B95100500 I

Signal Tower TYPE LR4 / LR5 / LR6 / LR7 INSTRUCTION MANUAL

[Installation] (Operation) (Maintenance)

Notice to Customer

Thank you very much for purchasing our PATLITE product.

Prior to installation, read this manual thoroughly before using this product to ensure correct use.

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

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. Notice to Contractor Read this manual carefully prior to installation. Be sure to return this manual to the customer.

1 | Read this First (Safety Precautions)

A Warning Failure to observe the following may result in death or serious injury.

■ 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 Failure to comply with the following points may result in injury, physical loss or damage.

- 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 (|B|With Flashing/Buzzer)
- 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 operate this product without the O-ring or the waterproof packing material. Failure to comply will result in lower waterproofing performance.
- Possible cause of failure may occur.

 Do not apply voltage to the Flashing Common line (01), 02). Apply voltage to the power source line (M2) only. Product failure will 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.

- Notice

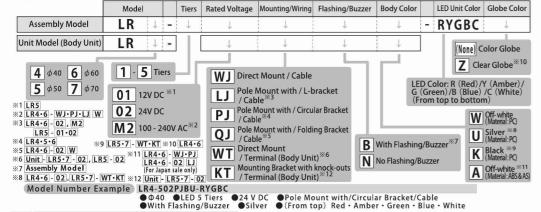
 To ensure proper safety while using the signal tower, observe the following:
 -Perform periodic pre-maintenance. -As a precaution against problems occurring, use this product together with other equipment.

 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.)

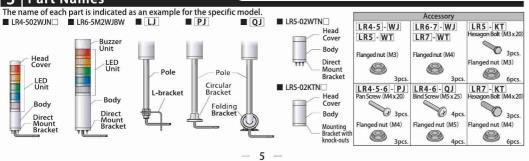
 Use a soft cloth moistened with water when the LED Unit or body must be cleaned up. (Do not use thinner, benzine, gasoline or oil.)

 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 "Complete Operation Manual:LR".

2 Model Number Configuration



3 | Part Names



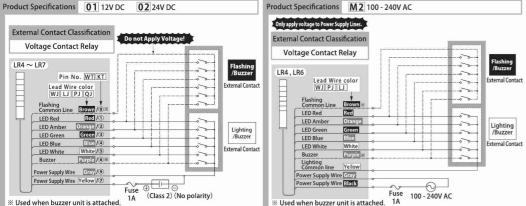
Wiring Example

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 Excluding M2 Power Supply Wire(Gray , Black) an external contact for each lighting or flashing.

■ Wire Type & Wire Gauge

M2 Power Supply Wire(Gray , Black) · · · UL2464 / AWG18

· · · UL2464 / AWG24



WT · K	T Te	rmi	nal Bloc	k Connector Array
	9 🗈	9	Black	Power Wire (Signal-line Side)
	8 🗈	8	Gray	Flashing Common
107 p 106 p 105 p		7	Yellow	Power Wire (Common)
		6	Gray	Buzzer
		5	White	LED-C
	4 D	4	Blue	LED-B
	3 🕩	3	Green	LED-G
	2 🕩	2	Orange	LED-Y
	1 Pb	1	David	LED B

	l lead wire specifications Wire Gauge (Solid Wire) Wire Gauge (Frayed V		
UL1007 / UL1430	0.14~1.5mm ²	AWG30~14	
Point The minus dri 2mm by 0.4m Do not forcib the driver. Fai Strip 9~10m to insert it in	ver blade should be m in size.	at about re than necessary wit damage the unit.	

.5mm² AWG30~14 above 75°C, and the conductor hould be at about lever more than necessary with

sure to operate the lever to release the lock

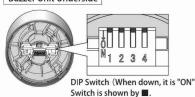
WT · KT Terminal Block wiring method A minus driver etc. is used to pry the lever slot of the Terminal Block open, by pushing straight onto the lever slot. The driver is removed to release Lever

6 Buzzer Pattern Set-up

The B Flashing/Buzzer type includes a set up for four different patterns and sound reduction

 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 **⚠** Caution cause partial movement of the contacts

Buzzer Unit Underside



Setu	ртавіе			
Buzzer	DIP Switch		Sound Pattern	
Sound	1	2	Journa Fattern	
No.1	OFF T	OFF 2	Rapid Intermittent Beep	
No.2	ON T	OFF 1 2	Continuous Beep Sound	
No.3	OFF T	ON 1 2	Rapid Hi-Lo	
No.4	ON I	ON	Sweep Sound	

DIP Switch	Volume	
3	volume	
OFF ON 3	Normal	
ON T	Sound Reduction	

(Note) Do not use DIP Switch 4. factory shipments.

7 How to use the Folding Bracket

The olding bracket is a retractable type, which can be pushed down while a product is still attached when transporting equipment. (Adjustable Angle: 90 degrees to the right and 45 degrees to the right and left from an upright direction)

- 7

< When moving 90 degrees to the right from an upright position.>

- Depressing a locking lever on the left side of the Pole releases the bracket to be lowered.
 (Depressing the lock allows the Pole to swivel freely)
- The Pole can then be pulled forward and pushed down in a clockwise direction.

 (From a level plane up to about a 15 degree angle)
- The Pole is pushed down to the right (clockwise).

 (The Pole is turned until it is latched in place by the locking lever)

down to the left about 15 Pole out 15 degrees

4 Installation

Notice

The following requirements are necessary for proper installation: -install the signal tower where excessive vibration is not present.

Only install the signal tower 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.

If the pole type requires an IP65 rating, apply sealant to the screws, nuts and wire distribution hole when installing the compatible bracket onto the installation surface.

Although the LR4- Wi mounting bolt moves prior to assembly, it is not a quality issue. Be sure to mount the product in the manner indicated below.

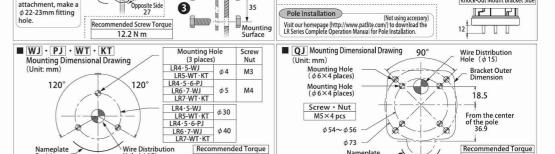
Basic Mounting Instructions Make holes for the mounting and wire-distribution for the product. (Check the Model and refer to the suitable attachment or mounting dimension figure.)([KT] Select among the two mounting options.) ■ KT Select between "Direct" or "Pole" mounting (Unit: mm) Direct Mount (Using accessory) 1.Place the Mounting Bracket on an even surface Run the wiring through the distribution hole. Place the Mounting Bracket on an even surface. Be sure to remove the waterproof packing from the Mounting Bracket. Knock out the three knock-out holes with a steel punch, etc. 9 4.Insert the hexagon bolt into the knockout holes and affix with the 5.Insert the waterproof packing. For M8 screw and nut size **■ LJ** Installation Figure Mount Hole (φ9) 3 28 Steel Bar etc. Feed the wiring through the hole and set the pole LR5 φ3 LR7 φ4 0 Mounting Surface Flanged Nut in place to install. 0 ended Torque 30 N m For M10 screw and nut size

Mountin Hole (φ11)

35

L-bracket

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| 5 | Wiring

Point

L-bracket

When not using an

attachment, make a

 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. **▲**Warning

0.6 N r

Do not apply voltage to the Flashing Common line ([01], [02]). Apply voltage to the power source line ([M2]) only. 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 may 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

Rated Load Voltage

Recommended Contact Capacity

Buzzer

| Buzzer | Signal Wire Current (Max.)/ Voltage | Signal Wire (Signal Wire Current (Max.)/ Voltage | Signal Wire (Signal Wire (Sig | Inrush current or more contacts |) | None | 25A (Ta=25°C) , 50A (Ta=50/45°C) (※5) , 2ms or less

Leakage Current

IL ≦0.1 mA

When Gray power supply wire is not connected, inrush current or 0.7A will flow through the signal wires

Recommended Contact Capacity: Is ≥ 700 mA Vs ≥ 20 V DC

**2... Signal Wire Current (Max.) or less.

**4... The sum

**2 ··· When LED 5 tiers and Buzzer are in operation. **3 ··· Signal Wire Current (Max.) or less. **4 ··· The sum of Signal Wire Current (Max.) or less **5 ··· Woff-white (PS) : Ta = 50°C A off-white (ABS) : Ta = 45°C

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

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8 Unit Detachment Method

⚠ Warning ■ Be sure the power is **disconnected** before working on it.

♠ 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.

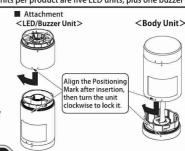
Be sure to lock each unit securely when attaching. Failure to comply may damage the unit.
 Detach the unit in the following manner. Any other method may result in damaging the product. Attachment: Attach one unit at a time to the body.

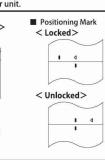
: Firmly hold the bottom section while removing the upper section

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









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Knock-Out Mount Bracket Side

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9 | Specifications

Model UL Regi	UL Registered Model	Unit Model Combination			Rated Voltage	Rated Power
	or negistered model	Body Unit	LED Unit (Max. 5 Units)	Buzzer Unit	nated voltage	Consumption
LR4-□02WJ□□	LR402WJB , LR402WJN , LR402WJBA , LR402WJNA	LR4-02WJN,LR4-02WJNA				
LR4-□02LJ□□	LR4O2LJB , LR4O2LJN , LR4O2LJBA , LR4O2LJNA	LR4-02LJN,LR4-02LJNA	R4-02PJNA		24V DC	Max. 6.6W
LR4-□02PJ□□	LR4O2PJB , LR4O2PJN , LR4O2PJBA , LR4O2PJNA	LR4-02PJN,LR4-02PJNA				
LR4-□02QJ□□	LR402QJB , LR402QJN	LR4-02QJN				
LR4- M2WJ D LR4- M2WJBW, LR4- M2WJNW, LR4- M2WJBA, LR4- M2WJNA LR4-M2WJNW, LR4-M2WJNA		LR4-E-B, LR4-E-B-A, LR4-E-BZ, LR4-E-BZ-A	LINT DA	100-240V AC		
LR4-□M2PJ□□	LR4- M2PJBW , LR4- M2PJNW , LR4- M2PJBA , LR4- M2PJNA	LR4-M2PJNW,LR4-M2PJNA	LR4-E-C , LR4-E-C-A		(50/60Hz)	Max. 7.0W
LR4-□M2LJ□□	LR4M2LJBW , LR4M2LJNW	LR4-M2LJNW				
_R5O1WJ						
LR5-□01LJ□□	LRS01LJB , LR501LJN	LR5-01LJN	105 5 0 105 5 07	LR5-B	12V DC	Max. 5.0W
LR5-□01PJ□□	LRSO1PJB , LRSO1PJN	LR5-01PJN	LR5-E-R , LR5-E-RZ LR5-E-Y , LR5-E-YZ			
_R5-□02WJ□□	LR502WJB , LR502WJN	LR5-02WJN	LRS-E-G , LRS-E-GZ		24V DC	Max.6.6W
LR5-□02LJ□□	LRSO2LJB , LRSO2LJN	LR5-02LJN	LR5-E-B . LR5-E-BZ			
_R5-□02PJ□□	LRSO2PJB , LRSO2PJN	LR5-02PJN	LR5-E-C			
_R5-□02WT□□	LR502WTB , LR502WTN	LR5-02WTN				
		LR5-02KTN				
LR6-□02WJ□□	LR602WJB , LR602WJN , LR602WJBA , LR602WJNA	LR6-02WJN,LR6-02WJNA				
_R6-□02LJ□□	LR6O2LJB , LR6O2LJN , LR6O2LJBA , LR6O2LJNA	LR6-02LJN,LR6-02LJNA	TR6-E-R , LR6-E-R-A , LR6-E-RZ , LR6-E-RZ-A LR6-E-Y , LR6-E-Y-A , LR6-E-YZ , LR6-E-YZ-A LR6-E-G , LR6-E-G-A , LR6-E-GZ , LR6-E-GZ-A			
LR6-□02PJ□□	LR6O2PJB , LR6O2PJN , LR6O2PJBA , LR6O2PJNA	LR6-02PJN,LR6-02PJNA				
_R6-□02QJ□□	LR602QJB , LR602QJN	LR6-02QJN				
_R6-□M2WJ□□			LR6-E-B , LR6-E-B-A , LR6-E-BZ , LR6-E-BZ-A LR6-E-C , LR6-E-C-A	Litto Dit	100-240V AC (50/60Hz)	Max. 7.0W
.R6-□M2PJ□□	LR6M2PJBW , LR6M2PJNW , LR6M2PJBA , LR6M2PJNA	LR6-M2PJNW,LR6-M2PJNA LR6-E-MZ				
_R6-□M2LJ□□	LR6M2LJBW , LR6M2LJNW	LR6-M2LJNW	LIV E IIIE		(30/00112)	
LR7-□02WJ□□	LR702WJB, LR702WJN	LR7-02WJN	LR7-E-R, LR7-E-Y, LR7-E-G, LR7-E-B. LR7-E-C		24V DC	Max. 6.6W
		LR7-02WTN		LR7-B		
		LR7-02KTN	Ln/-L-0, Ln/-E-C			

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

(Conformity Standards) UL 508, CSA-C22.2 No. 14 EMC Directive (EN 61000-6-4, EN 61000-6-2)

FCC Part 15 Subpart B Class A RoHS Directive (EN 50581) ● Low Voltage Directive (IEC/EN60947-5-1,EN62471) (M2 - WJ • PJ)

PATLITE Corporation 626

● KC (KN 61000-6-4, KN 61000-6-2) (Except M2 - U , KT , Assembly Model - WT) ■ When a regulated power supply is not being used, select a fuse that meets class CC or more. (M2)

Conformity requirements for the UL Standard:

Maximum surrounding air temperature rating of 50 $^{\circ}$ C (LR - A 45 $^{\circ}$ C)

Use a **fuse holder** with UL standard certification. (MZ)

This product is designed for use on a flat surface for a **Type 1 Enclosure**

Use a "class 2" power supply specified in the guidelines under UL1310. $(\boxed{01}$, $\boxed{02})$

For use in Pollution Degree 2 Environment.

● Conformity requirements for the CE Marking: (Except M2 - □)

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

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(Note) • Dimensions and specifications may change without notice due to Portiensian and specifications may change without notice due to continual product improvement.

 PATLITE and the PATLITE logo is a trademark, or registered trademark of the PATLITE Corporation of Japan and each country.

This product must not be used in residential areas.

(Importer for EU)

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