



OWNER'S MANUAL

LG LED SIGNAGE

LED DISPLAY MODULE

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

LAP015EL6BP

LAP015EL7BP

LAP015EL7NP

LAP015EL9TP

LAP020EL6BP

LAP020EL7BP

LAP020EL7NP

LAP015EL9NP

LAP025EL4DP

LAP025EL7BP

LAP025EL7NP

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WARNING - This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

SAFETY PRECAUTIONS

Please read these safety precautions carefully before using the product.

WARNING

- If you ignore the warning message, you may be seriously injured or there is a possibility of accident or death.

CAUTION

- If you ignore the caution message, you may be slightly injured or the product may be damaged.

WARNING

- Indoor Use Only.

Precautions In Installing the Product

WARNING

- Keep away from heat sources like electrical heaters.
 - Electrical shock, fire, malfunction, or deformation may occur.
- Keep the packing anti-moisture material or vinyl packing out of the reach of children.
 - Anti-moisture material is harmful if swallowed. If swallowed by mistake, force the patient to vomit and visit the nearest hospital. Additionally, vinyl packing can cause suffocation. Keep it out of the reach of children.
- Do not put heavy objects on the product or sit upon it.
 - If the product collapses or is dropped, you may be injured. Children must pay particular attention.
- Do not leave the power or signal cable unattended on the pathway.
 - The passerby can trip or fall, which can cause electrical shock, fire, product breakdown, or injury.
- Install the product in a neat and dry place.
 - Dust or moisture can cause electrical shock, fire or product damage.
- If you dropped the product or the case is broken, turn off the product and unplug the power cord.
 - If you continue to use without taking proper measures, electrical shock or fire can occur. Contact the service center.

- Do not drop an object on or apply pressure to the product. Do not throw any toys or objects on the product screen.
 - It can cause injury to human, problem to product and damage the display.
- Do not let the product fall or drop when connecting it with an external device.
 - This may cause injury and/or damage to the product.
- Do not install this product on a wall where there is high risk of exposure to oil fumes or mist.
 - This may damage product and cause it to fall.
- Install the product firmly fixed on a floor, wall, etc. to prepare against external impact such as wind and earthquake.
 - You must refer to the installation guide.
- Safely install the product in a place that can hold the weight of the product.
 - A lack of strength may cause the product to fall.

CAUTION

- Make sure the product ventilation holes are not blocked. Install the product in a suitably wide place (more than 100 mm from the wall).
 - If you install the product too close to the wall, it may be deformed or fire can break out due to internal heat.
- When installing the product on a shelf or cabinet, make sure that the bottom end of the product is not protruding forward.
 - The product may fall due to unbalanced centre of gravity, which may cause personal injury or damage to the product. Be sure to use cabinets or shelves that fit your product.
- Do not block the ventilation hole of the product with a tablecloth or curtain.
 - The product can be deformed or fire can break out due to overheating inside the product.
- Install the product on a flat and stable place that has no risk of dropping the product.
 - If the product is dropped, you may be injured or the product may be broken.
- Install the product where no EMI occurs.
- Keep the product away from direct sunlight.
 - The product can be damaged.
- If you install the product in a place that does not meet the recommended conditions, this may cause serious damage to the product's picture quality, life cycle, and appearance. Please check with LG or a qualified installer before installing. This caution applies to a place where there is an abundance of fine dust or oil mist, chemical substances are used, the temperature is very high or low, the humidity is very high, or the product is likely to remain turned on for a long period of time (airport and train station). failure to do so will invalidate the warranty.
- Do not install the product in an area with poor ventilation (e.g. on a bookshelf, in a closet) or outside and avoid placing on cushions or carpets.
- In addition, do not install it where there are heating objects such as lighting equipment.

Precautions to the AC Adapter and Electrical Power

WARNING

- If water or any foreign substance goes inside the product (TV, monitor, power cord, or AC adapter), disconnect the power cord immediately and contact the service center.
 - Otherwise, this may cause a fire or electric shock due to damage to the product.
- Do not touch the power plug or AC adapter with wet hands. If the pins of the plug are wet or dusty, wipe and dry them before use.
 - Otherwise, this may cause a fire or electric shock.
- Make sure to completely insert the power cord into the AC adapter.
 - If loosely connected, the poor connection may cause a fire or electric shock.
- Be sure to use power cords and AC adapters provided or approved by LG Electronics, Inc.
 - The use of non-approved products may cause a fire or electric shock.
- When unplugging the power cord, always pull it by the plug. Do not bend the power cord with excessive force.
 - The power line can be damaged, which may cause electric shock or fire.
- Be careful not to step or place heavy objects (electronic appliances, clothing, etc.) on the power cord or AC adapter. Be careful not to damage the power cord or AC adapter with sharp objects.
 - Damaged power cords may cause a fire or electric shock.
- Never disassemble, repair or modify the power cord or AC adapter.
 - This may cause a fire or electric shock.
- Make sure to connect the power cable to the grounded current.
 - You may be electrocuted or injured.
- Use the rated voltage only.
 - The product can be damaged, or you may be electrocuted.
- In the presence of thunder and lightning, never touch the power cord and signal cable because it can be very dangerous.
 - It can cause electric shock.
- Do not connect several extension cords, electrical appliances, or electrical heaters to a single outlet. Use a power strip with a grounding terminal designed for exclusive use with the computer.
 - A fire can break out due to overheating.
- Do not touch the power plug with wet hands. Additionally, if the cord pin is wet or covered with dust, dry the power plug completely or wipe dust off.
 - You may be electrocuted due to excess moisture.

- If you don't intend to use the product for a long time, unplug the power cable from the product.
 - Covering dust can cause a fire, or insulation deterioration can cause electric leakage, electric shock or fire.
- Fix the power cable completely.
 - If the power cable is not fixed completely, a fire can break out.
- Do not insert a conductor (like a metal chopstick) into one end of the power cable while the other end is connected to the input terminal on the wall. Additionally, do not touch the power cable right after plugging into the wall input terminal.
 - You may be electrocuted.
- The appliance coupler is used as the disconnect device.
- Please make sure the device is installed near the wall outlet to which it is connected and that the outlet is easily accessible.
- As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.

 **CAUTION**

- Be sure to keep the outlet, AC adapter, and pins of the power plug clean from dust and etc.
 - This may cause a fire.
- Do not unplug the power cord while the product is in use.
 - Electrical shock can damage the product.
- Use only the power cord supplied with the unit. If you use another power cord, make sure that it is certified by the applicable national standards when not provided by the supplier. If the power cable is faulty in any way, please contact the manufacturer or the nearest authorized repair service provider for a replacement.
- Ensure the power cord does not come into contact with hot objects such as a heater.
 - This may cause a fire or an electric shock hazard.

Precautions In Moving the Product

WARNING

- Make sure to turn off the product.
 - You may be electrocuted or the product can be damaged.
- Make sure to remove all cables before moving the product.
 - You may be electrocuted or the product can be damaged.
- Make sure the panel faces forward and hold it with both hands to move. If you drop the product, the damaged product can cause electric shock or fire. Contact an authorized the service center for repair.
- Make sure the product is turned off, unplugged, and all cables have been removed. It may take 2 or more people to carry larger apparatus. Do not press against or put stress on the front panel of the apparatus.

CAUTION

- Do not shock the product when moving it.
 - You may be electrocuted or the product can be damaged.
- Do not dispose the product-packing box. Use it when you move.

Precautions In Using the Product

WARNING

- Do not disassemble, repair or modify the product at your own discretion.
 - Fire or electric shock accident can occur.
 - Contact the service center for check, calibration or repair.
- When the display is to be left unattended for an extended period of time, unplug it from the wall outlet.
- Do not shock or scratch the front and sides of the screen with metallic objects.
 - Otherwise, it may cause damage to the screen.
- Never touch the wall outlet when there is leakage of gas, open the windows and ventilate.
 - It may cause a fire or a burn by a spark.
- Keep the product away from water.
 - Fire or electric shock accident can occur.
- If you can smell smoke or other odors or hear a strange sound unplug the power cord and contact the service center.
 - Fire or electric shock accident can occur.
- Do not touch the surface to overheat.
- Avoid high temperatures and humidity.
- Do not use high voltage electrical goods near the product(e.g. electric swatter).
 - This may result in product malfunction.

CAUTION

- All the power sources must be disconnected by removing the power cables to remove all power from the unit.
- Do not put or store inflammable substances near the product.
 - There is a danger of explosion or fire due to careless handling of the inflammable substances.
- When cleaning the product, unplug the power cord and scrub gently with a soft cloth to prevent scratching. Do not clean with a wet cloth or spray water or other liquids directly onto the product. An electric shock may occur. (Do not use chemicals such as benzene, paint thinners, or alcohol.)
- Take a rest from time to time to protect your vision.
- Keep the product clean at all times.
- Take a comfortable and natural position when working with a product to relax the muscles.
- Take a regular break when working with a product for a long time.
- Do not press strongly upon the panel with a hand or sharp object such as nail, pencil, or pen, or make a scratch on it.
- Keep the proper distance from the product.
 - Your vision may be impaired if you look at the product too closely.
- Leaving a fixed image on the screen for a long time may cause damage to the screen and cause image retention.
 - Image retention and related problems are not covered by the warranty on this product.

- Set the appropriate resolution and clock by referring to the User's Guide.
 - Your vision can be impaired.
- Use authorized detergent only when cleaning the product. (Do not use benzene, thinner, or alcohol.)
 - Product can be deformed.
- Do not expose to dripping or splashing and do not place objects filled with liquids, such as vases, cups, etc. on or over the apparatus (e.g. on shelves above the unit).
- Batteries should not be exposed to excessive heat. For example, keep away from direct sunlight, open fireplace, and electric heaters.
- Do not place non-rechargeable batteries in charging device.
- Since the LED Signage uses a high technology to produce a screen comprised of millions of LED packages, a few pixel spots (red, green, white, and black) may occasionally appear on the screen during use.
 - This is a phenomenon that can occur due to the unique properties of the LED Signage and does not indicate any performance issues or malfunction.
- To clean the product, use an air gun to lightly remove dust from the front frame and the screen. If there are foreign substances in between the LEDs on the screen, it may cause a defect in the screen.
 - Do not physically come in contact with the screen of the LED Package. This may cause damage to the product.

Mounting on a Wall

- Do not install this product by yourself as you may injure yourself or cause damage to product. Please contact service personnel authorised by manufacturer.

ASSEMBLING AND PREPARING

CAUTION

- Always use genuine components to ensure safety and durability of the product.
- The product warranty will not cover damage or injury caused by the use of unauthorised components.

NOTE

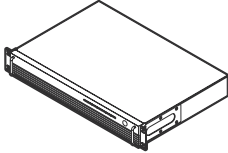
- The accessories provided with your product may vary depending on the model or region.
- Product specifications or content in this user manual may be changed without prior notice due to the upgrade of product functions.
- The warranty will not cover any damage caused by using the product in an excessively dusty environment.

Essential Accessories

Essential accessories are subject to change or to be added without prior notices to improve the performance of the product.

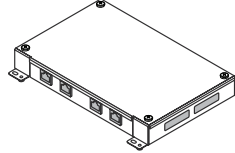
The images in this user manual may differ from the actual product and optional accessories.

System Controller



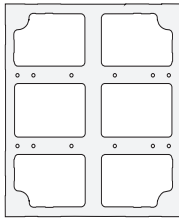
LCLG005*

LED Controller



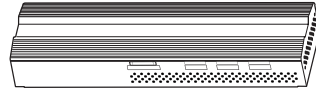
LLLG003*

Unit Frame



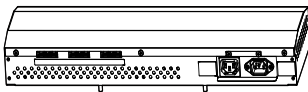
LFLG000E

Power Pack



LPLG002

Power Pack

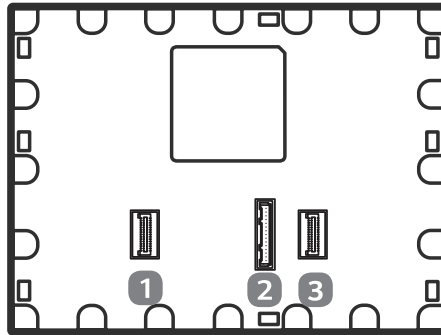


LPLG002-A

! NOTE

- Essential accessories are only available for some models. If necessary, please purchase them separately.

Terminal

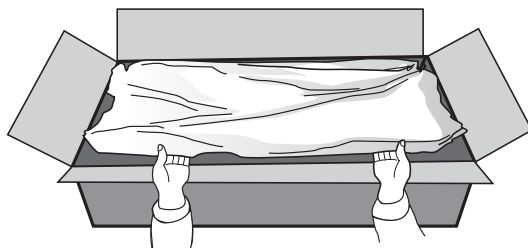
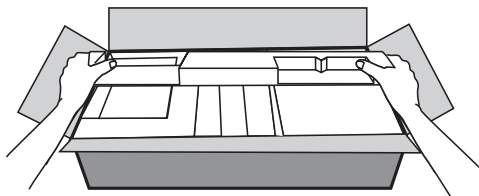


No.	Explanation
1 Signal Out LAP020EL6BP LAP020EL7NP LAP020EL7BP LAP025EL4DP LAP025EL7BP LAP025EL7NP	<ul style="list-style-type: none"> • Transmits a video signal to another set. (Used when multiple terminals are connected)
2 Power In	<ul style="list-style-type: none"> • Receives power supply.
3 Signal In	<ul style="list-style-type: none"> • Receives video signals.

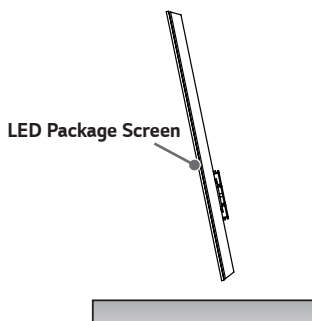
Handling for Protecting LED Package Screen

Proper Handling

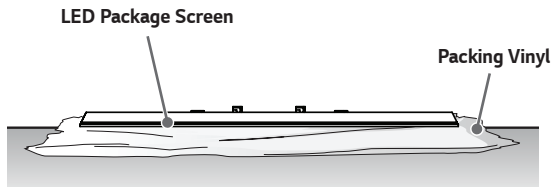
- 1 When taking out the product, make sure the screen is not pressed.



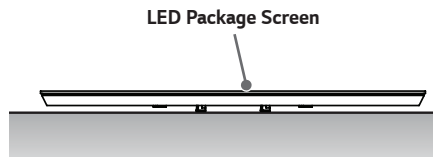
- 2 To stand the product upright, hold it on both sides of the product so that the LED package screen does not touch the floor.



- 3 Place the product with the LED package screen facing down. To protect (the screen), lay the packing vinyl of the product on the floor.

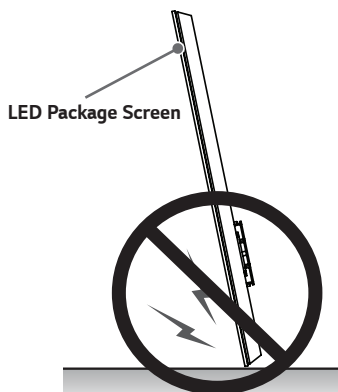


- 4 When there is no packing vinyl, check if there is any foreign substance on the floor first to lay the product on the floor. After checking it, put the product with the LED package screen facing up. Be careful not to drop objects on the LED package screen.

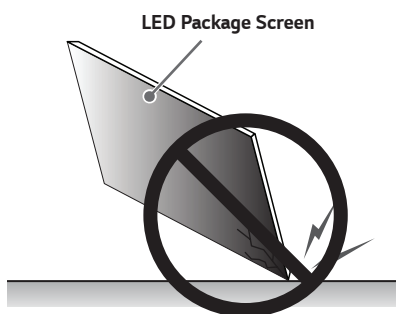


Improper Handling

- 1 If the product is tilted toward the LED package screen, the bottom of the product may be damaged.

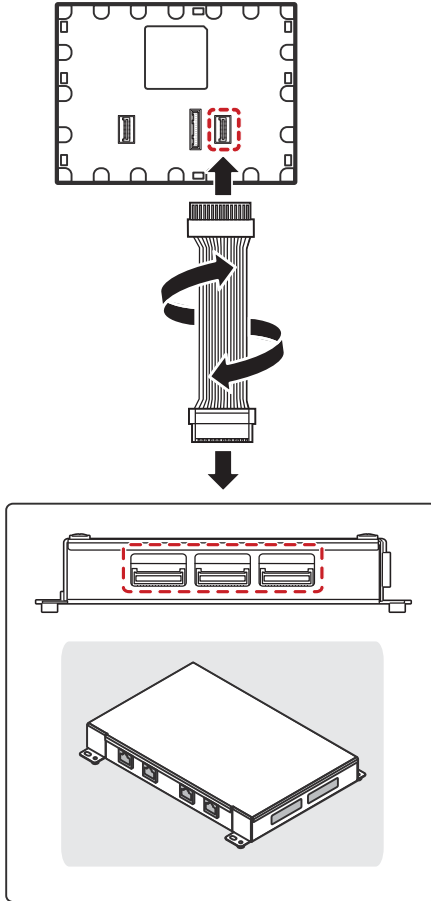


- 2 If the product is tilted toward the edge of the LED package screen, the bottom (corner) of the product may be damaged.



CONNECTING SIGNAL

Use the Signal cable to connect with LLLG003* (LED Controller).

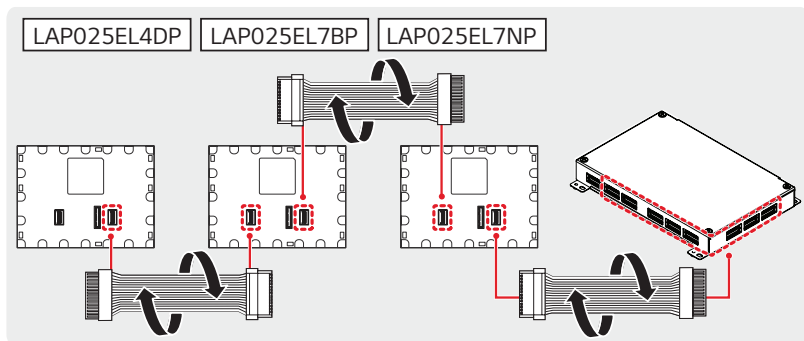
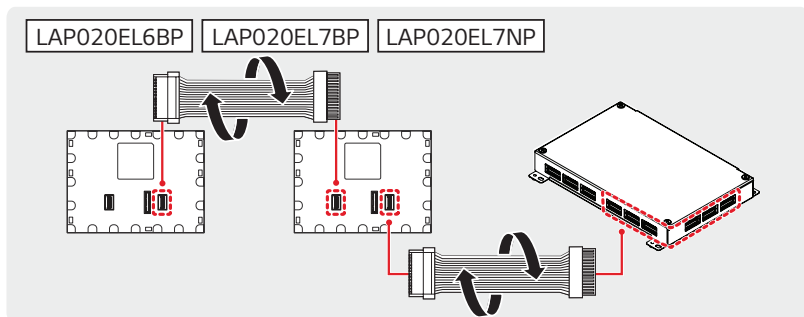
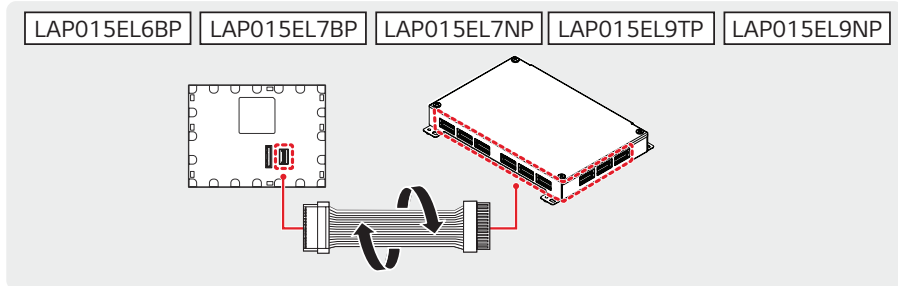


CAUTION

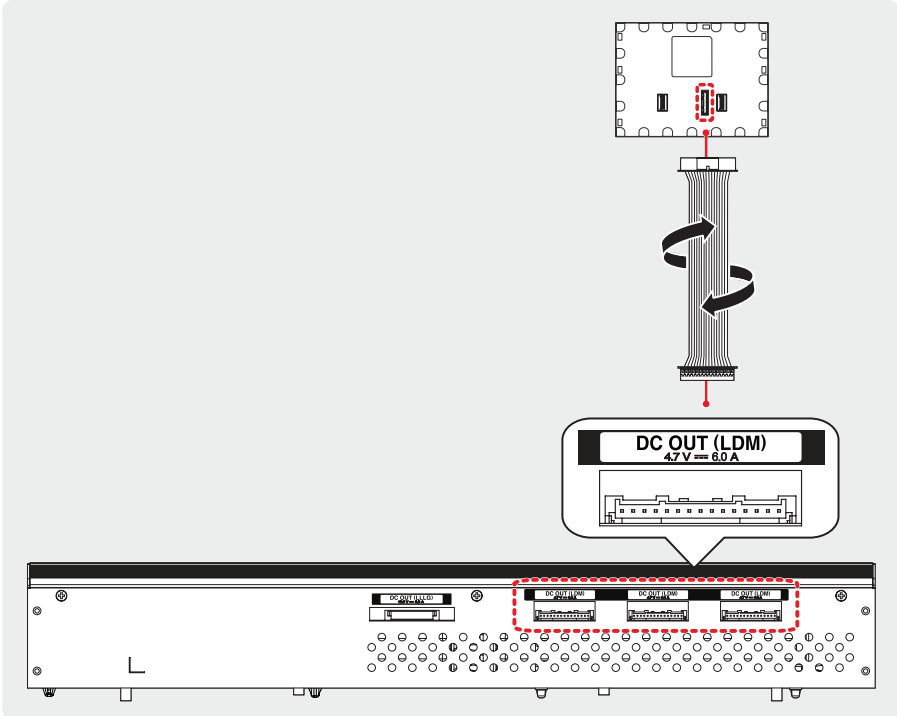
- When connecting the cable, rotate it more than five times to complete the connection.
- Check the direction so that the Signal cable is not damaged.
- Inserting the Signal cable with excessive force may damage the contact part.

To Connect and Use Multiple Products

Connect multiple LED Display Modules by using the cable.



LAP015EL6BP	LAP020EL6BP	LAP025EL4DP	LAP015EL9TP
LAP015EL7BP	LAP020EL7BP	LAP025EL7BP	LAP015EL9NP
LAP015EL7NP	LAP020EL7NP	LAP025EL7NP	



⚠ CAUTION

- When connecting the cable, rotate it more than five times to complete the connection.
- For power connection, connect up to one LED Display Module per LPLG002* terminal. (Based on the max brightness)
- If you want to connect to the DATA terminal of the LED Controller, refer to the connection image in the user manual.

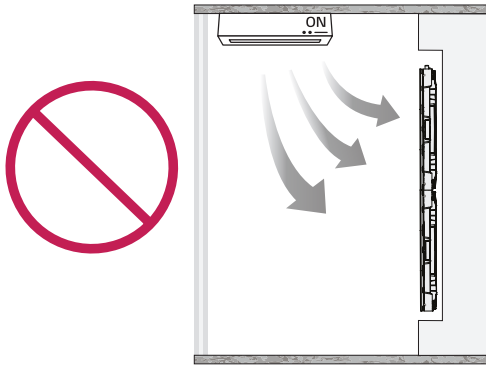
! NOTE

- Refer to the user manual of each separately-provided accessory. (LPLG002*, LCLG005*, LLLG003*)

INSTALLATION PRECAUTIONS GUIDE

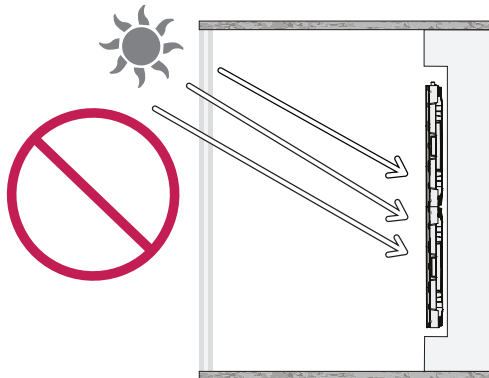
Temperature

- Make a cooling system for the enclosure so that the operating temperature of the product can be maintained.
 - Product operating temperature: 0 °C to 40 °C (the recommended room temperature is below 25 °C.)
- Install in a location where the warm air from an air conditioner does not directly affect the product.
 - This will prevent malfunctions such as the screen turning off.



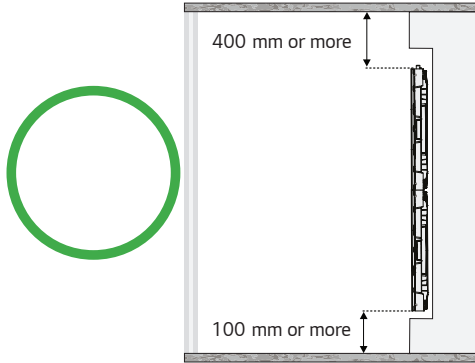
Direct Sunlight

- Install in a location that is not exposed to direct sunlight.
 - This will prevent the screen from appearing blurry due to light reflection.



Installation Position

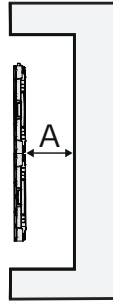
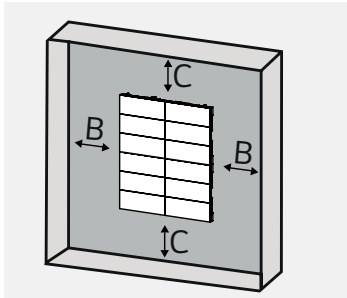
- Ensure the distance from the ceiling of the installation room to the product is at least 400 mm.
 - The high temperature air collected at the ceiling will naturally circulate to prevent malfunction.
- Ensure the distance from the floor of the installation room to the product is at least 100 mm.
 - The air from the floor will easily circulate to the ceiling to prevent malfunctions.



INSTALLATION LOCATION

Installing on a Recessed Wall

- After installation on a recessed wall, a bezel can be installed for interior purposes.



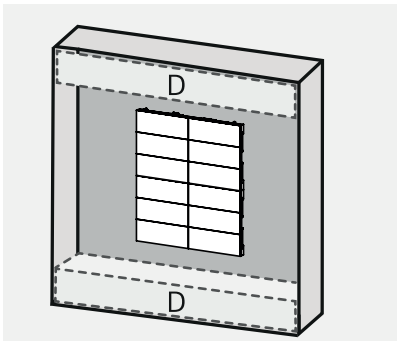
A : 100 mm or more

B : 25 mm or more

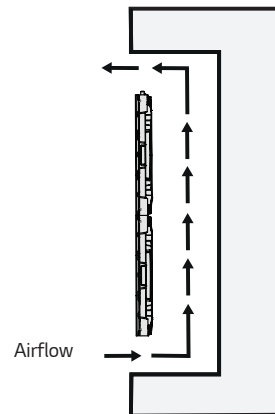
C : 60 mm or more

When Installing the Bezel

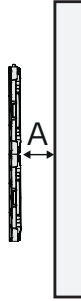
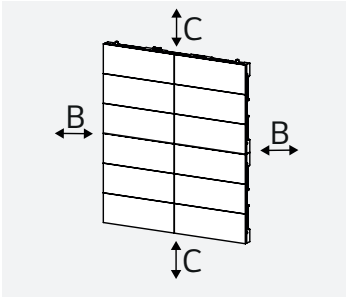
- Ensure it can be detached for product repair.
- For the top/bottom bezels, secure at least 60% of the air vent to facilitate air circulation.
 - This will prevent malfunction.



D : Air Vent
(60 % or more)



Installing on a Wall



- A : 100 mm or more
- B : 25 mm or more
- C : 60 mm or more

TROUBLESHOOTING

No image is displayed.

Problem	Solution
Is the power cord connected to the product?	<ul style="list-style-type: none"> • Check if the power cord is properly and correctly plugged into the power outlet.

The screen image looks abnormal.

Problem	Solution
Is the screen position wrong?	<ul style="list-style-type: none"> • Refer to the manual of LCLG005*.
The screen is displayed abnormally.	<ul style="list-style-type: none"> • The proper input source is not connected to the port. Connect a cable that matches the input source signal.
The screen flickers or shakes.	<ul style="list-style-type: none"> • Check if the signal cable is properly connected between products. • Check if LCLG005* is powered off.

The display colour is abnormal.

Problem	Solution
Screen has poor colour resolution (16 colours).	<ul style="list-style-type: none"> • Refer to the manual of LCLG005*.
The screen colour is unstable or looks black and white.	<ul style="list-style-type: none"> • Refer to the manual of LCLG005*.
Does a black dot appear on the screen?	<ul style="list-style-type: none"> • The few pixels (red, green, blue, white and black) that appear on the screen are due to the inherent characteristics of the LED surface. This is not a malfunction of the LED Display Module.

The operation does not work normally.

Problem	Solution
The power suddenly turned off.	<ul style="list-style-type: none">• Refer to the manual of LPLG002*.

! NOTE

- Without prior notice, the software is subject to change to improve the functionality of the product.
- The above items are only applicable to the LED Display Module model. Please read "Things to check before reporting failure" in the manual of LCLG005*.

PRODUCT SPECIFICATIONS

Without prior notice, the product specifications are subject to change to enhance the functionality of the product. The ~ symbol means alternating current, and the symbol — means direct current.

LAP015EL6BP	LAP015EL7BP	LAP015EL7NP	LAP015EL9TP	LAP015EL9NP
Pixel pitch (distance between pixels)		1.5 mm		
Resolution		160 x 120		
Pixel density		444,444 pixels/m ²		
Number of pixels per module		19,200 pixels		
Number of colour output bits		42 bit (R: 14 bit, G: 14 bit, B: 14 bit)		
Number of expressible colours		4.398 x 10 ¹²		
Luminance		300 ~ 700 nit		
Colour temperature (K)		3,200 ~ 9,300 adjustable		
Consumption	Power Consumption (Max.)	86 W / Luminance: 700 nit 78 W / Luminance: 600 nit 68 W / Luminance: 500 nit 60 W / Luminance: 400 nit 52 W / Luminance: 300 nit		
Environmental Conditions	Operating Temperature	0 °C to 40 °C		
	Operating Humidity	10 % to 80 %		
	Storage Temperature	-20 °C to 60 °C		
	Storage Humidity	5 % to 85 %		
Manufactured in		Republic of Korea		
Embedded Battery		Not Applied		
Dimensions of LED Display Module (Width x Depth x Height) / Weight	LAP015EL6BP LAP015EL7BP	239.95 mm x 10.5 mm x 179.95 mm / 0.4 kg		
	LAP015EL7NP	239.95 mm x 10.5 mm x 179.95 mm / 0.297 kg		
	LAP015EL9TP LAP015EL9NP	239.95 mm x 11.5 mm x 179.95 mm / 0.383 kg		

LAP020EL6BP		LAP020EL7BP	LAP020EL7NP
Pixel pitch (distance between pixels)		2.0 mm	
Resolution		120 x 90	
Pixel density		250,000 pixels/m ²	
Number of pixels per module		10,800 pixels	
Number of colour output bits		42 bit (R: 14 bit, G: 14 bit, B: 14 bit)	
Number of expressible colours		4.398 x 10 ¹²	
Luminance		300 ~ 700 nit	
Colour temperature (K)		3,200 ~ 9,300 adjustable	
Consumption	Power Consumption (Max.)	86 W / Luminance: 700 nit 78 W / Luminance: 600 nit 68 W / Luminance: 500 nit 60 W / Luminance: 400 nit 52 W / Luminance: 300 nit	
Environmental Conditions	Operating Temperature	0 °C to 40 °C	
	Operating Humidity	10 % to 80 %	
	Storage Temperature	-20 °C to 60 °C	
	Storage Humidity	5 % to 85 %	
Manufactured in		Republic of Korea	
Embedded Battery		Not Applied	
Dimensions of LED Display Module (Width x Depth x Height) / Weight	LAP020EL6BP LAP020EL7BP	239.95 mm x 10.5 mm x 179.95 mm / 0.4 kg	
	LAP020EL7NP	239.95 mm x 10.5 mm x 179.95 mm / 0.297 kg	

LAP025EL4DP

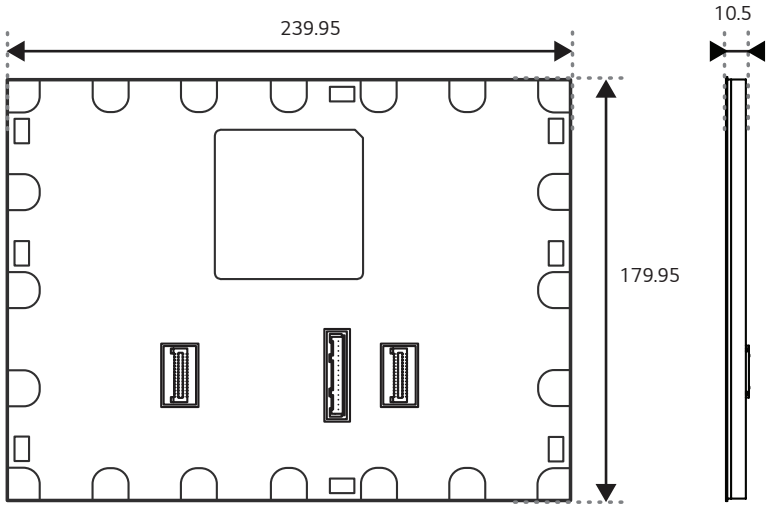
LAP025EL7BP

LAP025EL7NP

Pixel pitch (distance between pixels)		2.5 mm
Resolution		96 x 72
Pixel density		160,000 pixels/m ²
Number of pixels per module		6,912 pixels
Number of colour output bits		42 bit (R: 14 bit, G: 14 bit, B: 14 bit)
Number of expressible colours		4.398 x 10 ¹²
Luminance		300 ~ 700 nit
Colour temperature (K)		3,200 ~ 9,300 adjustable
Consumption	Power Consumption (Max.)	62 W / Luminance: 700 nit 58 W / Luminance: 600 nit 54 W / Luminance: 500 nit 48 W / Luminance: 400 nit 44 W / Luminance: 300 nit
Environmental Conditions	Operating Temperature	0 °C to 40 °C
	Operating Humidity	10 % to 80 %
	Storage Temperature	-20 °C to 60 °C
	Storage Humidity	5 % to 85 %
Manufactured in		Republic of Korea
Embedded Battery		Not Applied
Dimensions of LED Display Module (Width x Depth x Height) / Weight	LAP025EL4DP LAP025EL7BP	239.95 mm x 10.5 mm x 179.95 mm / 0.4 kg
	LAP025EL7NP	239.95 mm x 10.5 mm x 179.95 mm / 0.297 kg

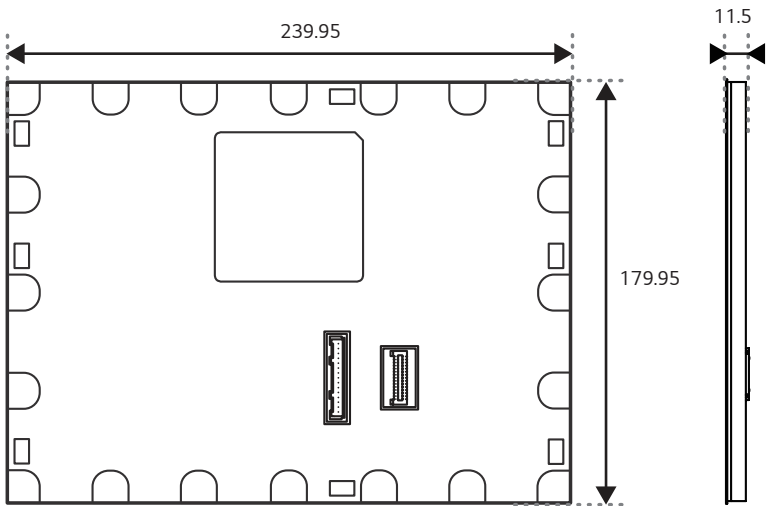
(Unit: mm)

LAP015EL6BP, LAP020EL6BP, LAP025EL4DP
LAP015EL7BP, LAP020EL7BP, LAP025EL7BP
LAP015EL7NP, LAP020EL7NP, LAP025EL7NP



(Unit: mm)

LAP015EL9TP, LAP015EL9NP





The model and serial number of the product are located on the back and on one side of the product. Record them below in case you ever need service.

MODEL _____

SERIAL NO. _____

Temporary noise is normal when powering ON or OFF this device.