

# INSTALLATION/ OWNER'S MANUAL AIR CONDITIONER

Please read this manual carefully before operating your set and retain it for future reference.

TYPE : Data Saving Module (Multi-V)  
MODELS : PVDATN000



MFL62179506  
Rev.01\_092220

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# IMPORTANT SAFETY INSTRUCTIONS

## **READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.**

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product

### **WARNING**

It can result in serious injury or death when the directions are ignored

### **CAUTION**

It can result in minor injury or product damage when the directions are ignored

### **WARNING**

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

### **WARNING**

#### Installation

- Be sure to request to the service center or installation specialty store when installing products. It will cause fire or electric shock or explosion or injury.
- Request to the service center or installation specialty store when reinstalling the installed product. It will cause fire or electric shock or explosion or injury.
- Do not disassemble, fix, and modify products randomly. It will cause fire or electric shock.
- Be sure to turn off outdoor unit power before installation. It will cause electric shock.

#### In-use

- Do not place flammable stuffs close to the product. It will cause fire.
- Do not allow water to run into the product. It will cause electric shock or breakdown.
- Do not give the shock to the product. It will cause breakdown when giving the shock to the product.
- Request to the service center or installation specialty store when the product becomes wet. It will cause fire or electric shock.
- Do not give the shock using sharp and pointed objects. It will cause breakdown by damaging parts.
- Do not touch the board when the power is connected. It can cause a fire, electric shock, explosion, injury and problem to the product.

## CAUTION

### In-use

- Do not clean using the powerful detergent like solvent but use soft cloths.  
It will cause fire or product deformation.
- Do not press the screen using powerful pressure or select two buttons.  
It will cause product breakdown or malfunction.
- Do not touch or pull the lead wire with wet hands.  
It will cause product breakdown or electric shock.

### **WARNING**

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

### *For your records*

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number : \_\_\_\_\_

Serial number : \_\_\_\_\_

You can find them on a label on the side of each unit.

Dealer's name : \_\_\_\_\_

Date of purchase : \_\_\_\_\_



### ENGLISH

### Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2006/66/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city of fice, waste disposal service or the shop where you purchased the product.

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---

## 6 COMPONENTS

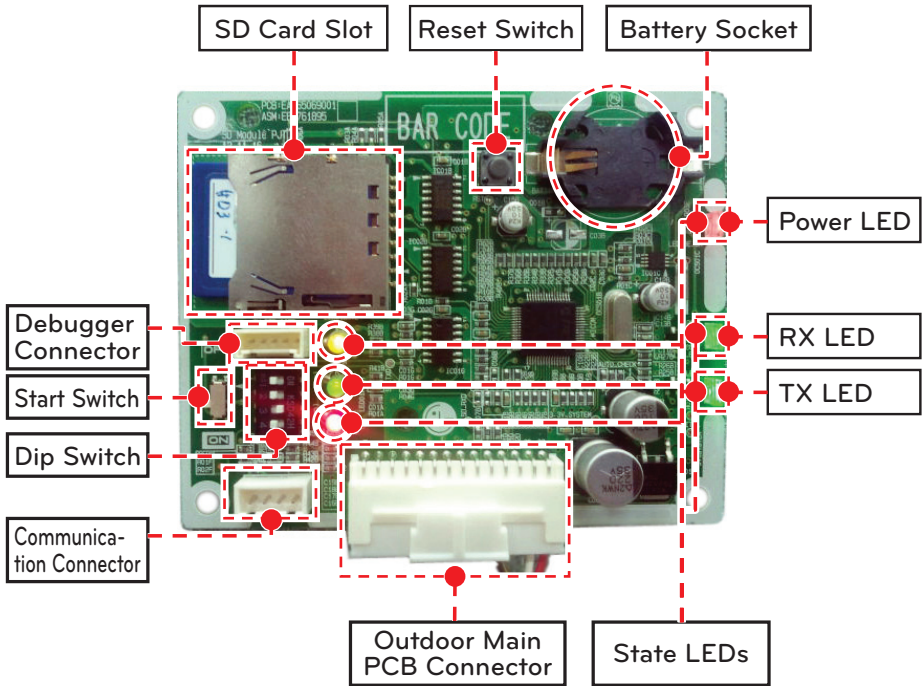
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## NAME OF EACH PART



**Debugger Connector** For bootloader program writing and debugging.

**Start Switch** On/Off switch for data save.

**Dip Switch** The switch for selecting Multi-V model

**Communication Connector** For Setting the Date and Time.

**Outdoor Main PCB Connector** For Connecting Main PCB and Data Saving Module.

**State LEDs** Display current state and error.

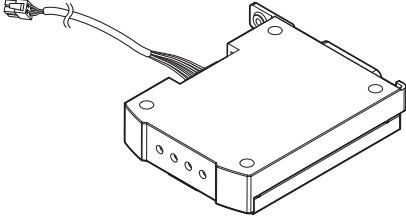
**Battery Socket** Keeping Date and Time.

**Reset Switch** For rebooting Data Saving Module.

**SD Card Slot** For installing the SD card.

# COMPONENTS

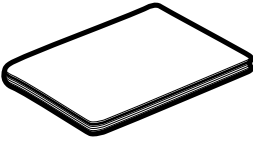
## Components



Data Saving Module (1EA)

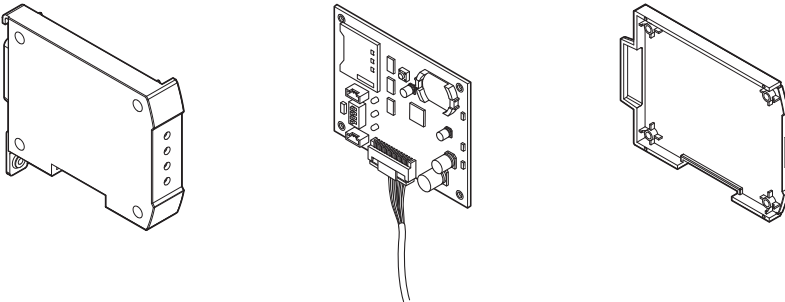


Screw (1EA)



Manual (1EA)

## Data Saving Module Exploded view



**NOTE**

SD Card and Battery are not provided by LG. You need to purchase Battery(CR2032) separately.

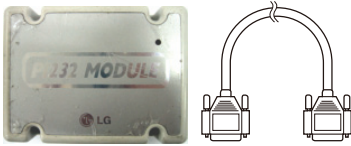
# SETTING AND USING METHOD

## Date & Time setting

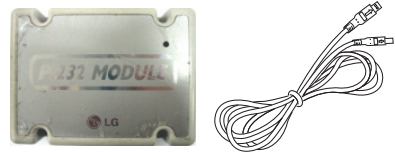
### Requirements

- Operating System : Windows 2000 Over
- PI232 Module

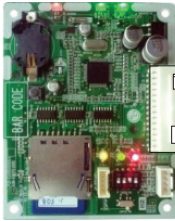
- LG MV Module



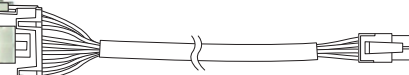
Or



- Data Saving Module and Cable

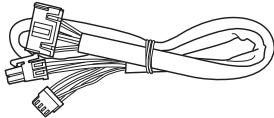


Data Saving Module

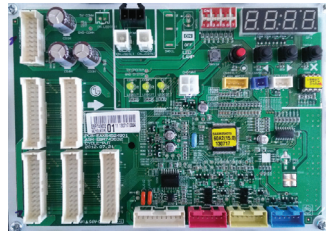


Data Saving Cable

- LG MV Cable



- Outdoor Main PCB

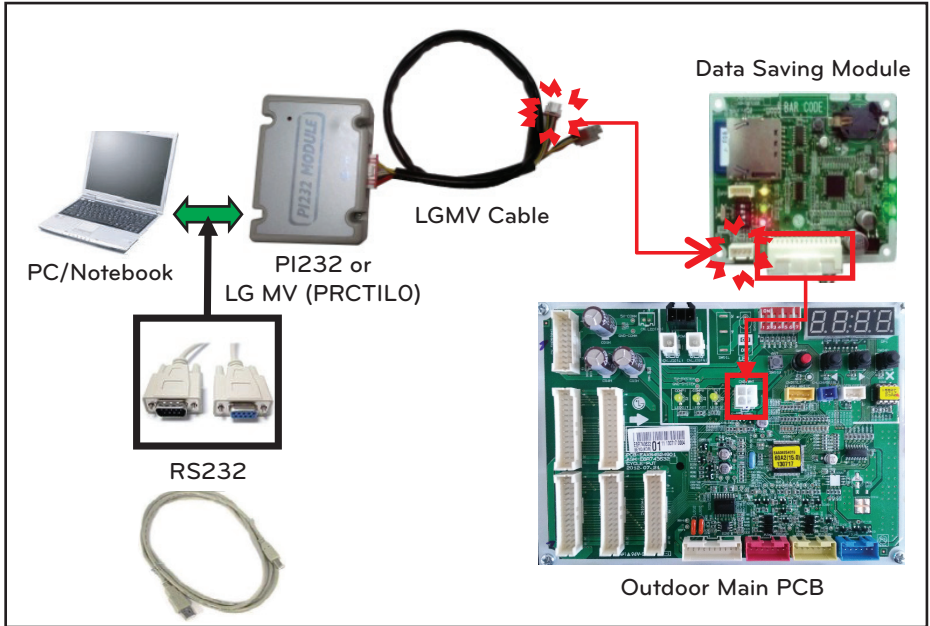


Outdoor Main PCB

### ! NOTE

The product has '\*' mark is not provided by LG.

## PC Connection for Date & time Setting



### • How to connect

- Connect Data Saving Module and Multi-V Outdoor Main PCB with Data Saving Cable
- Connect PC and PI232 or LG MV module with proper cable.
- Connect Upgrade port in Data Saving module and PI232 module with program writing cable.
- Turn on the power of main PCB.
- When using LG MV module(PRCTILO) , set the dip sw to program update mode.  
(sw 1,2,3,4,5 on & 6 off)

### ! NOTE

If there is no COM port on PC, use the USB-to-RS232 converter.

## Setting

- Putty

- Download 32bit PGM  
(<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>)

### Package files

You probably want one of these. They include versions of all the PuTTY utilities.

(Not sure whether you want the 32-bit or the 64-bit version? Read the [FAQ entry](#).)

#### MSI ('Windows Installer')

32-bit: [putty-0.74-installer.msi](#) [\(or by FTP\)](#) [\(signature\)](#)

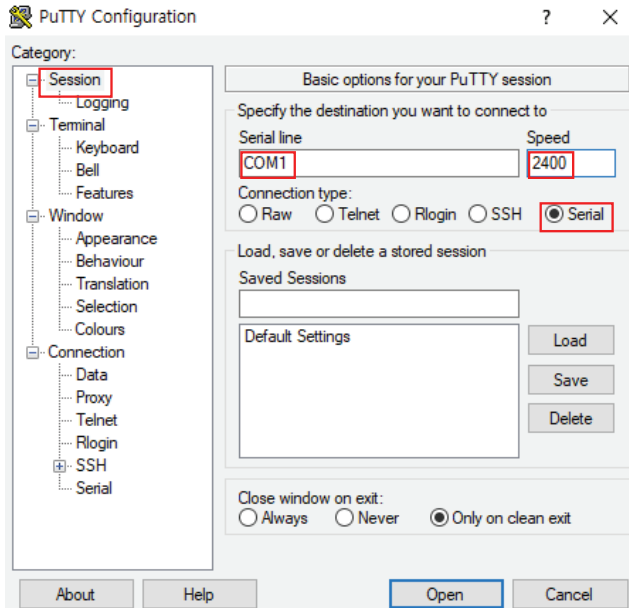
64-bit: [putty-64bit-0.74-installer.msi](#) [\(or by FTP\)](#) [\(signature\)](#)

#### Unix source archive

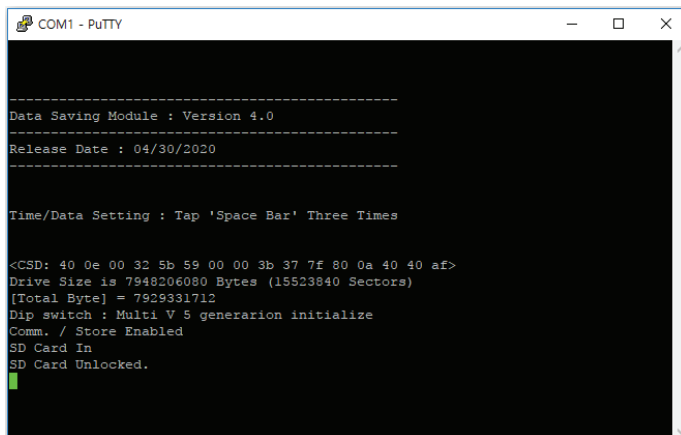
.tar.gz: [putty-0.74.tar.gz](#) [\(or by FTP\)](#) [\(signature\)](#)

### Installation method

- Click "Session" → Check the "Serial" → Enter serial line (ex.COM1) → Enter speed 2400 → Click "Open"



- Push reset button on Data Saving Module. then Data Saving Module information will be shown.



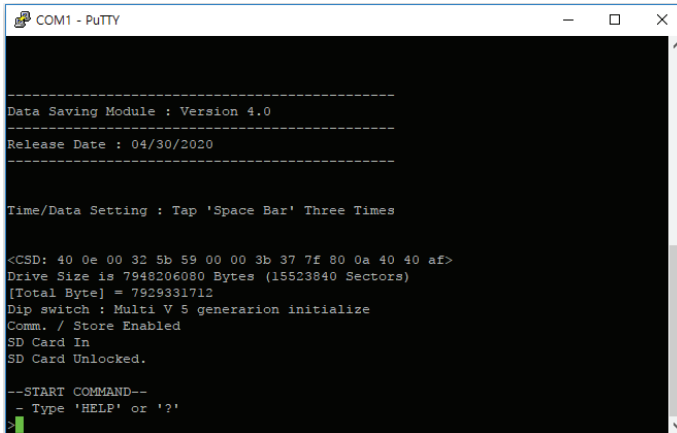
```
COM1 - PuTTY
-----
Data Saving Module : Version 4.0
-----
Release Date : 04/30/2020
-----

Time/Data Setting : Tap 'Space Bar' Three Times

<CSD: 40 0e 00 32 5b 59 00 00 3b 37 7f 80 0a 40 40 af>
Drive Size is 7948206080 Bytes (15523840 Sectors)
[Total Byte] = 7929331712
Dip switch : Multi V 5 generation initialize
Comm. / Store Enabled
SD Card In
SD Card Unlocked.
```

Start Data Saving Module

- A Command mode can be available by clicking space bar three times.  
Then "-----START COMMAND-----" message will be displayed.



```

COM1 - PUTTY
-----
Data Saving Module : Version 4.0
-----
Release Date : 04/30/2020
-----

Time/Data Setting : Tap 'Space Bar' Three Times

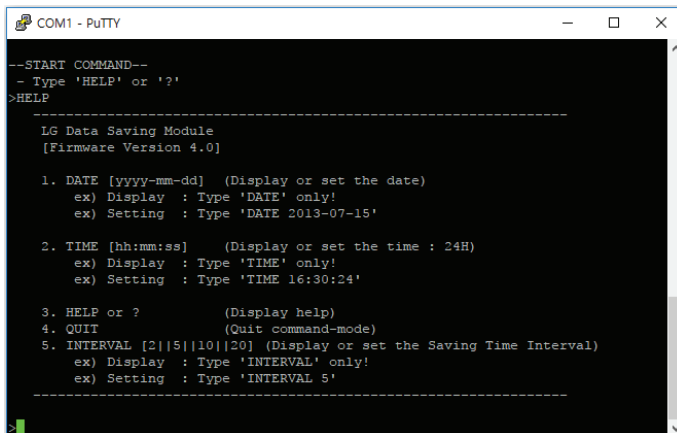
<CSD: 40 0e 00 32 5b 59 00 00 3b 37 7f 80 0a 40 40 af>
Drive Size is 7948206080 Bytes (15523840 Sectors)
[Total Byte] = 7929331712
Dip switch : Multi V 5 generarion initialize
Comm. / Store Enabled
SD Card In
SD Card Unlocked.

--START COMMAND--
- Type 'HELP' or '?'
>

```

### Start Command

- Type "HELP" in the terminal. Then, Program version and guides for command will be displayed in the terminal.



```

COM1 - PUTTY
--START COMMAND--
- Type 'HELP' or '?'
>HELP
-----
LG Data Saving Module
[Firmware Version 4.0]

1. DATE [yyyy-mm-dd] (Display or set the date)
   ex) Display : Type 'DATE' only!
   ex) Setting : Type 'DATE 2013-07-15'

2. TIME [hh:mm:ss] (Display or set the time : 24H)
   ex) Display : Type 'TIME' only!
   ex) Setting : Type 'TIME 16:30:24'

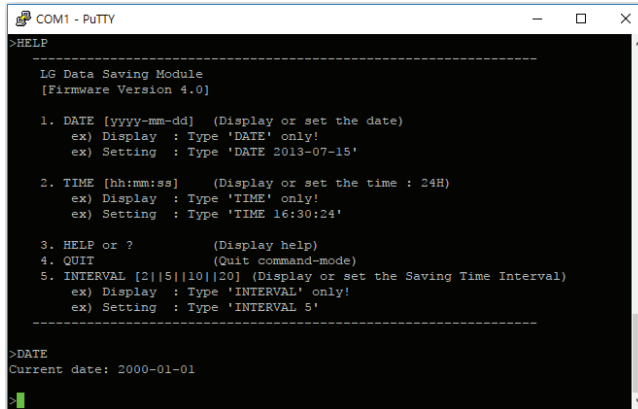
3. HELP or ? (Display help)
4. QUIT (Quit command-mode)
5. INTERVAL [2||5||10||20] (Display or set the Saving Time Interval)
   ex) Display : Type 'INTERVAL' only!
   ex) Setting : Type 'INTERVAL 5'
-----
>

```

### Enter HELP

- How to set date

- Type "DATE" : Display currently configured date



```

COM1 - PuTTY
>HELP
-----
LG Data Saving Module
[Firmware Version 4.0]

1. DATE [yyyy-mm-dd] (Display or set the date)
   ex) Display : Type 'DATE' only!
   ex) Setting : Type 'DATE 2013-07-15'

2. TIME [hh:mm:ss] (Display or set the time : 24H)
   ex) Display : Type 'TIME' only!
   ex) Setting : Type 'TIME 16:30:24'

3. HELP or ? (Display help)
4. QUIT (Quit command-mode)
5. INTERVAL [2||5||10||20] (Display or set the Saving Time Interval)
   ex) Display : Type 'INTERVAL' only!
   ex) Setting : Type 'INTERVAL 5'
-----

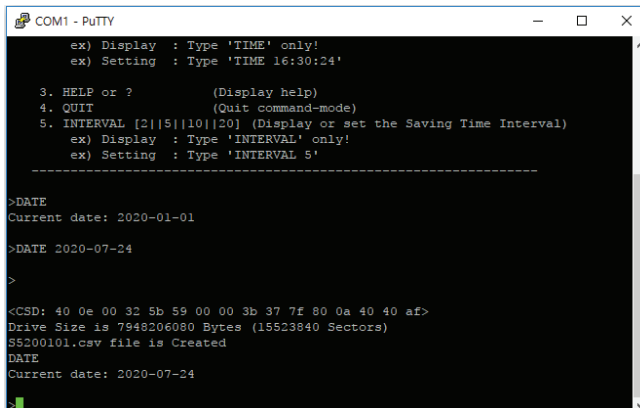
>DATE
Current date: 2000-01-01

```

Input date

- Change date : DATE [yyyy-mm-dd]      ex) DATE 2020-07-24

- Check modified date after typing new date.



```

COM1 - PuTTY
   ex) Display : Type 'TIME' only!
   ex) Setting : Type 'TIME 16:30:24'

3. HELP or ? (Display help)
4. QUIT (Quit command-mode)
5. INTERVAL [2||5||10||20] (Display or set the Saving Time Interval)
   ex) Display : Type 'INTERVAL' only!
   ex) Setting : Type 'INTERVAL 5'
-----

>DATE
Current date: 2020-01-01

>DATE 2020-07-24
>
<CSD: 40 0e 00 32 5b 59 00 00 3b 37 7f 80 0a 40 40 af>
Drive Size is 7948206080 Bytes (15523840 Sectors)
SS200101.csv file is Created
DATE
Current date: 2020-07-24

```

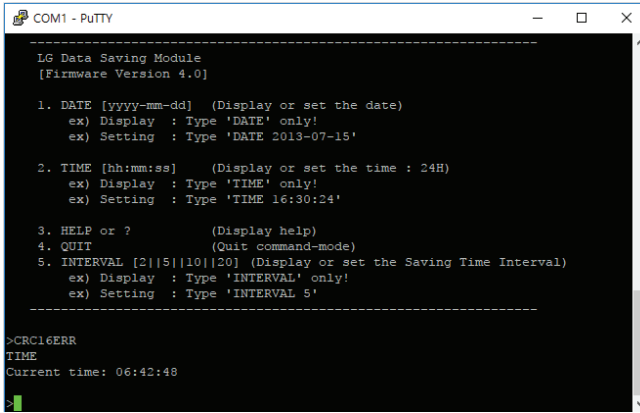
Check and Change date

**NOTE**

In case of replacing a battery, Date or Time is not Correct. It need to set date and time again.

- How to set time

- Type "TIME" : Display currently configured time



```

COM1 - PuTTY
-----
LG Data Saving Module
[Firmware Version 4.0]

1. DATE [yyyy-mm-dd] (Display or set the date)
   ex) Display : Type 'DATE' only!
   ex) Setting : Type 'DATE 2013-07-15'

2. TIME [hh:mm:ss] (Display or set the time : 24H)
   ex) Display : Type 'TIME' only!
   ex) Setting : Type 'TIME 16:30:24'

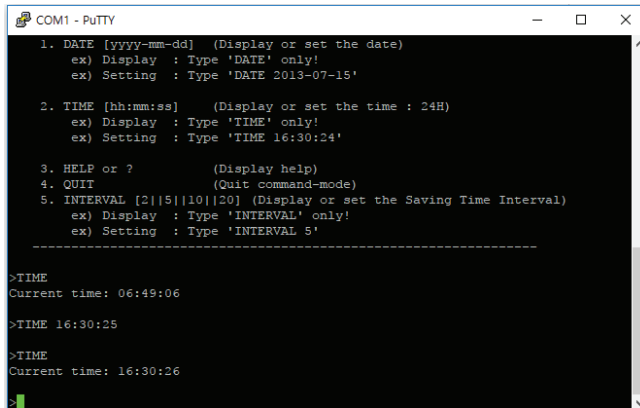
3. HELP or ? (Display help)
4. QUIT (Quit command-mode)
5. INTERVAL [2||5||10||20] (Display or set the Saving Time Interval)
   ex) Display : Type 'INTERVAL' only!
   ex) Setting : Type 'INTERVAL 5'
-----

>CRC16ERR
TIME
Current time: 06:42:48

```

Input time

- Change time : TIME [hh:mm:ss]      ex) TIME 16:30:25
- Check modified time after typing new time.



```

COM1 - PuTTY
-----
1. DATE [yyyy-mm-dd] (Display or set the date)
   ex) Display : Type 'DATE' only!
   ex) Setting : Type 'DATE 2013-07-15'

2. TIME [hh:mm:ss] (Display or set the time : 24H)
   ex) Display : Type 'TIME' only!
   ex) Setting : Type 'TIME 16:30:24'

3. HELP or ? (Display help)
4. QUIT (Quit command-mode)
5. INTERVAL [2||5||10||20] (Display or set the Saving Time Interval)
   ex) Display : Type 'INTERVAL' only!
   ex) Setting : Type 'INTERVAL 5'
-----

>TIME
Current time: 06:49:06

>TIME 16:30:25

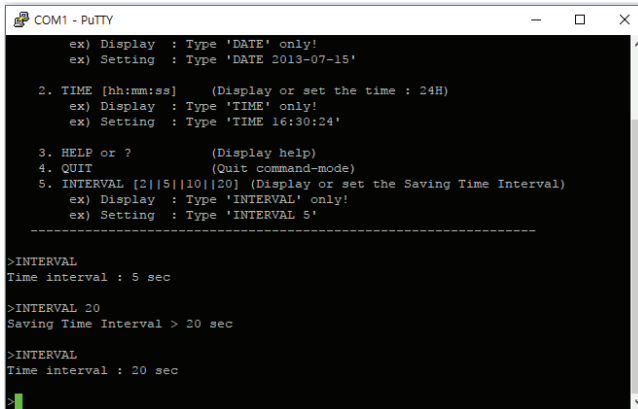
>TIME
Current time: 16:30:26

```

Check and Change time

- How to set interval

- Type "INTERVAL": Display currently interval
- Change interval : INTERVAL [ 2 || 5 || 10 || 20 ] ex) INTERVAL 20
- Check modified interval after typing new interval.



```

COM1 - PuTTY
ex) Display : Type 'DATE' only!
ex) Setting : Type 'DATE 2013-07-15'

2. TIME [hh:mm:ss] (Display or set the time : 24H)
ex) Display : Type 'TIME' only!
ex) Setting : Type 'TIME 16:30:24'

3. HELP or ? (Display help)
4. QUIT (Quit command-mode)
5. INTERVAL [2||5||10||20] (Display or set the Saving Time Interval)
ex) Display : Type 'INTERVAL' only!
ex) Setting : Type 'INTERVAL 5'
-----

>INTERVAL
Time interval : 5 sec

>INTERVAL 20
Saving Time Interval > 20 sec

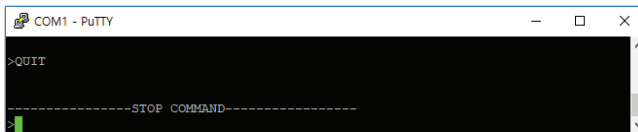
>INTERVAL
Time interval : 20 sec

>

```

- How to exit

- Type "QUIT" and then click "Enter" key.
- Then, "-----STOP COMMAND-----" Message will be displayed.



```

COM1 - PuTTY

>QUIT

-----STOP COMMAND-----

```

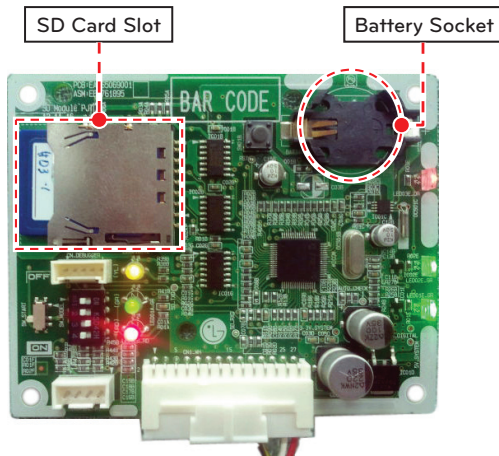
Stop command Mode

## Data Saving Module Operation

### Requirements

- Data Saving module
- SD Memory card
- Battery (CR2032)

### • The outline of Data Saving Module



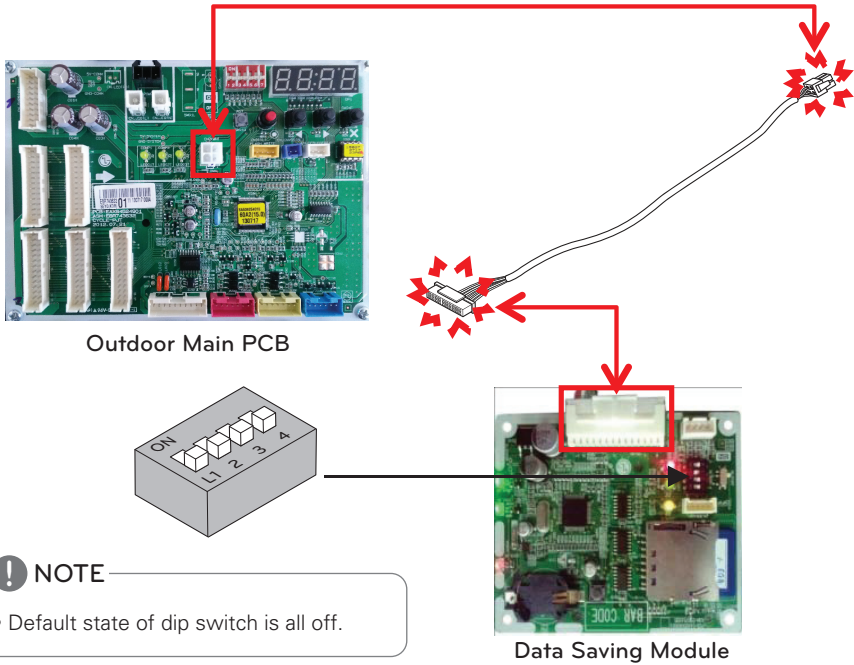
### • SD Memory Card.

- Use 2GB ~ 32GB SD or SDHC
- FAT32 format should be preceded before in use.
- Output file format : S(model name)(year)(month)(day).csv  
ex) Multi-V IV, 2013(year) 7(month) 15(day) → S4130715.CSV

### ! NOTE

- Remove the SD card after turning off the start switch.
- When Data Saving Module lost power, battery have to set on battery socket for Keeping Date and Time.
- When the SD card memory is filled, some of saved data is removed.  
It may different on SD card memory and recording interval.

## Operation



**Step 1.** Turn off start switch in Data Saving Module.

**Step 2.** Dip switch position depend on the model.

SW1 (ON) & SW2 (OFF) & SW3 (OFF) : Multi V 5 Generation

SW1 (OFF) & SW2 (ON) & SW3 (ON) : Multi V IV Generation

SW1 (OFF) & SW2 (ON) & SW3 (OFF) : Multi V III Generation

**Step 3.** Connect Data Saving Module to Outdoor Main PCB with Data Saving cable.

**Step 4.** Check LED state.

: Green LED (Off), Yellow LED(Off), Red LED  
(Blinking 8 Times – SD memory card is not inserted)

**Step 5.** Check LED state after SD memory card insertion.

: Green LED (several minutes On state → Off : Calculate SD memory card capacity)  
Yellow LED (Off), Red LED (in Normal state – Blinking in 1 s interval)

**Step 6.** Check normal state. Then, turn start switch On

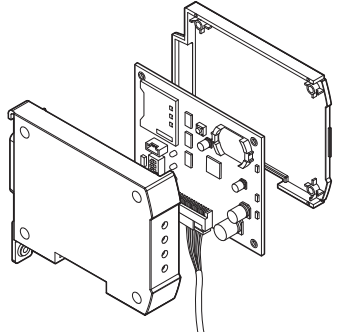
: Green LED (Blinking in xx seconds interval : Recording interval x 4)

: Yellow LED (Always ON)

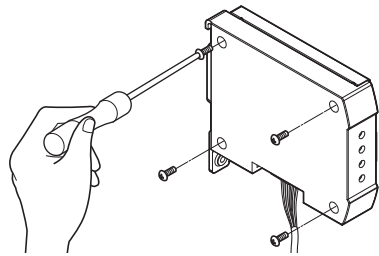
: Red LED (in Normal state – Blinking in 1 s interval)

## Installation Method

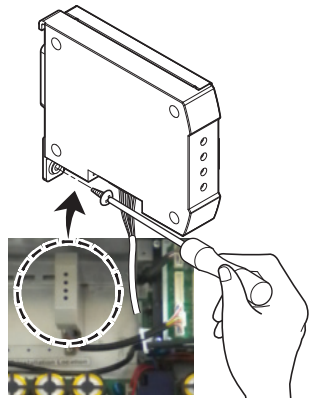
- ① Join the front case and the rear case.



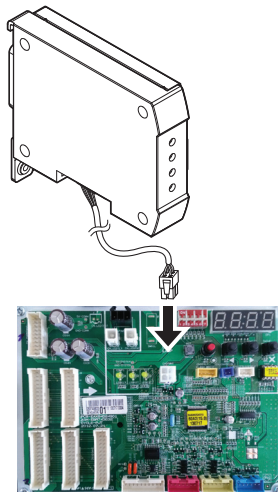
- ② Anchor the front case at holes using anchor screws



- ③ Join the case in the Multi-V Control Box, anchor the case at holes using anchor screws.



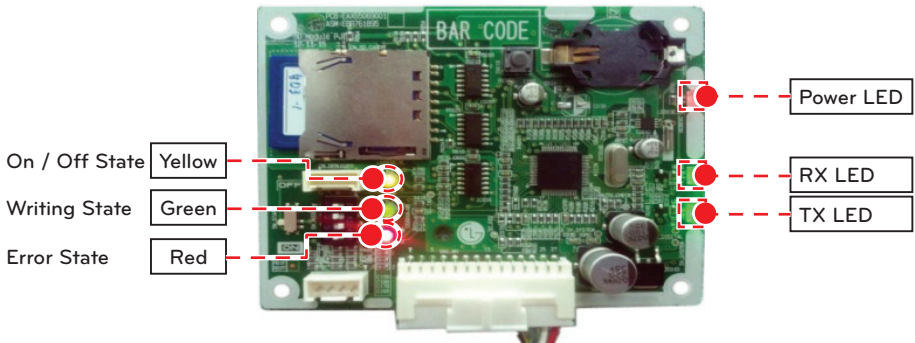
- ④ Connect connection wire to outdoor Main PCB.



**! CAUTION**

- Install the product on flat surface and screw 4 places. Otherwise the Data Saving Module may not be anchored properly
- Do not screw too tightly. It may cause deformation of the case.
- Do not deform the case at random. It may cause malfunction of the Data Saving Module.
- It is recommended that assembling the front case and fixing the product on designated location.

## LED State



### • Green LED

: Display current state

- On recording : Blinking in xx seconds interval : Recording interval x 4

- When SD memory card is initially inserted or memory capacity calculation is operated at every minutes : ON for several minutes(seconds) → OFF

### • Yellow LED

: Display start of data recording

- Start SW On : always ON

- Start SW Off : always OFF

### • Red LED

: Display normal or error state.

- Normal state : Blinking in 1 s interval.

- Error state : LED OFF for 2 seconds → Blinking current error as bellows.

7 times : Memory card Lock

8 times : No memory card

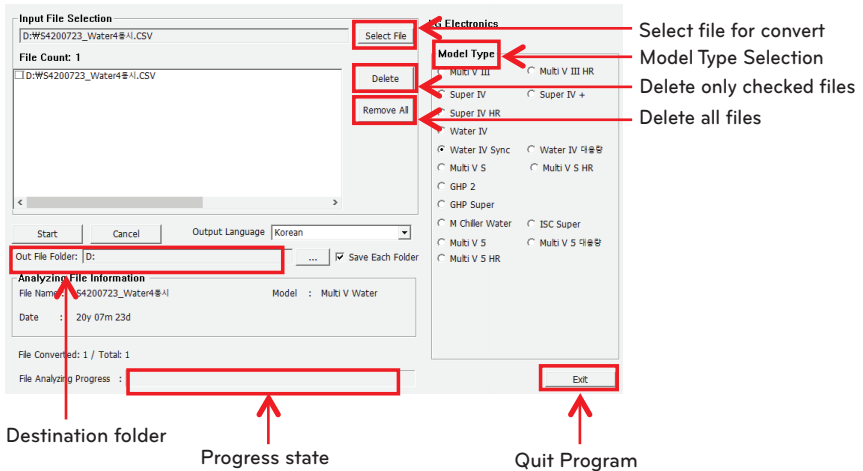
## Data Converter

### • Data Converter

SD data converter is windows PC based program that converts encoded file to an easy form of readable file for user.

### • When execute DataConverter it displays as follows.

- Select file for convert (multiple selection is supported)
- Model Type Selection
- Click "Start"



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<b>Model Number/Range</b>	PVDATN000

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