



HDL-MSD04T.40

4-Zone Dry Contact Module

User Manual

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4-Zone Dry Contact Module User Manual

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Update History

The form below contains the information of every update. The latest version contains all the updates of all former versions.

No.	Version	Update Information	Date
1	V1.0.0	Initial release	August 22, 2020

1 Introduction

4-Zone Dry Contact Module with temperature sensor (See Figure 1) has 4 input channels and 4 output channels. Input signal supports dry contact, temperature signal and dry contact status display via LED indicators.

This manual offers the description of installation, wiring and configuration of 4-Zone Dry Contact Module with temperature sensor in Buspro Software Setup Tool 2.



Figure 1. 4-Zone Dry Contact Module with Temp. Sensor

1.1 Function

- (1) 4-channel dry contact input with vandal proof.
- (2) Supports temperature input.
- (3) Status display via LED indicators.
- (4) Supported switch type: Mechanical switch, Single on, Single off, Single on/off, Combination on, Combination off, Combination on/off, Multi-function, Parallel switch, Temperature sensor.
- (5) Supported switch mode: Switch mode, dim up/down, dim up, dim down.
- (6) Control target types: Scene, Sequence, Universal switch, Single channel lighting control, Broadcast scene, Broadcast channel, Curtain control, Panel control, GPRS control, Security module, Music player etc.
- (7) Security function (security module required).
- (8) Temperature alarm: when the temperature exceeds preset range/value, alarm will be triggered.
- (9) Online update via HDL Buspro.

Important Notes:

- (1) Dry contact signal cable - Shielded cable (less than 50 meters) recommended.
- (2) Buspro connection - Series connection (hand-in-hand recommended).
- (3) Vandal-proof - One parallel contacted 1k Ω resister required.
- (4) LED indicator - Only one LED supported.
- (5) The temperature probe cable is up to 2.5 meters.

1.2 Production Information

1. Programming button:

Keep pressing for 3s to read and modify the ID in HDL Buspro Setup Tool;

Keep pressing the button when power on to online upgrading firmware from HDL Buspro Setup Tool.

2. CPU indicator:

Flash in green in working mode;

Keeps in red during ID modification;

Flash in red when online upgrading firmware.

3. HDL Buspro interface.

4. LED output terminal, display dry contact status. 5V or 12V terminal can be set according to the LED types.

5. Input terminal, contact to dry contact or thermistor. See Figure 5.

1.2.1 Dimensions - See Figure 2 - 3

1.2.2 Wiring - See Figure 4 - 6

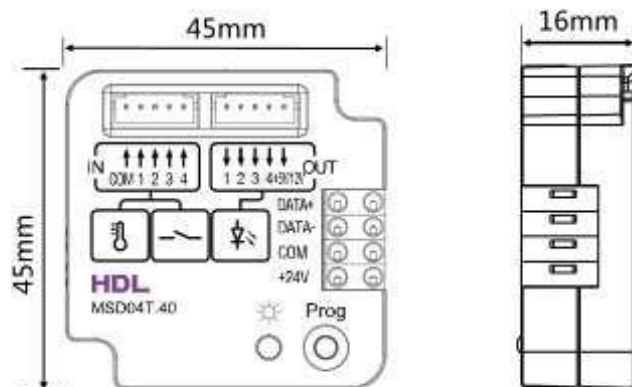


Figure 2. Dimensions-Front View Figure 3. Dimensions-Side View

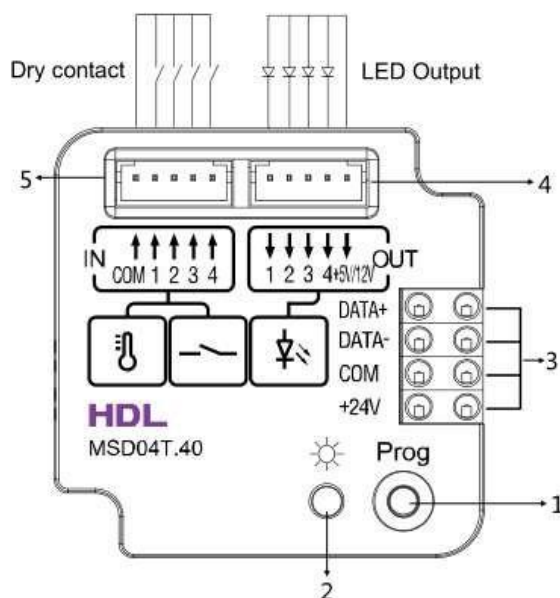


Figure 4. Wiring

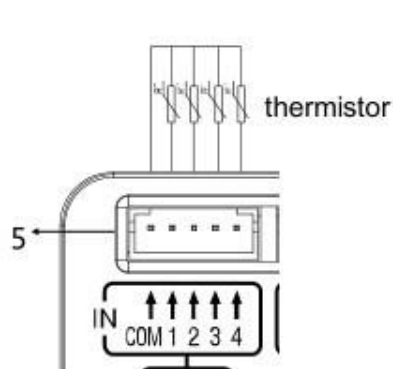


Figure 5. Wiring

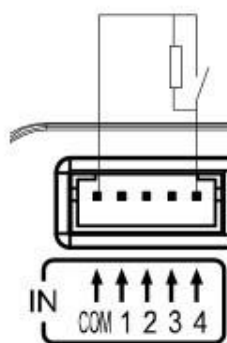


Figure 6. Wiring

1.2.3 Installation - See Figure 7-8

Fix the module to the wall box or the desired position with screws.

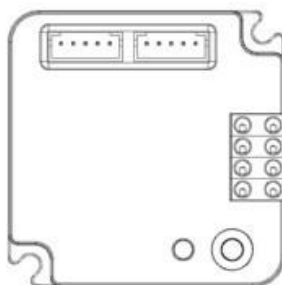


Figure 7

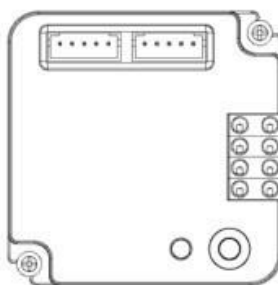


Figure 8

Figure 7 - 8. Installation

2 Configuration

2.1 Dry Contact

ID	Remark	Mode	ON delay (MM:SS)	OFF delay (MM:SS)	Enable/disable	Enable lock	Function Description
1		Single ON/OFF	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Unspecified
2		Single ON/OFF	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Unspecified
3		Single ON/OFF	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Unspecified
4		Single ON/OFF	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Unspecified

Figure 2.1-1. Dry Contact Remark: The name of channel.

Mode: Mechanical Switch、Single On、Single OFF、Single ON/OFF、Combination ON、Combination OFF、Combination ON/OFF、Multi-function、Parallel Switch、Combination ON & OFF、Temperature Sensor mode can be selected.

ON delay (MM:SS): the delay time of turning on the channel.

OFF delay (MM:SS): the delay time of turning off the channel.

Enable/disable: Enable or disable the channel.

Enable lock: If select enable lock function, other devices can control current dry contact channel.

Function Description: Description of current channel function.

Input/output brightness: Select output type then dry contact channel can provide device with DC 5V or 12V voltage.

2.1.1 Mechanical Switch and Shield Dry Contact Channel

For example, 3rd-party dry contact type motion sensor is connected to dry contact channel 1 and we need to shield it.

1. Select mechanical switch model, turn on the light when channel is connected, turn off the light when channel is disconnected. And set OFF delay time 20s to turn off the light after sensor does not detect any movement.

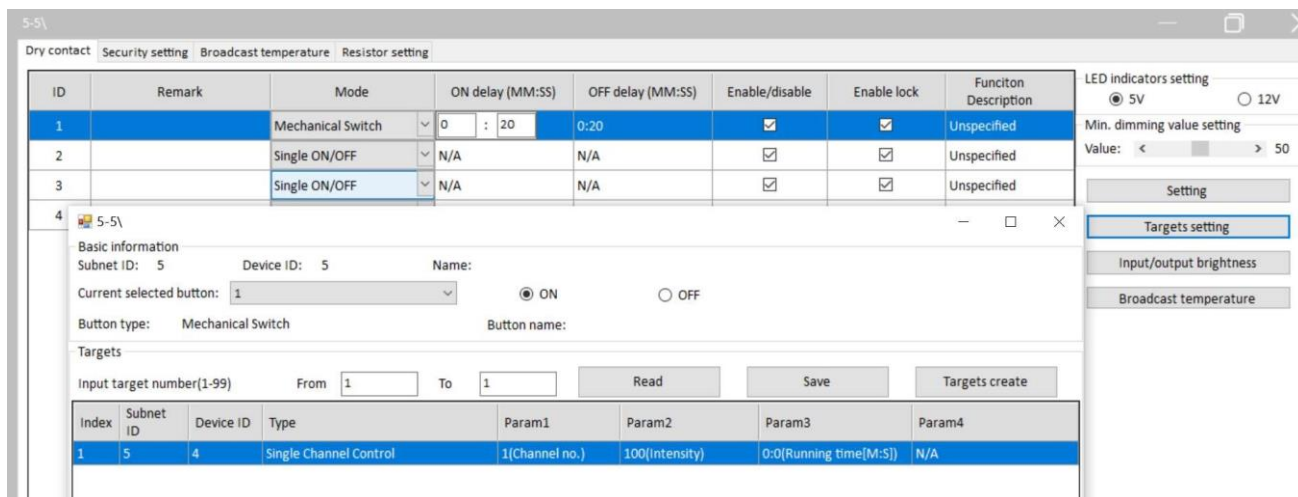


Figure 2.1.1-1 Mechanical Switch ON

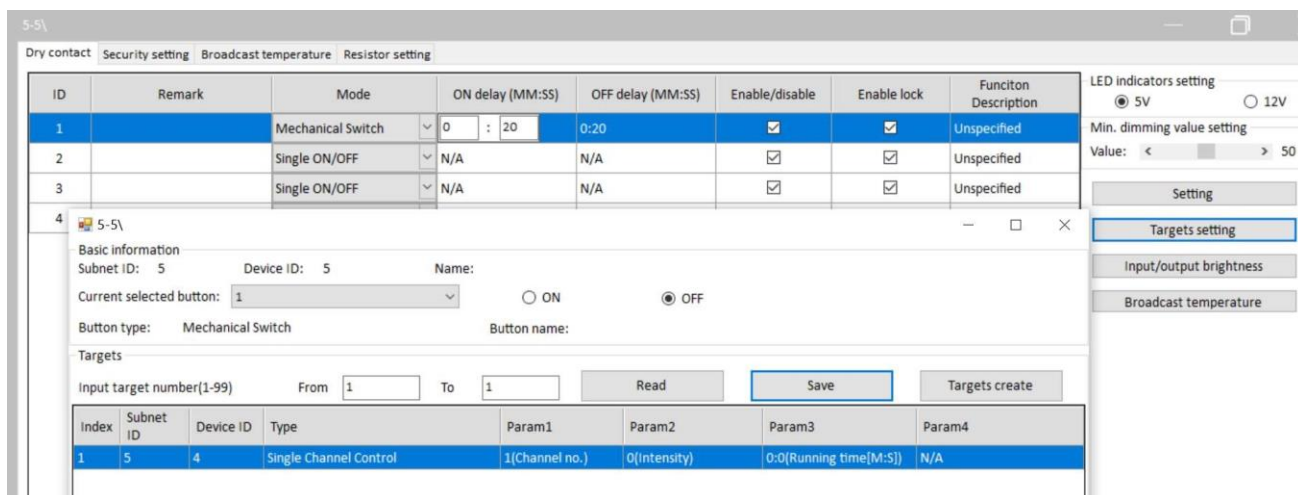


Figure 2.1.1-2 Mechanical Switch OFF

2. In DLP panel keypad, select panel control type, shield button in param 1, button 1 in param 2(dry contact channel), valid in param 3.
3. You will see the dry contact channel 1 is disabled after press this keypad. And this sensor cannot work anymore.

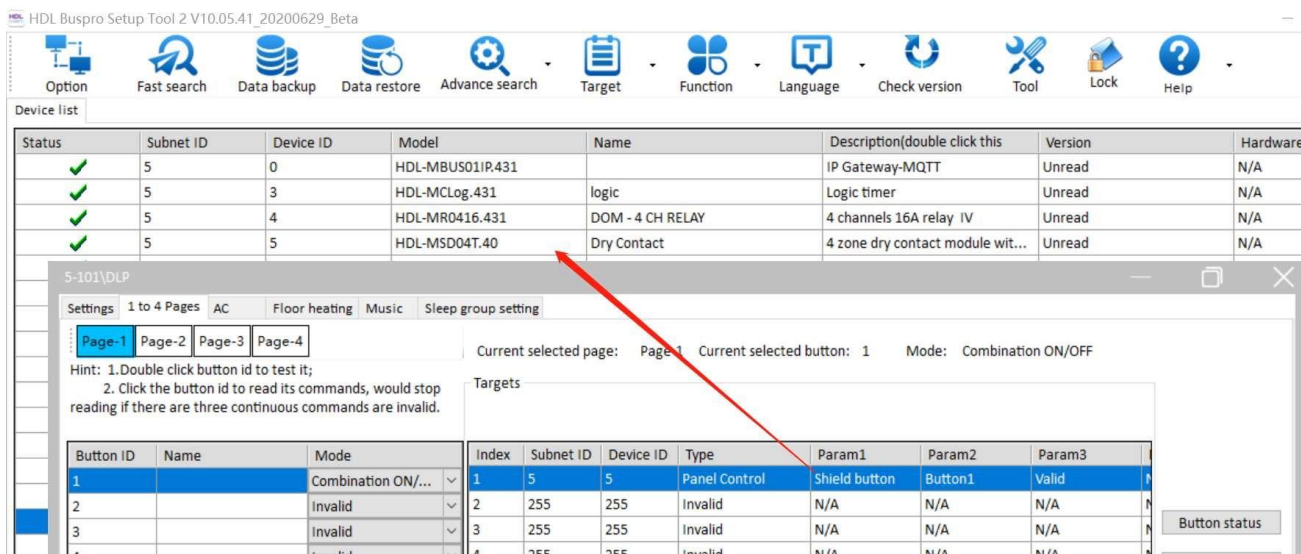


Figure 2.1.1-3. Shield Button



Figure 2.1.1-4. Dry Contact Disabled

2.2 Security Setting

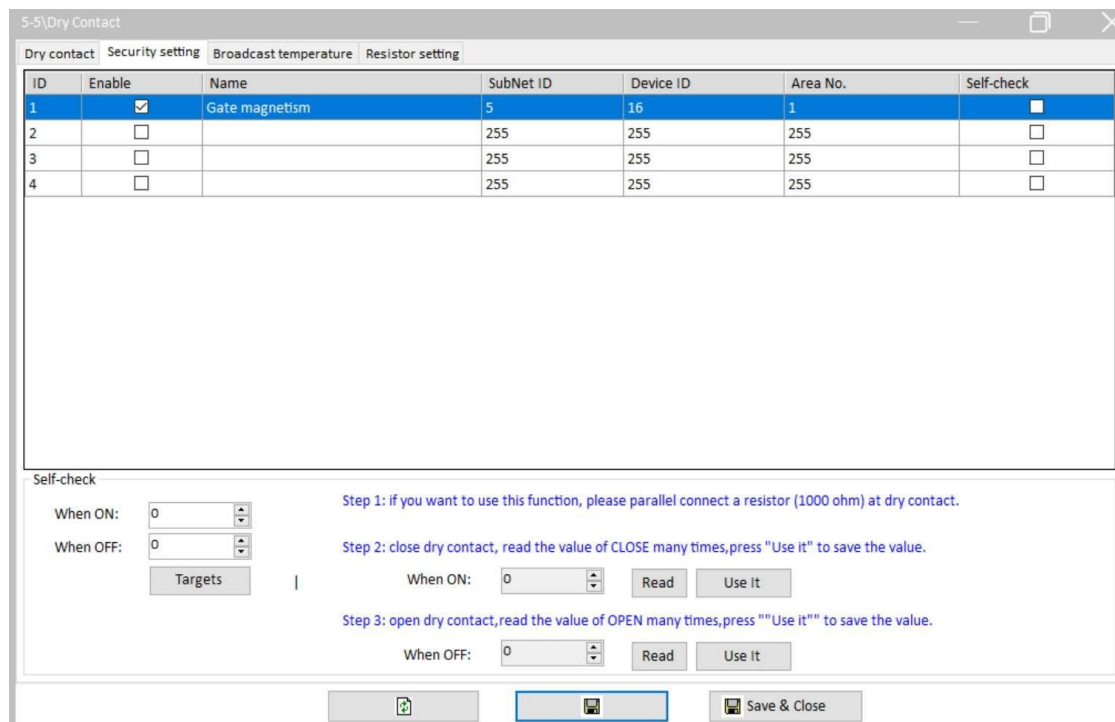


Figure 2.2-1. Security Setting

Enable : Enable or Disable channel used to trigger security alarm.

Name: Name of the channel.

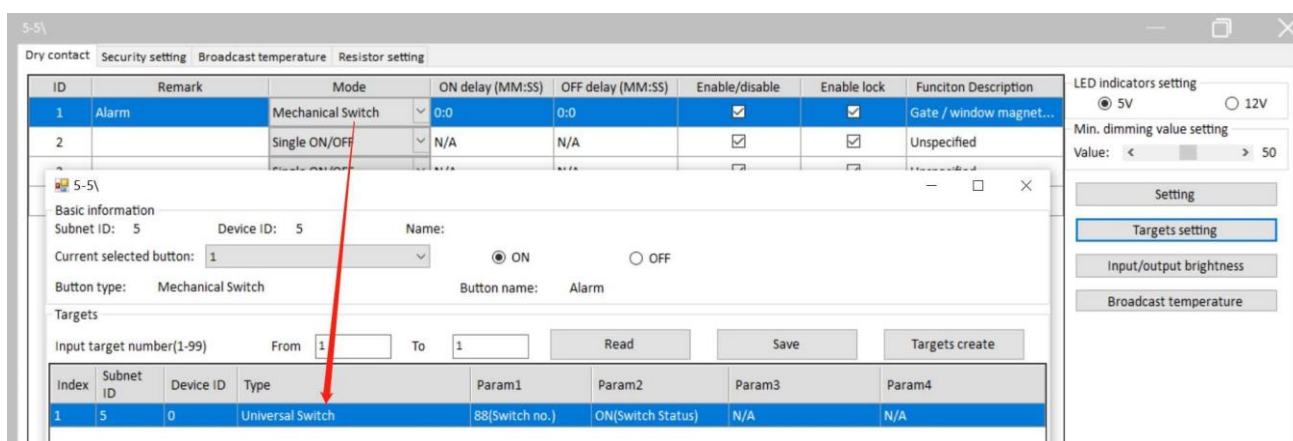
Subnet ID, Device ID, Area No.: Use with security module and should fill Security module's Subnet ID, Device ID, Area number.

Self-check: It is used to anti-tamper or check the channel status is connected.

2.2.1 Notification in HDL ON and Dry contact

You can refer to below steps to configure the vacation mode and notification in HDL ON.

Step 1: Connect a dry contact type device to dry contact module channel 1. Set Mechanical Switch mode and turn on gateway universal switch.



Step 2: Fill in the dry contact module's subnet ID and device ID. Message ID is the gateway universal switch number which is turned on by dry contact module in step 1.



Step 3: In dry contact module security setting, enable channel 1, fill in security module's subnet ID, device ID and area number.

ID	Enable	Name	SubNet ID	Device ID	Area No.	Self-check
1	<input checked="" type="checkbox"/>	Gate magnetism	5	16	1	<input checked="" type="checkbox"/>
2	<input type="checkbox"/>		255	255	255	<input type="checkbox"/>
3	<input type="checkbox"/>		255	255	255	<input type="checkbox"/>
4	<input type="checkbox"/>		255	255	255	<input type="checkbox"/>

Self-check

When ON: 0

When OFF: 0

Targets

When ON: 0

When OFF: 0

Read Use It

Read Use It

Save & Close

Step 4: In security module arming setting vacation arm, fill in the device that is executed simultaneously when the vacation mode is triggered. The alarm music is from Homeplay (HDLMZBOX.A50B.30) USB flash disk. If use special music to alarm, change the file suffix MP3 to VOC format directly.

Area No. 1 Enable

Different types of arming can set different goals. Each type can be set up to 32 targets.

Type

VACATION ARM

AWAY ARM

NIGHT ARM

NIGHT_G ARM

DAY ARM

DISARM ARM

Index Subnet ID Device ID Type Param1 Param2 Param3

1 5 4 Broadcast Channel All Channels 0(Intensity) 0:0(Running time[M...]

2 5 22 Broadcast Channel All Channels 0(Intensity) 0:0(Running time[M...]

3 5 33 Broadcast Channel All Channels 0(Intensity) 0:0(Running time[M...]

4 5 59 Broadcast Channel All Channels 0(Intensity) 0:0(Running time[M...]

5 120 1 Music Control Source Play Specify List 2(Song no.)

6 255 255 Invalid N/A N/A N/A

7 255 255 Invalid N/A N/A N/A

8 255 255 Invalid N/A N/A N/A

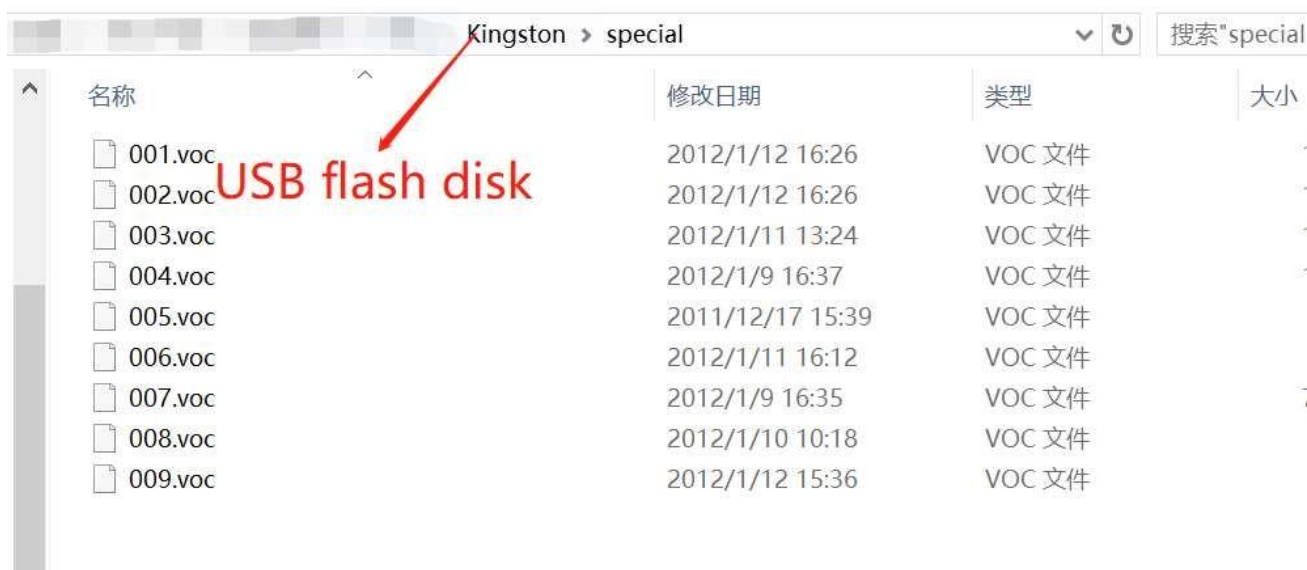
Auto Arming 0 : 0

Mode Auto Arming

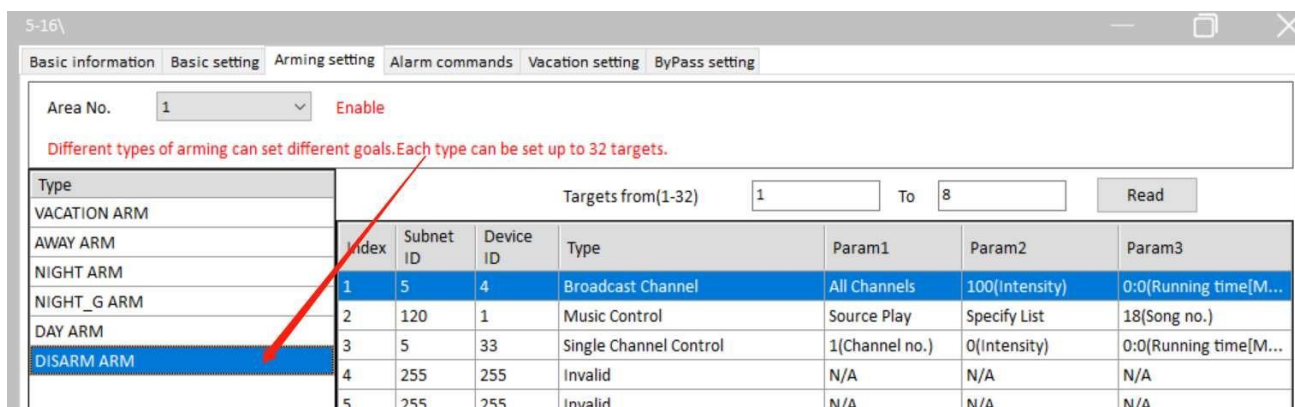
Auto Arming 0 : 0

Auto Arming 0 : 0

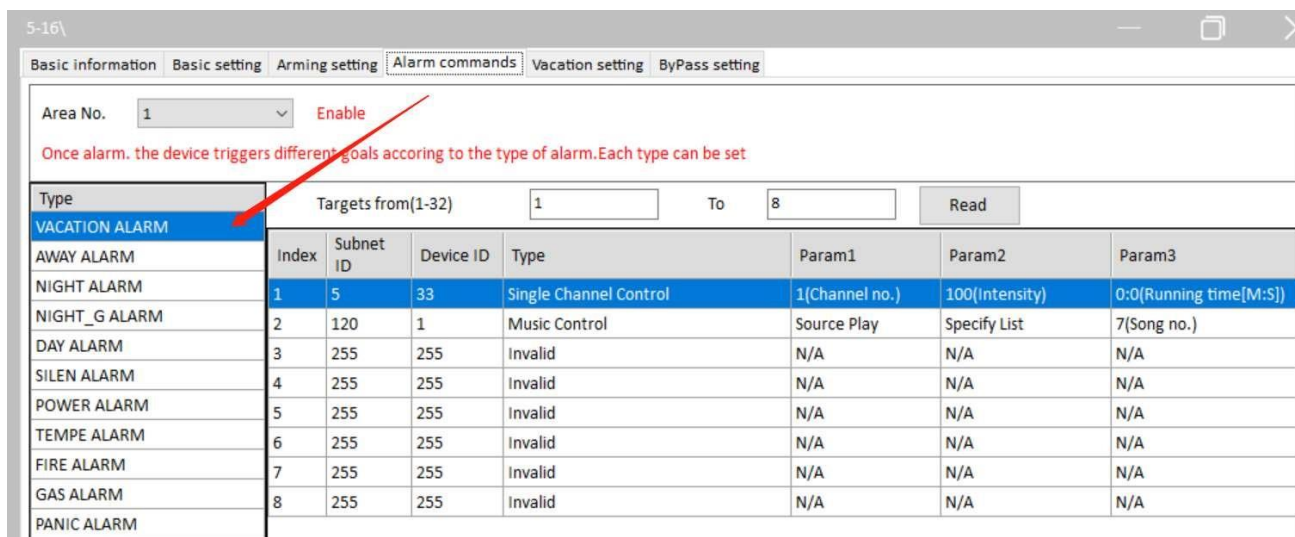
Save & Close



Step 5: In security module arming setting disarm arm, fill in the device that is executed simultaneously when the disarm mode is triggered.



Step 6: In security module alarm commands vacation alarm, fill in the alarm devices executed after triggering dry contact in vacation mode



Step 7: Fill in the dry contact module channel 1. Select connect option which means when security module is in vacation mode, change dry contact channel status disconnected to connect, system will execute the devices in alarm commands vacation alarm.

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Basic information Basic setting **Arming setting** Alarm commands Vacation setting ByPass setting

Area No. 1 Enable

When about to arm, this module will be checked if everyone is OK. For example, if windows are closed. You can select up to 32 devices for checking. If your version is 2011/06/21 or above, if now the door is opened, it can output 8 commands. Only 1-16 this function.

Alarm+ByPass Arming settings

Index(1-32) from 1 To 4 Read

Index	Alarm	Subnet ID	Device ID	Channel	Bypass	Trigger	Status	Mode	Remark
1	<input checked="" type="checkbox"/>	5	5	1	<input type="checkbox"/>	Connect	OFF	Normal	
2	<input type="checkbox"/>	255	255	255	<input type="checkbox"/>	Disconnect	Not online	Normal	
3	<input type="checkbox"/>	255	255	255	<input type="checkbox"/>	Disconnect	Not online	Normal	
4	<input type="checkbox"/>	255	255	255	<input type="checkbox"/>	Disconnect	Not online	Normal	

Current selected index Targets

Index	Subnet ID	Device ID	Type	Param1	Param2	Param3
1	255	255	Invalid	N/A	N/A	N/A
2	255	255	Invalid	N/A	N/A	N/A
3	255	255	Invalid	N/A	N/A	N/A
4	255	255	Invalid	N/A	N/A	N/A
5	255	255	Invalid	N/A	N/A	N/A
6	255	255	Invalid	N/A	N/A	N/A
7	255	255	Invalid	N/A	N/A	N/A
8	255	255	Invalid	N/A	N/A	N/A

Save & Close

Step 8: Configure HDL ON and DLP panel subnet ID and device ID to control arm or disarm.

5-16\

Basic information Basic setting **Arming setting** Alarm commands Vacation setting ByPass setting

Area No. 1 Enable

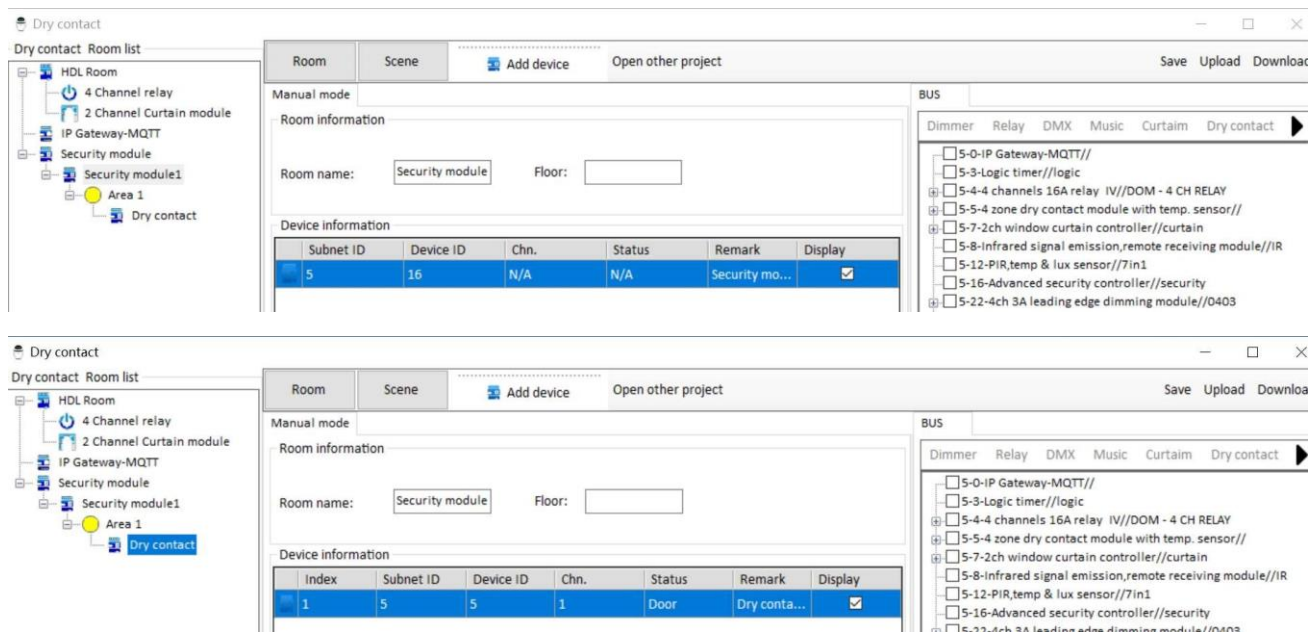
When about to arm, this module will be checked if everyone is OK. For example, if windows are closed. You can select up to 32 devices for checking. If your version is 2011/06/21 or above, if now the door is opened, it can output 8 commands. Only 1-16 this function.

Alarm+ByPass Arming settings

Targets Num from(1-16) 1 To 10 Read

Index	Subnet ID	Device ID	Remark
1	252	252	HDL ON Vacation Mode
2	5	101	DLP
3	255	255	
4	255	255	

Step 9: Upload security module, area 1, dry contact channel to HDL ON.



2.3 Broadcast Temperature

Dry contact only supports NTC type thermistor. NTC means the phenomenon and materials of thermistor with negative temperature coefficient and the resistance decreases exponentially with the increase of temperature.

Channel	Valid/invalid	SubNet ID	Device ID	Adjust temperature	Current temperature
1	Invalid	255	255	0	0C
2	Invalid	255	255	0	0C
3	Invalid	255	255	0	0C
4	Invalid	255	255	0	0C

Figure 2.3-1 Broadcast Temperature

1. Valid/Invalid: Channel can be enabled or disabled to broadcast temperature.
2. Subnet ID & Device ID: Fill in the device's subnet ID and device ID where the broadcast temperature is required.
3. Adjust temperature: It's used to adjust temperature compensation (range is between -8°C and +8°C) when there is big difference between the detected temperature and the actual temperature.
4. Current temperature: The detected temperature.

You can also configure broadcast temperature settings in dry contact->broadcast temperature interface. It will display current temperature in "Now" row. Refer to Figure 2-3-1. Broadcast Temperature-1.

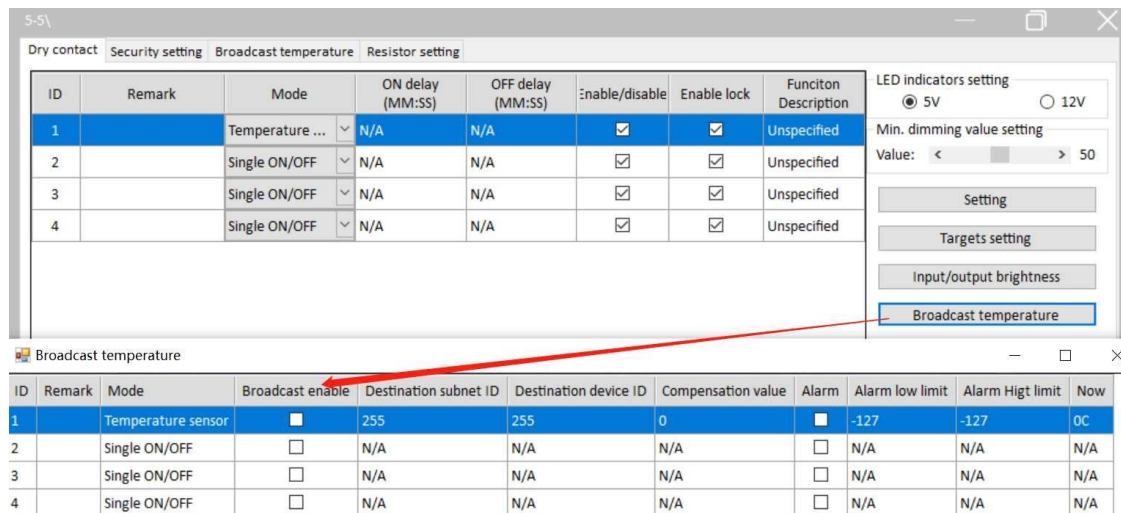


Figure 2.3-2. Broadcast Temperature-1

2.4 Resistor Setting

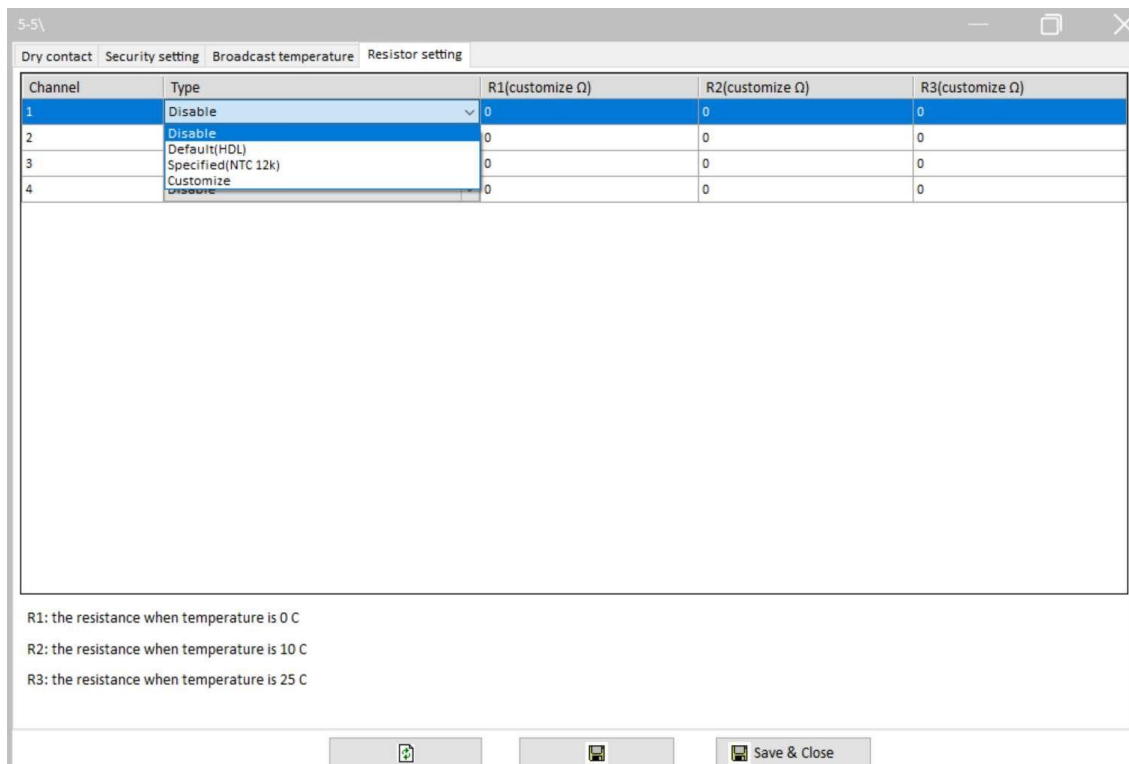


Figure 2.4-1 Resistor Setting Type:

Default (HDL)、Specified(NTC12k)、Customize can be selected.

How to detect temperature (Only the NTC type resistance can be used):

1. Select temperature sensor mode in dry contact channel. And connect a thermistor to dry contact channel.

2. Select customize type resistance.
3. Separately fill in the corresponding resistance value to R1、R2、R3 when detecting 0 Celsius degree、10 Celsius degree、25 Celsius degree.

3 Device Upgrade

3.1 Automatic Upgrade

Automatic upgrade is applicable for the devices searched out. Automatic upgrade page is as shown in 错误!未找到引用源。.

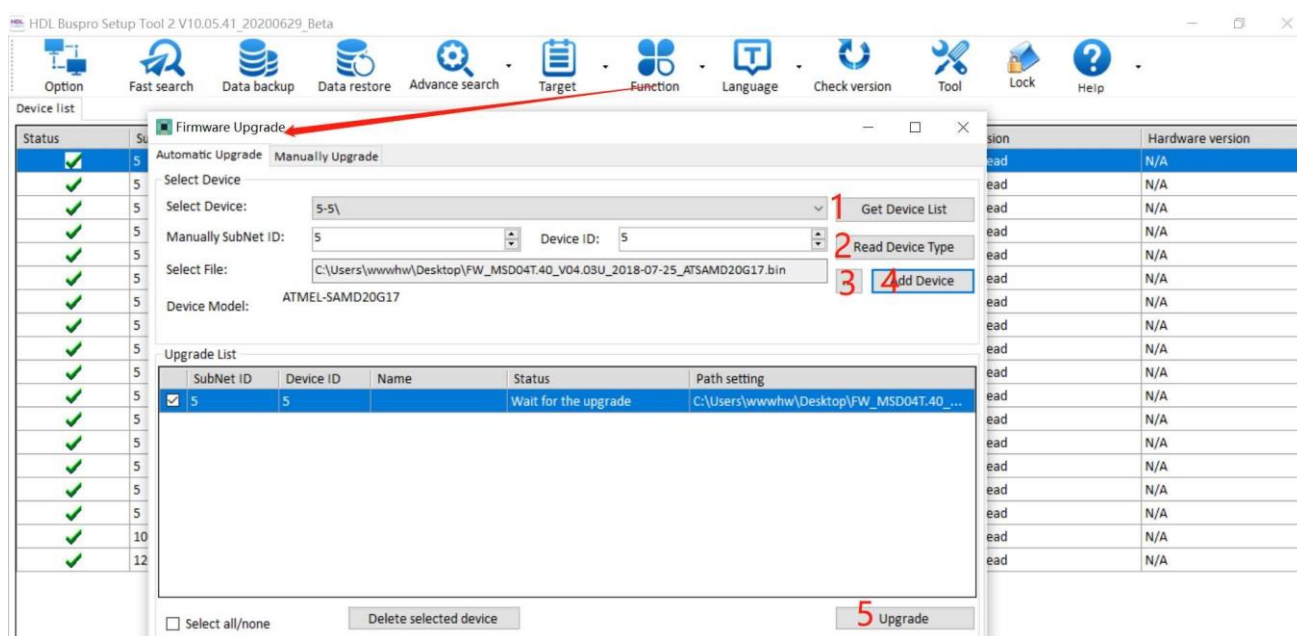


Figure 3-1. Automatic Upgrade

1. Select the device to upgrade.
2. Read device type.
3. Select the device firmware.
4. Add to upgrade list.
5. Begin the upgrade.

3.2 Manually Upgrade

If upgrade failure, select manually upgrade page, Refer to Figure 3-2.

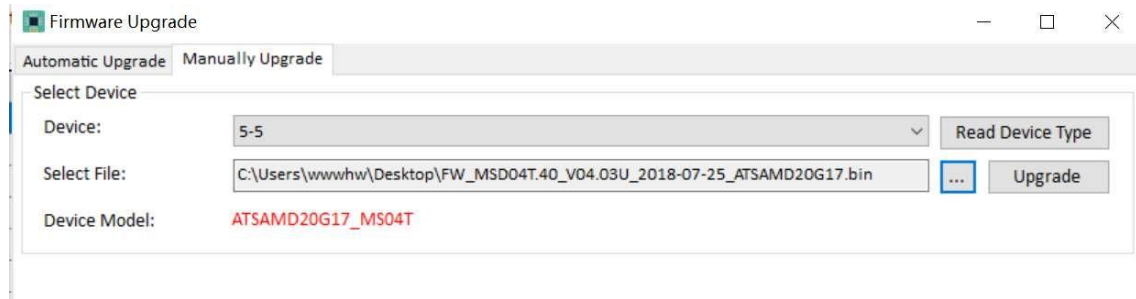


Figure 3-2. Manually Upgrade 1. If it

shows dry contact address and type, select the firmware.

2. Manually upgrade it.

3.3 Access in Manually Upgrade Mode

How to access in the manually upgrade mode:

1. Open the manually upgrade page.
2. Power off dry contact, then hold its Prog button and power on it. See Figure 3-3.



Figure 3-3

3. In the manually upgrade page, you can see dry contact address and model, select the firmware and upgrade.