

Thermostat TW24 Modbus settings



Thermostat interface protocol V1.5

This protocol takes standard Modbus as a reference, mainly for use for communication between thermostat and computer (PC). This protocol doesn't describe Modbus. For information about Modbus, please refer to the relevant standard documents.

Basic description

No.	Parameter	Protocol provision
1	Operating mode	RS-485, master-slave. Thermostat is the slave machine
2	Physical interface	A(+), B(-) 2 - wire system
3	Baud rate	9600 bps (standard)
4	Byte format	9 format (8 data bits + 1 stop bit)
5	Modbus	RTU
6	Transmission mode	RTU format (refer to standard Modbus)
7	Thermostat address	1 - 255; (0 is broadcast address)
8	Command code	03, 06 and 16 (03 - read thermostat, 06 - set thermostat, 16 - set thermostat for several bytes)
9	CRC check code	CRC - 16 (refer to standard Modbus)
10	CRC verification code	CRC - 16 (refer to standard Modbus)

Read the thermostat frame format

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8
Thermostat address (0X01 as default)	03	Set register start address high byte	Set register start address low byte	Set register Value high address	Set register Value low address	CRC high	CRC low

Command	Byte	Description	Register address
03	High byte	00	40001
	Low byte	Power: 0 - Off, 1 - On	
	High byte	00	40002
	Low byte	Mode: 0 - Cooling, 1 - Heating	
	High byte	00	40003
	Low byte	Mode: 0 - Program, 1 - Manual	
	High byte	00	40004
	Low byte	Temperature *10	
	High byte	00	40005
	Low byte	Screen lock: 0 - Unlock, 1 - Lock	
	High byte	00	40006
	Low byte	Minute value (1 - 59)	
	High byte	00	40007
	Low byte	Hour value (0 - 23)	
	High byte	00	40008
	Low byte	Weekday value (1 - 7)	
	High byte	00	40009
	Low byte	Reading room temperature *10	
	High byte	00	40010
	Low byte	Reading valve status: 0 - close, 1 - open	
High byte	00	40011	
Low byte	External sensor temperature *10		

Set the thermostat frame format

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8
Thermostat address (0X01 as default)	03	Set register start address high byte	Set register start address low byte	Set register Value high address	Set register Value low address	CRC high	CRC low

Command	Byte	Description	Register address
06	High byte	00	40001
	Low byte	Power: 0 - Off, 1 - On	
	High byte	00	40002
	Low byte	Mode: 0 - Cooling, 1 - Heating	
	High byte	00	40003
	Low byte	Mode: 0 - Program, 1 - Manual	
	High byte	00	40004
	Low byte	Temperature *10	

High byte	00	40005
Low byte	Screen lock: 0 - Unlock, 1 - Lock	
High byte	00	40006
Low byte	Minute value (1 - 59)	
High byte	00	40007
Low byte	Hour value (0 - 23)	
High byte	00	40008
Low byte	Weekday value (1 - 7)	

Continuous Multi-byte set the thermostat frame format

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte N-1	Byte N	Byte N+1	Byte N+2
Thermostat address (0X01 as default)	16 (0X01)	Set register start address high byte	Set register start address low byte	Set register number N*2	Set register Value high address	Set register Value low address	N set byte Value high address	N set byte Value low address	CRC high	CRC low

Command	Byte	Description	Register address
16 (0X01)	High byte	00	40001
	Low byte	Power: 0 - Off, 1 - On	
	High byte	00	40002
	Low byte	Mode: 0 - Cooling, 1 - Heating	
	High byte	00	40003
	Low byte	Mode: 0 - Program, 1 - Manual	
	High byte	00	40004
	Low byte	Temperature *10	
	High byte	00	40005
	Low byte	Screen lock: 0 - Unlock, 1 - Lock	
	High byte	00	40006
	Low byte	Minute value (1 - 59)	
	High byte	00	40007
	Low byte	Hour value (0 - 23)	
	High byte	00	40008
	Low byte	Weekday value (1 - 7)	

Remarks

1. Format

When the thermostat sends collected temperature data to the PC, the value should be multiplied by 10.



For example: When the collected temperature is 25.5°C, the value sent from the thermostat to the PC will be 255.

Similarly, When the PC sends set temperature data to the thermostat, the value should be multiplied by 10.

For example: When the set temperature is 25.5°C, the value sent from the PC to the thermostat will be 255.

2. How to change IP address of the thermostat?

Default IP address is 0X01.

When power is off, press  and  at the same time for 5 seconds to access system functions.

Press  till you reach item D. Then press  and  to change the relative value. Turn on the thermostat to save the new IP setting.