LG RLC “Residential Light Commercial” *R32

API Key Take Aways:

- **KNSLA/KNSLB/KNMLB AIR HANDLERS:**

1) **AHU ships ready for Up-Flow or Horizontal left.** Horizontal right requires flipping the coil and down flow requires an additional kit that is not shipped with the unit.
2) **AHU does not ship third-party thermostat ready.** If you are using a third-party thermostat, you must add LG PDRYCB320 module, 24v, and flip on dip switch 4 on air handler main board.
   *** Please note: when using a third-party thermostat you will reduce the modulation to a maximum of 60%.*
3) **Zoning for the LG air handler is only supported by AirZone.**
4) **Optional supplemental electric heater available for all models.**
5) **Single Zone RED Models:**
   KNSLB12, KNSLA18, KNSLA24, KNSLA30, KNSLA36, KNSLB42, KNSLB48
   paired to outdoor unit KUSXA.
6) **Single Zone NON-RED Models:**
   KNSLB12, KNSLB18, KNSLB24, KNSLB30, KNSLB36, KNSLB42, KNSLB48, KNSLB60
   paired to outdoor unit KUSXB.
7) **Multi Zone RED or NON-RED Models:**
   KNMLB12, KNMLB18, KNMLB24, KNMLB30, KNMLB36
   paired to all multi outdoor units.

- **LG ELECTRIC HEAT KIT FOR AIR HANDLERS:**

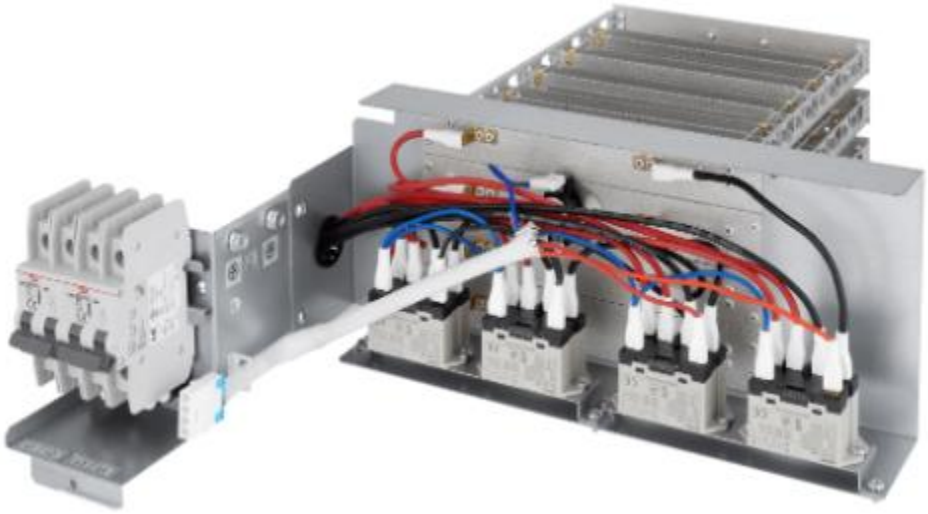
** Inside air handler, dip switch #6 must be turned 'on' at the main PCB board.

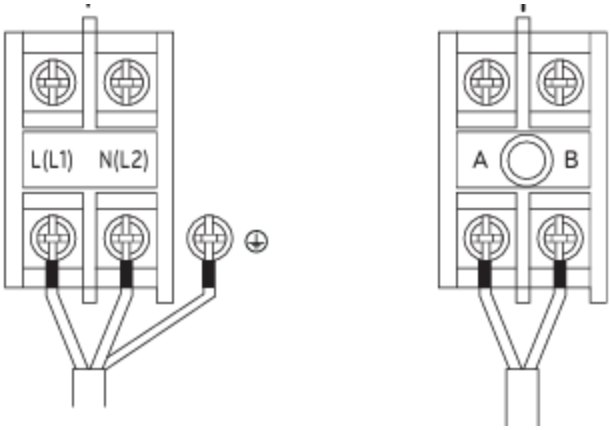
** Electric heater will be energized when the following occurs in this order:

1) Outdoor ambient temperature must be below 52°F
2) The air handler coil must have an inlet pipe temperature below 95°F or 108°F depending on the model. (this can be seen with the LGMV tool)
3) Room temperature must be 2°F below set point. (Ex. Room temperature is 66°F and thermostat is set at 68°F)

***Please note that the electric strip heater is not considered a "back up" heater and is in fact intended to be "supplemental" heat. When the electric heater is energized, the heat pump will continue to operate. Once one of the above criteria changes, the electric strip heat will be deenergized. The electric strip heater is intended to "help" the heat pump when it is out of design conditions.

***When using 3rd party thermostats, the LG strip heater will run constantly with call for heat. It is not recommended. Some contractors may still install the kit and leave the breaker off to use only as "emergency heat".



- **WIRING AND ELECTRICAL CONSIDERATIONS:**
    1) ALWAYS be sure your electrician knows what is expected!
    2) 14/3 unshielded, stranded wire (POWER 'L1/L2/G'), and 18/2 shielded, stranded wire (CONTROL 'A/B')
    3) Control wire grounded at outdoor unit only. Never splice wires!
    4) 

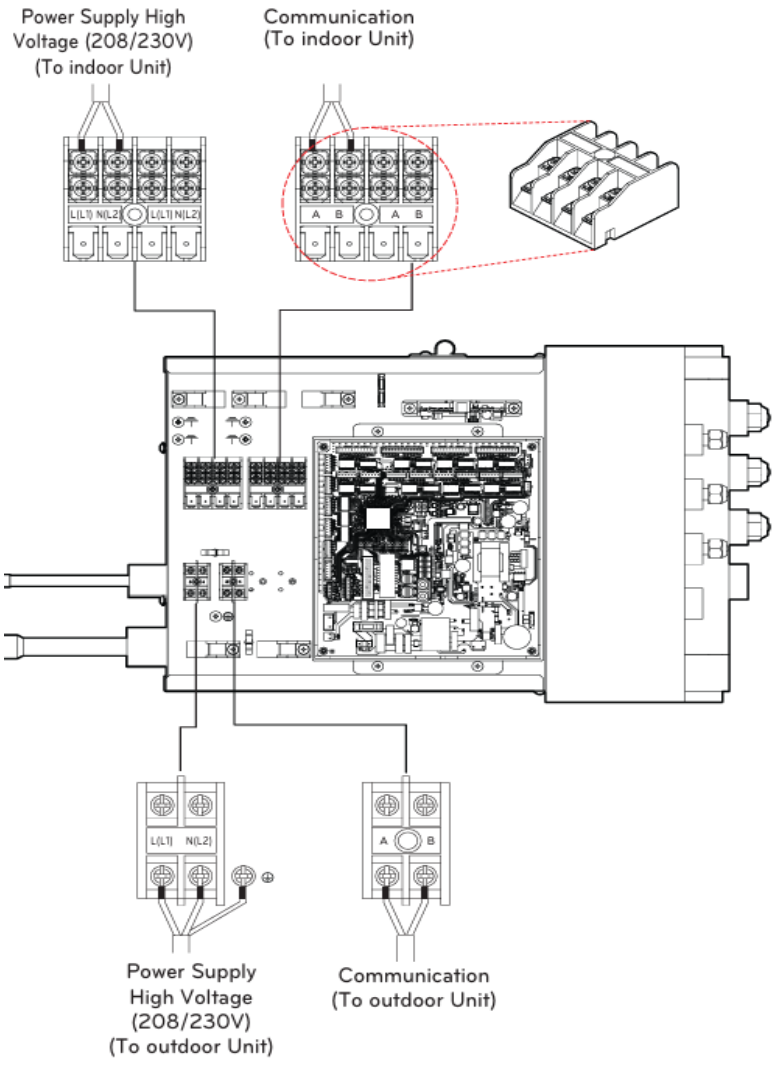
- **MINIMUM AND MAXIMUM LINE SET LENGTHS:**
    1) Different from unit to unit – always verify line set lengths for the unit you are installing!
    2) Branch box maximum line set lengths is standard: ODU-BDU 180' and BDU-IDU 49'.
    3) Refrigerant "trim charge" needs to be calculated for all installations where you have exceeded the factory pre-charge length. The amount of refrigerant varies by unit, always confirm the equipment you are working on. This can be confirm by the LG LATS program.

- **HIGH WALL MOUNTED UNITS:**
    1) When the unit is mounted higher than a "normal" ceiling you may need to setup the unit for "high wall" using the remote control. You may also use a wall mounted hard wired LG thermostat instead of the remote control which is preferred.

- **BRANCH BOXES:**
    1) With Multi F systems using two branch boxes, you must set the rotary dials for “00” and “01”.
    2) 00 should have the largest BTU load connected.

SW01C

BD Unit	Setting Value (SW01C)	
#1	0	
#2	1	



- **LOW STATIC CONSIDERATIONS:**
    1) These systems are intended for a minimal amount of duct work. Example: small room or master suite.
    2) Three supply runs, typically 7” or 8”.
    3) Flex duct is not recommended.
    4) 10’ MAXIMUM run for each branch.
    5) API stocks all required duct connectors in square to round.

- **MISC. ITEMS:**
    1) The LGMV diagnostic tool and app is called LGMV business.
    2) The LG HVAC service app can help you diagnose your trouble codes.
    3) To set WiFi mode on wall units press and hold the ‘Jet Cool’ & ‘Fan Speed’ buttons on the remote control.
    4) Remember to set the thermostat “Dead Band” to -1/1°. Using a wired thermostat from Code 15 change the Value to 04.
    5) ‘Red’ units ship with the pan heater installed in the ODU. Adding a pan heater in non-Red units is recommended in cold climates.
    6) Wind baffles are required on ODU for Low Ambient applications or high wind applications.
    7) Dip Switch in ODU to disable heating mode.

Manual Piping Detection

To complete the multi product installation, piping detection must be performed.
There are two methods for piping detection – Manual piping detection / Automatic piping detection.

To perform the manual piping detection, piping address must be set by remote controller.
It can be set by wireless remote controller or RS3 remote controller only.

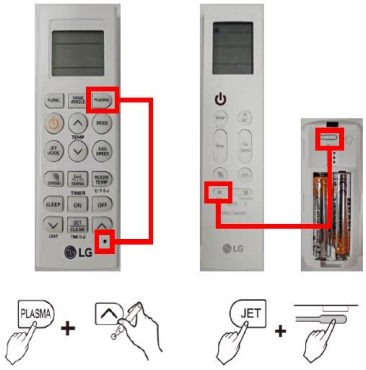
Type	Wireless			Wired (Standard III)
Model (Part No.)	AKB75735427	AKB75735428	AKB76044208	PREMTB101 PREMTBB11
Image				
Piping Address Setting	O	O	O	O

Manual Piping Detection Process

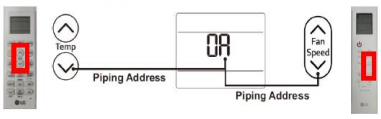
Step 1. Piping Address Setting (Multi F)

Set the piping address to the each indoor unit.

Wireless Remote Controller

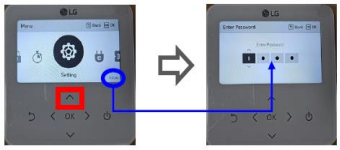


To set the piping address



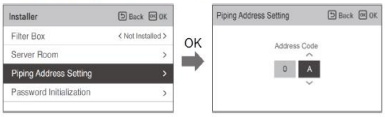
Wired Remote Controller

Setting → Push ^ button for 3 seconds



Password : RMC SW version
ex) 4.00.6a : 4006

Find the Piping Address Setting



Multi F Model List
KUMXB181A
KUMXB241A
KUMXB301A
KUMXB361A
KUMXA181A
KUMXA241A
KUMXA301A

Setting Value

Manual Piping Detection Process

Step 1. Piping Address Setting (Multi Fdx)

Set the piping address to the BD Unit and each indoor unit.

1) When using two branch boxes, you must set the rotary dials on each box to “00” and “01”.
2) 00 should have the largest BTU load connected.

1. BD Unit Setting

BD Unit	Setting Value (SW01C)	
#1	0	
#2	1	

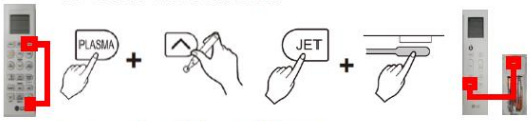
*

KUMXA421A
KUMXA481A

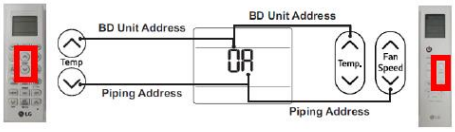
2. Piping Address Setting

Wireless Remote Controller

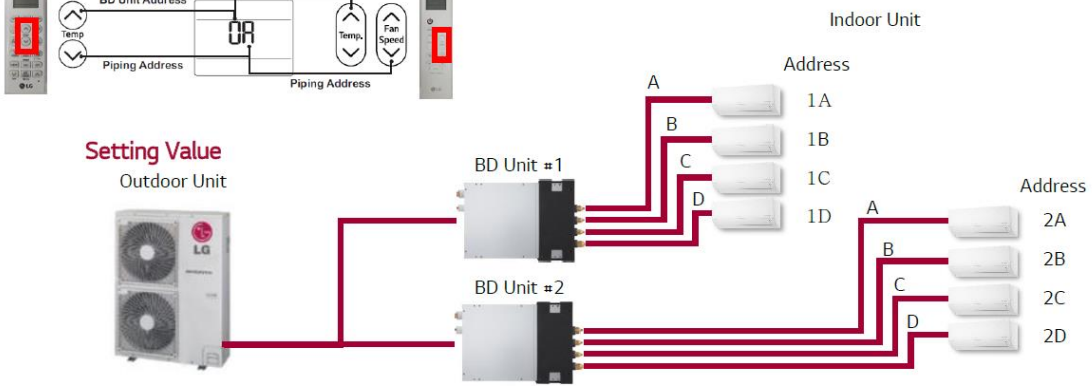
To enter the function



To set the piping address



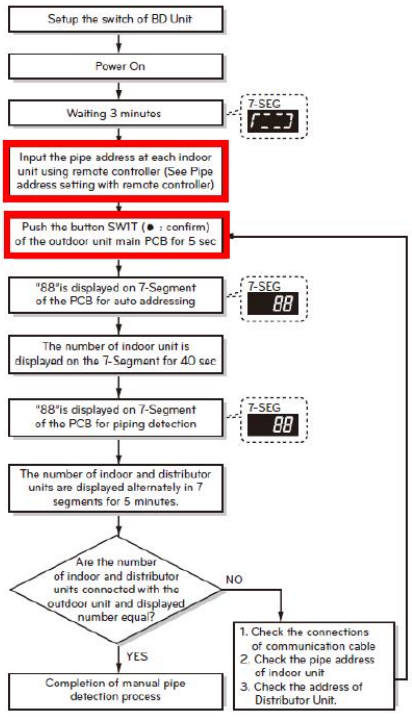
Wired Remote Controller

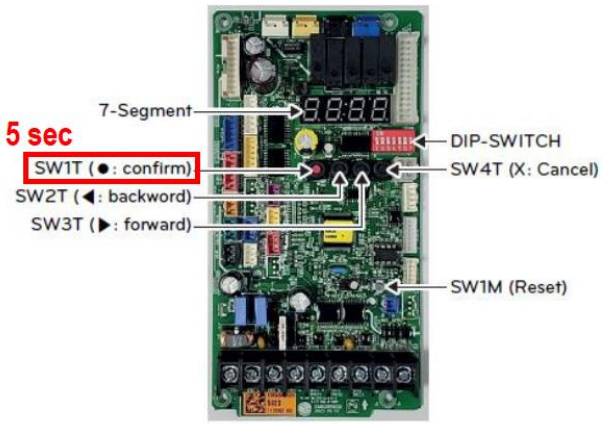


Manual Piping Detection Process

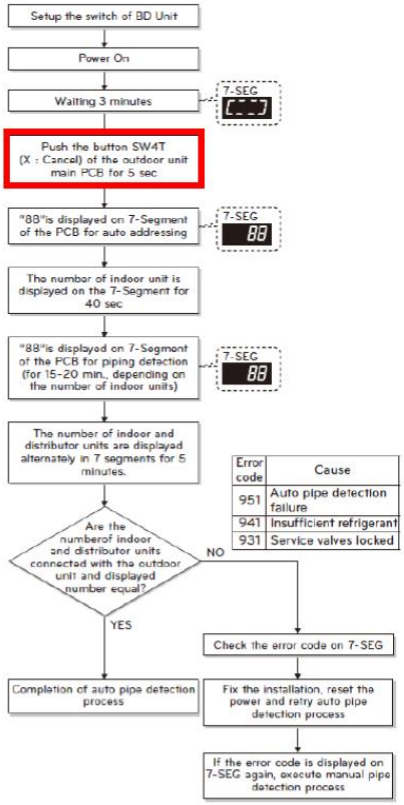
Step 2. Piping Detection Setting (Multi F & Multi Fdx)

After set the piping address, set the pipe detection function.

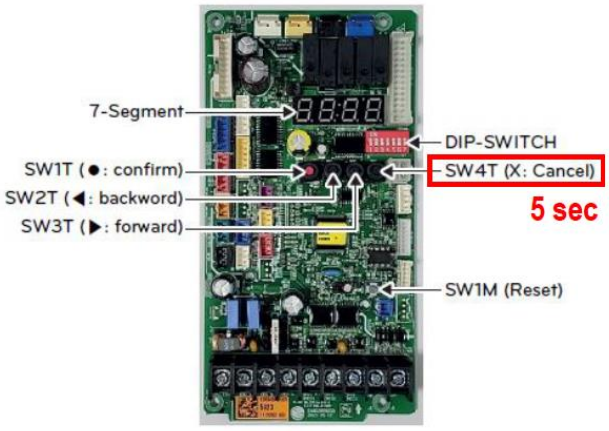




Automatic Piping Detection Process (Multi F & Multi Fdx)



Error code	Cause
951	Auto pipe detection failure
941	Insufficient refrigerant
931	Service valves locked



Automatic piping detection function do not need to set the piping address, but it can be performed under the condition below.

50°F < Outdoor Air Temp. < 110°F
50°F < Indoor Air Temp. < 86°F
Indoor Air Temp. – Outdoor Air Temp. < 86 °F
Outdoor Air Temp. – Indoor Air Temp. < 60 °F

LG THERMOSTAT FUNCTION CODES:

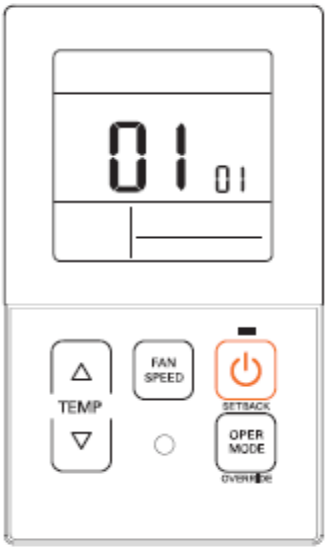
*Function codes are the same for all LG thermostats. Default settings are generally fine for most applications with the exception of the following.

Code No.	Function Name	Value	Description
4	Temperature sensor setting	01 : Use wired remote controller sensor (Default) 02 : Use indoor unit return sensor 03 : 2TH sensor - Cooling : higher sensor value is used - Heating : lower sensor value is used	Select the thermistor value that will be used to control room temp.
15	Heating thermal on/off setting	0 : Default. Each indoor unit has different value with product type. 1 : +8 °F/+12 °F (+4 °C/+6 °C) 2 : +4 °F/+8 °F (+2 °C/+4 °C) 3 : -2 °F/ +2 °F (-1 °C/+1 °C) 4 : -1 °F/ +1 °F (-0.5 °C /+0.5 °C) *Option 4 is available under fahrenheit unit use condition of code12.	It can adjust the heating thermal on / off temperature according to the field environment in preparation for over heating or heating claim.
35	Cooling thermal off fan operation	00 : Fan low (Default) 01 : Fan off 02 : Previous fan setting	Set the fan speed operation during cooling thermal off

*It may be necessary to switch all thermostats to the ‘off’ position before switching from ‘heat’ to ‘cool’.

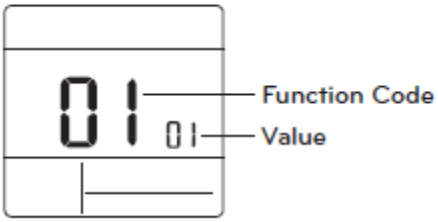
INSTALLER SETTING

How to enter installer setting mode



1 Press △ button and OPER MODE button simultaneously for 3 seconds to enter the installer setting mode.

2 When you enter the setting mode initially, function code is displayed on the LCD screen.



3 Press OPER MODE button to select function code.

4 Press △ TEMP ▽ button to change value.

5 Press ⏻ button to set value.

6 Press △ button and OPER MODE button simultaneously for 3 seconds to exit installer setting mode.

⚠ CAUTION

Installer setting mode is to set the detail function of the remote controller. If the installer setting mode is not set correctly, it can cause problems to the product, user injury or property damage. This must be set by an certificated installer, and any installation or change that is carried out by a non-certificated person should be responsible for the results. In this case, free service cannot be provided.

PREMTBVC "CRC THERMOSTAT"

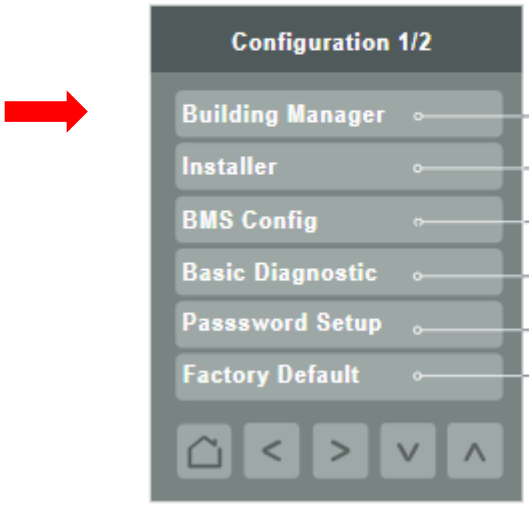
Installer Configuration Screens

These screens are more commonly used during installation, system configuration, or troubleshooting than by an end user. There is no icon on the Home screen to access these configuration screens. You must press and hold the area of the screen indicated on the diagram below to access the first screen.

If a configuration / installer password is activated to prevent unauthorized access to the configuration menu parameters, a password entry prompt will appear to prevent access to the device configuration components.

Configuration Main Screens

There are two main configuration screens as shown below. Press the left and right arrow buttons to move between these two screens. Press a button on a screen to display the parameter selections for that item.



- **Building Manager** — Enter Display, Date & Time, Filter, Setpoints, Override, Setback and Outdoor Unit configuration
- **Installer** — Enter General, Temperature, Fan and Heat settings and Accessories configuration
- **BMS Config** — Enter BACnet settings
- **Basic Diagnostic** — View Diagnostic parameters
- **Passsword Setup** — Setup a password to restrict/allow access to the thermostat
- **Factory Default** — Reverts all controller control settings back to default values.

Note: *Users will be given the option to confirm that they wish to proceed. Once in the Factory Default screen, if user proceeds with this step, all schedules and current controller settings including time and date will be cleared. Settings cannot be recovered after a Factory Default has been performed.*

Building Manager Screens

There are two main configuration screens as shown below. Press the left and right arrow buttons to move between these two screens. Press a button on a screen to display the parameter selections for that item.

Customize Home View
Hide On/Off, Mode, Schedule, More, Set Temp, Space Temp, Fan and Humidity options on home screen.

Code Search
Use the Up and Down arrows to choose an available Function Code and select the Code Search button to navigate to the screen where that function code resides.

Codes can be found in brackets next to a parameter throughout all menus. This function is used for quicker menu navigation.

Override Setup
If controller is in the unoccupied mode then the controller enters Override mode when the user taps the screen the first time.
Select this control to configure settings for Override including set points, system mode, fan speed and duration of override.

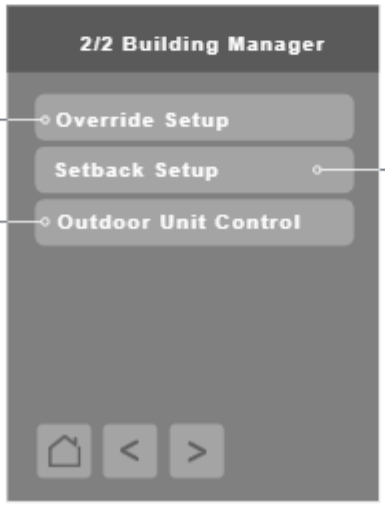
Outdoor Unit Control
Manage outdoor unit functions through the Controller's interface.

Display Basic Settings – Date / Time, Display Color, Standby Brightness (and delay timing), Night Backlight level, Standby Screen).

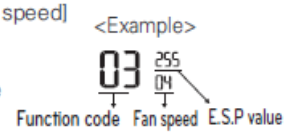
Filter Functions – Clear Filter Alarm, Remaining Time, Lower/Raise Grill, Robot Cleaning

Setpoint Configuration
Choose between Single/Dual set point(s) and configure set point max/min limits and deadband.
Note: Available functions/features may differ based on the connected system.

Smart ThinQ – Displays the Smart ThinQ screen. Allows pairing of the controller and the Smart ThinQ smartphone app. The Smart ThinQ app allows air conditioner control from the smartphone.



Setback Setup
Setback settings are configurable with this control including set points, system mode and fan speed.

Code No.	Function Name	Value	Description
1	Test run mode	00 : Normal operation (Default) 01 : Initiate cooling test mode 02 : Initiate heating test mode	Initiate IDU test mode.
2	Address setting	02 : XX: central control address number (00~FF)	Assign a unique hexadecimal address when used with central controller.
3	E.S.P. function	[Select fan speed] 01 : Slow 02 : Low 03 : Middle 04 : High 05 : Power <Example>  E.S.P value : 000~255	Please refer to engineering manual for specific product data. "000" is the number displayed for factory settings. If code3 value(s) are changed from default setting (000) then code5, code6 & code32 values will not be used. Only selected products have five speeds.
4	Temperature sensor setting	01 : Use wired remote controller sensor (Default) 02 : Use indoor unit return sensor 03 : 2TH sensor - Cooling : higher sensor value is used - Heating : lower sensor value is used	Select the thermistor value that will be used to control room temp.
5	Ceiling height	[Ceiling height] 01 : Low 02 : Standard (Default) 03 : High 04 : Very high	Simplified air volume setting for cassette and console product. Select the value that cooresponds to the ceiling height the product is installed at.
6	Static pressure	Zone state - E.S.P standard value 01 : Variable -High 02 : Fixed-High 03 : Variable-Low 04 : Fixed-Low	Simplified air volume setting for ducted product. Select the value that corresponds to the type of duct system attached to the product.
8	Override master/slave setting	00 : Slave unit (Default) 01 : Master unit	This function is available for use with MV HP system. One IDU is selected as a master and will communicate it's mode to the other slave IDUs. The slave IDUs will prohibit/gray out opposite mode selection.
9	Dry contact mode setting	00(Default) : - Input closed = Enable remote - Input open = Stop IDU and disable remote 01 : - Input closed = Start IDU and enable remote - Input open = Stop IDU and disable remote	This function is available for use with simple dry contact.

Code No.	Function Name	Value	Description
12	Celsius / Fahrenheit switching	00 : Celsius 01 : Fahrenheit (Default)	Celsius or Fahrenheit.
15	Heating thermal on/off setting	0 : Default. Each indoor unit has different value with product type. 1 : +8 °F/+12 °F (+4 °C/+6 °C) 2 : +4 °F/+8 °F (+2 °C/+4 °C) 3 : -2 °F/ +2 °F (-1 °C/+1 °C) 4 : -1 °F/ +1 °F (-0.5 °C /+0.5 °C) *Option 4 is available under fahrenheit unit use condition of code12.	It can adjust the heating thermal on / off temperature according to the field environment in preparation for over heating or heating claim.
17	Celsius temperature unit	00 : Celsius 1°C control (Default) 01 : Celsius 0.5°C control	Temperature resolution
18	Emergency heater setting	[Value 1] 00 : Disable emergency heater (Default) 01 : Enable emergency heater [Value 2] 0 : Disable emergency heater in low ambient temperature 1~15 : Enable emergency heater at low ambient temperature 01 : -10F, 02 : -5F, 03 : 0F, 04 : 5F, 05 : 10F 06 : 15F, 07 : 20F, 08 : 25F, 09 : 30F, 10 : 35F 11 : 40F, 12 : 45F, 13 : 50F, 14 : 55F, 15 : 60F [Value 3] 0 : Fan off 1 : Fan on (Fan is off when heater is off)	Setting value 1 enables auxiliary heater to be used when ODU has an error code. Setting value 2 enables ODU to be locked out based on selected outside temperature and enables auxiliary heater to be used. Setting value 3 determines fan operation during thermal on with auxiliary heater.
19	Function setting in group control	00 : Disable extended functions (Default) 01 : Enable extended functions	Standard function : On/Off, Mode, Air flow (Low/Mid/High), Set point, Schedule Extended function: Air angle control(all), Swirl, Air up/down, Air right/left, Energy saving cooling, Fan Auto
20	Plasma purification	00 : Disable 01 : Enable (Default)	It is a function to set whether Plasma purification is enable or not.
21	Auxiliary heat control	00 : Manual heat control disabled 01 : Manual heat control enabled (Default)	This setting allows user to enable/disable the auxiliary heat in sub function menu.
25	External auxiliary heat kit	00 : Not installed 01 : Installed (Default)	This function must be enabled to use external auxiliary heat kit.

Code No.	Function Name	Value	Description
26	Check indoor unit address number	XX(assigned address)	Display ODU assigned IDU address.
27	Cooling thermal on/off setting	0 : default, +1 °F/-1 °F(+0.5 °C/-0.5 °C) 1 : +12 °F/+8 °F (+6 °C/+4 °C) 2 : +8 °F/+4 °F (+4 °C/+2 °C) 3 : +2 °F/-2 °F (+1 °C/-1 °C)	It can adjust the cooling thermal on / off temperature according to the field environment in preparation for over cooling or cooling claim. *This function available from Gen 4 indoor unit series.
29	Setting for refrigerant leak detector	00 : Not installed (Default) 01 : Installed	Enable this function after installing external refrigerant leakage detection device.
30	SW version	Display remote SW version	Remote SW version
31	Setting temperature range	00 : 60~86°F(16~30°C) (Default) 01 : 40~99°F(4~37.5°C)	If the extended temperature range is set refer to the following. - Cooling 87~99°F (30.5~37.5°C) -> 86°F(30°C). - Heating 40~59°F (4~15.5°C) -> 60°F(16°C). - If set on dual set points, it is changed to the current operation mode(cooling or heating) of the indoor unit.
32	Static pressure step	00 : Use static pressure (code 06) set value (Default) 01~11 : Static pressure step (code 32) set value	If code3 value(s) are changed from their default settings (000) then code32 values will not be used. Extended simplified air volume setting for ducted product.
33	Guard timer	00 : 0 minute 01 : 15 minutes (Default) 02 : 30 minutes 03 : 45 minutes 04 : 60 minutes	Minimum time that must elapse before system can change to opposite mode. (example: change from heat to cool mode)
34	Set point range lock	00 : Disable (Default) 01 : Enable	limits the heating and cooling setpoint range that the user can select. For more detail information see the following instruction
35	Cooling thermal off fan operation	00 : Fan low (Default) 01 : Fan off 02 : Previous fan setting	Set the fan speed operation during cooling thermal off
36	Primary heater control	00 : HP first stage heat (Default) 01 : HP last stage heat	Installer to select heat pump to operate as first or last stage of heat with use of external heat kit.

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Code No.	Function Name	Value	Description
37	Hold enable/Disable	00 : Hold disable (Default) 01 : Hold enable	Prevent or allow user to select hold function.
38	Air conditioner fan operation interlocked with ventilation	00 : Fan low(Default) 01 : Fan off	If cassette has a ventilation kit installed then it is desirable to limit air from flowing through the air filter in a direction opposite of design flow.
39	IDU auto start setting	00 : Enable auto restart (Default) 01 : Disable auto restart	Installer to select if IDU should be on or off after power is restored to IDU.
40	Occupancy duration time setting	00 : 0 minute (Default) 01 : 10 minutes 02 : 30 minutes 03 : 60 minutes	Time that IDU is on after transition to occupied mode.
41	Simple dry contact setting (CN_CC connection)	00 : Simple dry contact auto identification (Default) 01 : Disable the function. 02 : Enable simple dry contact function 03 : Enable simple dry contact function with CN_EXT port	This function is used when simple dry contact unit is additionally installed in the indoor unit or the installed simple dry contact unit is removed.
46	Setting the fan continuous	00 : Not used 01 : Used	It is the function to set the continuous operation of the indoor fan. Even if the room air temperature reaches the set point through the indoor unit operation it is the ability to keep set fan speed longer than does not setting.
47	Outdoor unit function setting master/slave	00 : Outdoor unit function slave 01 : Outdoor unit function master	This function make connected indoor unit as a master indoor unit that can set functions related to outdoor unit operation. Outdoor unit accepts for only one indoor unit that can set functions related to outdoor unit operation.
48	Function of indoor unit silent mode	00 : Not used 01 : Silent mode low 02 : Silent mode high	It is the function to reduce the refrigerant noise occurred at the initial stage of the operation of the indoor unit at the heating mode.
49	Setting the outdoor unit defrost mode	00 : Not used 01 : Forced remove piled snow mode 02 : Fast defrost mode 03 : Forced remove piled snow and fast defrost mode	It is the function to select the defrost or snow remove function of the outdoor unit.
51	Setting temperature-based fan speed 'auto'	00 : Not used 01 : Use temperature-based fan speed 'auto'	Temperature-based fan speed 'auto' function is the function to change the fan speed according to the difference between the room temperature and the set point.

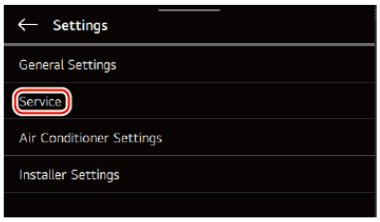
Code No.	Function Name	Value	Description
52	CN_EXT	00 : Use installer code No. 41 setting value (simple dry contact setting value) 01 : Simple operation on/off 02 : Simple dry contact (It takes HL when operation is off.) 03 : Indoor unit single emergency stop 04 : Occupied / unoccupied 05 : Indoor unit all emergency stop ※ It can be set only when there is indoor unit emergency stop function. 06 : Window contact ※ It can be set only when there is window contact function. 07 : Window contact lock ※ It can be set only when there is window contact lock function.	It is the function to set a purpose of digital input port(CN_EXT) of indoor unit PCB.
56	Outdoor unit cycle priority	<Select mode> < Step > 00 : Not use [Not use, Standby] 01 : Standby None 02 : Cool [Cool] 0~5 Step	It is the function to clear the limit and set the operation mode when it is cleared, to be able to select the operation mode opposite to the operation mode of the outdoor unit currently in operation while the connected product is in slave mode.
57	Outdoor temperature for heating stages	<Select mode> <Setting range> 01 : Use/Not use [Use/Not use] 02 : T1 None 03 : △T [T1 setting range] -10~60°F(-23~16°C) [△T setting range] 0~70°F(0~35°C)	It is a function that sets outdoor temperature values for two stage heating. If user set outdoor temperature T1 and △T, indoor unit will select heating stage between indoor unit operation and heater operation.
61	Room temperature compensation	Compensation temperature setting range : -10°F ~ 10°F(-5°C ~ 5°C)	This function adjusts the room temperature displayed on the product to match the actual room temperature.
64	Air volume control	00 : Default 01 : +10% 02 : -10%	This function is available to change target air volume.
67	Fan setting during thermal off (Occupancy / Operation mode)	<Select mode> 00: Cooling / Occupied 01: Cooling / Unoccupied 02: Heating / Occupied 03: Heating / Unoccupied <Step> 00: Not Used 01: Fan Low 02: Previous fan Setting 03: Fan off	Set the fan speed opreation during thermal off condition according to occupancy and operation mode. This setting has the highest priority to all related fan setting.

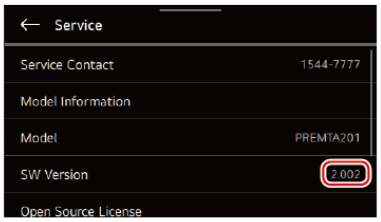
※ Some contents may not be displayed depending on the product function.

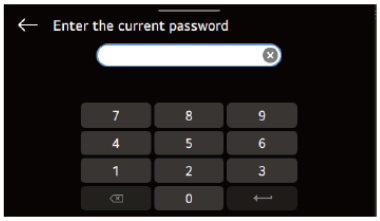
PREMTA201 WIFI THERMOSTAT

INSTALLER SETTINGS

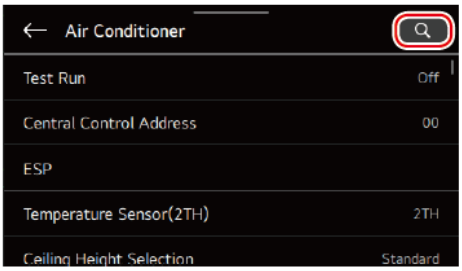
Select the installer settings in the settings menu.
Various settings can be made during the installation step before using air conditioner/ventilation products.
Please enter the password.
* How to know the password
Check the software version in the service settings menu.
If SW version is 2.000, password is 2000.

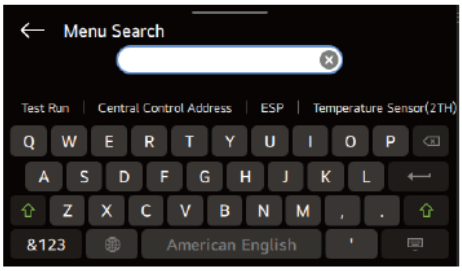






Tap the Magnifier icon in the upper right corner, making it easy to find what you want.
- Auto-complete items are displayed based on the characters you enter.
- You can also search by the code number of installer setting.





PREMTB101 THERMOSTAT

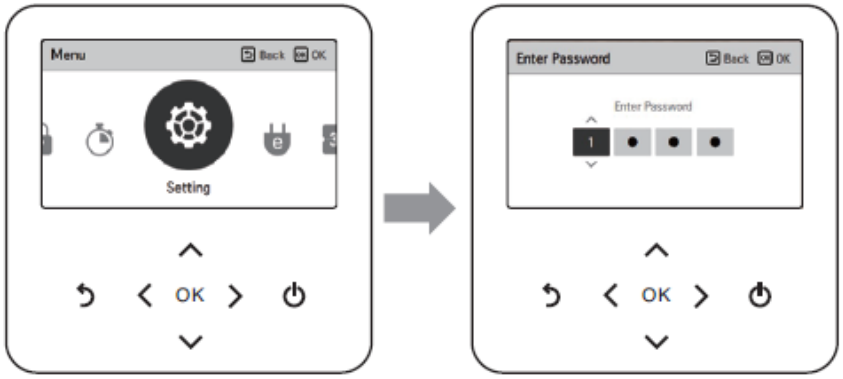
INSTALLER SETTING

How to enter installer setting

CAUTION

The installer setting mode is the mode to set the remote controller's detail function. If the installer setting mode is incorrectly set, it may cause product failure, user's injury, or property damage. It must be set by the installation specialist with the installation license, and if it is installed or changed without installation license, all problems caused will be the responsibility of the installer, and may void the LG warranty.

- In the menu screen, press [<,>(left/right)] button to select the setting category, and press [∧ (up)] button for 3 seconds to enter the password input screen for the installer setting.
- Input the password and press [OK] button to move to the installer setting list.



※ Installer setting password

Main screen → menu → setting → service → RMC version information → SW Version

Example) SW version : 1.00.1 a

In the above case, the password is 1001.

NOTE

Some categories of the installer setting menu may not be available depending on the product function or the menu name may be different.

Menu	Description
Test run setting	It is the function to set the trial operation at the initial product installation.
Central control address Setting	It is the function to set the central control address of the indoor unit during the central controller connection.
ESP setting	It is the function to set the wind amount value corresponding to each wind amount for easy installation.
Temperature sensor setting	It is the function to select the temperature sensor that will decide the indoor temperature.
Ceiling height setting	It is the function to control the wind amount stage according to the ceiling height for the ceiling type products.
Static pressure setting	The fixed pressure setting can be set only in the duct products. It cannot be set in other products.
RMC master/slave setting	It is the function to set group control or 2-remote controller control.
Override master/slave setting	The operation master / slave selection function is to avoid other mode operations, and it is the function to prevent the selection of the opposite mode of the indoor unit set as master by the indoor units set as slaves.
Dry contact mode setting	Dry contact function is the function that can be used only when the dry contact devices is separately purchased and installed.
Fixed air volume	It is the function to apply different fan speeds automatically for each thermal control status.
Zone Type Setting	It is possible to setup zone new type or old one of the product which is available to install the damper controller.
Zone Number Setting	Zone Number is to set the number of installed zones. It's possible to control only in zone new type.
Over Heating	Provides an adjustable deadband around the heating setpoint through selectable heating thermal on/off values.
Emergency Heater setting	It is the function to set whether to use emergency heater control function and the usage environment.
Func. control during grp. Control setting	It is the function to set common functions or some functions to be controlled by the master indoor unit standard during the group control.

Menu	Description
External devices of indoor unit setting	It is the function to set whether to mount option unit (Air purify / Humidification / Heater / Ventilation / Elevation grill / Aux Heater / Refrigerant leakage detection sensor) when it is additionally installed or removed after the mass production.
Expand of Temperature Range	This function is used for select setting temperature range option.
Indoor unit address verification	This function allows you to check the address of the indoor unit designated by the outdoor unit.
Static pressure step setting	This is the function that static pressure of the product is divided in 11 steps for setting.
Over Cooling	Provides an adjustable deadband around the cooling setpoint through selectable cooling thermal on/off values
Guard timer	It is a function that sets the minimum running time of outdoor unit cycle mode when switching from cooling mode to heating mode and vice versa during Auto Operation mode.
Fan speed in Cooling thermal off	It is a function that sets the indoor unit fan movement, in cooling mode, when thermal is off.
Primary heater setting	It is the function to set the heater usage to have higher priority over the outdoor unit cycle during the indoor unit heating operation.
Air conditioner Fan operation interlocked with ventilation setting	It is the function to set whether to operate the air conditioner fan during the interface operation of the air conditioner and the ventilation product.
Indoor unit Auto-Start setting	It is a function that sets whether to restore the indoor unit operation by resuming the previous power-on state or as power-off state in the power failure compensation.
Occupancy duration time setting	It is the function to set the occupied decision maintaining time among the occupied sensor values.
CN_CC setting	It is the function to set whether to install (use) Dry Contact. (It is not a function for Dry Contact installation, but it is a function to set the usage of the indoor unit's CN_CC port.)
CN_EXT setting	It is the function to set the indoor unit's Dry Contact Port to control external input and output according to DI/DO set by the customer. (It is the function to decide the usage of the contact point port (CN_EXT) mounted in the indoor unit PCB.)
ODU function master setting	It is the function to set the outdoor unit's function Master / Slave.
Fan continuous operation setting	It is the function to set the indoor unit's continued Fan function usage. It is the function to maximize the cooling/heating efficiency by the outdoor unit operating the indoor unit fan operation longer than the previous operation method.

Menu	Description
Low noise mode priority setting	It is the function to set the main agent of the low noise mode control. (It is the function to set only one of the outdoor unit / remote controller can control the low noise operation.)
Human detection sensor setting	It is the function to set whether to install human detection sensor and operation standard value.
Humidity sensing position	It is the function to set the location to detect humidity.
ODU cycle priority	This function can select standby mode or priority cooling.
Outdoor temp. for heating stages	This function can select outdoor temperature values for use reference point of heater and heating mode operation.
Estimated energy display	This function can set to display energy data which ODU estimated.
CN_PTC setting	This is a function to set PTC Port of indoor unit.
Password initialization	It is the function to initialize (0000) the password when you forgot the password set in the remote controller.
Auto ESP	This function automatically sets the rotation speed of the fans corresponding to each step of rated airflow for easy installation.
Dust step color setting	This function is to set the dust step color.
UVnano / Filter Box	It is the function to set whether to mount option unit (UVNano/Filter box) when it is additionally installed or removed after the mass production
Fan Operation During Auxiliary Heater Only	This is a function to set the indoor unit fan to be used even when the Auxiliary heater is operating alone.
Server Room	This is a function to set alternating and backup operation to keep the temperature of the server room stable.
Noise Target Control	The Noise Target Control function is a function that limits the noise caused by the outdoor unit running.

Installer setting - ventilator

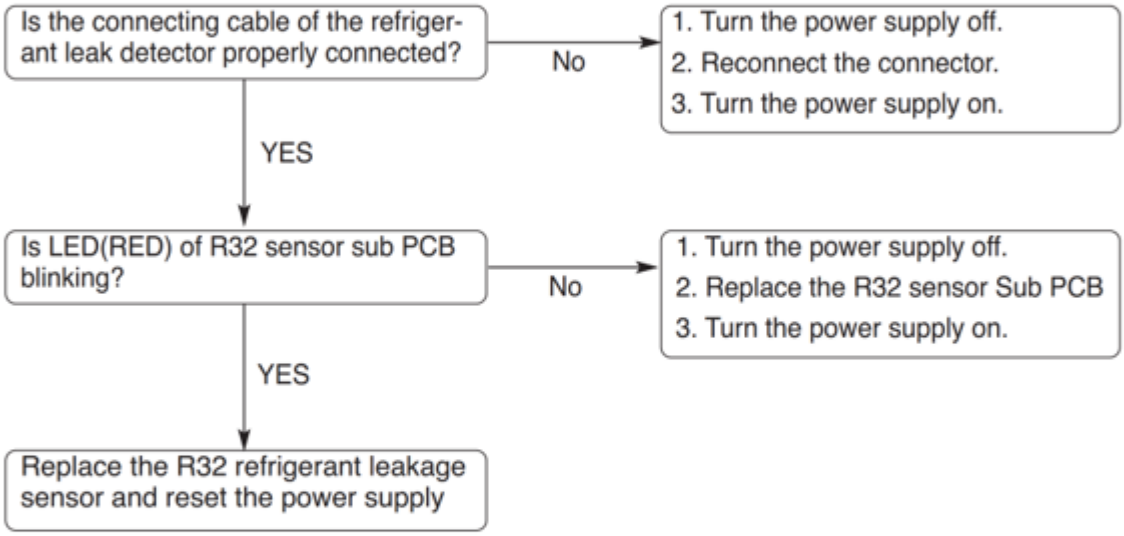
- You can set the product user functions.
- Some functions may not be displayed/operated in some product types.

Menu	Applied products	Description
Test run setting	DX(Direct Exchanger) Type	It is the function to set the trial operation at the initial product installation.
Central control address Setting	General	It is the function to set the central control address of the indoor unit during the central controller connection.
Air supply ESP	General/DX Type	It is the function to set the fan speed value corresponding to the air supply side fan speed.
Air discharge ESP		It is the function to set the fan speed value corresponding to the air discharge side fan speed.
Temperature sensor setting	DX Type	It is the function to select the temperature sensor that will decide the indoor temperature.
Product direction	General	It is the function to set the ventilation indoor unit's installation direction.
Express ventilation priority	General/DX Type	It is the function to set the priority of the air supply and discharge during the express ventilation operation.
RMC master/slave setting		It is the function to set group control or 2-remote controller control.
Override master/slave setting	DX Type	The operation master / slave selection function is to avoid other mode operations, and it is the function to prevent the selection of the opposite mode of the indoor unit set as master by the indoor units set as slaves.
Dry contact mode setting	DX Type	Dry contact function is the function that can be used only when the dry contact devices is separately purchased and installed.
Fixed fan speed setting	DX Type	It is the function to set the indoor unit's fan speed option to variable or fixed.
Hum. Of Stand-alone Vent. Mode	General/DX Type	It is the function to set whether to use the humidification function in the direct cooling type ventilation's ventilation single operation.
Hum. Of Vent. With Heating Oper.	DX Type	It is the function to set the direct cooling type ventilation's heating humidification function as auto or manual.

Menu	Applied products	Description
Vent. Fan Speed Alignment	General	It is the function to increase/decrease ventilation's standard fan speed from the current status according to the field environment.
Indoor unit address verification	DX Type	This function allows you to check the address of the indoor unit designated by the outdoor unit.
Indoor unit Auto-Start setting	DX Type	It is a function that sets whether to restore the indoor unit operation by resuming the previous power-on state or as power-off state in the power failure compensation.
CN_EXT setting	DX Type	It is the function to set the indoor unit's Dry Contact Port to control external input and output according to DI/DO set by the customer. (It is the function to decide the usage of the contact point port (CN_EXT) mounted in the indoor unit PCB.)
ODU function master setting	DX Type	It is the function to set the outdoor unit's function Master / Slave.
Low noise mode priority setting	DX Type	It is the function to set the main agent of the low noise mode control. (It is the function to set only one of the outdoor unit / remote controller can control the low noise operation.)
Filter check alarm	General	This function sets the filter check alarm of the ventilation product.
UVnano	General ventilation	This function sets whether or not UV LEDs are installed in order to use the Uvnano function.

Troubleshooting

Error Code	Error Type	Error point	Main reasons
CH 228	Refrigerant leak detector malfunction error	Refrigerant leak detector has failed.	• The sensor is breaking of short. • Abnormal voltage of DC converter. • Abnormal operation of microprocessor.



RESETTING ERROR CODE AFTER REPLACING SENSOR

- **Turn on dipswitch 3 at the ODU**
- **Push SW1T “Confirm” button (red one)**
- **‘Fn’ will be displayed**
- **Use arrow keys to switch to ‘fn11’**
- **Press “confirm” button**
- **Change ‘ON’ to ‘OFF’**
- **Turn dipswitch 3 off and reset ODU**

C2-3. In/Outdoor Sensor resistance Table(1)

• Outdoor Unit Sensor

Temperature		Pipe Sensor		D-Pipe sensor(Inv Td)		Air Sensor	
℃	℉	Resistance (kΩ)	Voltage (V)	Resistance (kΩ)	Voltage (V)	Resistance (kΩ)	Voltage (V)
-30	-22	102.2	4.71	-	-	204.3	4.72
-25	-13	73.5	4.60	-	-	147.0	4.62
-20	-4	53.5	4.47	-	-	107.1	4.49
-15	5	39.5	4.31	-	-	79.0	4.34
-10	14	29.5	4.12	-	-	59.0	4.15
-5	23	22.2	3.90	-	-	44.5	3.93
0	32	17.0	3.65	586	4.85	33.9	3.68
5	41	13.0	3.38	465	4.81	26.1	3.42
10	50	10.1	3.10	372	4.77	20.3	3.13
15	59	7.9	2.80	301	4.72	15.9	2.84
20	68	6.3	2.51	244	4.66	12.6	2.55
25	77	5.0	2.23	200	4.59	10.0	2.26
30	86	4.0	1.97	165	4.51	8.0	1.99
35	95	3.2	1.72	137	4.42	6.5	1.74
40	104	2.6	1.50	114	4.32	5.3	1.52
45	113	2.2	1.30	96	4.21	4.3	1.32
50	122	1.8	1.12	81	4.09	3.6	1.14
55	131	1.5	0.97	68	3.96	3.0	0.98
60	140	1.2	0.84	58	3.82	2.5	0.85
Tolerance		± 30%	± 10%	± 30%	-	± 30%	± 10%

• Indoor Unit Sensor

Temperature		Pipe Sensor		Air Sensor	
℃	℉	Resistance (kΩ)	Voltage (V)	Resistance (kΩ)	Voltage (V)
0	32	16.8	3.65	33.9	3.68
5	41	13.0	3.38	26.1	3.42
10	50	10.1	3.10	20.3	3.13
15	59	7.9	2.80	15.9	2.84
20	68	6.3	2.51	12.6	2.55
25	77	5.0	2.23	10.0	2.26
30	86	4.0	1.97	8.0	1.99
35	95	3.3	1.72	6.5	1.74
40	104	2.7	1.50	5.3	1.52
45	113	2.2	1.30	4.3	1.32
50	122	1.8	1.12	3.6	1.14
55	131	1.5	0.97	3.0	0.98
60	140	1.2	0.84	2.5	0.85
Tolerance		-	± 10%	-	± 10%

		Resistance @25℃
Outdoor	Pipe	5.0
	Air	10.0
	D-Pipe	200.0
Indoor	Pipe	5.0
	Air	10.0

UNIT : kΩ

- **API & LG Resources:**

  Jason LeBlanc - LG Training/Tech Support 603-703-8525

  Audrey Chadwick - LG Training/Tech Support 401-602-5933

  Bryan Feather - LG Sales/Tech Support 401-640-8953

  Sam Spadola - LG Sales 860-213-3193

  Nick Pantazelos - LG Sales 603-247-6797

  API of Manchester - 603-668-7810 (ask for sales, parts, etc.)

  LG Tech Support 1-888-346-1923 follow prompts for Pro Dealers.

  ***** Please have the model/serial number(s) of the equipment available.**