

ST802 Youth Smart Thermostat technical instruction

1. Appearance

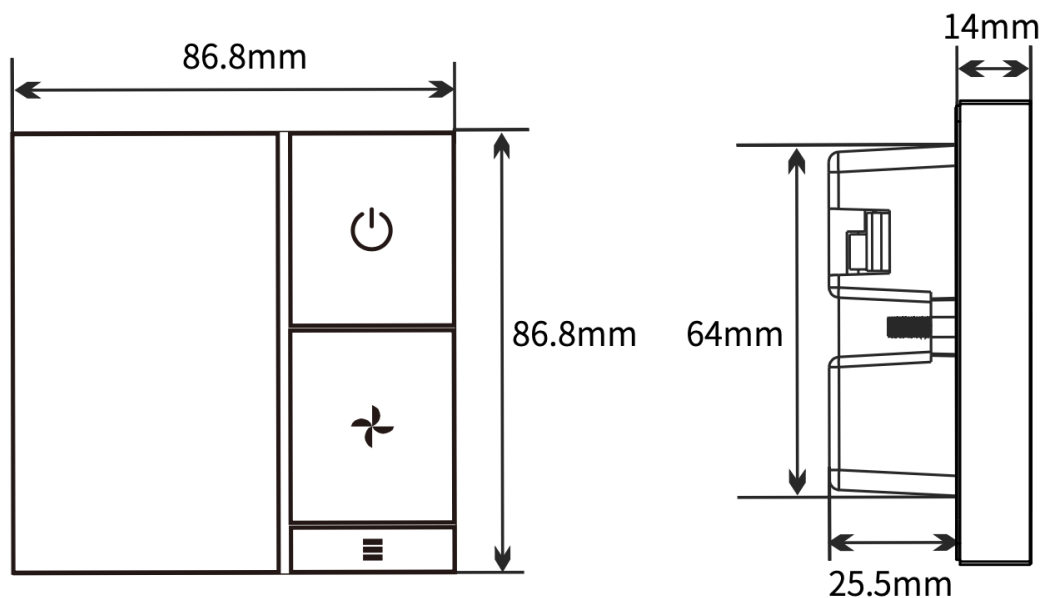


2. Specification

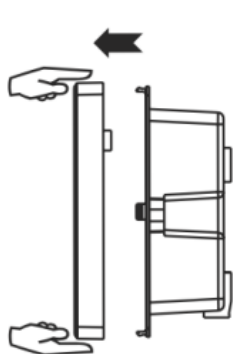
Product Name	Youth Smart Thermostat	
Product type	ST802	
Color	Black	
Installation		
Mounted	Flush mounted	
Mounted hole	60 mm	
Power supply	230VAC , 50Hz	
Maximum Current	1A inductive load, 2A resistive load	
Operation rang	-10~55℃	
Ingress protection	IP20	
Materials	Anti-flaming PC+ABS	
Certification		
Configuration		
Display	LCD	
Internal sensor type	Temperature & Relative humidity	
Temperature accuracy	0.5℃	
Relative Humidity accuracy	5%	
Temperature setting range	5~35℃	
WIFI protocol	802.11 b/g/n	
Hardware Connection		
Name	Specification	Function
H	230V output, 1A	Fan high speed
M	230V output, 1A	Fan medium speed
Lo	230V output, 1A	Fan low speed
NO, NC	Relay has Normal Open and Normal close contact. 230 voltage output	Switch Fan coil valve on/off
FL	230V output	Floor heating valve
Low voltage connection		

A1, B1	RS485	Communication port for third party
C1, C2	Digital output (Dry contact)	Switch heat pump or gas boiler on/off.
A2, B2	RS485	Communication port for third party
GND	Common	Common
0-10V	Analog output	0-10V for control DC fan motor speed

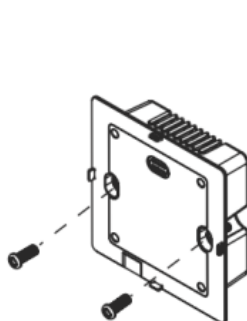
3. Dimensions



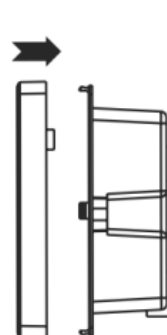
4. Installation



Separate the front panel from thermostat



Flush mounted the back in the wall



Press front panel back

5. Standard Function

User Mode	1) Fan coil heating 2) Floor heating 3) Fan coil heating & Floor heating 3) Fan coil cooling 4) Ventilation 5) Dehumidify
Fan speed	1) 3 Speed for AC fan coil 2) 5 Speed for DC fan coil 3) Auto speed

Water Valve	1) Fan coil valve (NC/NO/COM) 2) Floor heating valve
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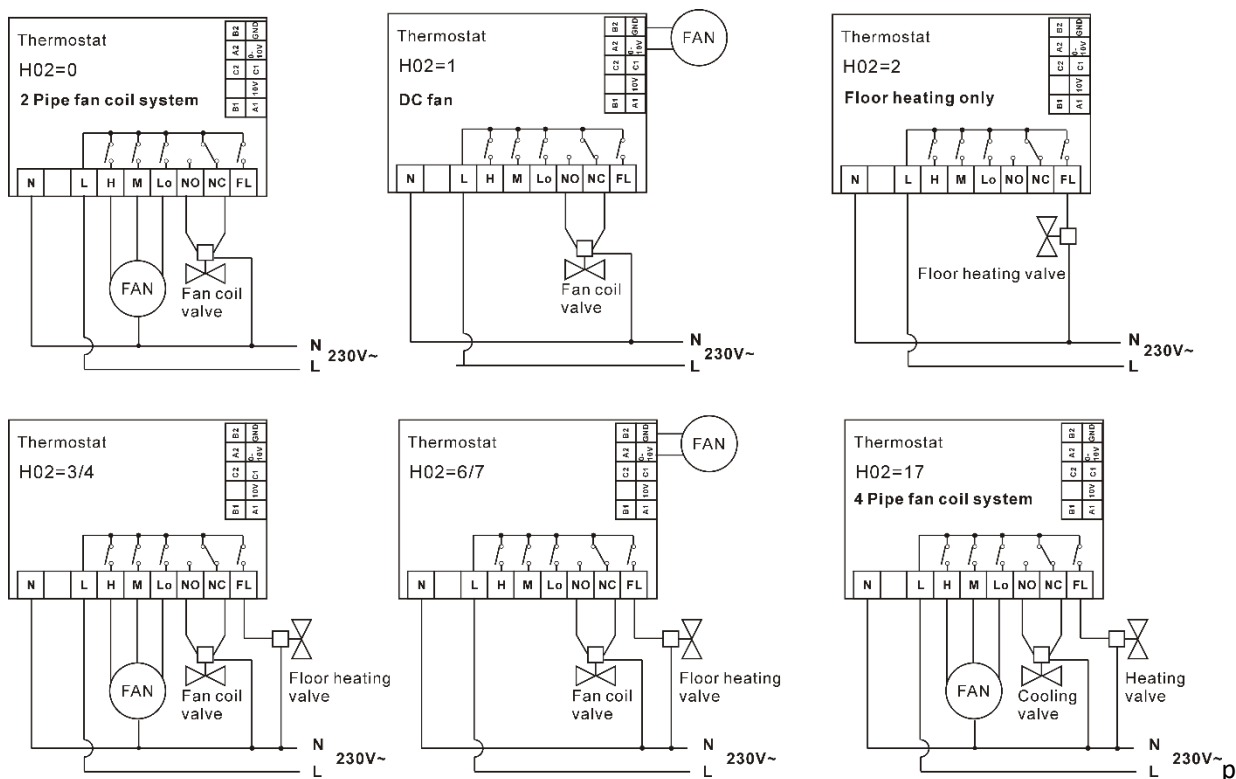
6. Display Operation

Operation		
Function	Operation	Note
On/off switch	Press “  ” button	
Fan coil speed switch	Press “  ” button	
Switch mode	Press “  ”	
Increase set point	Press “  ”	
Decrease set point	Press “  ”	
Restore to factory	Hold “  ” for 15s	Display an “  ” icon
Configuration		
Enter professional parameter	Hold “  ” 5s	Display parameter group code “H”, “P”, “F” etc.
Select group	Press “  ” OR “  ” Press “  ” for confirm	
Set Parameter	Press “  ” for modification	Parameter value flash
Adjust value	Press “  ” OR “  ”.	
Save setting	Press “  ”	Save the parameter which you modified
Back	Press “  ”	Back, and do not save setting

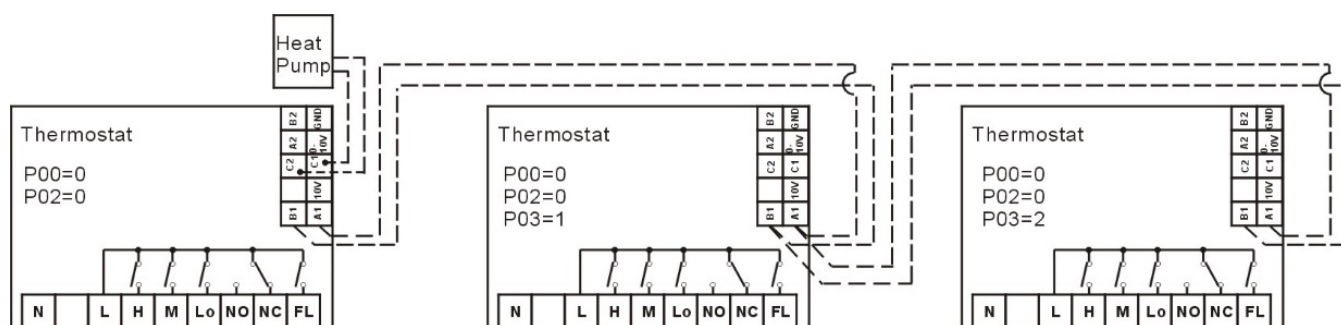
7. Display Symbol instruction

Symbol	Description
	WIFI connected
	Floor heating mode
	Cooling mode
	Heating mode
	Dry mode
	Fan speed
	Ventilation mode
	Auto fan speed
	Fan coil valve or floor heating valve working

8. Electrical Diagram



8.1. RS485 network



9. Parameter description

H02 set thermostat function

Function	H02=0 (2 pipes)	H02=1	H02=2	H02=3	H02=4	H02=6	H02=7	H02=17 (4 pipes)
AC Fan coil cooling	●			●	●			●
AC Fan coil heating	●				●			●
DC Fan coil cooling		●				●	●	
DC Fan coil heating		●					●	
Floor heating			●	●	●	●	●	
Dry	●	●			●	●	●	●
Ventilation	●	●			●	●	●	●

H05 set heating and cooling function

Heating and Cooling	H05=0
Only cooling	H05=1
Only heating	H05=2

Code	Function	Range	Default
General			
H11	Fan coil valve anti-stuck	0-Disable 1-Enable	0
H12	Floor heating valve anti-stuck	0-Disable 1-Enable	0
H14	Power down memory	0-Disable 1-Enable	1
H23	Minimum set point	5~H24	5 °C
H24	Maximum set point	H23~35	35 °C
H25	Cooling stop differential	1~5.0	1 °C
H26	Heating stop differential	1~5.0	1 °C
H27	Dry stop differential	2%~15%	5%
Dry contact			
C00	Dry contact function 0-Follow the fan coil valve and floor heating valve. 1-Cooling standby OPEN, working CLOSE. Heating always OPEN. 2-Heating standby OPEN, working CLOSE. Cooling always OPEN. 3- Standby OPEN, working CLOSE. 4- Standby CLOSE, working OPEN. 5- Delay 3 minutes CLOSE after working Note: "Working" means thermostat does not achieve target temperature.	0-5	0
C01	Fan function after standby status 0-Delay 15 seconds stop after standby. 1-Fan always running 2-Fan interval running. Every stop C03, run C02 time. 3- Delay 15 seconds stop after standby.	0-3	0
C02	Fan interval run period after standby	5-60	10 min
C03	Fan interval stop period after standby	5-60	10 min
Fan			
F00	Cooling differential temp. between lowest and highest speed	2.0~6.0	5 °C
F01	Heating differential temp. between lowest and highest speed	2.0~6.0	5 °C
F02	Lowest speed voltage (100 = 1 V, F02~F11 are the same)	50-500	300
F03	Highest speed voltage	600-1000	1000
F05	1 st fan speed voltage	F02-F03	300
F06	2 nd fan speed voltage	F05-F03	500

F07	3 rd fan speed voltage	F06-F03	700
F08	4 th fan speed voltage	F07-F03	850
F09	5 th fan speed voltage	F08-F03	1000
F10	Minimum voltage when fan motor start	F02-F03	420
F11	Initial start voltage	F02-F03	500
F12	Initial start voltage running time DC FAN start procedure: 1) Run F10 volt, last F12 time. 2) Run F11 volt, last F12 time. 3) Run set fan speed.	2-180	5 s
Antifreeze			
A05	Antifreeze protection 0-Disable 1-Enable	0-1	0
A06	Antifreeze room temperature point	0-21	5 °C
Protocol			
P00	RS485-1 Master-slave selection 0-Slave 1-Master	0-1	1
P01	RS485-1 Baud rate 2-4800 3-9600	2-3	3
P02	RS485-1 Protocol 0- LinkedGo protocol 3.0 3- DC fan	0/3	3
P03	RS485-1 slave ID	1~255	1
P05	RS485-2 Master-slave selection 0-Slave 1-Master	0-1	0
P06	RS485-2 Baud rate 2-4800 3-9600	2-3	3
P07	RS485-2 Protocol 1- LinkedGo protocol 3.0	1	1
P08	RS485-2 slave ID	1~255	1
P11	RS485-1 Hold register for control DC fan 00~40 means 2000~2040	00~40	00

10. Alarm code

E03	Room sensor failure
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11. RS485 Modbus Protocol of LinkedGo3.0

Parameter	Register(Hex)	Pitch	Byte	Definition	Explanation
Function code 03/06/10					
H00	1001		2	0-OFF/1-ON	
H02	1003		2	0/1/2/3/17	
H03	1004		2	0-Cooling 3- Dry 4-Heating 5-Floor heating 7-Ventilation	
H05	1006		2	0/1/2	
H06	1007		2	0- Auto 1- Low 2- Medium 3- High 4- Fourth speed 5- Fifth speed	AC fan: 0,1,2,3. DC fan: 0,1,2,3,4,5
H07	1008	0.5	2	H23~H24	Value 5=0.5°C
H08	1009	1	2	400-750	Value 10=1%
H23	1018	0.5	2	50~H24	Value 5=0.5°C
H24	1019	0.5	2	H23~500	Value 5=0.5°C
F02	1050	1	2	50~500	Value 1=0.01V
F03	1051	1	2	600~950	Value 1=0.01V
F05	1053	1	2	F02~F03	Value 1=0.01V
F06	1054	1	2	F05~F03	Value 1=0.01V
F07	1055	1	2	F06~F03	Value 1=0.01V
F08	1056	1	2	F07~F03	Value 1=0.01V
F09	1057	1	2	F08~F03	Value 1=0.01V
F10	1058	1	2	F02~F03	Value 1=0.01V
F11	1059	1	2	F02~F03	Value 1=0.01V
F12	105A	1	2	2~180	
P00	108E		2	0- Slave 1- Master	
P01	108F		2	2-4800 3-9600	
P02	1090		2	0- LinkedGo 3.0 3- DC fan	
P03	1091	1	2	1~255	
P05	1092		2	0- Slave 1- Master	
P06	1093		2	2-4800 3-9600	
P07	1094		2	11- LinkedGo3.0	

P08	1096	1	2	1~255	
Function code 03					
O00	2101	0.1	2		Value 10=1°C
O01	2102	1	2		Value 10=1%
O02	2103	0.1	2		Value 10=1°C
O14	2110		2	bit0: High speed relay bit1: Medium speed relay bit2: Low speed relay bit3: Fan coil valve bit4: Floor heating valve bit5: Dry contact output	0: Relay open 1: Relay close
Alarm	211A		2	bit0: Room sensor failure	0: Normal 1: Error

12. RS485 (A1/B1) Modbus protocol when P00=1 and P02=3

RS485 broadcast message to slave ID 0 to set fan speed.

Slave ID	Function Code	Register	Data (2 bytes)	CRC-16
00	06	20 YY	XX XX	2 bytes

YY means can be set by P11 of register last two number. Range: 0x2000~0x2040

XXXX: value range 0-1000

1= 0.01 Voltage。