

Manual for Local Room Controller Thermostat

ORC-24F-RS485, ORC-24C-RS485, ORC-24D-RS485



86 x 86 x 15mm

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Introduction

The ORC-HC2-24-RS485 Local Room Controller (LRC) is available in multiple versions.

Designed to work with Modbus addressed controllers or Gateways. The ORC-HC2-24-RS485 cannot work stand alone. The LRC is designed to allow the User to see what state the climate controller is in. For example Local Ambient temperature, desired temperature “set point”, Fan speed and other user changeable features.

Installation of the LRC uses a standard UK single electrical box 45mm deep supplied separately.

Versions

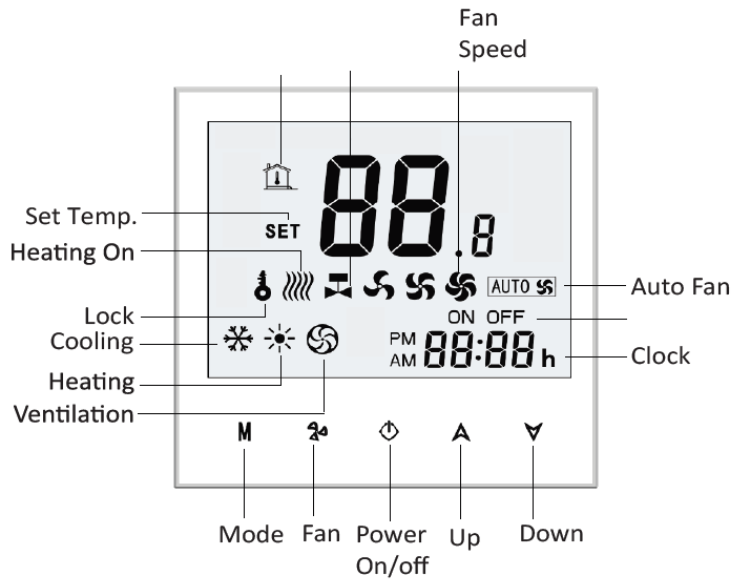
Part code →

ORC – HC2 – 24C – RS485 – WH



	ORC-HC2-24C-RS485-WH	ORC-HC2-24D-RS485-WH	ORC-HC2-24D-RS485-WHF	ORC-HC2-24F-RS485-WH
Screen	LCD	LCD	LCD	24V DC (100mA)
Power	24V DC (100mA)	24V DC (100mA)	24V DC (100mA)	24V DC (100mA)
Data	RS485/Modbus	RS485/Modbus	RS485/Modbus	RS485/Modbus
LRC Ver	HC2	HC2	HC2	HC2
Bus filter	12v p-p	12v p-p	4v p-p	4v p-p
Sensors	Internal	Internal / External	Internal	Internal
Fan control	YES	YES	YES	YES
UFH Control	YES	YES	YES	YES
Local Control	NO	NO	NO	NO
Cabling	2x 2 pair (Belden 9842) Or (Belden 9841 + 2 core power 0.3mm)	2x 2 pair (Belden 9842) Or (Belden 9841 + 2 core power 0.3mm)	2x 2 pair (Belden 9842) Or (Belden 9841 + 2 core power 0.3mm)	2x 2 pair (Belden 9842) Or (Belden 9841 + 2 core power 0.3mm)
Colour	White / Silver Frame	White / Silver Frame	White	White / Silver Frame
External Sensor	N/A	10K NTC	10K NTC	N/A
Baud Rate	9600,19200,38400	9600,19200,38400	9600,19200,38400	9600,19200,38400

Home Screen



Adjusting LRC

Desired Room temperature

When you select **▲ ▼** on the Home screen will now show the desired SET point. Adjust using **▲ ▼** until the correct temperature is displayed (SET point).

After 3 seconds the Home display will show the Ambient room temperature.

Depending on configuration of the controls equipment the system will start to operate the controls. The change may take up to 3 minutes before operation starts.

Fan speed

The Home screen will display the current Fan speed **🌀🌀🌀** **AUTO** [OFF,LOW,MID,HIGH,AUTO]

To change the Fan speed, press the **🌀** symbol until the option on the Home screen is correct.

NOTE: If you manually take control of the fan speed it will stay at the speed irrelevant of temperature difference.

Lock Mode (optional)

Enter Lock mode

Press and hold **▲ ▼** for 3 Seconds to lock the screen.

The icon **🔒** will display on the Home Screen

Exit Lock Mode

Press and hold **▲ ▼** for 3 Seconds to lock the screen.

Installer Mode

Installer Options

	Function	Setting / Option	Default
1	Offset / calibration		-1
2		Not available	00
3	Lock	00 = All the buttons are locked except power 01 = All the buttons are locked	01
4		Not available	01
5	Min set Temp	5 – 15°C	18
6	Max set Temp	5 – 35°C	32
7	Time Format	00 = 12 hour, 01 = 24 hour	01
8	Display Mode	00 = Set and Room Temperature 01 = only Set Temperature	00
9		Not available	1
A	Address	Modbus address (HEX)	01
B	Baud Rate		1

Enter Installer Menu

To Enter installer menu

1. Turn off the LRC (Home screen blank)
2. Press and hold **M** and then **30** until display changes (3 seconds)
3. Now choose option to change by using **M** to toggle through options (note 3 sec time out)
4. Change the Default value using **▲ ▼**
5. Then move to next option using **M**
6. Setting will auto save when timed out

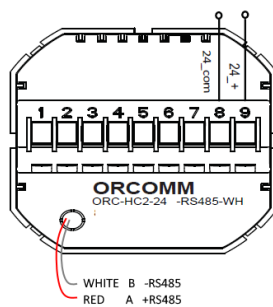
Best practice when finished setting up the LRC, turn all power OFF and ON again to allow controls to reset.

Cabling

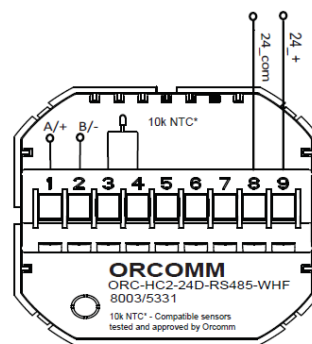
2 versions of cable entry on rear of unit

Version 1 flying lead (RED/WHITE) to connect to for RS485 connection

Version 2 terminal on rear for A B [A = RS485+, B = RS485 -]



Version 1



Version 2

Additional notes

Long cable runs on Modbus will require 120 ohm ¼W end of line resistor.

BIAS Resistors can be used at the beginning of the bus to help control higher than normal voltages.

Example 120 ohm across A & B, 1K across A and 12VDC, 1K across B and GND – NOTE turn off before installing resistors.