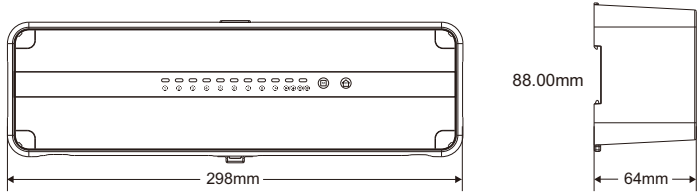


SCU217DE- 485 | Wiring centre manual

1

Specification

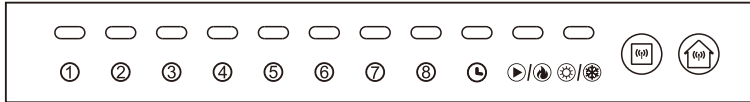
Power source:100-240VAC 50/60Hz
max current:10A
Load current output:250VAC 8(5)A
Operation temperature:0°C~50°C ,0-80%RH
Storage temperature:-10°C~60°C,0-90%RH
Dimensions:298 x 88 x 64mm



Features

Each wiring centre can control a maximum of 8 rooms/zones.
The wiring centre contains outputs for the switching of thermal actuators, boilers, pumps and zone valves.
Indicator lights show the status of the outputs.
This wiring centre can work for heat pumps system with cooling and heating.
Cascade link function with wired or wireless.

LED display



- ①~⑧: Indicate zone status. Red light mean heating output. Blue light mean cooling output.
- "🔥" Indicate hot water output.
Red light mean boiler or heating/cooling valve output.
Blue mean pump output
Magenta light mean both device output.
- "🌡️/❄️" Indicate cool/heat mode. (Red is heat mode,Blue is cool mode)
- "🔧" Touch button for thermostat pairing.
- "📶" Touch button for Lora forwarder pairing.

Dip switch introduction

- 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 a 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.
- Address:** This function is for Cascade function to select address. It could link with 7 wiring center as slave maximum.
If your controller is address 1 then dip switch to 1 position. If the controller is address 5 that switch to 1 and 4 poition. If the controller is address 7 that switch to 1, 2 and 4 position.
* Master wiring center should set to Address 0.
- Pump control:** If using Cascade link to link with different wiring centre but only one UFH pump, it allow to set.
This dip switch only need to set by slave wiring centre. S mean different UFH pump. M mean whole system use one UFH pump.
- Boiler& Pump delay:** It give three minutes delay to allow actuators to open before valve, pump or boiler start.
- Cascade link:** It could set current wiring centre to be master or slave unit. M mean master. S mean slave.
- 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
- 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

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
Address	0	1
Address	0	2
Address	0	4
Pump control	S	M
Boiler&pump delay	3	0
Cascade link	M	S
Thermostat control	ON	OFF
System	H/C	H

Important safety information

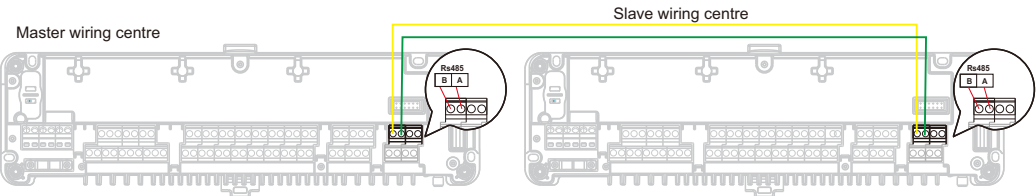
Always turn off the power at the main power source by unscrewing the fuse or switching the circuit breaker to the off position before installing,removing, cleaning, or servicing this wiring centre.
Read all of the information in this manual before installing this wiring centre.
Only a professional contractor 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.

Cascade function(Maximum quantity is 8pcs)

When using multiple controllers, they must be interconnected via the link connection or wireles.

Wired Cascade function

(Cable connect different wiring centre and set it as master or slave and address by dip switch).



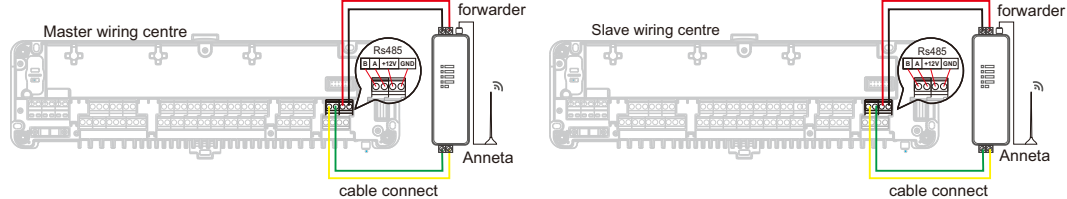
UFH Pump

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
Address	0	1
Address	0	2
Address	0	4
Pump control	S	M
Boiler&pump delay	3	0
Cascade link	M	S
Thermostat control	ON	OFF
System	H/C	H

Address select based on actual required,
Address 1 mean first slave and display zone 1.
Address 2 mean second slave and display zone 2.
Address 1+2+4 mean the seventh slave and display zone 7

Wireless Cascade function

(Cable connect lora forwarder could wireless communicate with different wiring centre. Set it as master or slave and address by dip switch)



UFH Pump

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
Address	0	1
Address	0	2
Address	0	4
Pump control	S	M
Boiler&pump delay	3	0
Cascade link	M	S
Thermostat control	ON	OFF
System	H/C	H

Address select based on actual required,
Address 1 mean first slave and display zone 1.
Address 2 mean second slave and display zone 2.
Address 1+2+4 mean the seventh slave and display zone 7

UFH Pump

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
Address	0	1
Address	0	2
Address	0	4
Pump control	S	M
Boiler&pump delay	3	0
Cascade link	M	S
Thermostat control	ON	OFF
System	H/C	H

UFH Pump

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
Address	0	1
Address	0	2
Address	0	4
Pump control	S	M
Boiler&pump delay	3	0
Cascade link	M	S
Thermostat control	ON	OFF
System	H/C	H

Pairing with forwarder :

- Press and hold master unit by "🏠" until "🔥" "🌡️/❄️" light flash to enter pairing status.
Then press and hold slave unit by "🏠" until "🔥" "🌡️/❄️" and specific zone light flash.
- After paired, master unit will light on specific zone.And slave zone light will flash twice and exit.
Press and hold master by "🏠" could exit pairing.



RS-485 MODBUS Universal Interface Protocols

Operation:

UFH Pump

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
Address	0	1
Address	0	2
Address	0	4
Pump control	S	M
Boiler&pump delay	3	0
Cascade link	M	S
Thermostat control	ON	OFF
System	H/C	H

- All wiring center should be dial to "S" in Cascade link option

UFH Pump

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
Address	0	1
Address	0	2
Address	0	4
Pump control	S	M
Boiler&pump delay	3	0
Cascade link	M	S
Thermostat control	ON	OFF
System	H/C	H

- Wiring center's address is based on setting.
If your controller is address 1 then dip switch to 1 position.
If the controller is address 5 that switch to 1 and 4 position.
If the controller is address 7 that switch to 1,2 and 4 position.

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	1-7
7	Command code	3, 6, 16 (3—read data, 6—set data, 16-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

Thermostat 1

Number	Parameter	Read/Write	Instruction
0000	Thermostat and wiring center communication states	R	0: Non-paired 1:Paired
0001	RF communication states	R	0: Loss communication 1: communication
0002	Thermostat control	R	0: Wiring center control 1: External devices
0003	System selection	R	0: Heating only 1: Heating/Cooling
0004	ON/OFF	R/W	0: OFF 1: ON
0005	Mode	R/W	0 : Heat 1 : Cool
0006	Set temperature	R/W	5~35℃
0007	Room temperature	R	
0008	Output	R	0: Stop 1: cooling output 2: heating output
0009	Sensor alarm	R	0: Non 1: Internal sensor alarm 2: external sensor alarm
0010	Low battery alarm	R	0: Non 1: Low battery alarm

Thermostat 2

Number	Parameter	Read/Write	Instruction
0016	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
0017	RF communication states	R	0: Loss communication 1: communication
0018	Thermostat control	R	0 : Wiring center control 1 : External devices
0019	System selection	R	0 : Heating only 1 : Heating/Cooling
0020	ON/OFF	R/W	0 : OFF 1 : ON
0021	Mode	R/W	0 : Heat 1 : Cool
0022	Set temperature	R/W	5~35℃
0023	Room temperature	R	0: Loss communication 1: communication
0024	Output	R	0 : Stop 1 : cooling output 2 : heating output
0025	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm
0026	Low battery alarm	R	0 : Non 1 : Low battery alarm

Thermostat 3

Number	Parameter	Read/Write	Instruction
0032	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
0033	RF communication states	R	0: Loss communication 1: communication
0034	Thermostat control	R	0 : Wiring center control 1 : External devices
0035	System selection	R	0 : Heating only 1 : Heating/Cooling
0036	ON/OFF	R/W	0 : OFF 1 : ON
0037	Mode	R/W	0 : Heat 1 : Cool
0038	Set temperature	R/W	5~35℃
0039	Room temperature	R	
0040	Output	R	0 : Stop 1 : cooling output 2 : heating outpu
0041	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm
0042	Low battery alarm	R	0 : Non 1 : Low battery alarm

Number	Parameter	Read/Write	Instruction
0048	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
0049	RF communication states	R	0: Loss communication 1: communication
0050	Thermostat control	R	0 : Wiring center control 1 : External devices
0051	System selection	R	0 : Heating only 1 : Heating/Cooling
0052	ON/OFF	R/W	0 : OFF 1 : ON
0053	Mode	R/W	0 : Heat 1 : Cool
0054	Set temperature	R/W	5~35°C
0055	Room temperature	R	
0056	Output	R	0 : Stop 1 : cooling output 2 : heating output
0057	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm
0058	Low battery alarm	R	0 : Non 1 : Low battery alarm

Number	Parameter	Read/Write	Instruction
0064	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
0065	RF communication states	R	0: Loss communication 1: communication
0066	Thermostat control	R	0 : Wiring center control 1 : External devices
0067	System selection	R	0 : Heating only 1 : Heating/Cooling
0068	ON/OFF	R/W	0 : OFF 1 : ON
0069	Mode	R/W	0 : Heat 1 : Cool
0070	Set temperature	R/W	5~35°C
0071	Room temperature	R	
0072	Output	R	0 : Stop 1 : cooling output 2 : heating output
0073	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm
0074	Low battery alarm	R	0 : Non 1 : Low battery alarm

Number	Parameter	Read/Write	Instruction
0080	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
0081	RF communication states	R	0: Loss communication 1: communication
0082	Thermostat control	R	0 : Wiring center control 1 : External devices
0083	System selection	R	0 : Heating only 1 : Heating/Cooling
0084	ON/OFF	R/W	0 : OFF 1 : ON
0085	Mode	R/W	0 : Heat 1 : Cool
0086	Set temperature	R/W	5~35°C
0087	Room temperature	R	
0088	Output	R	0 : Stop 1 : cooling output 2 : heating output
0089	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm
0090	Low battery alarm	R	0 : Non 1 : Low battery alarm

Number	Parameter	Read/Write	Instruction
0096	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
0097	RF communication states	R	0: Loss communication 1: communication
0098	Thermostat control	R	0 : Wiring center control 1 : External devices
0099	System selection	R	0 : Heating only 1 : Heating/Cooling
0100	ON/OFF	R/W	0 : OFF 1 : ON
0101	Mode	R/W	0 : Heat 1 : Cool
0102	Set temperature	R/W	5~35°C
0103	Room temperature	R	
0104	Output	R	0 : Stop 1 : cooling output 2 : heating output
0105	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm

Number	Parameter	Read/Write	Instruction
0112	Thermostat and wiring center communication states	R	0: Non-paired 1: Paired
0113	RF communication states	R	0: Loss communication 1: communication
0114	Thermostat control	R	0 : Wiring center control 1 : External devices
0115	System selection	R	0 : Heating only 1 : Heating/Cooling
0116	ON/OFF	R/W	0 : OFF 1 : ON
0117	Mode	R/W	0 : Heat 1 : Cool
0118	Set temperature	R/W	5~35°C
0119	Room temperature	R	
0120	Output	R	0 : Stop 1 : cooling output 2 : heating output
0121	Sensor alarm	R	0 : Non 1 : Internal sensor alarm 2 : external sensor alarm

*There is 5 minutes communication delay between controller and Modbus *The Max. Wiring center when connected Modbus would be 8pcs
*Mode (cool/heat) set by Modbus only *Cascade link and Modbus is optional *Read/Write data should be one by one.

Alarm	Description	Action
	This alarm mean system selection is different. Only happend using Cascade link function to link different wiring centre.	Dip switch H/C and H should make sure all wiring centre switch to same position.
	When you are pairing with forwarder, the ligh keep flash which mean address selection is wrong	If this wiring centre is master, address should be 0.If this wiring centre is slave, it can't select address to 0, it should upper or equal 1.
	Thermostat and wiring center loss communication, the specific zone will alarm red light	Check and re-pair thermostat

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

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.

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

