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1 FOR SERVICEMAN

The "FOR SERVICEMAN" function is designed for the installer to set the parameters. Go to "☰">"FOR SERVICEMAN", press "↵", input the password "234", press "↵" again, the following pages will be displayed:

| | |
|----------------------------|-----|
| FOR SERVICEMAN | 1/3 |
| 1. DHW MODE SETTING | |
| 2. COOL MODE SETTING | |
| 3. HEAT MODE SETTING | |
| 4. AUTO MODE SETTING | |
| 5. TEMP.TYPE SETTING | |
| 6. ROOM THERMOSTAT | |
| ← ENTER | ↕ |

| | |
|--------------------------------|-----|
| FOR SERVICEMAN | 2/3 |
| 7. OTHER HEATING SOURCE | |
| 8. HOLIDAY AWAY SETTING | |
| 9. SERVICE CALL SETTING | |
| 10. RESTORE FACTORY SETTINGS | |
| 11. TEST RUN | |
| 12. SPECIAL FUNCTION | |
| ← ENTER | ↕ |

| | |
|----------------------------|-----|
| FOR SERVICEMAN | 3/3 |
| 13. AUTO RESTART | |
| 14. POWER INPUT LIMITATION | |
| 15. INPUT DEFINE | |
| 16. CASCADE SET | |
| 17. HMI ADDRESS SET | |
| 18. COMMON SET | |
| ← ENTER | ↕ |

Press "▼", "▲" to scroll and press "↵" to enter submenu.

1.1 DHW MODE SETTING

DHW = Domestic Hot Water
If the unit has no DHW function, the "DHW MODE SETTING" cannot be set.
If the unit has DHW function, go to "☰">"FOR SERVICEMAN">"DHW MODE SETTING", press "↵", the following pages will be displayed:

| | |
|---------------------------|------------|
| 1 DHW MODE SETTING | 1/4 |
| 1.1 DHW MODE | YES |
| 1.2 DISINFECT | YES |
| 1.3 DHW PRIORITY | YES |
| 1.4 PUMP_D | YES |
| 1.5 DHW PRIORITY TIME SET | NON |
| ↕ ADJUST | ↔ |

| | |
|---------------------|-------------|
| 1 DHW MODE SETTING | 2/4 |
| 1.6 dT5_ON | 5 °C |
| 1.7 dT1S5 | 10°C |
| 1.8 T4DHWMAX | 43°C |
| 1.9 T4DHWMIN | -10°C |
| 1.10 t_INTERVAL_DHW | 5 MIN |
| ↕ ADJUST | ↔ |

| | |
|-----------------------|--------------|
| 1 DHW MODE SETTING | 3/4 |
| 1.11 T5S_DISINFECT | 65 °C |
| 1.12 t_DI_HIGHTEMP. | 15MIN |
| 1.13 t_DI_MAX | 210 MIN |
| 1.14 t_DHWHP_RESTRICT | 30MIN |
| 1.15 t_DHWHP_MAX | 120MIN |
| ↕ ADJUST | ↔ |

| | |
|--------------------------|------------|
| 1 DHW MODE SETTING | 4/4 |
| 1.16 PUMP_D TIMER | YES |
| 1.17 PUMP_D RUNNING TIME | 5 MIN |
| 1.18 PUMP_D DISINFECT | NON |
| 1.19 ACS FUNCTION | NON |
| ↕ ADJUST | ↔ |

1.2 COOL MODE SETTING

Go to "☰">"FOR SERVICEMAN">"COOL MODE SETTING", press "↵", the following pages will be display:

| | |
|---------------------|------------|
| 2 COOL MODE SETTING | 1/3 |
| 2.1 COOL MODE | YES |
| 2.2 t_T4_FRESH_C | 2.0Hrs |
| 2.3 T4CMAX | 43°C |
| 2.4 T4CMIN | 20°C |
| 2.5 dT1SC | 5°C |
| ↕ ADJUST | ↔ |

| | |
|---------------------|-------------|
| 2 COOL MODE SETTING | 2/3 |
| 2.6 dTSC | 2 °C |
| 2.7 t_INTERVAL_C | 5MIN |
| 2.8 T1SetC1 | 10°C |
| 2.9 T1SetC2 | 16°C |
| 2.10 T4C1 | 35°C |
| ↕ ADJUST | ↔ |

| | |
|-----------------------|--------------|
| 2 COOL MODE SETTING | 3/3 |
| 2.11 T4C2 | 25 °C |
| 2.12 ZONE1 C-EMISSION | FCU |
| 2.13 ZONE2 C-EMISSION | FHL |
| ↕ ADJUST | ↔ |

1.3 HEAT MODE SETTING

Go to "☰">"FOR SERVICEMAN">"HEAT MODE SETTING", press "↵", the following pages will be displayed:

| | |
|---------------------|------------|
| 3 HEAT MODE SETTING | 1/3 |
| 3.1 HEAT MODE | YES |
| 3.2 t_T4_FRESH_H | 2.0Hrs |
| 3.3 T4HMAX | 16°C |
| 3.4 T4HMIN | -15°C |
| 3.5 dT1SH | 5°C |
| ↕ ADJUST | ↔ |

| | |
|---------------------|------|
| 3 HEAT MODE SETTING | 2/3 |
| 3.6 dTSH | 2°C |
| 3.7 t_INTERVAL_H | 5MIN |
| 3.8 T1SetH1 | 35°C |
| 3.9 T1SetH2 | 28°C |
| 3.10 T4H1 | -5°C |
| ADJUST | |

| | |
|-----------------------|------|
| 3 HEAT MODE SETTING | 3/3 |
| 3.11 T4H2 | 7°C |
| 3.12 ZONE1 H-EMISSION | RAD. |
| 3.13 ZONE2 H-EMISSION | FHL |
| 3.14 FORCE DEFROST | NON |
| ADJUST | |

1.4 AUTO MODE SETTING

Go to " " > "FOR SERVICEMAN" > "AUTO MODE SETTING", press "←", the following page will be displayed:

| | |
|----------------------|------|
| 4 AUTO. MODE SETTING | |
| 4.1 T4AUTOCMIN | 25°C |
| 4.2 T4AUTOHMAX | 17°C |
| | |
| | |
| ADJUST | |

1.5 TEMP. TYPE SETTING

The "TEMP. TYPE SETTING" function is used to select whether the water flow temperature or room temperature controls ON/OFF of the heat pump.

Go to " " > "FOR SERVICEMAN" > "TEMP. TYPE SETTING", press "←", the following page will be displayed:

| | |
|----------------------|-----|
| 5 TEMP. TYPE SETTING | |
| 5.1 WATER FLOW TEMP. | YES |
| 5.2 ROOM TEMP. | NON |
| 5.3 DOUBLE ZONE | NON |
| | |
| ADJUST | |

When WATER FLOW TEMP. is set YES and ROOM TEMP. is set NON, ON/OFF of the heat pump is controlled by the set water temperature, the following pages will be displayed:

| | | |
|------------|-------|------|
| 01-01-2018 | 23:59 | 13° |
| 35°C | ON | 38°C |

Water temperature setting
DHW mode is set available

| | | |
|------------|-------|-----|
| 01-01-2018 | 23:59 | 13° |
| 35°C | ON | |

Water temperature setting
Without DHW function or
DHW mode is set unavailable

When WATER FLOW TEMP. is set NON and ROOM TEMP. is set YES, ON/OFF of the heat pump is controlled by the set room temperature, the following pages will be displayed:

| | | |
|------------|-------|------|
| 01-01-2018 | 23:59 | 13° |
| 23.5°C | ON | 38°C |

Room temperature setting
DHW mode is set available

| | | |
|------------|-------|-----|
| 01-01-2018 | 23:59 | 13° |
| 23.5°C | ON | |

Room temperature setting
Without DHW function or
DHW mode is set unavailable

When WATER FLOW TEMP. and ROOM TEMP. are both set YES, ON/OFF of the heat pump is controlled by the set water temperature in ZONE1, ON/OFF of the heat pump is controlled by the set room temperature in ZONE2, the following pages will be displayed:

| | | |
|------------|-------|------|
| 01-01-2018 | 23:59 | 13° |
| 38°C | ON | 23°C |

| | | |
|------------|-------|-----|
| 01-01-2018 | 23:59 | 13° |
| 38°C | ON | |



| | | |
|------------|-------|-----|
| 01-01-2018 | 23:59 | 13° |
| 23.5°C | ON | |

DHW mode is set available

| | | |
|------------|-------|-----|
| 01-01-2018 | 23:59 | 13° |
| 23.5°C | ON | |

Without DHW function or
DHW mode is set unavailable

NOTE

- When WATER FLOW TEMP. and ROOM TEMP. are both set YES, DOUBLE ZONE will be set YES automatically.
- When ROOM TEMP. is enabled, the water temperature will be calculated according to temperature curves.

1.6 ROOM THERMOSTAT

The "ROOM THERMOSTAT" function is used to set whether the room thermostat is available or unavailable.

Go to " " > "FOR SERVICEMAN" > "ROOM THERMOSTAT", press "←", the following page will be displayed:

| | |
|------------------------|----------|
| 6 ROOM THERMOSTAT | |
| 6.1 ROOM THERMOSTAT | MODE SET |
| 6.2. MODE SET PRIORITY | HEAT |
| | |
| | |
| ADJUST | |

NOTE

1. ROOM THERMOSTAT = NON, the room thermostat is unavailable.
2. ROOM THERMOSTAT = MODE SET, operation mode and ON/OFF of the unit are controlled via the room thermostat, water temperature is set on the user interface.
3. ROOM THERMOSTAT = ONE ZONE, ON/OFF of the unit is controlled by the room thermostat, operation mode and water temperature are set on the user interface.
4. ROOM THERMOSTAT = DOUBLE ZONE, operation mode and water temperature are set on the user interface, ON/OFF of the unit is controlled by the room thermostat.
5. Only when ROOM THERMOSTAT =NON, the settings in TEMP. TYPE SETTING can be adjusted.

1.7 OTHER HEATING SOURCE

The "OTHER HEATING SOURCE" function is used to set the parameters of IBH (Backup heater),AHS(Auxiliary heating source) ,TBH(Tank booster heater) and solar energy. Go to "☐">"FOR SERVICEMAN">"OTHER HEATING SOURCE", press "←", the following pages will be displayed:

| | |
|------------------------|-----------|
| 7 OTHER HEATING SOURCE | 1/6 |
| 7.1 IBH FUNCTION | HEAT |
| 7.2 IBH LOCATE | PIPE LOOP |
| 7.3 dT1_IBH_ON | 5°C |
| 7.4 t_IBH_DELAY | 30MIN |
| 7.5 T4_IBH_ON | -5°C |
| ADJUST | |

| | |
|------------------------|-------|
| 7 OTHER HEATING SOURCE | 2/6 |
| 7.6 P_IBH1 | 0.0kW |
| 7.7 P_IBH2 | 0.0kW |
| 7.8 AHS FUNCTION | NON |
| 7.9 AHS_PUMPI CONTROL | RUN |
| 7.10 dT1_AHS_ON | 5°C |
| ADJUST | |

| | |
|------------------------|-------|
| 7 OTHER HEATING SOURCE | 3/6 |
| 7.11 t_AHS_DELAY | 30MIN |
| 7.12 T4_AHS_ON | -5°C |
| 7.13 EnSWITCHPDC | NON |
| 7.14 GAS_COST | 0.85 |
| 7.15 ELE_COST | 0.20 |
| ADJUST | |

| | |
|------------------------|------|
| 7 OTHER HEATING SOURCE | 4/6 |
| 7.16 MAX_SETHEATER | 80°C |
| 7.17 MIN_SETHEATER | 30°C |
| 7.18 MAX_SIGHEATER | 10V |
| 7.19 MIN_SIGHEATER | 3V |
| 7.20 TBH FUNCTION | YES |
| ADJUST | |

| | |
|------------------------|-------|
| 7 OTHER HEATING SOURCE | 5/6 |
| 7.21 dT5_TBH_OFF | 5°C |
| 7.22 t_TBH_DELAY | 30MIN |
| 7.23 T4_TBH_ON | 5°C |
| 7.24 P_TBH | 2,0kW |
| 7.25 SOLAR FUNCTION | NON |
| ADJUST | |

| | |
|------------------------|--------|
| 7 OTHER HEATING SOURCE | 6/6 |
| 7.26 SOLAR CONTROL | Tsolar |
| 7.27 DELTATSOL | 10°C |
| | |
| | |
| | |
| ADJUST | |

NOTE

1. If the unit has no DHW function or DHW mode is set unavailable, 7.20-7.27 will not be displayed on the interface.
2. The default setting of EnSWITCHPDC is NON, T4_AHS_ON is set manually. When EnSWITCHPDC is set YES, T4_AHS_ON cannot be set manually.
3. When AHS FUNCTION is set NON, EnSWITCHPDC is set NON forcibly.
4. When SOLAR FUNCTION is set NON, Tsolar(Solar temperature) will not be detected . When SOLAR FUNCTION is not set NON and SOLAR CONTROL is set Tsolar, Tsolar(Solar temperature) will be detected.

1.8 HOLIDAY AWAY SETTING

The HOLIDAY AWAY SETTING function is used to set the water temperature or water tank temperature to prevent freezing when away for holiday. If the unit has no DHW function or DHW mode is set unavailable, T5S_H.A._DHW will not be displayed on the interface.

Go to "☐">"FOR SERVICEMAN">"HOLIDAY AWAY SETTING", press "←", the following page will be displayed:

| | |
|------------------------|------|
| 8 HOLIDAY AWAY SETTING | |
| 8.1 T1S_H.A._H | 20°C |
| 8.2 T5S_H.A._DHW | 20°C |
| | |
| | |
| | |
| ADJUST | |

1.9 SERVICE CALL

The installers can set the phone number or mobile number of the local dealer in SERVICE CALL. If the unit doesn't operate properly, call the number for help.

Go to "☐">"FOR SERVICEMAN">"SERVICE CALL", press "←", the following page will be displayed:

| | |
|------------------------|--------------|
| 9 SERVICE CALL SETTING | |
| PHONE NO. | 000000000000 |
| MOBILE NO. | 000000000000 |
| | |
| | |
| | |
| CONFIRM | ADJUST |

The maximum length of the phone number(or mobile number) is 13 digits, if the length of the number is short than 12 digits, please input █.

Example: If the phone number is set 1234577, please input the number as below:

| | |
|----------------|---------------|
| 9 SERVICE CALL | |
| PHONE NO. | 1234577██████ |
| MOBILE NO. | 000000000000 |
| | |
| | |
| | |
| CONFIRM | ADJUST |

1.10 RESTORE FACTORY SETTINGS

The RESTORE FACTORY SETTINGS function is used to restore all parameters set on the user interface to factory settings. Go to " " > "FOR SERVICEMAN" > "RESTORE FACTORY SETTINGS", press "↵", the following page will be displayed:

| | |
|--|-----|
| 10 RESTORE FACTORY SETTINGS | |
| ALL THE SETTINGS WILL COME BACK TO FACTORY DEFAULT. DO YOU WANT TO RESTORE FACTORY SETTINGS? | |
| NO | YES |
| CONFIRM | |

Use "◀", "▶" to scroll the cursor to YES and press "↵", the following page will be displayed:

| | |
|-----------------------------|--|
| 10 RESTORE FACTORY SETTINGS | |
| PLEASE WAIT... | |
| 5% | |

After a few seconds, all parameters set on the user interface will be restored to factory settings.

1.11 SPECIAL FUNCTION

Go to " " > "FOR SERVICEMAN" > "SPECIAL FUNCTION", press "↵", the following page will be displayed:

| | |
|--|-----|
| 12 SPECIAL FUNCTION | |
| ACTIVE THE SETTINGS AND ACTIVE THE "SPECIAL FUNCTION"? | |
| NO | YES |
| CONFIRM | |

Use "◀", "▶" to scroll the cursor to YES and press "↵", the following page will be displayed:

| | |
|---------------------------|--|
| 12 SPECIAL FUNCTION | |
| 12.1 PREHEATING FOR FLOOR | |
| 12.2 FLOOR DRYING UP | |
| | |
| | |
| ENTER | |

The PREHEATING FOR FLOOR function is used to preheat the room (The terminal type is floor heating loop). Press "↵" on the above interface, the following page will be displayed:

| | |
|---------------------------|----------|
| 12.1 PREHEATING FOR FLOOR | |
| T1S | 30°C |
| t_FIRSTFH | 72 HOURS |
| | |
| ENTER | EXIT |
| ADJUST | |

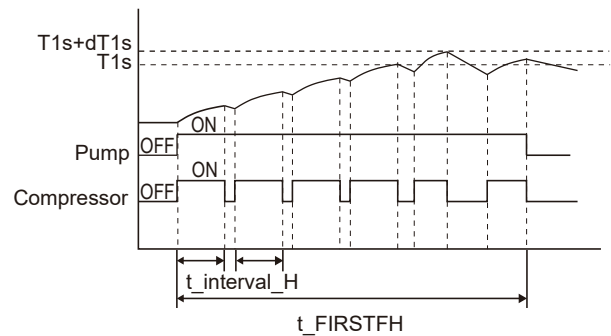
The value of T1S and t_FIRSTFH can be adjusted by using "▲", "▼".

| | |
|---------------------------|----------|
| 12.1 PREHEATING FOR FLOOR | |
| T1S | 30°C |
| t_FIRSTFH | 72 HOURS |
| | |
| | |
| ENTER | EXIT |
| CONFIRM | |

Use "◀", "▶" to scroll the cursor to ENTER and press "↵", the following page will be displayed:

| | |
|--|--|
| 12.1 PREHEATING FOR FLOOR | |
| PREHEATING FOR FLOOR IS RUNNING FOR 0 HOURS. WATER FLOW TEMPERATURE IS 20°C. | |
| | |
| CONFIRM | |

The operation of the unit during PREHEATING FOR FLOOR is described in the picture below:



Press "↵", the following page will be displayed:

| | |
|--|-----|
| 12.1 PREHEATING FOR FLOOR | |
| DO YOU WANT TO TURN OFF THE PREHEATING FOR FLOOR FUNCTION? | |
| NO | YES |
| CONFIRM | |

Use "◀", "▶" to scroll the cursor to YES and press "↵", the PREHEATING FOR FLOOR function will be turned off. The FLOOR DRYING UP function is used to avoid floor condensation. When the heat pump fails, the FLOOR DRYING UP function is still available when the backup heater or auxiliary heating source is available. If FLOOR DRYING UP is selected, press "↵", the following page will be displayed:

| | | |
|------------------------|--|--------|
| 12.2 INPUT DEFINE | | 1/2 |
| WARM UP TIME(t_DRYUP) | | 8 DAYS |
| KEEP TIME(t_HIGHPEAK) | | 5 DAYS |
| TEMP.DOWN TIME(t_DRYD) | | 5 DAYS |
| PEAK TEMP.(t_DRYPEAK) | | 45°C |
| START TIME | | 21:00 |
| ADJUST | | |

| | | |
|-------------------|------------|-----|
| 12.2 INPUT DEFINE | | 2/2 |
| START DATE | 21-10-2021 | |
| | | |
| | | |
| ENTER | EXIT | |
| ← ENTER | → | |

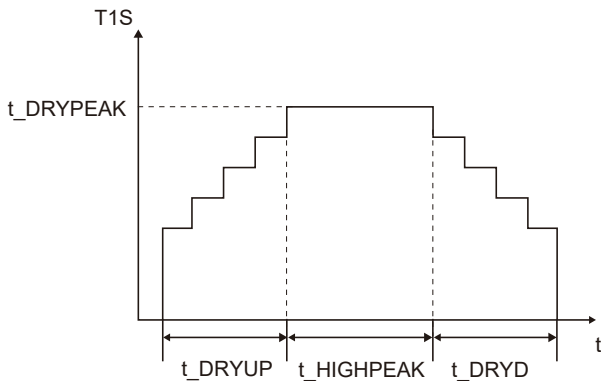
The parameters in FLOOR DRYING UP can be adjusted by using “▲”, “▼”. Use “◀”, “▶” to scroll the cursor to ENTER and press “↵”, the following page will be displayed:

| | |
|--|--|
| 12.2 FLOOR DRYING UP | |
| THE UNIT WILL OPERATE FLOOR DRYING UP ON 21:00 21-10-2021. | |
| | |
| | |
| ← CONFIRM → | |

When the set time (START TIME/START DATE) is reached, the following page will be displayed:

| | |
|------------------------------------|--|
| 12.2 FLOOR DRYING UP | |
| THE FLOOR DRYING IS RUNNING FOR | |
| 5 DAYS. | |
| LEAVING WATER TEMPERATURE IS 30°C. | |
| | |
| ← CONFIRM → | |

Change of target outlet water temperature (T1S) during FLOOR DRYING UP is described in the picture below:



Press “↵”, the following page will be displayed:

| | |
|---|-----|
| 12.2 FLOOR DRYING UP | |
| DO YOU WANT TO TURN OFF THE FLOOR DRYING UP FUNCTION? | |
| | |
| | |
| NO | YES |
| ← CONFIRM | → |

Use “◀”, “▶” to scroll the cursor to YES and press “↵”, the FLOOR DRYING UP function will be turned off.

NOTE

- During special function operation, other functions (WEEKLY SCHEDULE/TIMER, HOLIDAY AWAY, HOLIDAY HOME) cannot be used.
- It is necessary to use the AIR PURGE function to release the air (make sure the air purge valve is open) before the unit runs.

1.12 AUTO RESTART

The AUTO RESTART function is used to restart the unit according to the operation mode before the power supply failure. If the unit has no DHW (Domestic Hot Water) function or DHW mode is set unavailable, DHW MODE will not be displayed on the interface. Go to “☰” > “FOR SERVICEMAN” > “AUTO RESTART”, press “↵”, the following page will be displayed:

| | |
|---------------------|-----|
| 13 AUTO RESTART | |
| 13.1 COOL/HEAT MODE | YES |
| 13.2 DHW MODE | YES |
| | |
| | |
| ← ADJUST → | |

NOTE

- ① COOL/HEAT MODE and DHW MODE are set YES by default.
- ② If the operation mode before power supply failure is cool mode or heat mode and COOL/HEAT MODE is set YES, then the unit can be restarted after the power supply returns to normal.
- ③ If the operation mode before power supply failure is DHW mode and DHW MODE is set YES, then the unit can be restarted after the power supply returns to normal.
- ④ If the operation mode before power supply failure is cool mode or heat mode and COOL/HEAT MODE is set NON, then the unit cannot be restarted after the power supply returns to normal.
- ⑤ If the operation mode before power supply failure is DHW mode and DHW MODE is set NON, then the unit cannot be restarted after the power supply returns to normal.
- ⑥ If ROOM THERMOSTAT is set available, ON/OFF of the unit is controlled by the room thermostat.

1.13 POWER INPUT LIMITATION

Go to “☰” > “FOR SERVICEMAN” > “POWER INPUT LIMITATION”, press “↵”, the following page will be displayed:

| | |
|-----------------------------|---|
| 14 POWER INPUT LIMITATION | |
| 14.1 POWER INPUT LIMITATION | 0 |
| | |
| | |
| ← ADJUST → | |

Use “▲”, “▼” to adjust the power input limitation.

1.14 INPUT DEFINE

Go to “☰” > “FOR SERVICEMAN” > “INPUT DEFINE”, press “↵”, the following page will be displayed:

| | |
|-----------------|---------------|
| 15 INPUT DEFINE | |
| 15.1 M1M2 | REMOTE ON/OFF |
| 15.2 SMART GRID | NON |
| 15.3 T1T2 | NON |
| 15.4 Tbt | NON |
| 15.5 P_X PORT | DEFROST |
| ← ADJUST → | |

P_X PORT is set DEFORST by default. When P_X PORT is set ALARM, it represents the fault signal output of the unit.

1.15 CASCADE SET

Go to "☰">"FOR SERVICEMAN">"CASCADE SET", press "↵", the following page will be displayed:

| | |
|--|-------|
| 16 CASCADE SET | |
| 16.1 PER_START | 10% |
| 16.2 TIME_ADJUST | 5 MIN |
| 16.3 ADDRESS RESET | FF |
| | |
| | |
| <div style="display: flex; justify-content: space-between;"> ⬅️ ADJUST ➡️ </div> | |

1.16 HMI ADDRESS SET

Go to "☰">"FOR SERVICEMAN">"HMI ADDRESS SET", press "↵", the following page will be displayed:

| | |
|--|--------|
| 17 HMI ADDRESS SET | |
| 17.1 HMI SET | MASTER |
| 17.2 HMI ADDRESS FOR BMS | 1 |
| 17.3 STOP BIT | 1 |
| | |
| | |
| <div style="display: flex; justify-content: space-between;"> ⬅️ ADJUST ➡️ </div> | |

1.17 COMMON SET

Go to "☰">"FOR SERVICEMAN">"COMMON SET", press "↵", the following page will be displayed:

| | | |
|--|-----|-----|
| 18 COMMON SET | | 1/2 |
| 18.1 t_DELAY_PUMP | 2.0 | MIN |
| 18.2 t1_ANTILOCK PUMP | 24 | h |
| 18.3 t2_ANTILOCK PUMP RUN | 60 | s |
| 18.4 t1_ANTILOCK SV | 24 | h |
| 18.5 t2_ANTILOCK SV RUN | 30 | s |
| | | |
| <div style="display: flex; justify-content: space-between;"> ⬅️ ADJUST ➡️ </div> | | |

| | | |
|--|-----|-----|
| 18 COMMON SET | | 2/2 |
| 18.6 Ta_adj. | -2 | °C |
| 18.7 F-PIPE LENGTH | <10 | m |
| 18.8 PUMP_I_SILENT OUTPUT | 100 | % |
| | | |
| | | |
| <div style="display: flex; justify-content: space-between;"> ⬅️ ADJUST ➡️ </div> | | |

2 SETTING RANGE OF PARAMETERS IN "FOR SERVICEMAN"

The parameters related to this chapter are shown in the table below.

| Order number | Code | State | Default | Minumum | Maximum | Setting interval | Unit |
|--------------|-----------------------|--|---------|---------|---------|------------------|-------|
| 1.1 | DHW MODE | Enable or disable the DHW mode:0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 1.2 | DISINFECT | Enable or disable the disinfect mode:0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 1.3 | DHW PRIORITY | Enable or disable the DHW priority mode:0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 1.4 | PUMP_D | Enable or disable the DHW pump mode:0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 1.5 | DHW PRIORITY TIME SET | Enable or disable the DHW priority time set:0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 1.6 | dT5_ON | The temperature difference for starting the heat pump | 10 | 1 | 30 | 1 | °C |
| 1.7 | dT1S5 | The difference value between Twout and T5 in DHW mode | 10 | 5 | 40 | 1 | °C |
| 1.8 | T4DHWMAX | The maximum ambient temperature that the heat pump can operate at for domestic water heating | 43 | 35 | 43 | 1 | °C |
| 1.9 | T4DHWMIN | The minimum ambient temperature that the heat pump can operate for domestic water heating | -10 | -25 | 30 | 1 | °C |
| 1.10 | t_INTERVAL_DHW | The start time interval of the compressor in DHW mode. | 5 | 5 | 5 | 1 | min |
| 1.11 | T5S_DISINFECT | The target temperature of water in the domestic hot water tank in the DISINFECT function. | 65 | 60 | 70 | 1 | °C |
| 1.12 | t_DI_HIGHTEMP | The time that the highest temperature of water in the domestic hot water tank in the DISINFECT function will last. | 15 | 5 | 60 | 5 | °C |
| 1.13 | t_DI_MAX | The maximum time that disinfection will last. | 210 | 90 | 300 | 5 | min |
| 1.14 | t_DHWHP_RESTRICT | The operation time for the space heating/cooling operation. | 30 | 10 | 600 | 5 | °C |
| 1.15 | t_DHWHP_MAX | The maximum running time of heat pump in DHW PRIORITY mode. | 90 | 10 | 600 | 5 | min |
| 1.16 | PUMP_D TIMER | Enable or disable the DHW pump run as timed and keeps running for PUMP RUNNING TIME:0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 1.17 | PUMP_D RUNNING TIME | The certain time that the DHW pump will keep running. | 5 | 5 | 120 | 1 | min |
| 1.18 | PUMP_D DISINFECT | Enable or disable the DHW pump operates when the unit is in disinfect mode and T5≥T5S_DI-2:0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 1.19 | ACS FUNCTION | Enable or disable the second water tank control T5_2: 0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 2.1 | COOL MODE | Enable or disable the cooling mode:0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 2.2 | t_T4_FRESH_C | The refresh time of climate related curves for cooling mode | 0.5 | 0.5 | 6 | 0.5 | hours |
| 2.3 | T4CMAX | The highest ambient operation temperature for cooling mode | 52 | 35 | 52 | 1 | °C |
| 2.4 | T4CMIN | The lowest ambient operating temperature for cooling mode | 10 | -5 | 25 | 1 | °C |
| 2.5 | dT1SC | The temperature difference between T1 and T1S(the set water temperature) for starting the heat pump | 5 | 2 | 10 | 1 | °C |
| 2.6 | dTSC | The temperature difference between actual room temperature Ta and the set room temperature Tas for starting the heat pump. | 2 | 1 | 10 | 1 | °C |
| 2.7 | t_INTERVAL_C | The start time interval of the compressor in cooling mode | 5 | 5 | 5 | 5 | min |
| 2.8 | T1SetC1 | The setting temperature 1 of climate related curves for cooling mode. | 10 | 5 | 25 | 1 | °C |
| 2.9 | T1SetC2 | The setting temperature 2 of climate related curves for cooling mode. | 16 | 5 | 25 | 1 | °C |
| 2.10 | T4C1 | The ambient temperature 1 of climate related curves for cooling mode. | 35 | -5 | 46 | 1 | °C |
| 2.11 | T4C2 | The ambient temperature 2 of climate related curves for cooling mode. | 25 | -5 | 46 | 1 | °C |
| 2.12 | ZONE1 C-EMISSION | The terminal type of zone 1 for cooling mode: 0=FCU(fan coil unit), 1=RAD.(radiator), 2=FHL(floor heating loop) | 0 | 0 | 2 | 1 | / |
| 2.13 | ZONE2 C-EMISSION | The terminal type of zone 2 for cooling mode: 0=FCU(fan coil unit), 1=RAD.(radiator), 2=FHL(floor heating loop) | 0 | 0 | 2 | 1 | / |
| 3.1 | HEAT MODE | Enable or disable the heating mode | 1 | 0 | 1 | 1 | / |
| 3.2 | t_T4_FRESH_H | The refresh time of climate related curves for heating mode | 0.5 | 0.5 | 6 | 0.5 | hours |

| Order number | Code | State | Default | Minumum | Maximum | Setting interval | Unit |
|--------------|-------------------|--|----------------------------------|---------|---------|------------------|------|
| 3.3 | T4HMAX | The maximum ambient operating temperature for heating mode | 25 | 20 | 35 | 1 | °C |
| 3.4 | T4HMIN | The minimum ambient operating temperature for heating mode | -15 | -25 | 30 | 1 | °C |
| 3.5 | dT1SH | The temperature difference between T1 and T1S(the set water temperature) for starting the heat pump | 5 | 2 | 20 | 1 | °C |
| 3.6 | dTSH | The temperature difference between actual room temperature Ta and the set room temperature Tas for starting the heat pump | 2 | 1 | 10 | 1 | °C |
| 3.7 | t_INTERVAL_H | The start time interval of the compressor in heating mode | 5 | 5 | 5 | 5 | min |
| 3.8 | T1SetH1 | The setting temperature 1 of climate related curves for heating mode | 35 | 25 | 65 | 1 | °C |
| 3.9 | T1SetH2 | The setting temperature 2 of climate related curves for heating mode | 28 | 25 | 65 | 1 | °C |
| 3.10 | T4H1 | The ambient temperature 1 of climate related curves for heating mode | -5 | -25 | 35 | 1 | °C |
| 3.11 | T4H2 | The ambient temperature 2 of climate related curves for heating mode | 7 | -25 | 35 | 1 | °C |
| 3.12 | ZONE1 H-EMISSION | The terminal type of zone 1 for heating mode: 0=FCU(fan coil unit), 1=RAD.(radiator), 2=FHL(floor heating loop) | 1 | 0 | 2 | 1 | / |
| 3.13 | ZONE2 H-EMISSION | The terminal type of zone 2 for heating mode: 0=FCU(fan coil unit), 1=RAD.(radiator), 2=FHL(floor heating loop) | 2 | 0 | 2 | 1 | / |
| 3.14 | FORCE DEFROST | Enable or disable the FORCE DEFROST function: 0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 4.1 | T4AUTOCMIN | The minimum operating ambient temperature for cooling in auto mode | 25 | 20 | 29 | 1 | °C |
| 4.2 | T4AUTOHMAX | The maximum operating ambient temperature for heating in auto mode | 17 | 10 | 17 | 1 | °C |
| 5.1 | WATER FLOW TEMP. | Enable or disable the WATER FLOW TEMP.:0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 5.2 | ROOM TEMP. | Enable or disable the ROOM TEMP.:0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 5.3 | DOUBLE ZONE | Enable or disable the ROOM THERMOSTAT DOUBLE ZONE:0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 6.1 | ROOM THERMOSTAT | Room thermostat type: 0=NON,1=MODESET,2=ONE ZONE 3=DOUBLE ZONE | 0 | 0 | 3 | 1 | / |
| 6.2 | MODE SET PRIORITY | Select the priority mode in ROOM THERMOSTAT: 0=HEAT,1=COOL | 0 | 0 | 1 | 1 | / |
| 7.1 | IBH FUNCTION | Select the mode that IBH (BACKUP HEATER) can run: 0=HEAT+DHW,1=HEAT | 0 (DHW=valid) 1 (DHW=invalid) | 0 | 1 | 1 | / |
| 7.2 | IBH LOCATE | The installation location of IBH (PIPE LOOP=0) | 0 | 0 | 0 | 0 | / |
| 7.3 | dT1_IBH_ON | The temperature difference between T1S and T1 for starting the backup heater. | 5 | 2 | 10 | 1 | °C |
| 7.4 | t_IBH_DELAY | The time that the compressor has run before starting the first step backup heater. | 30 | 15 | 120 | 5 | min |
| 7.5 | T4_IBH_ON | The ambient temperature for starting the backup heater. | -5 | -15 | 30 | 1 | °C |
| 7.6 | P_IBH1 | Power input of IBH1 | 0 | 0 | 20 | 0.5 | kW |
| 7.7 | P_IBH2 | Power input of IBH2 | 0 | 0 | 20 | 0.5 | kW |
| 7.8 | AHS FUNCTION | Enable or disable the AHS (AUXILIARY HEATING SOURCE) function: 0=NON,1=HEAT,2=HEAT+DHW | 0 | 0 | 2 | 1 | / |
| 7.9 | AHS_PUMPI CONTROL | Select the pump operating status when only AHS runs: 0=RUN,1=NOT RUN | 0 | 0 | 1 | 1 | / |
| 7.10 | dT1_AHS_ON | The temperature difference between T1S and T1B for starting the auxiliary heating source | 5 | 2 | 20 | 1 | °C |
| 7.11 | t_AHS_DELAY | The time that the compressor has run before starting the additional heating source | 30 | 5 | 120 | 5 | min |
| 7.12 | T4_AHS_ON | The ambient temperature for starting the additional heating source | -5 | -15 | 30 | 1 | °C |
| 7.13 | EnSWITCHPDC | Enable or disable the function that heat pump and auxiliary heating source switch automatically based on running cost: 0=NON,1=YES | 0 | 0 | 1 | 1 | / |

| Order number | Code | State | Default | Minumum | Maximum | Setting interval | Unit |
|--------------|-----------------------------------|--|---|------------|---------|------------------|-------|
| 7.14 | GAS_COST | Price of gas | 0.85 | 0.00 | 5.00 | 0.01 | €/m³ |
| 7.15 | ELE_COST | Price of electricity | 0.20 | 0.00 | 5.00 | 0.01 | €/kWh |
| 7.16 | MAX_SETHEATER | Maximum setting temperature of additional heating source | 80 | 0 | 80 | 1 | °C |
| 7.17 | MIN_SETHEATER | Minimum setting temperature of additional heating source | 30 | 0 | 80 | 1 | °C |
| 7.18 | MAX_SIGHEATER | The voltage corresponding to the maximum setting temperature of additional heating source | 10 | 0 | 10 | 1 | V |
| 7.19 | MIN_SIGHEATER | The voltage corresponding to the minimum setting temperature of additional heating source | 3 | 0 | 10 | 1 | V |
| 7.20 | TBH FUNCTION | Enable or disable the TBH (TANK BOOSTER HEATER) function: 0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 7.21 | dT5_TBH_OFF | The temperature difference between T5 and T5S(The set water tank temperature) that turns the booster heater off. | 5 | 0 | 10 | 1 | °C |
| 7.22 | t_TBH_DELAY | The time that the compressor has run before starting the booster heater | 30 | 0 | 240 | 5 | MIN |
| 7.23 | T4_TBH_ON | The ambient temperature for starting the tank booster heater | 5 | -5 | 50 | 1 | °C |
| 7.24 | P_TBH | Power input of TBH | 2 | 0 | 20 | 0.5 | kW |
| 7.25 | SOLAR FUNCTION | Enable or disable the SOLAR function: 0=NON,1=ONLY SOLAR, 2=SOLAR+HP (HEAT PUMP) | 0 | 0 | 2 | 1 | / |
| 7.26 | SOLAR CONTROL | The solar pump (pump_s) control method : 0=Tsolar, 1=SL1SL2 | 0 | 0 | 1 | 1 | / |
| 7.27 | DELTASOL | The deviation temperature that SOLAR turns on | 10 | 5 | 20 | 1 | °C |
| 8.1 | T1S_HA_H | The target outlet water temperature for space heating in holiday away mode | 25 | 20 | 25 | 1 | °C |
| 8.2 | T5S_HA_DHW | The target tank temperature for domestic hot water heating in holiday away mode | 25 | 20 | 25 | 1 | °C |
| 12 | PREHEATING FOR FLOOR-T1S | The setting temperature of outlet water during first preheating for floor | 25 | 25 | 35 | 1 | °C |
| | FLOOR DRYING UP | The function of drying up the floor | / | / | / | / | / |
| | t_FIRSTFH | Running time for first preheating of the floor | 72 | 48 | 96 | 12 | HOUR |
| | t_DRYUP | Temp-up days for floor drying up | 8 | 4 | 15 | 1 | DAY |
| | t_HIGHPEAK | Days for floor drying up | 5 | 3 | 7 | 1 | DAY |
| | t_DRYD | Temp-down days for floor drying up | 5 | 4 | 15 | 1 | DAY |
| | t_DRYPEAK | Outlet temperature of floor drying up | 45 | 30 | 55 | 1 | °C |
| | START TIME | The start time of floor drying up | Hour: the present time(not on the hour +1, on the hour +2) Minute:00 | 0:00 | 23:30 | 1/30 | h/min |
| START DATE | The start date of floor drying up | The present date | 1/1/2000 | 31/12/2099 | 1/1/1 | d/m/y | |
| 13.1 | AUTO RESTART COOL/HEAT MODE | Enable or disable the auto restart cooling/heating mode. 0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 13.2 | AUTO RESTART DHW MODE | Enable or disable the auto restart DHW mode. 0=NON,1=YES | 1 | 0 | 1 | 1 | / |
| 14.1 | POWER INPUT LIMITATION | The type of power input limitation | 0 | 0 | 8 | 1 | / |

| Order number | Code | State | Default | Minumum | Maximum | Setting interval | Unit |
|--------------|----------------------|---|---------|---------|---------|------------------|------|
| 15.1 | M1M2 | Define the function of the M1M2 switch: 0= REMOTE ON/OFF,1= TBH ON/OFF,2= AHS ON/OFF | 0 | 0 | 2 | 1 | / |
| 15.2 | SMART GRID | Enable or disable the SMART GRID: 0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 15.3 | T1T2 | Control options of Port T1T2: 0=NON,1=RT/Ta_PCB | 0 | 0 | 1 | 1 | / |
| 15.4 | Tbt | Enable or disable the Tbt: 0=NON,1=YES | 0 | 0 | 1 | 1 | / |
| 15.5 | P_X PORT | Select the function of P_X PORT:0=DEFORST,1=ALARM | 0 | 0 | 1 | 1 | / |
| 16.1 | PER_START | Start-up percentage of multiple units | 10 | 10 | 100 | 10 | % |
| 16.2 | TIME_ADJUST | Adjustment time of loading and unloading units | 5 | 1 | 60 | 1 | min |
| 16.3 | ADDRESS RESET | Reset the address code of the unit | FF | 0 | 15 | 1 | / |
| 17.1 | HMI SET | Choose the HMI: 0=MASTER | 0 | 0 | 1 | 1 | / |
| 17.2 | HMI ADDRESS FOR BMS | Set the HMI address code for BMS | 1 | 1 | 16 | 1 | / |
| 17.3 | STOP BIT | Upper computer stop bit:1=STOP BIT1,2=STOP BIT2 | 1 | 1 | 2 | 1 | / |
| 18.1 | t_DELAY PUMP | The time that the compressor has run before starting the pump. | 2 | 0.5 | 20 | 0.5 | min |
| 18.2 | t1_ANTILOCK PUMP | The pump anti-lock interval time | 24 | 5 | 48 | 1 | h |
| 18.3 | t2_ANTILOCK PUMP RUN | The pump anti-lock running time. | 60 | 0 | 300 | 30 | s |
| 18.4 | t1_ANTILOCK SV | The valve anti-lock interval time. | 24 | 5 | 48 | 1 | h |
| 18.5 | t2_ANTILOCK SV RUN | The valve anti-lock running time. | 30 | 0 | 120 | 10 | s |
| 18.6 | Ta_adj. | The corrected value of Ta inside wired controller. | -2 | -10 | 10 | 1 | °C |
| 18.7 | F-PIPE LENGTH | Select the total length of the liquid pipe(F-PIPE LENGTH): 0=F-PIPE LENGTH<10m,1=F-PIPE LENGTH>=10m | 0 | 0 | 1 | 1 | / |
| 18.8 | PUMP_I SILENT OUTPUT | The pump_I max output limitation. | 100 | 50 | 100 | 5 | % |

3 MODBUS MAPPING TABLE

3.1 MODBUS PORT COMMUNICATION SPECIFICATION

Port: RS-485; the wired controller XYE is the communication port for connecting with the hydraulic module. H1 and H2 are the Modbus communication ports.

Communication address: It is consistent with the DIP switch address of the hydraulic module.

Baud rate: 9600.

Number of digits: Eight

Verification: none

Stop Bit: 1 bit

Communication protocol: Modbus RTU (Modbus ASCII is not supported)

3.1.1 Mapping of registers in the wired controller

The following addresses can use 03H, 06H (write single register), 10H (write multiple register)

| Register address | Description | Remarks | |
|------------------|-----------------|----------------|---|
| 0 (PLC:40001) | Power on or off | BIT15 Reserved | |
| | | BIT14 Reserved | |
| | | BIT13 Reserved | |
| | | BIT12 Reserved | |
| | | BIT11 Reserved | |
| | | BIT10 Reserved | |
| | | BIT9 Reserved | |
| | | BIT8 Reserved | |
| | | BIT7 Reserved | |
| | | BIT6 Reserved | |
| | | BIT5 Reserved | |
| | | BIT4 Reserved | |
| | | BIT3 | 0: power off floor heating; 1: power on floor heating;(zone 2) (water flow temperature control) |
| | | BIT2 | 0: DHW(T5S) power off; 1: DHW(T5S) power on |
| | | BIT1 | 0: power off floor heating; 1: power on floor heating;(zone 1) (water flow temperature control) |
| | | BIT0 | 0: power off air conditioner; 1: power on air conditioner; (zone 1) (room temperature control) |

| Register address | Description | Remarks | |
|---|-------------------------------------|---|--|
| 1(PLC: 40002) | Setting the mode | 1: Auto; 2: Cool; 3: Heat; Others: Invalid | |
| 2(PLC: 40003) | Setting water water temperature T1S | Bit8-Bit15 | Water temperature T1s is corresponding to the floor heating.(zone 2) |
| | | Bit0-Bit7 | Water temperature T1s is corresponding to the floor heating.(zone 1) |
| 3(PLC: 40004) | Setting air temperature Ts | The room temperature range is between 17°C and 30°C, and is valid when there is Ta. Portocol value=actual value*2 | |
| 4(PLC: 40005) | T5s | The water tank temperature range is between 20°C and 75°C. | |
| 5(PLC: 40006) | Function Setting | BIT15 | Reserved |
| | | BIT14 | Reserved |
| | | BIT13 | 1: climate curve setting is valid; 0: climate curve setting is invalid. (zone2) |
| | | BIT12 | 1: climate curve setting is valid; 0: climate curve setting is invalid. (zone1) |
| | | BIT11 | DHW pump's running constant-temperature water recycling |
| | | BIT10 | ECO mode |
| | | BIT9 | Reserved |
| | | BIT8 | Holiday home (the status can only be read, not changed) |
| | | BIT7 | 0: Silent mode level1; 1: Silent mode level2 |
| | | BIT6 | Silent mode |
| | | BIT5 | Holiday away (the status can only be read, but cannot be changed) |
| | | BIT4 | Disinfect |
| | | BIT3 | Reserved |
| | | BIT2 | Reserved |
| BIT1 | Reserved | | |
| BIT0 | Reserved | | |
| 6(PLC: 4000 7) | Curve selection | Bit8-Bit15 | Climate Curve 1-9(zone 2) |
| | | Bit0-Bit7 | Climate Curve 1-9(zone 1) |
| 7(PLC: 40008) | Forced water heating | 0: Invalid 1: Forced on 2: Forced off | TBH is the electric water tank heater. IBH1 and 2 are the hydraulic module's rear electric heater. IBH1 and 2 can be activated together. TBH cannot be activated together with IBH1 and IBH2. |
| 8(PLC: 4000 9) | Forced TBH | | |
| 9(PLC: 40010) | Forced IBH1 | | |
| 10(PLC: 40011) | Reserved | Reserved | |
| 11(PLC: 40012) | T1S | Water temperature T1S is corresponding to the floor heating.(zone 1) | |
| 12(PLC: 40013) | T1S | Water temperature T1S is corresponding to the floor heating.(zone 2) | |
| Leaving water temperature T1s setting range instruction: In cooling mode, T1S low temp setting range is 5~25°C;T1S high temp setting range is 18~25°C. In heating mode, T1S low temp setting range is 22~55°C;T1S high temp setting range is 35~70°C. | | | |

3.1.2 When the wired controller is connected to the hydraulic module, the parameters of the whole unit can be checked:

The following address table can only use 03H function code(Read register).

Whole unit parameter mapping address table

| 1) Running parameters | | | |
|-----------------------|---------------------------|--|---|
| Register address | Description | Remarks | |
| 100(PLC: 40101) | Operating frequency | Compressor operating frequency in Hz | |
| 101(PLC: 40102) | Operating Mode | Outdoor unit's actual operating mode, 2: cooling, 3: heating, 0: off | |
| 102(PLC: 40103) | Fan Speed | Fan speed, in r/min | |
| 103(PLC: 40104) | PMV openness | Openness of the outdoor unit's electronic expansion valve in P | |
| 104(PLC: 40105) | Water inlet temperature | TW_in, unit: °C | |
| 105(PLC: 40106) | Water outlet temperature | TW_out, unit: °C | |
| 106(PLC: 40107) | T3 Temperature | Condenser temperature, unit: °C | |
| 107(PLC: 40108) | T4 Temperature | Outdoor ambient temperature unit: °C | |
| 108(PLC: 40109) | Discharge temperature | Compressor discharge temperature Tp unit: °C | |
| 109(PLC: 40110) | Return air temperature | Compressor air return temperature unit: °C | |
| 110(PLC: 40111) | T1 | Total water outlet temperature unit: °C | |
| 111(PLC: 40112) | T1B | System total water outlet temperature (behind the auxiliary heater) , unit: °C | |
| 112(PLC: 40113) | T2 | Refrigerant liquid side temperature, unit: °C | |
| 113(PLC: 40114) | T2B | Refrigerant gas side temperature, unit: °C | |
| 114(PLC: 40115) | Ta | Room temperature, unit: °C | |
| 115(PLC: 40116) | T5 | Water tank temperature, unit: °C | |
| 116(PLC: 40117) | Pressure 1 | Outdoor unit high pressure value, unit: kPa | |
| 117(PLC: 40118) | Pressure 2 | Outdoor unit low pressure value, unit: kPa | |
| 118(PLC: 40119) | Outdoor unit current | Outdoor unit operating current, unit: A | |
| 119(PLC: 40120) | Outdoor unit voltage | Outdoor unit voltage, unit: V | |
| 120(PLC: 40121) | Tbt1 | Tbt1, unit: °C | |
| 121(PLC: 40122) | Tbt2 | Tbt2, unit: °C | |
| 122(PLC: 40123) | Compressor operation time | Compressor operating time in hour | |
| 123(PLC: 40124) | Unit capacity | 0702 for 200 register is reserved. When it is 071x, data 4-30 means 4-30kW | |
| 124(PLC: 40125) | Current fault | Check the code table for detailed fault codes | |
| 125(PLC: 40126) | Fault 1 | Check the code table for detailed fault codes. | |
| 126(PLC: 40127) | Fault 2 | | |
| 127(PLC: 40128) | Fault 3 | | |
| 128(PLC: 40129) | Status bit 1 | BIT15 | Request to send operation parameter, 1: request; 0: not request |
| | | BIT14 | Request to send software version, 1: request; 0: not request |
| | | BIT13 | Request to send SN code, 1: request; 0: not request |
| | | BIT12 | Reserved |
| | | BIT11 | EUV 1: free electricity; 0: judge by SG's signal |
| | | BIT10 | SG 0:normal electricity; 1: high price electricity(judge when EUV is 0) |
| | | BIT9 | Anti-freezing operation for water tank |
| | | BIT8 | Solar energy signal input |
| | | BIT7 | Cooling mode set by room thermostat |
| | | BIT6 | Heating mode set by room thermostat |
| | | BIT5 | Outdoor unit test mode mark |
| | | BIT4 | Remote On/Off (1: d8) |
| | | BIT3 | Oil return |
| | | BIT2 | Anti-freezing |
| 129(PLC: 40130) | Load output | BIT1 | Defrosting |
| | | BIT0 | Reserved |
| | | BIT15 | DEFROST |
| | | BIT14 | Auxiliary heat source |
| | | BIT13 | RUN |
| | | BIT12 | ALARM |
| | | BIT11 | Solar water pump |
| | | BIT10 | HEAT4 |
| | | BIT9 | SV3 |

| 1) Running parameters | | | |
|--|--|---|---|
| 129(PLC: 40130) | Load output | BIT8 | Mixed water pump P_c |
| | | BIT7 | Water return water P_d |
| | | BIT6 | External water pump P_o |
| | | BIT5 | SV2 |
| | | BIT4 | SV1 |
| | | BIT3 | Water pump PUMP_I |
| | | BIT2 | Electric heater TBH |
| | | BIT1 | Electric heater IBH2 |
| | | BIT0 | Electric heater IBH1 |
| 130(PLC: 40131) | Software version | 1~99 is the software version of hydronic module | |
| 131(PLC: 40132) | Wired controller version No. | 1~99 is the wired controller's version number. | |
| 132(PLC: 40133) | Unit target frequency | Hz | |
| 133(PLC: 40134) | DC bus current | Unit: A | |
| 134(PLC: 40135) | DC bus voltage | The actual value/10, unit: V | |
| 135(PLC: 40136) | TF module temperature | Feedback on outdoor unit, unit: °C | |
| 136(PLC: 40137) | Climate curve T1S calculated value 1 | The corresponding calculated T1S of zone 1 | |
| 137(PLC: 40138) | Climate curve T1S calculated value 2 | The corresponding calculated T1S of zone 2 | |
| 138(PLC: 40139) | Water flow | The actual value*100, unit: m3/H | |
| 139(PLC: 40140) | Limit scheme of outdoor unit current | Scheme value | |
| 140(PLC: 40141) | Ability of Hydraulic module | The actual value*100, unit: kW | |
| 141(PLC: 40142) | Tsolar | Tsolar | |
| 142(PLC: 40143) | Quantity of units in parallel | BIT1-BIT15 | Respectively represent the online status of slaves unit 1-15 |
| | | BIT0 | Reserved |
| 143(PLC: 40144) | Higher bits for electricity consumption | | |
| 144(PLC: 40145) | Lower bits for electricity consumption | | |
| 145(PLC: 40146) | Higher bits for power output | | |
| 146(PLC: 40147) | Lower bits for power output | | |
| <p>Note :</p> <p>1. When T1B unavailable, "25" would display in upper unit address 113.</p> <p>2. When Ta unavailable, "25" would display in upper unit address 113.</p> | | | |

The following register address 200-208 can only use 03H(Read register) function code. Register address 209 and after can use 03H, 06H (write single register), 10H (write multiple register).

| 2) Parameter setting | | |
|--|--|--|
| Register address | Description | Remarks |
| 200(PLC: 40201) | Home appliance type | The upper 8 bits are the types of home appliances: Air to water heat pump: 0x07 The middle 4 bits are product codes: 0x1* The lower 4 bits are sub-type: R32: 0x*2 |
| 201(PLC: 40202) | Temperature upper limit of T1S cooling | Lower 8 bits are for zone 1. higher 8 bits are for zone 2 |
| 202(PLC: 40203) | Temperature lower limit of T1S cooling | Lower 8 bits are for zone 1. higher 8 bits are for zone 2 |
| 203(PLC: 40204) | Temperature upper limit of T1S heating | Lower 8 bits are for zone 1. higher 8 bits are for zone 2 |
| 204(PLC: 40205) | Temperature lower limit of T1S heating | Lower 8 bits are for zone 1. higher 8 bits are for zone 2 |
| 205(PLC: 40206) | Temperature upper limit of TS setting | Protocol value = actual value * 2 |
| 206(PLC: 40207) | Temperature lower limit of TS setting | Protocol value = actual value * 2 |
| 207(PLC: 40208) | Temperature upper limit of water heating | |
| 208(PLC: 40209) | Temperature lower limit of water heating | |
| 209(PLC: 40210) | PUMP RUNNING TIME | DHW PUMP water return running time. It is five minutes by default and can be adjusted between 5 and 120 min at an interval of 1 min. |
| 210(PLC: 40211) | Parameter setting 1 | BIT15 Enable water heating |
| | | BIT14 Supports water tank electric heater TBH(Read-only) |
| | | BIT13 Supports disinfection |
| | | BIT12 DHW PUMP, 1: supported; 0: not supported |
| | | BIT11 Reserved |
| | | BIT10 DHW pump is valid in disinfection mode |
| | | BIT9 Enable cooling |
| | | BIT8 T1S cooling high/low temperature settings(Read-only) |
| | | BIT7 Enable heating |
| | | BIT6 T1S heating high/low temperature settings(Read-only) |
| | | BIT5 PUMPI silent mode, 1; valid, 0: invalid |
| | | BIT4 Supports room temperature Sensor Ta |
| | | BIT3 Supports room thermostat |
| | | BIT2 Room thermostat |
| BIT1 Dual Room Thermostat, 0: not supported;1: supported | | |
| BIT0 0: room cooling/heating first, 1: water heating first | | |
| 211(PLC: 40212) | Parameter setting 2 | BIT15 Reserved, wrong address is reported when this register is queried |
| | | BIT14 M1M2 is used for AHS control 1: Yes 0: No |
| | | BIT13 RT_Ta_PCNE(enable Temperature Collection Kit) 1: Yes 0: No |
| | | BIT12 Tbt2 sensor is valid 1: Yes 0: No |
| | | BIT11 Piping length selection 1: >10m 0: <10m |
| | | BIT10 Solar energy input port 1: CN18 0: CN11 |
| | | BIT9 Solar energy kit enable 1: Yes 0: No |
| | | BIT8 Define the port, 0=remote ON/OFF; 1=DHW heater |
| | | BIT7 Smart grid, 0=NON; 1=YES |
| | | BIT6 T1B sensor enable 0: None 1: Yes |
| | | BIT5 Setting the high/low temperature of cooling mode T1S |
| | | BIT4 Setting the high/low temperature of heating mode T1S |
| | | BIT3 Double zone setting is valid |
| | | BIT2 Ta sensor position 1: IDU 0: HMI |
| BIT1 Tbt sensor enable 1: Yes 0: No | | |
| BIT0 IBH/AHS installation position 1: buffer tank 0: pipe | | |
| 212(PLC: 40213) | dT5_On | Default setting: 10° C, range: 1~30° C; |
| 213(PLC: 40214) | dT1S5 | Default setting: 10° C, range: 5~40° C, setting interval: 1° C |
| 214(PLC: 40215) | T_Interval_DHW | Default setting: 5 min, range: 5~30 min, setting interval: 1 min |
| 215(PLC: 40216) | T4DHWmax | Default setting: 43°C, range: 35~43°C, setting interval: 1°C |
| 216(PLC: 40217) | T4DHWmin | Default: -10° C, range: -25~30° C; |
| 217(PLC: 40218) | t_TBH_delay | Default setting: 30 min, range: 0~240 min, setting interval: 5 min |

| 2) Parameter setting | | |
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| 218(PLC: 40219) | dT5S_TBH_off | Default setting: 5°C, range: 0~10°C, setting interval: 1°C |
| 219(PLC: 40220) | T4_TBH_on | Default setting: 5°C, range: -5~50°C; |
| 220(PLC: 40221) | T5s_DI | Temperature for the disinfection operation, range: 60~70°C, default setting: 65°C |
| 221(PLC: 40222) | t_DI_max | Maximum disinfection duration, range: 90~300 min, default setting: 210 min |
| 222(PLC: 40223) | t_DI_hightemp | Disinfection high temperature duration, range: 5~60 min, default setting: 15 min |
| 223(PLC: 40224) | t_interval_C | Time interval of compressor start-up in cooling mode; range: 5~30 min, default setting: 5 min |
| 224(PLC: 40225) | dT1SC | Default setting: 5°C, range: 2~10°C, setting interval: 1°C |
| 225(PLC: 40226) | dTSC | Default setting: 2°C, range: 1~10°C, setting interval: 1°C |
| 226(PLC: 40227) | T4cmax | Default setting: 43°C, range: 35~46°C, setting interval: 1°C |
| 227(PLC: 40228) | T4cmin | Default setting: 10°C, range: -5~25°C, setting interval: 1°C |
| 228(PLC: 40229) | t_interval_H | Time interval of compressor start-up in the heating mode; range: 5~60 min, default setting: 5 min |
| 229(PLC: 40230) | dT1SH | Default setting: 5°C, range: 2~20°C; |
| 230(PLC: 40231) | dTSH | Default setting: 2°C, range: 1~10°C, setting interval: 1°C |
| 231(PLC: 40232) | T4hmax | Default setting: 25°C, range: 20~35°C, setting interval: 1°C |
| 232(PLC: 40233) | T4hmin | Default setting: -15°C, range: -25~30°C, Setting interval 1°C |
| 233(PLC: 40234) | T4_IBH_on | Ambient temperature for enabling the hydraulic module auxiliary electric heating IBH, range: -15~10°C; default setting: -5°C |
| 234(PLC: 40235) | dT1_IBH_on | Temperature return difference for enabling the hydraulic module auxiliary |
| 235(PLC: 40236) | t_IBH_delay | Delay time of enabling the hydraulic module auxiliary electric heating IBH, |
| 237(PLC:40238) | T4_AHS_on | The trigger ambient temperature for turning on AHS, range: -15~30°C; default setting: - |
| 238(PLC:40239) | dT1_AHS_on | The temperature difference between the heat pump ' leaving water set temperature (T1S) and the heat; range: 2~20°C; default setting: 5°C |
| 240(PLC: 40241) | t_AHS_delay | Delay time for enabling the external heater AHS, range: 5~120 min; default setting: 30 min |
| 241(PLC: 40242) | t_DHWHP_max | Longest duration of water heating by the heat pump, range: 10~600 min, default setting: 120 min; |
| 242(PLC: 40243) | t_DHWHP_restrict | Duration of limited water heating by the heat pump, range: 10~600 min, default setting: 30 min; |
| 243(PLC: 40244) | T4autocmin | Default setting: 25°C, range: 20~29°C, setting interval: 1°C |
| 244(PLC: 40245) | T4autohmax | Default setting: 17°C, range: 10~17°C, setting interval: 1°C |
| 245(PLC: 40246) | T1S_H.A_H | Default setting: 25°C, range: 20~29°C, setting interval: 1°C |
| 246(PLC: 40247) | T5S_H.A_DHW | In the holiday mode, setting of T1 in the water heating mode, range: 20~25°C, default setting: 25°C |
| 247(PLC: 40248) | PER_START ratio | Range10-100, default setting10.Setting interval10 |
| 248(PLC: 40249) | TIME_ADJUST | Range1-60 default setting5 |
| 249(PLC: 40250) | dTbt2 | Range0-50 default setting15 |
| 250(P LC: 40251) | IBH1 power | Range0-200, default setting0, unit: 100W |
| 251(PLC: 40252) | IBH2 power | Range0-200, default setting0, unit: 100W |
| 252(P LC: 40253) | TBH power | Range0-200, default setting0,unit: 100W |
| 253(PLC: 40254) | Comfort parameter | Reserved, wrong address is reported when this register is queried |
| 254(P LC: 40255) | Comfort parameter | Reserved, wrong address is reported when this register is queried |
| 255(PLC: 40256) | t_DRYUP | Temperature rise day number, range: 4~15 days, default setting: 8 days |
| 256(PLC: 40257) | t_HIGHPEAK | Drying day number, range: 3~7 days, default setting: 5 days |
| 257(PLC: 40258) | t_DRYD | Temperature drop day number, range: 4~15 days, default setting: 5 days |
| 258(PLC: 40259) | T_DRYPEAK | Highest drying temperature, range: 30~55°C, default setting: 45°C |
| 259(PLC: 40260) | t_firstFH | Running time of floor heating for the first time, default setting: 72 hrs, range: 48-96 hrs |
| 260(PLC: 40261) | T1S (first floor heating) | T1S of floor heating for the first time, range: 25~35°C, default setting: 25°C |

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| 261(PLC: 40262) | T1SetC1 | Parameter of the ninth temperature curves for cooling mode, range: 5~25°C, default setting: 10°C |
| 262(PLC: 40263) | T1SetC2 | Parameter of the ninth temperature curves for cooling mode, range: 5~25°C, default setting: 16°C |
| 263(PLC: 40264) | T4C1 | Parameter of the ninth temperature curves for cooling mode, range: (-5)~46°C, default setting: 35°C |
| 264(PLC: 40265) | T4C2 | Parameter of the ninth temperature curves for cooling mode, range: (-5)~46°C, default setting: 25°C |
| 265(PLC: 40266) | T1SetH1 | Parameter of the ninth temperature curves for cooling mode, range: 25~65°C, default setting: 35°C |
| 266(PLC: 40267) | T1SetH2 | Parameter of the ninth temperature curves for cooling mode, range: 25~65°C, default setting: 28°C |
| 267(PLC: 40268) | T4H1 | Parameter of the ninth temperature curves for cooling mode, range: (-25)~30°C, default setting: -5°C |
| 268(PLC: 40269) | T4H2 | Parameter of the ninth temperature curves for cooling mode, range: (-25)~30°C, default setting: 7°C |
| 269(PLC: 40270) | | The type of power input limitation, 0=NON, 1~8=type 1~8, default: 0 |
| 270(PLC: 40271) | HB: t_T4_FRESH_C | Range: 0.5~6 hour, setting interval: 0.5 hour, sending value=actual value*2 |
| | LB: t_T4_FRESH_H | Range: 0.5~6 hour, setting interval: 0.5 hour, sending value=actual value*2 |
| 271(PLC: 40272) | T_PUMPI_DELAY | Range: 0.5~20 hour, setting interval: 0.5 hour, sending value=actual value*2 Bit12-15: The type of zone 2 end for cooling mode |
| 272(PLC: 40273) | EMISSION TYPE | Bit8-11: The type of zone 1 end for cooling mode |
| | | Bit4-7: The type of zone 2 end for heating mode |
| | | Bit0-3: The type of zone 1 end for heating mode |

4 CHANGE RECORD OF QR CODE
