DVMS HP/HR
Quick Reference Guide

Important Notice

This is not a substitute for the installation or service manuals. As new products are released, this list will be changed.
Samsung is in no way responsible for inaccuracies. This document is intended to be used as a reference.

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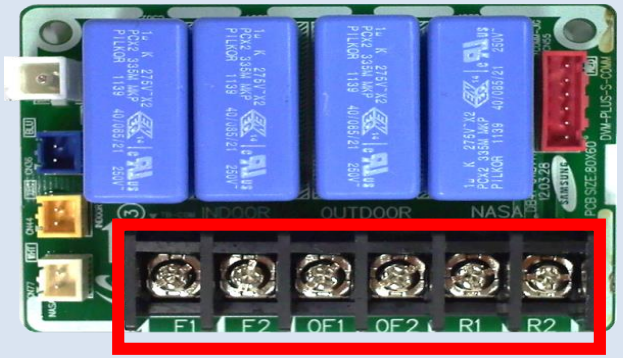
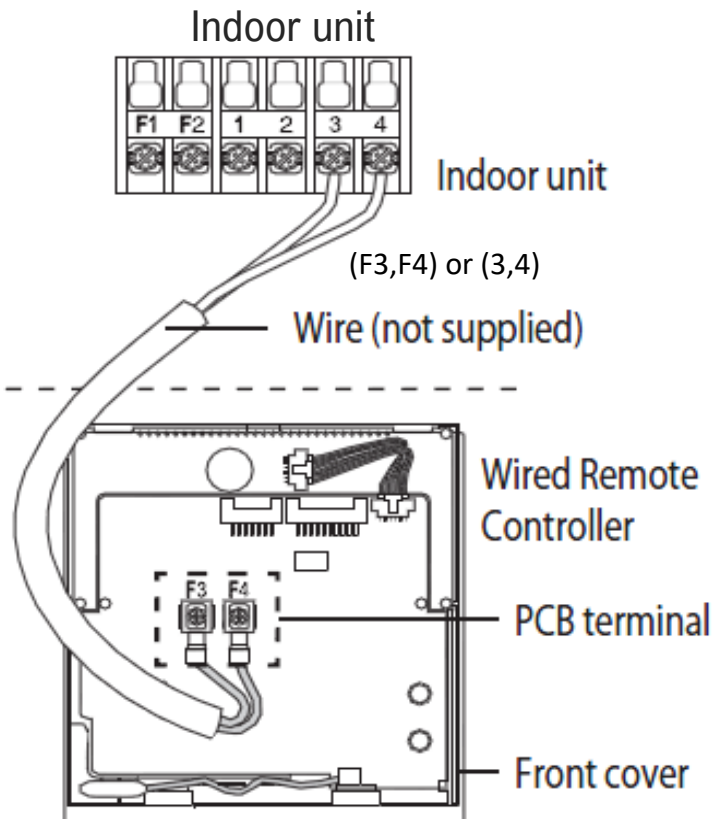
System Communication Wiring Guide

Outdoor Unit Terminal Block



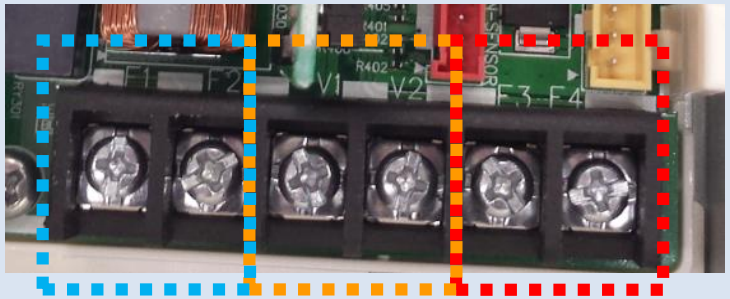
Terminal	Description
F1/F2	Connection for communication from outdoor to indoor (485 SnetPro2 connection)
OF1/OF2	Connection for communication outdoor unit to outdoor unit in multi module setup
R1/R2	Connection for centralized controller and DMS/DMS2.5

Wired Remote to Indoor Unit Terminal Block



Indoor Unit Terminal Block

Indoor unit PCB



ODU to IDU Communications 5vdc (Snet)	12 vdc Samsung accessories	To Controller 12 Vdc
F1 F2	**V1 V2**	**F3 F4**

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MCU Settings (HR changer & Sub changer)

Note: Power must be off, complete prior to auto piping

Port assign DIP switch No.	ON (Port Used)	OFF (Port not used)
1	Port A used	Port A not used
2	Port B used	Port B not used
3	Port C used	Port C not used
4	Port D used	Port D not used
Second DIP switch bank		
1	Port E used	Port E not used
2	Port F used	Port F not used

Pairing DIP switch No.	ON (Individual setting)	OFF (Paired setting)
1	A & B not paired	A & B paired
2	C & D not paired	C & D paired
3	E & F not paired	E & F paired
4	N/A	N/A

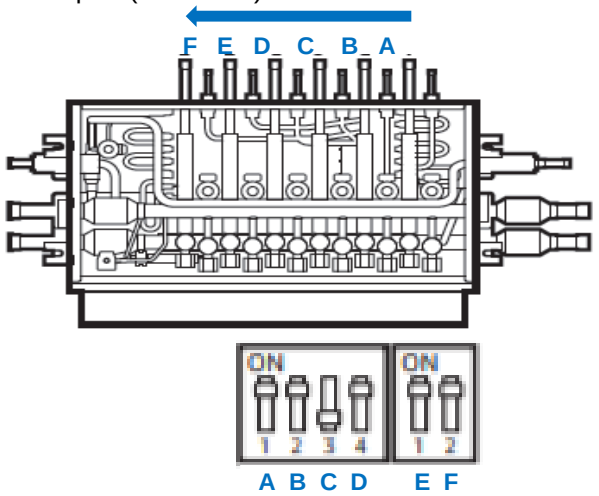
Use the rotary dial to give each MCU its own individual address

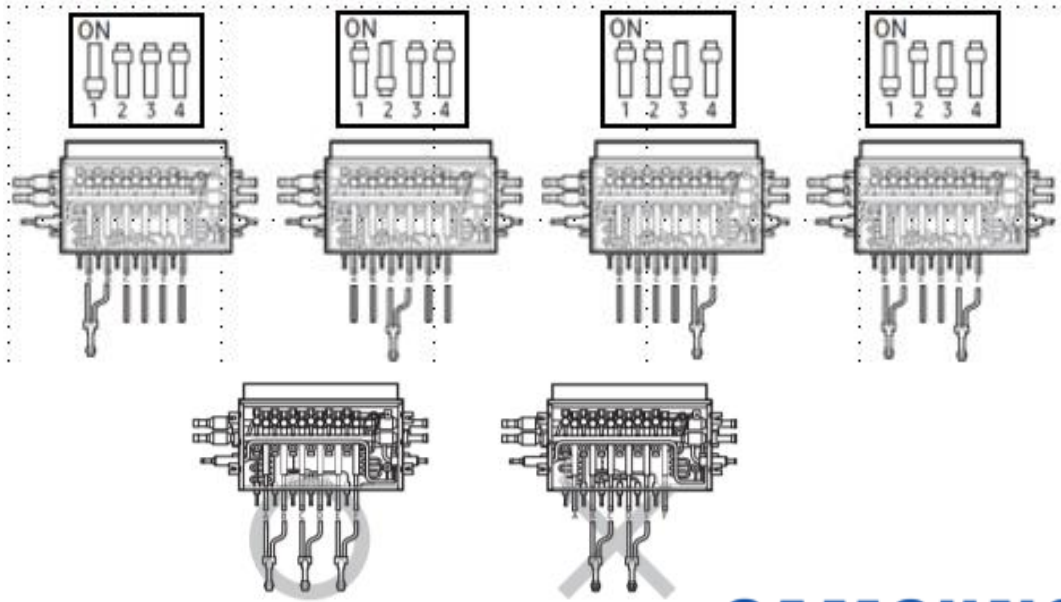
10's

1's

MCU address setting

Example: Port "C" not used. Capacity per port (≤54 MBtu)





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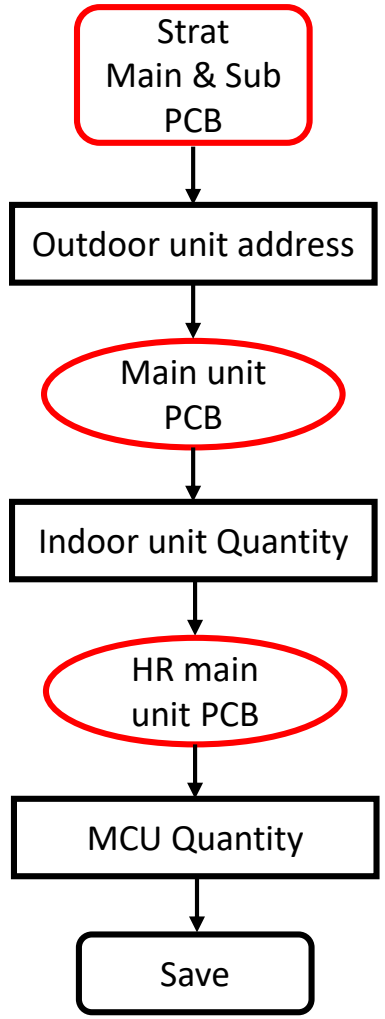
Initial Settings

Step	Button press	Display	Description	Note
Outdoor unit address				
Step 1	Outdoor unit display	od Nd	Setting required	Both Main and Sub PCB
Step 2	K1+K2 for 2 seconds	od:00	Unit address for module combinati0n	00: Main unit
	K4-1 time	od:01		01: Sub1
	K4-2 times	od:02		02: Sub2
	K4-3 times	od:03		03: Sub3
Step 3	On main unit PCB continue to step 4. If setting the sub PCB hold K2 for 2 seconds to save.			
Quantity of indoor units				
Step 4	Press K1	id 00	Ready to set	Main PCB only
Step 5	K2	id X0	Ten digit setting	64 indoor units can be connected
	K4	id 0X	Ones digit setting	
	Hold K4 for 2 seconds to start auto detection mode			
Step 6	If this is a heat pump save and exit. Otherwise continue to step 7.			
Quantity of MCU (HR only)				
Step 7	Press K1	NC 00	Ready to set	Main PCB only
Step 8	K2	NC X0	Ten digit setting	16 MCU units can be connected
	K4	NC 0X	Ones digit setting	
	Hold K4 for 2 seconds for auto detection mode			
Step 9	Hold K2	Ad 00	Save	Restart

HP & HR
Initial system settings



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MCU Auto Pipe Pairing (H/R only)

Note: MCU address and dip switch settings must be completed before Auto Pipe Pairing operation is initiated

The outdoor unit will display E213 if Pairing has not been completed

The Indoor Unit MICOM firmware version must be **"161222"** or higher see next slide

yr./month/day

To run the Auto Pipe Pairing operation, take the following steps:

1.Press the **K2** **button 13 times** on the main PBA of the outdoor unit to start the Auto pipe pairing operation. (Display : H H 0 8)

Temperature	Outdoor temp < 75°F	Outdoor temp 75°F ≥ 85°F	Outdoor temp ≥ 86°F
Avg. Indoor temp <75°F	Main heating operation	Main heating operation	Main cooling operation
Avg. Indoor temp ≥75°F		Main cooling operation	

- The operation takes about 25 to 55minutes normally depending on the number of indoor units connected.(Max 2hours)

Step 1 (Start H H 0 1) → Steps 2 - 8 (Setup H H 0 8) → Step 9 (Check H H 0 9) → Step 10 (Confirmation H H 1 0)

Note: Verify service valves are open and the proper charge has been added

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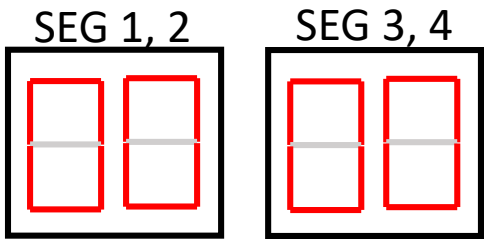
Outdoor Setting

NOTE:

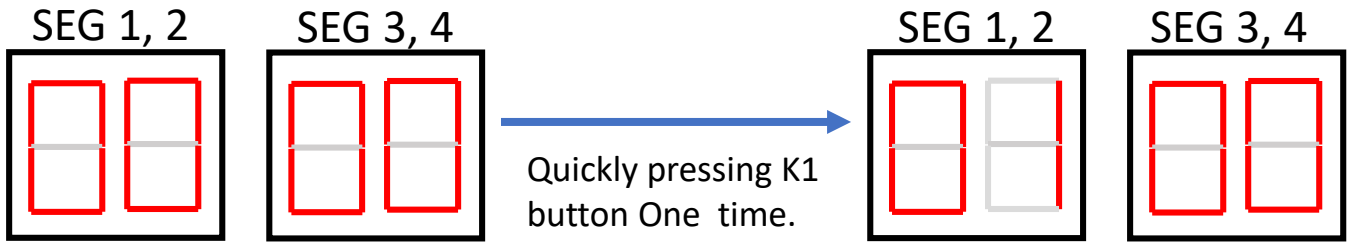
- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

1. Press and hold K2 to enter the option setting.
   (system must be thermo-off)
   -display will show as follows:

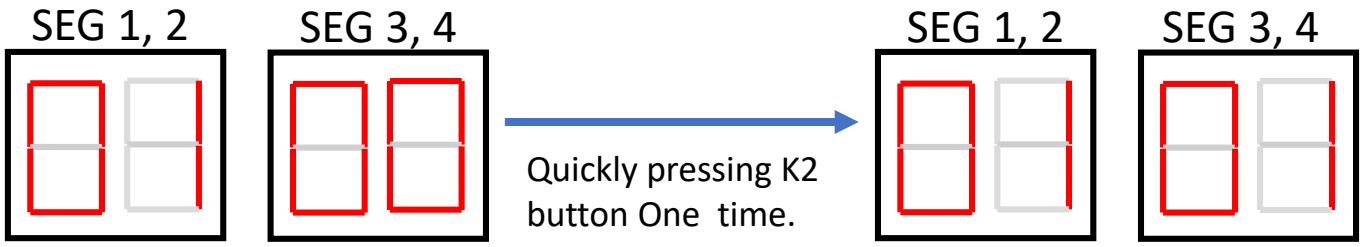


-SEG 1 & 2 will display the number of the optional setting.
-SEG 3 & 4 will display the number of set value for the function setting.

2. Shortly press the K1 button to adjust the value of SEG 1 & 2 to match the desired option number.
   -Example:



3. Shortly press the K2 button to adjust the value of SEG 3 & 4 to match the desired option number.
   -Example:



4. After setting the number values in SEG 1, 2, 3 & 4 for the function option you want to change. Press and hold the K2 button for 2 seconds or more to save.
5. All Segments will BLINK and begin tracking

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Cooling Correction	Main PCB	0	1	0	0	44-48 (F) Default (A type PBA)	Target Evaporator Temp (F) (when lower temperature value is set, discharge air Temp of the indoor unit will decrease)
				0	1	41-44 (F) Default (B type PBA)	
				0	2	48-51 (F)	
				0	3	50-53 (F)	
				0	4	51-55 (F)	
				0	5	53-57 (F)	
				0	6	55-57 (F)	

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Heating Correction	Main & Sub PCB	0	2	0	0	Default 435 (PSI)	Target High Pressure (PSI) (When low pressure value is set, discharge air temperature of indoor unit will decrease)
				0	1	362 (PSI)	
				0	2	377 (PSI)	
				0	3	391 (PSI)	
				0	4	406 (PSI)	
				0	5	420 (PSI)	
				0	6	449 (PSI)	
				0	7	464 (PSI)	
				0	8	478 (PSI)	

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Current Restriction	Main PCB	0	3	0	0	100% Default	When restriction option is set, cooling and heating performance may decrease
				0	1	95%	
				0	2	90%	
				0	3	85%	
				0	4	80%	
				0	5	75%	
				0	6	70%	
				0	7	65%	
				0	8	60%	
				0	9	55%	
				1	0	50%	
				1	1	No restriction	

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Oil Collection	Main PCB	0	4	0	0	Default	-
				0	1	Shorten the Interval by 1/2	
Temp to trigger Defrost	Main PCB	0	5	0	0	Default	Apply this setting when installation location is in humid area. (near lakes, rivers etc.)
				0	1	High humidity	
Outdoor Fan Speed	Main & Sub PCB	0	6	0	0	Default	Changing this setting will increase fan speed to maximum value
				0	1	Increase fan speed	

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Silent mode	Main PCB	0	7	0	0	Disabled Default	(MIM-B14) is needed to control night mode by contact for both heating and cooling (A type PBA; this function is used in cooling)
				0	1	Level 1 / Auto	
				0	2	Level 2 / Auto	
				0	3	Level 3 / Auto	
				0	4	Level 1 External contact	
				0	5	Level 2 External Contact	
				0	6	Level 3 External contact	

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
High-head condition	Main PCB	0	8	0	0	Disabled Default	-
				0	1	Level 1 Type 1 Indoor lower than outdoor unit	When outdoor unit is located 131-262 ft above indoor unit
				0	2	Level 2 Type 1 Indoor lower than outdoor unit	When outdoor unit is located over 262 ft above indoor units
				0	3	Type 2 Outdoor unit lower than indoor unit	When indoor unit is over 98 ft above outdoor unit

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Long – piping condition (cannot be set with high-head setting)	Main PCB	0	9	0	0	Disabled Default	-
				0	1	Level 1	Equivalent length of farthest indoor from outdoor is between 328-557 ft
				0	2	Level 2	Equivalent length of farthest indoor from outdoor is over 557 ft

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Energy savings A-type PBA	Main PCB	1	0	0	0	Disable Default	-
				0	1	Enable	Active when room temp reaches setpoint in heating mode
Energy control B-type PBA	Main PCB	1	0	0	0	Basic Default	-
				0	1	Energy saving	Capacity may decrease compared to normal operation
				0	2	power	
Rotation defrost HR only	Main PCB	1	1	0	0	Disabled Default	-
				0	1	Enable	continuous heating is possible but performance may decrease during rotation defrost

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Extended temp range cooling HR only	Main PCB	1	2	0	0	Disabled Default	-
				0	1	Enabled	Cooling capacity down to 5 F. May cause refrigeration noise in MCU
Channel address	Main PCB	1	3	A	U	Automatic setting Default	Classifying product from upper level controller DMS, S-net3 et.
				0 - 15		Manual setting	
Snow accumulation control	Main PCB	1	4	0	0	Enabled Default	Fan will turn on in low ambient temperatures even if system is off
				0	1	Disabled	
Unused	Main PCB	1	5	0	0	Unused	Unused HR/HP
Unused	Main PCB	1	6	0	0	Unused	Unused HR/HP

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Speed operation	Main PCB	1	7	0	0	Disabled Default	Cool/Heat faster at initial start-up Does not work when High-head or Long-piping setting is enabled
				0	1	Enable	
Max. Capacity restriction B-type PBA	Main PCB	1	8	0	0	Enabled Default	Restrict excessive capacity when operating small indoor unit capacity
				0	1	Disable	
Gas leak Pump down B-type PBA	Main PCB	1	9	0	0	Disabled Default	When gas leak is detected enter the pump down operation
				0	1	Enable	
Unused	Main PCB	2	0	0	0	Unused	Unused HP/HR
LA Kit Option	Main PCB	2	1	0	0	Disabled Default	Set when LA KIT is installed
				0	1	Enabled	

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SE03	SEG4	Function	Remarks
Emergency operation indoor unit error	Main PCB	2	2	0	0	Disabled Default	When set operation is possible even if an indoor communication error occurs
				0	1	Indoor high humidity condition	
				0	2	Indoor unit low humidity	
Base heater	Main PCB	2	3	0	0	Disabled Default	-
				0	1	Enabled	
Emergency operation for compressor malfunction	Main & Sub PCB	0	0	0	0	Disabled Default	E560 will occur when all compressors are set as malfunctioning
				0	1	Compressor 1 Malfunction	
				0	2	Compressor 2 malfunction	

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Outdoor Setting

NOTE:

- Press and hold the K1 button to reset values to previous settings.
- Press and hold K4 to restore to factory default settings.
- Once you release K4 for factory default wait until the system resets and starts the tracking process. Then press and hold the K2 button to save the setting.
- Press K3 at any time to exit

Option item	Input unit	SEG1	SEG2	SEG3	SEG4	Function	Remarks
Cooling priority when using Aux. heater	Main PCB	2	5	0	0	Disabled Default	When Aux. is setup for both Cooling and Heating, the outdoor unit gives priority to Cooling
				0	1	30 min	
				0	2	15 min	
				0	3	10 min	
				0	4	5 min	
				0	5	No Delay	
Auto change over HP only	Main PCB	2	6	0	0	Disabled Default	If all units are thermal off, auto-change over is executed
				0	1	Enable	

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UP Un-Prepared

Once all equipment is communicating and auto piping has successfully completed. UP will be displayed on the main PCB.

Before entering auto trial operation:

- All option settings should be made through the outdoor PCB and S-Net.
- Verify that the proper charge has been added and the service valves are fully open.

To enter Auto Trial Operation

- Press and hold K1 for 5 seconds.
- The display will change to “K”“K”.
- Once successfully completing Auto Trial the system will stop operation and the display will begin to scroll connected equipment addressing.

VRF board of main outdoor unit only

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View Mode - Key operation

K1 Control	Key operation	Display on segment
Press and Hold	Auto trial operation	“K” “K” “BLANK” “BLANK”
K1 No. of presses	**Key Operation**	**Display on segment**
1 time	Refrigerant charging in Heating	“K” “1” “BLANK” “BLANK”
2 times	Trial operation in Heating	“K” “2” “BLANK” “BLANK”
3 times	Pump out in Heating (OD address 1)	“K” “3” “BLANK” “1”
4 times	Pump out in Heating (OD address 2)	“K” “3” “BLANK” “2”
5 times	Pump out in Heating (OD address 3)	“K” “3” “BLANK” “3”
6 times	Pump out in Heating (OD address 4)	“K” “3” “BLANK” “4”
7 times	Vacuuming (OD address 1)	“K” “4” “BLANK” “1”
8 times	Vacuuming (OD address 2)	“K” “4” “BLANK” “2”
9 times	Vacuuming (OD address 3)	“K” “4” “BLANK” “3”
10 times	Vacuuming (OD address 4)	“K” “4” “BLANK” “4”
11 times	Vacuuming (all OD units)	“K” “4” “BLANK” “A”
12 times	End key operation	-

View Mode - Key operation

K2 No. of presses	Key operation	Display on segments
1 time	Refrigerant charging in Cooling	“K” “5” “BLANK” “BLANK”
2 times	Trial operating in Cooling	“K” “6” “BLANK” “BLANK”
3 times	Pump down all units in Cooling	“K” “7” “BLANK” “BLANK”
4 times	H/R: Check piping connection H/P: Automatic setting of operation mode (Cooling/Heating) for trial operation)	“K” “8” “BLANK” “BLANK”
5 times	Refrigerant check mode	“K” “9” X-X
6 times	Discharge made DC line voltage	“K” “A” “BLANK” “BLANK”
7 times	Forced defrost	“K” “B” “BLANK” “BLANK”

View Mode - Key operation

K2 No. of presses	Key operation	Display on segment
8 time	Forced oil return	“K” “C” “BLANK” “BLANK”
9 times	Inverter compressor 1 check	“K” “D” “BLANK” “BLANK”
10 times	Inverter compressor 2 check	“K” “E” “BLANK” “BLANK”
11 times	Fan 1 check	“K” “F” “BLANK” “BLANK”
12 times	Fan 2 check	“K” “G” “BLANK” “BLANK”
13 times	H/R: Auto pipe pairing H/P: Unused	“K” “H” X-X
14 times	Base heater test	“K” “I” “BLANK” “BLANK”
15 time	End Key operation	-
K3 No. of presses	**Key operation**	**Display on segment**
1 time	Initialize (reset/exit)	“8” “8” “8” “8” “back to main display”

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