LG
Life's Good

OWNER'S MANUAL

High Definition Network Camera

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

MODEL
LNU7210R series

EAC

MFL69458108

ipsolute

Item		LNU7210R series
Camera	Image Device	6.4 mm (1/2.8 Type) CMOS
	Lens Type	3 mm to 9 mm F1.2 (x3 Zoom)
	Day / Night	ICR (Auto / Day / Night / External / Schedule)
	Minimum Illumination	**Color:** 0.03 lx @ F1.2 (1/30 sec, 50 IRE)
		B/W: 0 lx @ IR LED on
	WDR	Support
	IR Distance	30 m
	Image Enhancement	Backlight Compensation, 2D+3D-DNR, De-fog, Exposure Control, AGC, White Balance, Privacy Masking, Sharpness, EIS, Pivot, Smart IR
Video / Audio	Compression	H.264, H.264_High, MJPEG
	Resolution	1920 x 1080 / 1280 x 720 / D1 (704 x 576) / CIF (352 x 240)
	Maximum Frame Rate	60 fps @ 1920 x 1080
	Multi-Streaming	Up to 4
	ROI (Smart-Codec)	Support (Up to 8)
	Video Analytics	Motion detection, Tampering alarm, Face detection, Intrusion detection, Crossing line, Object counting, Object removal, Object desertion
	Text Overlay	Support
	Audio Compression	G.711, G.726
	2-way Audio	Support
	Audio Detection	Support
Event	Event Trigger	Video analytics, Audio detection, Alarm input
	Event Notification	Relay Out, Email, FTP
	Pre Event Buffering	Support
Interface	Analog Out	BNC out
	Audio In / Out	1 / 1
	Alarm In / Out	1 In / 1 Out
	SD Slot	micro SD (Up to 32 GB)

Network	Ethernet	RJ-45 10 / 100 BASE-T
	Security	Password protection, HTTPS (SSL, TLS), IP filtering, IEEE 802.1X
	Open Protocol	ONVIF 2.2 Profile S, PSIA 1.1
	Protocol	**IPv4 and IPv6 :** TCP/IP, UDP, HTTP, HTTPS, RTP, RTSP, DHCP, ICMP, QoS, UPnP
		IPv4 : FTP, SMTP, NTP, ARP, SNMP v1/v2c/v3, DDNS(LG)
	Integrated Software	LG Ipsolute VMS Suite / Mobile application (iPhone, iPad, Android)
	Connections	Up to 20
General	Power Source	AC 24 V, DC 12 V, PoE
	Maximum Power Consumption	10.6 W (AC 24 V), 9.1 W (DC 12 V), 9.6 W (PoE)
	Maximum Input Current	670 mA (AC 24 V), 750 mA (DC 12 V), 200 mA (PoE)
	Operation Temperature / Humidity	-10 ºC to 50 ºC / 0 % RH to 80 % RH
	Protection	IK10, IP66
	Dimension (W x H x D)	92.1 mm x 89.8 mm x 338.6 mm
	Weight	1.54 kg (with Sunshield 1.7 kg)

Note that design and specification of this unit may change from the manual as quality and improvement without prior notice.

Components
Camera, CD (Software and Owner's Manual), Installation Manual, Test monitor cable, Wrench, Screws (3 EA), Installation sticker, Sunshield and Fixing screw

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

REGULATORY INFORMATION: FCC Part 15
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
• A suitable conduit entries, knock-outs or glands shall be provided in the cable entries of this product in the end user.
• Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.
Warning: Do not install this equipment in a confined space such as a bookcase or similar unit.
Warning: Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70.
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.
Warning: To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.
Warning: Please adopt the power adapter which can meet the safety extra low voltage (SELV) standard. And source with DC 12 V or
AC 24 V (depending on models) according to the IEC60950-1 and Limited Power Source standard.

Warning: Install the camera on a ceiling or wall where can withstand the weight of 5 times of the camera including mounting bracket.
Caution: This installation shall be made by a qualified service person and shall conform to all local codes.
Caution: To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.
Caution: The apparatus shall not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, shall be placed on the apparatus.
Caution: Make sure the power supply voltage is correct before using the camera.
Caution: Do not drop the camera or subject it to physical shock.
Caution: The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor not be exposed to the laser beam.
Caution: While shipping, the camera should be packed in its original packing.
Caution: It is permitted to use ancillary equipment (e.g. A UPS) to prevent the damage from mains supply voltage reductions.

Note:
Please make sure the product is installed appropriate places where secured from flood, such as under the eaves, to operate properly. This product is certified as IP66 standard. However, if there is any flood concerns, it is highly recommended to use an outdoor Housing. When you install the camera inside an outdoor Housing, please use one of the following methods:
1. Remove the front glass of Housing before installing the camera.
2. To keep the front glass of Housing, remove the front cover, and then put the camera close to the front glass.

Disposal of your old appliance

1. This crossed-out wheeled bin symbol indicates that waste electrical and electronic products (WEEE) should be disposed of separately from the municipal waste stream.
2. Old electrical products can contain hazardous substances so correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health. Your old appliance may contain reusable parts that could be used to repair other products, and other valuable materials that can be recycled to conserve limited resources.
3. You can take your appliance either to the shop where you purchased the product, or contact your local government waste office for details of your nearest authorised WEEE collection point. For the most up to date information for your country please see www.lg.com/global/recycling

EuSP Ltd.
Herald Way Pegasus Business Park
Castle Donington, DE74 2TZ United Kingdom

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Handling of the unit

Be careful not to spill water or other liquids on the unit. Be cautious not to get combustible or metallic material inside the body. If used with foreign matter inside, the camera is liable to fail or to get cause of fire or electric shock.
• Remove dust or dirt on the surface of the lens with a blower.
• Use a soft and lint-free, dry cloth(such as glass cleaner) to clean the body. If it is very dirty, use a cloth dampened with a small quantity of neutral detergent then wipe dry.
• Avoid the use of volatile solvents such as thinners, alcohol, benzene and insecticides.
They may damage the surface finish and/or impair the operation of the camera.
• This camera is designed for mounting on the ceiling or wall. If you install this camera upside down, it may cause malfunction.

Operating and storage location

Avoid viewing a very bright object (such as light fittings) during an extended period. Avoid operating or storing the unit in the following locations.
• Extremely hot or cold places (operating temperature -10 ℃ to 50 ℃, however, we recommend that the unit be used within a temperature range of 0 ℃ to 45 ℃)
• Damp or dust place
• Places exposed to rain
• Places subject to strong vibration
• Close to generators of powerful electromagnetic radiation such as radio or TV transmitters.
• Do not use the camera in such place where rapid temperature fluctuation by switching an air conditioner on and off.

1 **Lens Cover**
2 **Angle adjuster**
Adjust the camera angle.
3 **Tilt adjuster**
Adjust the tilt position.
4 **Pan adjuster**
Adjust the pan position.
5 **Power input terminal**
Connects to DC 12 V or AC 24 V power supply using proper cables. This camera must always be operated DC 12 V or AC 24 V. Certified/Listed Adaptor which comply with LPS.
6 **AUDIO IN / OUT (Line Level Input / Output)**
7 **ALARM IN & OUT / ALARM IN & OUT RETURN**
Provides physical interface for sensor and Alarm/Relay.
8 **ETHERNET / PoE Port**
Connects to a PC or a network via a hub with a 10 BASE-T / 100 BASE-TX cable attached RJ-45 connector.
NOTE:
Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the device locations and enables easier application of uninterruptible power supplies (LPS).
9 **IR LED**
NOTE:
Do not stare at operating IR LED within hazard distances (1 m).
10 **IR Sensor**
11 **RESET button**
Push the button more than 3 seconds, this would restore the factory default network related settings.
12 **Video Out Connector**
Use this jack for checking the picture with portable monitor when install the camera.
13 **Jog button**
Use this button for control the Zoom / Focus of the camera.
14 **micro SD card slot**
Insert the micro SD card.

Precautions
- Be sure to switch off the unit before installation and connection.
- The installation should be made by qualified service personnel or system installers.
- Do not expose the power and connection cables to moisture, which may cause damage to the unit.

Connecting Network
You can control and monitor the system via network. With the remote control (monitoring), you can change the system configuration or monitor the image via network. After the installation, check the network settings for the remote control and monitoring work.
Connect the IP camera to your network using a standard RJ-45 network cable as shown below.
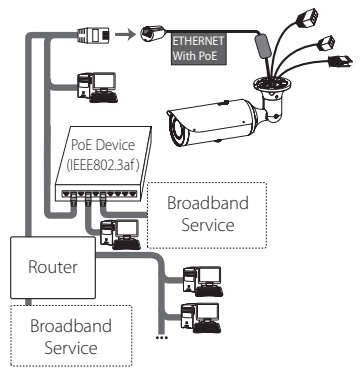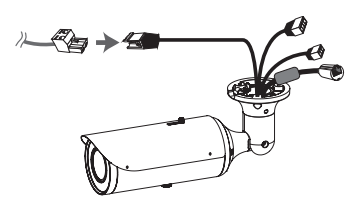

Connecting Power Source
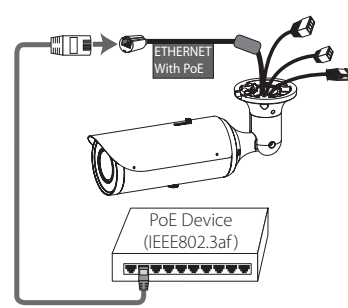Connect power, using one of the methods listed below:

To use the power adapter
Connect DC 12 V or AC 24 V power source to the power input terminal as shown below. (recommended power adapter is DC 12 V or AC 24 V / 1.5 A or above)

To use the PoE (Power over Ethernet) device
Connect the PoE cable to the LAN port on the unit. You must use the "IEEE802.3af" standard PoE device.
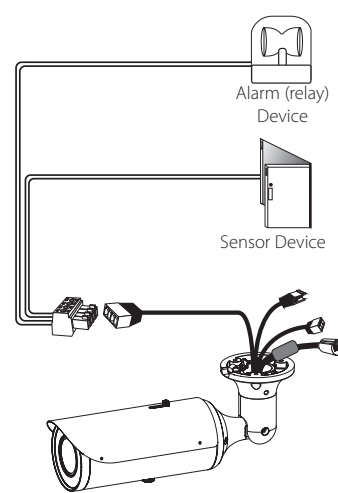

NOTE:
If the camera doesn't work properly after connecting PoE device, please check if the PoE device supplies enough power.

Connecting Alarm Device
Alarm terminals are used to connect the alarm (relay) devices such as sensors, door switches, etc.

ALARM IN & OUT / ALARM IN & OUT RE-TURN (Sensor Input/ Relay Output)
Connect the sensor device and alarm (relay) device to the alarm terminal. Alarm signal is outputted at an event occurrence.
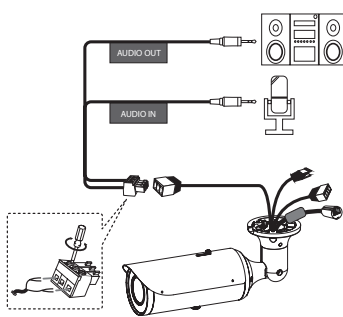

NOTE:
The Photo MOS Relay is rated for 100 mA at DC 20 V or 100 mA at AC 28 V.

Connecting Microphone and Speaker Device
Optionally connect an active speaker and/or external microphone with a built-in amplifier.
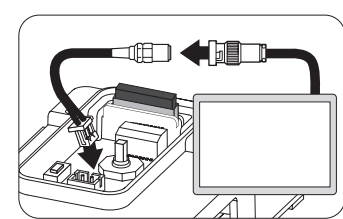

NOTE:
- When the connecting Network, Power and Alarm, tighten the screws as shown above.
- Keep the microphone away from the speaker to avoid howling.

Connecting Portable Monitor
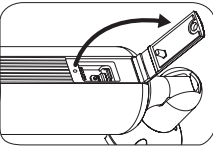Connect the portable monitor to the video jack using the test monitor cable.
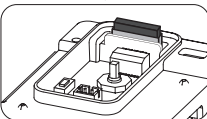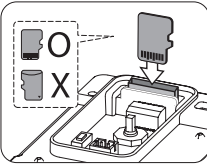
Using the micro SD card
You can record your surveillance environment with the micro SD card even if the network is disconnected condition.

To insert the micro SD card
1. Open the Cover on the main body by loosening the screw.

2. Insert the micro SD card carefully as shown in the following illustrations. Make sure the micro SD card terminal position before insert the micro SD card. Push the back end of the micro SD card to fix it at the last step.


NOTES:
- Do not use the power too much when you insert the micro SD card. The micro SD card may be damaged.

- If you insert the micro SD card in the wrong position, the micro SD card may be damaged or it may cause the malfunction of the micro SD Card Slot.
- Keep the terminal part of the micro SD card in clean. Be careful the terminal part of the micro SD card not to dusty.
- As the micro SD card is consumable, the micro SD card end its days and may be not able to save data if you use it more than over certain times. In this case, replace micro SD card to buy a new one.
- Close the cover and fasten the screw securely using a screwdriver as shown below.
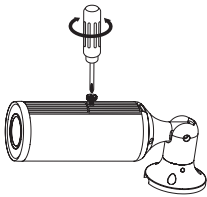
Remove the micro SD card
1. Press the back end of the micro SD card to release the lock condition.
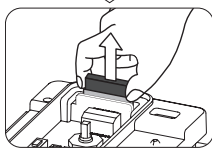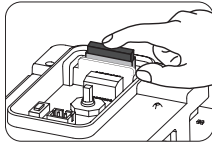
2. Take the micro SD card out carefully from the camera. It may cause a malfunction of the micro SD card or the micro SD card slot if you use the power too much at lock status.

CAUTION:
- If you install the micro SD card on the camera and remove with the micro SD card condition indicator lights on, you must unmount the micro SD card by using the [System > Storage > Device Management > Unmount] menu. The micro SD card data is compromised or the camera may not operate normally, if you remove the card without use [Unmount] function.
- LG Electronics is not responsible for deleted data caused by user mishandling when you insert or remove the micro SD card.

Recommended the micro SD card specification

Maker	Capacity	Block Size (FAT 32)
LG	Less than 32 GB	32 kbyte
Sandisk		
Transcend		

NOTE:
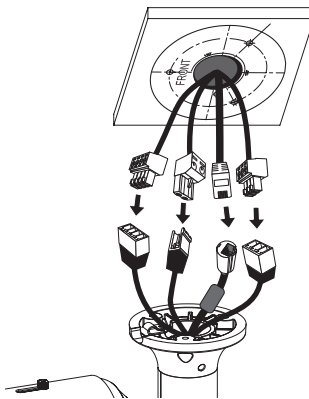Speed of reading and writing more than 10 MB/Sec. (Class 6)

Follow the instructions below to ceiling or wall mount the camera.
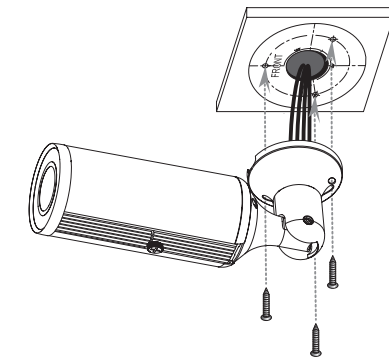
Mounting the Camera
1. Using a template as a guide, make a hole through the ceiling.

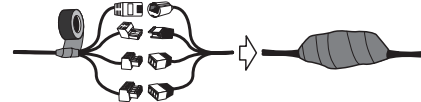2. Connect the cables to the cable jacks of the camera body.

Connecting Waterproof processing of cable
Surely use the Butyl tape.
1. Connect the cables.
2. Bind the cables together with Butyl tape.

WARNING:
- The cables are not waterproofed completely. So seal the tube ends and the portions between cable cores as well as connecting portions with Butyl tape.
- If not using the Butyl tape, it may cause water absorption from a gap and finally condensation and water leakage.

3. Install the camera by using M4 Tapping screws to fix it on the ceiling.
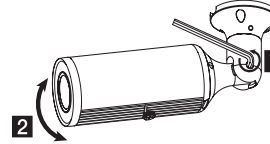

Adjust the camera position
You should adjust the camera angle position as shown below illustration. Adjust the camera angle position by following step 1 and 2.
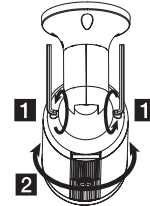
1. Adjust the Pan.
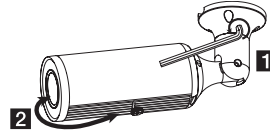
2. Adjust the Tilt.

3. Adjust the Angle.

NOTE:
- The camera could be damaged by adjusting Pan, Tilt by force.
- **Camera can be damaged if you adjust the Pan / Tilt / Angle when the screw is fixed.**
- Be careful not to rotate the Pan and Angle more than 360°, it may damage the internal cable.

Assemble the Sunshield
Adjust the position of the Sunshield, then assemble the Sunshield.

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