



Sensor Configuration Tool

sctool

Version 2.0.0.1



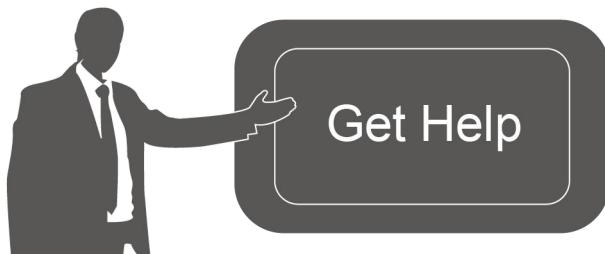
Safety Precautions

Milesight will not shoulder responsibility for any loss or damage resulting from not following the instructions of this operating guide.

- ❖ The device must not be disassembled or remodeled in any way.
- ❖ Do not remove the battery of the device.
- ❖ Do not place the device and its accessories where the temperature or humidity is below/above the operating range.
- ❖ **Do not place the device close to objects with naked flames, otherwise it will explode.**
- ❖ The device must never be subjected to drops, shocks or impacts.

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Support Portal: support.milesight-iot.com
Tel: 86-592-5085280
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Xiamen 361024, China

Revision History

Date	Doc Version	Description
Oct. 15, 2024	V 1.0	Initial version

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1. Product Introduction

1.1 Overview

Milesight Sensor Configuration Tool is a portable configuration tool device for NFC configurations of Milesight sensors. As a professional NFC reading and writing tool, SCT01 features a straightforward panel with a large NFC area and clearly stated buttons, making it easy for users without any technical background to operate the configurations smoothly on the spot.

With a built-in battery and Type-C port, it can work for 6 hours and supports charging via a Type-C power bank, allowing users to easily bring the device everywhere.

1.2 Features

- Compatible with all Milesight devices with NFC feature
- Easy to read and write to devices with a large NFC area
- Equips with a buzzer and rich indicators to know the device status and configuration results visibly
- Simple operational panel with clear buttons designed for easy configurations even for non-technical users
- Built-in Bluetooth for easy tool configuration and template import, logs export, etc.
- Supports to store up to 50 configuration files and automatically adapt the configuration files to different models when assigning the configurations
- Supports to store 1 firmware file to upgrade devices in bulk
- With a built-in rechargeable lithium battery that works for 6 hours
- Support real-time data backup and charge through a USB type-C port

2. Hardware Introduction

2.1 Packing List

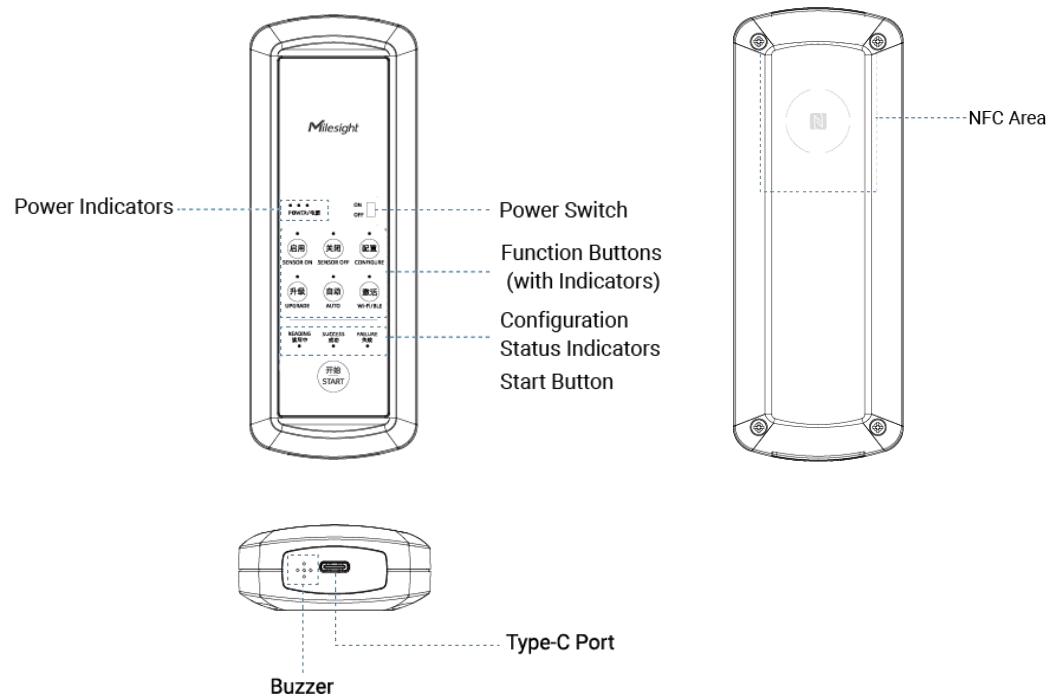


1 × SCT01 Device 1 × Type-C Cable 1 × Quick Guide 1 × Warranty Card

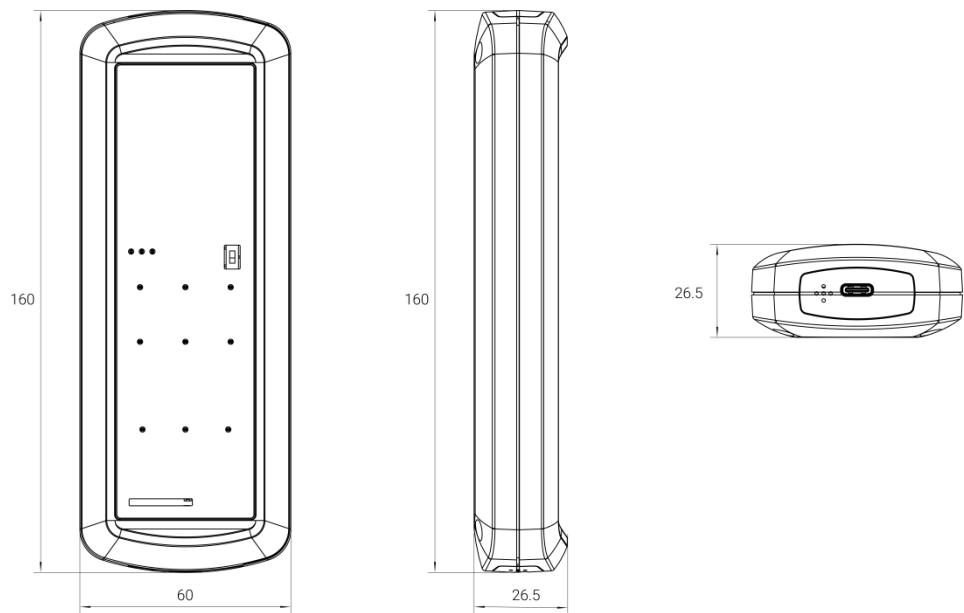


If any of the above items is missing or damaged, please contact your sales representative.

2.2 Hardware Overview



2.3 Dimensions (mm)



3. LED Indicators

LED	Indication	Description	Indication Status
Power	Battery Status	Battery Level: >70%	3 indicators light up for 3s after Power On

		Battery Level: 30~70%	2 indicators light up for 3s after Power On
		Battery Level: 20~30%	1 indicator lights up for 3s after Power On
		Battery Level: 0~20%	3 indicators blink for every 5s
	Charge	Charging via Type-C port	1 indicator blinks
		End charging	Off
	Sensor On/Sensor Off/Configure/Upgrade/Auto	Press the button to select configuration mode.	Off → On
Function	Wi-Fi/BLE	Press the button to allow Bluetooth connection.	Blinks ≤ 40s
		Connect device to smartphone successfully.	Blinks → Static On
	Reading	Press START button	Blinks
		Recognize the NFC area of sensor and start writing	Blinks → Static On
Configuration Status	Success	Write successfully	Light on ≤ 5s
	Failure	Failed to write	Light on ≤ 30s

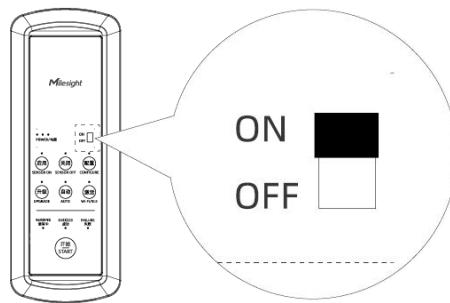
Note: The device will go to sleep mode and light off all indicators if there is not any operation within 30s and USB is not connected to any devices or power. Users can press any button to exit the sleep mode.

4. Operation Guide

4.1 Sensor Power On/Off

Applicable Models: NFC supported and support to power on/off via ToolBox App. Examples: AM300 series, EM300 series, EM500 series, etc.

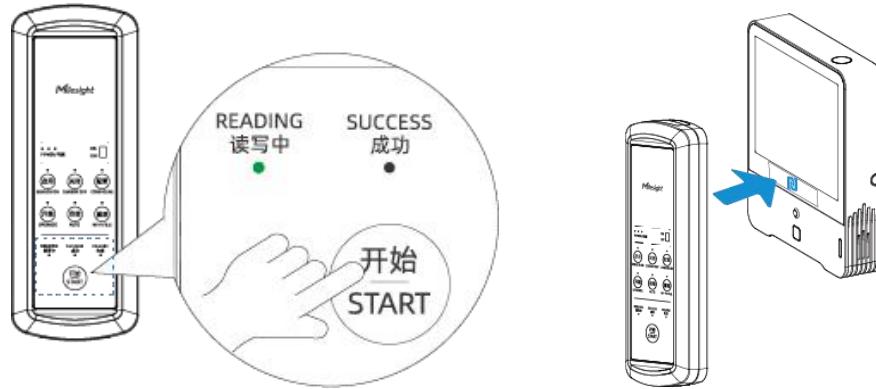
1. Turn on sensor configuration tool.



2. Press SENSOR ON or SENSOR OFF button.



3. Click START button and ensure the READING indicator blinks, attach the NFC area of SCT01 device to target sensor to operate the power on/off operation. When the SUCCESS or FAILURE indicator lights up and the buzzer beeps, the operation is complete.



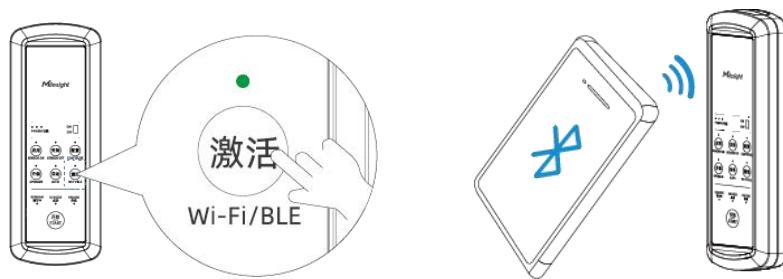
Note:

- 1) When the READING indicator changes from blinks to static on, it means SCT01 is writing the device and please keep both devices still to avoid writing failure.
- 2) The default configuration password for Milesight sensor is 123456. If the sensor uses a different password, please connect ToolBox App to SCT01 to write the sensor configuration password before performing any operation.

4.2 Sensor Configuration

Add Templates to SCT01 Device

1. Download and install **Milesight ToolBox** App from Google Play or App Store.
2. Enable Bluetooth and location feature on the smartphone, then open **Milesight ToolBox** App.
3. Press the Wi-Fi/BLE button of SCT01 device and ensure the indicator blinks.
4. Select the reading mode of ToolBox App as Bluetooth to scan the devices and select the target device to connect. The default Bluetooth name is SCT01-XXXXXX (5th to 11st of device SN), the default Bluetooth pin code is **521125** and the default device password is **123456**.

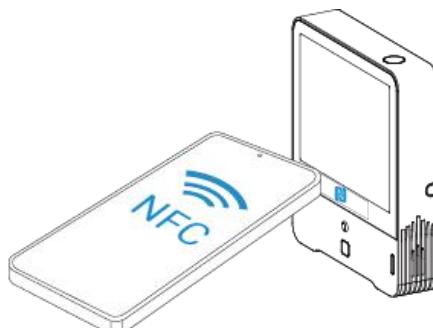
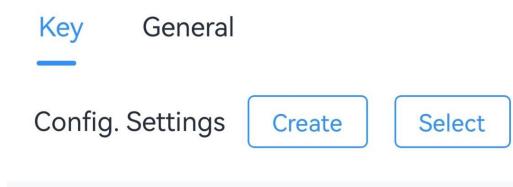


5. Basic information and settings of devices will be shown on ToolBox App if it's connected successfully. ToolBox App provides two methods to save the templates to SCT01 devices.

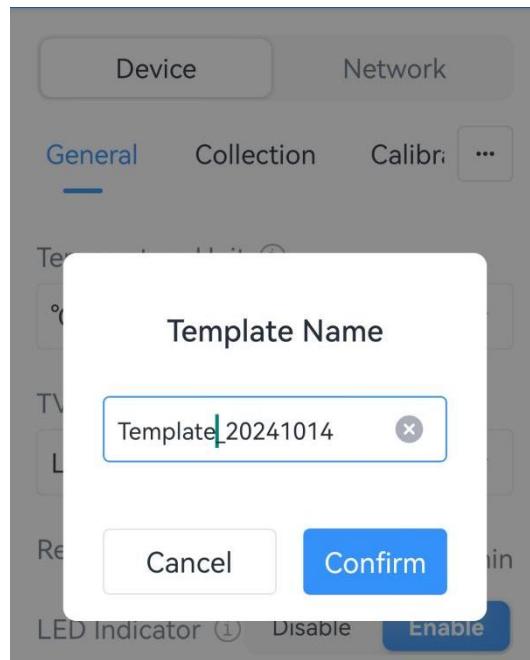
Method 1:

- 1) Go to **Settings** page to click **Create** button to create a new template.
- 2) Select the reading mode as NFC, attach NFC area of smartphone to target sensor to read the configuration.

Note: ToolBox App also supports to read the configuration via Bluetooth if the sensor supports Bluetooth feature.



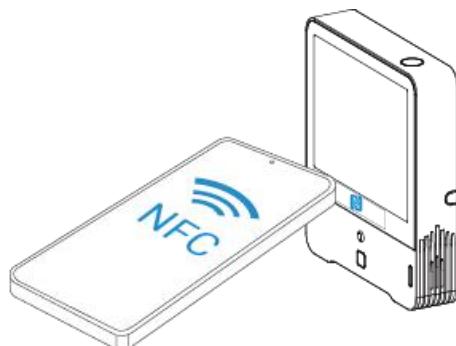
- 3) Adjust the configuration of sensor and click **Save** to save it as a template.



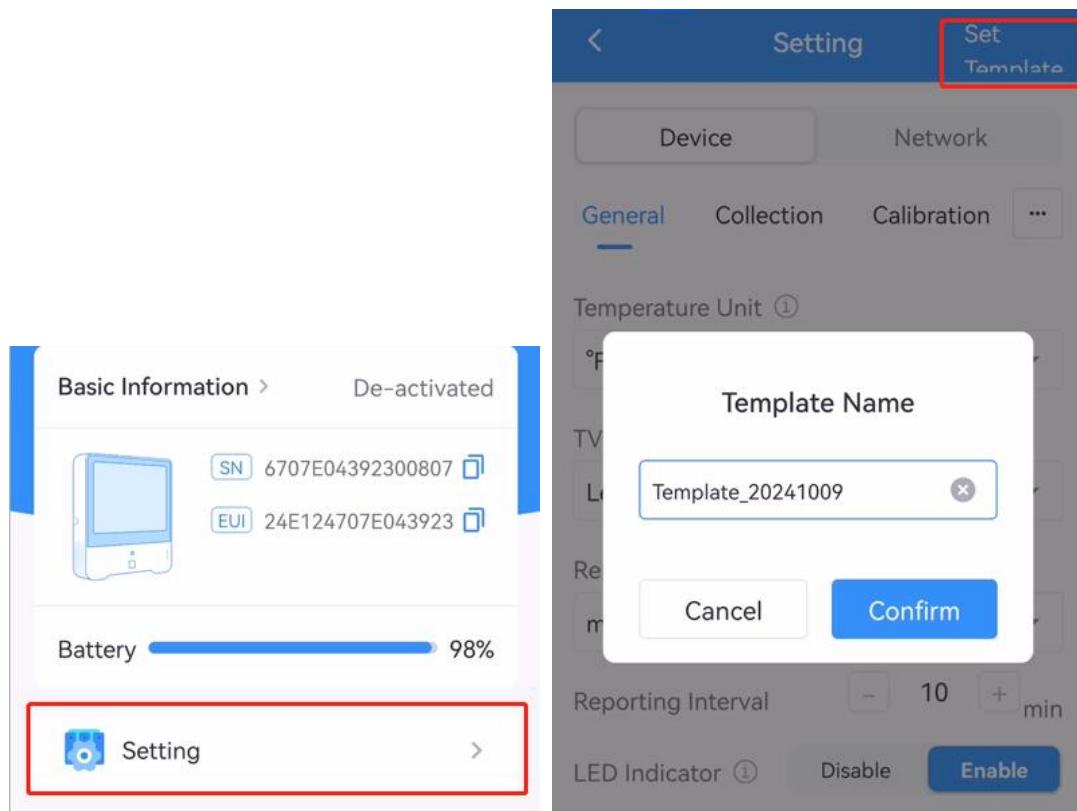
Method 2:

- 1) Before connecting to SCT01 device, select the reading mode of ToolBox App as NFC, then attach NFC area of smartphone to target sensor to read the configuration.

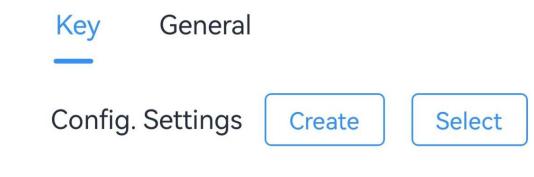
Note: ToolBox App also supports to read the configuration via Bluetooth if the sensor supports Bluetooth feature.



- 2) Go to **Settings** page to configure the sensor settings and save the template to ToolBox App.



- 3) Switch the reading mode of ToolBox App as Bluetooth, connect the ToolBox App to SCT01 device.
- 4) Go to **Settings** page to click **Select** button to select the new template, then click **Add to list**.



2024/10

 AM308-915M_2024100
Last Modified Time: 2024-10-09 11:52:49 Add to list  Export  Delete

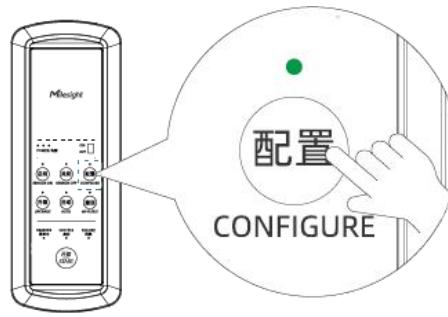
6. Click **Write** to save the template files to SCT01 device.

Note:

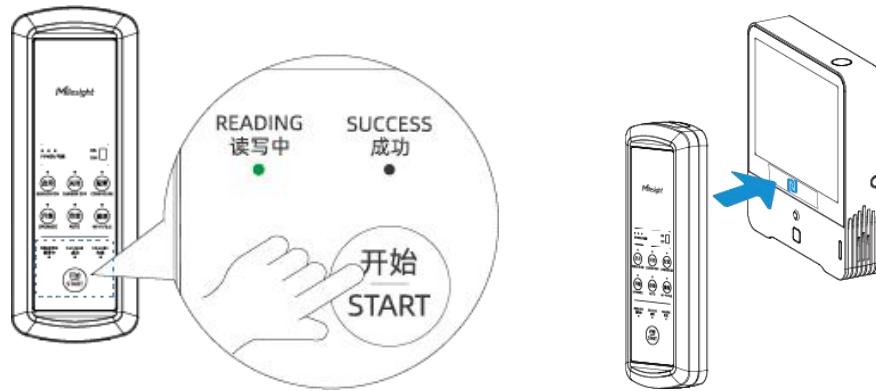
- 1) The Wi-Fi/BLE indicator will light off if the smartphone does not connect to SCT01 device within 40s. Please press the button twice to make it blinks again.
- 2) The Bluetooth connection will be terminated if there's no data interaction within 5 minutes.
- 3) When SCT01 starts writing to sensors, the Bluetooth connection will be terminated.
- 4) The device can connect to only one phone via Bluetooth. For example, if the device is connected to smart phone A via Bluetooth, the connection will be terminated when it connects to smartphone B.

Write Templates to Sensors

1. Press CONFIGURE button.

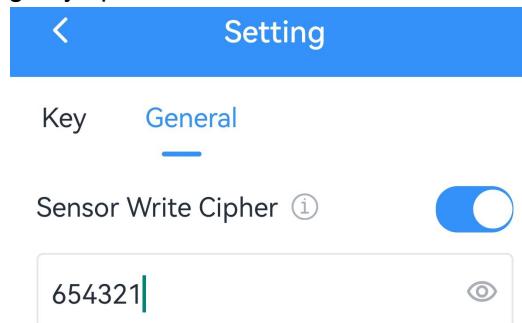


2. Click START button and ensure the READING indicator blinks, attach the NFC area of SCT01 device to target sensor to write the configuration. When the SUCCESS or FAILURE indicator lights up and the buzzer beeps, the operation is complete.



Note:

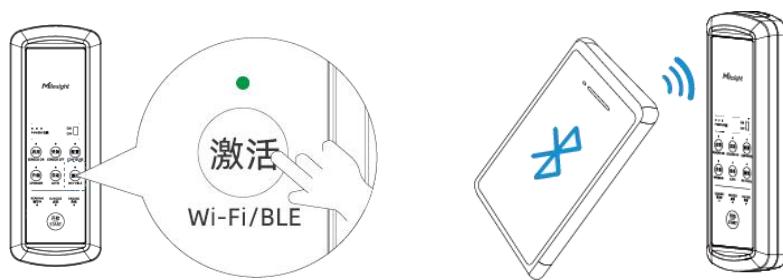
- 1) The SCT01 device will apply the templates to different models automatically.
- 2) If SCT01 device saves multiple templates of the same model, it will only write the template which is latest saved.
- 3) When the READING indicator changes from blinks to static on, it means SCT01 is writing the device and please keep both devices still to avoid writing failure.
- 4) The default configuration password for Milesight sensor is 123456. If the sensor uses a different password, please connect ToolBox App to SCT01 to write the sensor configuration password before performing any operation.



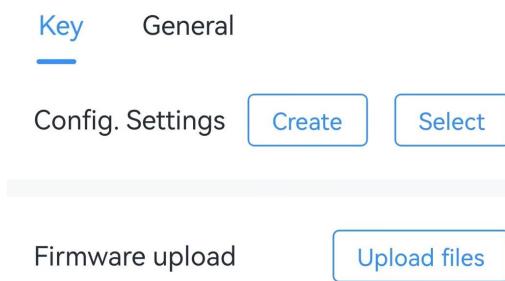
4.3 Sensor Upgrade

Add Firmware to SCT01 Device

1. Download and install **Milesight ToolBox** App from Google Play or App Store.
2. Enable Bluetooth and location features on the smartphone, then open **Milesight ToolBox** App.
3. Press the Wi-Fi/BLE button of SCT01 device and ensure the indicator blinks.
7. Select the reading mode of ToolBox App as Bluetooth to scan the devices and select the target device to connect. The default Bluetooth name is SCT01-XXXXXX (5th to 11st of device SN), the default Bluetooth pin code is **521125** and the default device password is **123456**.



4. Basic information and settings of devices will be shown on ToolBox App if it's connected successfully. Go to **Settings** page to click **Upload files** button to select and upload firmware from smartphone. **Every SCT01 device can only save one firmware file.**



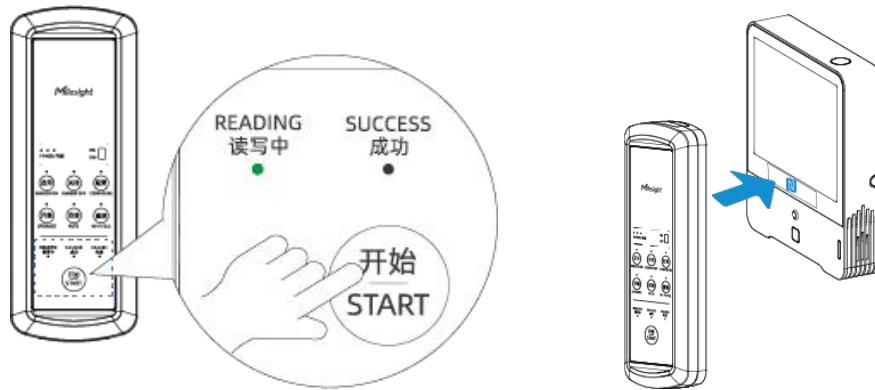
5. Click **Write** to save the firmware to SCT01 device.

Note:

- 1) The Wi-Fi/BLE indicator will light off if the smartphone does not connect to SCT01 device within 40s. Please press the button twice to make it blinks again.
- 2) When SCT01 starts writing to sensors, the Bluetooth connection will be terminated.
- 3) The Bluetooth connection will be terminated if there's no data interaction within 5 minutes.
- 4) The device can connect to only one phone via Bluetooth. For example, if the device is connected to smart phone A via Bluetooth, the connection will be terminated when it connects to smartphone B.

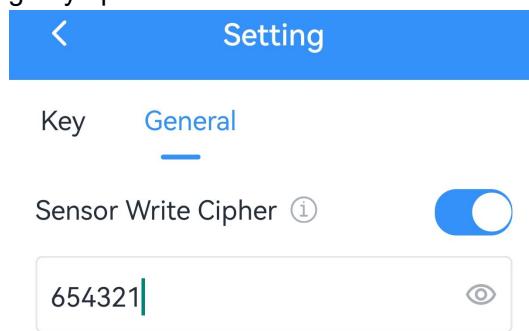
Write Firmware to Sensors

1. Press UPGRADE button.
2. Click START button and ensure the READING indicator blinks, attach the NFC area of SCT01 device to target sensor to write the firmware. When the SUCCESS or FAILURE indicator lights up and the buzzer beeps, the operation is complete.



Note:

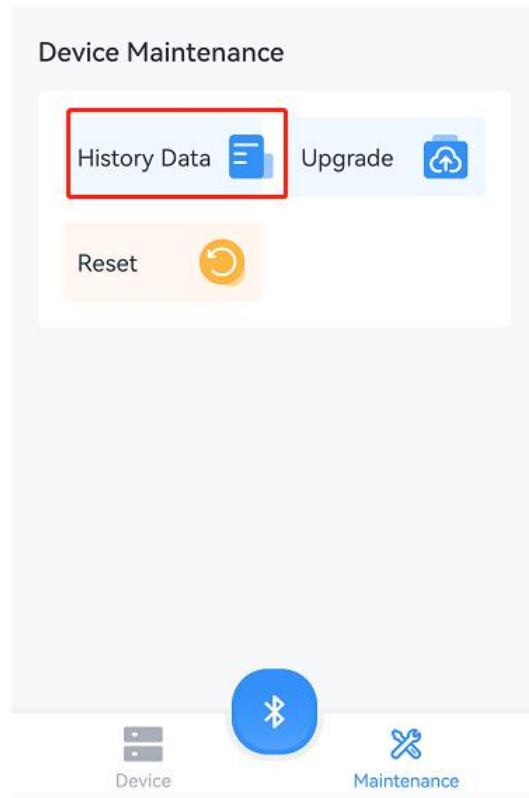
- 1) The SCT01 device will apply the templates to different models automatically.
- 2) When the READING indicator changes from blinks to static on, it means SCT01 is upgrading and please keep both devices still to avoid writing failure.
- 3) The default configuration password for Milesight sensor is 123456. If the sensor uses a different password, please connect ToolBox App to SCT01 to write the sensor configuration password before performing any operation.



4.4 Maintenance

4.4.1 Historical Log

SCT01 supports storing 1000 data records locally and exports data via ToolBox App. Go to **Maintenance** page of ToolBox App, and tap **History Data** to export the historical logs of operations.



1234202411111111-2024-10-08

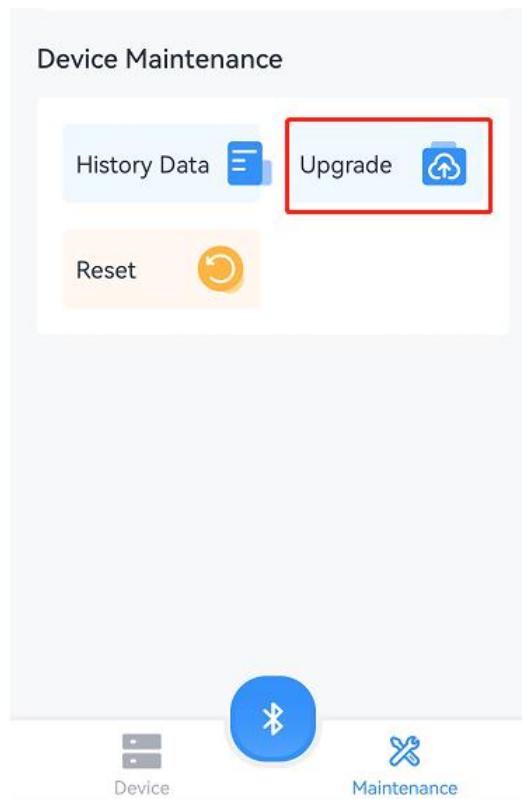
Write Type	Result
power off	fail - RF- tag is error! errval
power off	success
power on	success
power on	success
power on	fail - RF- tag is error! errval
power off	fail - RF- tag ack fail! errval
power off	success
configure	success

Export

4.4.2 Upgrade

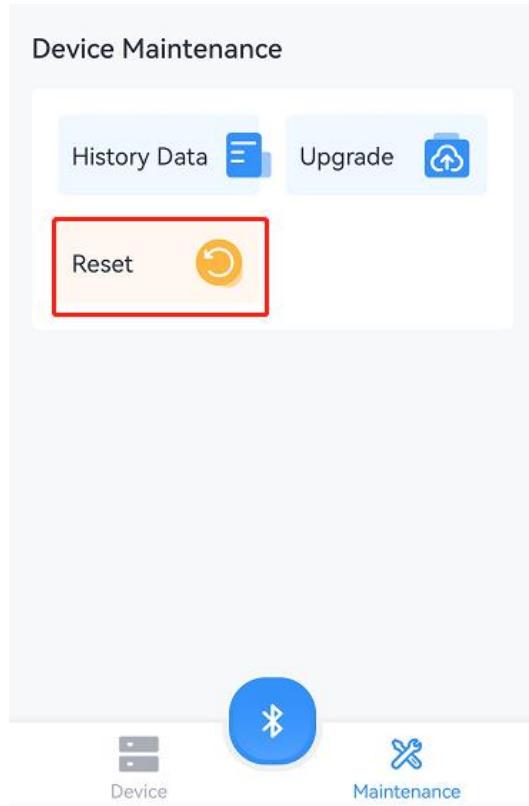
1. Download firmware from the Milesight website to your smartphone.
2. Go to **Maintenance** page of ToolBox App, and tap **Upgrade** to upload firmware and upgrade the device.

Note: Operation on ToolBox is not supported during the upgrade.



4.4.3 Reset

Go to **Maintenance** page to tap **Reset** to reset SCT01 device to factory settings.



5. Troubleshooting

If there is any configuration problem, please refer to below checklist for quick troubleshooting. If not solved, please contact Milesight technical support: iot.support@milesight.com.

1. Ensure the sensor is not the plug and play, this type of sensors do not support SENSOR ON/OFF operation.
2. Ensure the templates saved in SCT01 matches your product model, hardware version, firmware version and LoRaWAN® frequencies.
3. Ensure the firmware matches your product model and hardware version.
4. Ensure the NFC locations of both devices are attached correctly.
5. When READING indicator is static on, do not move both devices.
6. Check if sensor configuration password is default password. If not, enable Sensor Write Cipher of SCT01 device to configure the sensor password.
7. Ensure SCT01 device battery level is over 20%. Otherwise, it may cause the configuration failure.

This product complies with the radio interference requirements of the European Community.

Product name: Sensor Configuration Tool

Product model: SCT01

Manufacturer: Xiamen Milesight IoT Co., Ltd.

Frequency Range: BLE: 2402~2480MHz; WiFi 2.4G: 2412~2472MHz; NFC: 13.56MHz

Max. Transmit Power: BLE: 7.65dBm Max; WiFi 2.4G: 12.61dBm Max; NFC: 32.13dB μ A/m@10m Max;

SIMPLIFIED EU DECLARATION OF CONFORMITY

The simplified EU declaration of conformity referred to in Article 10(9) shall be provided as follows:

Hereby, Xiamen Milesight IoT Co., Ltd. declares that radio equipment type SCT01 is in compliance with Directive 2014/53/EU, and this product is allowed to be used in all EU member states. This product can be used across EU member states.

1. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
2. The product shall only be connected to a USB interface of version USB Type-C.

RF warning statement:

The device has been evaluated to meet general RF exposure requirement. To maintain compliance with RF exposure requirement, use product that maintain a 20cm distance between the device and human body.

FCC STATEMENT :

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF warning statement:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

-END-