created by user can be delete by slide to left side, like profile “Office 3” (see figure 3.2).

Users can apply the “system default profile”, then it would be easier. Users can click “System default profile” in the “Select a profile” page and “next” to select the target device and “start setting”. After finishing, this profile would not appear in the “Select a profile” page but will apply on the device that user chooses.

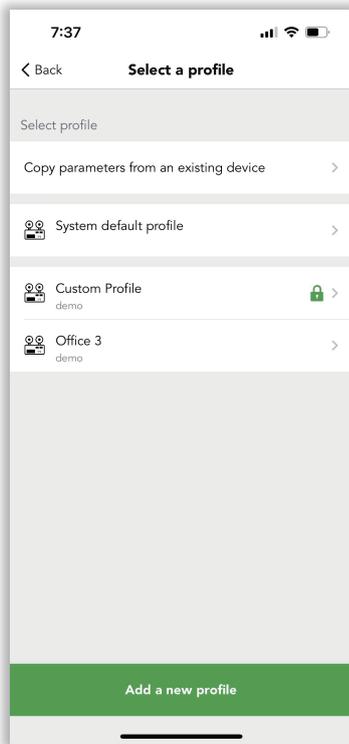


Figure 3.1 Select a profile

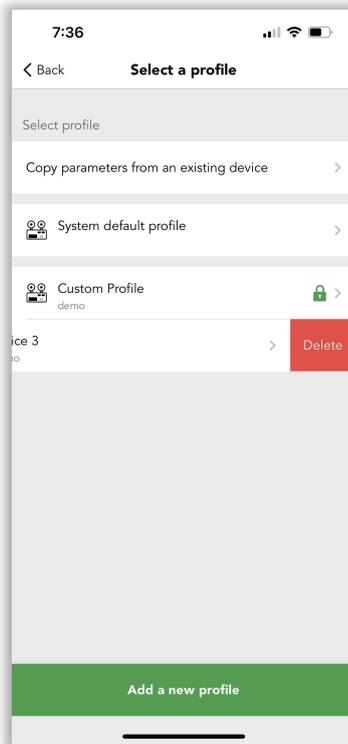


Figure 3.2 Delete a profile

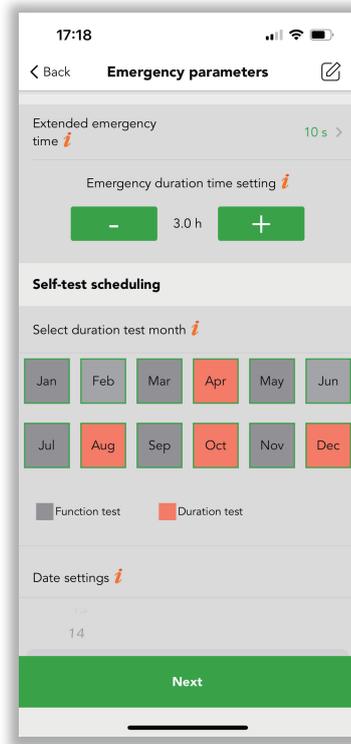


Figure 3.3 System default profile

Also, there are two ways to create and apply a new profile.

1. Copy parameters from an existing device and then “Choose” the device user would like to copy like “Office 3 (HBEM01)” and “Next ” Emergency parameters. Users can rename the profile as “Hallway” and change the parameters based on the exciting profile. After that, users can click “ ” to save and “Next” to select the device would like to apply and “start setting”. After finishing, the new profile will appear in the “Select a profile” page.
2. All the setting for “Add a new profile” can refer to 1.

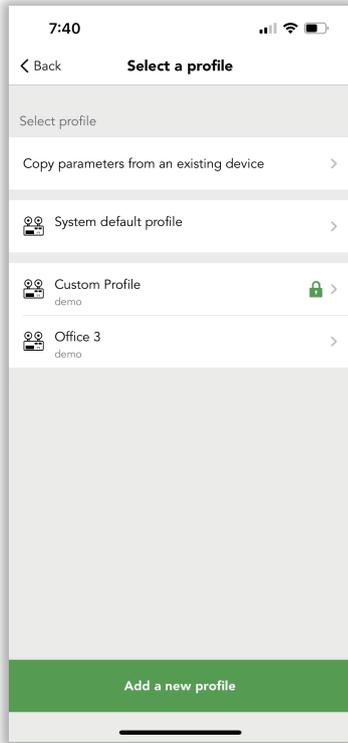


Figure 3.4 Select a profile

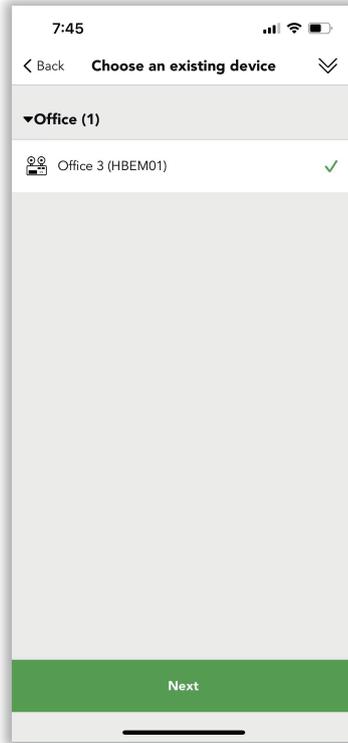


Figure 3.5 Choose device

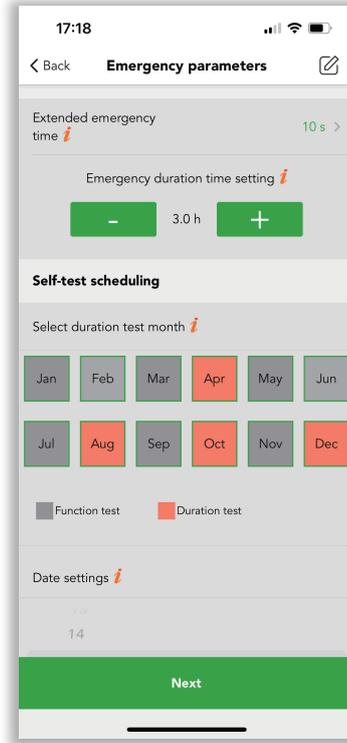


Figure 3.6 Emergency parameters

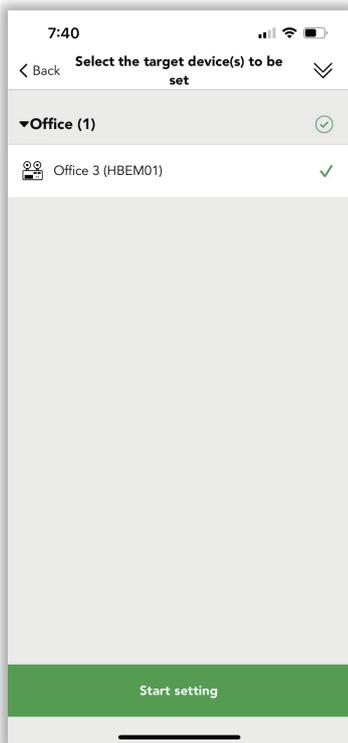


Figure 3.7 Select device(s)

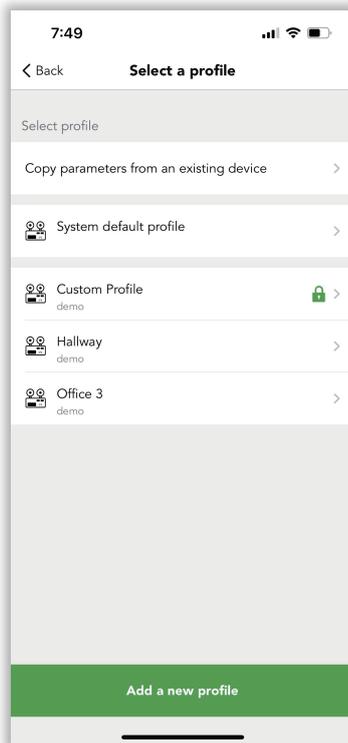


Figure 3.8 After finishing

Groups

Grouping enables users to set function test and duration test at a zone level or group level in different time. In the real application, users prefer to create additional schedules so that luminaires in adjacent zones are tested at different times. If they are tested at the same time and an emergency occurs during or shortly after the duration test, they will not be able to provide the emergency lighting function.

In the group section, users can create different emergency groups by clicking the top left corner  to add new groups. Users can create the Group for hybrid and DALI emergency together and do the self-test scheduling. In the self-test scheduling, there are Hybrid emergency settings and DALI emergency parameter settings, but they are working for Hybrid and DALI emergency separately. For example, when there are Hybrid and DALI emergency in the same group and have the same test scheduling, the “Hybrid emergency setting” only works for Hybrid emergency drivers and “DALI emergency parameter settings” only works for DALI emergency drivers.

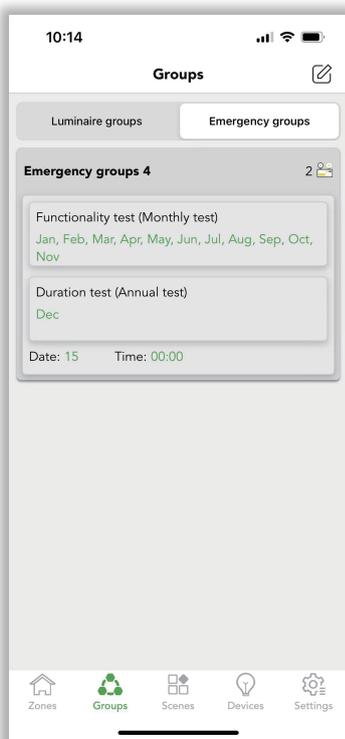


Figure 4.1 Emergency group

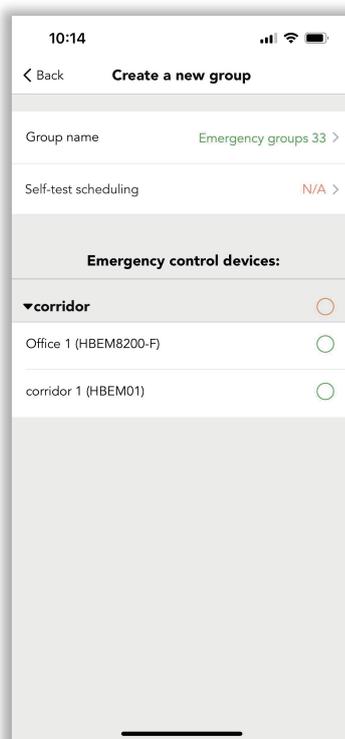


Figure 4.2 Create group

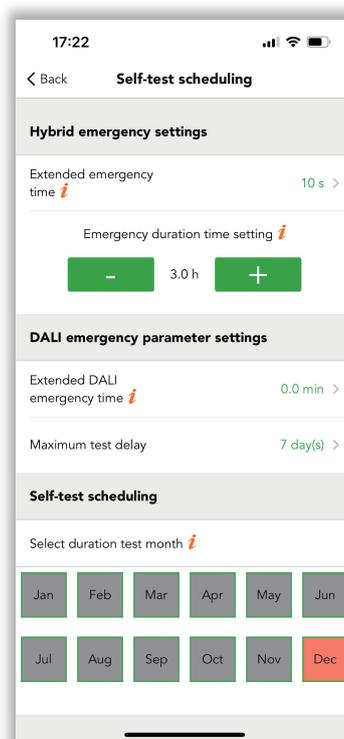


Figure 4.3 Self-test scheduling

☐ Push Switches

Considered user friendly, Koolmesh also enables users to carry out the function test and duration test by push switches. As long as users finished the wiring, then users can configure via app. But users can't carry out these tests by EnOcean and BLE panels.

User can carry out the function test and duration test or terminated test by single press or double press or press and hold. As long as the configuration finished, user can carry out these immediately. The control object of the push switches also need to be configured.

※ Both DALI emergency and hybrid emergency control devices can be controlled by the same push switch. The difference is that the hybrid emergency also needs to configure the start time and end time for the test, and the testing period (see figure 4.3), but all these are not workable for DALI emergency control devices. For DALI emergency, as long as users push the switch, then the test will be carried out immediately. But if the battery happens not fully charged, then the duration test will be postponed until fully charged, details need to refer to the third-party driver.

For example, If there are both hybrid and DALI emergency in the same network or same group, then when users configure the push to carry out the duration test manually, and the control object for the push is the whole network or group, then when users press the push switch, then DALI emergency will carry out the duration test immediately, but hybrid emergency will carry out accordingly for the start time and end time users have configured.

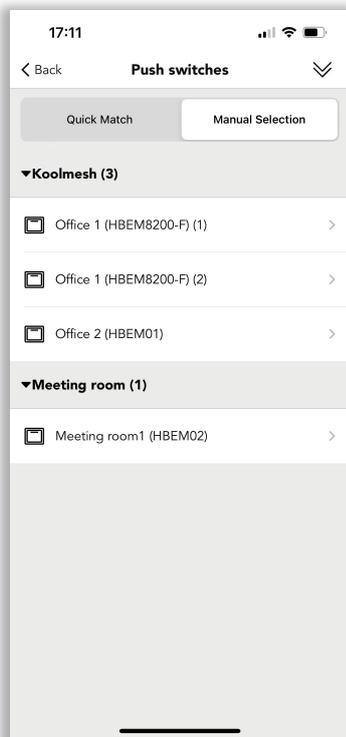


Figure 5.1 Push switches

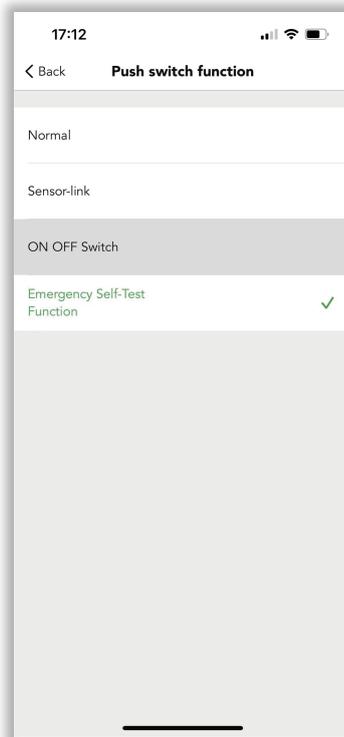


Figure 5.2 Push switches

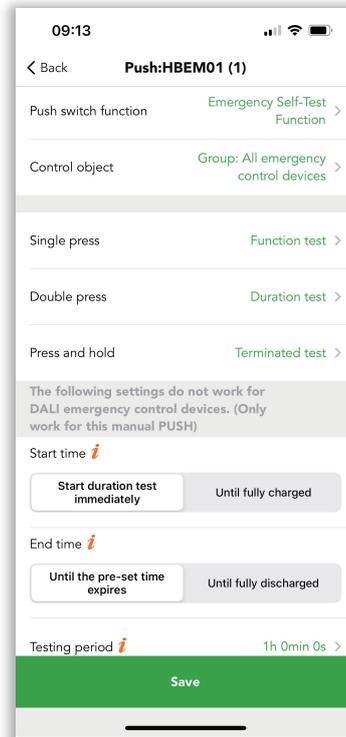


Figure 5.3 Push switches

Web Platform

https://www.iot.koolmesh.com/emergency

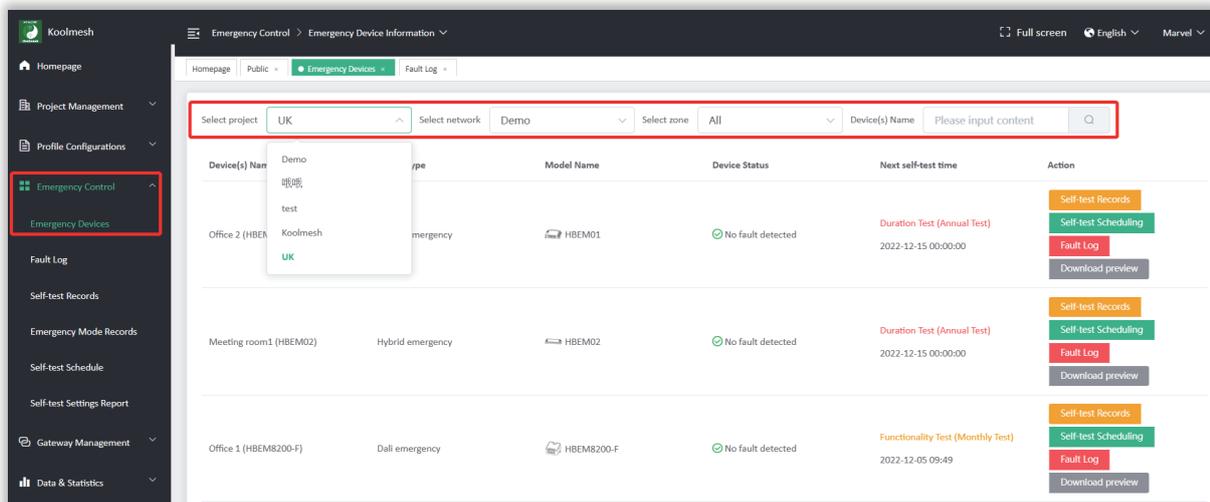
Koolmesh web platform enables users to monitor the emergency device and check all the reports and do some basic information setting. If users want to schedule their monthly test and annual test for their emergency device, they need to do the schedule on Koolmesh app, the web platform only supports checking the report and schedule.

Project name : UK Network name : Demo

Below all the example are take from above project and network

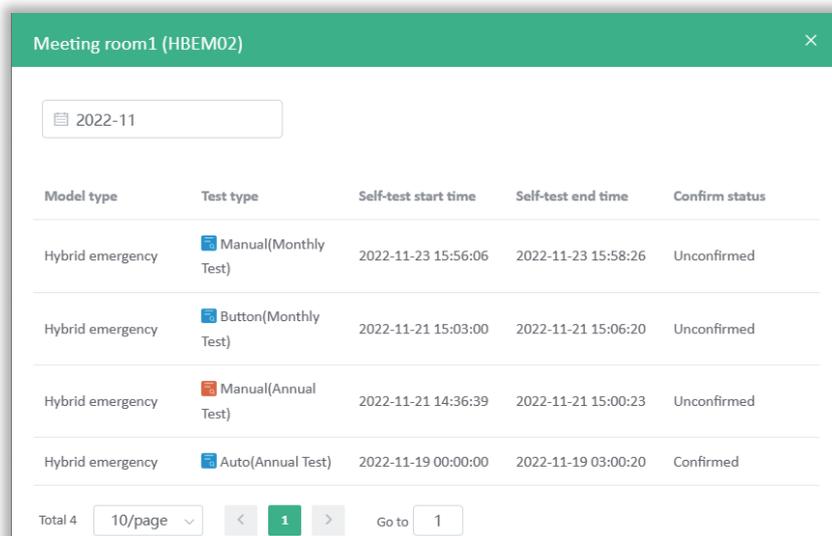
Emergency Device

Users can have the emergency devices list by selecting the corresponding project and network and zone, or users can check it by the device's name.



- Self-test records

This button is an overview function which enables users to check all the self-test records of this device. If users have made the remark or signature for the corresponding record, then the confirm status will be confirmed.



● Self-test scheduling

This button is an overview function which enables users to check the self-test schedule of this device. If users want to make the schedule for the device , they need to make it in the Koolmesh app.

Meeting room1 (HBEM02)
✕

Month setting

Jan: Functionality Test (Monthly Test)	Feb: Functionality Test (Monthly Test)
Mar: Functionality Test (Monthly Test)	Apr: Functionality Test (Monthly Test)
May: Functionality Test (Monthly Test)	Jun: Functionality Test (Monthly Test)
Jul: Functionality Test (Monthly Test)	Aug: Functionality Test (Monthly Test)
Sep: Functionality Test (Monthly Test)	Oct: Functionality Test (Monthly Test)
Nov: Functionality Test (Monthly Test)	Dec: Duration Test (Annual Test)

Date settings(DD hh:mm)

15 00:00

● Fault log

This button is an overview function which enables users to check all the fault logs of this device. If users have made the remark or signature for the corresponding record, then the confirm status will be confirmed.

Meeting room1 (HBEM02)
✕

📅

Model type	Fault type	Fault time	Fault fixed time	Confirm status
Hybrid emergency	🔋 Battery open circuit	2022-11-23 15:55:46	2022-11-23 15:56:01	Unconfirmed
Hybrid emergency	🔥 Loads open circuit/Driver fault	2022-11-21 15:00:23	2022-11-21 15:06:20	Confirmed

Total 2

10/page

<

1

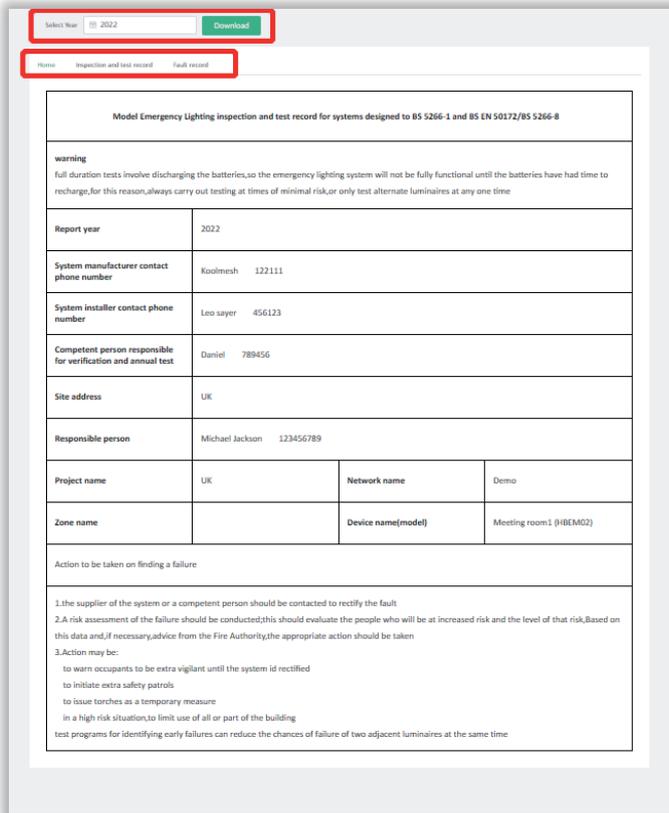
>

Go to

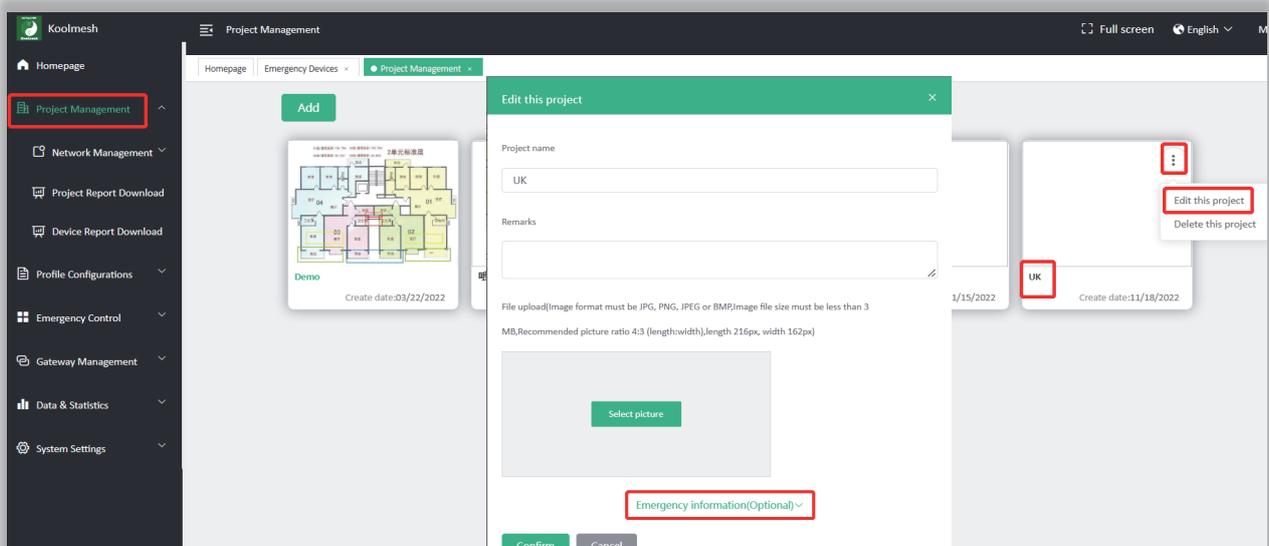
1

● Download preview

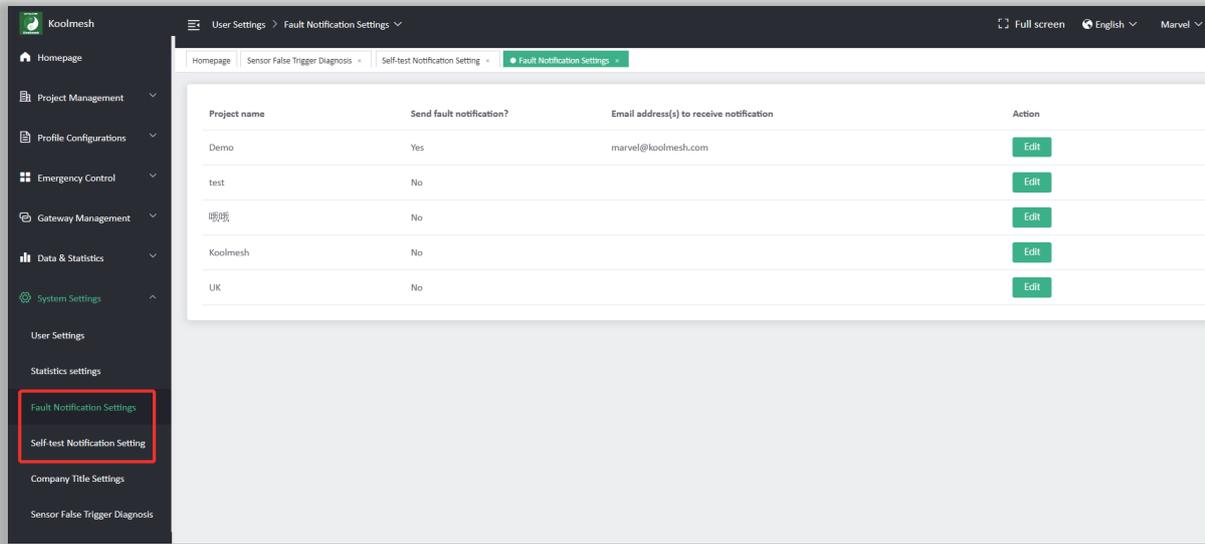
This button enables users to download the emergency report by selecting the year. There are three parts included in this report, home(basic project information),inspection and test record, fault record. Users also can download it with an excel file.



✂ Project basic information fill in, if user have't fill in these information, then when users download the report, all the basic information will be empty

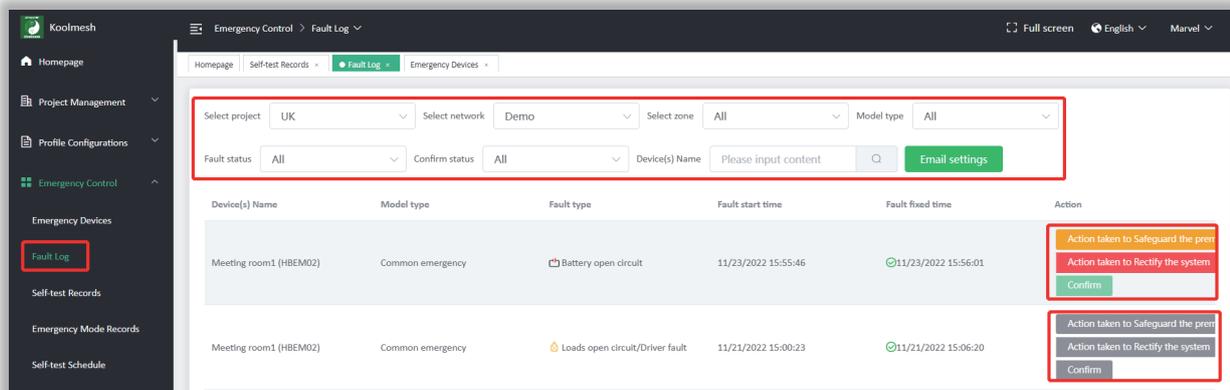


✂ Notification settings, if users want to received notification for the emergency device (fault , before and after self-test notification) , then user can fill in their email address as below



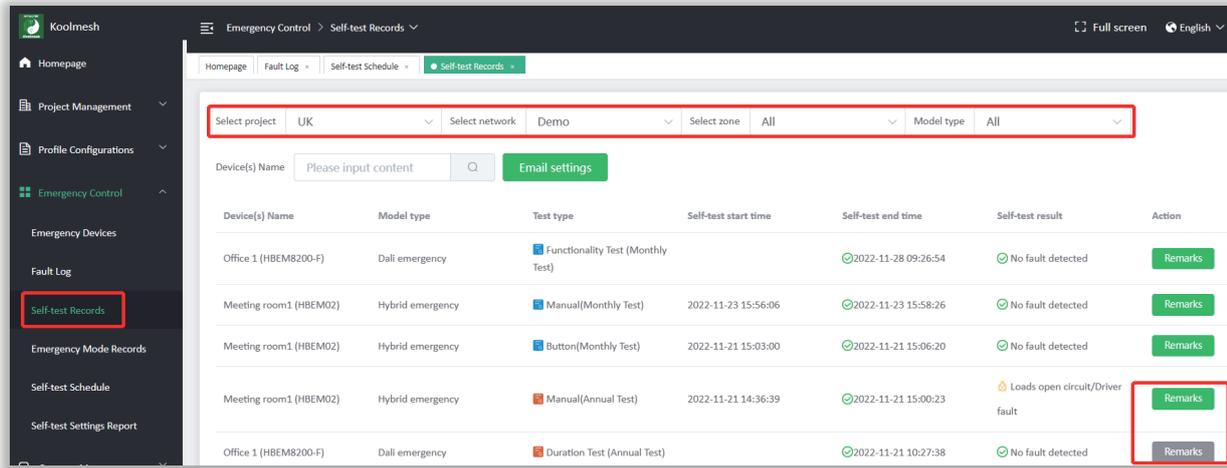
Fault Log

Users can have the fault log list by selecting the corresponding project and network and zone, or users can check it by the device's name. There are three actions that need to be taken by three different responsible persons. If all the actions have been taken and make a remark or signature , then the color will turn to grey. Users can make a remark or signature on Koolmesh app or web platform.



Self-test Records

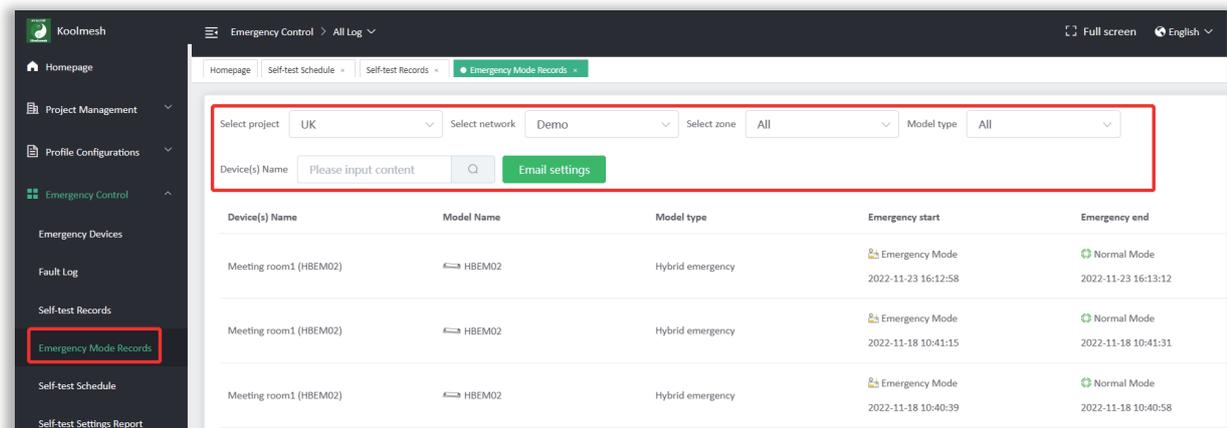
Users can have the self-test record list by selecting the corresponding project and network and zone, or users can check it by the device's name. There is remark which enable users to make the signature. If all the self-test have been carry out and make a remark or signature , then the color will turn to grey. Users can make a remark or signature on Koolmesh app or web platform.



Emergency Mode Records

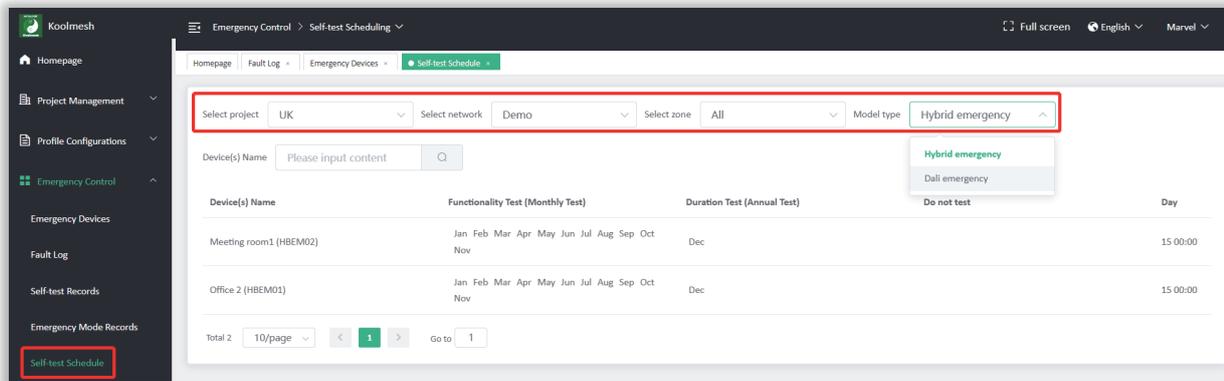
Users can have the emergency mode record list by selecting the corresponding project and network and zone, or users can check it by the device's name.

⊗ But this section is not available for DALI emergency devices. Hytronik's hybrid emergency only works as a signal translator (translating the DALI signal to Bluetooth signal). As long as the DALI emergency is in the emergency mode which means there is no power supply to the translator, this will cause the translator to also be off-line from the mesh network.



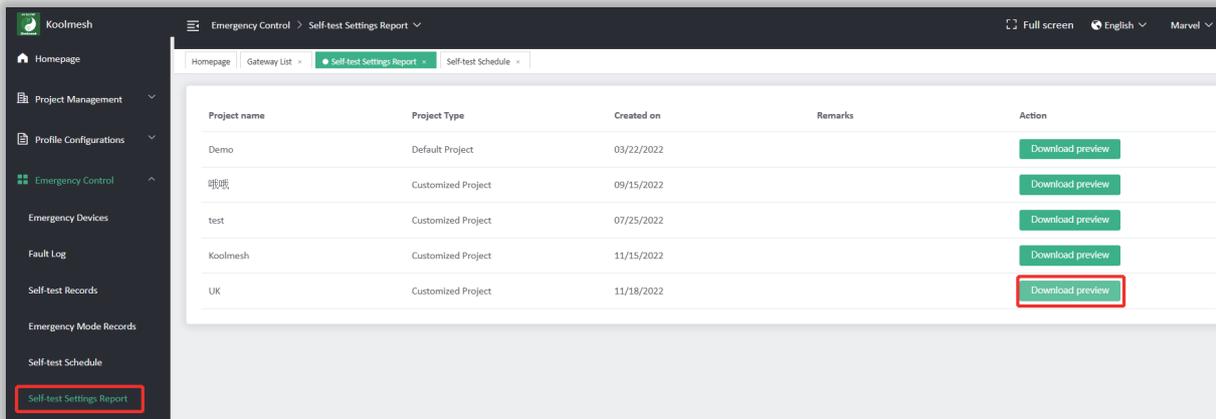
Self-test Schedule

Users can have the self-test schedule list by selecting the corresponding project and network and zone and model types or users can check it by the device's name. Only support to check the overview schedule, do not support arrange self-test schedule.



Self-test Setting Report

Users can download the report for self- test schedule of the whole network emergency devices



※ The company logo presented in the report can be changed ,details refer to below

