

HDL[®]

**Multifunctional Sensor
HDL-MSP07M.4C**

HDL[®]

Functions



- PIR motion sensor
- LUX sensor
- Temperature sensor
- 2 Dry contacts
- 2 external condition inputs
- Constant LUX control
- Security alarm logic (works with Security module)
- 24 configurable logics

Sensor Setting

The screenshot shows the '42-2\7in1 sensor' configuration window with several sections highlighted by red rounded rectangles and red text annotations:

- LED indicators setting:** Includes checkboxes for 'PIR LED ON (Red)' and 'Working LED ON(Green)'.
Sensor enable: A list of checkboxes for 'Temperature(UV No.255)', 'Brightness(UV No.254)', 'PIR(UV No.253)', 'Dry Contact 1(UV No.251)', 'Dry Contact 2(UV No.250)', 'UV Switch 1', 'UV Switch 2', and 'Logic Status as Condition'.
Sensor status: A panel showing 'Updata status automatically' (unchecked), 'Current temperature: 24C', 'PIR: No-movement', 'Brightness: 315Lux', and 'Dry contact 1: OFF', 'Dry contact 2: OFF'.
Sensor sensitivity: Includes 'Temperature compensation(C)' and 'PIR sensitivity: 70%'.
Constant lux function: Includes 'Enable' (unchecked), 'Constant lux(0-5000): 500', 'Control cycle(0.1S-5S): 2.0', 'kp(scaling param): 0.01', 'Ki(integral param): 0.01', and 'Low limit: 0%'.
Simulate sensor value: A section titled 'Now in normal state' with checkboxes for 'Temperature sensor(C)', 'Brightness sensor(Lux)', and 'PIR sensor', each with a slider and a 'Test' button.
Buttons: 'Save & Close' and 'Exit test' buttons are visible at the bottom.

Sensor enable/disable

Sensitivity adjust

Constant setting

Can check sensor status

Can simulate sensor value for test

Logic setting in sensor

The screenshot shows the 'Logic' tab of the sensor configuration software. It features a table of logic rules, a configuration area for 'Current logic information', and a 'Sensor status' panel.

Logic No.	Remark	Enable	Power off recovery
1		Invalid	No action
2		Invalid	No action
3		Invalid	No action
4	Ac OFF	Valid	No action
5		Invalid	No action
6		Invalid	No action
7		Invalid	No action
8		Invalid	No action
9		Invalid	No action
10		Invalid	No action
11		Invalid	No action
12		Invalid	No action
13		Invalid	No action
14		Invalid	No action
15		Invalid	No action
16		Invalid	No action
17		Invalid	No action
18		Invalid	No action
19		Invalid	No action
20		Invalid	No action
21		Invalid	No action
22		Invalid	No action

Current logic information:

- Temperature: 20 To 26
- Brightness: 800 To 1000
- PIR Sensor: Movement
- Dry contact 1: Disconnect
- Dry contact 2: Disconnect
- UV switch(201-248) Switch ID: 210
- UV switch(201-248) Switch ID: 202
- Logic Logic num: 1 Status: False

Logic input condition: ON

True delay: 0 : 2 (M:S) **False delay:** 0 : 5 (M:S)

Sensor status:

- Update status automatically:
- Current temperature: 24C
- PIR: No-movement
- Brightness: 322Lux
- Dry contact 1: OFF
- Dry contact 2: OFF
- UV Switch:210 OFF
- UV Switch:202 OFF
- Sensor broadcast enable:
- Simulate sensor value: Now in normal state
- Temperature sensor(C): 0
- Brightness sensor(Lux): 0
- PIR sensor: No movement

Sensor logic number

Logic input condition

Logic true/false output:
When logic is true, can trigger true output
When logic is false, can trigger false output

Security setup

42-2\7in1 sensor
[-] [max] [x]

Sensor setting
Logic
Security setup

Index	Sensor	Enable	Name	Subnet ID	Device ID	Area No.
1	Dry contact 1	<input checked="" type="checkbox"/>		42	11	1
2	Dry contact 2	<input checked="" type="checkbox"/>		42	11	1
3	IR sensor	<input checked="" type="checkbox"/>		42	11	1

If dry contact or IR sensor used for security,
Need to enable the security function, and fill
in ID/area for security module

Save & Close

Sensor status

Update status automatically

Current temperature: 24C

PIR: No-movement

Brightness: 322Lux

Dry contact 1: OFF

Dry contact 2: OFF

Sensor broadcast enable

Simulate sensor value

Now in normal state

Temperature sensor(C)

Brightness sensor(Lux)

PIR sensor

Test
Exit test

Application

Requirements:

- 1. When people open the door and come into the meeting room, turn on the lights automatically
- 2. 1 minute after people come into the room, turn on the AC and set the temperature as 25°C
- 3. 1 minute after people left the room, turn off the lights and set temperature as 27 °C
- 4. 3 minutes after people left the room, turn off the AC automatically

1. When people open the door and come into the meeting room, turn on the lights automatically

1: simulate the door connect to dry contact 1

2: use AND, because need two conditions

3: when two conditions are true, then trigger this output

4: output: turn on one light

Logic No.	Remark	Enable	Power off recovery
1	light on	Valid	No action
2		Invalid	No action
3		Invalid	No action
4		Invalid	No action
5		Invalid	No action
6		Invalid	No action
7		Invalid	No action
8		Invalid	No action
9		Invalid	No action
10		Invalid	No action
11		Invalid	No action
12		Invalid	No action
13		Invalid	No action
14		Invalid	No action
15		Invalid	No action
16		Invalid	No action
17		Invalid	No action
18		Invalid	No action
19		Invalid	No action
20		Invalid	No action
21		Invalid	No action

True targets configuration

Basic information
 Subnet ID: 42 Device ID: 2 Name: 7in1 sensor

Current selected logic: 1-light on

Targets

Index	Subnet ID	Device ID	Type	Param1	Param2	Param3
1	42	3	Single Channel Lighting Control	1(Channel No.)	100(Intensity)	0:0(Run

2. 1 minute after people come into the room, turn on the AC and set the temperature as 25°C. (logic number 2)

1: simulate the door connect to dry contact 1

2: use AND, because need two conditions

3: delay 1 minute, and when two conditions are true, then trigger this output

4: send command to IR EM module, let the IR EM module send out IR codes, make AC 25c.

Logic No.	Remark	Enable	Power off recovery
1	light on	Valid	No action
2	ac 25c	Valid	No action
3		Invalid	No action
4		Invalid	No action
5		Invalid	No action
6		Invalid	No action
7		Invalid	No action
8		Invalid	No action
9		Invalid	No action
10		Invalid	No action
11		Invalid	No action
12		Invalid	No action
13		Invalid	No action
14		Invalid	No action
15		Invalid	No action
16		Invalid	No action
17		Invalid	No action
18		Invalid	No action
19		Invalid	No action
20		Invalid	No action
21		Invalid	No action
22		Invalid	No action

True delay: 1 : 0 (M:S)

Index	Subnet ID	Device ID	Type	Param1	Param2	Para
1	42	15	Universal Switch	10(Switch No.)	ON(Switch Status)	N/A

Key	Name	Validity
1	qunda-c-h-23	Valid
2	qunda-off	Valid
3	qunda-c-h-24	Valid
4	qunda-c-h-25	Valid
5	Qunda-c-m-20	Valid
6	Qunda-c-m-21	Valid
7	Qunda-c-m-22	Valid
8	Qunda-c-m-23	Valid
9	Qunda-c-m-24	Valid
10	Qunda-c-m-25	Valid
11	Qunda-c-m-26	Valid

3. 1 minute after people left the room, turn off the lights and set temperature as 27°C. (logic number 3)

The screenshot displays the HDL automation software interface. The main window is titled "42-2\7in1 sensor" and has tabs for "Sensor setting", "Logic", and "Security setup". The "Logic" tab is active, showing a table of logic configurations and a "Current logic information" section.

Logic No.	Remark	Enable	Power off recovery
1	light on	Valid	No action
2	ac 25c	Valid	No action
3	ac 27c	Valid	No action
4		Invalid	No action
5		Invalid	No action
6		Invalid	No action
7		Invalid	No action
8		Invalid	No action
9		Invalid	No action
10		Invalid	No action
11		Invalid	No action
12		Invalid	No action
13		Invalid	No action
14		Invalid	No action
15		Invalid	No action
16		Invalid	No action
17		Invalid	No action
18		Invalid	No action
19		Invalid	No action
20		Invalid	No action
21		Invalid	No action
22		Invalid	No action

The "Current logic information" section shows the following settings:

- Temperature: -20
- Brightness: 0
- PIR Sensor: No Movement
- Dry contact 1: Disconnect
- Dry contact 2: Disconnect
- UV switch(201-248): Switch ID, Remark, ON, Auto off(1-760)
- UV switch(201-248): Switch ID, Remark, OFF, Auto off(1-3600s): 1
- Logic: Logic num: 1, Status: False
- True delay: 1 : 0 (M:S)
- False delay: 0 : 0 (M:S)

The "True targets configuration" dialog box is open, showing the following details:

- Basic information: Subnet ID: 42, Device ID: 2, Name: 7in1 sensor
- Current selected logic: 3-ac 27c
- Targets: Input target number(1-20) From 1 To 1
- Table of targets:

Index	Subnet ID	Device ID	Type	Param1	Param2	Param3
1	42	15	Universal Switch	12(Switch No.)	ON(Switch Stat...)	N/A

The "42-15\IR emitter" dialog box is also open, showing the following details:

- IR Codes: Current detection
- Hint: Can Multiselect and use DEL to c
- Enable IR emitter:
- Current Selected key: 1
- Input Key Number(1-249): From
- Table of IR codes:

Key	Name
1	qunda-c-h-23
2	qunda-off
3	qunda-c-h-24
4	qunda-c-h-25
5	Qunda-c-m-20
6	Qunda-c-m-21
7	Qunda-c-m-22
8	Qunda-c-m-23
9	Qunda-c-m-24
10	Qunda-c-m-25
11	Qunda-c-m-26
12	Qunda-c-m-27

Red annotations and arrows highlight specific elements:

- "1: no movement" points to the "PIR Sensor" checkbox.
- "2: delay 1 minutes, then Trigger this output" points to the "True delay" field.
- "3: send command to IR EM module, let the IR EM module send out IR codes, make AC" points to the "Index 1" row in the "True targets configuration" table.
- The "True targets configuration" dialog box is highlighted with a red border.
- The "True delay" field is highlighted with a red border.
- The "Qunda-c-m-27" key in the "IR emitter" table is highlighted with a red border.

4. 3 minutes after people left the room, turn off the AC automatically

The screenshot displays the HDL software interface for configuring a 7in1 sensor. The main window is titled "42-2\7in1 sensor" and has tabs for "Sensor setting", "Logic", and "Security setup".

Logic Table:

Logic No.	Remark	Enable	Power off recovery
1	light on	Valid	No action
2	ac 25c	Valid	No action
3	ac 27c	Valid	No action
4	ac off	Valid	No action
5		Invalid	No action
6		Invalid	No action
7		Invalid	No action
8		Invalid	No action
9		Invalid	No action
10		Invalid	No action
11		Invalid	No action
12		Invalid	No action
13		Invalid	No action
14		Invalid	No action
15		Invalid	No action
16		Invalid	No action
17		Invalid	No action
18		Invalid	No action
19		Invalid	No action
20		Invalid	No action
21		Invalid	No action
22		Invalid	No action

Logic Configuration:

- Temperature: -20
- Brightness: 0
- PIR Sensor: No Movement
- Dry contact 1: Disconnect
- Dry contact 2: Disconnect
- UV switch(201-248): Switch ID, Remark, ON, Auto off(1-3600)
- UV switch(201-248): Switch ID, Remark, OFF, Auto off(1-3600s): 1
- Logic: Logic num: 1, Status: False
- True delay: 3 : 0 (M:S)
- False delay: 0 : 0 (M:S)

True targets configuration window:

Basic information: Subnet ID: 42, Device ID: 2, Name: 7in1 sensor
Current selected logic: 4-ac off

Targets table:

Index	Subnet ID	Device ID	Type	Param1	Param2	Param3
1	42	15	Universal Switch	2(Switch No.)	ON(Switch Stat...	N/A

42-15\IR emitter window:

IR Codes: Current detection

Hint: Can Multiselect and use DEL to delete

Enable IR emitter

Current Selected key: 1 Free space

Input Key Number(1-249): From 1

Key	Name
1	qunda-c-h-23
2	qunda-off

1: no movement

2: delay 3 minutes, then trigger this output

3: send command to IR EM module, let the IR EM module send out IR codes, make AC off.

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Serious about smart buildings.