



Installation/User Manual

# LGMV

Version : 7.0

Model Type : LGMV

Supporting model : Multi V III, Multi V III Heat Recovery  
Single, Multi Product Unification Pressure/Temperature

Whisen Qualification - When installing the air conditioner, make sure to check the “Whisen Installation Qualification”, the symbol of quality of the installation technician.

- If you leave the installation to the technician with the Whisen Qualification,
- he/she will guarantee the best performance and life.

Before you install and use the program, you will need to check HW manual.

# LGMV

Thank you for using LGMV.

Please read the manual before installing the product to install the product conveniently and use the product safely for a long period of time.

To use the product properly and safely, read this manual before using the product.

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# LGMV

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## Note .....

1. LG Electronics has all the rights to this program.
2. This program is permitted for use only in the LG Electronics System Air Conditioner products.
3. This program cannot be sold/transferred/licensed to other parties.
4. All files produced through this program cannot be sold/transferred/licensed to other parties.

Violating the above can result in legal suits.

## Precaution .....

1. In order to use the LGMV, you need basic knowledge of use and installation information of the product of the system air conditioner. Please complete the LGMV training and learn how to use the software by reading the user manual before using the product.
2. To use LGMV efficiently, you may need to understand the VRF cycle.
3. When using the LGMV in previous versions, the information of the latest system air conditioner product may be missing. Therefore the engineer must periodically update the program to the latest version.

The user has all responsibilities of the issue from disclosing the results from this software.

## System Environment .....

PC 1G CPU, 1G RAM (recommend)  
Windows XP, Vista, 7 32bit(recommend), 64bit,  
MS Office 2003, 2007(recommend)



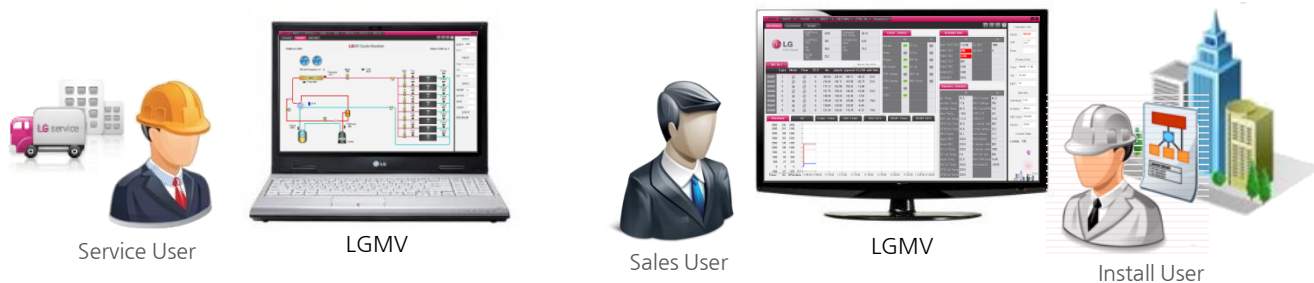
#1

# Product Configuration and Introduction

This chapter describes the product configuration of LGMV.

# 1. Product Configuration and Introduction - Introduction

As the program to monitor the VRF cycle of the LG System Air Conditioner product, LGMV helps the engineer understand the current status of the product and analyzes the VRF cycle. The engineer can understand the issue of the LG System Air Conditioner product and provide the solution to the customer to resolve the issue.



Key functions are as follows.

1. Monitoring viewer: Displays key information of air conditioner
2. Graph: Displays frequency, temperature and pressure of key air conditioner information in graphs
3. Indoor unit control: Control the operating mode of the indoor unit air conditioner when connected to the air conditioner
4. Save data: Saves the received air conditioner information as a file
5. Load data: Redisplays saved air conditioner information from the file
6. Test report: Test report in HTML document after receiving the test operation result
7. Error code: Supports troubleshooting method for the error code display and list through the PDF documents

# 1. Product Configuration and Introduction - Product Configuration

Open the box and check whether the following components are included in the box.



LGMV program



USB cable to connect  
LGMV module to PC



Extension cable



Lock key



LGMV module



Cable to connect outdoor  
unit and LGMV module

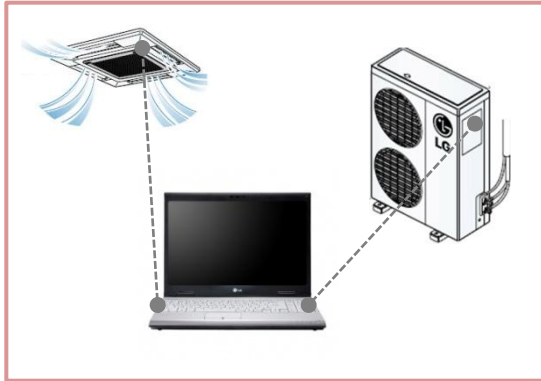


Serial cable to connect  
LGMV module to PC

Components in the box may  
Differ Slightly based on the  
product configuration.

# 1. Product Configuration and Introduction - Order of Use

The basic order of use for LGMV is as follows.



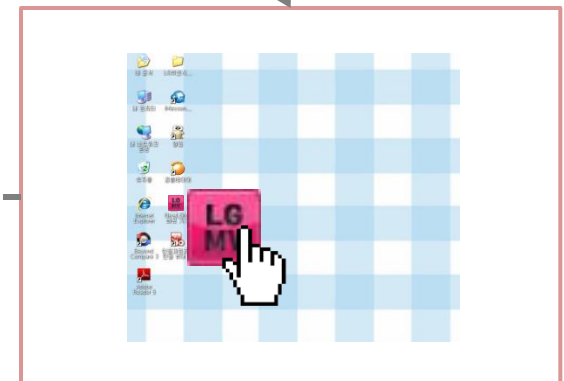
1. Connect the system air conditioner PCB and PC using the serial cable or Bluetooth cable.



2. Connect the hard drive lock key the user uses on the USB port of the PC.



4. Select the connecting port, location and refrigerant type, and then press the button of the connected system air conditioner model such as Multi V III etc.



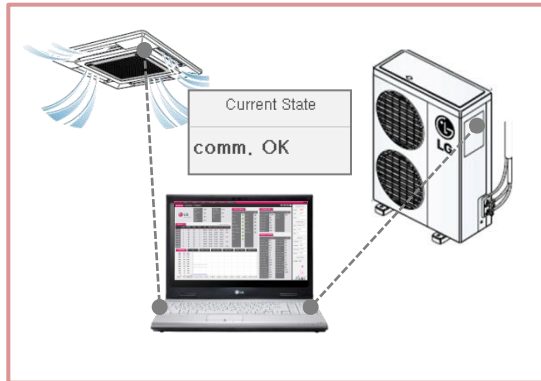
3. Double click the LGMV icon to run LGMV.

※ Depending on the communication environment, the effective distance of bluetooth cable is shorter.



# 1. Product Configuration and Introduction - Order of Use

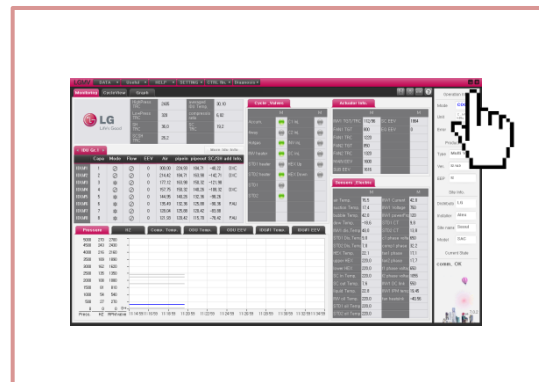
Continue from previous page as follows.



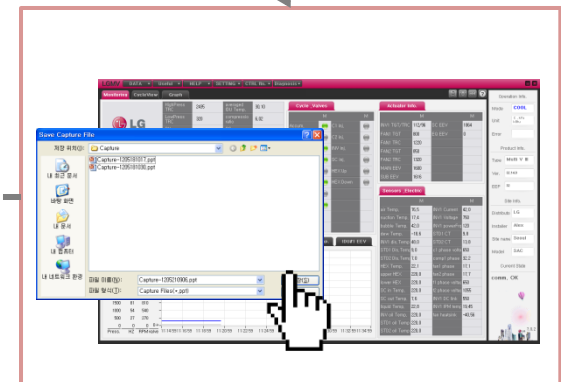
5. Check if the communication connection is successful.



6. Check the key information and use the graph to check the trend.



8. If the diagnosis is completed, close LGMV.



7. If necessary, save the received data as a file (Save data, download black box data, download test report) or continue to control or monitor the indoor unit.

A decorative graphic consisting of several overlapping, flowing, wavy lines in various shades of purple and magenta, creating a sense of movement and depth across the top half of the page.

#2

# Program Installation

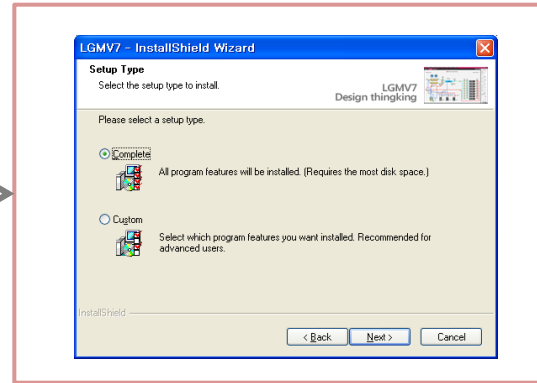
This chapter describes the installation of LGMV program.

## 2. Program Installation

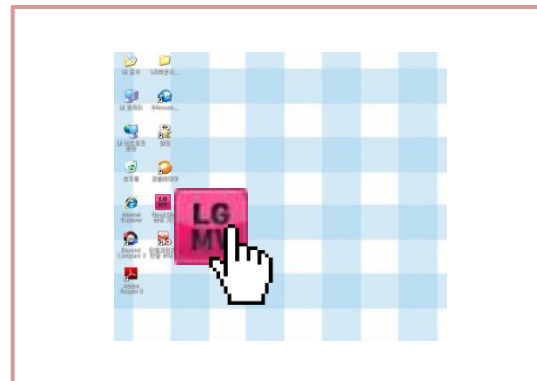
After running the LGMV installation program, proceed as follows.



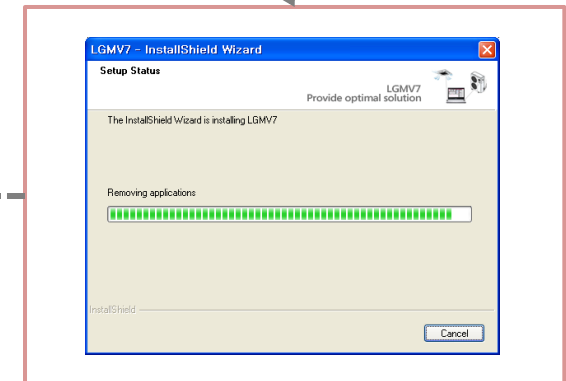
1. Run the installation program. If there is any program before the installation, make sure to remove the program before proceeding.



2. Select the setup type



4. Click on the Shortcut on the Desktop or the icon in Start Program.



3. Install the necessary functions for the LGMV program.

A decorative graphic consisting of several overlapping, flowing, wavy lines in various shades of purple and magenta, extending from the left side of the page towards the right.

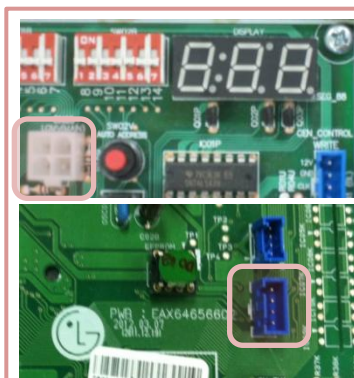
#3

# How to Use

This chapter describes how to use the LGMV.

### 3. How to Use LGMV - Connecting the Communication Cable

Connect the LGMV communication cable as follows.



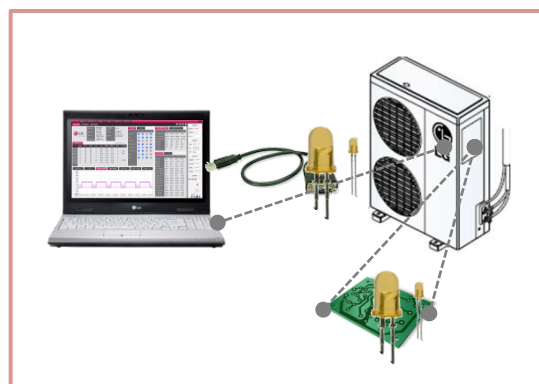
Multi V  
PCB jig port

Single & Multi  
PCB jig port

1. Connect the LGMV communication cable to the main PCB LGMV port of the system air conditioner.



2. Connect the LGMV communication cable to USB port on PC or laptop.



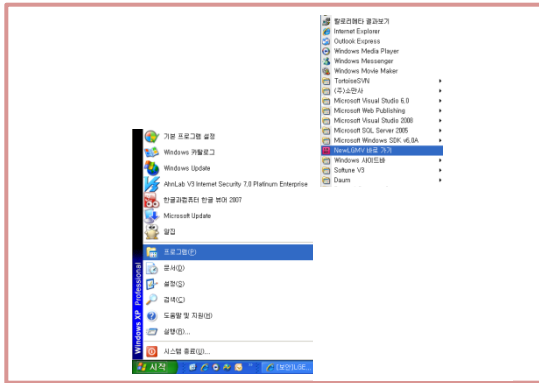
4. After the communication cable is connected, check if the LED on the PCB and LGMV communication cable are on and flashing when the power is connected.



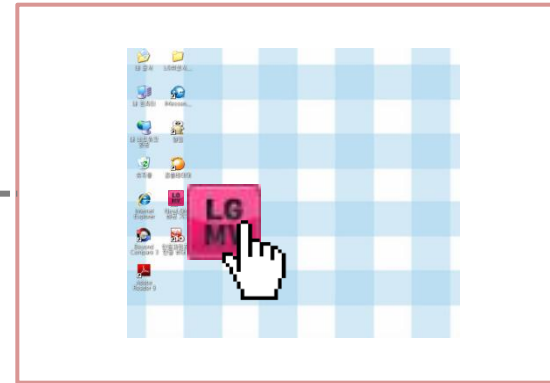
3. Check the port where the LGMV communication cable is connected from the Device Manager. Also you can change communication port.

### 3. How to Use LGMV - Initial Setting

Configure the initial setting of LGMV as follows.



1. After clicking the Windows Start button, click on Shortcut to LGMV from All Programs.



1. Double click on the Shortcut to LGMV from the Desktop.



2. Run LGMV to display the above model selection screen. Select the model and enter the initial setting required for the communication.

### 3. How to Use LGMV - Initial Setting

Details of the initial setting are as follows.

The screenshot shows the LGMV initial setting interface. The screen has a pink header with 'LGMV' and a close button. The main area contains several sections: MODEL, REF. INFO, ODU/IDU, SITE, SERIAL, and COM-PORT. Each section has a list of options or input fields. Dotted arrows point from numbered callouts to specific elements on the screen.

1. Click on the high level classification to select the model from the model information to set up the information such as Multi V H/P, Multi V H/R and Single & Multi etc.

2. After selecting the high level classification, select the final system air conditioner model from the low level classification.

3. Select the type of refrigerant of the current system air conditioner product.

4. Set the number of outdoor and indoor units connected to the product.

5. Set and change the name of installation service provider, name of installation engineer, model name and name of site.

6. Select whether the LGMV communication cable is connected to an outdoor unit or indoor unit.

7. Set and change the COM port connected through serial cable or Bluetooth connection.

**MODEL**

- Multi V H/P
- Multi V H/R
- Single&Multi

**REF. INFO**

- R410A
- R22
- R407C

**ODU/IDU**

- 1Unit
- 2Unit
- 3Unit
- 4Unit

**SITE**

Distributor	Installer
Model	Site Name

**SERIAL**

- ODU
- IDU

**COM-PORT**

- COM8

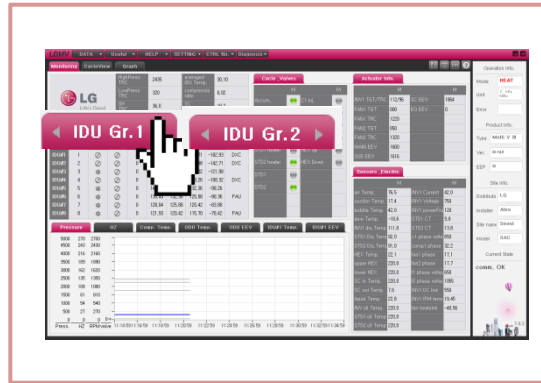
**Confirm**



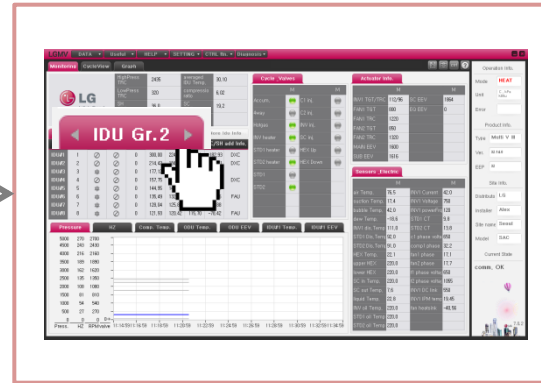


### 3. How to Use LGMV - Monitoring

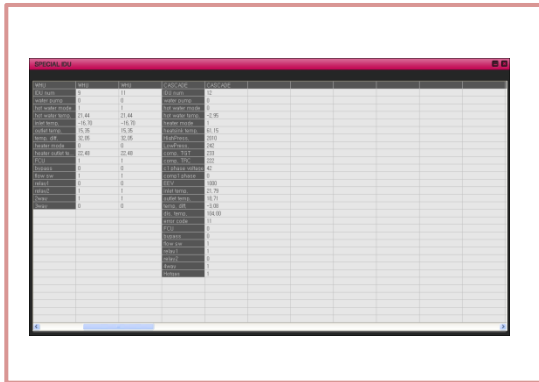
Run LGMV indoor unit monitoring as follows.



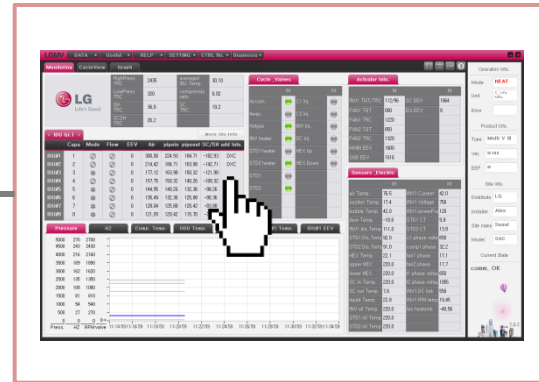
1. Click on the Indoor unit tab to select the Indoor unit group to monitor.



2. Left moves to the lower order of the group and vice versa. But, one group only displays the information for maximum of 8 indoor units.



5. All the information of the special indoor unit will be automatically sorted and displayed by indoor unit type.



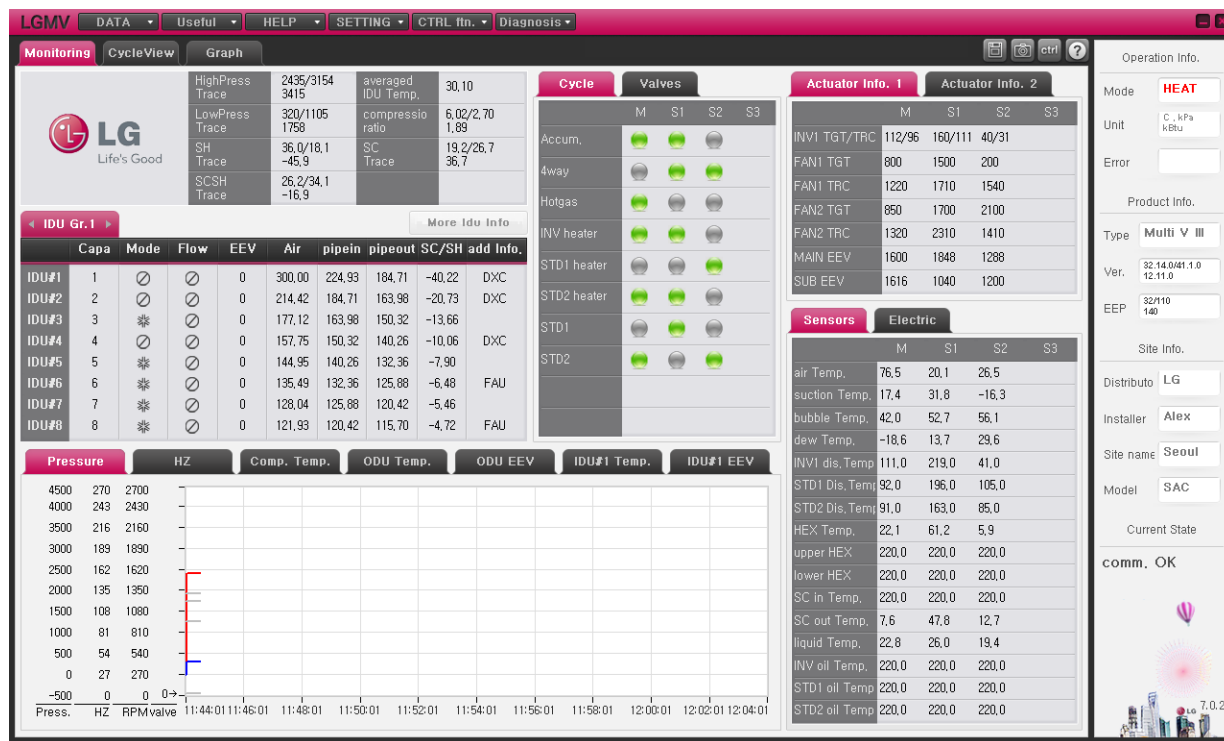
4. If there is a Special indoor unit label in the additional information of the indoor unit, click on the applicable information to open the Special indoor unit screen.



3. Click on View more information of indoor unit addition to the basic information, to view other information.

### 3. How to Use LGMV - Monitoring

Below is the screen displayed after the initial setting, which monitors the outdoor and indoor unit information of the system air conditioner.



Main screen is divided mainly into 3 sections. First section is the operational information section, showing operating mode, unit information, error information, product information, site information etc. on the right. Second section is the cycle information section, which takes up 80% of the screen. This shows the information of the outdoor and indoor unit. Last section is the mini graph section located at the bottom left corner, which shows the pressure and temperature information through the graphs.

### 3. How to Use LGMV - Monitoring

Basic information in the operational section is as follow

This part shows the unit information of the system air conditioner LGMV is currently showing

This part shows the representative group of the system air conditioner product.

This part shows the version information of the system air conditioner product.

This part shows the information of the engineer who installed and checked the system air conditioner.

This part shows the model information of the system air conditioner.

This part shows the operating mode of the system air conditioner.

This part shows the error information of the system air conditioner.

This part shows the version information of the system air conditioner program.

This part shows the information of the installation service provider

This part shows the information of the site the system air conditioner is installed.

This part shows the current condition of LGMV.

The screenshot displays a vertical menu of information sections for the LGMV system. The sections are as follows:

- Operation Info.**
  - Mode: COOL
  - Unit: C, kPa / kBtu
  - Error: (empty field)
- Product Info.**
  - Type: Multi V III
  - Ver.: 32.14.0
  - EEP: 32
- Site Info.**
  - Distributo: LG
  - Installer: Alex
  - Site name: Seoul
  - Model: SAC
- Current State**
  - comm. OK

At the bottom of the screen, there is a decorative graphic featuring a hot air balloon and a city skyline, with the text "LG 7.0.2" next to it.

### 3. How to Use LGMV - Monitoring

Basic information of the cycle section is as follows.

This part shows the basic outdoor unit information of the system air conditioner.

This part shows the actuator information of the system air conditioner.

HighPress Trace	2435	averaged IDU Temp.	30.10
LowPress Trace	320	compressio ratio	6.02
SH Trace	36.0	SC Trace	19.2
SCSH Trace	26.2		

◀ IDU Gr.1 ▶

More IdU Info

	Capa	Mode	Flow	EEV	Air	pipein	pipeout	SC/SH	add Info.
IDU#1	1	⊘	⊘	0	300.00	224.93	184.71	-40.22	DXC
IDU#2	2	⊘	⊘	0	214.42	184.71	163.98	-20.73	DXC
IDU#3	3	✱	⊘	0	177.12	163.98	150.32	-13.66	DXC
IDU#4	4	⊘	⊘	0	157.75	150.32	140.26	-10.06	
IDU#5	5	✱	⊘	0	144.95	140.26	132.36	-7.90	FAU
IDU#6	6	✱	⊘	0	135.49	132.36	125.88	-6.48	
IDU#7	7	✱	⊘	0	128.04	125.88	120.42	-5.46	FAU
IDU#8	8	✱	⊘	0	121.93	120.42	115.70	-4.72	

Cycle\_Valves

	M	M
Accum.		C1 inj.
4way		C2 inj.
Hotgas		INV inj.
INV heater		SC inj.
STD1 heater		HEX Up
STD2 heater		HEX Down
STD1		
STD2		

Actuator Info.

	M	M	
INV1 TGT/TRC	112/96	SC EEV	1864
FAN1 TGT	800	EQ EEV	0
FAN1 TRC	1220		
FAN2 TGT	850		
FAN2 TRC	1320		
MAIN EEV	1600		
SUB EEV	1616		

Sensors\_Electric

	M	M	
air Temp.	76.5	INV1 Current	42.0
suction Temp.	17.4	INV1 Voltage	750
bubble Temp.	42.0	INV1 powerFrc	120
dew Temp.	-18.6	STD1 CT	9.8
INV1 dis.Temp	48.0	STD2 CT	13.8
STD1 Dis.Temp	9.0	c1 phase volta	650
STD2 Dis.Temp	7.0	comp1 phase	32.2
HEX Temp.	22.1	fan1 phase	17.1
upper HEX	220.0	fan2 phase	17.7
lower HEX	220.0	f1 phase volta	650
SC in Temp.	220.0	f2 phase volta	1055
SC out Temp.	7.6	INV1 DC link	550
liquid Temp.	22.8	INV1 IPM temp	19.45
INV oil Temp.	220.0	fan heatsink	-40.56
STD1 oil Temp	220.0		
STD2 oil Temp	220.0		

This part shows the indoor unit information of the system air conditioner.

This part shows the valve information of the system air conditioner.

This part shows the indoor unit information of the system air conditioner.

This part shows the valve information of the system air conditioner.

This part shows the sensor and electronic (Electric/Electronic) information of the system air conditioner.

### 3. How to Use LGMV - Monitoring

Detail information of the cycle section is as follows and the monitoring information displayed by model may vary.

Actuator Info. 1		Actuator Info. 2		
	M	S1	S2	S3
INV1 TGT/TRC	112/96	160/111	40/31	
FAN1 TGT	800	1500	200	
FAN1 TRC	1220	1710	1540	
FAN2 TGT	850	1700	2100	
FAN2 TRC	1320	2310	1410	
MAIN EEV	1600	1848	1288	
SUB EEV	1616	1040	1200	

#### 1. Actuator information

Actuator information shows compressor, fan and EEV information etc. It may also show oil supply EEV information depending on the specific model.

Based on Multi V 3

INV Target	Inverter target frequency	Main EEV	Main EEV (EEV1)
INV Current	Inverter current frequency	Sub EEV	sub EEV (EEV2)
FAN1 Target	Fan1 target frequency	SC EEV	Sub Cooling EEV
FAN1 Current	Fan1 current frequency	EQ EEV	Oil supply EEV
FAN2 Target	Fan2 target frequency		
FAN2 Current	Fan2 current frequency		

Cycle		Valves			
		M	S1	S2	S3
Accum.					
4way					
Hotgas					
INV heater					
STD1 heater					
STD2 heater					
STD1					
STD2					

#### 2. Valve information

Cycle valve information shows information of various valves necessary for understanding the VRF cycle. When the valve is turned off, it is displayed in gray, and when it is turned on, it is displayed in blue. Depending on specific model, it may be the red light.

Based on Multi V 3

ACCUM.	Oil return valve	STD1	Static speed compressor 1
4WAY	4 way valve	STD2	Static speed compressor 2
HOTGAS	Hot gas valve		
INV HEATER	Inverter heater valve		
STD1 HEATER	Static speed 1 heater valve		
STD2 HEATER	Static speed 1 heater valve		

### 3. How to Use LGMV - Monitoring

Detail information of the cycle section is as follows and the monitoring information displayed by model may vary.

◀ IDU Gr.1 ▶		More IdU Info						
	Capa	Mode	Flow	EEV	Air	pipein	pipeout	SC/SH add Info.
IDU#1	1	Ø	Ø	0	300.00	224.93	184.71	-182.93 DXC
IDU#2	2	Ø	Ø	0	214.42	184.71	163.98	-142.71 DXC
IDU#3	3	✱	Ø	0	177.12	163.98	150.32	-121.98
IDU#4	4	Ø	Ø	0	157.75	150.32	140.26	-108.32 DXC
IDU#5	5	✱	Ø	0	144.95	140.26	132.36	-98.26
IDU#6	6	✱	Ø	0	135.49	132.36	125.88	-90.36 FAU
IDU#7	7	✱	Ø	0	128.04	125.88	120.42	-83.88
IDU#8	8	✱	Ø	0	121.93	120.42	115.70	-78.42 FAU

#### 3. Indoor unit information

Indoor unit information shows capacity, operating mode, fan level and EEV of indoor unit etc. It may also show pipe temperature information depending on the specific model.

Based on Multi V 3

Capa	Indoor unit capacity	pipeout	Indoor pipe outlet temperature
Mode	Indoor unit operating mode	SC/SH	Indoor unit SC/SH
Flow	Indoor unit fan level	add info.	Indoor unit type
EEV	Indoor unit EEV	Comm.	Communication rate
Air	Indoor air temperature	CEN	Central control address
pipein	Indoor pipe inlet temperature	error	Error code

#### 4. Sensor information

Sensor information shows basic temperature sensor information such as air temperature, discharge temperature, heat exchanger temperature etc. It may also show oil supply temperature information depending on the specific model.

Based on Multi V 3

Sensors		Electric			
	M	S1	S2	S3	
air Temp.	76.5	20.1	26.5		
suction Temp.	17.4	31.8	3.1		
bubble Temp.	42.0	52.7	56.1		
dew Temp.	-18.6	13.7	29.6		
INV1 dis.Temp	111.0	176.0	106.0		
STD1 Dis.Temp	92.0	152.0	40.0		
STD2 Dis.Temp	91.0	177.0	97.0		
HEX Temp.	22.1	42.5	16.0		
upper HEX	220.0	220.0	220.0		
lower HEX	220.0	220.0	220.0		
SC in Temp.	220.0	220.0	220.0		
SC out Temp.	7.6	84.2	-45.8		
liquid Temp.	22.8	26.0	19.4		
INV oil Temp.	220.0	220.0	220.0		
STD1 oil Temp	220.0	220.0	220.0		
STD2 oil Temp	220.0	220.0	220.0		

air Temp	Air temperature	upper Hex	Heat exchanger top temperature
suction Temp	Suction temperature	lower Hex	Bottom heat exchanger
bubble Temp	Condenser temperature	SC in Temp	Overcooling inlet temperature
dew Temp	Evaporator temperature	SC out Temp	Overcooling outlet temperature
INV1dis.Temp	Inverter discharge temperature	Liquid Temp	Liquid pipe temperature
STD1dis.Temp	Static speed compressor 1 discharge temperature	INV oil Temp	Inverter oil supply temperature
STD2dis.Temp	Static speed compressor 2 discharge temperature	STD1 oil Temp	Static speed compressor 1 Oil supply temperature
HEX Temp	Heat exchanger temperature	STD2 oil Temp	Static speed compressor 2 Oil supply temperature

### 3. How to Use LGMV - Monitoring

Detail information of the cycle section is as follows and the monitoring information displayed by model may vary.

◀ IDU Gr.1 ▶		More IdU Info						
	Capa	Mode	Flow	EEV	Air	pipein	pipeout	SC/SH add Info.
IDU#1	1	Ø	Ø	0	300.00	224.93	184.71	-182.93 DXC
IDU#2	2	Ø	Ø	0	214.42	184.71	163.98	-142.71 DXC
IDU#3	3	✱	Ø	0	177.12	163.98	150.32	-121.98
IDU#4	4	Ø	Ø	0	157.75	150.32	140.26	-108.32 DXC
IDU#5	5	✱	Ø	0	144.95	140.26	132.36	-98.26
IDU#6	6	✱	Ø	0	135.49	132.36	125.88	-90.36 FAU
IDU#7	7	✱	Ø	0	128.04	125.88	120.42	-83.88
IDU#8	8	✱	Ø	0	121.93	120.42	115.70	-78.42 FAU

#### 3. Indoor unit information

Indoor unit information shows capacity, operating mode, fan level and EEV of indoor unit etc. It may also show pipe temperature information depending on the specific model.

Based on Multi V 3

Capa	Indoor unit capacity	pipeout	Indoor pipe outlet temperature
Mode	Indoor unit operating mode	SC/SH	Indoor unit SC/SH
Flow	Indoor unit fan level	add info.	Indoor unit type
EEV	Indoor unit EEV	Comm.	Communication rate
Air	Indoor air temperature	CEN	Central control address
pipein	Indoor pipe inlet temperature	error	Error code

#### 4. Sensor information

Sensor information shows basic temperature sensor information such as air temperature, discharge temperature, heat exchanger temperature etc. It may also show oil supply temperature information depending on the specific model.

Based on Multi V 3

Sensors		Electric			
	M	S1	S2	S3	
air Temp.	76.5	20.1	26.5		
suction Temp.	17.4	31.8	3.1		
bubble Temp.	42.0	52.7	56.1		
dew Temp.	-18.6	13.7	29.6		
INV1 dis.Temp	111.0	176.0	106.0		
STD1 Dis.Temp	92.0	152.0	40.0		
STD2 Dis.Temp	91.0	177.0	97.0		
HEX Temp.	22.1	42.5	16.0		
upper HEX	220.0	220.0	220.0		
lower HEX	220.0	220.0	220.0		
SC in Temp.	220.0	220.0	220.0		
SC out Temp.	7.6	84.2	-45.8		
liquid Temp.	22.8	26.0	19.4		
INV oil Temp.	220.0	220.0	220.0		
STD1 oil Temp	220.0	220.0	220.0		
STD2 oil Temp	220.0	220.0	220.0		

air Temp	Air temperature	upper Hex	Heat exchanger top temperature
suction Temp	Suction temperature	lower Hex	Bottom heat exchanger
bubble Temp	Condenser temperature	SC in Temp	Overcooling inlet temperature
dew Temp	Evaporator temperature	SC out Temp	Overcooling outlet temperature
INV1dis.Temp	Inverter discharge temperature	Liquid Temp	Liquid pipe temperature
STD1dis.Temp	Static speed compressor 1 discharge temperature	INV oil Temp	Inverter oil supply temperature
STD2dis.Temp	Static speed compressor 2 discharge temperature	STD1 oil Temp	Static speed compressor 1 Oil supply temperature
HEX Temp	Heat exchanger temperature	STD2 oil Temp	Static speed compressor 2 Oil supply temperature

### 3. How to Use LGMV - Monitoring

Detail information of the cycle section is as follows and the monitoring information displayed by model may vary.

Sensors	Electric			
	M	S1	S2	S3
inv1 input CT	42.0	4.2	42.2	
inv1 input VT	750	650	1250	
inv1 powerFrq	120	241	132	
STD1 CT	9.8	12.9	10.6	
STD2 CT	13.8	4.3	11.4	
inv1 phase VT	650	165	1005	
inv1 phase CT	32.2	4.2	42.2	
fan1 phase CT	17.1	12.0	11.0	
fan2 phase CT	17.7	16.4	14.1	
fan1 phase VT	650	510	650	
fan2 phase VT	1055	1105	805	
inv1 DC link	550	1250	505	
inv1 IPM temp.	19.45	-13.30	82.34	
Fan heatsink	-40.56	-40.56	-40.56	

#### 5. Electronics information

Electronics information shows the basic electric and electronic information including current, power, voltage etc. It may also show phase current information depending on the specific model.

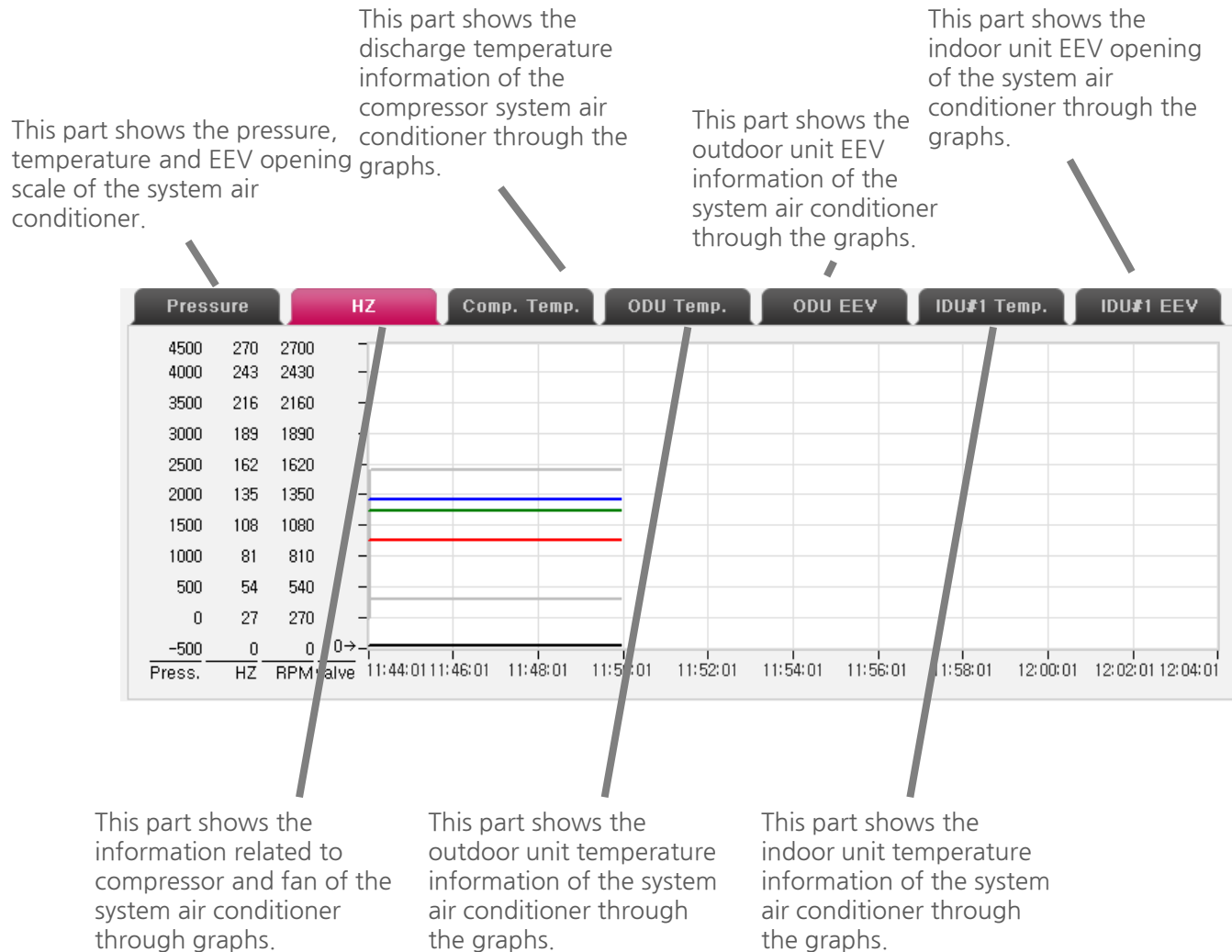
Based on Multi V 3

INV1 input CT	Inverter input current	fan2 phase CT	Fan 2 phase current
INV input VT	INV input voltage	fan1 phase VT	FAN1 phase voltage
INV powerFrq	Inverter power frequency	fan2 phase VT	Fan 2 phase voltage
STD1 CT	Static speed compressor 1 current value	INV1 DC link	Inverter DCLINK voltage
STD2 CT	Static speed compressor 2 current value	INV1 IPM temp	Inverter IPM temperature
inv1 phase VT	Compressor 1 phase voltage	Fan heatsink	Fan heat sink temperature
inv1 phase CT.	Compressor 1 phase current		
fan1 phase CT	Fan 1 phase current		



### 3. How to Use LGMV - Monitoring

Basic mini graph section is as follows.

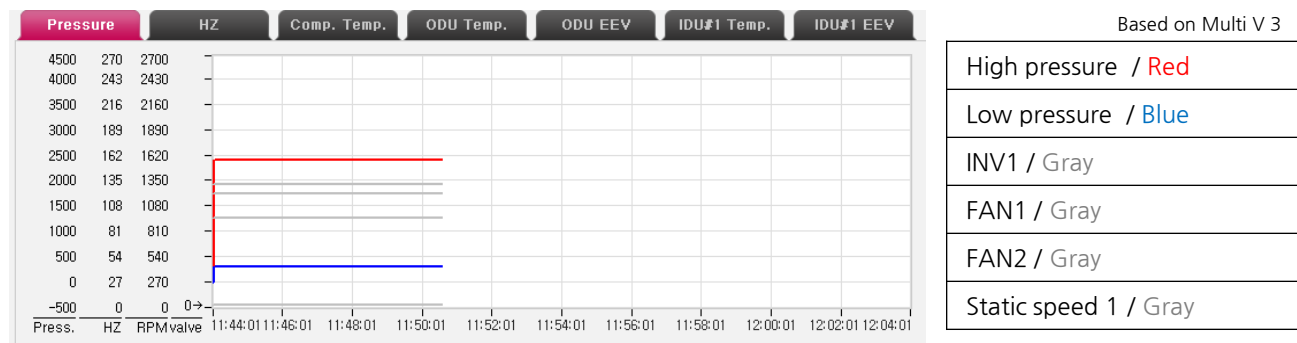


### 3. How to Use LGMV - Monitoring

Detail information of the mini graph screen is as follows.

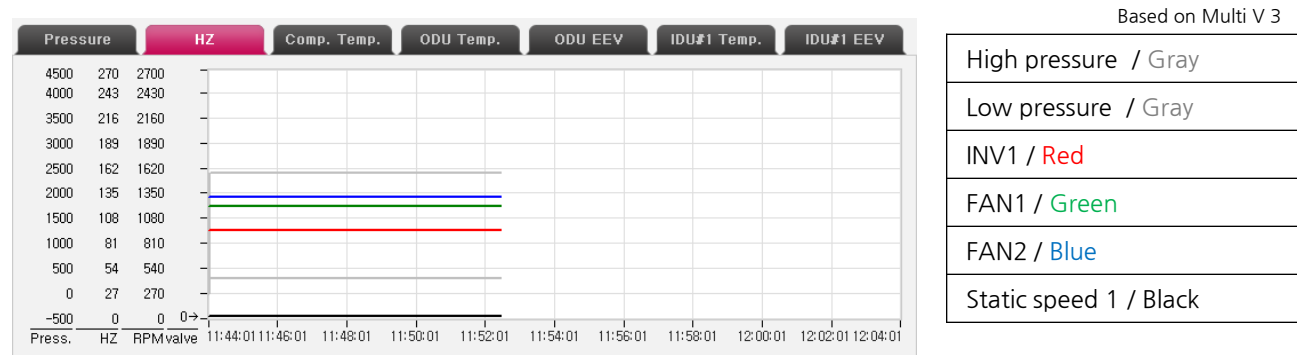
#### 1. Pressure Tab

This shows high and low pressure of master outdoor unit of the current system air conditioner and the compressor HZ and fan RPM related to high and low pressure are shown in gray. Elements of the VRF cycle are shown in one view.



#### 2. HZ Tab

This shows compressor and fan of master outdoor unit of the current system air conditioner and in contrary to the Pressure tab, the high and low pressure related to compressor and fan is shown in gray. Elements of VRF cycle are shown in one view.

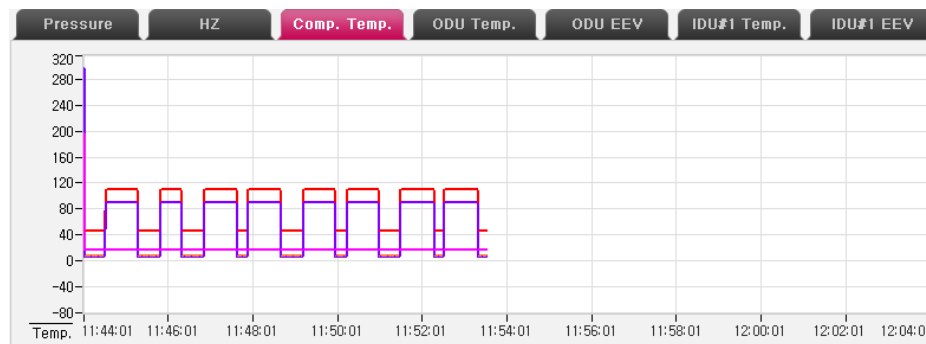


### 3. How to Use LGMV - Monitoring

Detail information of the mini graph screen is as follows.

#### 3. COMP TEMP Tab

This shows temperature value related to the master outdoor unit compressor of the current system air conditioner and discharge temperature is shown as the representative value. .

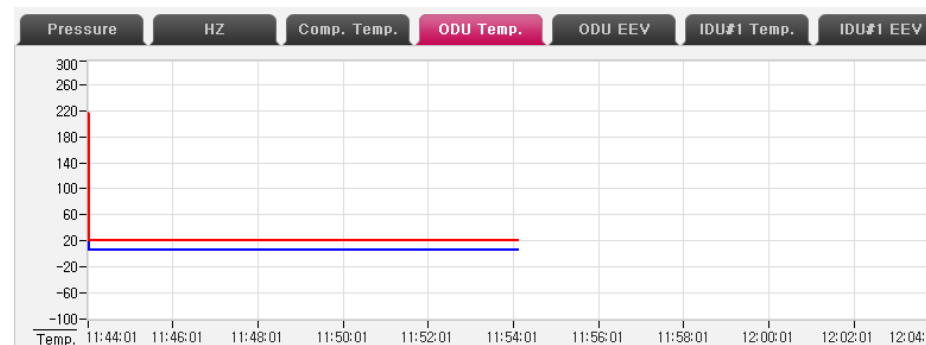


Based on Multi V 3

INV1 discharge temperature / Red
Static speed 1 discharge temperature / Orange
Static speed 2 discharge temperature / Purple
Suction temperature / Pink

#### 4. ODU TEMP Tab

This shows temperature value of the master outdoor unit of the current system air conditioner and outdoor air temperature is shown as the representative value. .



Based on Multi V 3

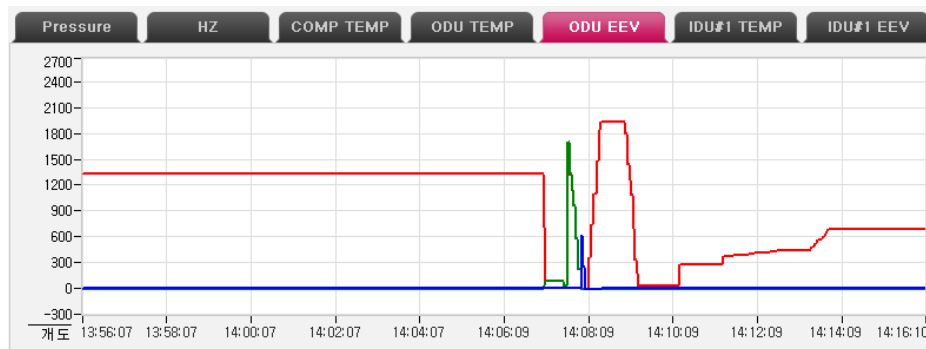
Overcooling outlet temperature / Blue
Liquid pipe temperature / Green
Heat exchanger temperature / Red

### 3. How to Use LGMV - Monitoring

Detail information of the mini graph screen is as follows.

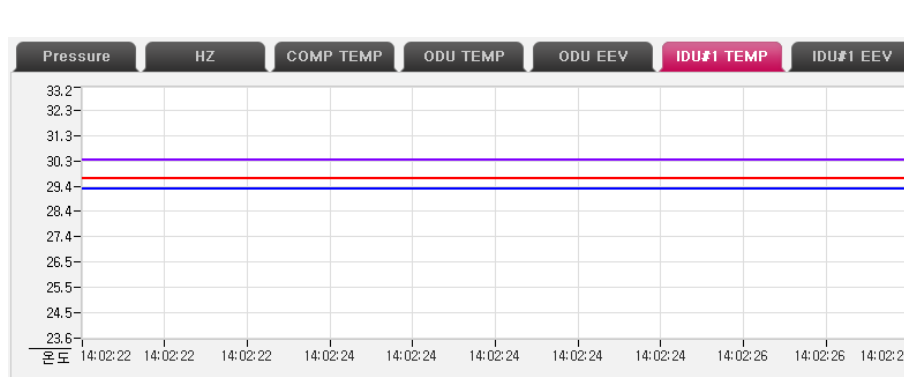
#### 5. ODU EEV Tab

This shows EEV value of the master outdoor unit of the current system air conditioner and main EEV is shown as the representative value.



#### 6. IDU TEMP Tab

This shows temperature value of the indoor unit of the current system air conditioner and indoor air temperature is shown as the representative value..

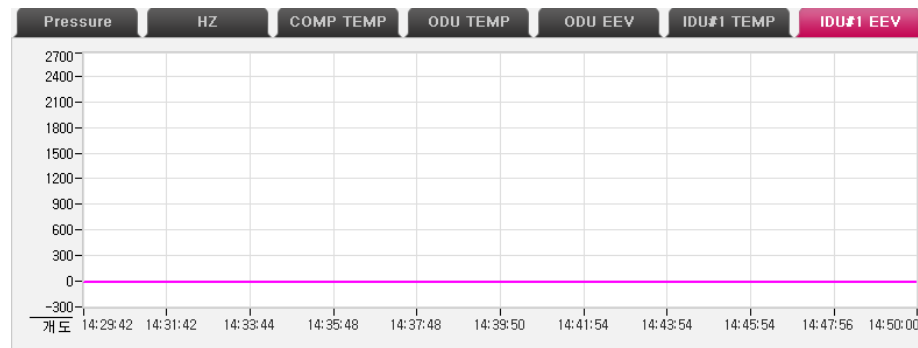


### 3. How to Use LGMV - Monitoring

Detail information of the mini graph screen is as follows.

#### 7. IDU EEV Tab

This shows the EEV value of the indoor unit of the current system air conditioner. .

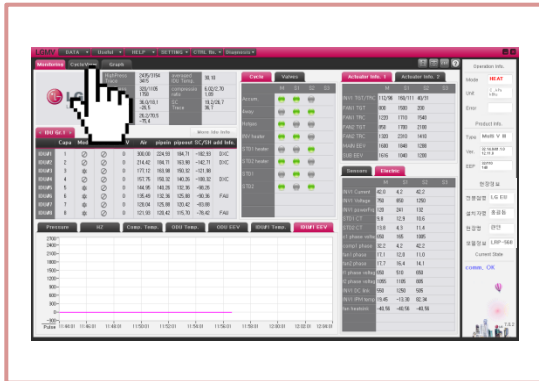


Based on Multi V 3

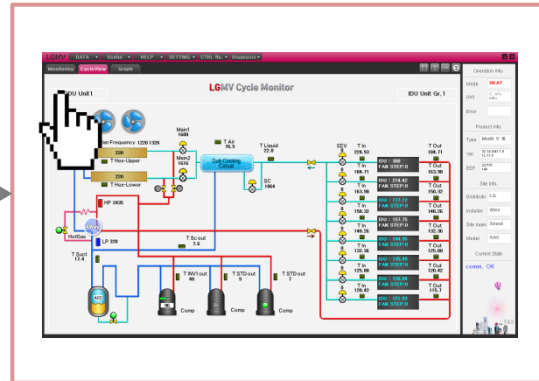
EEV / Pink

### 3. How to Use LGMV - Cycle View

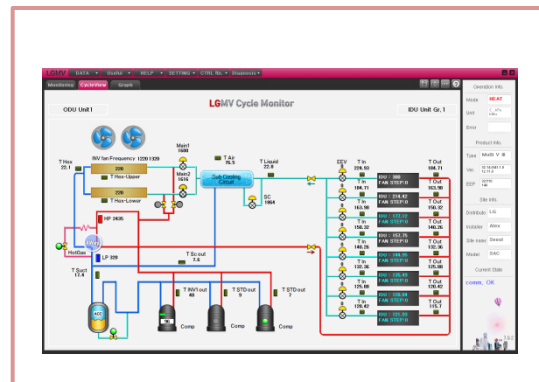
Run LGMV cycle view as follows.



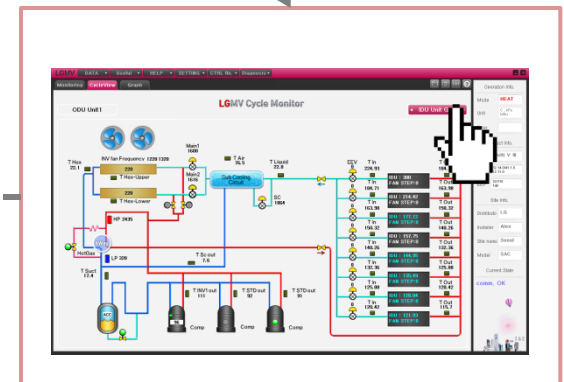
1. Click on Cycle view tab.



2. Click on outdoor unit button for setting.



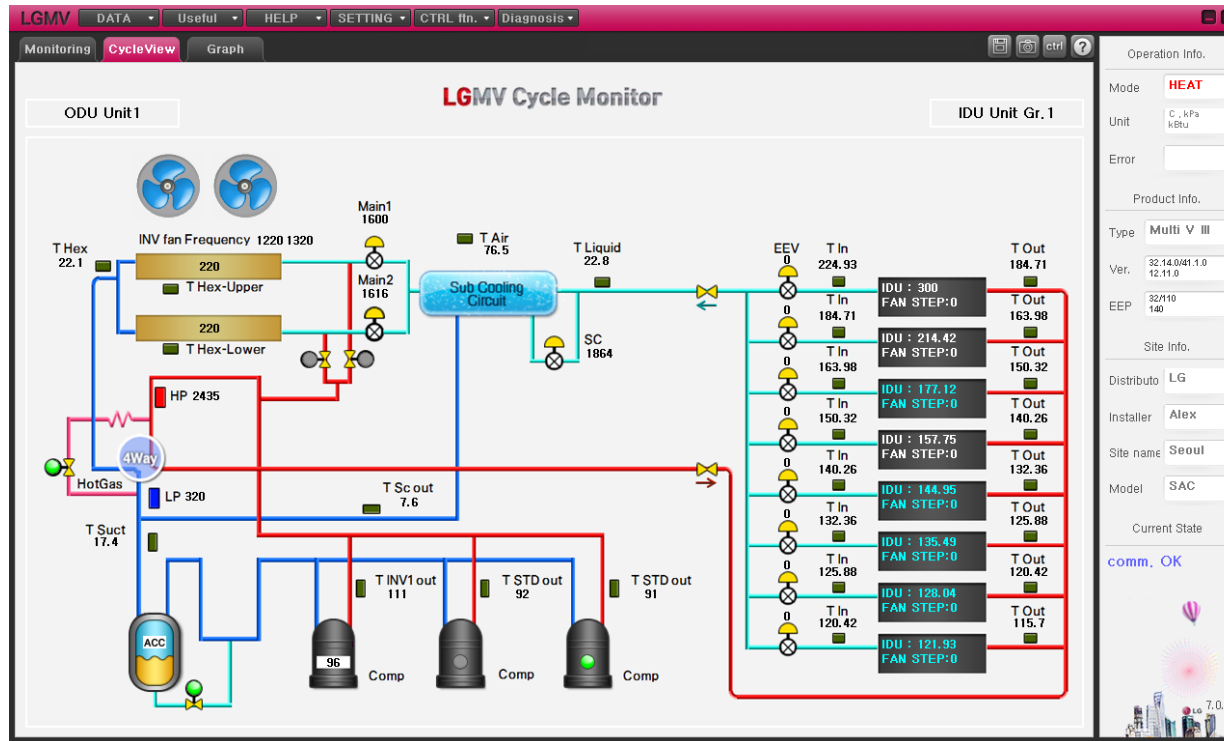
4. Check the cycle view of the outdoor and indoor unit group set up respectively.



3. Click on the indoor unit group button and select the indoor unit group to view.

### 3. How to Use LGMV - Cycle View

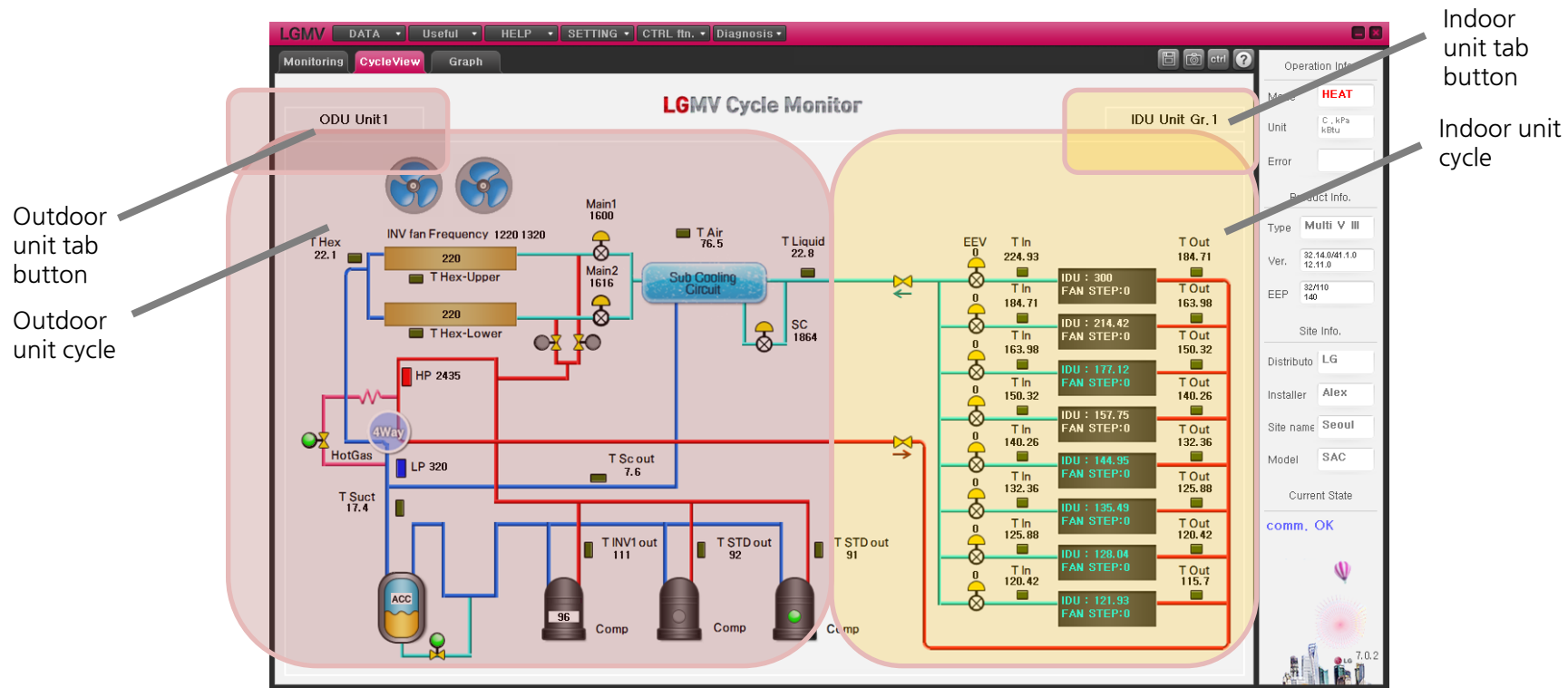
When the user clicks the cycle view tab, the cycle view screen is displayed as follows.



Cycle view is made up of mainly 2 sections. The first section is the outdoor unit section, which takes up more than 60% of the screen and is located on the left side. The outdoor unit section shows actuator, sensor and valve information as well as the compressor and fan information. The second section is the indoor unit section, located on the right, and shows the indoor temperature, fan information, pipe temperature and inlet/outlet temperature. Additionally, you can see the pipe design and flow of refrigerant applied to the actual system air conditioner.

### 3. How to Use LGMV - Cycle View

Detail information of the cycle view screen is as follows.

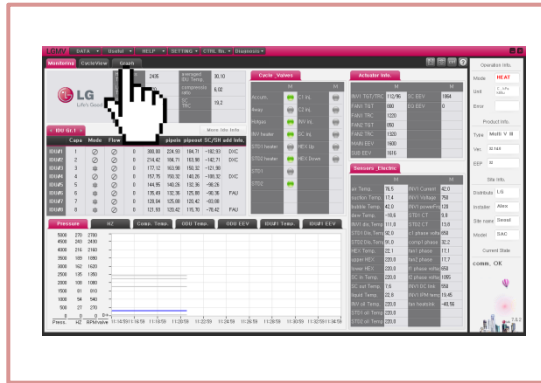


1. Outdoor unit tab is configured to change the screen as many times as the number of outdoor units and it shows the outdoor unit information respectively.
2. Indoor unit tab is configured to change the screen as many times as the number of indoor units and it shows the indoor unit group information.
3. Pipe design is configured differently based on heating and cooling mode.
4. Actuator information is configured to be expressed differently visually based on the actual value.



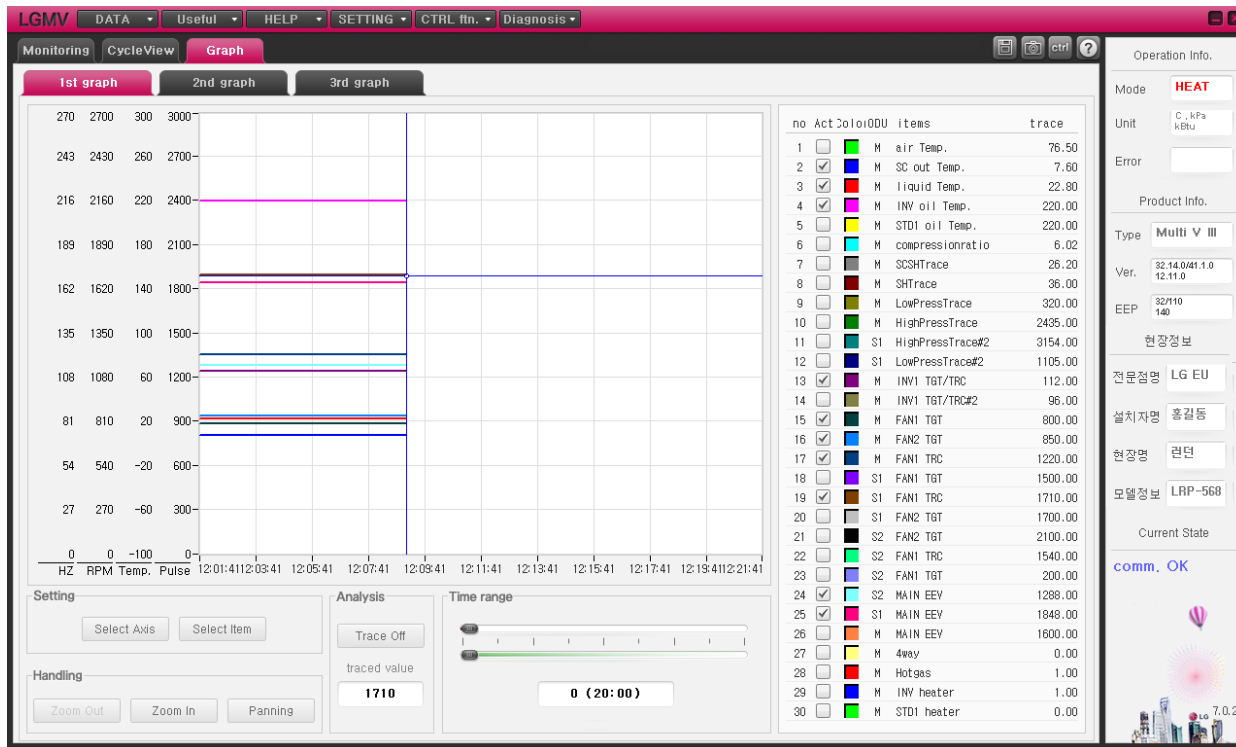
### 3. How to Use LGMV - Detail Graph

Run LGMV detail graph as follows.



### 3. How to Use LGMV - Detail Graph

Click on Detail graph tab and the Detail graph screen will be displayed as follows.



Detail graph is made up of mainly 3 sections. First section is the graph section and takes up more than 50% and is located on the top left corner. The graph section shows the values of the items selected from the control and information section through the graphs. Second section is the control section and is made up of button and screen to select the item and axis. The last section is the information section and shows the items selected in the control section.

### 3. How to Use LGMV - Detail Graph

Detail information of the detail graph screen is as follows.

As one of the tabs of the detail graph, this part shows the information of various system air conditioners in one tab.

This part shows the axis information of the information selected by the system air conditioner.



This part shows the outdoor unit information of the system air conditioner.

This part shows the information of the selected system air conditioner.

This part shows the range of the time axis of the detail graph.

This part is composed of the zoom in and out button to navigate the graph.

This part is composed of the item selection button and axis selection button to select the item and axis to display in the detail graph.

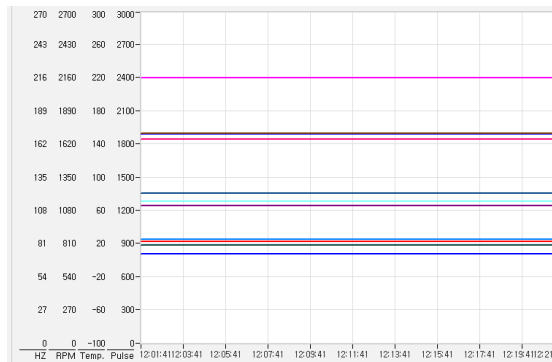
This part shows the total time of the detail graph.

### 3. How to Use LGMV - Detail Graph Screen

Detail section of the detail graph screen is as follows. .

#### 1. Graph section

Outdoor unit information (Basic information, valve information, actuator information, sensor and electronic part information) is displayed through the graph.



#### 2. Control section






Control section is composed of 4 groups. First setting group includes the axis selection button and item selection button. Second handling group includes the zoom in/out and panning button. Third analysis group includes the trace button. The fourth group, the time range group, includes the current time display and time axis selection.

### 3. How to Use LGMV - Detail Graph Screen

Detail section of the detail graph screen is as follows. .

#### 3. Information section

Information screen is composed of check box to display on graph, graph color button, outdoor unit order and outdoor unit information (name).

no	Act	Color	ODU	items	trace
1	<input type="checkbox"/>		M	air Temp.	76.50
2	<input checked="" type="checkbox"/>		M	SC out Temp.	7.60
3	<input checked="" type="checkbox"/>		M	liquid Temp.	22.80
4	<input checked="" type="checkbox"/>		M	INV oil Temp.	220.00
5	<input type="checkbox"/>		M	STD1 oil Temp.	220.00
6	<input type="checkbox"/>		M	compressionratio	6.02
7	<input type="checkbox"/>		M	SCSHTrace	26.20
8	<input type="checkbox"/>		M	SHTrace	36.00
9	<input type="checkbox"/>		M	LowPressTrace	320.00
10	<input type="checkbox"/>		M	HighPressTrace	2435.00
11	<input type="checkbox"/>		S1	HighPressTrace#2	3154.00
12	<input type="checkbox"/>		S1	LowPressTrace#2	1105.00
13	<input checked="" type="checkbox"/>		M	INV1 TGT/TRC	112.00
14	<input type="checkbox"/>		M	INV1 TGT/TRC#2	96.00
15	<input checked="" type="checkbox"/>		M	FAN1 TGT	800.00
16	<input checked="" type="checkbox"/>		M	FAN2 TGT	850.00
17	<input checked="" type="checkbox"/>		M	FAN1 TRC	1220.00
18	<input type="checkbox"/>		S1	FAN1 TGT	1500.00
19	<input checked="" type="checkbox"/>		S1	FAN1 TRC	1710.00
20	<input type="checkbox"/>		S1	FAN2 TGT	1700.00
21	<input type="checkbox"/>		S2	FAN2 TGT	2100.00
22	<input type="checkbox"/>		S2	FAN1 TRC	1540.00
23	<input type="checkbox"/>		S2	FAN1 TGT	200.00
24	<input checked="" type="checkbox"/>		S2	MAIN EEV	1288.00
25	<input checked="" type="checkbox"/>		S1	MAIN EEV	1848.00
26	<input type="checkbox"/>		M	MAIN EEV	1600.00
27	<input type="checkbox"/>		M	4way	0.00
28	<input type="checkbox"/>		M	Hotgas	1.00
29	<input type="checkbox"/>		M	INV heater	1.00
30	<input type="checkbox"/>		M	STD1 heater	0.00

### 3. How to Use LGMV - Detail Graph Screen

Detail section of the detail graph screen is as follows.

#### 4. Item selection section

This is configured to be able to select the outdoor unit information (Basic information, valve information, actuator information, sensor and electronic part information) of the current system air conditioner.



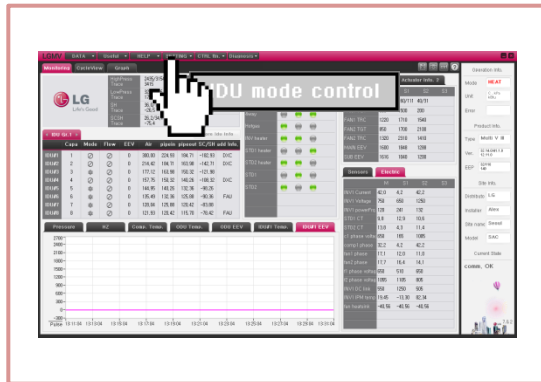
## 5. Axis selection section

This is configured to be able to select the maximum and minimum value of the information type of the current system air conditioner (Pressure, RPM, opening, voltage, current etc.)

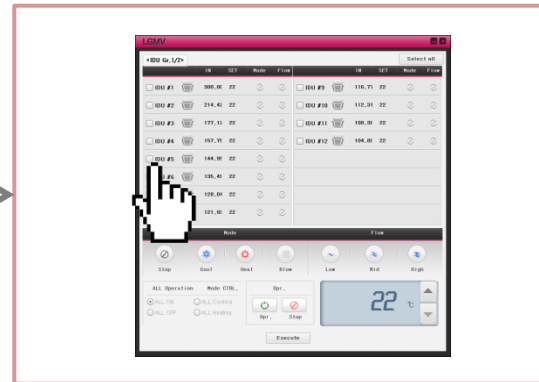


### 3. How to Use LGMV - Indoor Unit Control

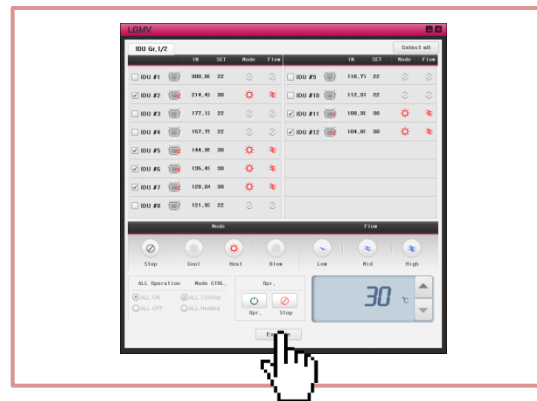
Run the LGMV indoor unit control as follows.



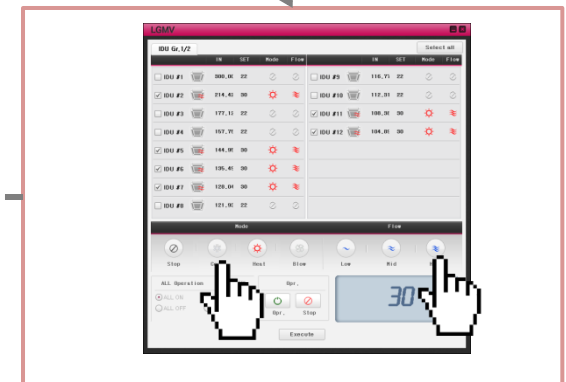
1. Click on the Indoor unit control on the Control function tab on the menu bar.



2. Set the indoor unit group, the target of indoor unit control and then click on the indoor unit as the control target.



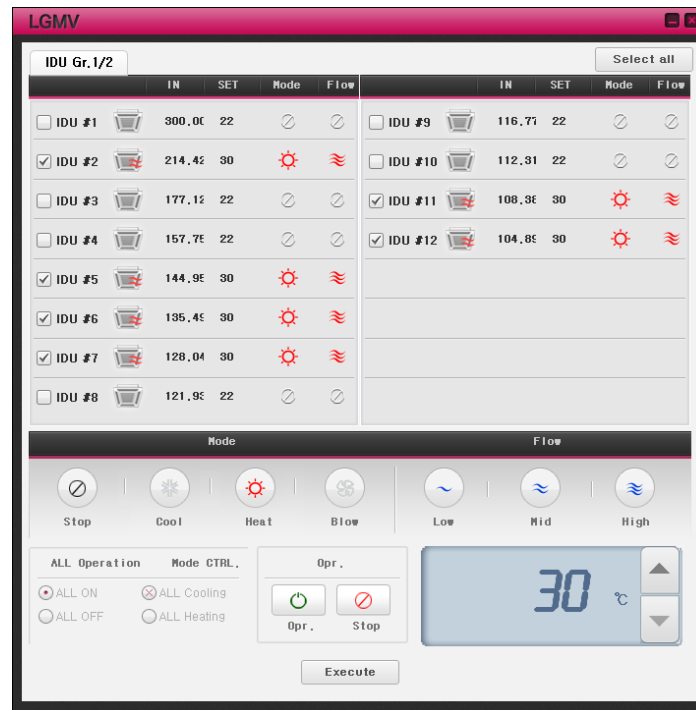
4. After checking the control of the indoor unit adjusted to the setting, click on the run button to start the indoor unit control.



3. Set the operating mode and fan level.

### 3. How to Use LGMV - Indoor Unit Control

Basic indoor unit control screen is as follows.



Indoor unit control screen is the screen to control the operating mode of the indoor unit. This screen is configured to control all the indoor units currently set. Control group can include maximum of 16 units and other functionalities include control all etc. Select the indoor unit to control and set the operating mode and fan level to run the operation control. The control function is configured to operate and change the indoor unit as the user sets.



### 3. How to Use LGMV - Indoor Unit Control

Detail information of the indoor unit control screen is as follows.

This part is the control button to select the indoor unit group information.

This part shows the indoor temperature information of the indoor unit.

This part shows the operating mode information of the indoor unit.

This part shows the fan level information of the indoor unit.

This part is the button to control the operating mode of the indoor unit.

This part is the control button to select whether to control all indoor units.



This part is the control button to select all indoor units.

This part is the button to control the operation of the indoor unit based on the outdoor unit condition.

This part is the button to control the fan level of the indoor unit.

This part is the button to control the set temperature of the indoor unit.

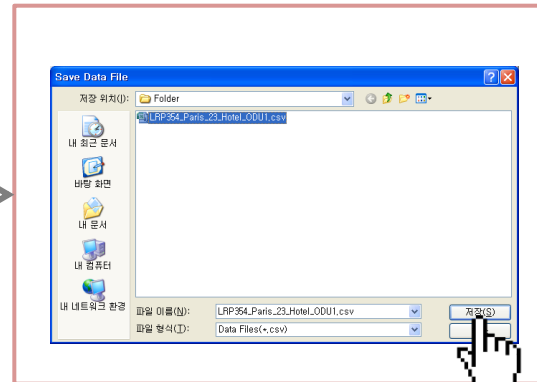
This part is the button to execute.

### 3. How to Use LGMV - Save Data

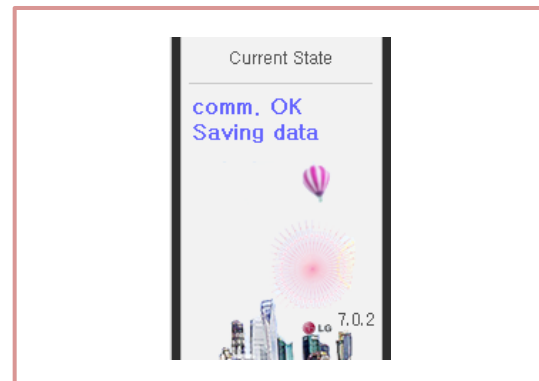
Save the LGMV data as follows.



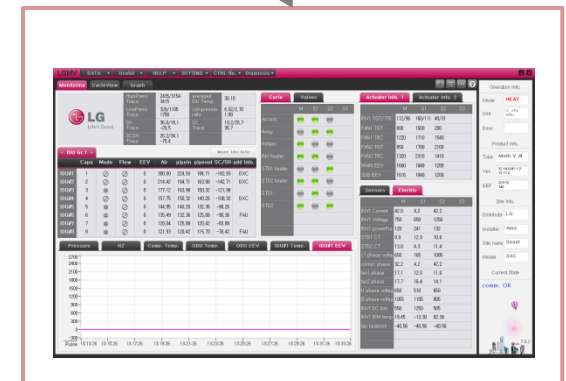
1. Click on the Load data on the data function tab of the menu bar.



2. Designate the folder to save the data and the file name, and then press the OK button.



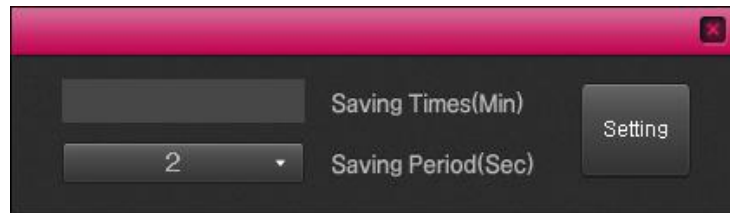
4. "Saving Data" message is displayed at the bottom right corner of the monitoring screen.



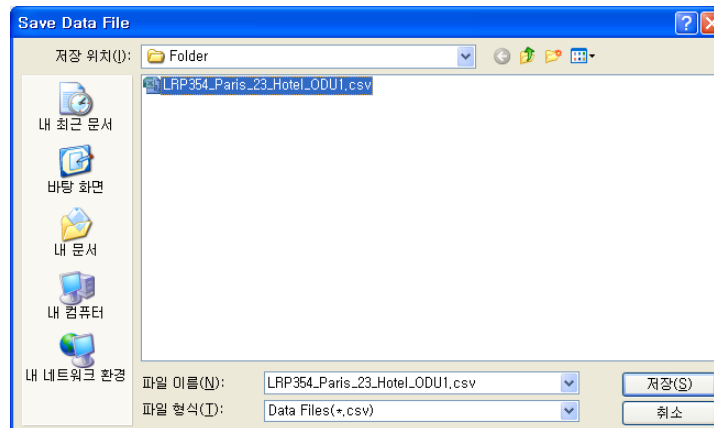
3. Save the data in the designated directory.

### 3. How to Use LGMV - Save Data

When the Save data option is selected, the following screen will be displayed.



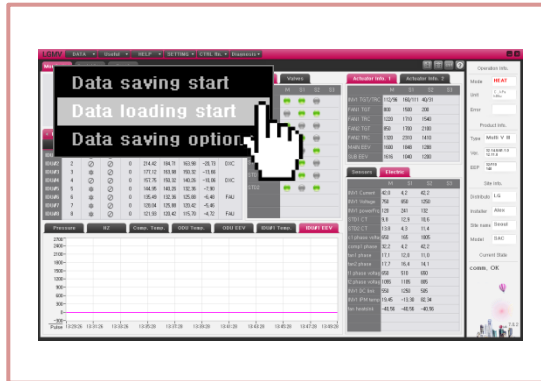
From the Save data option screen, the user can select the data saving frequency and time. Data saving frequency sets the frequency to save the data in 2 sec, 4 sec etc., and the data saving time sets how many minutes to save the data for. If the Save data option is not set before saving the data, default for data saving frequency is set to 2 sec.



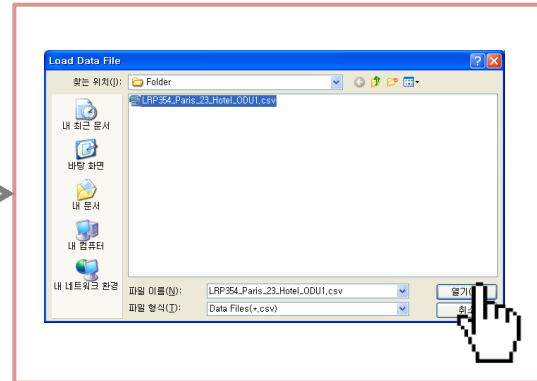
When the Save data starts, the screen prompts to ask which folder to save to, as shown above. Set the name to save, and the data will be saved in the designated folder.

### 3. How to Use LGMV - Load Data

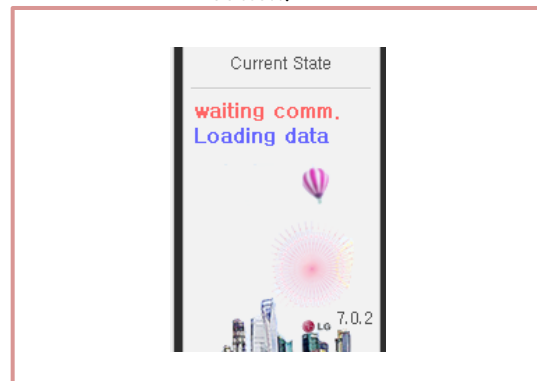
Load the LGMV data as follows.



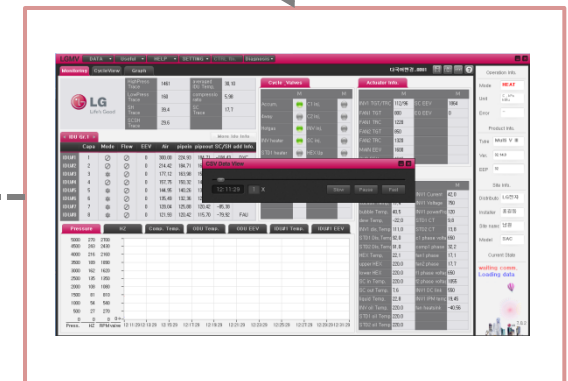
1. Click on the Load menu on the data function tab of the menu bar.



2. Designate the folder to load the data from and select the file name of the outdoor unit, and then press the Open button.



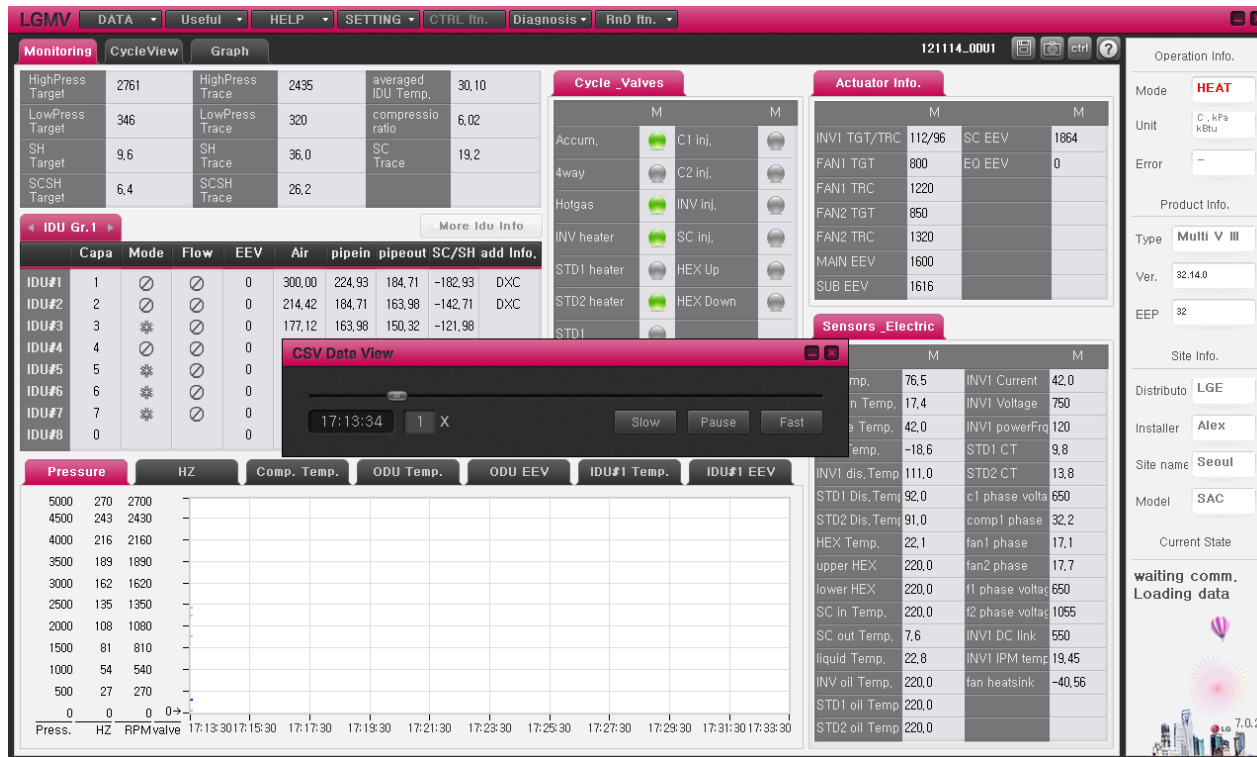
4. "Loading Data" message is displayed at the bottom right corner of the monitoring screen.



3. When the data load bar is shown on the monitoring screen, click on the Play button to play the data. It can be played at x2 or x4 speed as well.

### 3. How to Use LGMV - Load Data

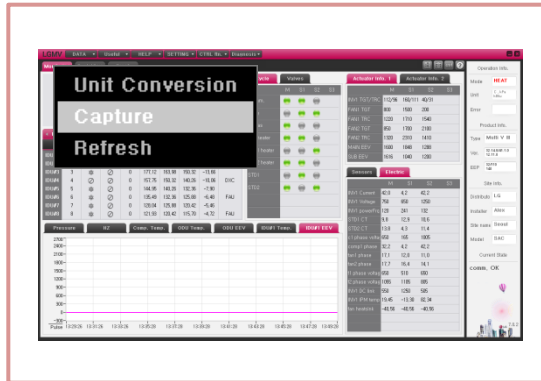
When the data loading starts, the following screen will be displayed.



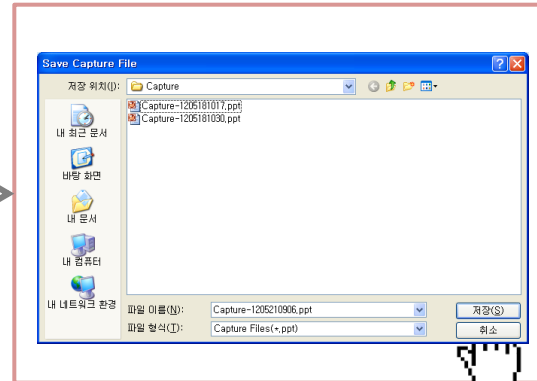
When the user clicks on the Play button from the load bar, the data load will run. The saved data load can be accelerated or decelerated. Adjust the speed to x2, x4 or x8 etc.

### 3. How to Use LGMV - Screen Capture

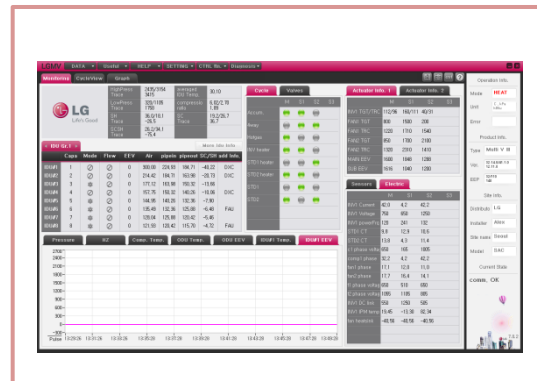
Run LGMV screen capture as follows.



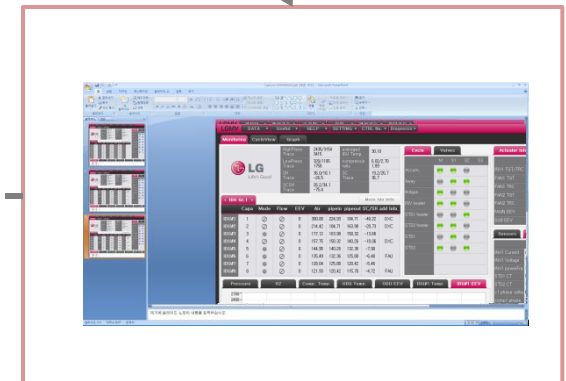
1. Click on the Screen capture button on the convenience tab on the menu bar.



2. Designate the directory and file name to save the capture file.



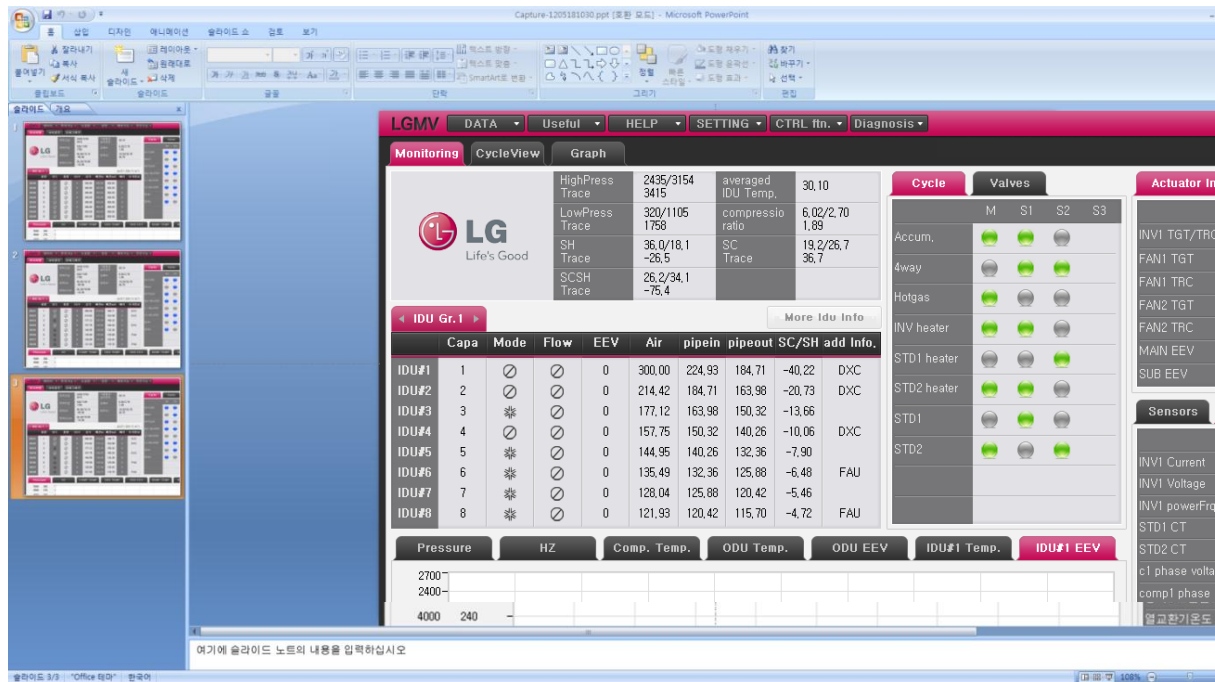
4. Screen capture button is also located in the quick icons at the top right corner of the screen.



3. Screen is captured in Powerpoint.

### 3. How to Use LGMV - Screen Capture

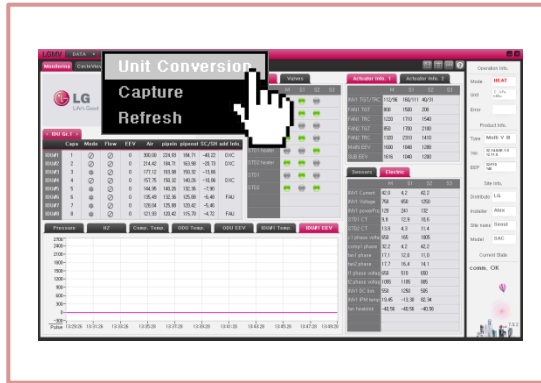
When the screen capture is selected, the screen will be captured as follows.



When the screen capture is saved, the user can check the file saved in the designated directory and also the screen can be captured continuously.

### 3. How to Use LGMV -Unit Conversion

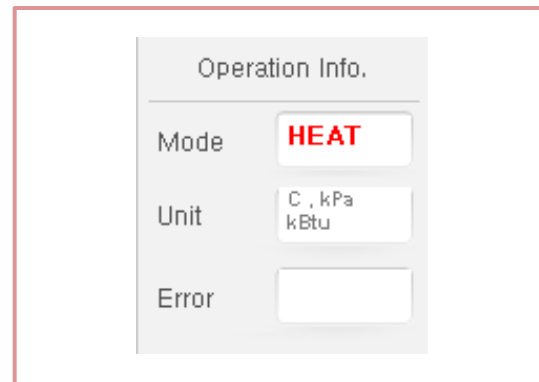
Run the LGMV unit conversion as follows.



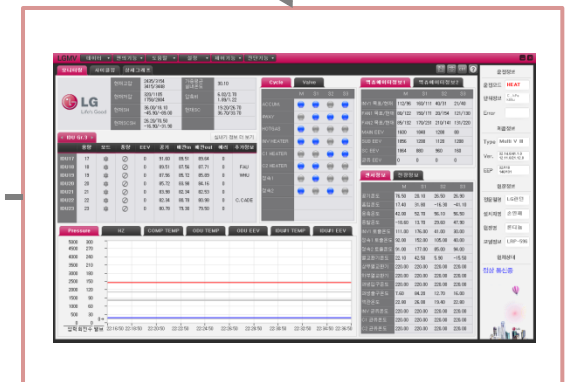
1. Click on the Unit conversion button on the convenience tab on the menu bar.



2. After applying the unit that fits the user's need from the unit conversion option screen, click on OK.



4. Unit information of the current display is shown in the monitoring screen operation section.



3. Units of the data in all areas of the monitoring screen are converted.



### 3. How to Use LGMV - Unit Conversion

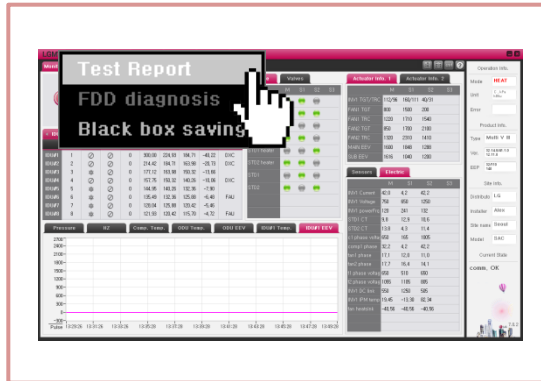
When the unit conversion is selected, the option screen will be displayed as follows.



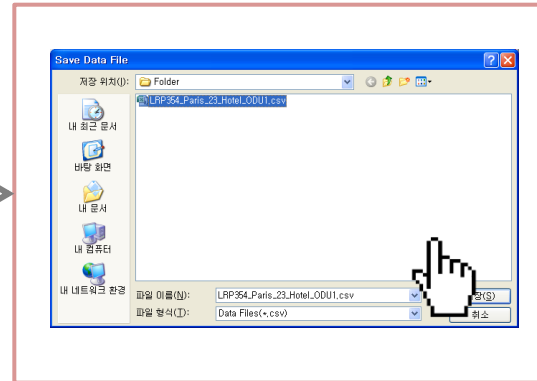
Monitoring information format will be calculated in the above format. Unit conversion is currently supported for temperature, pressure and capacity.

### 3. How to Use LGMV - Test Report

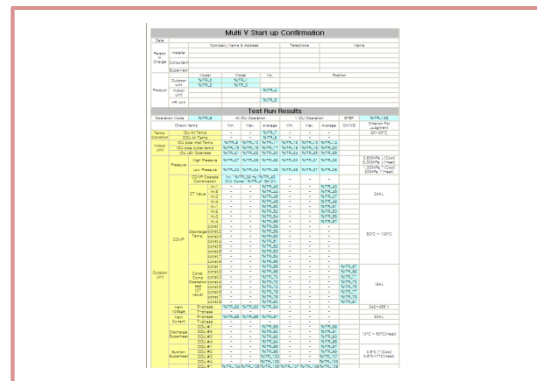
Run the LGMV test report as follows.



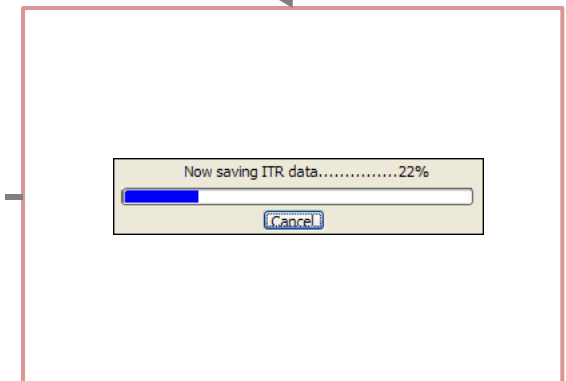
1. Click on the Test report button on the diagnosis function tab on the menu bar.



2. Designate the folder and file name to save the test report to, and click on the Save button.



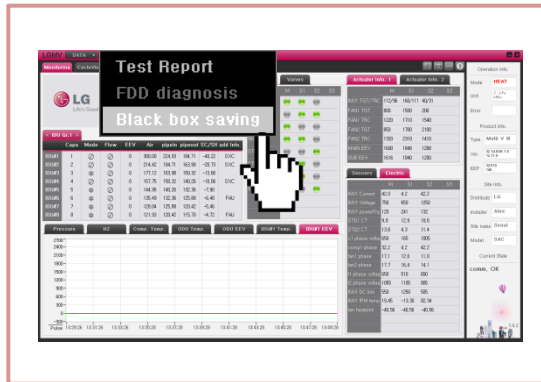
4. When the ITR data is completed, open the HTML document in the designated directory to check the results of the test report.



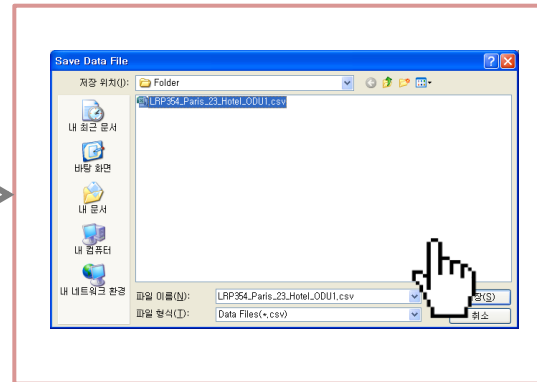
3. Generate the ITR data.

### 3. How to Use LGMV -Save Black Box

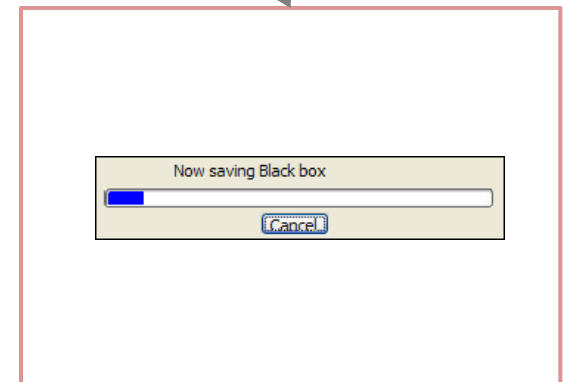
Save LGMV black box as follows.



1. Click on the Save black box button on the diagnosis function tab on the menu bar.



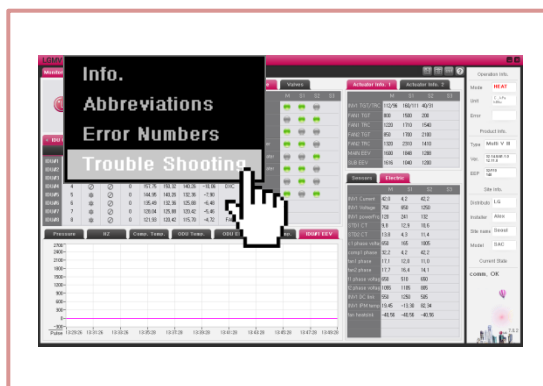
2. Designate the folder and file name to save the black box data to, and click on the Save button.



3. Open and save black box data.

### 3. How to Use LGMV - Troubleshooting Error Code

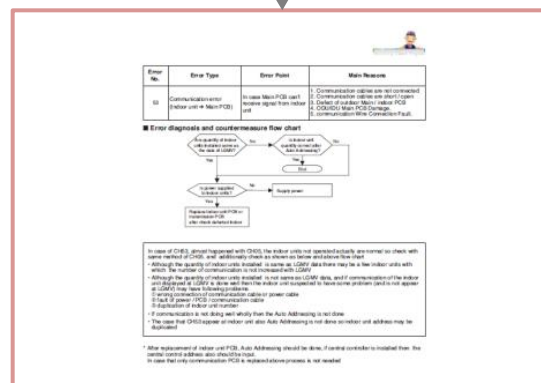
Troubleshoot the error of LGMV as follows.



1. Click on Troubleshooting on Help on the menu bar.



1. Click on the error code at the top right of the monitoring screen.



2. Error code, error item, key cause and check method are displayed according to the indicated error code.



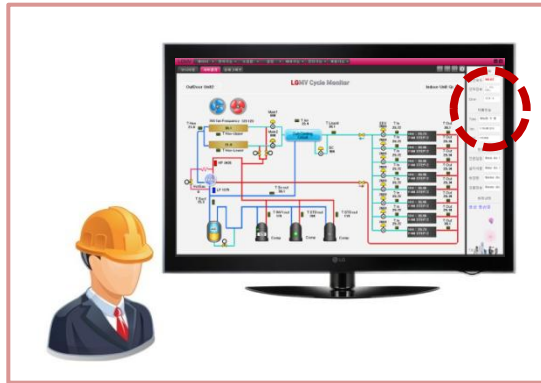
#4

# Reference

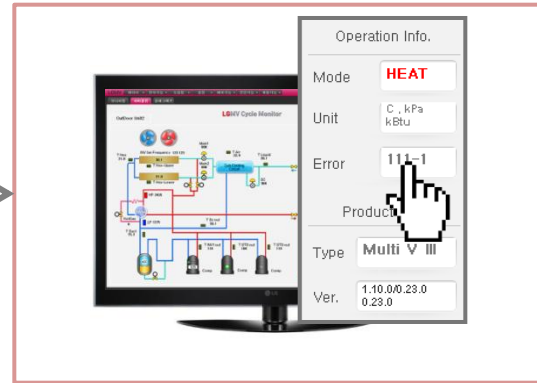
This chapter describes the reference in using LGMV.

## 4. LGMV Reference - Automatic Troubleshooting Solution

Reference for the automatic troubleshooting solution of LGMV is as follows.



1. Error occurs while monitoring the SAC product.



2. Click on the error code at the top right corner of the monitoring screen.

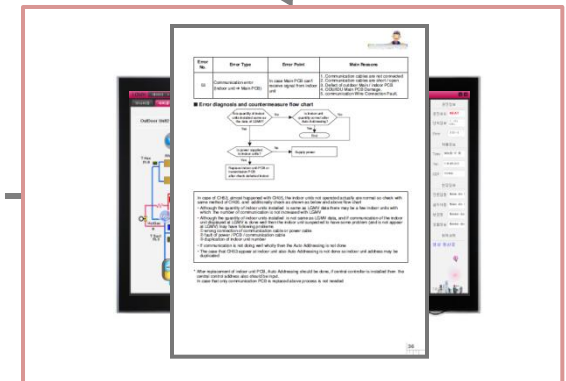
※ In order to use this solution, Adobe Acrobat Reader must be installed on the user PC and the default setting must be set up..

※ If there are more than 2 error codes, LGMV will display both alternately and separate solution is provided for each error code.

※ For specific models, the troubleshooting solution is not supported. If you would like the solution for the applicable model, please consult with the GCAC homepage for more details.



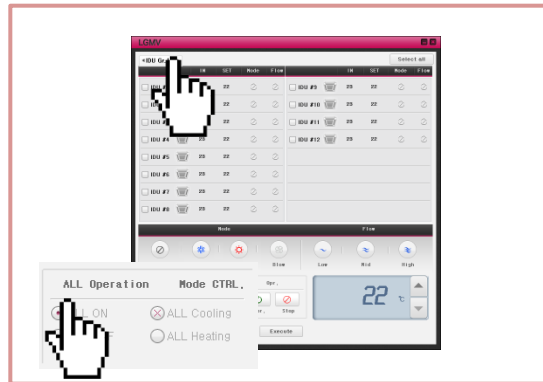
4. After repairing the product and taking action according to the solution, continue the monitoring.



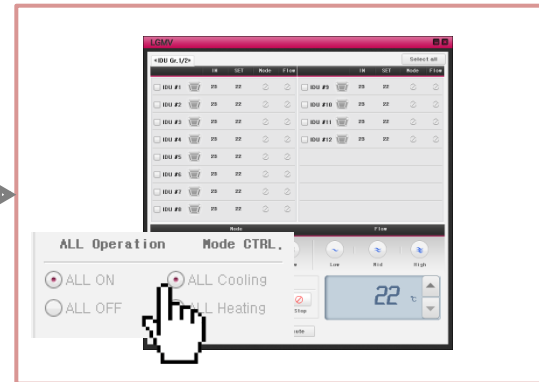
3. LGMV provides the solution of the error.

## 4. LGMV Reference - Indoor Unit Control

Reference for the indoor unit control of LGMV is as follows.



1. If you would like to operate all indoor units, turn on function to operate all units.



2. Click on the applicable mode while the indoor unit control is set to on. But it must be selected to fit the operating mode of the outdoor unit.

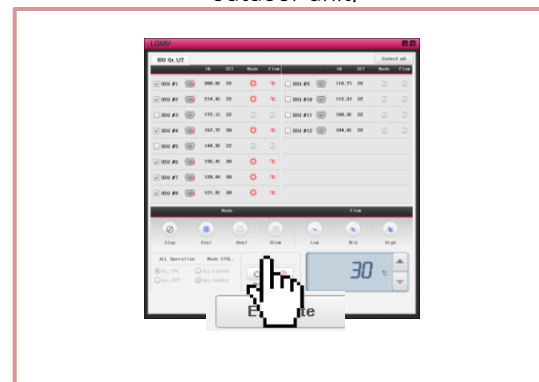
※ Changes to the actual indoor unit from the indoor unit control function can be checked in real time through the monitoring screen.

※ Always make sure to check the model type and operating mode and use the indoor unit control function to fit the current cycle.

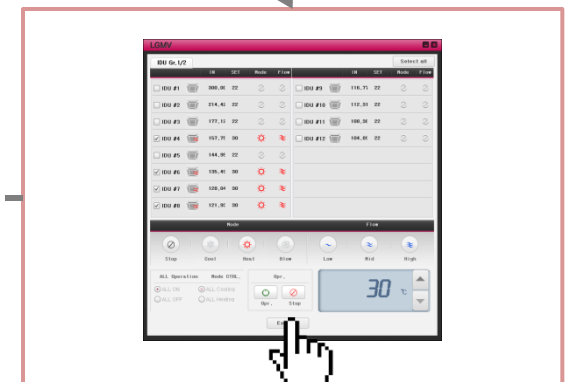
※ Operation mode which is rarely controlled became non-activated.

※ For Single and Duct Multi model, indoor unit control function is not supported and access the GCAC homepage to request for the applicable function.

※ Indoor unit control function is reflected only when the Run button located at the bottom of the screen is pressed.



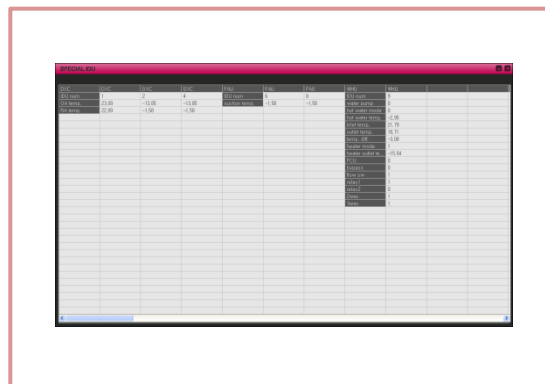
4. Run is the LGMV function to control the operating mode of the indoor unit automatically to fit the operating mode of the outdoor unit, and Stop is the function to stop the operation of the indoor unit. The indoor unit to control must be clicked before clicking the Run button.



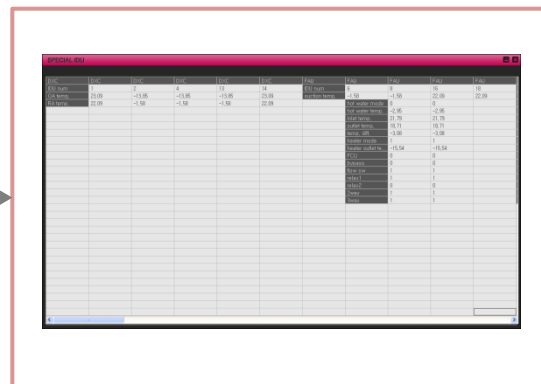
3. After checking the control status of the indoor unit changed to the setting, click on OK to run the indoor unit control.

## 4. LGMV Reference - Special Indoor Unit Screen

Reference for the special indoor unit screen of LGMV is as follows.



1. Click on the special indoor unit marked on the additional information in the indoor unit section, the initial screen of the special indoor unit will be displayed as shown above.

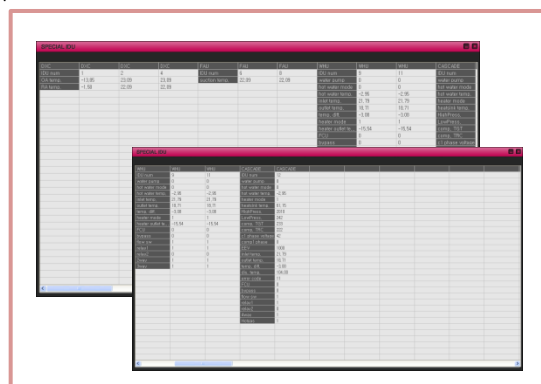


2. LGMV finds the special indoor units and automatically aligns the units according to the special indoor unit type.

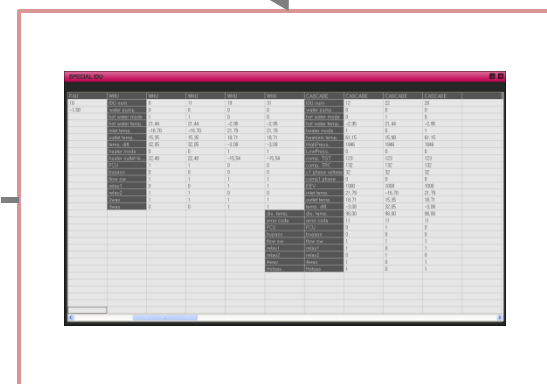
※ Currently the special indoor units include direct expansion ventilator (DXC), external air inflow duct (FAU), med temperature water heater (WHU) and high temperature water heater (CASCADE).

※ LGMV sets sorting order and information display of the special indoor units.

※ The time required to align the units vary based on the model and environment where the air conditioner is installed. Make sure to save the data after aligning.



4. Finally if the residual images are removed, the information of the special indoor unit is continuously updated.

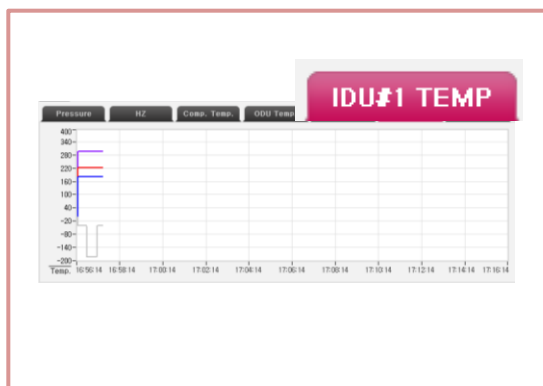


3. If LGMV judges that there is no more special indoor unit, the screen will be divided to refresh the information of the special indoor unit.

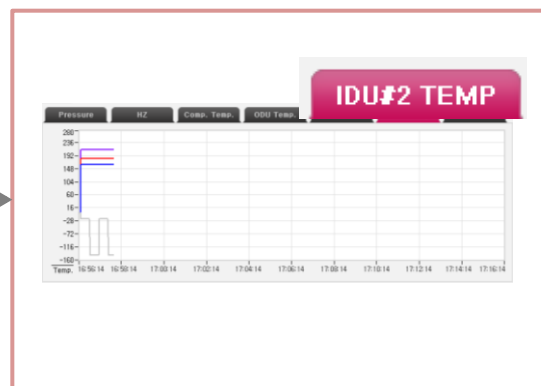


## 4. LGMV Reference - Mini Graph Screen

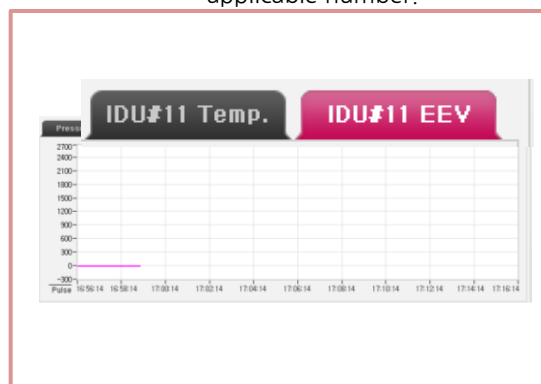
Reference for the mini graph screen of LGMV is as follows.



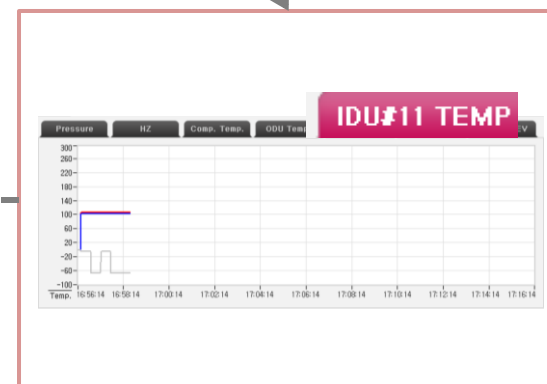
1. This is the indoor unit temperature graph screen of the mini graph.



2. Click on the indoor unit number from the monitoring screen to check the indoor unit temperature graph information of the applicable number.



4. The user can check the EEV information in the same way.



3. The user can check the information of all indoor units connected to LG system air conditioner.

※ Information displayed in the mini graph screen may vary by model.

※ Zoom function of the detail graph menu can be used in the mini graph and the zoom in/out function is used in the mini graph through the shortcut key.

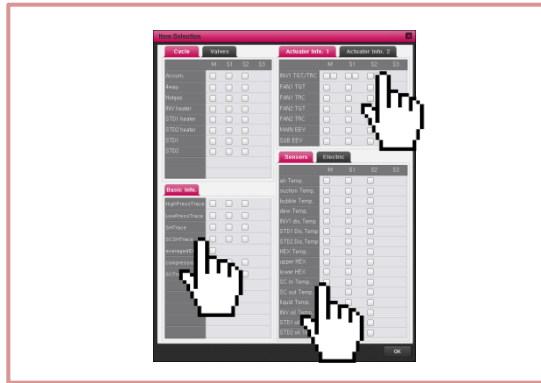
## 4. LGMV Reference - Mini Graph Screen

Factors of the mini graph are as follows by model.

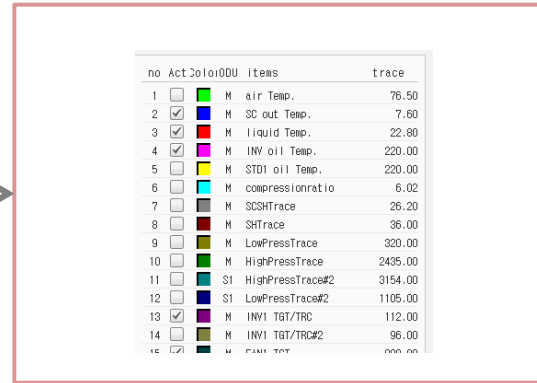
Pressure	Super4	Super3	Sync3	Single& Multi
	High pressure/Red	High pressure/Red	High pressure/Red	High pressure/Red
	Low pressure/Blue	Low pressure/Blue	Low pressure/Blue	Low pressure/Blue
	INV1/Gray	INV1/Gray	INV1/Gray	INV1/Gray
	INV2/Gray	FAN1/Gray	FAN1/Gray	FAN1/Gray
	FAN1/Gray	FAN2/Gray	FAN2/Gray	FAN2/Gray
	FAN2/Gray	Static speed 1/Gray	Static speed 1/Gray	
HZ	Super4	Super3	Sync3	Single& Multi
	High pressure/Gray	High pressure/Gray	High pressure/Gray	High pressure/Gray
	Low pressure/Gray	Low pressure/Gray	Low pressure/Gray	Low pressure/Gray
	INV1/Red	INV1/Red	INV1/Red	INV1/Red
	INV2/Orange	FAN1/Green	FAN1/Orange	FAN1/Green
	FAN1/Green	FAN2/Blue	FAN2/Yellow	FAN2/Blue
	FAN2/Blue	Static speed 1/Black	Static speed 1/Green	
COMP TEMP	Super4	Super3	Sync3	Single& Multi
	INV1 discharge temperature/Red	INV1 discharge temperature/Red	INV1 discharge temperature/Red	INV1 discharge temperature/Red
	INV2 discharge temperature/Orange	Static speed 1 discharge temperature/Orange	Static speed 1 discharge temperature/Orange	Suction temperature/Pink
	Suction temperature/Pink	Static speed 2 discharge temperature/Purple	Static speed 2 discharge temperature/Purple	
		Suction temperature/Pink	Suction temperature/Pink	
ODU TEMP	Super4	Super3	Sync3	Single& Multi
	Overcooling outlet temperature/Blue	Overcooling outlet temperature/Blue	Overcooling outlet temperature/Blue	Heat exchanger temperature/Red
	Liquid pipe temperature/Green	Liquid pipe temperature/Green	Liquid pipe temperature/Green	Bottom heat exchanger/Orange
	Heat exchanger temperature/Red	Heat exchanger temperature/Red	Heat exchanger temperature/Red	
ODU EEV	Super4	Super3	Sync3	Single& Multi
	EEV1 (Main)/Red	EEV1 (Main)/Red	EEV1 (Main)/Red	Main EEV/Red
	EEV2 (Sub)/Green	EEV2 (Sub)/Green	EEV2 (Sub)/Green	
	Overcooling EEV/Blue	Overcooling EEV/Blue	Overcooling EEV/Blue	
IDU TEMP	Super4	Super3	Sync3	Single& Multi
	IDU air temperature/Purple	IDU air temperature/Purple	IDU air temperature/Purple	IDU air temperature/Purple
	Pipe IN temperature/Red	Pipe IN temperature/Red	Pipe IN temperature/Red	Pipe IN temperature/Red
	Pipe OUT temperature/Blue	Pipe OUT temperature/Blue	Pipe OUT temperature/Blue	Pipe OUT temperature/Blue
IDU EEV	Super4	Super3	Sync3	Single& Multi
	EEV/Pink	EEV/Pink	EEV/Pink	EEV/Pink

## 4. LGMV Reference - Detail Graph Screen

Reference for the detail graph screen of LGMV is as follows.



1. When the user selects the items from the item selection screen, the selected information will be displayed on the right side of the detail graph. Maximum of 30 items can be selected.

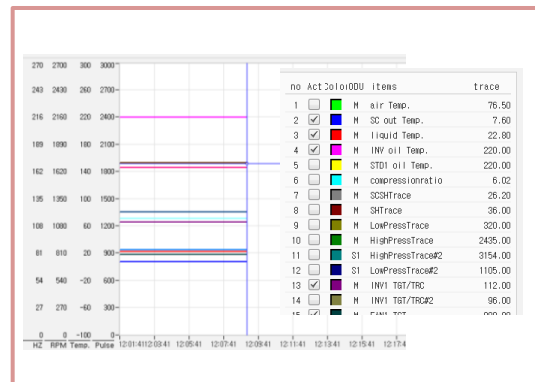


2. Maximum of 5 items can be displayed on the graph with the item selection button.

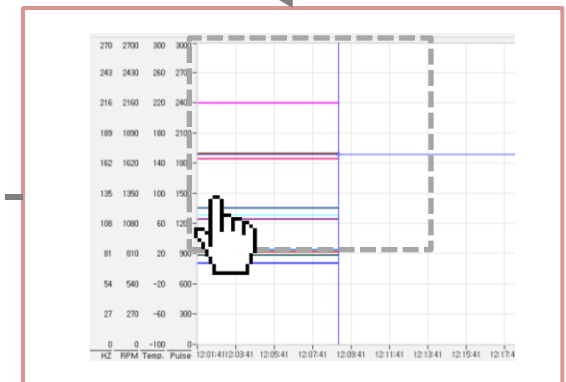
※ Information displayed on the detail graph screen is the same as that of the monitoring screen.

※ Items not included in the graph will be processed as exceptions.

※ If the user wants to check the trace in real time on the detail graph, locate the trace at the starting part of the graph output for the trace to move around..



4. If the user adds a trace to the graph output during the graph output, the current output value of the applicable point can be checked.



3. The user can view the correlation of the parameters of the graph through zoom in/out function.



#5

# Caution

This chapter describes the points of caution when using LGMV.

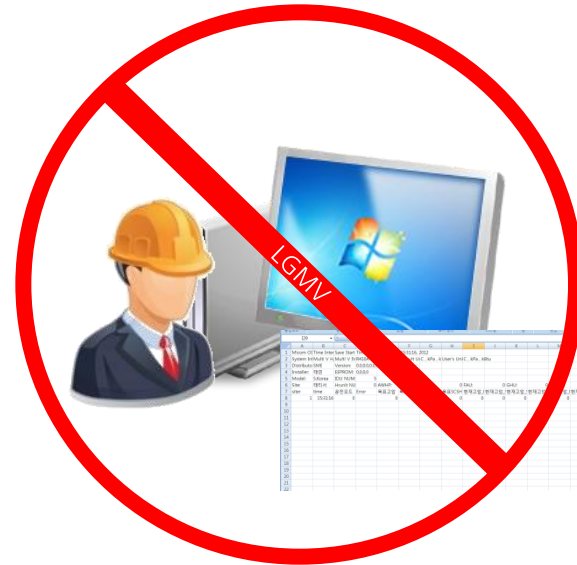
## 5. Caution for LGMV

Be careful with LGMV in following situations.



※ This program cannot be sold/transferred/licensed to other parties..

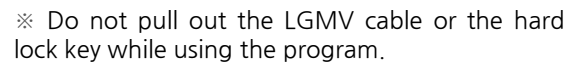
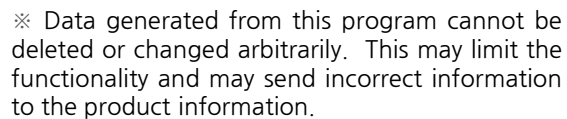
※ Any file generated from this program cannot be sold/transferred/licensed to other parties.



※ This program cannot be used on common shared PC.

※ Inevitably, if the program was used on a common PC, back up the file generated from LGMV and remove any program and data remaining on the applicable PC.

Be careful with LGMV in following situations.



**LG WHISEN SYSTEM**

## 5. Caution for LGMV

Be careful with LGMV in following situations.



※ For switch over model, the operating mode of the indoor unit cannot be set differently.

※ Data generated from this program cannot be deleted or changed arbitrarily. This may limit the functionality and may send incorrect information to the product information.



※ This program remembers the time the data is saved by the user. Therefore if the user changed the time the data is saved, check the time the data is saved on the next use.



#6

# Q&A

This chapter reviews the frequently asked questions and answers in LGMV program.



## 6. Q&A



Where can I download the latest version of LGMV?

Latest version of LGMV can be downloaded through the GCAC homepage.

I joined the homepage but cannot download the software.

Because LGMV is provided to the members of LG system air conditioner, you can gain authority through partner member certification.

How can I troubleshoot and diagnose the LG system air conditioner through LGMV and make repairs accordingly?

Basic air conditioner repair and error diagnosis can be done. But in order to understand the product through LGMV, one must complete the training at LG System Air Conditioner Academy.

How can I check the latest model of LG system air conditioner?

If new models are released, LGMV will naturally be upgraded. The method on how to use would stay the same, but the software must be upgraded to the latest version for use.

I would like to improve my skills to diagnose the LG system air conditioner using LGMV but do not know how to use the program. Is there any training or manual available?

LG Air Conditioner Academy has been providing systemic training to develop creative sales engineer and installation engineer along with LGMV training. You can request and sign up for training.



FAQs are compiled in the GCAC homepage. For any other questions, please contact the GCAC home page.



#7

# LG Air Conditioner Academy

This chapter describes the LGMV training.

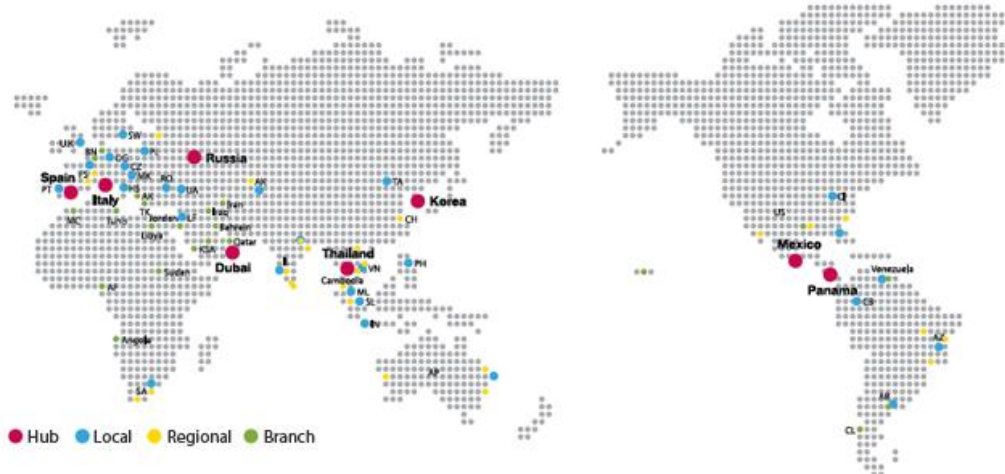
## 7. LG Air Conditioner Academy

LGMV will continuously be improved for smarter analysis of VRF cycle, and quicker and accurate diagnosis and repair. LGMV training courses (Offline) are sponsored by LG Air Conditioner Academy. Please contact through GCAC homepage for details.

### Global Leading HVAC & Energy Solution Academy

LG Air Conditioner Academy is Korea's best in class training organization specializing in air conditioner with the goal to develop creative sales engineer and installation engineer with expertise to fit the new air conditioner paradigm.

Also as the best in class training facility for air conditioner system, LG Air Conditioner Academy provides the best training environment and will do its best to make you and your company the expert in the air conditioner field.



Program training

Internet inquiry : <http://aic.lgeaircon.com>

Chang-won Academy: 82-055-269-3589

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#8

# Purchasing and Disposing LG Product

This chapter describes how to purchase and dispose LGMV product.

## 8. Purchasing and Disposing LG Product

LG Electronics is doing its best to recycle the product when disposing the product.  
To dispose any LG product, proceed as follows.

### 1. When purchasing new product

When disposing old product after purchasing a new product from the subsidiary of LG Electronics or marketing/sales team, LG will dispose the old product when the new product is delivered.

### 2. Simple disposal

When disposing the old products such as appliance or furniture, please contact your nearest municipal office.

### Environmental Declaration of LG Electronics

All employees and executives of LG Electronics will lead the actions to preserve the environment in each of his/her respective areas and drive all management activities based on the philosophy of preserving the earth's environment. .

### 3. When disposing the box

If you request to remove the box after the installation, the installation service provider of LG Electronics will collect and send the boxes to the recycling center. You can also request to dispose other packaging materials (Styrofoam or vinyl)..