

COMFORT DUO RF



COMFORT DUO RF-RV Wireless Thermostat Installation Guide

COMFORT DUO RF is a surface-mounted transmitter unit and COMFORT DUO RF-RV, a receiver unit, it is designed to control the heating and cooling systems efficiently with precise control.

1) Features:

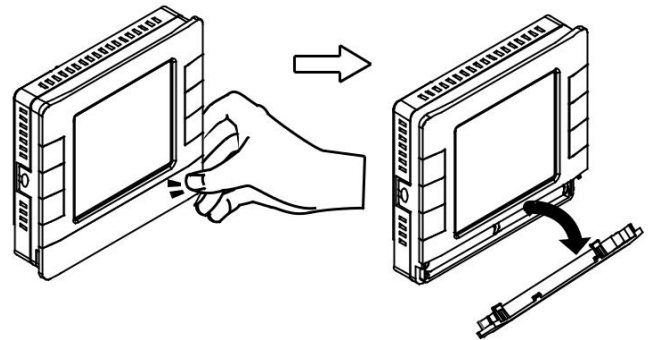
- Easy operation and settings with touch key function displayed on LCD.
- TPI Function.
- Temperature Differential adjustable.
- Easy Installation: Separate Base plate to aid installation.
- Daily Program period can be changed subject to personal activities or commercial applications.
- Informative Display.
Both Set & Room Temperature Displayed.
Anti-freeze protection in standby mode.
- Lock or unlock keys to prevent unauthorized changes.
- Temperature reading calibration(offset).
- Daily programming status indicator.
- Battery low indicator.
- Vacation setting to program a setback temperature to save energy.
- Comfort Override mode maintains the room temperature on the desired setpoint during a set period of time from 1~9 hours.
- Manual override.
- User settings can be retained when the thermostat is power off.

2) Technical data:

Temperature control range : 5 ~ 35°C
 Comfort setpoint adjustment range: 5 ~ 35°C
 Temperature adjustment scale : 0.5°C
 Temperature offset calibration range: ±3,5°C
 Temperature reading calibration increments: 0.5°C
 Antifreeze protection: 5.0°C (Standby mode Only)
 Switching differential (Hysteresis) : 0.5°C /1 °C /1.5 °C /2°C Default 0.5°C
 Temperature sensor : 10K Ohm NTC
 Temperature accuracy: ±0.5°C (@21°C)
 Temperature display resolution: 0.1°C

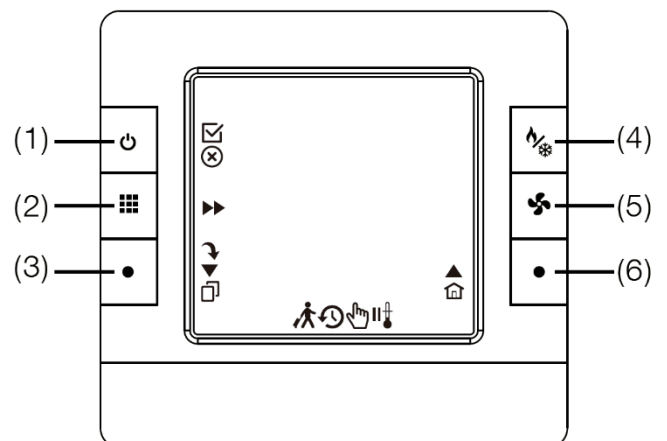
Sampling resolution: 1 minute interval
 Material : Non flammable plastics
 Storage temperature : -10°C ~ 60°C
 Dimensions: 120W x 112 H x 27 D mm

3) Installation



* Please force the upper edge of the cover to open it and insert batteries (AA Alkaline Batteries x 2).

4) Design and function



- (1) : Switch on/off (2) : Run Prog. Select.
 (3) (6) : Function key
 (4) : Heat / Cool / Auto mode select.
 (5) : Fan mode select.
 : Confirm
 : Cancel
 : NEXT ITEM, jump to next function setting

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- ▶▶ : Next Item, jump to next item setting
- ☐ : PROG COPY, to run "PROG COPY" function
- 🏠 : Exit the setting mode and return to Run PROG mode

4-1. Keypad Operation Description:

☐ Function Select

a. In Run **PROG** mode ⌚: Press ☐ key to select the desired mode, MANUAL override 🖱, COMFORT hour ⌚🖱, temperature HOLD 🌡, or HOLIDAY 🚶.

b. In Run **PROG** mode ⌚: Press ☐ for 5 seconds to enter general settings ⚙; LCD shows ⚙ symbol.

c. In **Standby** mode (tap ⏻ key), press ☐ key for 5 seconds to adjust day program period: **6 period/day, 4 period/day or 2 period/day.**

PROG.: 6 period / per day

Program	Time	Cool	Heat
🌚 Wake (P1)	6:00	25°C	21 °C
🏠 Leave (P2)	8:00	29°C	14 °C
🏠 Occupied (P3)	12:00	25°C	21 °C
🏠 Unoccupied (P4)	14:00	29°C	14 °C
🏠 Return (P5)	18:00	25°C	21 °C
🌙 Sleep (P6)	22:00	27°C	16 °C

PROG.: 4 period / per day

Program	Time	Cool	Heat
🌚 Wake (P1)	6:00	25°C	21 °C
🏠 Leave (P2)	8:00	29°C	14 °C
🏠 Return (P5)	18:00	25°C	21 °C
🌙 Sleep (P6)	22:00	27°C	16 °C

PROG.: 2 period / per day

Program	Time	Cool	Heat
🌚 Wake (P1)	6:00	25°C	21 °C
🌙 Sleep (P2)	22:00	29°C	16 °C

4-2. LCD Display Descriptions

🔒 : Key lock / ❄ : Frost Protection

🔥 : Heating on

🔋 : Battery Low / ⏻ : Standby Mode

🌚 : Run Prog Wake / 🏠 : Run Prog Leave

🏠 : Run Prog Occupied

🏠 : Run Prog Unoccupied

🏠 : Run Prog Return / 🌙 : Run Prog Sleep

⚙ : Setting Mode

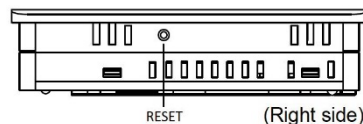
DAY: **MoTuWeThFrSaSu** : MON TUE WED THU FRI SAT SUN

5) Programming instructions

- Contents
- 1---Resetting the thermostat
 - 2---Set Date
 - 3---Set TIME
 - 4---Adjusting The Programs
 - 5---Operating mode
 - 6---Temperature reading calibration
 - 7---LCD Brightness
 - 8---RF home code setting
 - 9---RF home code setting
 - 10-Test RF signal strength of location
 - 11-Factory default setting

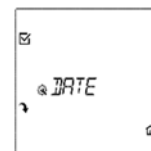
1 Resetting the thermostat

It is necessary to press the RESET button prior to initial programming.




To activate the setting mode:


Press ☐ for 5 seconds, LCD shows ⚙ symbol.



In setting mode, you can press 🖱 key to select the settings for **DATE, TIME, PROG, DIFF(Differential), T CAL, CONT, HOME, ROOM.**


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Enter the item you want to configure by pressing  (Confirm).


Exit the setting mode and return to Run PROG mode by pressing .

2 Set DATE


Press the  key to select the settings for **DATE**.

Press the  key to enter the "Date" setting.


Setting sequence is Year>Month>Day.


Press the  key to select the "Year".

Press  to "Month" setting.

Press the  key to select the "Month".


Press  to "Day" setting.

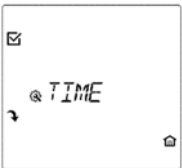
Press the  key to select the "Day".

Press  to return to "DATE"; the settings will be automatically saved.




3 Set TIME

Press the  key to select the settings for **TIME**.



Press the  key to set "TIME".

Setting sequence is HOUR>MINUTE.

Press the  key to select the "HOUR".

Press  to "Minute" setting.


Press the  key to select the "MINUTE".


Press  to return to "TIME"; the settings will be automatically saved.

4 Adjusting The Programs


Press the  key to select the settings for **PROG**.



Press the  key to start programming.


Press  to enter the program setting for day of the week. "SET PROG".

Press  to enter "PROG COPY" function.

Press  to return to Run PROG mode.





4-1. Set PROG

A. Press  to enter the program setting. (You will see "Mo", and P1 temperature reading is flashing).




Each day of the week can be individually programmed.

B. Press the  key to set desired temperature for P1 program period.





C. Press the  key to enter setting the "time schedule" for Mo P1 program period (You will see "Start Time" flashing).

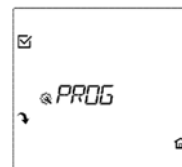



D. After time schedule of the 1st program period is set, P1 completes.


Press the key  to set the P2 temperature and set time schedule for 2nd program –period (flashing temperature reading appears on LCD again).



E. Press the     keys to complete settings of Temperature & Time schedule for each program-period (P1-P6) of the day.





F. Press  to select the rest weekdays programming.

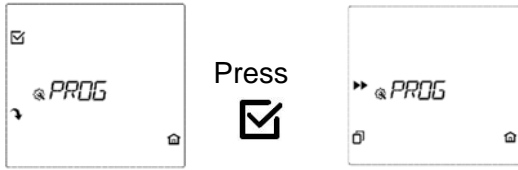
G. When the entire programming DAY 7 completes (or press  key), the display returns to Run PROG mode.

H. Press  to select "DIFF" setting or press  to return to Run PROG mode.

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4-2. PROG copy

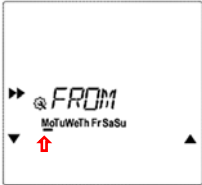
Press the  key to select the settings for PROG. Press the  key to start programming.





Prog Copy function:

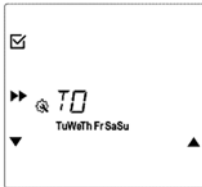
Before copying the program, please select any day of the week and complete entire temperature set points for each program period of the day. (Read Programming procedure described in the step 4-1. Set PROG).


Press  to enter "PROG COPY" function. 'From' MoTuWeThFrSaSu lit on the LCD (Choosing the reference-day "from").



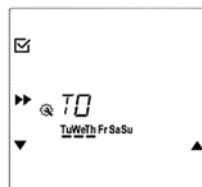
Take the selected day as reference-day for "Copy" function, and follow the instructions below:




- A. Press  to select the reference-day.
- B. Press  after reference-day is selected, 'To' will lit on LCD.




- C. Press  to select the day of the week for the programs to be copied to.

Press  as confirmation.




- D. Repeat the steps by pressing  and  to select more days to copy the programs to or press  to delete the previously selected day of the week (flashing).



- E. Press  after desired days for "copy" are completed. The display returns to start PROG setting mode.




5 Set Differential


Press the  key to select the settings for Operating mode.



Press  to change between TPI and ANALOGE operating mode and press  to select the desired one.


5-1 Analoge operating mode


Once selected the Analoge operating mode, press  key to change value.0.5/1/1.5/2, the default value is 0.5).

Press  to save the changed value.

5-2 TPI operating mode


CPH: Cicles per hour


Once selected the TPI operating mode, press  key to change CHP value: 3/6/9/12, (the default value is 6).

Press  to save the changed value and change to P-BAND parameter.

Through this parameter the number of modulation cycles per hour is selected. In other words, if CPH=6 the thermostat will do 6 modulation cycles, so each cycle will last for 10 minutes.

P-BAND: Modulation range

Press again  key to change P-BAND value: 1,5 °C – 3 °C (the default value is 1,5 °C).

Press  to save the changed value.

This parameter selects the temperature range in which the modulation is activated. For example, if P-BAND=2 the modulating will be activated between the Set Temperature ± 1 °C.

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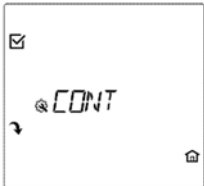
6 Temperature Reading calibration

Temperature Offset is a feature that lets you adjust the room temperature reading +/- 3.5°C. This helps if your thermostat is in a slightly warm or cold spot. To update the room temperature reading using Temperature Offset:



Press to save the changed value. Press key to "CONT" setting; or press to return to Run PROG mode.

7 LCD Brightness



This function can adjust the brightness of your device. Press to enter "LCD Brightness" setting. Press the buttons / to select your preference (1~10).

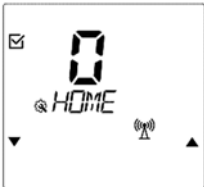


Press to save the setting and press key to enter "RF-home code" setting" setting.

8 RF Home code settings



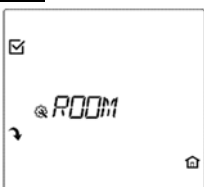
This function can adjust the Home code of your device. Press to enter "RF-Home code" setting.



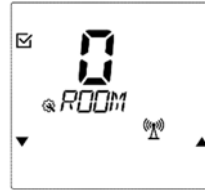
In order to pair with COMFORT DOU RF-RV, please keep the home code at 0.

Press key to save the setting and press key to enter "RF-Room code" setting.

9 RF Room code settings



This function can adjust the Room code of your device. Press to enter "RF-Room code" setting.



In order to pair with RV-receiver, please set a code from 0~15.

Attention! After setting the room code, please remember to set the dip switch on RV-receiver. For dip switch setting, please refer the form below:

Room code	00	01	02	03	04	05	06	07
Dip switch								

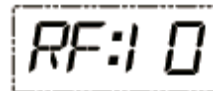
Room code	08	09	10	11	12	13	14	15
Dip switch								

Press key to save the setting.

10 Test RF signal strength of location

- To test your devices' location are good or not.
- When the ventilation is off, press the fan button twice so that the intensity of the signal appears on the screen.
- RF strength range: 0 ~ 15.

NOTE: Above 8 is better. *It displays only 3 secs.



- Return to the ventilation mode as it was.

11 Factory default settings

This function will clear all custom settings and the unit will be restored to factory default settings.

- Press key to enter standby (System Off) mode.
- Press and hold first then press (6) function key to enter "F RESET" as the fig. below:



Press the key to restore factory default settings.

Press the key to cancel the factory reset function and return to standby mode.

Attention!! If you press key, all the custom programs and option settings (except DATE and TIME settings) will be cleared.

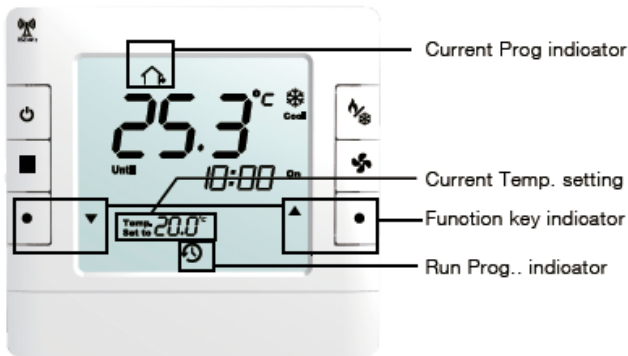
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6) OPERATION



Contents

- | | |
|----------------------------|----------------------------|
| 1.---RUN PROG | 7.---Key lock |
| 2.---Manual override | 8.---Battery low indicator |
| 3.---Comfort hour override | 9.---Change day program |
| 4.---Temperature hold | 10.--System mode |
| 5.---Vacation mode | 11.--Fan mode |
| 6.---Standby off | |

1 RUN PROG Normal display Descriptions






Key Operate descriptions:



In Run PROG mode , you can press  key to select the desired mode, MANUAL override, COMFORT hour, temperature HOLD, or HOLIDAY, according to the indication on LCD.

2 Manual override

Temporary Override is available enabling you to temporarily change the temperature without altering the thermostat's program. The thermostat will use the new temperature setting during the duration of this program period. Override function will be terminated when the next program period starts to run the programmed temperature setpoints.


Activate MANUAL Override by pressing  key. Press the  or  key to manually adjust the desired temperature setting.








Press  to activate the temporary override mode,  appears on the display. The time indicates when the MANUAL override will expire. Press key to cancel the MANUAL override mode and return to Run PROG mode.





3 COMFORT override

COMFORT override allows you to change the temperature for a specific number of hours (from one to nine) without altering the thermostat's program. The thermostat will use the new temperature setting for the specified amount of time, then the thermostat will return to run the programmed temperature setpoints.

Activate COMFORT Override by pressing  key twice.


- Simply adjust the set temperature (Temp. Set to) by using / key.
- Press  key to confirm the adjusted temperature and go to the setting of COMFORT Hours.
- Press / key to select the COMFORT Hours. LCD indicates "COMF:1H", "1" will be flashing as for adjustment.





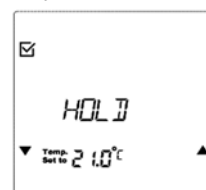
- Press  to confirm the settings and activate the COMFORT override mode,   appear on the display. The time indicates when the COMFORT override mode will expire.
- Press  key to cancel the COMFORT override mode and return to Run PROG mode.


4 Temperature Hold

Temperature HOLD allows you to maintain a constant temperature and disable temperature program periods.

Activate temperature HOLD by pressing  key 3 times.

Simply adjust the set temperature by using the / key.




Press  to activate temperature HOLD mode.

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Press **(X)** key to cancel temperature HOLD mode and return to Run PROG mode.

5 HOLIDAY

HOLIDAY hold allows you to setup the desired temperature while you are away from home or on vacation to reduce the energy consumption. Activate HOLIDAY hold by pressing key  4 times.



Use the key **▲/▼** to select the desired temperature. The temperature setting range is from 0°C to 10°C.


Press **☑** key to confirm the temperature setting.

Use the key **▲/▼** to increase/decrease the number of HOLIDAY days. LCD shows the number of the days under Holiday hold mode and the date indicates when the HOLIDAY hold mode will expire.

Press **☑** to confirm the HOLIDAY hold settings and activate Holiday hold mode.

Press **(X)** to cancel the HOLIDAY hold mode and return to Run PROG mode.





If the temperature setting is under 5°C. the frost protection will be triggered and the icon  appears on LCD.


6 Standby Function



This thermostat offers a Standby function that allows you to turn off your heating system when not required, while the thermostat keeps monitoring the room temperature and calls for heating, should there be

a risk of frost damage.


1. Activate Standby function by pressing **⏻** key, power icon  and frost protection icon  will appear on LCD.

2. Press the key **(X)** to deactivate the Standby function and return to Run PROG mode. Power icon  and frost protection icon will disappear from LCD.


7 Key Lock function

This function allows you to lock the operation keys on this thermostat.


1. Lock the Operation keys

Press and hold both **▲ & ▼** keys simultaneously for about 5 seconds until the key lock icon  appears on the LCD.

2. Release Key Lock function

Press and hold **▲ & ▼** keys simultaneously again for about 5 seconds until the key lock  icon disappears from the LCD.

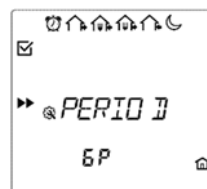
8 Battery Low indication

When the battery voltage becomes too low for reliable operation, battery low icon will appear on LCD , and the batteries must be replaced as soon as possible.

9 Change program period settings:



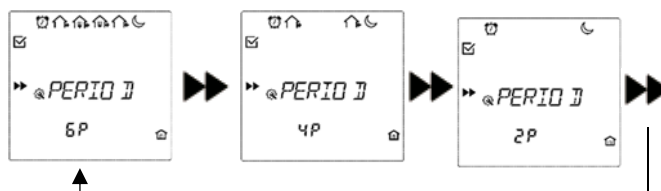
1. Press key to enter "Standby" mode.



2. Press and hold  key for about 5 seconds until  appears on LCD.

3. Factory default is 6 periods per day

4. Press **▶▶** to change the program period as desired.



5. Press **☑** to save the change and return to Standby mode.

6. Press **(X)** to return to Run Prog mode.



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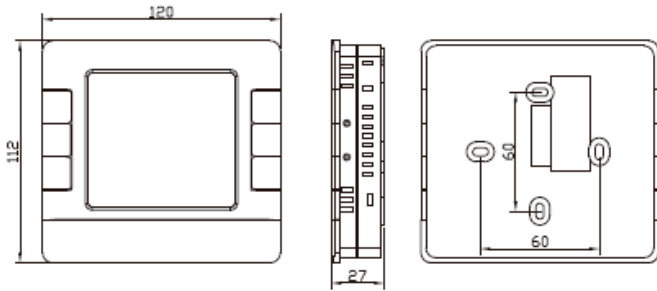
10 System Mode

1. Press "🔥" to change system mode.
2. The system will enter the HEAT ->>COOL ->>> AUTO-mode by pressing "🔥" alternately.
3. The HEAT mode means system enter heating setting mode, the LCD will show HEAT.
4. The COOL mode means system enter cooling setting mode, the LCD will show COOL.
5. AUTO mode means system enter auto setting mode, the LCD will show AUTO.

11 Fan Mode

1. Press "🌀" to change fan mode.
2. The system will enter the AUTO ("AUTO") ->> ON ("ON") ->>> OFF () mode by pressing "🌀" alternately.

7) Dimensions (unit:mm)



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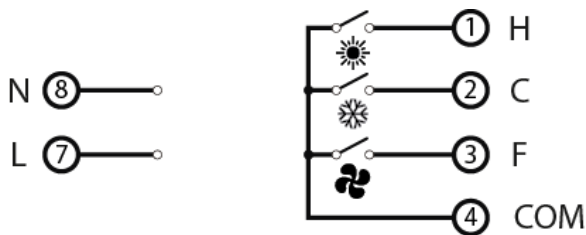
Feature

- Wireless operation range is up to 30 meters
- Working frequency: 868 MHz

Installation

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Open both ends of blue cover by "+" screw driver and make the electrical connections according to the following scheme

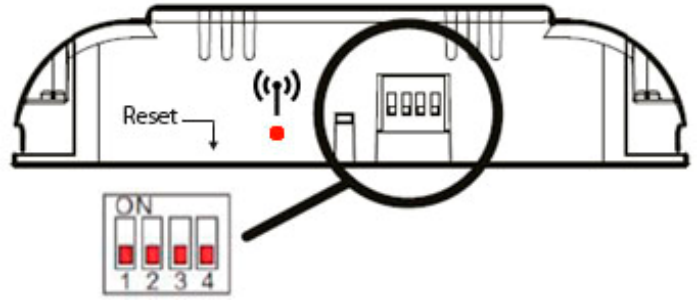


N: Neutral (230 V~).
L: Phase (230 V~).
H: Heating.

C: Cooling.
F: Fans (fancoils).
COM: Common.

Operating Instruction

RF code (ID) setting



1. Check RF code to match with the transmitter's RF code. Initial code setting is 0000 (All pins are downward).
2. RF LED indicator (on the right next to reset):
 - A. The LED will keep lighting until RF is connected.
 - B. When the receives the signal, the LED will flash for three times.
 - C. The LED will light up when it stops receiving the signal.

Transmitter and receiver pairing:

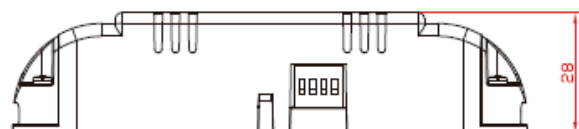
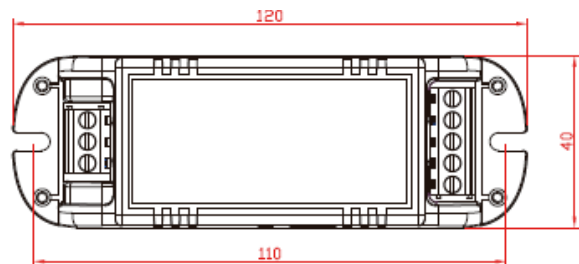
1. Set Home code and Room code of the transmitter.
2. Please also set the dip switch of receiver.
(The Home code of RF Receiver need to set as "00". For the Room code setting, please refer to the below diagram.)

House code=00

Room code	00	01	02	03	04	05	06	07
Dip switch								

Room code	08	09	10	11	12	13	14	15
Dip switch								

Dimensions (unit:mm)



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