

Signal Tower

Instruction Manual

Installation

Wiring

Operation

Maintenance

TYPE LR6-WC / LR6-WM

- Visit our homepage (<http://www.patlite.com/>) and download the LR Complete Operation Manual to find more about the operating method and features.

Notice to Customer Thank you very much for purchasing our Patlite products.

- This product requires installation, wiring, and other related work. Be sure to ask an expert technician to perform these procedures.
- This manual is intended for the technician who performs the installation and wiring of the product.
- Read this manual thoroughly before using this product to ensure correct use.
- If there are any questions concerning this product, refer to the contact information at the end of this document and contact your nearest PATLITE Sales Representative.

CE Marking

This product conforms to EN standards and shows the CE Marking.

This product has been tested and found to comply with the limits for a Class A device, pursuant to EMC DIRECTIVE.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This product must not be used in residential areas.

WARNING Indicates an imminently dangerous condition: failure to follow the instructions may lead to death or serious injury.

- Request the installation and wiring to be accompanied by a professional contractor. If installation is done improperly, it may result in fire, electric shock, falling, or malfunction.

CAUTION Indicates a potentially dangerous condition: failure to follow the instructions may lead to slight injury or property damage.

- In order to avoid scratches, use a soft cloth dampened with water to clean the product. (Do not use thinner, benzene, gasoline or oil.) This may cause discoloration or alternation.

To Installers or Contractors

- Read this manual thoroughly before using this product to ensure correct use.
- If there are any questions concerning this product, refer to the contact information at the end of USER's manual and contact your nearest PATLITE Sales Representative.

1 Read this First (Safety Precautions)

Warning

- To prevent from **short-circuits, electric shock or damage**, observe the following:
 - Be sure **the power is disconnected** before replacement or repair, including the replacement of the fuse.
 - Use this product in a **properly maintained condition**. (Replace or repair if the body, LED unit, etc. are damaged.)
- Request the installation and wiring be performed by a **professional contractor** if construction work is involved. Failure to comply may result in fire, electric shock or falling from high places may occur.

Caution

- Avoid long exposure to the Buzzer sound from a close distance.**
Failure to observe this may lead from irritation to permanent damage to the ears. (Used when buzzer unit is attached.)
- In order to maintain protection of this product against dust and waterproofing performance, **be sure to use the Head Cover, LED Unit and Buzzer Unit in the condition that it was originally attached.**
- Do not assemble with units other than FB295.** Failure to comply will result in lower waterproofing performance.
Possible cause of failure may occur.
- Do not operate this product without** the gasket or the mounting gasket material. Failure to comply will result in lower waterproofing performance. Possible cause of failure may occur.
- When removing covers or packing from the equipment, which is attached to this product, be careful **not to snag** the product. Failure to comply may result in damage to the product.
- Do not apply a continuous stream of high-pressure water to the area between Units (LED, Buzzer, Body) or to the mounting area of the product. Doing so may damage the waterproof performance.
- In order to avoid scratches, use a soft cloth moistened with water when the LED Unit or Body must be cleaned up. (Do not use thinner, benzene, gasoline or oil.) This may cause discoloration or alternation.

Notice

- To ensure proper safety while using this product, observe the following:
 - Perform **periodic pre-maintenance**.
 - As a precaution against problems occurring, **use this product together with other equipment**.
- Be sure to discharge any static electricity** from the body before handling static sensitive parts of this product.
(To prevent damage from static electricity, touch hands or other body parts to metals or an earth ground to discharge the body from static charge.)
- To ensure safety when this product is installed onto equipment, observe the following:
 - Do not remove parts** beyond those designed to be removed from this product.
 - Do not modify or disassemble** this product.
 - Use only **the specified replacement parts** listed in the LR Complete Operation Manual.

2 Model Number Configuration

	Model	Tiers	Rated Voltage	Mounting/Wiring	Flashing/Buzzer	Body Color	LED Unit Color	Custom Order Number
Assembly Model	LR6	-	02	↓	↓	W	- RYGB	+ FB295
Unit Model (Body Unit)	LR6	-	02	↓	↓	W		+ FB295

LR6 Ø60

02 24V DC

W Off-white

1 - 5 Tiers

WC Direct Mount / M12 Connector (Mounting with M30 Nut)

WM Direct Mount / M12 Connector

B With Flashing / Buzzer ※

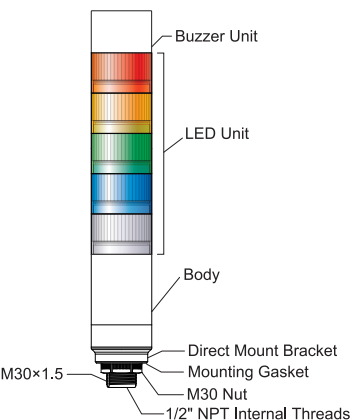
N No Flashing / Buzzer

LED Color: R (Red) / Y (Amber) / G (Green) / B (Blue) / C (White) (From top to bottom)

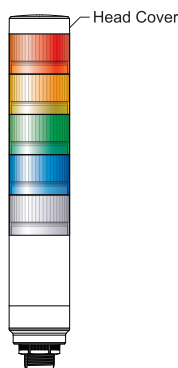
※[Assembly Model]

3 Part Names

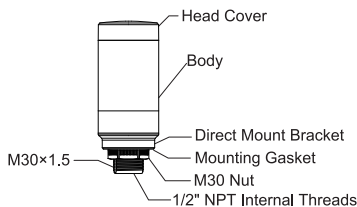
■ LR6-502WCBW-RYGB



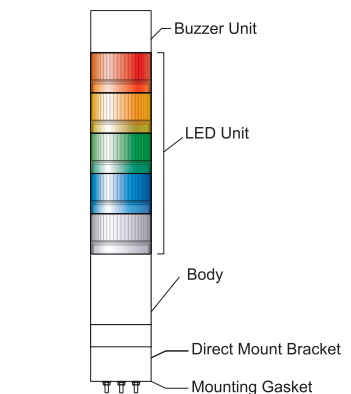
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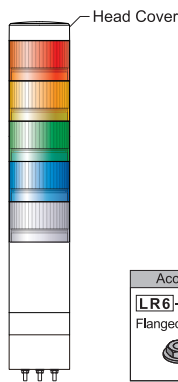
■ LR6-02WCNW



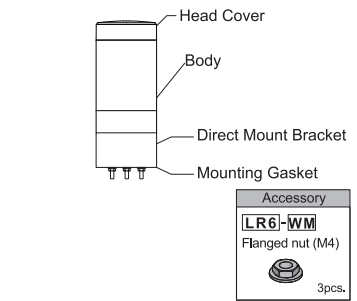
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■ LR6-502WMNW-RYGB



■ LR6-02WMNW



4 How to Install

Notice

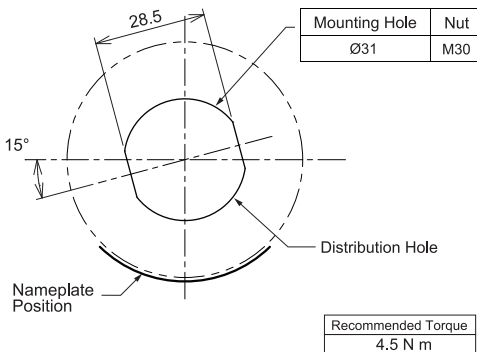
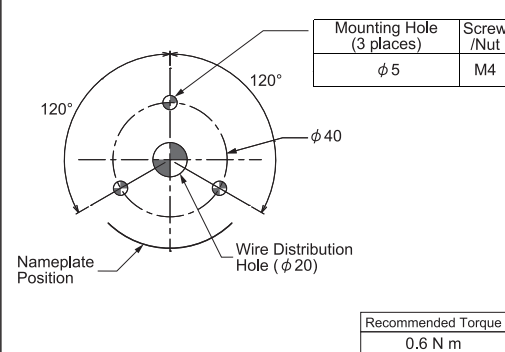
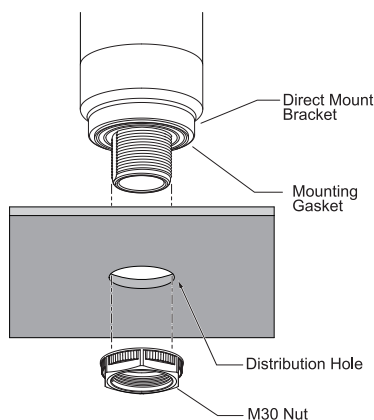
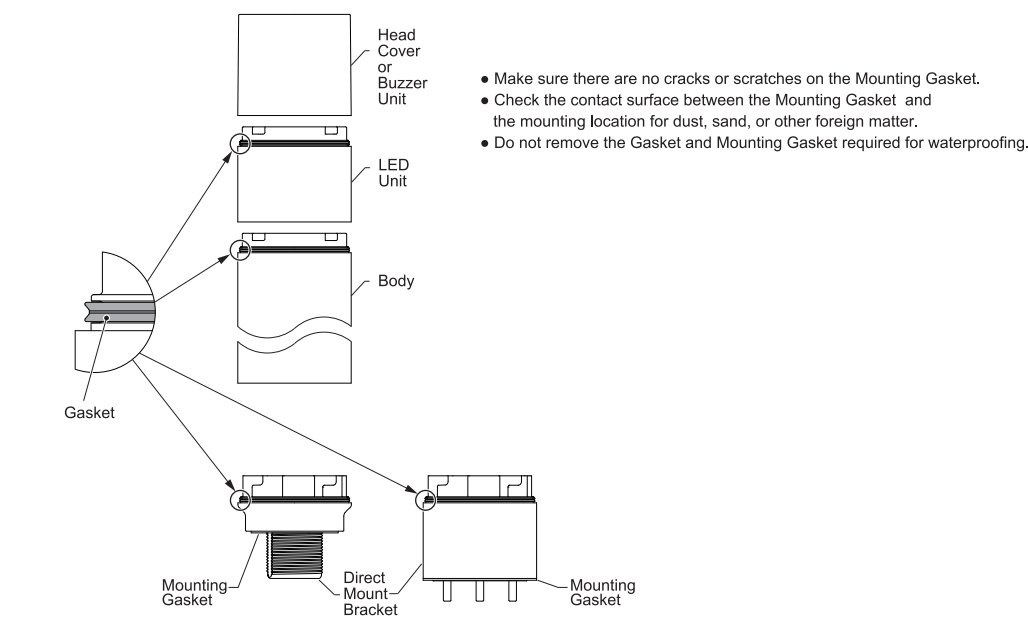
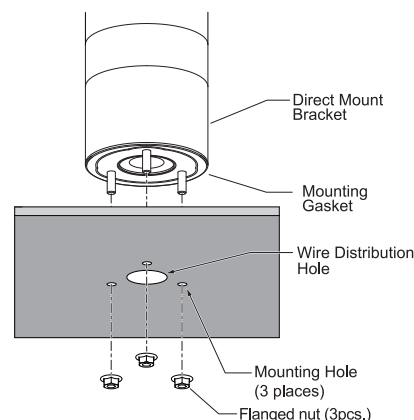
- The following requirements are necessary for proper installation:
 - Install this product where **excessive vibration** is not present.
 - Install this product on a **sturdy surface**.
 - Install this product on a **level surface**.
 - Only install this product in an **upright position**.
 - When the installation location is unavoidably irregular and waterproof performance is required, use a sealant between the product and the installation surface.
- To ensure waterproof performance, check that there are no cracks or scratches on the Mounting Gasket.
- Check the contact surface between the Mounting Gasket for foreign matter such as dust and sand, and if there is foreign matter, wipe it off with a soft, dry cloth. Waterproof performance may deteriorate due to adhesion of foreign matter.

Basic Mounting Instructions

1 Make mounting holes for the product.
(Refer to the compatible installation figure or mounting dimensional drawing.)

2 Run the wiring through the distribution hole.

3 Secure the product with the nuts and screws included.

WC Mounting Dimensional Drawing (M30x1.5 Installation)
(Unit : mm)**WM** Mounting Dimensional Drawing
(Unit : mm)**WC** Installation Example**WM** Installation Example

5 Wiring

Warning

- Be sure **the power is disconnected** before wiring and changing fuses. Possible cause of short-circuiting may occur.
- Ensure **the proper working voltage** is used and that **direct current or alternating current** is properly applied. Possible cause of damage or fire may occur.

Caution

- Do not apply voltage to Flashing Common line.** Product failure will occur.
- It is not necessary to connect to an external lead for tiers not used. When an extra lead is not connected, it should be **individually insulated** with electrical tape or something similar. Failure to comply will result in damage due to short circuiting.
- Do not pull** the lead wire or **push it inside** the body. Product failure will occur.

Notice

- When using multiple LED units of the same color, **make the contact capacity equal to the number of same color LED units multiplied by the contact capacity for 1 tier.** (This is because LED units of the same color light up for one signal line.)
- To protect the power supply and other internal circuitry, be sure to install an **external fuse**.
- If wiring is extended beyond its factory length, a **relevance in the length of the wire and wire gauge** will cause a voltage drop.

External Contact Capacity

Is : Current Capacity Vs : Withstand Voltage IL : Leakage Current Ta : Ambient Temperature

LED Unit (1 Tier)	Rated Load Voltage		24V DC	
	Signal Wire Current (Max.) / Voltage		45 mA / Power Supply Voltage	
Buzzer	Recommended Contact Capacity	Is	≥ 100 mA	Vs ≥ 35 V DC
	Signal Wire Current (Max.) / Voltage		250 mA / Power Supply Voltage	
Power Supply	Recommended Contact Capacity	Is	≥ 300 mA	Vs ≥ 35 V DC
	Current Consumption (Max.)		250 mA (※1)	
Inrush Current	Recommended Contact Capacity	Is	≥ 500 mA	Vs ≥ 35 V DC
	Signal Wire	LED	None	Buzzer
	Power Supply Wire		None (※3)	None (※2)
	Leakage Current		IL	≤ 0.1 mA

※1 ... Measured with five LED tiers and buzzer operating.

※2 ... Not exceeding Maximum Signal Wire Current Ratings.

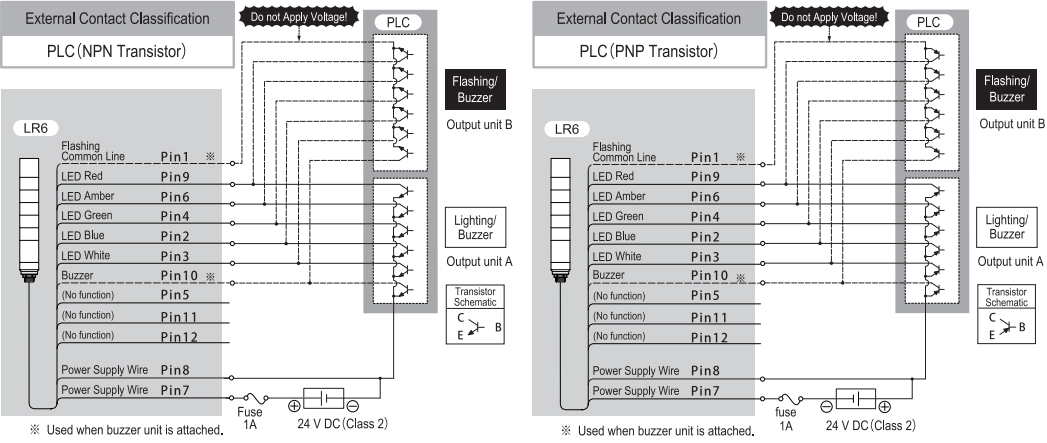
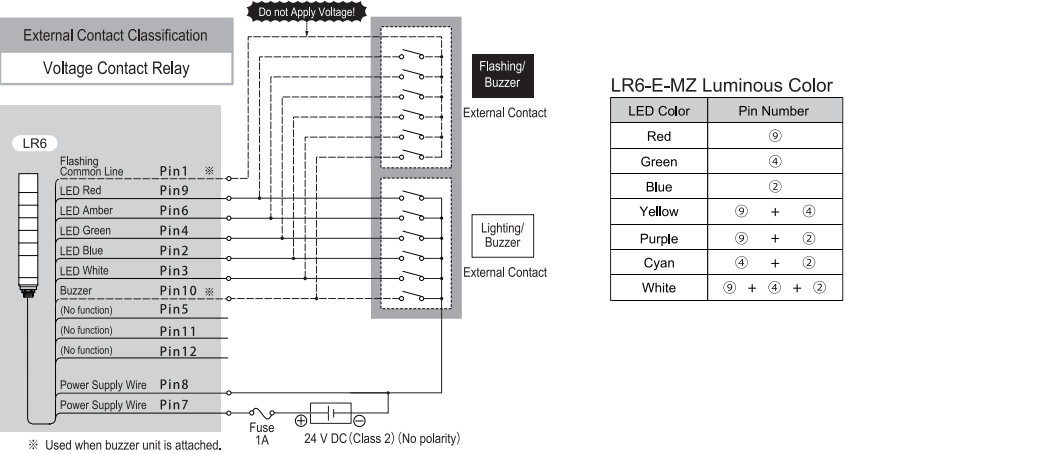
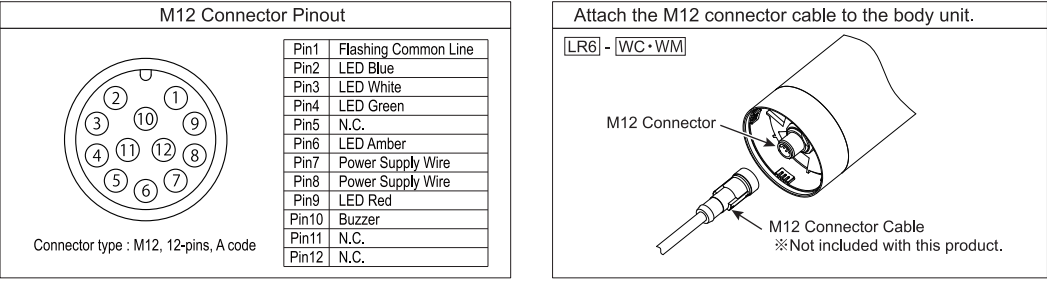
※3 ... Signal Wire Current (Max.) not exceeding the sum total.

Recommended Fuse

Fuse Ampere Ratings	250 V / 1 A (5x20mm Fast-Acting Glass Body Cartridge Fuse)
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Wiring Example

The following is a basic wiring example.
If there are any special applications that require asking questions concerning this product, feel free to contact your PATLITE Sales Representative.
Accidental wiring will result in product failure.
Note:When lighting and flashing are used together, it is necessary to prepare an external contact for each lighting or flashing.



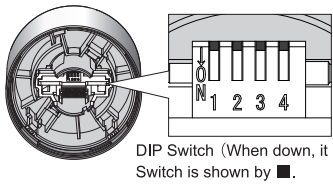
Buzzer Pattern Set-up

The **[B]** Flashing/Buzzer type includes a set up for four different patterns and sound reduction. ※Used when buzzer unit is attached.

CAUTION

- Avoid long exposure to the buzzer sound from a close distance.Failure to observe this may lead from irritation to permanent damage to the ears.
- Do not use excessive force to set up the switches. Possible damage or malfunction may occur.
- Do not adjust switches with a sharp object. Possible damage to switches may cause it to be impossible to operate or cause partial movement of the contacts.

Buzzer Unit Underside



Setup Table

Buzzer Sound	DIP Switch		Sound Pattern
	1	2	
No.1	OFF	OFF	Rapid Intermittent Beep
No.2	ON	OFF	Continuous Beep Sound
No.3	OFF	ON	Rapid Hi-Lo
No.4	ON	ON	Sweep Sound

DIP Switch		Volume
3		
OFF		Normal
ON		Sound Reduction

<Note> Do not use DIP Switch 4. It is set to "OFF" at all times after factory shipments.

Unit Detachment Method

WARNING

- Be sure the power is disconnected before working on it. If the power is not disconnected, it may result in electric shock.

CAUTION

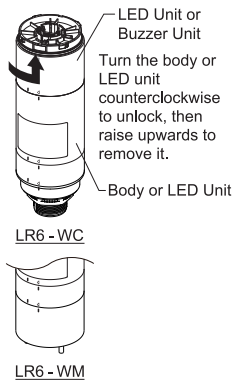
- Do not apply excessive strength with each unit or body. Failure to comply may damage the unit.
- Do not touch the connector area or the inside of the Body and LED Unit. Failure to comply may damage the unit.
- Be sure to lock each unit securely when attaching. Failure to comply may damage the unit.
- Detach the unit in the following manner. Any other method may result in damaging the product.
Attachment: Attach one unit at a time to the body.
Removal: Firmly hold the bottom section while removing the upper section.
- Remove water and dirt from the main unit before starting work. Do not work with wet hands.
If water or dirt gets inside the product, it may cause a malfunction.
- Do not assemble with units other than FB295. Failure to comply will result in lower waterproofing performance.
Possible cause of failure may occur.
- Check the contact surface between the Head Cover, LED Unit, Buzzer Unit, Body and Gasket for foreign matter such as dust and sand, and if there is foreign matter, wipe it off with a soft, dry cloth.
Waterproof performance may deteriorate due to adhesion of foreign matter.
- To ensure waterproof performance, check that there are no cracks or scratches on the Gasket.

NOTICE

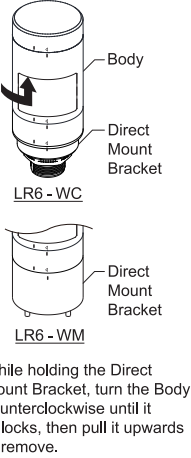
- The maximum number of attachment units per product are five LED units, plus one buzzer unit.

Removal

< For the LED/Buzzer Unit >



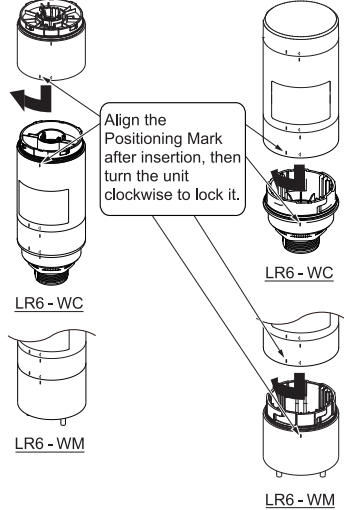
< For the Body Unit >



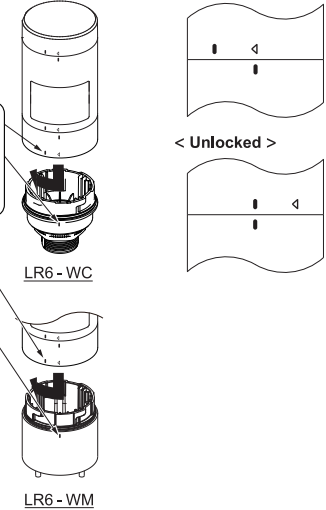
While holding the Direct Mount Bracket, turn the Body counterclockwise until it unlocks, then pull it upwards to remove.

Attachment

< For the LED/Buzzer Unit >

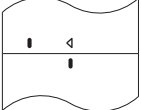


< For the Body Unit >

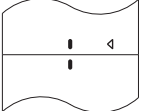


Positioning Mark

< Locked >



< Unlocked >



Check the contact surfaces of the Head Cover, LED Unit, Buzzer Unit, and Body with the Gasket for foreign matter such as dust or sand. Make sure that there are no cracks or scratches on the Gasket. Check that there are no cracks or scratches on the Gasket. When the product is removed from the mounting location, make sure that there are no cracks or scratches on the Mounting Gasket. When installing the product, make sure that there is no foreign matter such as dust or sand on the contact surface between the Mounting Gasket and the mounting location. When installing the product, refer to the "4 How to Install ".

Specifications

Model	Unit Model Combination			Rated Voltage	Rated Power Consumption
	Body Unit	LED Unit (Max. 5 Units)	Buzzer Unit		
LR6-□02WC□W+FB295	LR6-02WCN+FB295	LR6-E-R+FB295 , LR6-E-Y+FB295 , LR6-E-G+FB295 , LR6-E-B+FB295 , LR6-E-C+FB295 , LR6-E-MZ+FB295	LR6-B+FB295	24V DC	Max. 6.6W
LR6-□02WM□W+FB295	LR6-02WMN+FB295				

Visit our homepage (<http://www.patlite.com/>) to download the LR Complete Operation Manual for the LED Unit and Buzzer Unit Model Configuration.

<Conformity Standards>

- UL 508, CSA-C22.2 No. 14
- EMC Directive (EN 61000-6-4, EN 61000-6-2)
- RoHS Directive (EN IEC63000)
- FCC Part 15 Subpart B Class A
- KC (KS C 9610-6-4, KS C 9610-6-2)

- Conformity requirements for the UL Standard:
 - Maximum surrounding air temperature rating of 50 °C
 - This product is designed for use on a flat surface for a **Type 1 Enclosure**.
 - Use a **"Class 2"** power supply.
 - For use in Pollution Degree 2 Environment.

- Conformity requirements for the CE Marking:
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 restrictions are limited to cases where this equipment is operated in a business district, and it is designed to take the relevant protective measures against electromagnetic noise hindrance.
This product must not be used in residential areas.

Product Details

Please refer to the online manual available for the product for detailed information not included in this document.

- The images in this manual may vary in comparison to the actual product and are only for the purpose of illustration.
- Specifications may change without notice due to continual product improvement.

- Despite the cautions and warnings provided in this manual, it is not the responsibility of PATLITE for any failure or damage occurred from mishandling.
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