This document uses Gmail to send emails using the Monigear NTHM（Network temperature and humidity transmitter） as an example to demonstrate the email notification function of the Monigear device and introduce the concepts of alarm events at the Monigear device supervisory points.

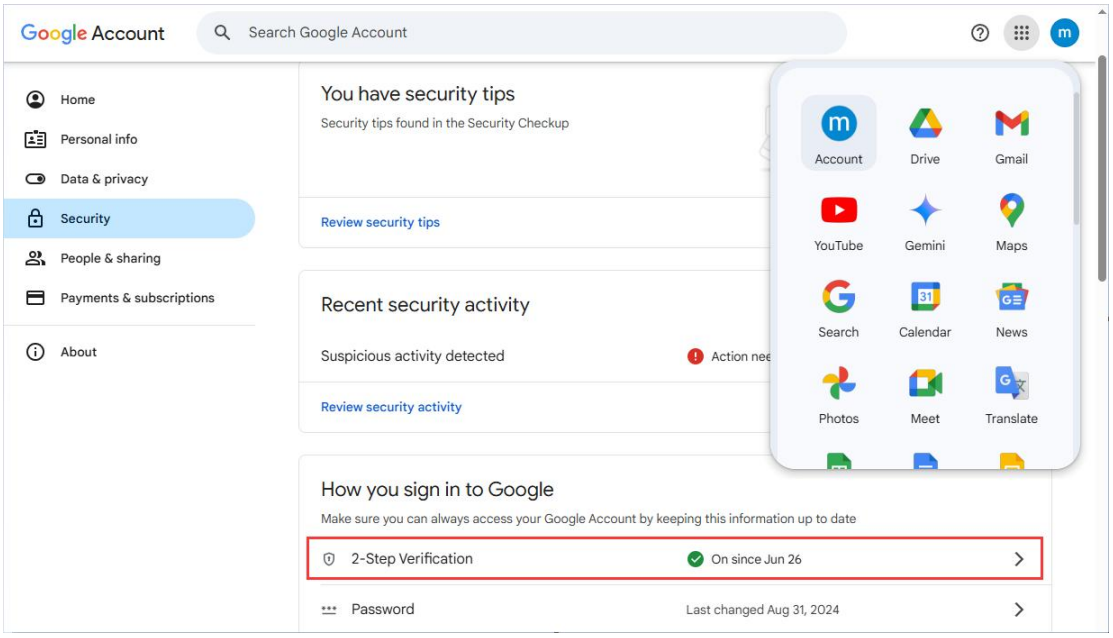
If you use another email service, the setup process is similar.

1 Example of a email notification

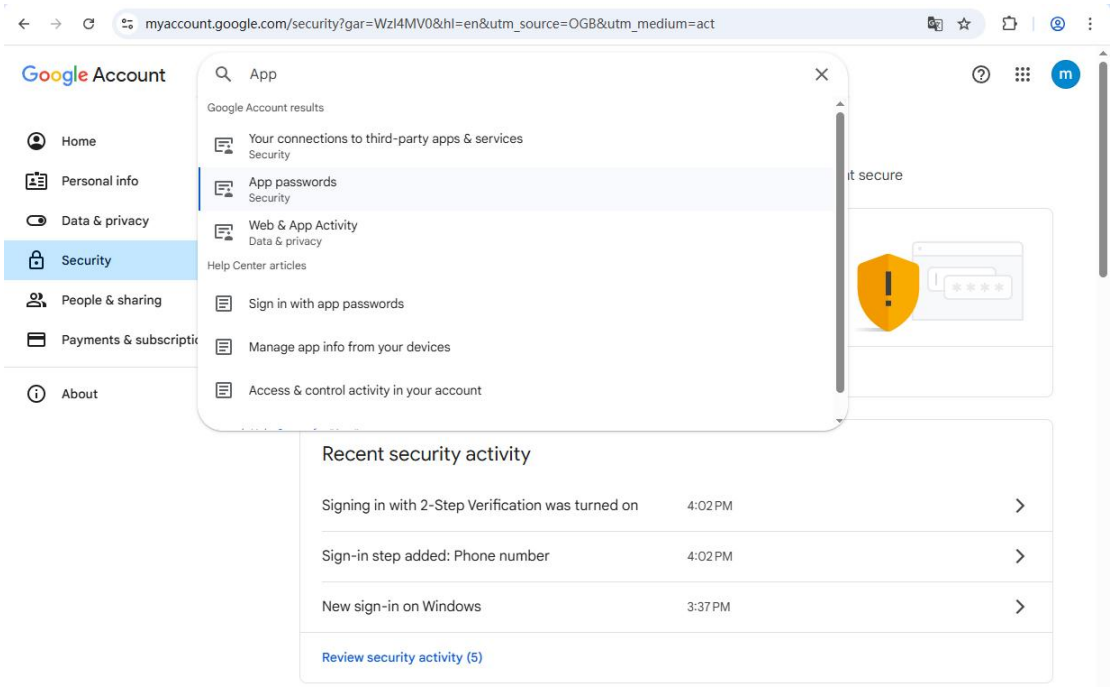
1. 1 Gmail sets up SMTP function

By default, Gmail enables the SMTP function (other types of mailboxes may need to manually enable the SMTP function, you can search for relevant tutorials online), and you need to add an **App password** for the SMTP function.

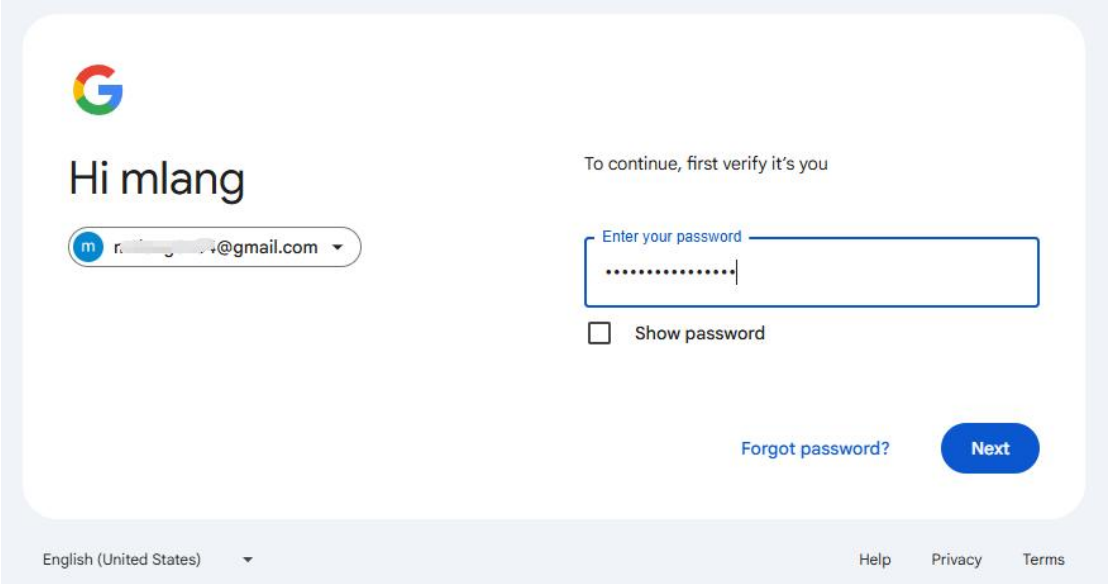
1）Click on **Google apps**, select **Account**, and click **Security** to enable two-step verification



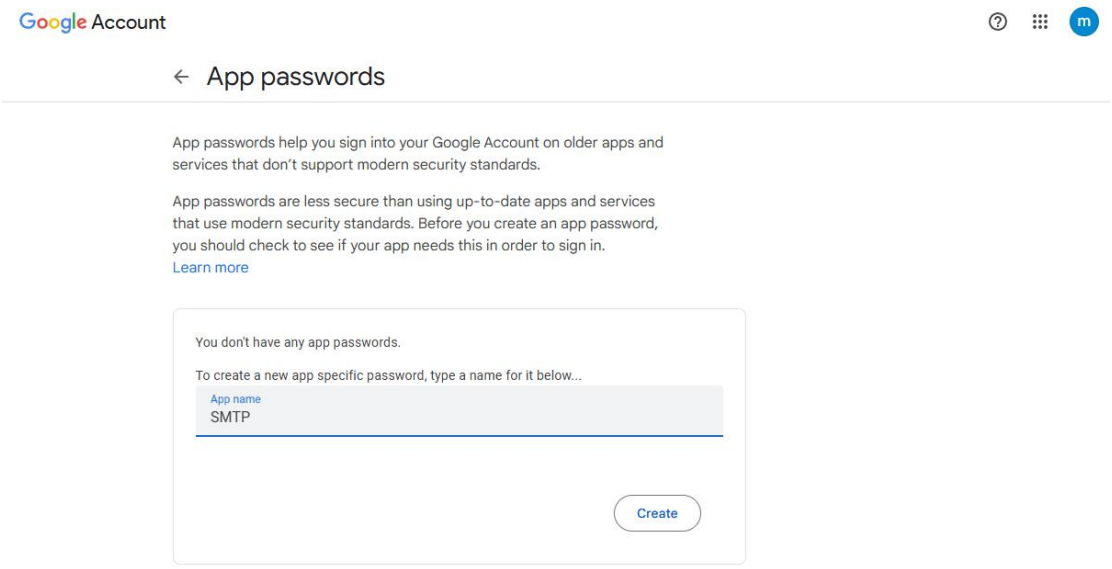
2） After enabling 2-Step Verification, enter App in the search box above and select **App passwords**



3）Enter your login password to confirm your identity

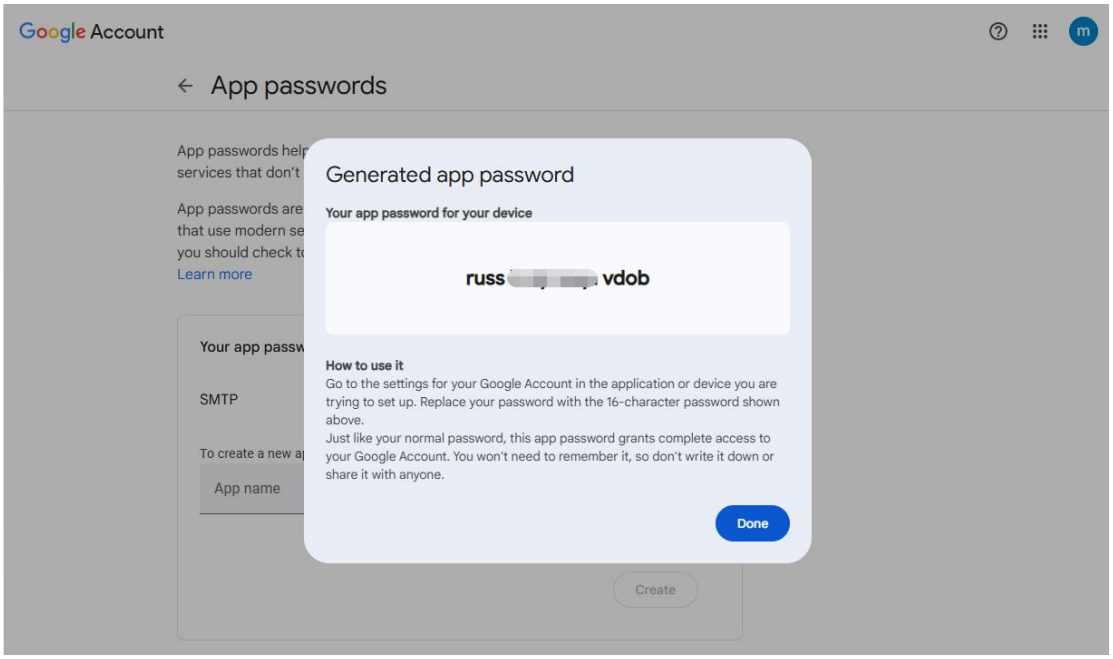


4）Enter the name of the application, e.g. SMTP (the name can be customized), and click **Create**



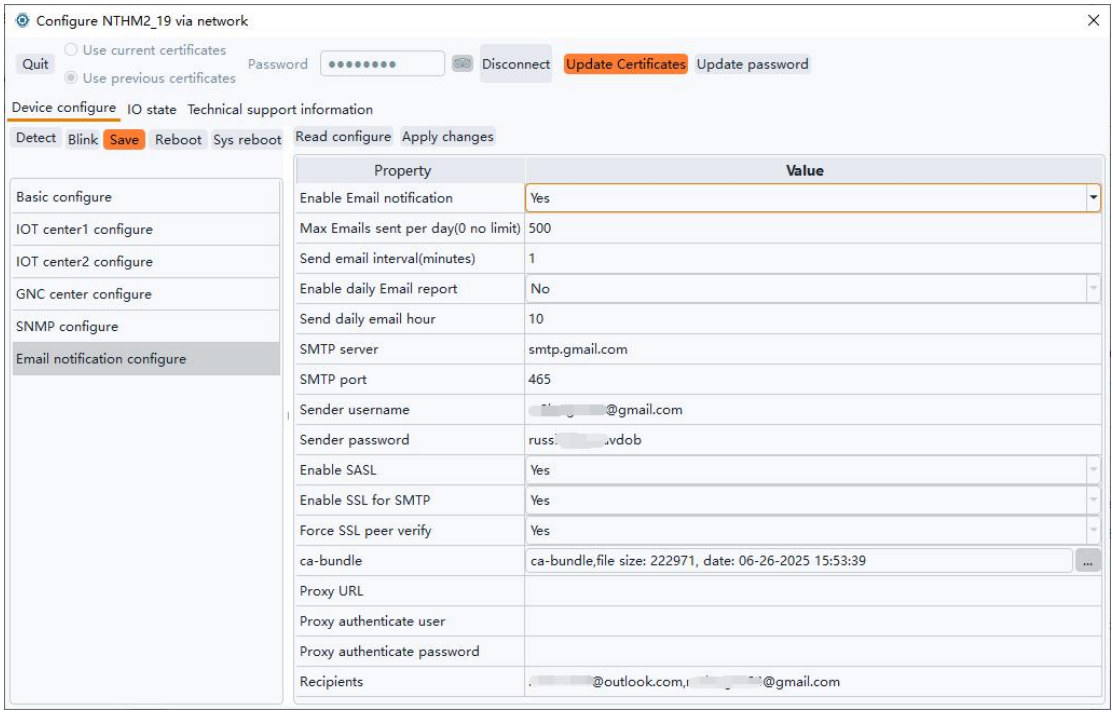
5）Copy the password down for later configuration

Note: After this page is closed, you cannot get the password again, you can only delete and recreate it.

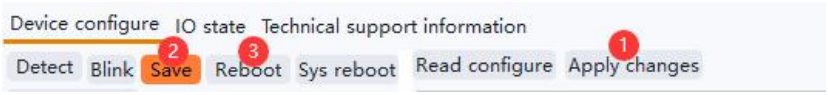


1. 2 Configure email notifications for the device

Connect to the device using the network configuration tool and click **Email notification configure**. Enable email notifications, enter the ***smtp.gmail.com*** on the SMTP server, port **465**, enter the email name for the sending user name, enter the SMTP App password obtained above for the sending password, enable SASL, enable SMTP SSL, enable Force SSL peer verify, and the ca-bundle is a root certificate bundle provided by your trusted organization, here using the Mozilla CA certificate store. Finally, fill in the recipient email address, which is separated by a comma. For more information about each configuration item, refer to Email notification settings.

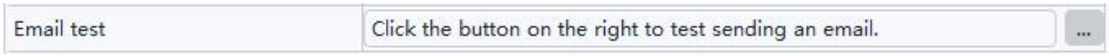


After the settings are completed, click **Apply Changes** -> **Save** -> **Reboot** to take effect.

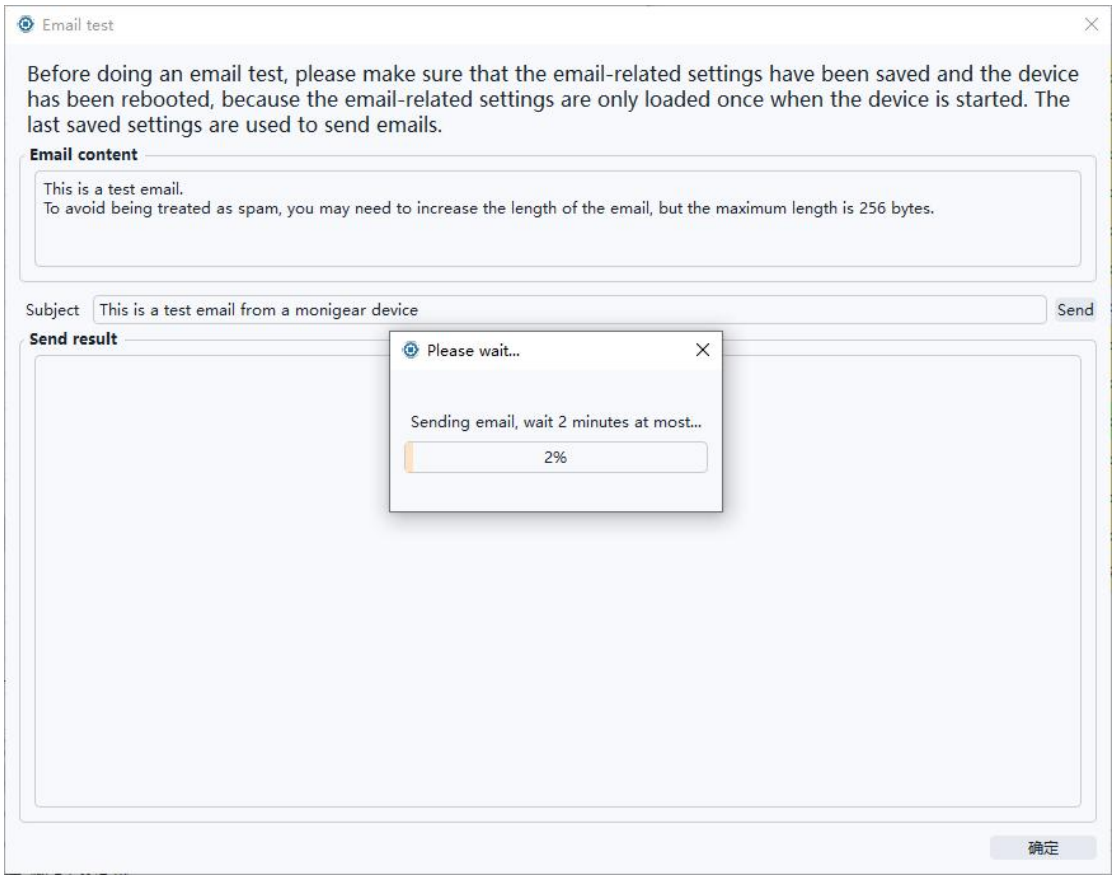


1. 3 Send a test email

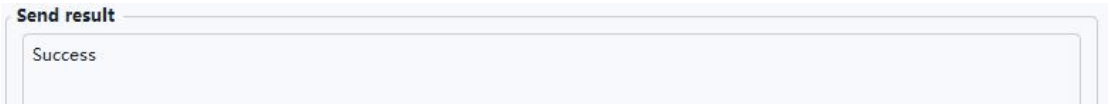
The process of sending an email involves multiple links (whether the device configuration is correct, whether the network is unblocked, whether the mail server is available, etc.), and any error in any link may lead to the failure of email delivery. Send a test email to display detailed debugging information when the email fails, troubleshoot the cause of the failure, and correct the configuration.



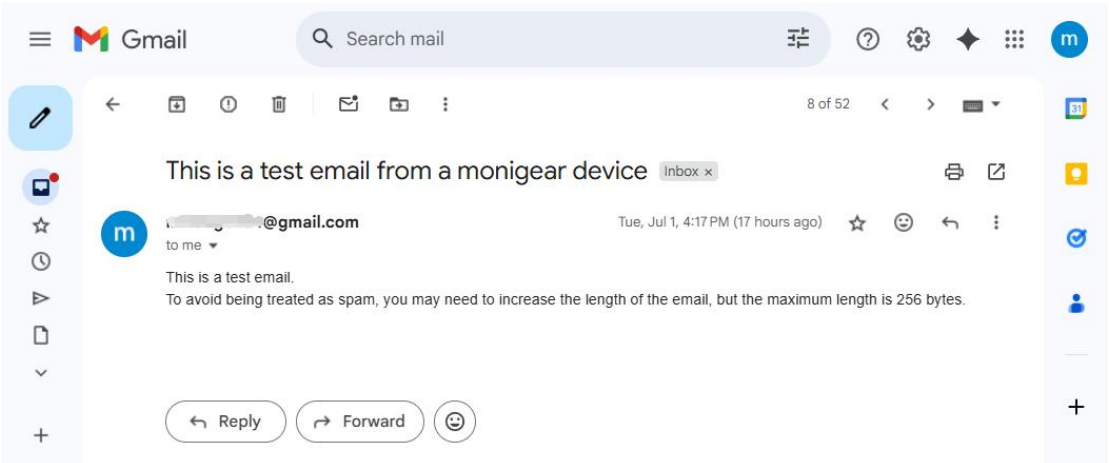
You can modify the content and title of the test email, and then click **send** to wait for the email to be sent.



If the configuration is correct, a *Success* message will be displayed after the message is sent, as shown in the following figure:

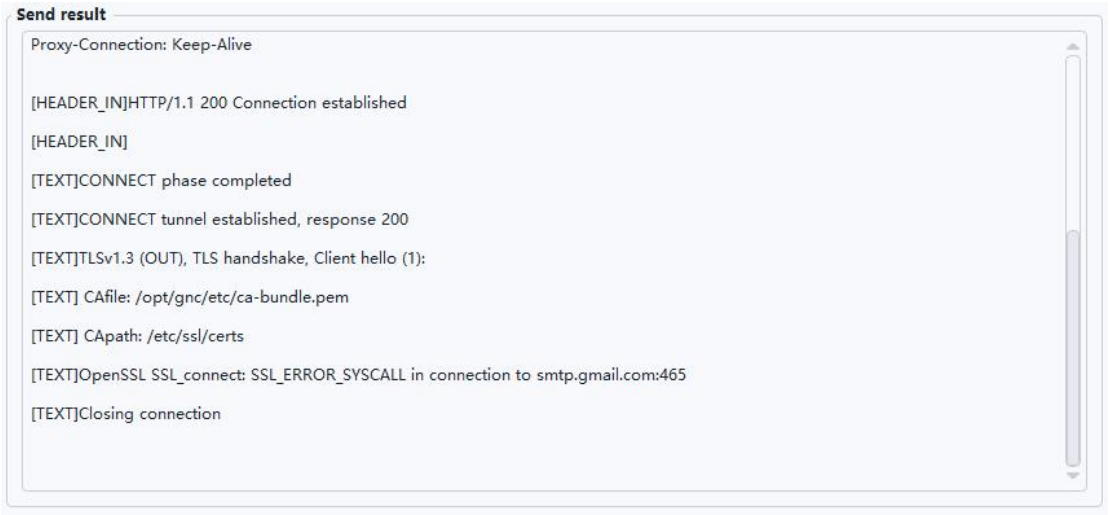


Check the test email you received in your mailbox:



If the email is sent successfully, but you cannot receive the email, see Spam handling.

Example of sending failure:



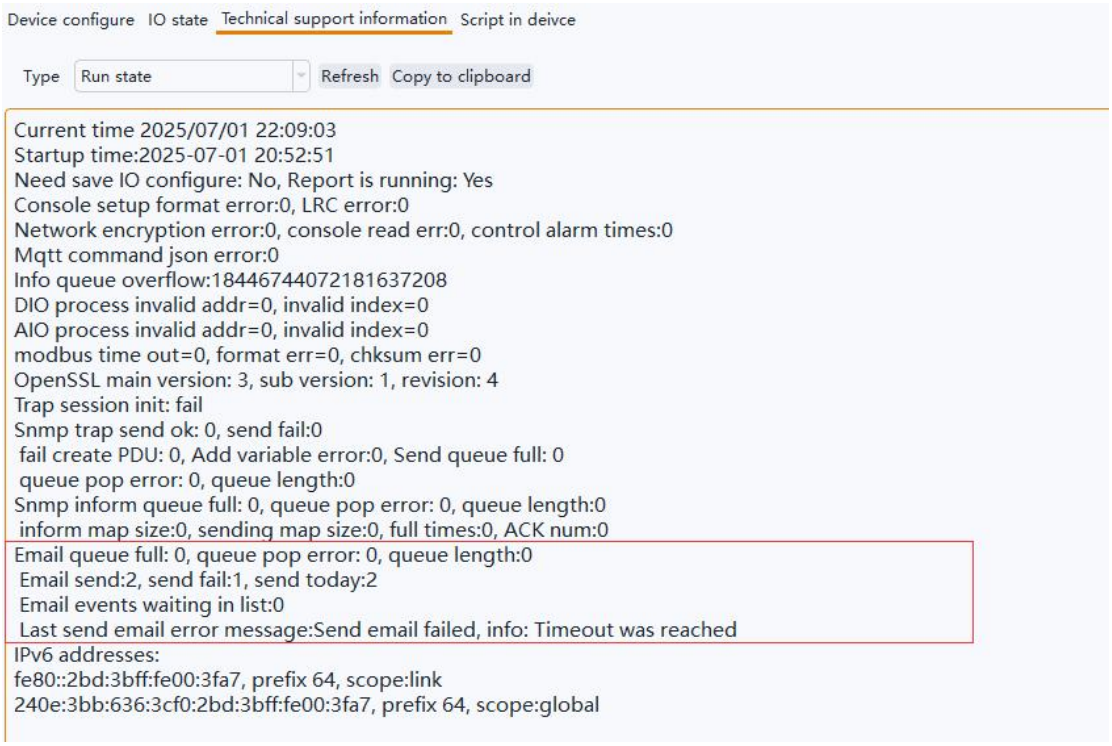
If you encounter any problems, you can send a screenshot of the configuration and the failure debugging information to our technical support technicians for help.

1.4 Statistics and information debugging information

On the Technical support information page of the network configuration tool, select **Run state** and click Refresh to view the device running status and statistics. View the statistics of sent emails, in which **email send** is the number of emails that have been successfully sent, **send fail** has been sent failures, and **send today** is the number of times that have been successfully sent.

On the Technical support information page of the network configuration tool, select **Run state** and click **Refresh** to view the device running status and statistics. View email-related statistics.

Email send is the number of successful sents, **send fail** is the number of failed sends, and **send today** is the number of successful sends. **Last send email error message** is the reason for the most recent failed email.

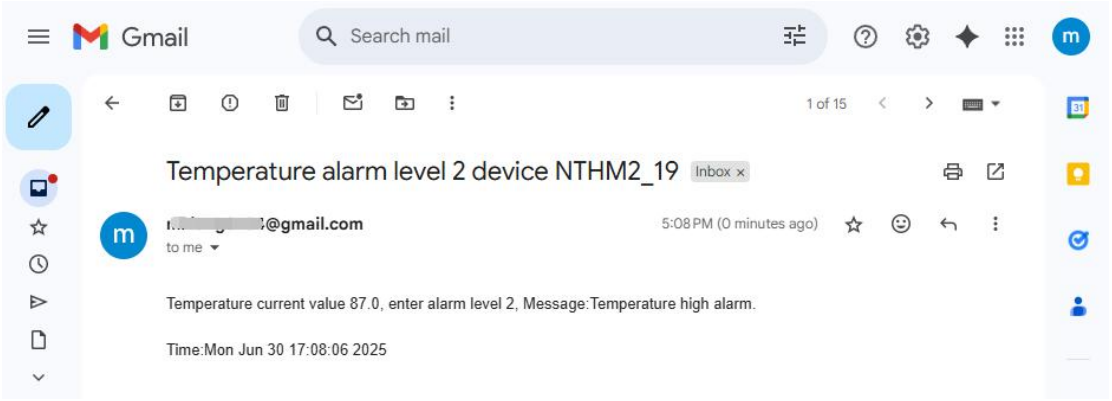


If the email is sent successfully (the number of email sends increases) but the email cannot be received, see Spam handling.

2 Alarm settings for supervisory points(SP)

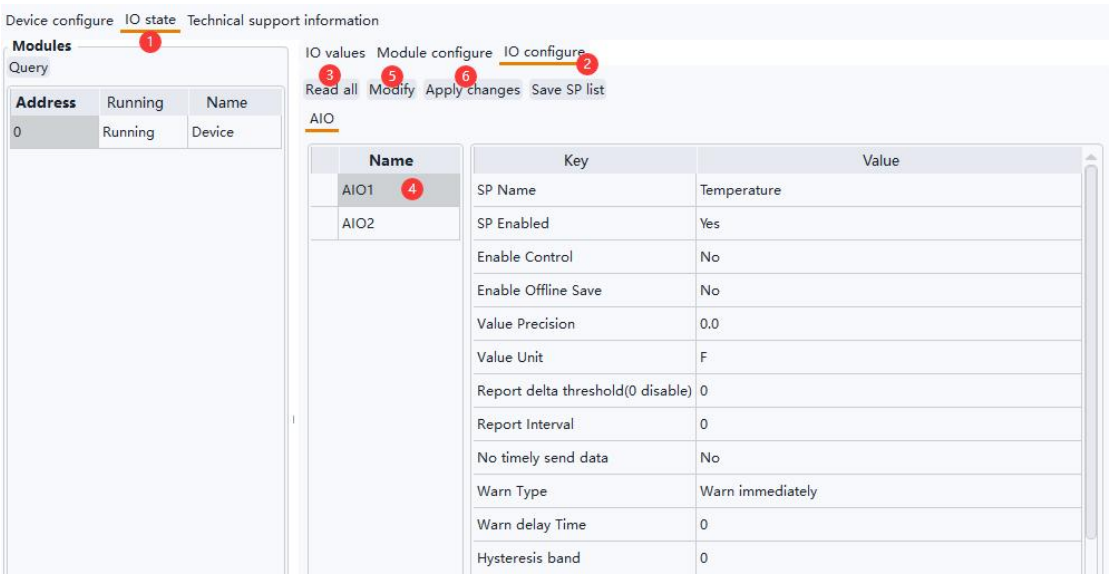
When an alarm event is triggered when the supervisory point of the device changes to the alarm threshold, the device sends an alarm email to the user. Each supervisory point of the Monigear device can set alarms separately, support delayed alarms, and provide up to 3 levels of alarms, usually level 3 is an emergency alarm, level 2 is an important alarm, and level 1 is a normal alarm. For a basic introduction to supervisory points, please refer to Appendix A

Example of a temperature alarm email:



Use the network configuration tool, connect to the device, click **IO state**-> **IO configure**, click **Read all**, select a supervisory point, click Modify, modify the supervisory point configuration in the pop-up window, and then select other supervisory points to continue the

configuration (see below for the alarm configuration description of each type of supervisory point), and after the configuration is complete, click **Apply changes** to apply the modification. For details about the configuration items of the monitoring points, see Appendix B.



2. 1 AIO alarm settings

1） Alarm threshold

You can enable 1, 2, and 3 alarms, and set the upper and lower thresholds for each level.

① Example of temperature alarm setting (Fahrenheit)：

Property	Value
Warn Type	Warn after delay a period
Warn delay Time	30
Hysteresis band	0
Level 1 Warning Enable	Yes
Level 1 Warning High Threshold	82
Level 1 Warning Low Threshold	64
Level 2 Warning Enable	Yes
Level 2 Warning High Threshold	86
Level 2 Warning Low Threshold	60
Level 3 Warning Enable	Yes
Level 3 Warning High Threshold	90
Level 3 Warning Low Threshold	57

② Example of temperature alarm setting (Centigrade)：

Property	Value
Warn Type	Warn immediately
Warn delay Time	30
Hysteresis band	0
Level 1 Warning Enable	Yes
Level 1 Warning High Threshold	28
Level 1 Warning Low Threshold	18
Level 2 Warning Enable	Yes
Level 2 Warning High Threshold	30
Level 2 Warning Low Threshold	16
Level 3 Warning Enable	Yes
Level 3 Warning High Threshold	32
Level 3 Warning Low Threshold	14

2） Delay alarm

As shown in the following figure, an alarm is triggered only after the temperature reaches the alarm threshold and is maintained for 30 seconds.

Warn Type	Warn after delay a period
Warn delay Time	30

3） Hysteresis band

① Fahrenheit example:

When the temperature value rises to 82F, a Level 1 alarm will be triggered, and when the temperature value collected by the sensor fluctuates around 82F, it will cause frequent alarms to be triggered and the alarm will be extinguished, and the hysteresis band shown in the following figure will only be extinguished when the temperature drops below 80F.

Hysteresis band	2

② Centigrade example：

When the temperature value rises to 28℃, a Level 1 alarm will be triggered, and when the temperature value collected by the sensor fluctuates around 28℃, it will cause frequent alarms and alarm cancellations, and the hysteresis band shown in the following figure will only be extinguished when the temperature drops below 27℃.

Hysteresis band	1

4） Alarm message

You can set the upper and lower limits of the 1/2/3 alarm level respectively, and describe the specific content of the alarm, the actions that need to be performed, and the installation location.

To avoid mail delivery failures, do not use special characters.

Property	Value
Level1 high warning message	Temperature high warning
Level1 low warning message	Temperature low warning
Level2 high alarm message	Temperature high alarm
Level2 low alarm message	Temperature low alarm
Level3 high alarm message	Temperature very high alarm
Level3 low alarm message	Temperature very low alarm

2. 2 DIO alarm settings

As shown in the figure below, the DIO supervisory point corresponding to the door magnetic switch sensor is connected, and when the value is 1, it means that the door is open, triggering a level 3 alarm.

Property	Value
SP Name	Door magnetic
SP Enabled	Yes
Enable Control	No
Save data when offline	No
Value for warn	1
Warn level	3
Warn method	Warn immediately
Delay warn time(sec)	0
Enable lock a short time	No
Value for lock	0
Lock time(sec)	0
D0 describe	Close
D1 describe	Open
Alarm message	Illegal intrusion through the back door

State locked

For security supervisory points, such as when using infrared probes for illegal intrusion detection, the sensor status may be switched frequently, and the status lock may be set to avoid frequent alarms and alarm canceling by the device. As shown in the figure below, after the sensor status value changes to 1, the status value of the device remains 1 for 60 seconds, regardless of

how the sensor signal changes.

Enable lock a short time	Yes
Value for lock	1
Lock time(sec)	60

Delay alarms and alarm messages are set up in the same way as AIO.

3 Email notification settings

3.1 Maximum number of sends per day

Sending too many emails in a single day may result in the sending email account being banned by the service provider. Limiting the maximum number of devices sent per day is necessary, especially if multiple Monigear devices are configured to use the same mailbox to send alert emails.

Max Emails sent per day(0 no limit)	500

Note that the maximum number of sends on the device is a weak limit, and the number of sends on the day will be recalculated after the device is restarted hot/cold. In addition, if an email fails to be sent, the number of sent items is not counted.

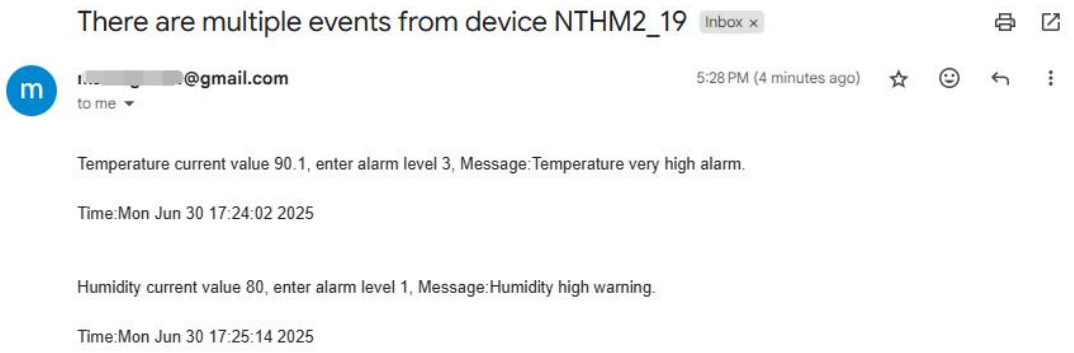
3.2 Send email Interval (Send email mode description)

Sending too quickly in a short period of time may also result in the sending email account being banned by the service provider. The interval between sending emails in two consecutive e-mails can be set at least 1 minute and up to 20 minutes.

Send email interval(minutes)	1

Monigear devices use a cached queue mode to send messages in order to minimize the number of times they are sent. After the previous email is successfully sent, a new (multiple) alarm event is generated during the waiting period for the sending interval, the event content will be cached, and when the interval time expires, all the cached content to be sent will be merged into one email for sending.

For example, you may receive an email with multiple alarm event information, as shown in the following image

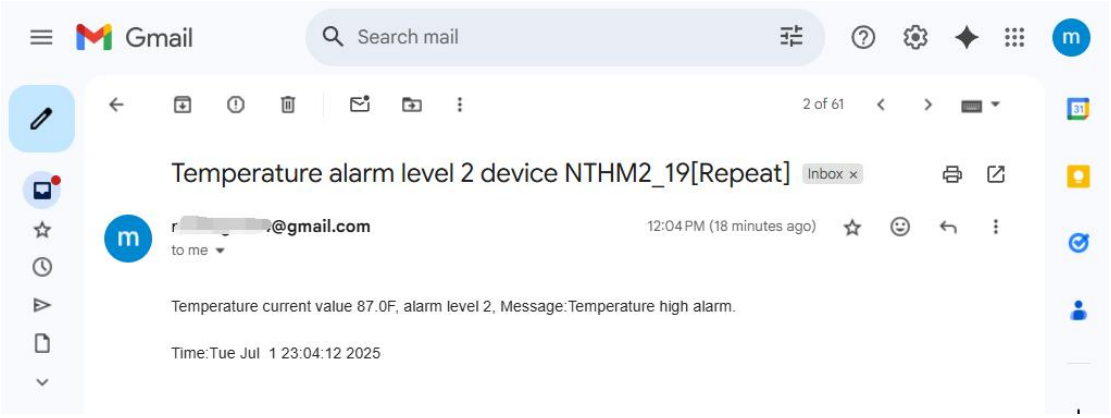


3. 3 Repeat alarm

When an alarm is triggered at a supervisory point and the alarm state is entered, an alarm message will be sent once, and after that, if the alarm state is maintained and the alarm is not extinguished, the alarm message will be sent repeatedly, and the alarm message will be sent three times by default with an interval of 20 minutes. If the number of repetitions is set to 0, no repeated alarms will be sent, and the interval can be set to default 20 minutes, you can change it to 60 minutes for example.

Event email repeat send times	3
Repeat event email interval(minutes)	20

Examples of repeat message:



Tip: If the alarm description contains the **current value and enter alarm level 1/2/3**, it indicates that the alarm state is triggered, and only the **current value** contains the repeated alarm information.

3. 4 Exit the alarm notification

When the supervisory point exits the alarm state and returns to normal, an exit alarm message is sent.

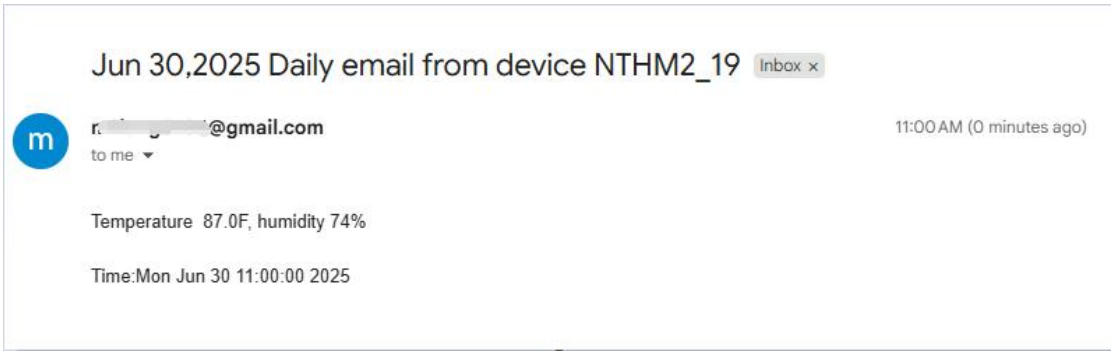
3. 5 Sent at a timed daily time

Sometimes it is normal for a long time without any alarm events, so it is uncertain whether the device and email functions are normal. Therefore, we set up a function to send an email at a fixed time every day to let you know that the device is working normally.

Using a 24-hour clock, the hours can be set from 0 to 23.

Enable daily Email report	Yes
Send daily email hour	18

Examples of timing messages:



When using the scheduled sending function, check the time zone of your region and modify it in the basic settings:

Time zone	Asia/Shanghai	...

3. 6 Recipient of the message

Multiple email addresses are separated by commas, and the maximum length of the string is 255. Each time a message is sent to multiple mailboxes, the corresponding number of times is accumulated.

Recipients	email1@outlook.com,email12@gmail.com,email3@yahoo.com

3. 7 Send it to yourself

It is allowed to use only one email account, both as a sender and as a receiver.

SMTP server	smtp.gmail.com
SMTP port	465
Sender username	m[redacted]4@gmail.com
Sender password	russ[redacted]vdob
Enable SASL	Yes
Enable SSL for SMTP	Yes
Force SSL peer verify	Yes
ca-bundle	ca-bundle,file size: 222971, date: 06-26-2025 15:53:39 ...
Proxy URL	
Proxy authenticate user	
Proxy authenticate password	
Recipients	m[redacted].4@gmail.com

3. 8 Use proxy

Example of an HTTP proxy:

Proxy URL	http://192.168.1.80:64682
Proxy authenticate user	
Proxy authenticate password	

Example of an SOCKS proxy:

Proxy URL	socks://192.168.1.80:64683
Proxy authenticate user	
Proxy authenticate password	

3. 9 SMTP non-encrypted port

If you use an SMTP non-encrypted port (the default port number is 25), you do not need to enable SSL and certificate verification.

SMTP server	smtp.163.com
SMTP port	25
Sender username	[redacted]@163.com
Sender password	[redacted]
Enable SASL	Yes
Enable SSL for SMTP	No
Force SSL peer verify	No

4 Spam handling

Test emails or alarm emails sent by the device may be judged to be spam, and the recipient may not receive email notifications as scheduled. For example, in the following two cases, you can add the email address used to send alarm information to the whitelist in the recipient's mailbox settings.

1） Alert emails may be filtered as spam by the receiver and need to be viewed in the receiver's spam email.

2） The alert email may be judged as spam by the service provider where the recipient's email address is located and you cannot receive the alarm email.

Appendix A- Data Types of acquisition

The Monigear device represents the status data collected by the front-end sensor in the form of a supervisory point (SP), which is divided into four basic types: digital input/output(DIO), analog input/output(AIO), enumeration ENUM and string STRING.

SP Type	Digital DIO	Analogue AIO	enumeration ENUM	STRING
Data type	Bool(0/1)	Float	Int	String
Example	Smoke sensor Motion detector	Temperature voltage	UPS、Generator status	IC card number

Monigear devices have certain storage and computing capabilities, and can process the collected raw data on the device side and then report it to the server side, such as converting from raw values to displayed values, triggering alarms based on preset thresholds, executing linkage actions, etc. The following further explains the collected data values and alarm related contents.

1. Original value and displayed value

The raw value of the Monigear device data represents the data directly obtained from the sensor. When users read the device data through the standard communication protocol, they usually only care about the raw value. In some cases, the raw value is not easy to understand (for example, the two example DIOs in the following text have raw values of 1, one for water leak alarm and the other for normal), and it is necessary to combine the sensor information to get a readable display value corresponding to the monitored entity for the user.

Monigear devices provide corresponding conversion configurations for different types of monitoring points for users to modify (or refer to). Some communication protocols (such as SNMP GET) can directly read the conversion results. The following is an example of the conversion of original values and displayed values of each type. For a detailed description of monitoring point attributes, refer to the appendix B.

① dioValue 和 dioDetail

dioValue	D0 descr	D1 descr	dioDetail
1	Normal	Leak alarm	Water leak

dioValue	D0 descr	D1 descr	dioDetail
1	Smoke alarm	Normal	Normal

② aioValue 和 aioDetail

Original	Precision	Unit	Display
237.5146	0.0	V	237.5V

③ enumValue 和 enumDetail

Original	Enum string	Display
1	0, No output 1,Main power supply	Main power supply

	2,Battery supply ……	

④ strValue

Strings do not need to distinguish between raw and displayed values.

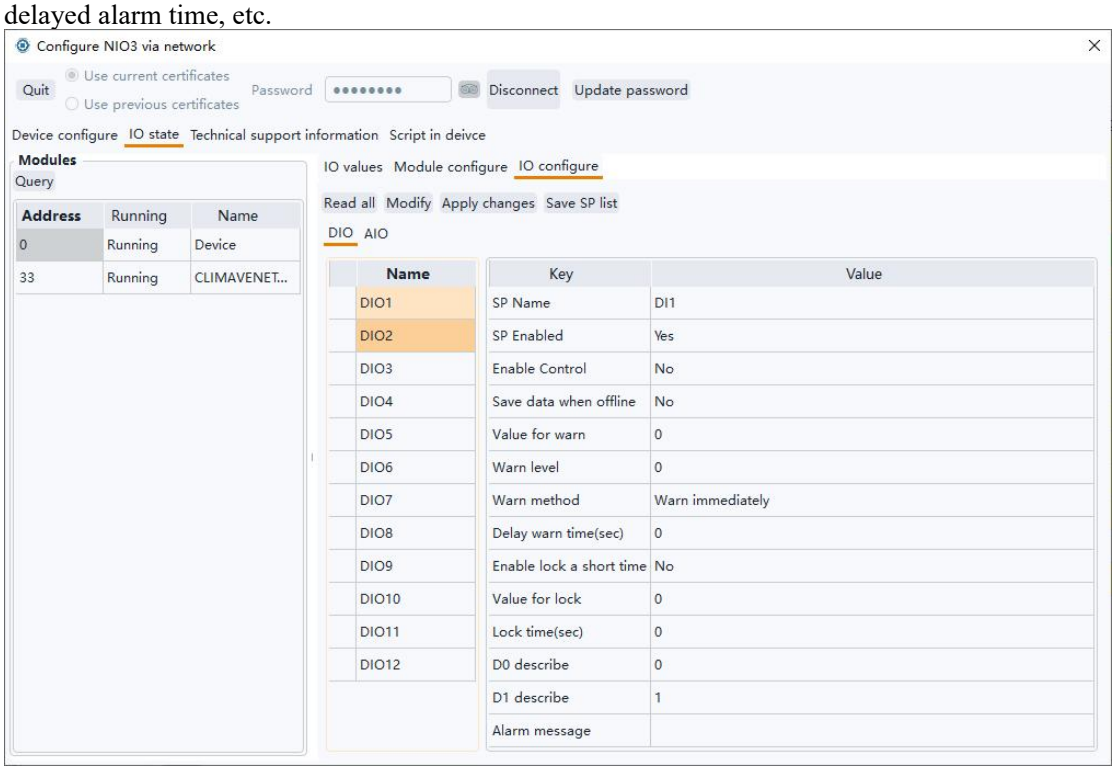
2. SP Alarm

Each supervisory point of the Monigear device can set an alarm individually, support delayed alarm, and provide up to 3 levels of alarms, usually level 3 is an emergency alarm, level 2 is an important alarm, and level 1 is a normal alarm. For the settings of various types of alarms, refer to the appendix B.

After the alarm is triggered, some communication protocols (such as SNMP GET, MQTT) can directly read the current alarm level. In addition, you can choose to send an email after the alarm, execute linkage actions (such as MN-NIO, control relay actions), etc.

Appendix B-Supervisory Point Configuration

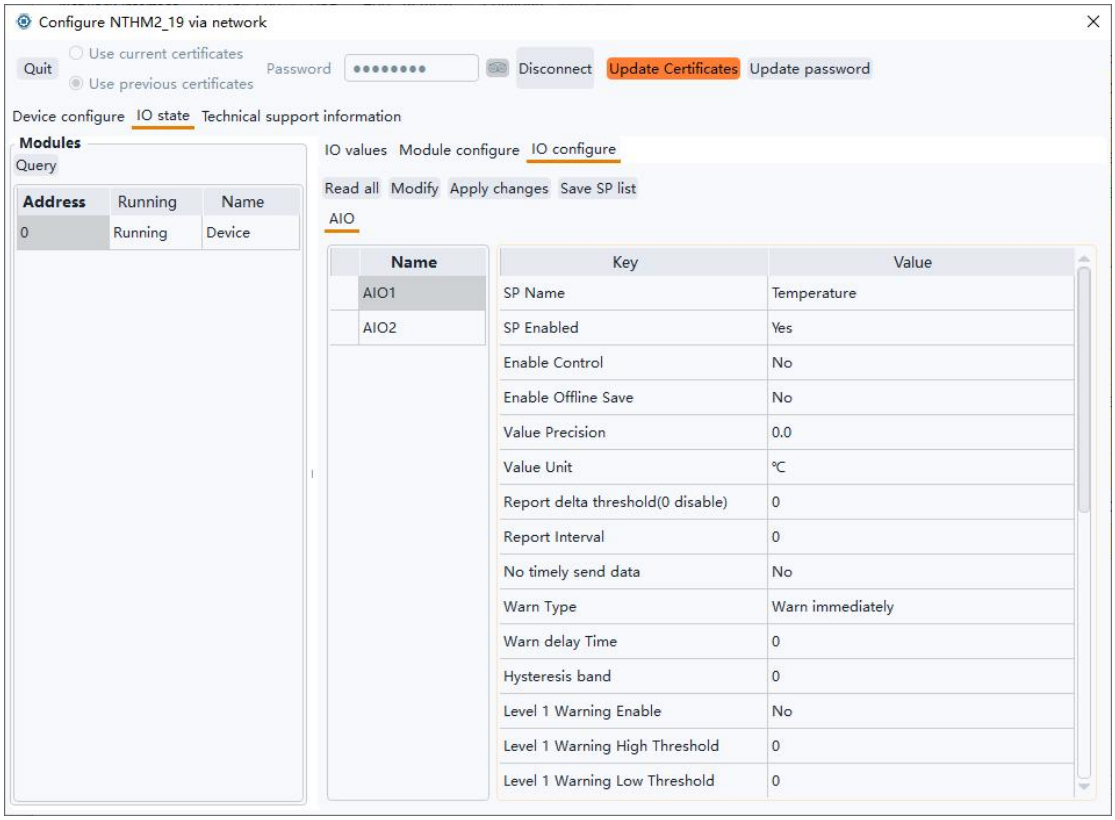
◆ DIO(Digital Input Output) Digital input and output configuration: including whether the channel is enabled, the value for alarm, the alarm level, whether it is a security monitoring point, delayed alarm time, etc.



DIO Property	Value	Description
SP Name	The description of the DIO SP	

SP Enabled	Yes	This SP is enabled and the data will be reported to the center when conditions are met.
	No	This SP is not enabled and will not be reported to the center.
Enable Control	Yes	Digital output like relay that can be control
	No	Digital input that cannot be controlled should be No
Save data when offline	Yes	Keep the history data
	No	Don’t keep the history data
Value for warn	0	Digital value 0 is value for alarm
	1	Digital value 1 is value for alarm
Warn level	This item can only be 0, 1, 2, or 3 (0 means the alarm is not enabled)	
Warn method	Warn immediately	When the digital value is the same as the alarm value, an alarm is generated immediately.
	Warn after delay a period	The digital value is the same as the alarm value and keep for a period of time then the alarm is generated.
Delay warn time	Use with the previous item	
Enable lock a short time	Used for security SPs. Frequently changing digital signals will cause frequent alarms. Enabling this function can solve the problem of frequent alarms.	
Value for lock	When a state is locked for a period of time, if the digital input value changes to the locked value, the SP value will remain locked during the locked time, regardless of whether the value of the actual SP value changes during this period.	
Lock time	When the lock function is enabled, the SP remains unchanged for a certain period of time.	
D0 describe	A status description that is represented when the sensor signal value is 0	
D1 describe	A status description that is represented when the sensor signal value is 1	
Alarm message	Additional information when an alarm is triggered	

◆ AIO(Analog Input Output) Analog input and output configuration: including whether the channel is enabled, precision, unit, upper and lower limits of effective value, alarm level, delayed alarm time, etc.



AIO Properies	Value	Description
SP Name	Functional description of analog monitoring points	
SP Enabled	Yes	This SP is enabled and the data will be reported to the center when conditions are met.
	No	This SP is not enabled and will not be reported to the center.
Enable Control	Yes	For an analogue output
	No	For an analogue input
Enable Offline save	Yes	Save the history data
	No	Don’t save history data
Value Precision	The display precision of the SP value, for example, if it is set to 0.0, one decimal place will be retained	
Value Unit	The unit of the monitoring value, such as meter, ℃, etc.	
Send Var Condition	If the deviation between the monitored value and the last reported value is greater than this value, the monitored data will be immediately reported to the data center.	
Report interval	The frequency at which the SP is reported to the data center. If it is 0, the default system reporting interval is used (in the basic configuration category, the default is 20 minutes)	
No timely send data	Yes	When the device reports all monitoring data regularly, the value of

		this monitoring point is not reported.
	No	When the device reports all SP data regularly, it reports the value of the monitoring point
Warn Type	Warn immediately	When the monitoring value is higher than the upper alarm limit or lower than the lower alarm limit, an alarm is immediately issued
	Warn after delay a period	An alarm is generated only when the monitoring value is higher than the upper alarm limit or lower than the lower alarm limit and keep for a period of time.
Warn delay time	Use with the previous item	
Hysteresis band	The difference between the monitoring value and the alarm threshold must be greater than the hysteresis band value to meet the alarm cancellation condition, which can avoid frequent alarm triggering near the critical point. For example, if the alarm is set to be greater than 36°, if this value is set to 0.5, the alarm state will be cancelled only when the value is less than 35.5.	
Level 1/2/3 Warning Eanble	When the monitoring value meets the conditions, an alarm of the corresponding level will be generated	
Level 1/2/3 warning high threshold	When the monitoring value is higher than the alarm upper threshold, an alarm of the corresponding level will be generated	
Level 1/2/3 waring low threshold	When the monitoring value is lower than the alarm lower threshold, an alarm of the corresponding level will be generated	
Minimum value	The lower limit of the external transmitter range	
Maximum value	The upper limit of the external transmitter range	
Level1 high warning message	Additional information when a Level 1 high-limit alarm is triggered	
Level1 low warning message	Additional information when a Level 1 low-limit alarm is triggered	
Level2 high alarm message	Additional information when a Level 2 high-limit alarm is triggered	
Level2 low alarm message	Additional information when a Level 2 low-limit alarm is triggered	
Level3 high alarm message	Additional information when a Level 3 high-limit alarm is triggered	
Level3 low alarm message	Additional information when a Level 3 low-limit alarm is triggered	