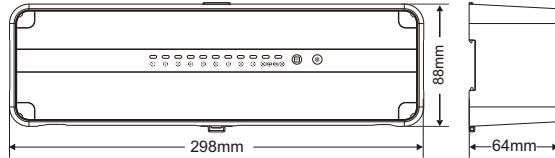


SCU217DE- 485(N) | Wiring centre manual

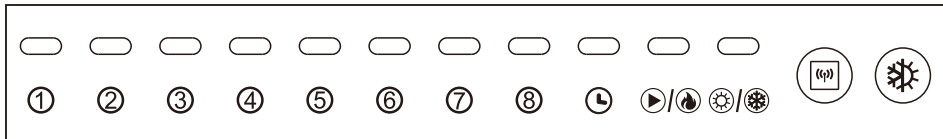
This product is used for underfloor heating and cooling systems with boilers or heat pumps. It supports wireless connection (RF868MHz) with up to 8 thermostats (SAS936) for independent control in 8 zones. It can control water pumps, boiler on/off, and switch between heating and cooling modes. Supports Modbus protocol and can connect to a BMS.

Specification

Power source:100-240VAC 50/60Hz
max current:10A
Load current output:250VAC 8(5)A
Operation temperature:0°C~50°C, 0-80%RH
Storage temperature:-10°C~60°C, 0-90%RH
Dimensions:298 x 88 x 64mm



LED display



- 1, ①~⑧: Indicate zone status. Red light mean heating output. Blue light mean cooling output.
- 2, "🕒": None
- 3, "🔵/🔴": Blue mean water pump output; Red mean heat pump output; When both lights turn purple, it means both devices are in output mode.
- 4, "❄️/🔥": Indicate cool/heat mode. (Red is heat mode, Blue is cool mode)
- 5, "🔧": Touch button for thermostat pairing.
- 6, "⚙️": Press and hold the button for Cool and Heat mode switching.

Dip switch introduction

1. Zone 1-Zone 8: If the zone controller controls a room that should not be cooled or heated, such as bathroom or towel rail. There is an option to switch it off. In system H/C, switch it to off position then the specific zone will not be cooled under cooling mode. In system H only, switch it to off position then UFH pump will not run but the boiler will fire.

2. Modbus Address:1-64

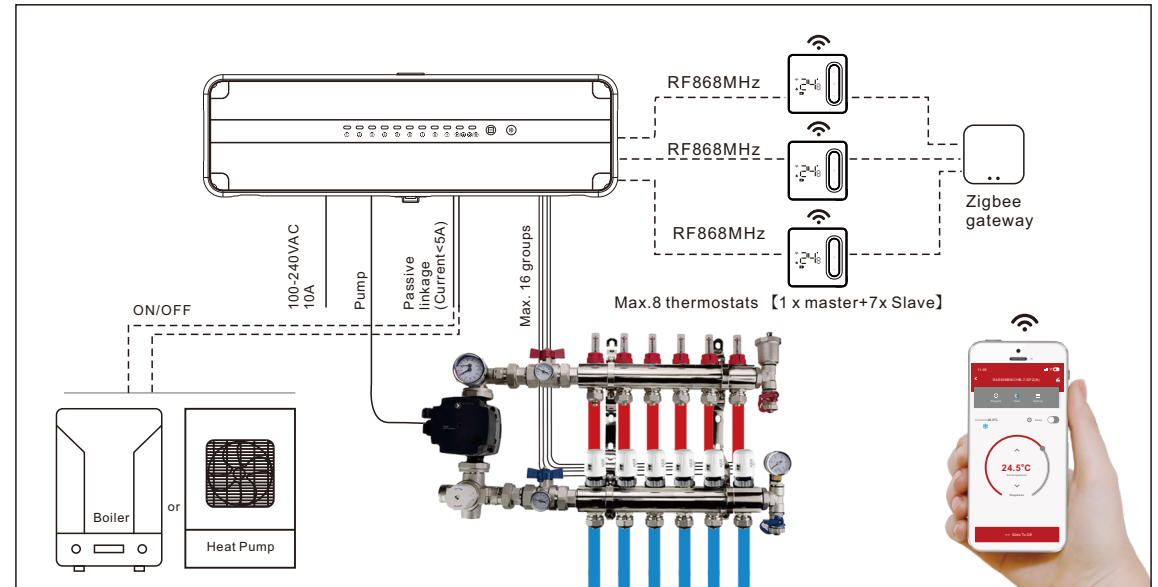
3. Thermostat control: This function is using to set cool/heat mode receive by thermostat or heat pumps. ON mean heat/cool mode set by thermostat. OFF mean heat/Cool model set by heat pumps

4. System: If your underfloor heating source is boiler only, that you could set to "H". If your heat source is heat pump with cool/heat, that you could set to "H/C"

UFH Pump

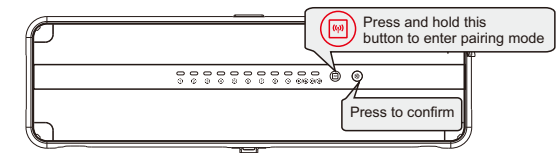
UFH Pump	DIP	
Zone 1 OFF	☐	ON
Zone 2 OFF	☐	ON
Zone 3 OFF	☐	ON
Zone 4 OFF	☐	ON
Zone 5 OFF	☐	ON
Zone 6 OFF	☐	ON
Zone 7 OFF	☐	ON
Zone 8 OFF	☐	ON
0	☐	1
0	☐	1
Modbus Address (1-64)	☐	1
0	☐	1
0	☐	1
0	☐	1
Thermostat control ON	☐	OFF
System H/C	☐	H

Application

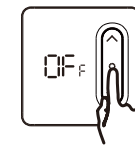


Pairing with thermostat

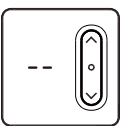
- 1 Press and hold "🔧" 5 seconds. The paired zone will light up red. And blue light keep flash in first unpaired zone. You can click "🔧" to select pairing zone. Unpaired zone area will blue light flash or cover paired zone then flash magenta light. After selected idea zone, click "❄️/🔥" to enter pairing status and magenta light flash.



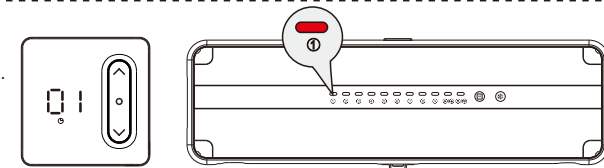
- 2 Switch thermostat to OFF mode. In stand by status press and hold "🕒" until display OFF. Press "🕒" again to confirm.



- 3 Press and hold "❄️" and "🔥" until display "--".



- 4 Make sure your wiring center and thermostat is in pairing mode. After paired, thermostat will display 01 or specific number. And wiring center's LED move to next zone. After all zone be paired it will exit or press and hold "🔧" to exit.



Basic description

Number	Parameter	Protocol provision
1	Operating mode	RS-485, master-slave, wiring center is the slave
2	Physical interface	A(+), B(-) two-wire system
3	Baud rate	9600
4	Byte format	10 format (1 start bit+8 data bits +1 stop bit)
5	Transmission mode	RTU format (consult MODBUS standard)
6	Wiring center address	1-64
7	Command code	3, 6, 10 (3—read data, 6—set data, 10-set multiple data)
8	CRC check code	CRC-16 (consult MODBUS standard)
9	CRC verification	CRC-16 (consult MODBUS standard)
10	Data frame interval	2 seconds

Alarm introduction:

Alarm	Description	Action
	Thermostat and wiring center loss communication, the specific zone will alarm red light	Check and re-pair thermostat

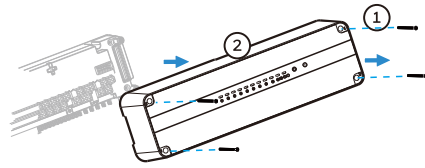
Press “ Button” up to 5 times quickly until zone 1-8 light flash red and blue alternately. After finish factory reset it will back to standby status.

Installation

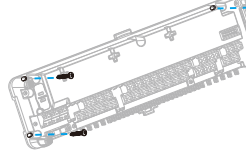
1 Switch power OFF



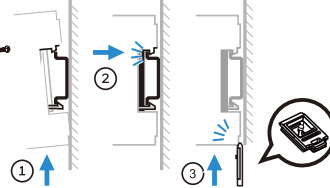
2 Remove cover



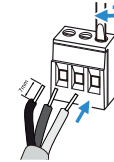
3 a. Mounting on a wall



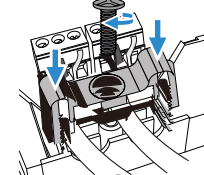
b. Mounting on a DIN rail



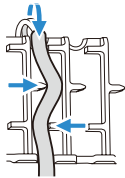
4 a. Screw terminals



b. Cable strain relief



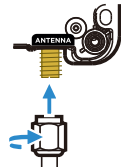
5 Cable strain relief



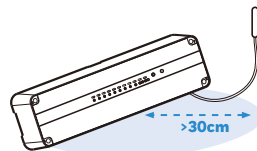
6 Fuse holder (5x20mm, 250V 10A)



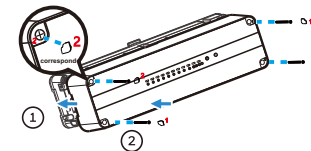
7 a. Antenna connection



b. Antenna placement



8 Replace cover



9 Switch power ON



Modbus

Number	Parameter	Read/Write	Instruction
Thermostat 1:0000~0010 Thermostat 2:0016~0026 Thermostat 3:0032~0042 Thermostat 4:0048~0058 Thermostat 5:0064~0074 Thermostat 6:0080~0090 Thermostat 7:0096~0106 Thermostat 8:0112~0122	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
	RF communication states	R	0: Loss communication 1: communication
	Mode dispatch	R	0 : Wiring center control 1 : BMS device
	System selection	R	0 : Heating only 1 : Heating/Cooling
	ON/OFF	R/W	0 : OFF 1 : ON
	Mode	R/W	0 : Heat 1 : Cool
	Set temperature	R/W	5~35°C
	Room temperature	R	Temperature display range: 0-50°C
	Output	R	0 : Stop 1 : cooling output 2 : heating output
	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm
	Low battery alarm	R	0 : Non 1 : Low battery alarm

*There is 5 minutes communication delay between controller and Modbus

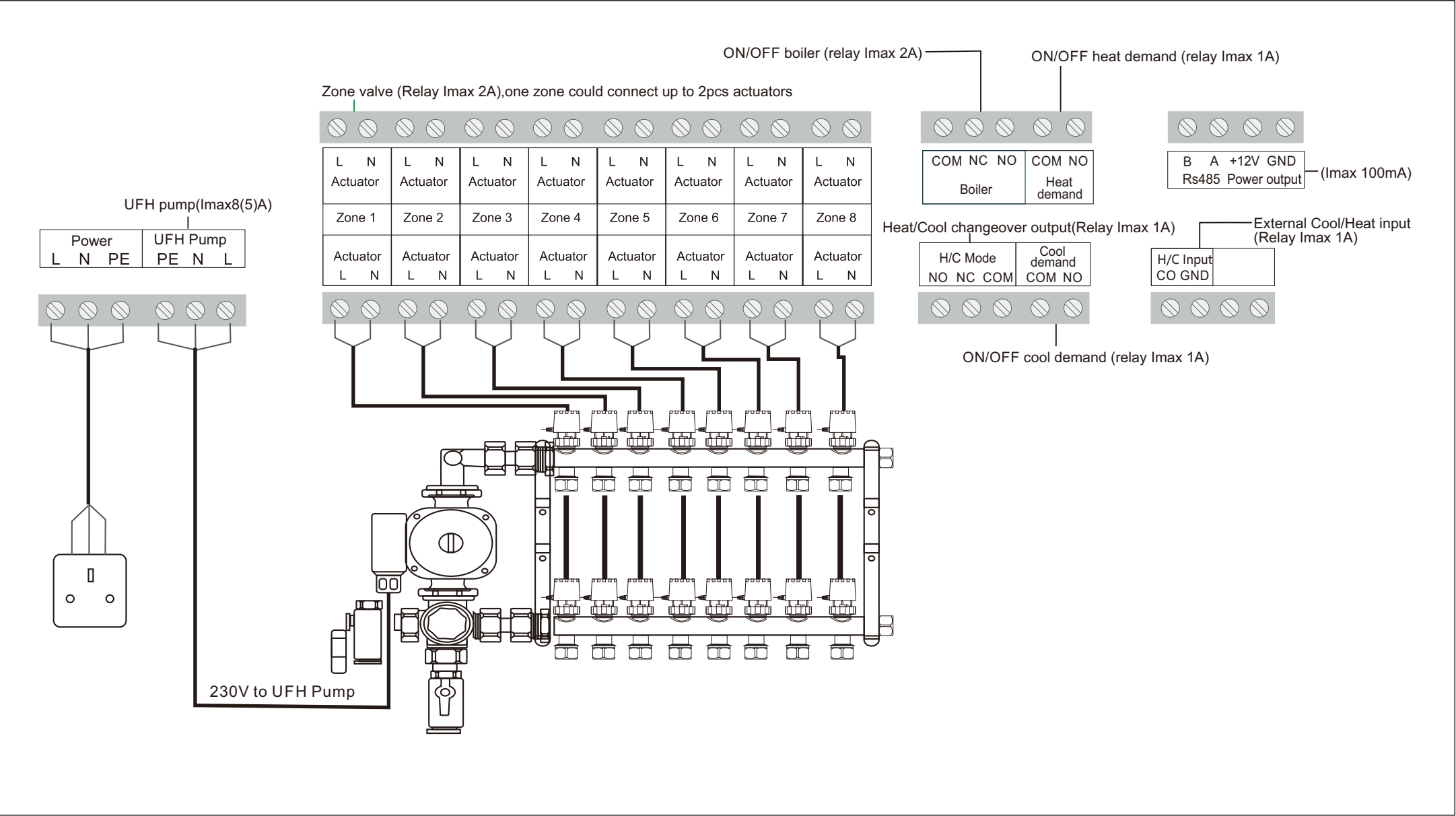
*Mode (cool/heat) set by Modbus only

*Read/Write data should be one by one.

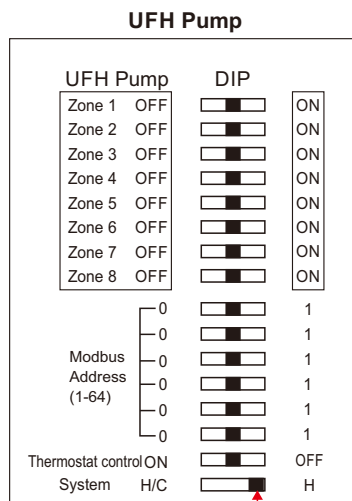
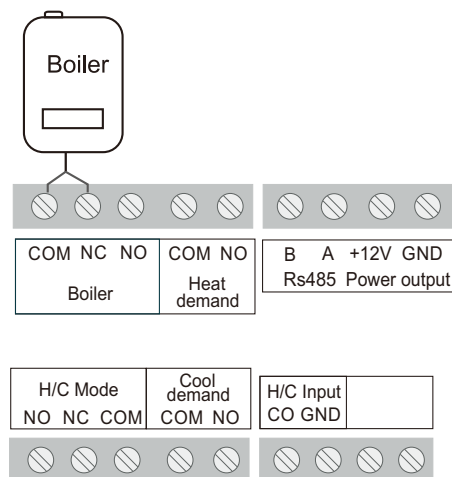
Important safety information

- Always turn off the power at the main power source by unscrewing the fuse or switching the circuit breaker to the off position before installing, removing, cleaning, or servicing this wiring centre.
- Read all of the information in this manual before installing this wiring centre.
- Only a professional contractor should install this wiring centre. All wiring must confirm to local and national building and electrical codes and regulations.
- If system is not operating properly, check the wiring is correct and replace the fuse if necessary.
- Use this wiring centre only as described in this manual.

Wiring Diagram



Wiring for single heating system

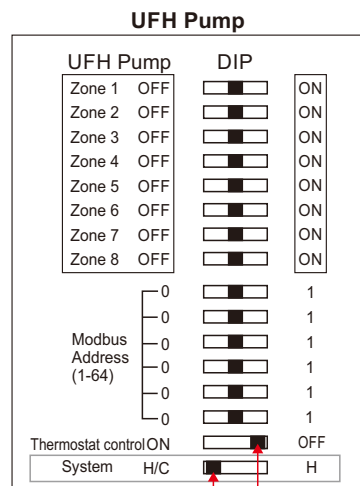
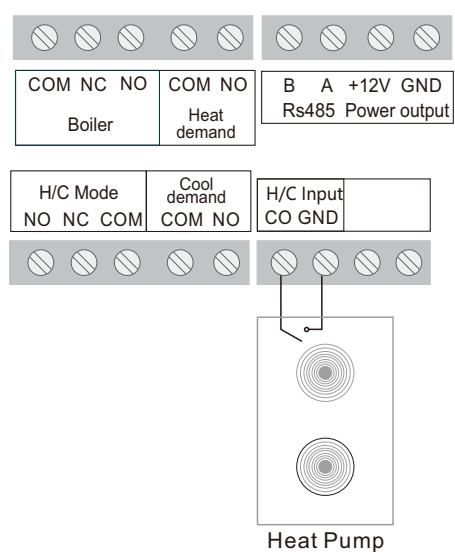


The Dip switch to "H"

Wiring for Heating/Cooling system

2

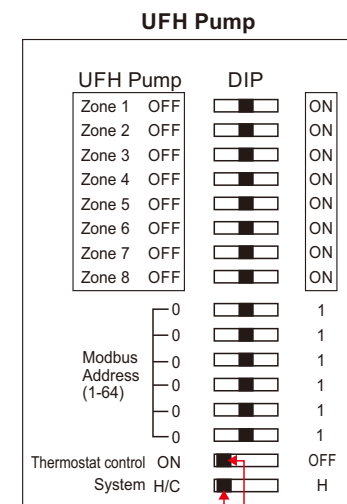
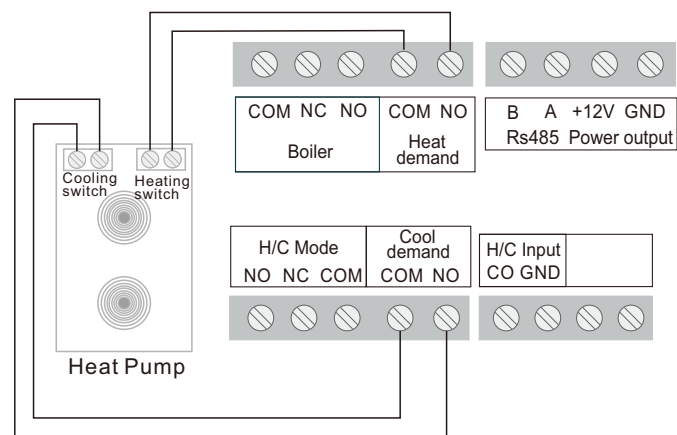
The system's heating and cooling modes are controlled by the heat pump.



The Dip switch to "H/C"
The Dip switch to "OFF"

3

The system's heating and cooling modes are controlled by Thermostat.



The Dip switch to "H/C"
The Dip switch to "ON"