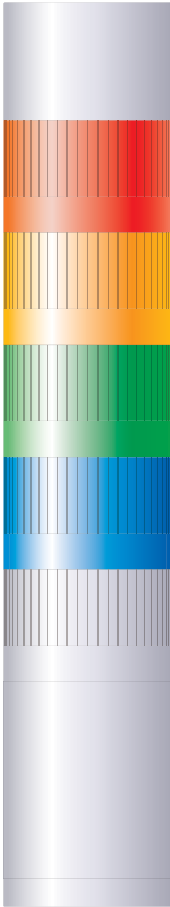


PATLITE®



Thank you very much for purchasing our PATLITE product.

Notice to Customer

- Request the installation and wiring be performed by a professional contractor if construction work is involved.
- Prior to installation, read this manual thoroughly before using this product to ensure correct use.
- After reviewing this manual, if there are any questions regarding this product, please contact the nearest PATLITE office listed on the back cover of this manual.

Notice to Contractor

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

Signal Tower

TYPE LR4 / LR5 /
LR6 / LR7

Complete Operation Manual

Installation

Operation

Maintenance

| | Page |
|--|-----------|
| 1 Safety Precautions | 2 |
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NOTES TO BE OBSERVED FOR SAFE OPERATION

In order to prevent any damage to the user and other personnel or to assets, note the following:

- The indications for warning are divided into the following classes according to the degree of danger or damage incurred when the warning is not taken into consideration and the product is not correctly used.

**Warning**

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

**Caution**

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

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 possible cause of failure may occur**.

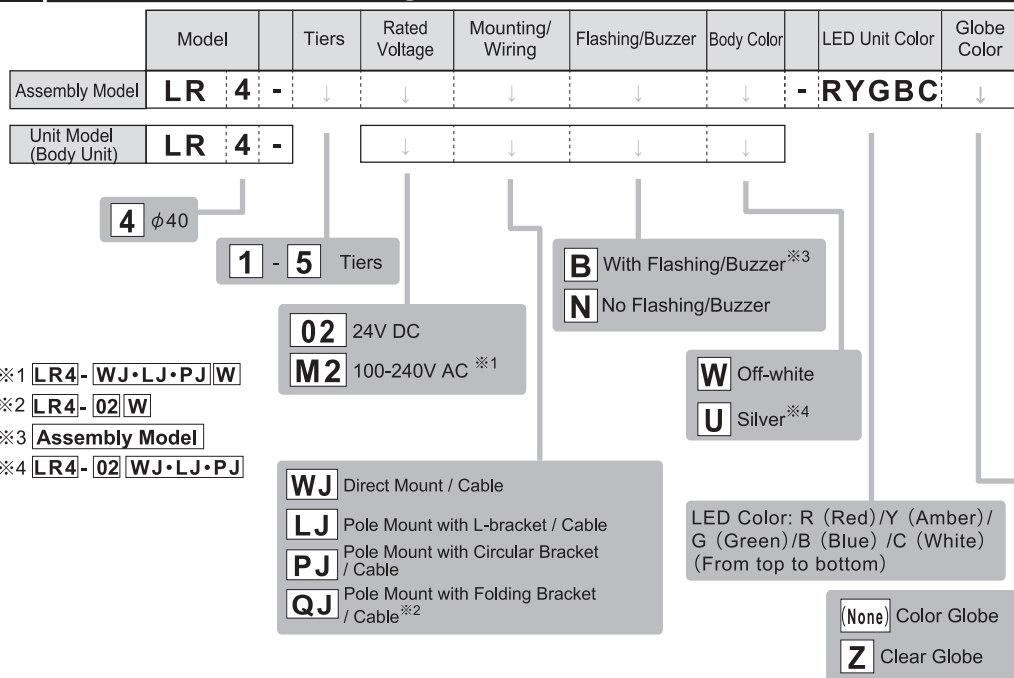
Caution

- **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. (**B** 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 this manual.

2 Model Number Configuration



Model Number Example

LR4-502PJBU-RYGBC

- $\phi 40$ • LED 5 Tiers • 24V DC • Pole Mount with Circular Bracket / Cable • With Flashing/Buzzer • Silver • (From top) Red/Amber/Green/Blue/White • Color Globe

LR4-302WJBW-RYGZ

- $\phi 40$ • LED 3 Tiers • 24V DC • Direct Mount / Cable • With Flashing/Buzzer • Off-white • (From top) Red/Amber/Green • Clear Globe

LR4-402QJNW-RYGB

- $\phi 40$ • 24V DC • Pole Mount with Folding Bracket / Cable • No Flashing/Buzzer • Off-white • (From top) Red/Amber/Green/Blue • Color Globe

LR4-M2LJNW

- $\phi 40$ • 100 - 240V AC • Pole Mount with L-bracket / Cable • No Flashing/Buzzer • Off-white

| | Model | | Tiers | Rated Voltage | Mounting/Wiring | Flashing/Buzzer | Body Color | | LED Unit Color | Globe Color |
|----------------|-----------|----------|-------|---------------|-----------------|-----------------|------------|---|----------------|-------------|
| Assembly Model | LR | 5 | - | ↓ | ↓ | ↓ | ↓ | ↓ | - RYGBC | ↓ |

| | | | |
|---------------------------|-----------|----------|---|
| Unit Model (Body Unit) | LR | 5 | - |
|---------------------------|-----------|----------|---|

| | | | |
|---|---|---|---|
| ↓ | ↓ | ↓ | ↓ |
|---|---|---|---|

5 ϕ 50

1 - **5** Tiers

01 12V DC

02 24V DC

B With Flashing/Buzzer^{※3}

N No Flashing/Buzzer

W Off-white

U Silver^{※4}

K Black^{※4}

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

(None) Color Globe

WJ Direct Mount / Cable

LJ Pole Mount with L-bracket / Cable

PJ Pole Mount with Circular Bracket / Cable

WT Direct Mount / Terminal^{※1}

KT Mounting Bracket with knock-outs / Terminal (Body Unit)^{※2}

※1 **LR5-** **02**

※2 **Body Unit** **LR5-** **02**

※3 **Assembly Model**

※4 **Body Unit**

LR5- **WT-KT**

Model Number Example

LR5-502PJBW-RYGBC

- ϕ 50 • LED 5 Tiers • 24V DC • Pole Mount with Circular Bracket / Cable • With Flashing/Buzzer • Off-white • (From top) Red/Amber/Green/Blue/White • Color Globe

LR5-302WJBW-RYG

- ϕ 50 • LED 3 Tiers • 24V DC • Direct Mount / Cable • With Flashing/Buzzer • Off-white • (From top) Red/Amber/Green • Color Globe

LR5-301LJNW-RYG

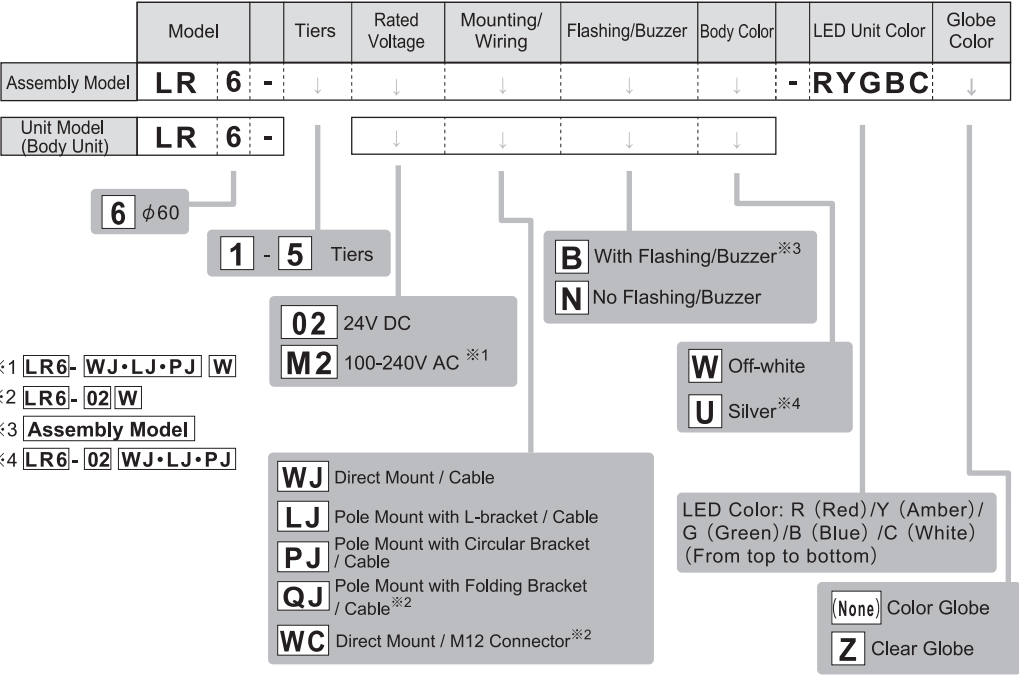
- ϕ 50 • LED 3 Tiers • 12V DC • Pole Mount with L-bracket / Cable • No Flashing/Buzzer • Off-white • (From top) Red/Amber/Green • Color Globe

LR5-02WTNU

- ϕ 50 • 24V DC • Direct Mount / Terminal • No Flashing/Buzzer • Silver

LR5-02KTNK

- ϕ 50 • 24V DC • Mounting Bracket with knock-outs / Terminal • No Flashing/Buzzer • Black



Model Number Example

LR6-502PJBU-RYGBC

- $\phi 60$ • LED 5 Tiers • 24V DC • Pole Mount with Circular Bracket / Cable • With Flashing/Buzzer • Silver • (From top) Red/Amber/Green/Blue/White • Color Globe

LR6-302WJBW-RYGZ

- $\phi 60$ • LED 3 Tiers • 24V DC • Direct Mount / Cable • With Flashing/Buzzer • Off-white • (From top) Red/Amber/Green • Clear Globe

LR6-402QJNW-RYGB

- $\phi 60$ • 24V DC • Pole Mount with Folding Bracket / Cable • No Flashing/Buzzer • Off-white • (From top) Red/Amber/Green/Blue • Color Globe

LR6-02WCNW

- $\phi 60$ • 24V DC • Direct Mount / M12 Connector • No Flashing/Buzzer • Off-white

LR6-M2LJNW

- $\phi 60$ • 100 - 240V AC • Pole Mount with L-bracket / Cable • No Flashing/Buzzer • Off-white

| | Model | | Tiers | Rated Voltage | Mounting/ Wiring | Flashing/Buzzer | Body Color | | LED Unit Color | Globe Color |
|----------------|-----------|----------|-------|---------------|---------------------|-----------------|------------|---|----------------|-------------|
| Assembly Model | LR | 7 | - | ↓ | ↓ | ↓ | ↓ | ↓ | - RYGBC | ↓ |

| | | | |
|---------------------------|-----------|----------|---|
| Unit Model (Body Unit) | LR | 7 | - |
|---------------------------|-----------|----------|---|

| | | | |
|---|---|---|---|
| ↓ | ↓ | ↓ | ↓ |
|---|---|---|---|

7 $\phi 70$

1 - **5** Tiers

02 24V DC

B With Flashing/Buzzer^{※2}

N No Flashing/Buzzer

W Off-white

U Silver^{※3}

K Black^{※3}

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

(None) Color Globe

WJ Direct Mount / Cable

WT Direct Mount / Terminal (Body Unit)^{※1}

KT Mounting Bracket with knock-outs
/ Terminal (Body Unit)^{※1}

※1 **Body Unit**

※2 **Assembly Model**

※3 **Body Unit**

LR7- WT•KT

Model Number Example

LR7-502WJBW-RYGBC

- $\phi 50$ • LED 5 Tiers • 24V DC • Direct Mount / Cable • With Flashing/Buzzer
- Off-white • (From top) Red/Amber/Green/Blue/White • Color Globe

LR7-02WTNU

- $\phi 70$ • 24V DC • Direct Mount / Terminal
- No Flashing/Buzzer • Silver

LR7-02KTNK

- $\phi 70$ • 24V DC • Mounting Bracket with knock-outs / Terminal
- No Flashing/Buzzer • Black

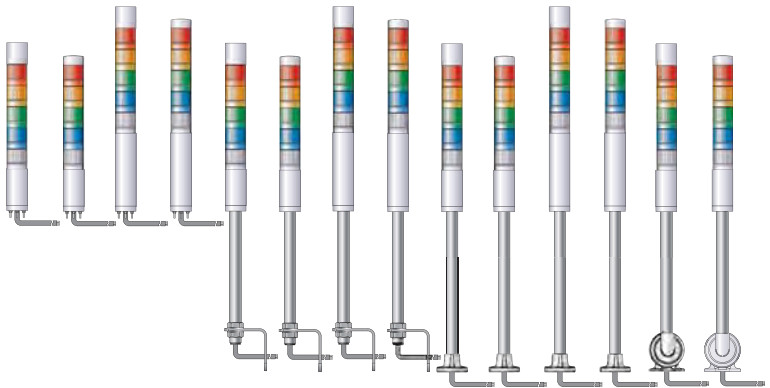
3 Part Names and Outer Appearance

Outer Appearance List

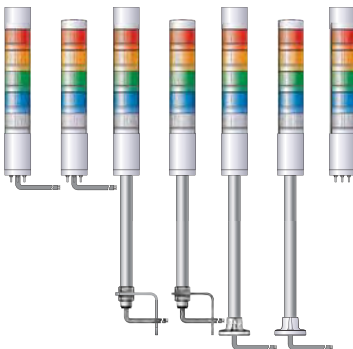
The full product appearance is indicated according to its model number. Refer to the model numbers as a reference to its appearance.
(Body Color: Off-White , Globe: Color Globe)

Assembly Model

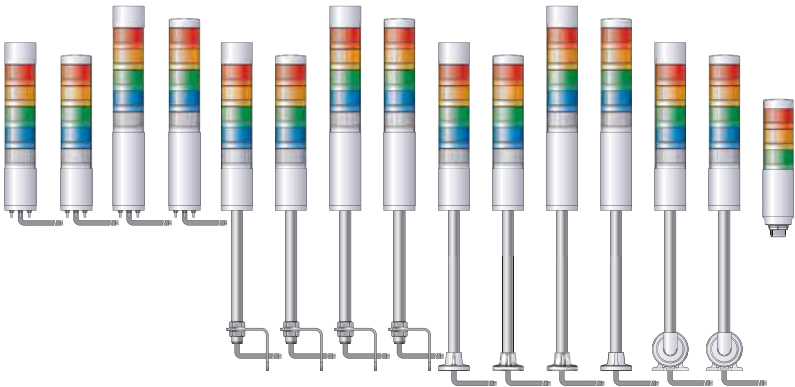
| | | | | | | | | | | | | |
|-----------------|--|----|----|----|----|----|----|----|----|----|----|----|
| Model | LR4 | | | | | | | | | | | |
| LED Tiers | 1 Tier - 5 Tiers (Drawing is 5 Tiers.) | | | | | | | | | | | |
| Rated Voltage | 02 | M2 | 02 | M2 | 02 | M2 | 02 | M2 | 02 | M2 | 02 | M2 |
| Mounting/Wiring | WJ | | | LJ | | | | PJ | | | QJ | |
| Flashing/Buzzer | B | N | B | N | B | N | B | N | B | N | B | N |



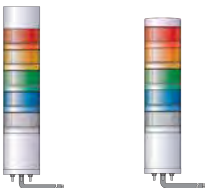
| | | | | | | | | | | | | |
|-----------------|--|---------|----|----|---|---|---|--|--|--|--|--|
| Model | LR5 | | | | | | | | | | | |
| LED Tiers | 1 Tier - 5 Tiers (Drawing is 5 Tiers.) | 5 Tiers | | | | | | | | | | |
| Rated Voltage | 01 / 02 | 02 | | | | | | | | | | |
| Mounting/Wiring | WJ | LJ | PJ | WT | | | | | | | | |
| Flashing/Buzzer | B | N | B | N | B | N | B | | | | | |



| | | | | | | | | | | | | | | |
|-----------------|--|----|----|----|----|----|----|----|----|----|----|----|----|---------|
| Model | LR6 | | | | | | | | | | | | | |
| LED Tiers | 1 Tier - 5 Tiers (Drawing is 5 Tiers.) | | | | | | | | | | | | | 3 Tiers |
| Rated Voltage | 02 | M2 | 02 | M2 | 02 | M2 | 02 | M2 | 02 | M2 | 02 | M2 | 02 | |
| Mounting/Wiring | WJ | | | LJ | | | PJ | | | QJ | | | WC | |
| Flashing/Buzzer | B | N | B | N | B | N | B | N | B | N | B | N | B | N |

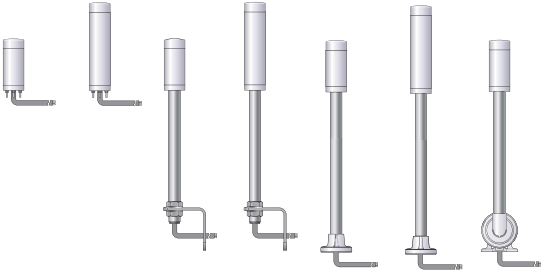


| | | |
|-----------------|--|---|
| Model | LR7 | |
| LED Tiers | 1 Tier - 5 Tiers (Drawing is 5 Tiers.) | |
| Rated Voltage | 02 | |
| Mounting/Wiring | WJ | |
| Flashing/Buzzer | B | N |

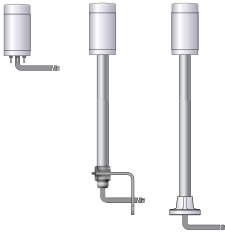


Unit Model (Body Unit)

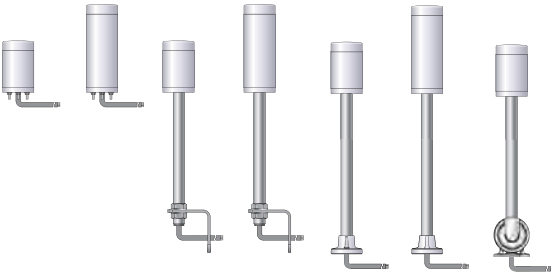
| | | | | | | | |
|-----------------|-----|----|----|----|----|----|----|
| Model | LR4 | | | | | | |
| Rated Voltage | 02 | M2 | 02 | M2 | 02 | M2 | 02 |
| Mounting/Wiring | WJ | | LJ | | PJ | | QJ |
| Flashing/Buzzer | N | | | | | | |



| Model | LR5 | | |
|-----------------|---------|----|----|
| Rated Voltage | 01 / 02 | | |
| Mounting/Wiring | WJ | LJ | PJ |
| Flashing/Buzzer | N | | |



| Model | LR6 | | | | | | | |
|-----------------|-----|----|----|----|----|----|----|----|
| Rated Voltage | 02 | M2 | 02 | M2 | 02 | M2 | 02 | |
| Mounting/Wiring | WJ | | LJ | | PJ | | QJ | WC |
| Flashing/Buzzer | N | | | | | | | |



| Model | LR7 |
|-----------------|-----|
| Rated Voltage | 02 |
| Mounting/Wiring | WJ |
| Flashing/Buzzer | N |



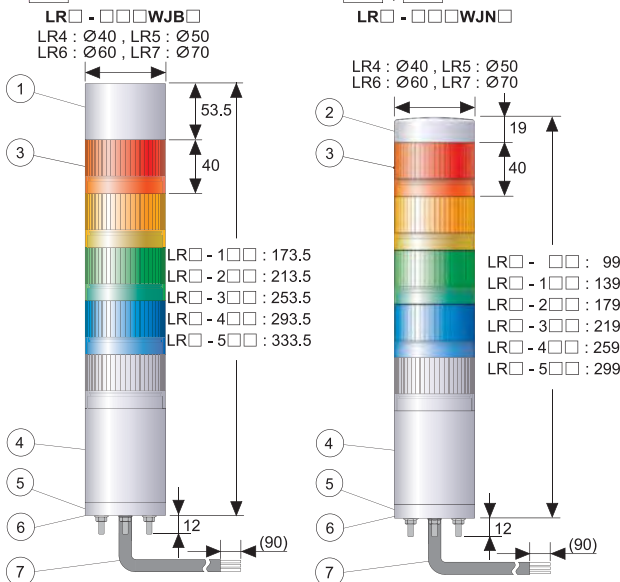
| Model | LR5 | LR7 |
|-----------------|-----|-----|
| Rated Voltage | 02 | |
| Mounting/Wiring | WT | KT |
| Flashing/Buzzer | N | |



Part Name and Dimensions

■ **WJ** Direct Mount with Cable (**01** , **02**)

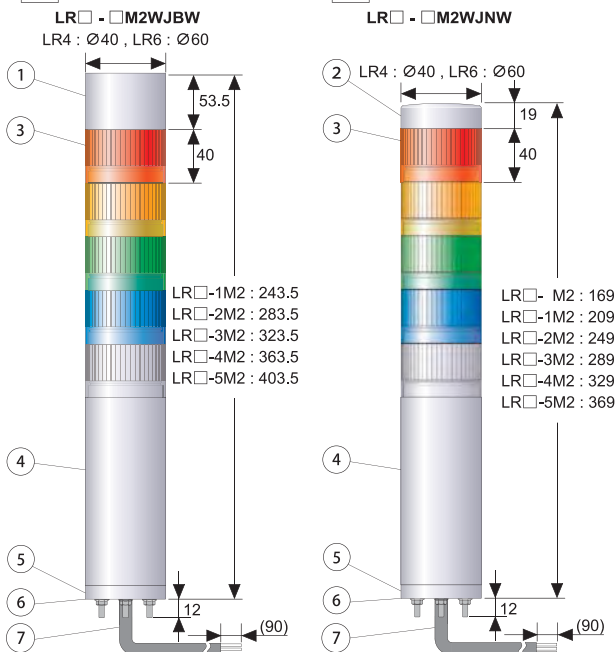
(Unit: mm)



| No. | Name | Material |
|-----|----------------------|-----------------|
| 1 | Buzzer Unit | PC |
| 2 | Head Cover | PC |
| 3 | LED Unit | Globe: PC |
| 4 | Body | PC |
| 5 | Direct Mount Bracket | PC |
| 6 | Waterproof Packing | Silicone Rubber |
| 7 | Cable | PVC |

- Maximum Board Thickness : 7
- Cable : UL2464 (Ø7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length: Off-white (1300)
- Silver (3300)

■ **WJ** Direct Mount with Cable (**M2**)

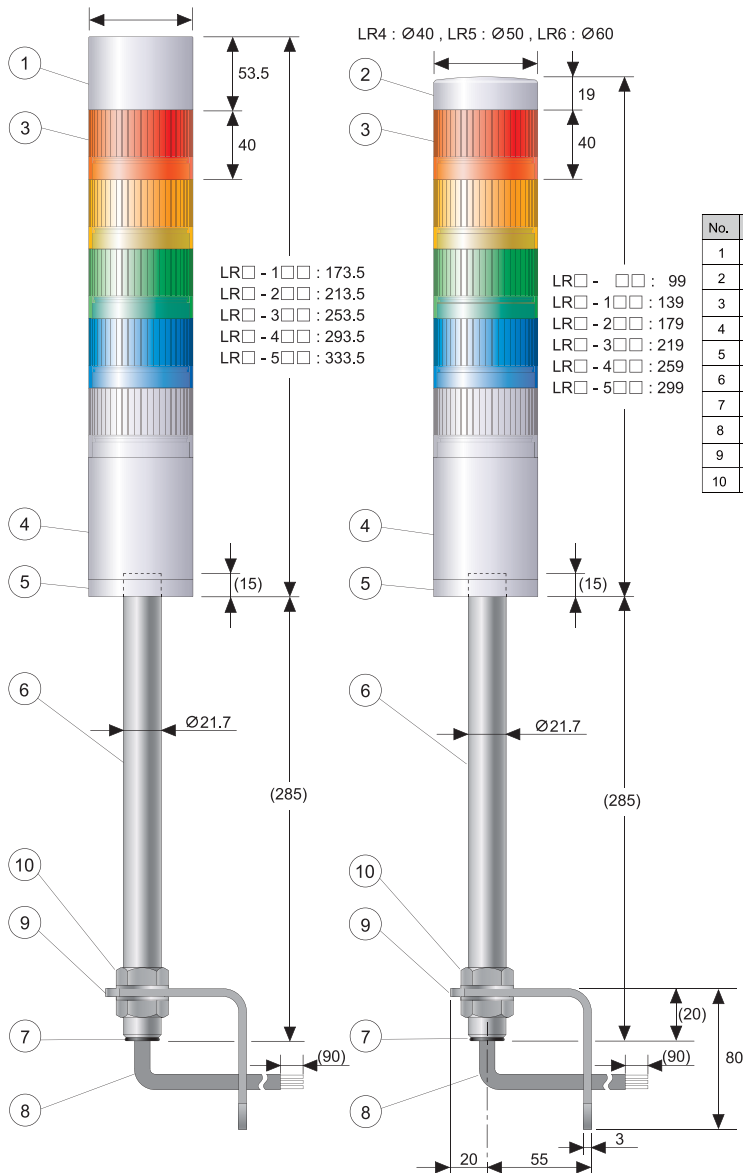


- Maximum Board Thickness : 7
- Cable : UL2464 (Ø7.5)
- Signal Wire : AWG24
- Power Supply Wire : AWG18
- Cable Length: (1300)

| Accessory | |
|---|---|
| LR4-5-WJ Hexagon Nut with Flange (M3) | LR6-7-WJ Hexagon Nut with Flange (M4) |
| 3 pcs. | 3 pcs. |

LR - LJN

LR4 : Ø40 , LR5 : Ø50 , LR6 : Ø60



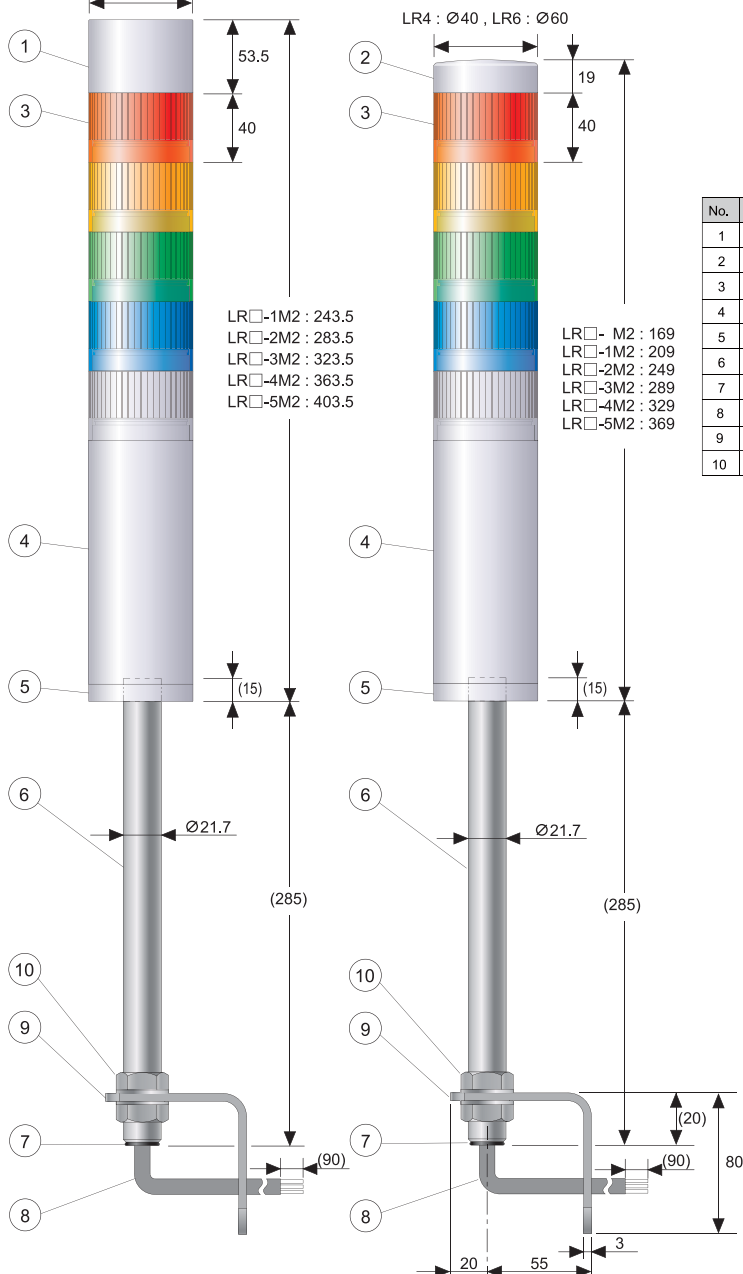
| No. | Name | Material |
|-----|-----------------|-----------|
| 1 | Buzzer Unit | PC |
| 2 | Head Cover | PC |
| 3 | LED Unit | Globe: PC |
| 4 | Body | PC |
| 5 | Pole Bracket | PC |
| 6 | Pole | AL |
| 7 | Rubber Bushing | EPR |
| 8 | Cable | PVC |
| 9 | L-bracket | Steel |
| 10 | Hexagon Nut M22 | SUM |

- Cable : UL2464 (Ø7.5)
Signal Wire & Power Supply Wire : AWG24
Cable Length: Off-white (1000)
Silver (3000) ※ LR4, LR6

■ **LJ** L-bracket and Pole Mount with Cable (**M2**)

LR□ - □M2LJBW
LR4 : Ø40 , LR6 : Ø60

LR□ - □M2LJNW



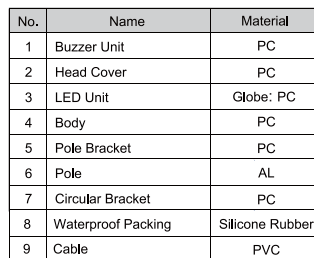
| No. | Name | Material |
|-----|-----------------|-----------|
| 1 | Buzzer Unit | PC |
| 2 | Head Cover | PC |
| 3 | LED Unit | Globe: PC |
| 4 | Body | PC |
| 5 | Pole Bracket | PC |
| 6 | Pole | AL |
| 7 | Rubber Bushing | EPR |
| 8 | Cable | PVC |
| 9 | L-bracket | Steel |
| 10 | Hexagon Nut M22 | SUM |

• Cable : UL2464 (Ø7.5)
Signal Wire : AWG24
Power Supply Wire : AWG18
Cable Length : (1000)

(Unit: mm)

LR - PJN

LR4 : Ø40 , LR5 : Ø50 , LR6 : Ø60



LR4-5-6 - PJ

Cross Recessed
Pan Head Screw (M4x20)



3 pcs.

Hexagon Nut with Flange (M4)

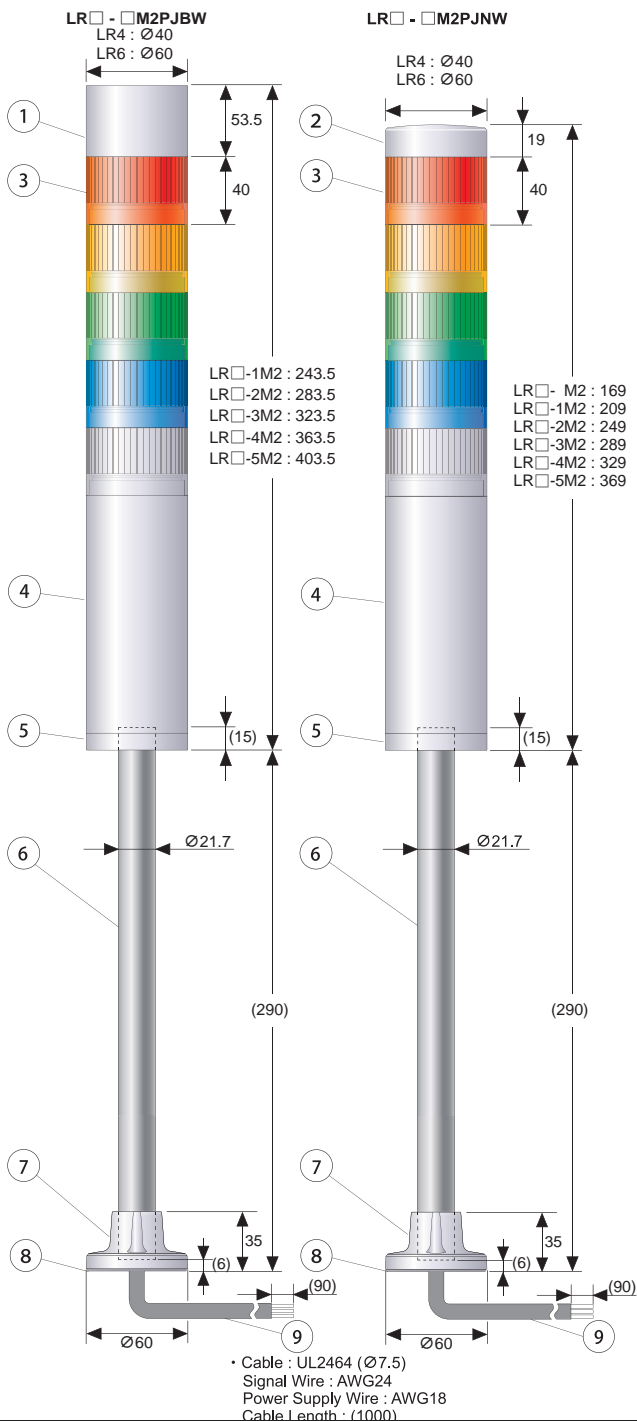


3pcs.

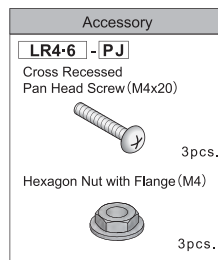
- Cable : UL2464 (Ø7.5)
Signal Wire & Power Supply Wire : AWG24
Cable Length: Off-white (1000)
Silver (3000) ※ LR4, LR6

■ **PJ** Circular Bracket and Pole Mount with Cable (**M2**)

(Unit: mm)

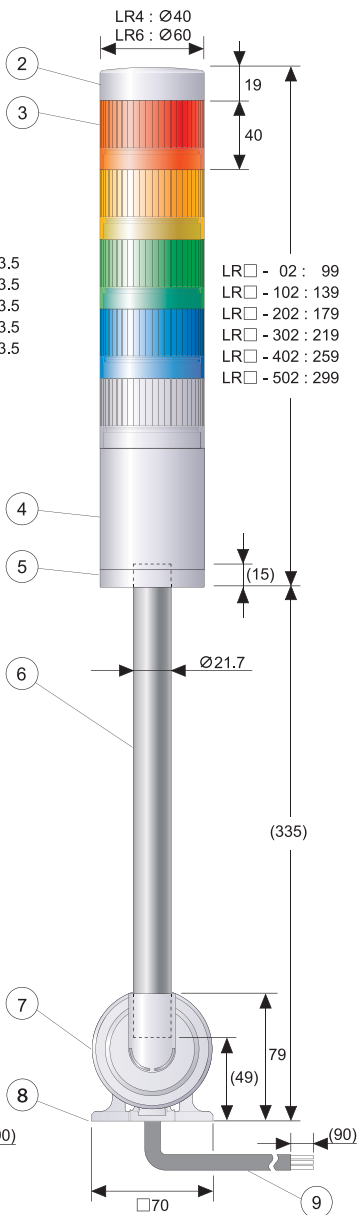


| No. | Name | Material |
|-----|--------------------|-----------------|
| 1 | Buzzer Unit | PC |
| 2 | Head Cover | PC |
| 3 | LED Unit | Globe: PC |
| 4 | Body | PC |
| 5 | Pole Bracket | PC |
| 6 | Pole | AL |
| 7 | Circular Bracket | PC |
| 8 | Waterproof Packing | Silicone Rubber |
| 9 | Cable | PVC |



(Unit: mm)

LR - 02QJNW



| No. | Name | Material |
|-----|--------------------|-----------|
| 1 | Buzzer Unit | PC |
| 2 | Head Cover | PC |
| 3 | LED Unit | Globe: PC |
| 4 | Body | PC |
| 5 | Pole Bracket | PC |
| 6 | Pole | AL |
| 7 | Folding Bracket | PC |
| 8 | Waterproof Packing | CR |
| 9 | Cable | PVC |

LR4-6 - QJ

Cross Recessed
Binding Head Screw (M5x25)



4 pcs.

Hexagon Nut with Flange (M5)



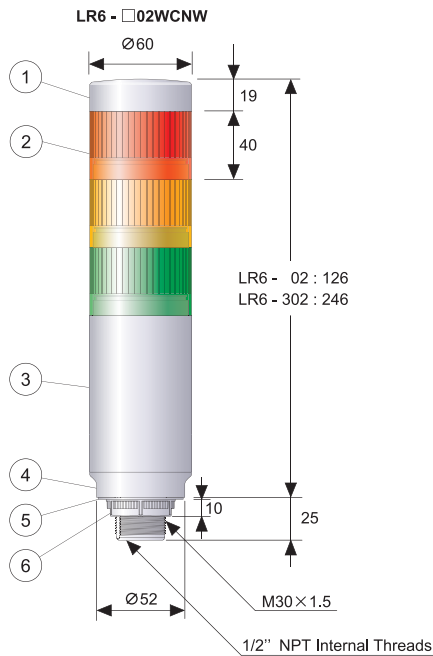
4 pcs.

The diagram illustrates the yaw and pitch mechanisms of a three-bladed wind turbine. The yaw mechanism, located at the base of the nacelle, allows the entire nacelle to rotate 90 degrees around a vertical axis to face the wind. The pitch mechanism, located at the base of each blade, allows each blade to rotate 45 degrees around its own axis to adjust the angle of attack.

- Cable : UL2464 (Ø7.5)
Signal Wire & Power Supply Wire : AWG24
Cable Length: (950)

■ **WC** Direct Mount with M12 Connector (**02**)

(Unit: mm)

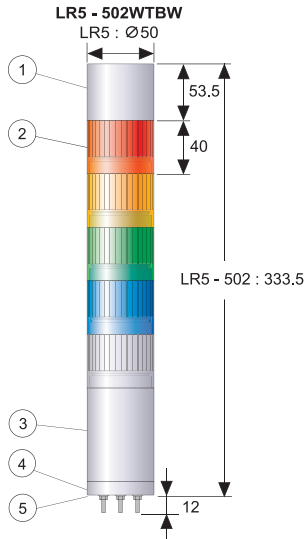


• Maximum Board Thickness : 10


| No. | Name | Material |
|-----|--------------------------|-----------------|
| 1 | Head Cover | PC |
| 2 | LED Unit | Globe; PC |
| 3 | Body | PC |
| 4 | Direct Mount Bracket | PC |
| 5 | Waterproof Packing (t=1) | Silicone Rubber |
| 6 | M30 Nut | PC |

■ **WT** Direct Mount with Terminal Block

(Unit: mm)



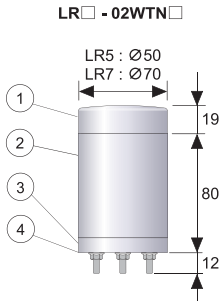
| No. | Name | Material |
|-----|----------------------|-----------------|
| 1 | Buzzer Unit | PC |
| 2 | LED Unit | Globe: PC |
| 3 | Body | PC |
| 4 | Direct Mount Bracket | PC |
| 5 | Waterproof Packing | Silicone Rubber |

| Accessory | |
|--|------------------------------|
| LR5 - WT | Hexagon Nut with Flange (M3) |
|  3 pcs. | |

• Maximum Board Thickness : 7



■ **WT** Direct Mount with Terminal Block (Body Unit)

(Unit: mm)



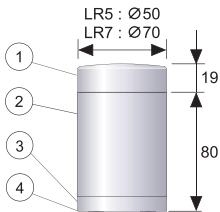
Maximum Board Thickness: 7

| No. | Name | Material |
|-----|----------------------|-----------------|
| 1 | Head Cover | PC |
| 2 | Body | PC |
| 3 | Direct Mount Bracket | PC |
| 4 | Waterproof Packing | Silicone Rubber |





| Accessory | |
|---|------------------------------|
| LR5 - WT | LR7 - WT |
| Hexagon Nut with Flange (M3) | Hexagon Nut with Flange (M4) |
|  3 pcs.  3 pcs. | |

■ **KT** Mounting Bracket with knock-outs and Terminal (Body Unit)

(Unit: mm)



| No. | Name | Material |
|-----|----------------------------------|-----------------|
| 1 | Head Cover | PC |
| 2 | Body | PC |
| 3 | Mounting Bracket with knock-outs | PC |
| 4 | Waterproof Packing | Silicone Rubber |

| Accessory | |
|---|---|
| LR5 - KT Hexagon Bolt (M3 x 20)  3 pcs. Hexagon Nut with Flange (M3)  6 pcs. | LR7 - KT Hexagon Bolt (M4 x 20)  3 pcs. Hexagon Nut with Flange (M4)  6 pcs. |

Notice

- The following requirements are necessary for proper installation:
 - Install the signal tower where **excessive vibration** is not present.
 - Install the signal tower on a **sturdy surface**.
 - Install the signal tower on a **level surface**.
- Install the signal tower in an **upright position only**.
- 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. (**PJ** • **QJ**)
- Although the LR4-**WJ** 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

- 1** 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.)

- 2** Run the wiring through the distribution hole.

- 3** Secure the product with the bolts, nuts and screws.
(**LJ** required nuts and screws are not included.)

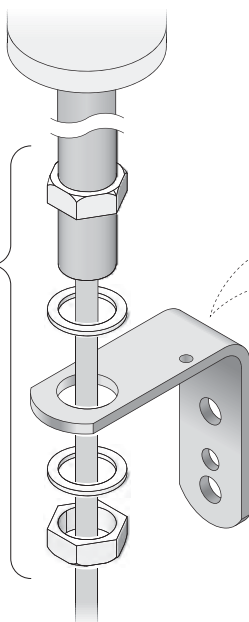
■ **LJ** Installation Figure (Unit: mm)

- 2** **3** Feed the wiring through the hole and set the pole in place to install.

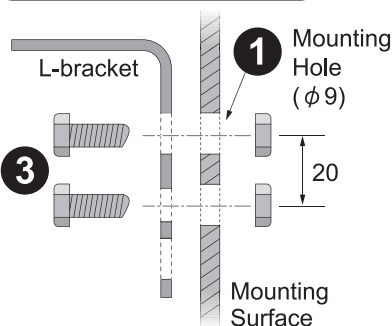
Recommended Nut Torque
30 N m

Point

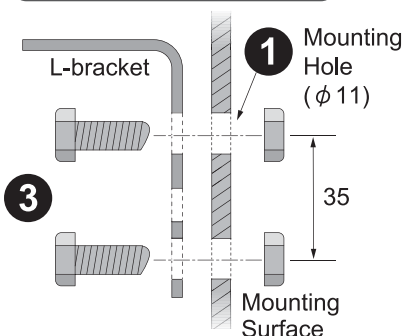
When not using a L-bracket attachment, make a fitting hole of $\phi 22$ -23mm.



For M8 screw and nut size



For M10 screw and nut size



Recommended screw Torque
12.2 N m

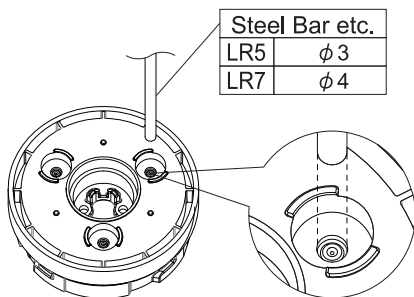
■ **KT** Select between "Direct" or "Pole" mounting

(Unit: mm)

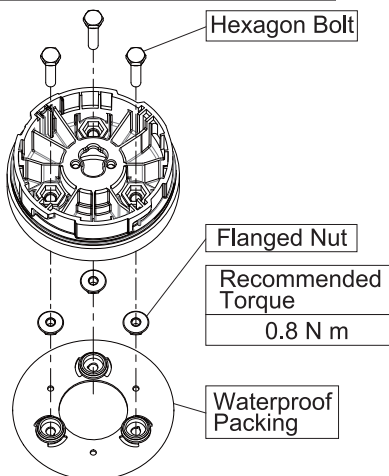
Direct Mount (Using accessory)

1. Place the Mounting Bracket on an even surface.
2. Be sure to remove the waterproof packing from the Mounting Bracket.
3. Knock out the three knock-out holes with a steel punch, etc.
4. Insert the hexagon bolt into the knockout holes and affix with the flanged nuts.
5. Insert the waterproof packing.

Mounting Bracket with knock-outs Underside



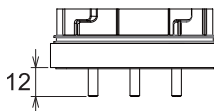
Mounting Bracket with knock-outs Topside



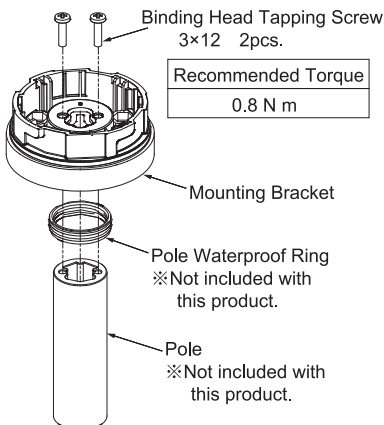
Point

After inserting accessories,
check the bolt length.

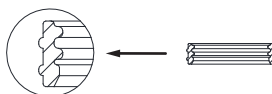
Knock-Out Mount Bracket Side



Pole Installation (Not using accessory)



1. Be sure to remove the waterproof packing from the Mounting Bracket.
2. Install the Pole Waterproof Ring in the Mounting Bracket. Check that the 2 ribs are on the outside.

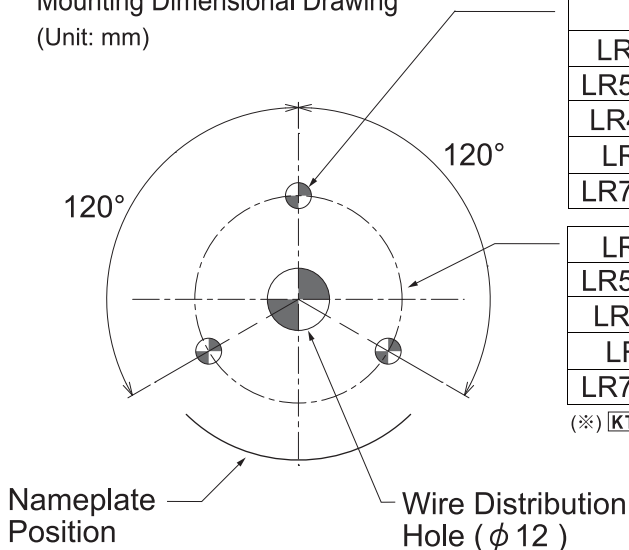


3. Insert Pole into the Mounting Bracket. See the figure on the left for details on the direction of insertion.
4. Tighten the Binding Head Tapping Screws (2 pcs.) from the topside of the Mounting Bracket.

■ **WJ · PJ · WT · KT**

Mounting Dimensional Drawing

(Unit: mm)



| Mounting Hole (3 places) | | Screw/ Nut |
|-----------------------------|-----|---------------|
| LR4·5-WJ | φ 4 | M3 |
| LR5-WT·KT※ | | |
| LR4·5·6-PJ | φ 5 | M4 |
| LR6·7-WJ | | |
| LR7-WT·KT※ | | |

| | |
|------------|------|
| LR4·5-WJ | φ 30 |
| LR5-WT·KT※ | |
| LR4·5·6-PJ | φ 40 |
| LR6·7-WJ | |
| LR7-WT·KT※ | |

(※) **KT** Direct Mount (Using accessory)

| Recommended Torque |
|--------------------|
| 0.6 N m |

■ **QJ** Mounting Dimensional Drawing

(Unit: mm)

Mounting Hole
(φ 6×4 places)

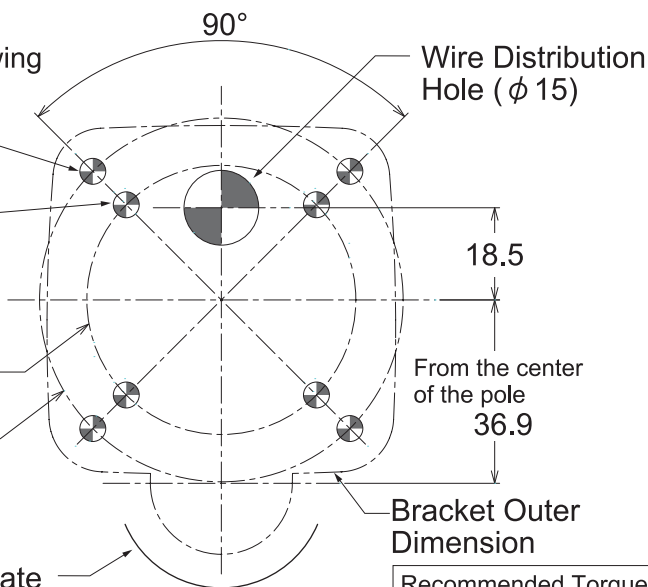
Mounting Hole
(φ 6×4 places)

| Screw/Nut |
|-------------|
| M 5 × 4 pcs |

φ 54 - φ 56

φ 73

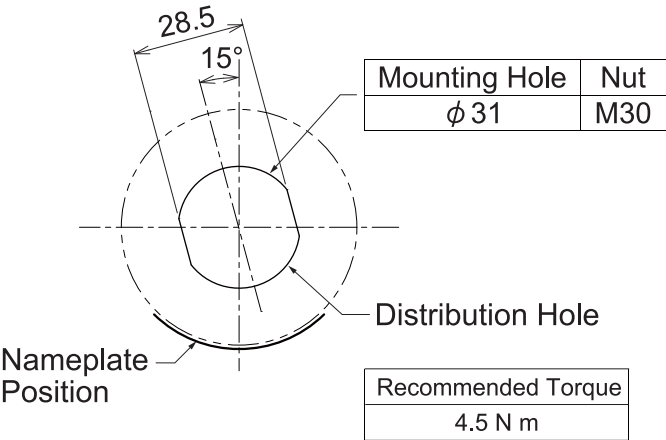
Nameplate
Position



| Recommended Torque |
|--------------------|
| 1.4 N m |

■ **WC** Mounting Dimensional Drawing (M30x1.5 Installation)

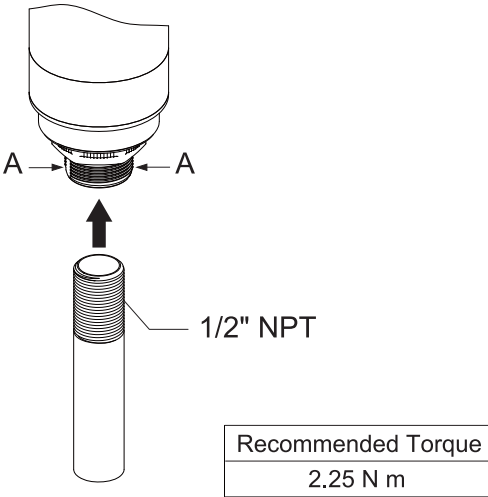
(Unit: mm)



■ **WC** Installation Figure (1/2" NPT Installation Figure)

(Unit: mm)

While holding part 'A', install the 1/2" NPT.
Failure to comply may result in damage.



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 may occur.

Caution

- **Do not apply voltage to the Flashing Common line**(**[01]** , **[02]**).
Apply voltage to the source line (**[M2]**) only. Failure to comply will result in product damage.
- Do not control the flashing display by switching the power source ON and OFF for **[M2]** . 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.

Wiring Example Index **[WJ]** **[LJ]** **[PJ]** **[QJ]** **[WT]** **[KT]**

LED Red

Red/ ①

Function Name

Pin No.

(**[WT]** Direct Mount with Terminal Block ,
[KT] Mounting Bracket with knock-outs
Terminal Block)

Refer to pg. 32 "Terminal Block Array"

Lead Wire Color
(Cable type)

<Note> The lead wire color does not indicate
the LED luminescence color.

Wiring Example Index **[WC]**

LED Red

⑥

Function Name

Pin No.

(**[WC]** Direct Mount with M12 Connector)

Refer to pg. 33 "M12 Connector Pin Layout"

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 circuit.

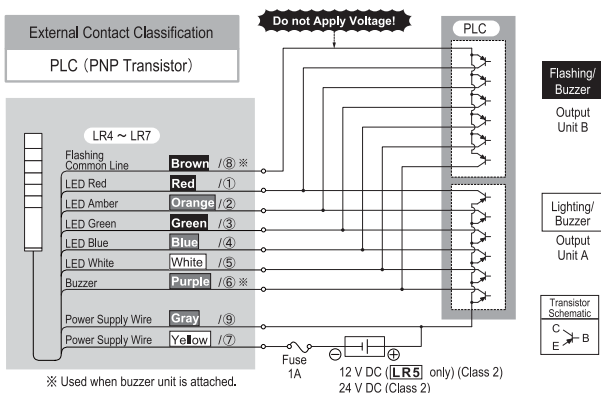
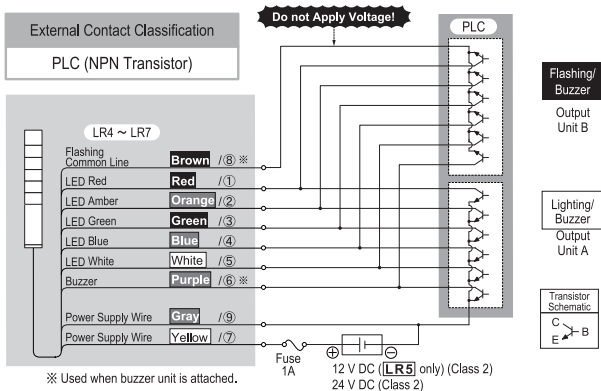
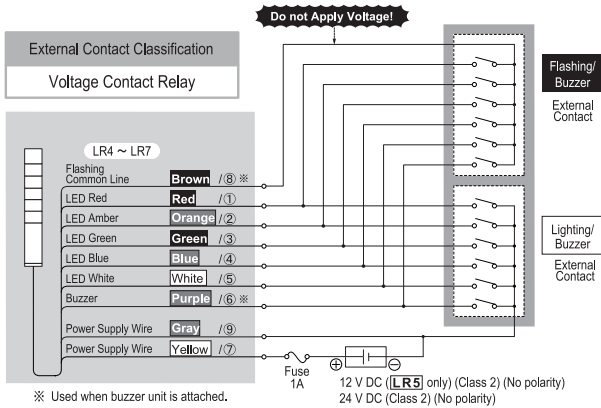
Lighting / Flashing / Buzzer

Product Specifications **01** 12V DC **02** 24V DC

■ Wire Type & Wire Gauge

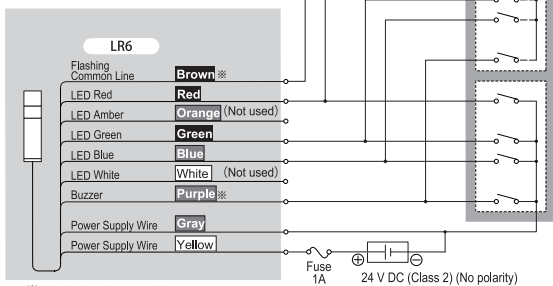
- Wire type
UL2464
- Wire Gauge
01 12V DC, **02** 24V DC
Signal Wire: AWG24
Power Supply Wire: AWG24

M2 100 ~ 240 V AC
Signal Wire: AWG24
Power Supply Wire: AWG18



External Contact Classification

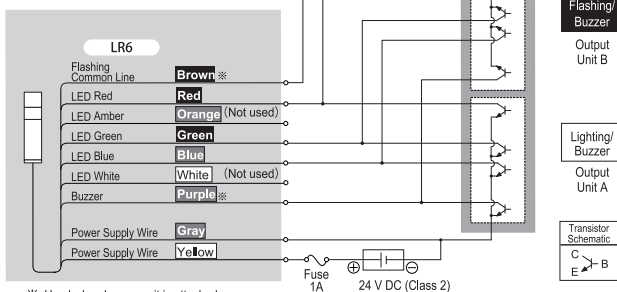
Voltage Contact Relay



※ Used when buzzer unit is attached.

External Contact Classification

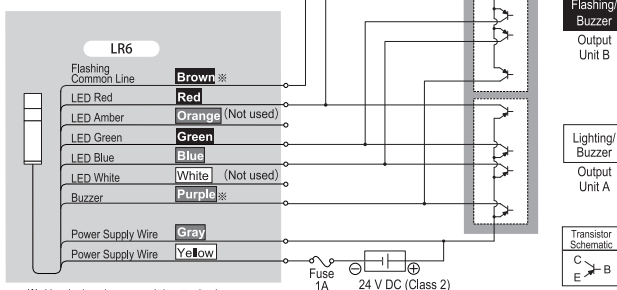
PLC (NPN Transistor)



※ Used when buzzer unit is attached.

External Contact Classification

PLC (PNP Transistor)



※ Used when buzzer unit is attached.

Point

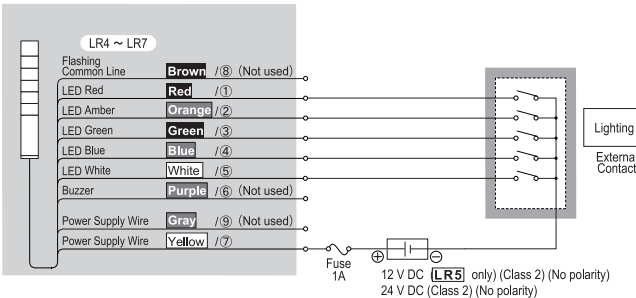
- When flashing the LR6-E-MZ simultaneously with the LR6-E-R(Z)/Y(Z)/G(Z)/B(Z)/C, the flashing cycle of the LR6-E-MZ may shift from the other LED units.

LR6-E-MZ Luminous Color

| LED Color | Wiring Color |
|-----------|---------------------------|
| Red | Red |
| Green | Green |
| Blue | Blue |
| Yellow | Red + Green |
| Purple | Red + Blue |
| Cyan | Green + Blue |
| White | Red + Green + Blue |

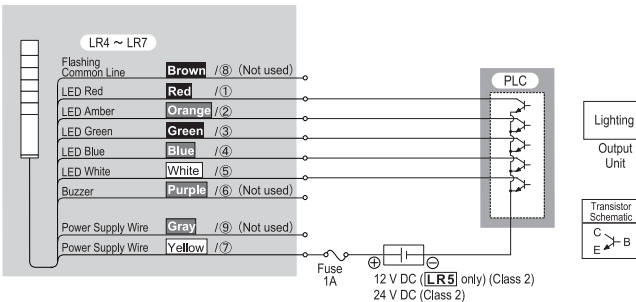
External Contact Classification

Voltage Contact Relay



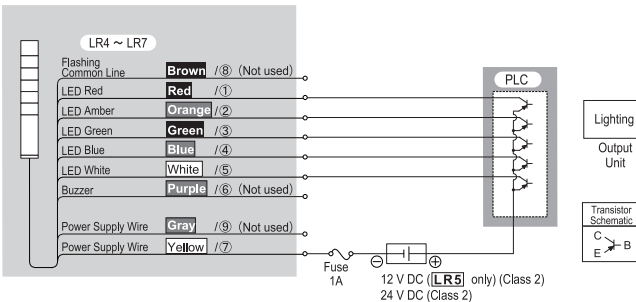
External Contact Classification

PLC (NPN Transistor)



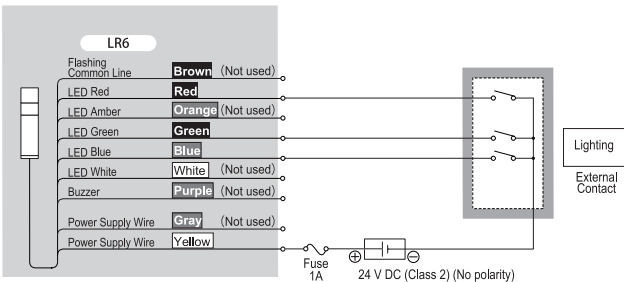
External Contact Classification

PLC (PNP Transistor)



External Contact Classification

Voltage Contact Relay

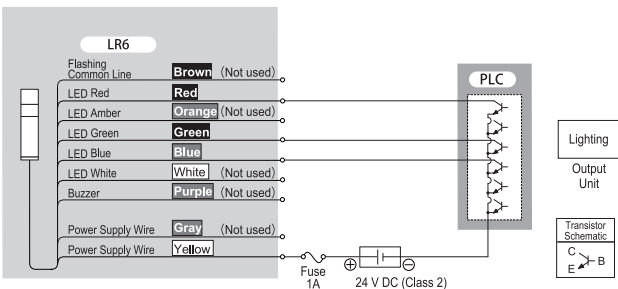


LR6-E-MZ Luminous Color

| LED Color | Wiring Color |
|-----------|---------------------------|
| Red | Red |
| Green | Green |
| Blue | Blue |
| Yellow | Red + Green |
| Purple | Red + Blue |
| Cyan | Green + Blue |
| White | Red + Green + Blue |

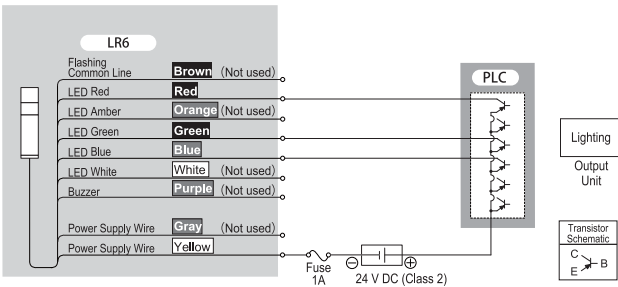
External Contact Classification

PLC (NPN Transistor)

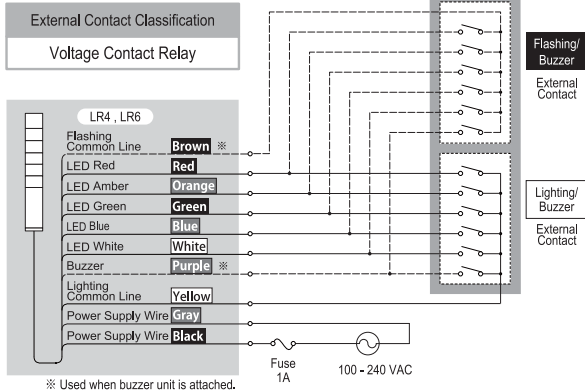


External Contact Classification

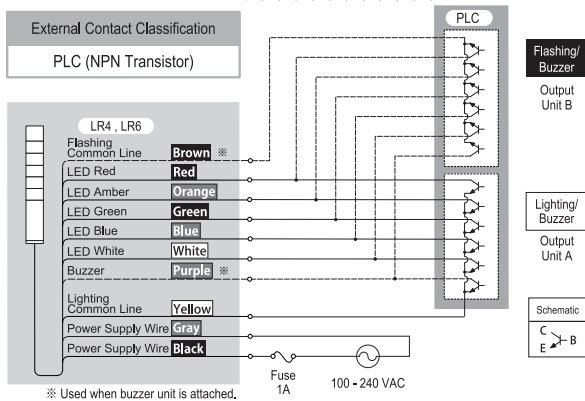
PLC (PNP Transistor)



Only apply voltage to Power Supply Wires.



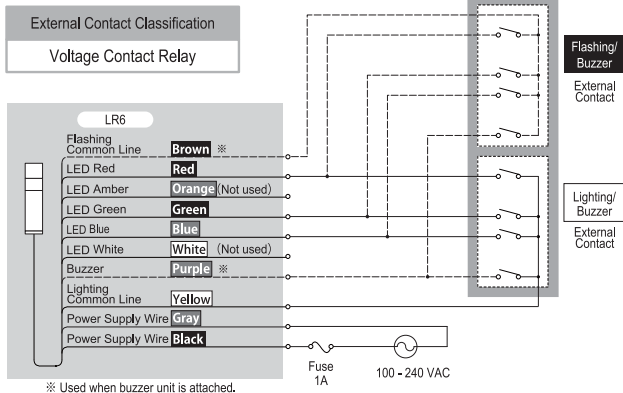
Only apply voltage to Power Supply Wires.



Lighting / Flashing / Buzzer (LR6-E-MZ)

Product Specifications **M2** 100 - 240 V AC

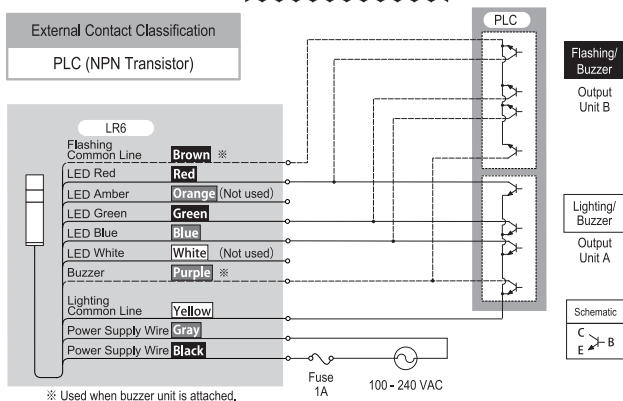
Only apply voltage to Power Supply Wires.



LR6-E-MZ Luminous Color

| LED Color | Wiring Color |
|-----------|---------------------------|
| Red | Red |
| Green | Green |
| Blue | Blue |
| Yellow | Red + Green |
| Purple | Red + Blue |
| Cyan | Green + Blue |
| White | Red + Green + Blue |

Only apply voltage to Power Supply Wires.

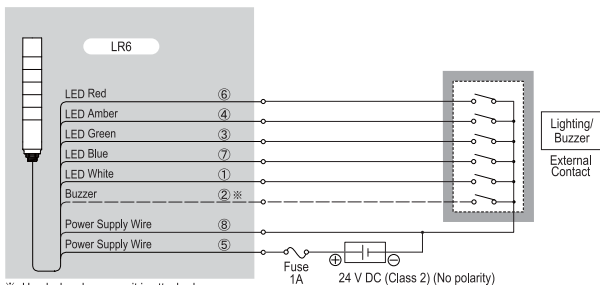


Point

- When flashing the LR6-E-MZ simultaneously with the LR6-E-R(Z)/Y(Z)/G(Z)/B(Z)/C, the flashing cycle of the LR6-E-MZ may shift from the other LED units.

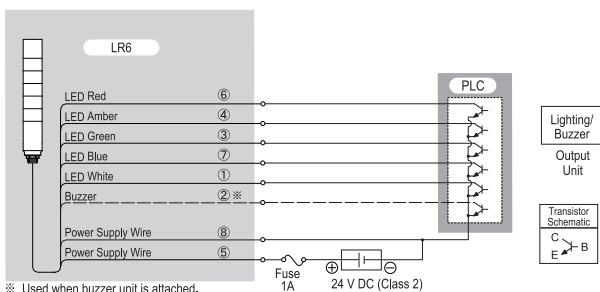
External Contact Classification

Voltage Contact Relay



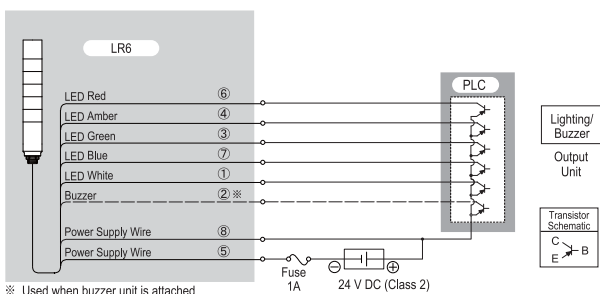
External Contact Classification

PLC (NPN Transistor)



External Contact Classification

PLC (PNP Transistor)



Point

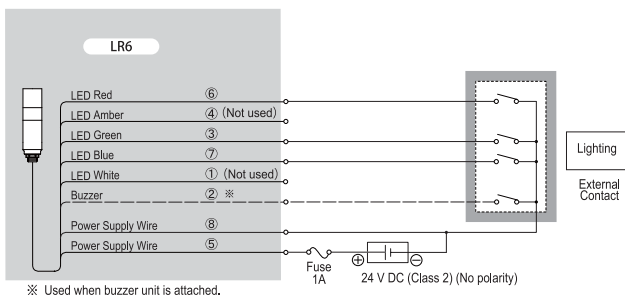
- The flashing function cannot be used.

Lighting / Buzzer (LR6-E-MZ)

Product Specifications **02** **WC** 24V DC

External Contact Classification

Voltage Contact Relay

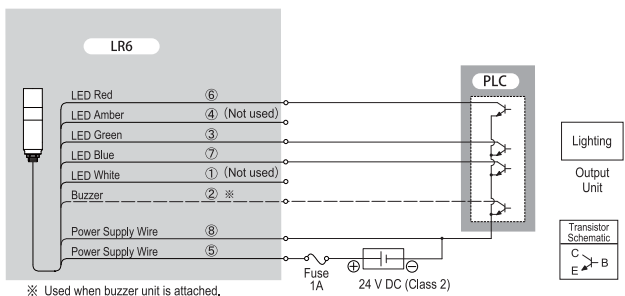


LR6-E-MZ Luminous Color

| LED Color | Pin No. |
|-----------|-----------|
| Red | ⑥ |
| Green | ③ |
| Blue | ⑦ |
| Yellow | ⑥ + ③ |
| Purple | ⑥ + ⑦ |
| Cyan | ③ + ⑦ |
| White | ⑥ + ③ + ⑦ |

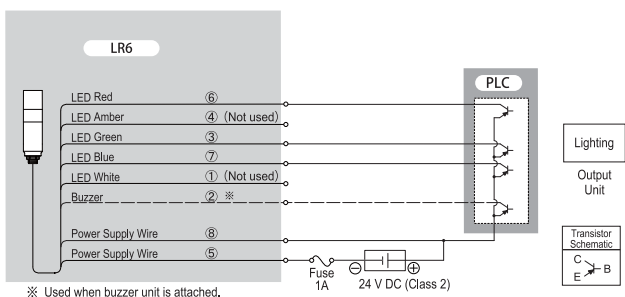
External Contact Classification

PLC (NPN Transistor)



External Contact Classification

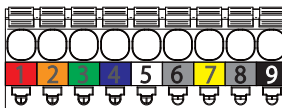
PLC (PNP Transistor)



Point

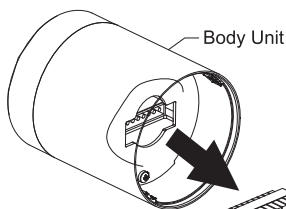
- The flashing function cannot be used.

WT | KT Terminal Block Array



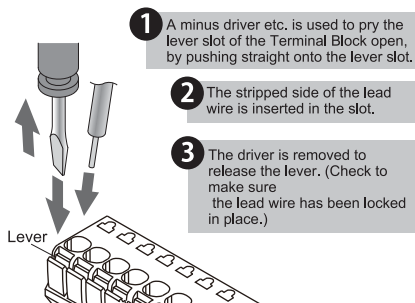
| | | |
|---|--------|--------------------------------------|
| 1 | Red | LED-R |
| 2 | Orange | LED-Y |
| 3 | Green | LED-G |
| 4 | Blue | LED-B |
| 5 | White | LED-C |
| 6 | Gray | Buzzer |
| 7 | Yellow | Power Supply Wire (Common) |
| 8 | Gray | Flashing Common |
| 9 | Black | Power Supply Wire (Signal-line Side) |

WT | KT Terminal Block Wiring Method



Remove the connector from the body unit before wiring.

Terminal Block Connector



1 A minus driver etc., is used to pry the lever slot of the Terminal Block open, by pushing straight onto the lever slot.

2 The stripped side of the lead wire is inserted in the slot.

3 The driver is removed to release the lever. (Check to make sure the lead wire has been locked in place.)

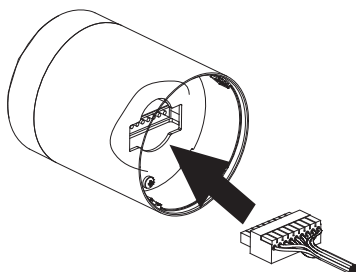
■ Recommended Lead-wire Specifications

| Wire Type | Wire Gauge (Solid Wire) | Wire Gauge (Frayed Wire) |
|-----------------|-------------------------|--------------------------|
| UL1007 / UL1430 | 0,14~1,5mm ² | AWG30~14 |

- Temperature rating should be above 75°C, and the conductor material should be of copper wire.

Point

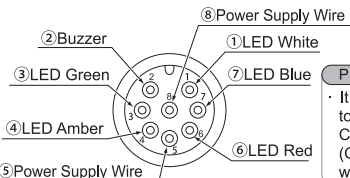
- The minus driver blade should be at about 2mm by 0,5mm in size.
- Do not forcibly push the lever more than necessary with the driver. Failure to comply may damage the unit.
- Strip 9 to 10mm of wire insulation from the wire to insert it in the Terminal Block.
- When removing the lead wire, do not pull to remove, be sure to operate the lever to release the lock.



Attach the terminal block connector to the body unit after wiring.

※ The terminal block connector is attached to the body unit at all times after factory shipment. Refer to pg.49 for "Unit Detachment Method" for removal, wiring and attachment.

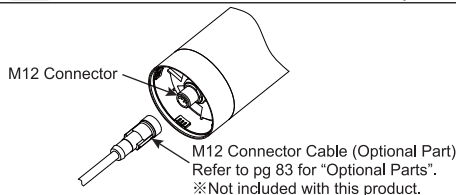
WC M12 Connector Pin Layout



Point

- It is recommended to use the M12 Connector Cable (Optional Part) for wiring.

WC Attach the M12 connector cable to the body unit



External Contact Capacity

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

| Rated Load Voltage | | 01 12 V DC | 02 24 V DC | M2 100 - 240 V AC |
|--------------------|---------------------|-------------------------------|-------------------------------|--|
| LED Unit (1 Tier) | Signal Wire Current | 90 mA | 40 mA | 40 mA |
| | Contact Capacity | Is ≥ 100 mA Vs ≥ 35 V DC | Is ≥ 100 mA Vs ≥ 35 V DC | Is ≥ 100 mA Vs ≥ 35 V DC |
| Buzzer | Signal Wire Current | 90 mA | 40 mA | 40 mA |
| | Contact Capacity | Is ≥ 300 mA Vs ≥ 35 V DC (※1) | Is ≥ 300 mA Vs ≥ 35 V DC (※1) | Is ≥ 300 mA Vs ≥ 35 V DC |
| Power Supply | Current Consumption | 500 mA | 250 mA | 150 mA |
| | Contact Capacity | Is ≥ 700 mA Vs ≥ 35 V DC | Is ≥ 700 mA Vs ≥ 35 V DC | Contact rating above inrush current |
| Inrush Current | Signal Wire | None (※1) | None (※1) | None |
| | Power Supply Wire | 0.7A / Less than 15ms | 0.7A / Less than 0.5ms | Ta=25°C : 25A / Less than 2ms (Cold-start) Ta=50°C : 50A / Less than 2ms (Cold-start) |
| Leakage Current | | IL ≤ 0.1 mA | | |

※1 ... When the (Gray for WJ LJ PJ QJ, Black / ⑨ for WT KT, ⑧ for WC) power supply wire is not connected, inrush current of 0.7A will flow through the signal wire (Purple for WJ LJ PJ QJ, Gray / ⑥ for WT KT, ② for WC). Be sure to select the appropriate ratings for an external contact.

Recommended Fuse

Fuse Rated Current

250V / 1A
5x20mm Fast-Acting Glass Body Cartridge Fuse

- (Note)
- When a regulated power supply is not being used, select a fuse that meets class CC or more (M2).
 - Use a fuse holder with UL standard certification (M2).
 - Be sure the power is disconnected before changing fuses.

6 Buzzer Pattern Set-up

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

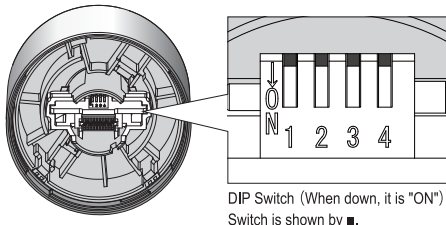
Set up the preferred pattern, using the DIP Switch after removing the buzzer unit.



Caution

- 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 View



DIP Switch (When down, it is "ON")
Switch is shown by ■.

Pattern 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.

7 How to use the Folding Bracket

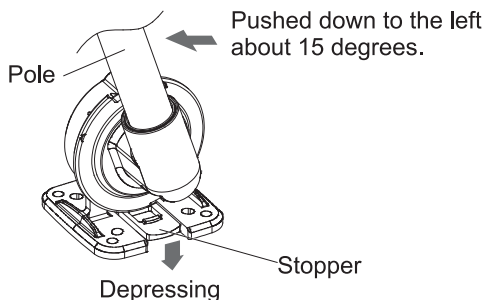
The **[QJ]** Folding bracket is a retractable type, which can be pushed down while a product is still attached when transporting equipment.

(Fixed Position: 90 degrees to the right and 45 degrees to the right and left from an upright direction)

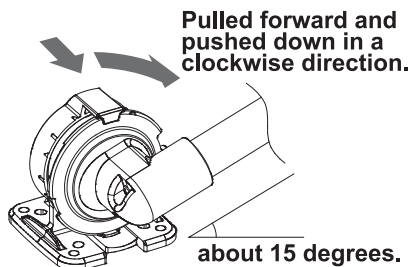
For example, when moving 90 degrees to the right from an upright position.

For example, when moving 45 degrees to the right from an upright position.

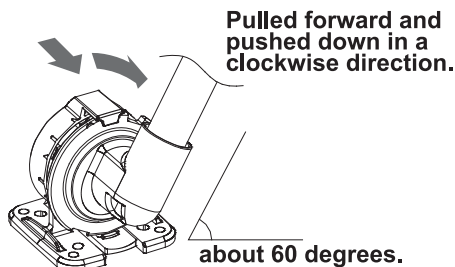
- 1 Depressing the locking lever on the left side of the Pole releases the bracket to be lowered. (Depressing the lock allows the Pole to swivel freely)



- 2 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)

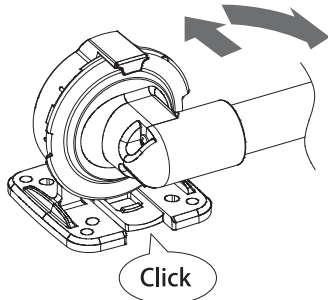


- 2 The Pole can then be pulled forward and pushed down in a clockwise direction. (From a level plane up to about a 60 degree angle)

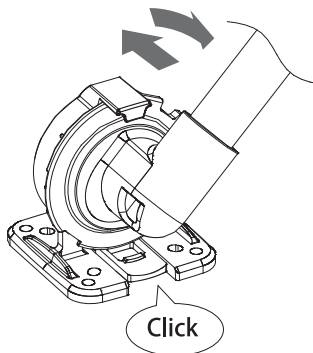


- 3 The Pole is pushed down to the right (clockwise). (The Pole is turned until it is latched in place by the locking lever)

Pushed down in a clockwise direction



Pushed down in a clockwise direction



Refer to the following diagrams when detaching the buzzer unit, recombining the LED Unit, etc.
Also, scan the QR Code to see the "How To" video.



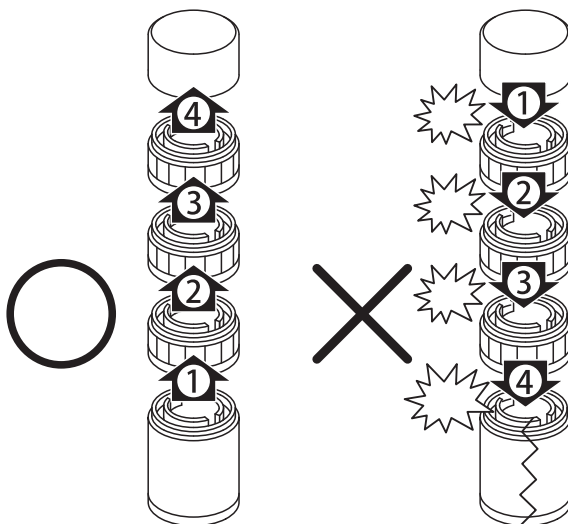
Patlite Web site

⚠ Warning

- Be sure the power is **disconnected** before working on this product.

⚠ 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.

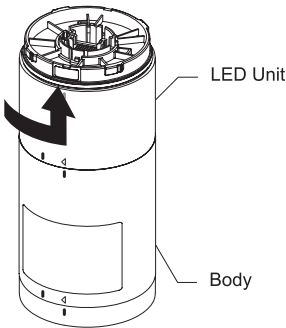


Notice

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

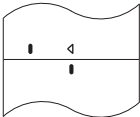
< LED Unit to Body >

■ Removal

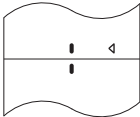


While holding the body, turn the LED unit counterclockwise, until it unlocks, then pull it upwards to remove.

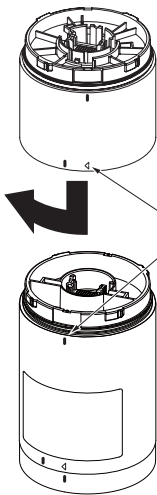
■ Positioning Mark
<Locked>



<Unlocked>

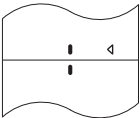


■ Attachment

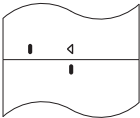


Align the Positioning Mark after inserting.

■ Positioning Mark
<Unlocked>

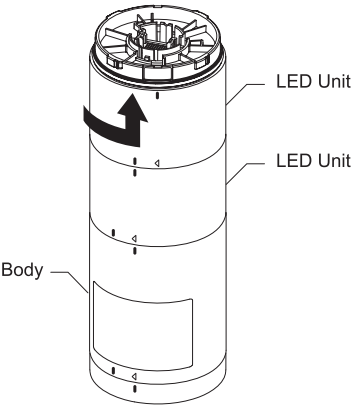


<Locked>



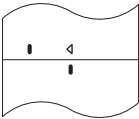
< LED Unit to LED Unit >

■ Removal

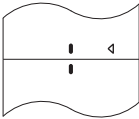


While holding LED unit, turn the LED unit counterclockwise, until it unlocks, then pull it upwards to remove.

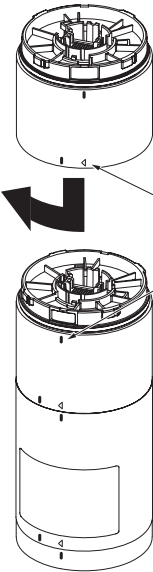
■ Positioning Mark
<Locked>



<Unlocked>



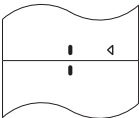
■ Attachment



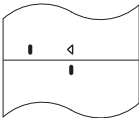
Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

Align the Positioning Mark after inserting.

■ Positioning Mark
<Unlocked>

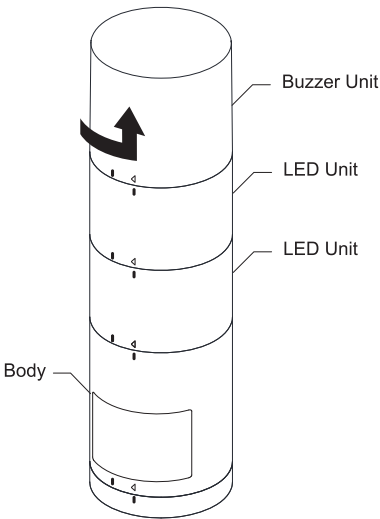


<Locked>



< Buzzer Unit to LED Unit >

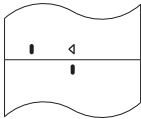
■ Removal



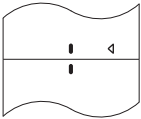
While holding LED unit, turn the buzzer unit counterclockwise, until it unlocks, then pull it upwards to remove it.

■ Positioning Mark

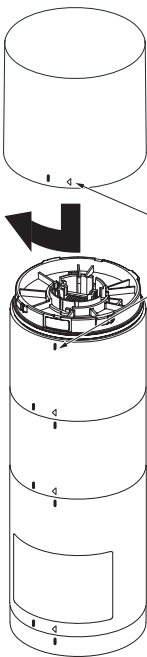
<Locked>



<Unlocked>



■ Attachment

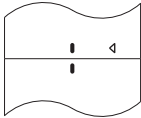


Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

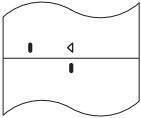
Align the Positioning Mark after inserting.

■ Positioning Mark

<Unlocked>

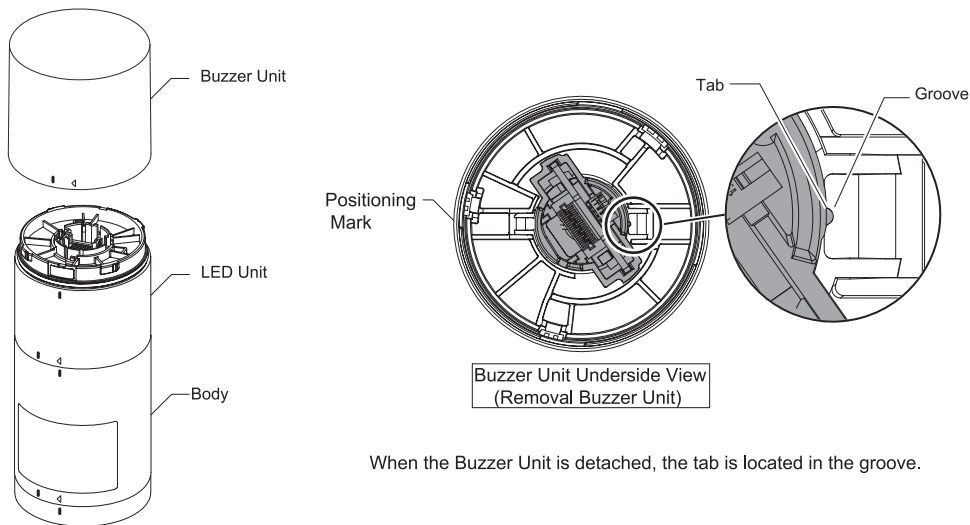


<Locked>



< When the Buzzer Unit will not attach >

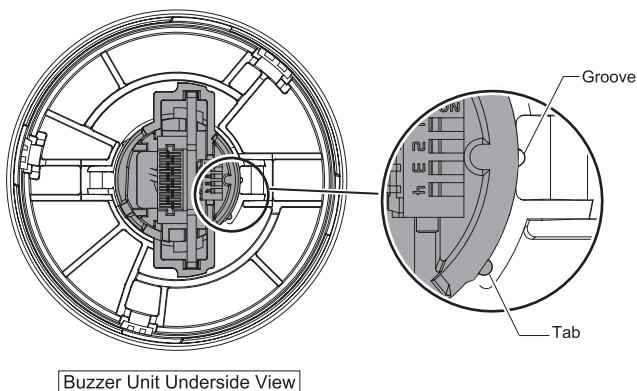
When the Buzzer Unit is detached, the tab and groove are positioned as in the figure below.



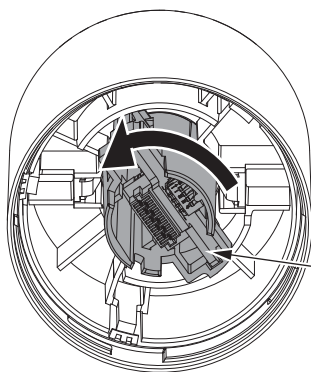
When the Buzzer Unit is detached, the tab is located in the groove.

Caution

If the Buzzer Unit cannot attach properly, check that the tab of parts inside the Buzzer Unit are fitted inside the groove.
If the tab is outside of the groove as shown below, refer to the next page on how to reposition it.
Also, as shown below, tab may come off the groove when removing the Buzzer Unit, depending on how it is removed.
If the product is installed again in this condition, it may become damaged.

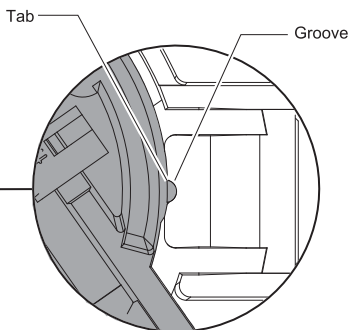
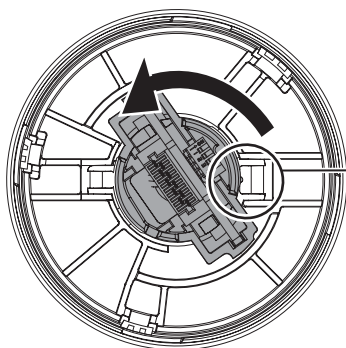


If the Buzzer Unit can't be attached, try the procedure below.



Turn the internal part of the Buzzer Unit counterclockwise until the tab fits in the groove.
Attach the Buzzer Unit to the product.

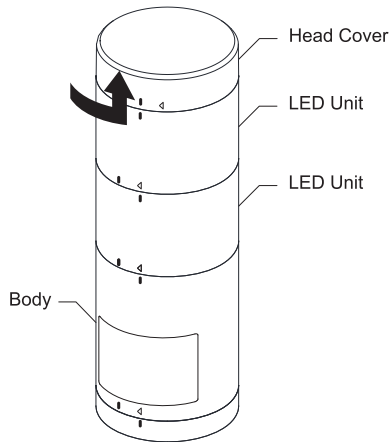
Turn this part counterclockwise.



Buzzer Unit Underside View

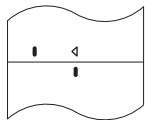
< Head Cover to LED Unit >

■ Removal

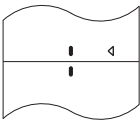


While holding the LED unit, turn the head cover counterclockwise until it unlocks, then pull it upwards to remove.

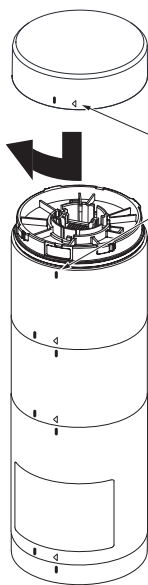
■ Positioning Mark
<Locked>



<Unlocked>



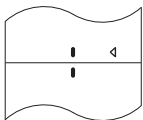
■ Attachment



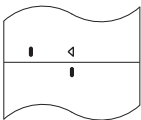
Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

Align the Positioning Mark
after inserting.

■ Positioning Mark
<Unlocked>

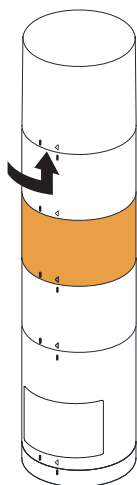


<Locked>



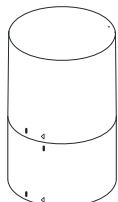
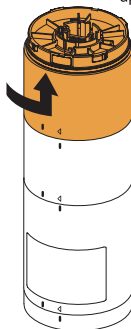
<Unit Replacement Procedure>

■ Decreasing the LED Units

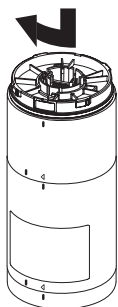


- 1 Remove the LED unit located above the unit which is intended to be removed.

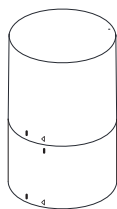
- 2 While holding the LED unit, turn the LED unit counterclockwise, until it unlocks, then pull it upwards to remove.



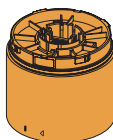
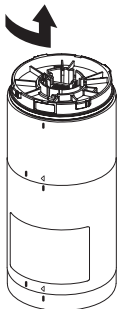
- 3 Align the Positioning Mark after insertion, then turn the unit which is removed (1) clockwise to lock it.



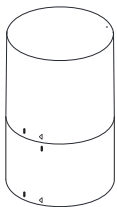
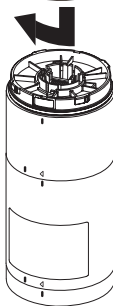
■ Increasing the LED Units



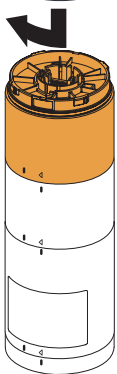
- 1 Remove the LED unit located above the unit which is intended to be attached.



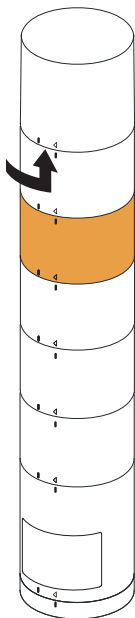
- 2 Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.



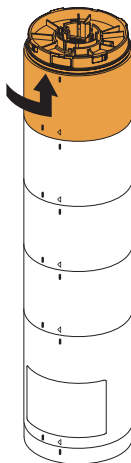
- 3 Align the Positioning Mark after insertion, then turn the unit which is removed (1) clockwise to lock it.



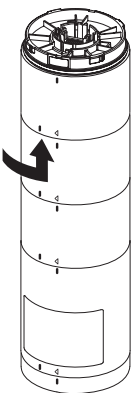
■ Recombining the LED Units



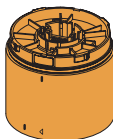
- 1 Remove the LED unit located above the unit which is intended to be relocated.



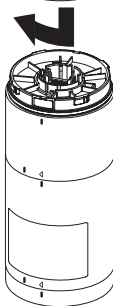
- 2 While holding the LED unit, turn the LED unit counterclockwise until it unlocks, then pull it upwards to remove.

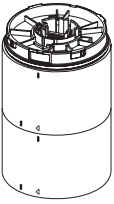


- 3 Remove the LED unit located above the unit which is intended to be relocated.

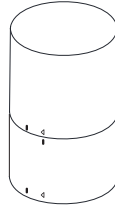
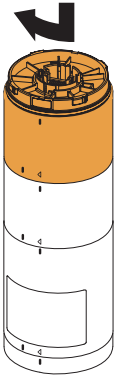


- 4 Align the Positioning Mark after insertion, then turn the unit which is removed (2) clockwise to lock it.

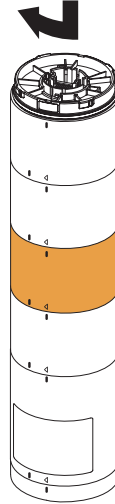




- 5 Align the Positioning Mark after insertion, then turn the unit which is removed (2) clockwise to lock it.

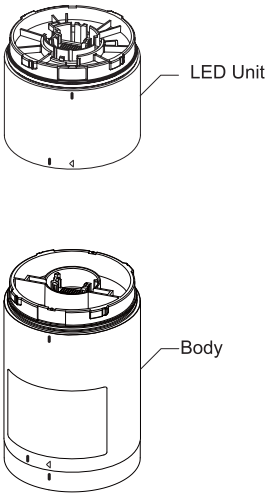
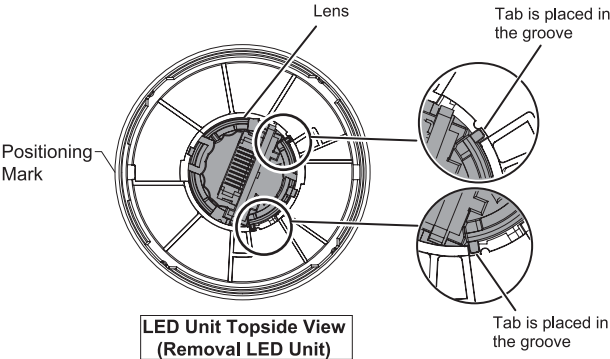
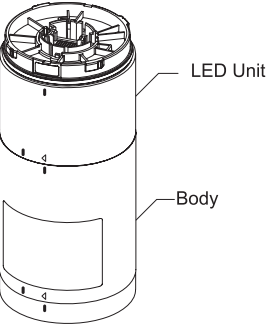
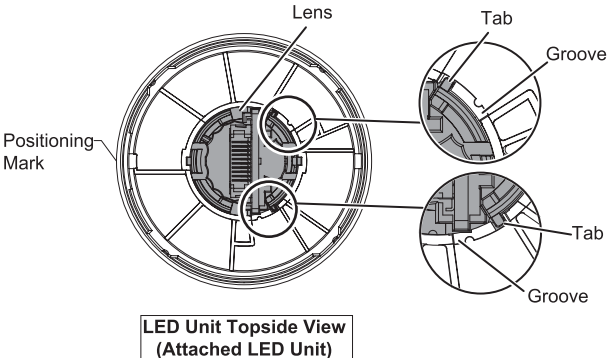


- 6 Align the Positioning Mark after insertion, then turn the unit which is removed (1) clockwise to lock it.



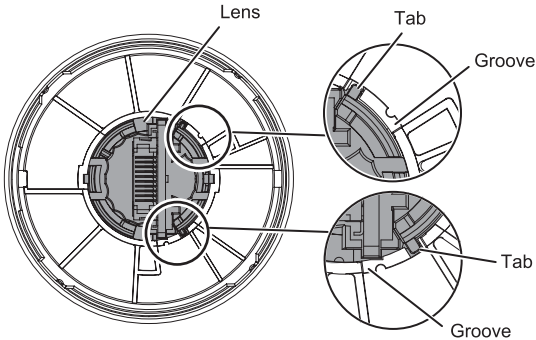
< When the LED Unit will not attach >

The structure of LED Unit is shown in the below figure.

| Situation | Structure |
|---|--|
|  |  <p>When LED Unit is detached, the lens tab is usually located in the groove.</p> |
|  |  <p>When LED Unit is attached, the lens tab is usually located out of the groove.</p> |

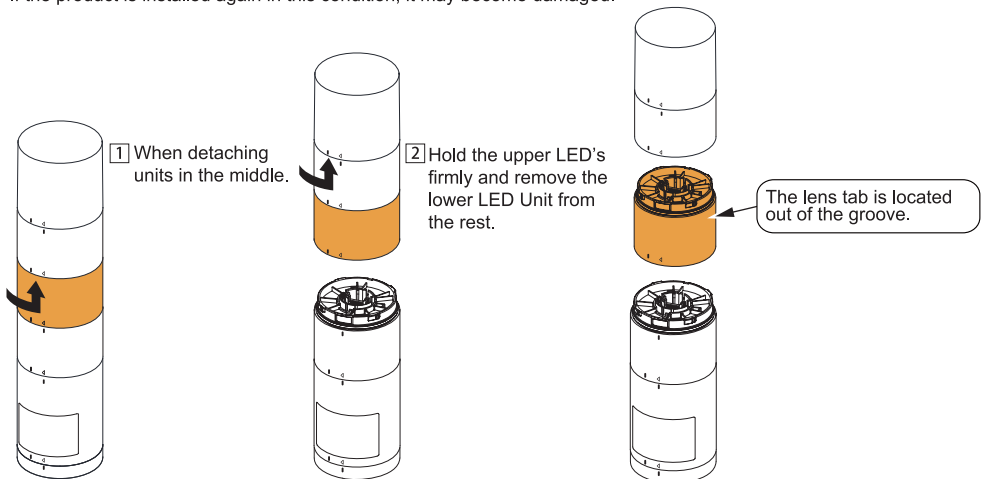
⚠ Caution

If the LED Unit cannot attach properly, check that the tabs inside the LED Unit are fitted inside the groove. If the tab is outside of the groove as shown below, refer to the next page on how to reposition it. Also, as shown below, tabs may come off the groove when removing the LED Unit, depending on how it is removed. If the product is installed again in this condition, it may become damaged.

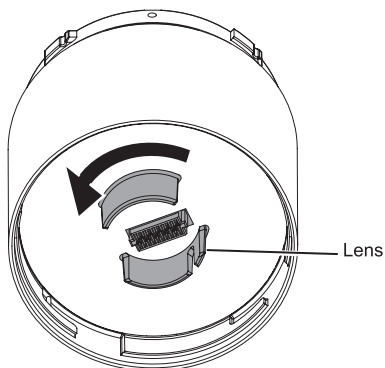


LED Unit Topside View

Do not remove it as the improper procedure depicts it below. A condition occurs in which the lens tab is out of the groove. If the product is installed again in this condition, it may become damaged.

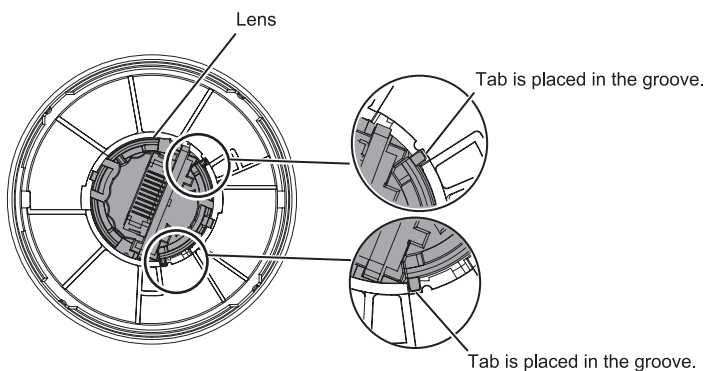


If the LED Unit can't be attached, try the procedure below.



Turn the internal lens of the LED Unit counterlockwise until the tab fits in the groove.
Attach the LED Unit to the product.

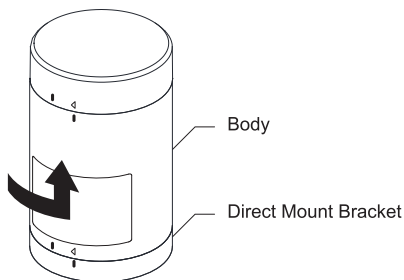
LED Unit Underside View



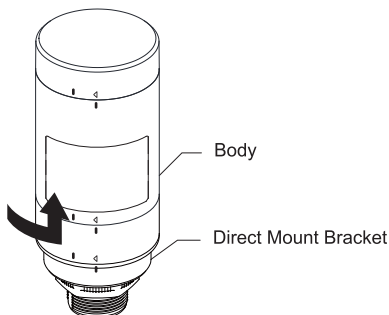
**LED Unit Topside View
(Attachable)**

<Body Unit>

■ Removal



Example: LR7-WTNW

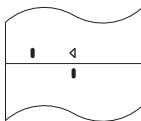


Example: LR6-WCNW

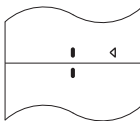
While holding the direct mount bracket, turn the body counterclockwise until it unlocks, then pull it upwards to remove.

■ Positioning Mark

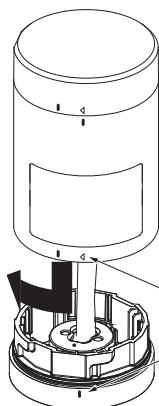
<Locked>



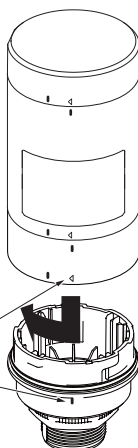
<Unlocked>



■ Attachment



Example: LR7-WTNW



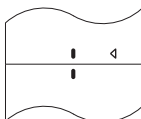
Example: LR6-WCNW

Align the Positioning Mark after inserting.

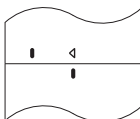
Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

■ Positioning Mark

<Unlocked>



<Locked>



9 Troubleshooting

Prior to contacting your nearest PATLITE Sales Representative, refer to the following tips, and try to solve them in the following table.

| No. | Problem | Where to Check | What to do |
|-----|--|--|--|
| 1 | The LED does not light up. | Is the electric wiring connected correctly? | Refer to " 5 Wiring" (pg.23~33) for proper wiring. |
| | | Is the power properly supplying the correct voltage? | Check the rated supply voltage. |
| | | Is the fuse blown out? | If the fuse is blown out, replace it. |
| 2 | A different LED from what I thought lights up when it turns on. | Is the electric wiring connected correctly? | Refer to " 5 Wiring" (pg.23~33) for proper wiring. |
| 3 | The Buzzer does not sound. | Is the electric wiring connected correctly? | Refer to " 5 Wiring" (pg.23~33) for proper wiring. |
| | | Is the power properly supplying the correct voltage? | Check the rated supply voltage. |
| | | Is the fuse blown out? | If the fuse is blown out, replace it. |
| | | Is it the proper product model? | The buzzer function is only included with products with a "[B]" in the model number. |
| 4 | The Buzzer volume is small. | Is the Buzzer volume set to minimum? | Refer to " 6 Buzzer Pattern Set-up" (pg.33) on how to adjust the volume. |
| 5 | The LED does not flash. | Is the electric wiring connected correctly? | Refer to " 5 Wiring" (pg.23~33) for proper wiring. |
| | | Are the external contacts for lighting turning on? | Priority is given to the lighting input over the flashing input when simultaneous signals are applied. |
| | | Is it the proper product model? | The flash function is only included with products with a "[B]" in the model number. |

If the problem is not resolved after doing the procedure as above, refer to the end of this document for the contact information and contact the nearest PATLITE Sales Representative.

| Product Details | | | |
|-----------------|---|----------------------|---------------------------------|
| Product Name | Signal Tower | Purchase Date | / / |
| Model Number | (→ 2 Model Number Configuration (pg.3~6)) | Situation of Failure | with as much detail as possible |

10 Specifications

General Specifications ([02] [WJ] [LJ] [PJ] [QJ] [WT] [KT])

| | | | | | | | | |
|------------------------------------|-------------------|--|-----------------------------------|------------------------|--------------------------------------|--------|--------------------------------------|---|
| Model | | LR□-□02□□□□ | | | | | | |
| Rated Voltage | | 24V DC | | | | | | |
| Operating Voltage Range | | Rated Voltage ±10% | | | | | | |
| Signal Wire Current (Per Unit) | | Typ. | LED Unit : 40mA | | | | | |
| | | Max. | Buzzer Unit : 40mA (※1) | | | | | |
| | | | LED Unit : 45mA | | | | | |
| | | Buzzer Unit : 300mA (※1) | | | | | | |
| Inrush Current | Power Supply Wire | 0.7A / Less than 0.5ms | | | | | | |
| | Signal Wire | none | | | | | | |
| Rated Power Consumption (Per Unit) | | Typ. | LED Unit : 1W | | | | | |
| | | Max. | Buzzer Unit : 1W (※1) | | | | | |
| | | | LED Unit : 1.3W | | | | | |
| | | Buzzer Unit : 1.3W (※1) | | | | | | |
| Standby Power Consumption | | LED Unit : none | | | | | | |
| | | Buzzer Unit : 0.1W | | | | | | |
| | | Body Unit : none | | | | | | |
| Operating Ambient Temperature | | -20°C ~ +50°C | | | | | | |
| Operating Ambient Humidity | | Less than 90% RH (No Condensation) | | | | | | |
| Storage Ambient Temperature | | -30°C ~ +60°C | | | | | | |
| Storage Ambient Humidity | | Less than 90% RH (No Condensation) | | | | | | |
| Mounting Location | | Indoor Only | | | | | | |
| Mounting Direction | | Upright | | | | | | |
| Protection Rating | | | IP65(IEC 60529) / NEMA TYPE 4X,13 | | | | | |
| | | LJ | IP54(IEC 60529) / NEMA TYPE 4X,13 | | | | | |
| | | KT | IP65(IEC 60529) / NEMA TYPE 4X,13 | | | | | |
| | | When using POLE22-□□□□AT : IP54(IEC 60529) / NEMA TYPE 4X,13 | | | | | | |
| Environmental Condition | | Upright | | | | | | |
| Insulation Resistance | | More than 1MΩ at 500VDC between live part and non-current carrying metallic part | | | | | | |
| Withstand Voltage | | 500VAC applied for 1min between live part and non-current carrying metallic part without breaking insulation | | | | | | |
| Flashing Rate | | 60±2 Flashes Per Minute | | | | | | |
| Buzzer Sound/ Typical Frequency | | No.1 | Rapid Intermittent Beep / 3378Hz | No.3 | Rapid Hi-Lo / 2016Hz&3012Hz | | | |
| | | No.2 | Continuous Beep Sound / 3378Hz | No.4 | Sweep Sound / 1000Hz-4032Hz | | | |
| Setting | | Depending on DIP Switch settings. Refer to Section 6 "Buzzer Pattern Set-up". | | | | | | |
| Outer Dimensions | | Refer to Section 3 "Part Names and Outer Appearance" | | | | | | |
| | | (LED Unit) + [Buzzer Unit] | | | | | | |
| Mass (Tolerance ±10%) | | LR4 | WJ | Off-white | 0.17kg + (0.035kg)×Tiers + [0.035kg] | Silver | 0.32kg + (0.035kg)×Tiers + [0.035kg] | |
| | | | LJ | Off-white | 0.46kg + (0.035kg)×Tiers + [0.035kg] | Silver | 0.61kg + (0.035kg)×Tiers + [0.035kg] | |
| | | | PJ | Off-white | 0.36kg + (0.035kg)×Tiers + [0.035kg] | Silver | 0.51kg + (0.035kg)×Tiers + [0.035kg] | |
| | | | QJ | Off-white | 0.42kg + (0.035kg)×Tiers + [0.035kg] | | | |
| | | LR5 | WJ | Off-white | 0.20kg + (0.040kg)×Tiers + [0.050kg] | WT | Off-white | 0.10kg+ (0.040kg)×Tiers + [0.050kg] |
| | | | LJ | Off-white | 0.49kg + (0.040kg)×Tiers + [0.050kg] | | Silver/Black | 0.10kg |
| | | | PJ | Off-white | 0.38kg + (0.040kg)×Tiers + [0.050kg] | KT | Off-white/Silver/Black | 0.10kg |
| | | | | | | | | |
| | | LR6 | WJ | Off-white | 0.22kg + (0.060kg)×Tiers + [0.060kg] | Silver | 0.35kg + (0.060kg)×Tiers + [0.060kg] | |
| | | | LJ | Off-white | 0.50kg + (0.060kg)×Tiers + [0.060kg] | Silver | 0.64kg + (0.060kg)×Tiers + [0.060kg] | |
| | | | PJ | Off-white | 0.40kg + (0.060kg)×Tiers + [0.060kg] | Silver | 0.53kg + (0.060kg)×Tiers + [0.060kg] | |
| | | | QJ | Off-white | 0.46kg + (0.060kg)×Tiers + [0.060kg] | | | |
| | | LR7 | WJ | Off-white | 0.24kg + (0.065kg)×Tiers + [0.070kg] | KT | Off-white/Silver/Black | 0.15kg |
| | | | WT | Off-white/Silver/Black | 0.15kg | | | |
| | | Sound Pressure Level | | LR4 | Typical 85dB | | | Sound Reduction approximately -10dB, depending on DIP Switch settings. Refer to Section 6 "Buzzer Pattern Set-up" |
| | | | | LR5 | Typical 85dB | | | |
| LR6 | Typical 88dB | | | | | | | |
| LR7 | Typical 90dB | | | | | | | |
| Environmental Condition | | Buzzer sound No.4 was measured from the total circumference of the Buzzer Unit at 1m | | | | | | |
| Conformity Standards | | UL 508, CSA-C22.2 No. 14, EMC Directive (EN 61000-6-4, EN 61000-6-2) RoHS Directive (EN 50581), FCC Part 15 Subpart B Class A KC (KN 61000-6-4, KN 61000-6-2) (※2) | | | | | | |
| Remarks | | (※1) Environmental Condition: Buzzer Sound No.2 (Continuous Beep Sound) (※2) Except KT, Assembly Model WT Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur. | | | | | | |

- This product is designed for use on a flat surface for a **Type 1 Enclosure**. (Conformity requirements for UL Standard)
- Use a "**class 2**" power supply specified in the guidelines under **UL1310**. (Conformity requirements for UL Standard)
- 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. (Conformity requirements for the CE Marking)

General Specifications ([02] [WC])

| | | | | | |
|---------------------------------------|------|---|--------|------------|--------|
| Model | | LR6-□02WCNW | | | |
| Rated Voltage | | 24V DC | | | |
| Operating Voltage Range | | Rated Voltage ±10% | | | |
| Signal Wire Current (Per Unit) | Typ. | LED Unit : 40mA | | | |
| | Max. | LED Unit : 45mA | | | |
| Rated Power Consumption (Per Unit) | Typ. | LED Unit : 1W | | | |
| | Max. | LED Unit : 1.3W | | | |
| Operating Ambient Temperature | | -20℃ ~ +50℃ | | | |
| Operating Ambient Humidity | | Less than 90% RH (No Condensation) | | | |
| Storage Ambient Temperature | | -30℃ ~ +60℃ | | | |
| Storage Ambient Humidity | | Less than 90% RH (No Condensation) | | | |
| Mounting Location | | Indoor Only | | | |
| Mounting Direction | | Upright | | | |
| Protection Rating | | IP65(IEC 60529) / NEMA TYPE 4X,13 | | | |
| Environmental Condition | | Upright | | | |
| Insulation Resistance | | More than 1MΩ at 500VDC between live part and non-current carrying metallic part | | | |
| Withstand Voltage | | 500VAC applied for 1min between live part and non-current carrying metallic part without breaking insulation | | | |
| Outer Dimensions | | Refer to Section 3 "Part Names and Outer Appearance" | | | |
| Mass(Tolerance ±10%) | | LR6-302WCNW | 0.35kg | LR6-02WCNW | 0.17kg |
| Conformity Standards | | UL 508, CSA-C22.2 No. 14, EMC Directive (EN 61000-6-4, EN 61000-6-2) RoHS Directive (EN 50581), FCC Part 15 Subpart B Class A KC (KN 61000-6-4, KN 61000-6-2) | | | |
| Remarks | | UL Recognized Component (File No.E215660) Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur. | | | |

- This product is designed for use on a flat surface for a **Type 1 Enclosure**.
(Conformity requirements for UL Standard)
- Use a "**class 2**" power supply specified in the guidelines under **UL1310**. (Conformity requirements for UL Standard)
- 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. (Conformity requirements for the CE Marking)

General Specifications ([01])

| | | | | | |
|---------------------------------------|--|---|------------------------------------|---|----------------------------------|
| Model | | LR5-□01□□□W | | | |
| Rated Voltage | | 12V DC | | | |
| Operating Voltage Range | | Rated Voltage ±10% | | | |
| Signal Wire Current (Per Unit) | | Typ. | LED Unit : 90mA | | |
| | | | Buzzer Unit : 90mA (※1) | | |
| | | Max. | LED Unit : 100mA | | |
| Inrush Current | | Power Supply Wire | | Buzzer Unit : 300mA (※1) | |
| | | Signal Wire | | 0.7A / Less than 15ms | |
| Rated Power Consumption (Per Unit) | | Typ. | LED Unit : 1W | | |
| | | | Buzzer Unit : 1.1W (※1) | | |
| | | Max. | LED Unit : 1.1W | | |
| | | | Buzzer Unit : 1.2W (※1) | | |
| Standby Power Consumption | | LED Unit : none | | | |
| | | Buzzer Unit : 0.3W | | | |
| | | Body Unit : 0.1W | | | |
| Operating Ambient Temperature | | -20℃ ~ +50℃ | | | |
| Operating Ambient Humidity | | Less than 90% RH (No Condensation) | | | |
| Storage Ambient Temperature | | -30℃ ~ +60℃ | | | |
| Storage Ambient Humidity | | Less than 90% RH (No Condensation) | | | |
| Mounting Location | | Indoor Only | | | |
| Mounting Direction | | Upright | | | |
| Protection Rating | | IP65(IEC 60529) / NEMA TYPE 4X,13 | | | |
| | | LJ | IP54(IEC 60529) / NEMA TYPE 4X,13 | | |
| Environmental Condition | | Upright | | | |
| Insulation Resistance | | More than 1MΩ at 500VDC between live part and non-current carrying metallic part | | | |
| Withstand Voltage | | 500VAC applied for 1min Between live part and non-current carrying metallic part without breaking insulation | | | |
| Flashing Rate | | 60±2 Flashes Per Minute | | | |
| Buzzer Sound/ Typical Frequency | | No.1 | Rapid Intermittent Beep / 3378Hz | | No.3 Rapid Hi-Lo / 2016Hz&3012Hz |
| | | No.2 | Continuous Beep Sound / 3378Hz | | No.4 Sweep Sound / 1000Hz-4032Hz |
| Setting | | Depending on DIP Switch settings. Refer to Section 6 "Buzzer Pattern Set-up". | | | |
| Outer Dimensions | | Refer to Section 3 "Part Names and Outer Appearance" | | | |
| Mass (Tolerance ±10%) | | (LED Unit) + [Buzzer Unit] | | | |
| | | WJ | 0.2kg + (0.04kg)×Tiers + [0.05kg] | | |
| | | LJ | 0.49kg + (0.04kg)×Tiers + [0.05kg] | | |
| | | PJ | 0.38kg + (0.04kg)×Tiers + [0.05kg] | | |
| Sound Pressure Level | | Typ.80dB | | Sound Reduction approximately -10dB, depending on DIP Switch settings. Refer to Section 6 "Buzzer Pattern Set-up" | |
| Environmental Condition | | Buzzer sound No.4 was measured from the total circumference of the Buzzer Unit at 1m | | | |
| Conformity Standards | | UL 508, CSA-C22.2 No. 14, EMC Directive (EN 61000-6-4, EN 61000-6-2) RoHS Directive (EN 50581), FCC Part 15 Subpart B Class A KC (KN 61000-6-4, KN 61000-6-2) | | | |
| Remarks | | (※1) Environmental Condition: Buzzer sound No.2 (Continuous Beep Sound) Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur. | | | |

- This product is designed for use on a flat surface for a **Type 1 Enclosure**.
(Conformity requirements for UL Standard)
- Use a "**class 2**" power supply specified in the guidelines under **UL1310**. (Conformity requirements for UL Standard)
- 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. (Conformity requirements for the CE Marking)



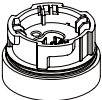
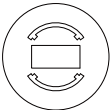
General Specifications (M2)


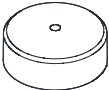
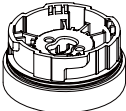
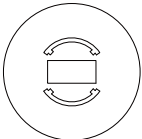
| | | | | | | | |
|------------------------------------|-------------------|--|--|--|---|-----------------------------|--|
| Model | | LR□-□M2□□□W | | | | | |
| Rated Voltage | | 100-240V AC (50/60Hz) | | | | | |
| Operating Voltage Range | | 90-250V AC (50/60Hz) | | | | | |
| Signal Wire Current (Per Unit) | | Typ. | LED Unit : 40mA | | | | |
| | | | Buzzer Unit : 40mA (※1) | | | | |
| | | Max. | LED Unit : 45mA | | | | |
| | | | Buzzer Unit : 300mA (※1) | | | | |
| Inrush Current | Power Supply Wire | | at 25℃ : 25A/ Less than 2ms (Cold-start) | | | | |
| | Signal Wire | | at 50℃ : 50A/ Less than 2ms (Cold-start) | | | | |
| | | | none | | | | |
| Rated Power Consumption (Per Unit) | | Typ. | LED Unit : 1.5W | | | | |
| | | | Buzzer Unit : 1.5W (※1) | | | | |
| | | Max. | LED Unit : 1.8W | | | | |
| | | | Buzzer Unit : 1.8W (※1) | | | | |
| Standby Power Consumption | | | LED Unit : none | | | | |
| | | | Buzzer Unit : 0.2W | | | | |
| | | | Body Unit : 0.2W | | | | |
| Operating Ambient Temperature | | -20℃ ~ +50℃ | | | | | |
| Operating Ambient Humidity | | Less than 90% RH (No Condensation) | | | | | |
| Storage Ambient Temperature | | -30℃ ~ +60℃ | | | | | |
| Storage Ambient Humidity | | Less than 90% RH (No Condensation) | | | | | |
| Mounting Location | | Indoor Only | | | | | |
| Mounting Direction | | Upright | | | | | |
| Protection Rating | | IP65(IEC 60529) / NEMA TYPE 4X,13 | | | | | |
| | | LJ | IP54(IEC 60529) / NEMA TYPE 4X,13 | | | | |
| Environmental Condition | | Upright | | | | | |
| Insulation Resistance | | More than 1MΩ at 500VDC between live part and non-current carrying metallic part | | | | | |
| Withstand Voltage | | 1500VAC applied for 1min Between live part and non-current carrying metallic part without breaking insulation | | | | | |
| Flashing Rate | | 60±2 Flashes Per Minute | | | | | |
| Buzzer Sound/ Typical Frequency | | No.1 | Rapid Intermittent Beep / 3378Hz | | No.3 | Rapid Hi-Lo / 2016Hz&3012Hz | |
| | | No.2 | Continuous Beep Sound / 3378Hz | | No.4 | Sweep Sound / 1000Hz-4032Hz | |
| Setting | | Depending on DIP Switch Settings. Refer to Section 6 "Buzzer Pattern Set-up". | | | | | |
| Outer Dimensions | | Refer to Section 3 "Part Names and Outer Appearance" | | | | | |
| Mass (Tolerance ±10%) | | LR4 | WJ | (LED Unit) + (Buzzer Unit) | | | |
| | | | | 0.25kg + (0.035kg) × Tiers + [0.035kg] | | | |
| | | | LJ | 0.54kg + (0.035kg) × Tiers + [0.035kg] | | | |
| | | LR6 | PJ | 0.44kg + (0.035kg) × Tiers + [0.035kg] | | | |
| | | | WJ | 0.32kg + (0.06kg) × Tiers + [0.060kg] | | | |
| | | | LJ | 0.60kg + (0.06kg) × Tiers + [0.060kg] | | | |
| Sound Pressure Level | | LR4 | Typ.85dB | | Sound Reduction approximately -10dB, depending on DIP Switch settings. Refer to Section 6 "Buzzer Pattern Set-up" | | |
| | | LR6 | Typ.88dB | | | | |
| Environmental Condition | | Buzzer sound No.4 was measured from the total circumference of the Buzzer Unit at 1m | | | | | |
| Conformity Standards | | UL 508, CSA-C22.2 No. 14, EMC Directive (EN 61000-6-4, EN 61000-6-2) RoHS Directive (EN 50581), FCC Part 15 Subpart B Class A KC (KN 61000-6-4, KN 61000-6-2) (※2), Low Voltage Directive(IEC/EN60947-5-1,EN62471)(※2) | | | | | |
| Remarks | | (※1) Environmental Condition: Buzzer sound No.2 (Continuous Beep Sound) (※2) Except LJ Type Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur. | | | | | |


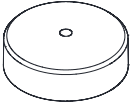
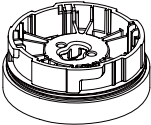
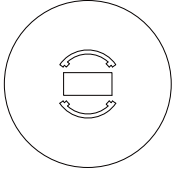
- When a regulated power supply is not being used, select a fuse that meets class CC or more.
- Use a **fuse holder** with UL standard certification. (Conformity requirements for UL Standard)
- This product is designed for use on a flat surface for a **Type 1 Enclosure**. (Conformity requirements for UL Standard)
- 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. (Conformity requirements for the CE Marking)


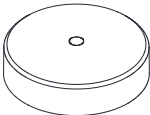
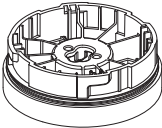
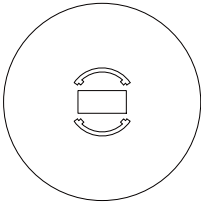
11 Replacement Parts

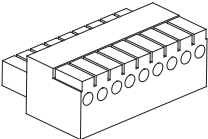

The following replacement parts for this product are available for the customer to change or replace.

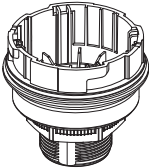
| Replacement Parts for LR4 | | | |
|---|---|---|---|
| O-ring 40 | Head Cover 40 [W/U] | Pole Bracket 40 [W/U] | Filter Sheet 40 |
|  <p>5 pcs.</p> |  |  <p>Accessories: O-ring 40 1 pc. Pole Waterproof Ring 1 pc. Binding Head Tapping Screw 2 pcs.</p> |  <p>5 pcs.</p> |

| Replacement Parts for LR5 | | | |
|---|---|---|---|
| O-ring 50 | Head Cover 50 [W/U/K] | Pole Bracket 50 [W/U/K] | Filter Sheet 50 |
|  <p>5 pcs.</p> |  |  <p>Accessories: O-ring 50 1 pc. Pole Waterproof Ring 1 pc. Binding Head Tapping Screw 2 pcs.</p> |  <p>5 pcs.</p> |

| Replacement Parts for LR6 | | | |
|--|---|---|--|
| O-ring 60 | Head Cover 60 [W/U] | Pole Bracket 60 [W/U] | Filter Sheet 60 |
|  <p>5 pcs.</p> |  |  <p>Accessories: O-ring 60 1 pc. Pole Waterproof Ring 1 pc. Binding Head Tapping Screw 2 pcs.</p> |  <p>5 pcs.</p> |

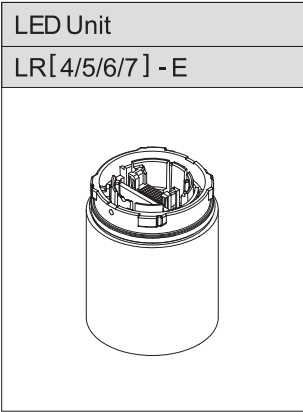
| Replacement Parts for LR7 | | | |
|--|---|---|--|
| O-ring 70 | Head Cover 70 [W/U/K] | Pole Bracket 70 [W/U/K] | Filter Sheet 70 |
|  <p>5 pcs.</p> |  |  <p>Accessories: O-ring 70 1 pc. Pole Waterproof Ring 1 pc. Binding Head Tapping Screw 2 pcs.</p> |  <p>5 pcs.</p> |

| Replacement Parts for WT | Replacement Parts for LR4/LR5/LR6/LR7 |
|---|---|
| Terminal Block | Pole Waterproof Ring |
|  |  |

| Replacement Parts for WC |
|---|
| NPT Pole Bracket Assy 60 [W] |
|  |

12Optional Parts

The following optional parts are available for this product. (Upper : Product Name , Lower : Model)

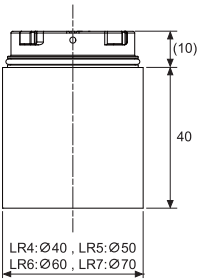


Model Number Configuration

| | Model | | | | LED Unit Color | Globe Color |
|----------|--------|---------------|----|---------|----------------|-------------|
| LED Unit | LR | ↓ | - | E | - | ↓ |
| | 4 | Φ 40 | 6 | Φ 60 | | |
| | 5 | Φ 50 | 7 | Φ 70 | | |
| ※1 | LR6 | - | Z | | | |
| ※2 | LR4 | • | 5 | • | 6 | |
| | R | : Red | Y | : Amber | | |
| | G | : Green | B | : Blue | | |
| | C | : White | | | | |
| | M | : Multi Color | ※1 | | | |
| | (None) | : Color Globe | | | | |
| | Z | : Clear Globe | ※2 | | | |

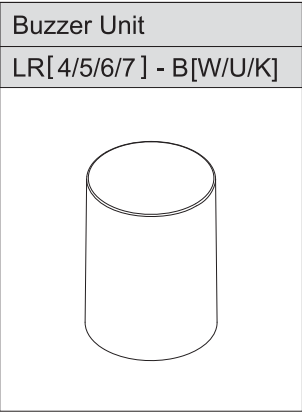
Outer Dimensions

(Unit: mm)

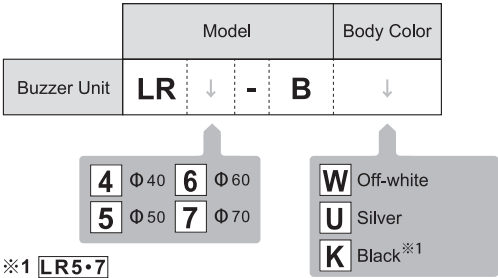


General Specifications

| | | |
|-------------------------------|-----|--|
| Model | | LR□-E-□□ |
| Operating Ambient Temperature | | -20℃ ~ +50℃ |
| Operating Ambient Humidity | | Less than 90% RH (No Condensation) |
| Mass (Tolerance ±10%) | LR4 | 0.035kg |
| | LR5 | 0.040kg |
| | LR6 | 0.060kg |
| | LR7 | 0.065kg |
| Conformity Standards | | UL508, CSA-C22.2 No. 14 EMC Directive (EN 61000-6-4, EN 61000-6-2) RoHS Directive (EN 50581) |
| Remarks | | Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur. |

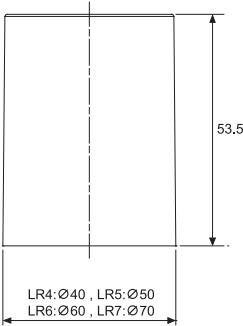


Model Number Configuration



Outer Dimensions

(Unit: mm)

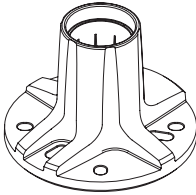


General Specifications

| | | | |
|------------------------------------|----------------------------|--|---|
| Model | | LR□-B□ | |
| Operating Ambient Temperature | | -20℃ ~ +50℃ | |
| Operating Ambient Humidity | | Less than 90% RH (No Condensation) | |
| Mass (Tolerance ±10%) | LR4 | 0.035kg | |
| | LR5 | 0.050kg | |
| | LR6 | 0.060kg | |
| | LR7 | 0.070kg | |
| Buzzer Sound/ Typical Frequency | No.1 | Rapid Intermittent Beep/ 3378Hz | |
| | No.2 | Continuous Beep Sound/ 3378Hz | |
| | No.3 | Rapid Hi-Lo/ 2016Hz&3012Hz | |
| | No.4 | Sweep Sound/ 1000Hz-4032Hz | |
| Sound Pressure Level | LR4 | Typ.85dB | Sound Reduction approx. -10dB, depending on DIP Switch settings. Refer to Section 6 "Buzzer Pattern Set-up" |
| | LR5 | Typ.85dB (※Typ.80dB) | |
| | LR6 | Typ.88dB | |
| | LR7 | Typ.90dB | |
| | Environmental Condition | Buzzer sound No.4 was measured from the total circumference of the buzzer Unit at 1m | |
| Conformity Standards | | UL508, CSA-C22.2 N EMC Directive (EN 61000-6-4, EN 61000-6-2) RoHS Directive (EN 50581) FCC Part 15 Subpart B Class A | |
| Remarks | | ※ When LR5-01 (12V DC type) is attached. | |

Circular Bracket

SZP-001W



Accessories:

Waterproof Packing
Pole Waterproof Ring
Binding Head Tapping Screw (2 pcs.)

Model Number Configuration

| | Model | Body Color |
|------------------|------------------|------------|
| Circular Bracket | SZP - 001 | ↓ |

W Off-white

Compatible Models

LR4- PJ QJ , LR5- PJ KT ※1
LR4- PJ QJ , LR7- KT ※1

(※1) Required pole and pole waterproof ring are not included with **KT**.

Compatible Pole

POLE22-0100AN, POLE22-0300AN

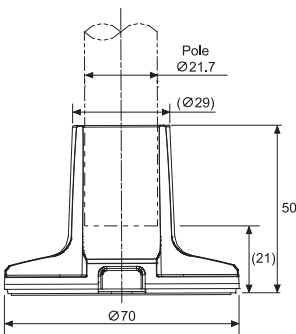
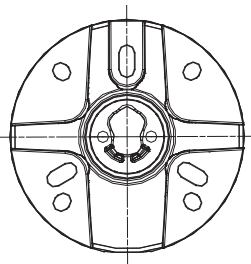
Specifications

| | |
|---|--|
| Model | SZP-001W |
| Mounting Location | Indoor Only |
| Protection Rating | IP65 (with product attached) |
| Material | PC |
| Mass (Tolerance ±10%) ※ No Accessories | 0.04kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

〈Note〉 ● It's possible to run a cable out from the side.

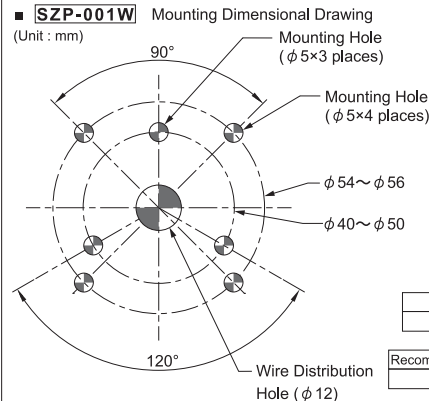
Outer Dimensions

(Unit: mm)



Mounting Dimensional Drawing

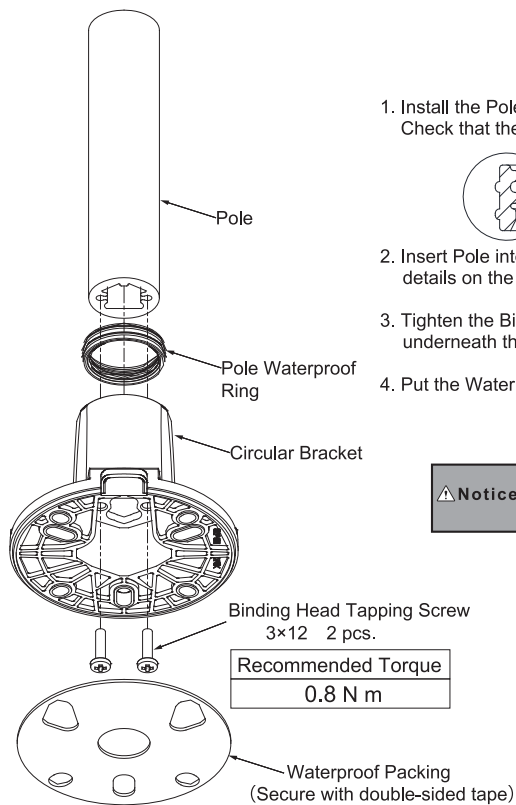
■ **SZP-001W**
(Unit : mm)



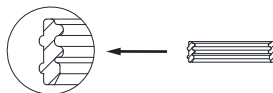
Screw/Nut
M4

Recommended Torque
0.6 N m

Pole Installation



1. Install the Pole Waterproof Ring in the Circular Bracket. Check that the 2 ribs are on the outside.



2. Insert Pole into the Circular Bracket. See the figure on the left for details on the direction of insertion.
3. Tighten the Binding Head Tapping Screws (2 pcs.) from underneath the Circular Bracket.
4. Put the Waterproof Packing on the bottom of Circular Bracket.

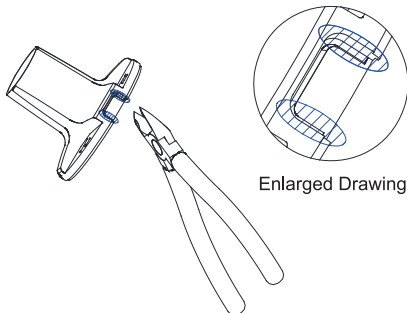
Notice

Installation using materials other than the specified accessories is not covered under warranty.

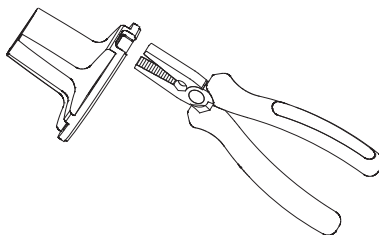
Cutting a side-hole for cable (Procedure)

This part has perforations to make it possible to run a cable out from the side.

1. Refer to the enlarged drawing and cut the outlined part of the bracket. Cut in two places with nippers.

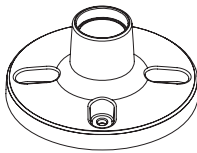


2. Break off the outlined part with pliers. If there are burrs, carefully remove with pliers or a file.



Circular Bracket

SZP-002U



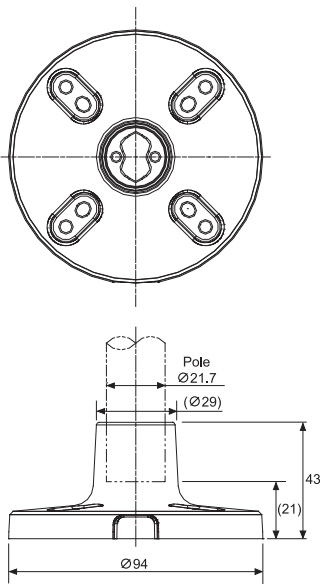
Accessories:

Pole Waterproof Ring

Binding Head Tapping Screw (2 pcs.)

Outer Dimensions

(Unit: mm)



Model Number Configuration

| | Model | Body Color |
|------------------|------------------|------------|
| Circular Bracket | SZP - 002 | U |

U Silver

Compatible Models

LR4- PJ QJ , LR5- PJ KT※1

LR4- PJ QJ , LR7- KT※1

(※1) Required pole and pole waterproof ring are not included with **KT**.

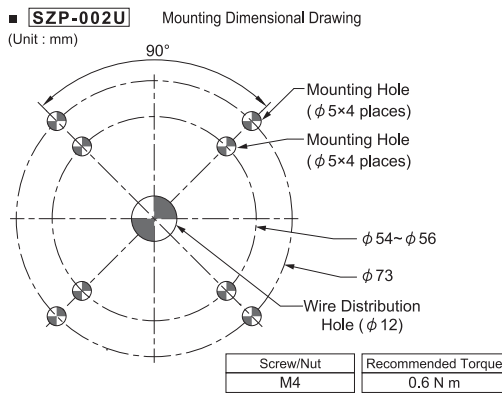
Compatible Pole **POLE22-0100AN**
POLE22-0300AN, POLE22-0500AN
POLE22-0800AN, POLE22-1000AN

Specifications

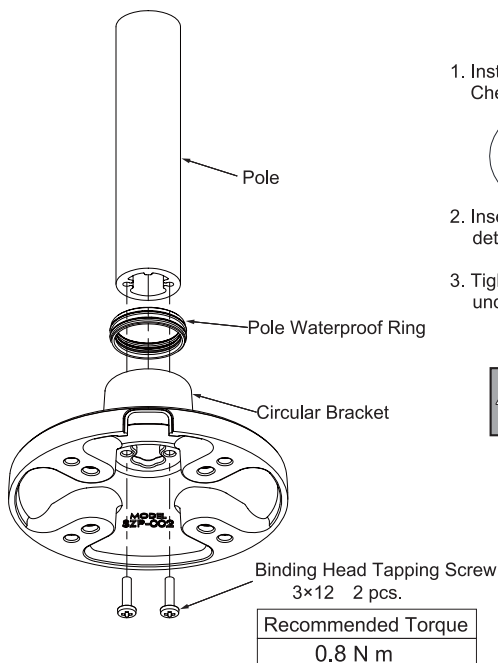
| | |
|---|--|
| Model | SZP-002U |
| Mounting Location | Indoor Only |
| Protection Rating | IP20 (with product attached) |
| Material | ADC12 |
| Mass (Tolerance ±10%) ※ No Accessories | 0.11kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

〈Note〉 ● It's possible to run a cable out from the side.

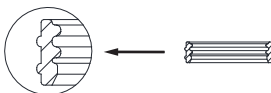
Mounting Dimensional Drawing



Pole Installation



1. Install the Pole Waterproof Ring in the Circular Bracket. Check that the 2 ribs are on the outside.



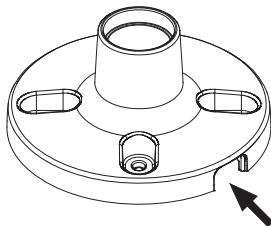
2. Insert Pole into the Circular Bracket. See the figure on the left for details on the direction of insertion.
3. Tighten the Binding Head Tapping Screws (2 pcs.) from underneath the Circular Bracket.

⚠ Notice

Installation using materials other than the specified accessories is not covered under warranty.

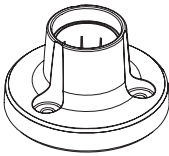
Running a cable out from the side-hole

This part has perforations to make it possible to run a cable out from the side. Refer to the diagram below and run the cable where the arrow indicates the outlet.



Circular Bracket

SZP-003 [W/U]

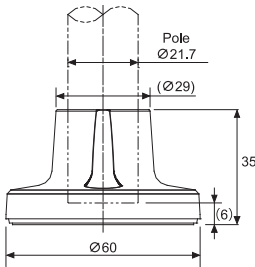
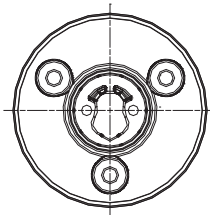


Accessories:

Waterproof Packing
Pole Waterproof Ring
Binding Head Tapping Screw (2 pcs.)

Outer Dimensions

(Unit: mm)



Model Number Configuration

| | Model | Body Color |
|------------------|------------------|------------|
| Circular Bracket | SZP - 003 | ↓ |

W Off-white
U Silver

Compatible Models

LR4- PJ QJ , LR5- PJ KT ※1

LR4- PJ QJ , LR7- KT ※1

(※1) Required pole and pole waterproof ring are not included with **KT**.

Compatible Pole

POLE22-0100AN, POLE22-0300AN

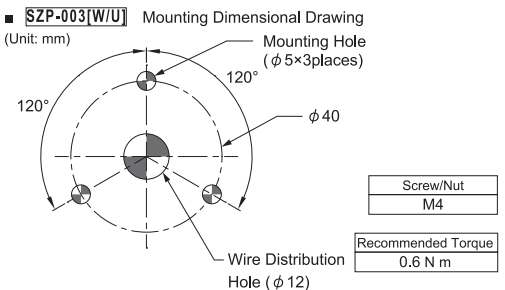
Specifications

| | |
|---|--|
| Model | SZP-003[W/U] |
| Mounting Location | Indoor Only |
| Protection Rating | IP65 (with product attached) |
| Material | PC |
| Mass (Tolerance ±10%) ※ No Accessories | 0.03kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

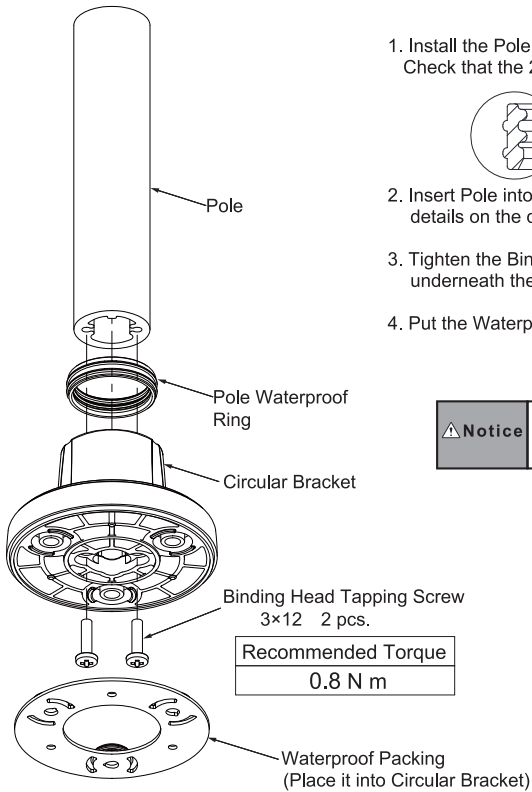
Mounting Dimensional Drawing

■ SZP-003[W/U]

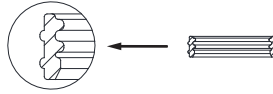
(Unit: mm)



Pole Installation



1. Install the Pole Waterproof Ring in the Circular Bracket. Check that the 2 ribs are on the outside.



2. Insert Pole into the Circular Bracket. See the figure on the left for details on the direction of insertion.
3. Tighten the Binding Head Tapping Screws (2 pcs.) from underneath the Circular Bracket.
4. Put the Waterproof Packing on the bottom of Circular Bracket.

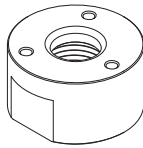
Notice

Installation using materials other than the specified accessories is not covered under warranty.

| |
|--------------------|
| Recommended Torque |
| 0.8 N m |

NPT Bracket

SZP-090U

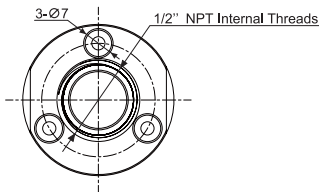
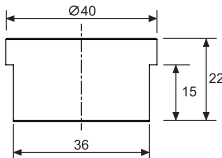
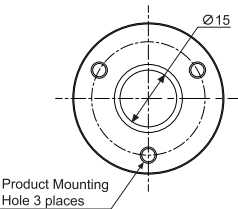


Accessories: Screw-tapped spacer (3 pcs.)



Outer Dimensions

(Unit: mm)



Model Number Configuration

| | Model | Body Color |
|------------------|------------------|------------|
| Circular Bracket | SZP - 090 | U |

U

Silver

Compatible Models

LR4 - WJ, **LR5 - WJ** **WT** **KT** ※1

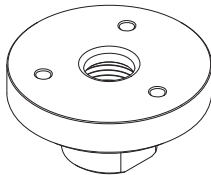
(※1) **KT** Direct Mount (Using accessory)

Specifications

| | |
|---|--|
| Model | SZP-090U |
| Mounting Direction | Upright |
| Mounting Location | Indoor Only |
| Material | AL |
| Mass (Tolerance ±10%) ※ No Accessories | 0.05kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

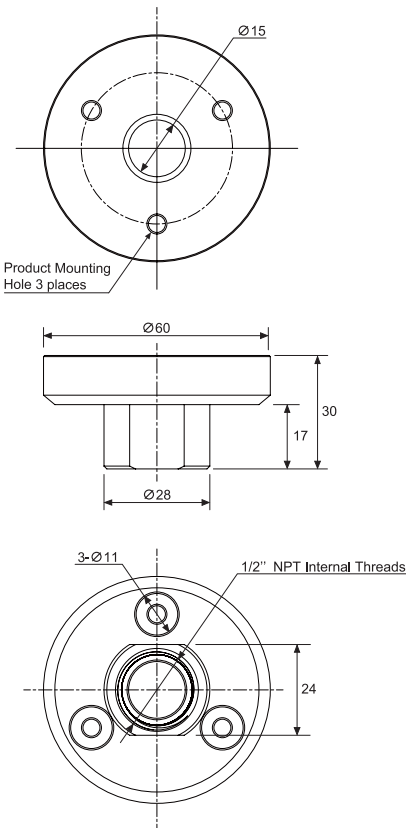
NPT Bracket

SZP-091U



Outer Dimensions

(Unit: mm)



Model Number Configuration

| | Model | Body Color |
|------------------|------------------|------------|
| Circular Bracket | SZP - 091 | U |

U Silver

Compatible Models

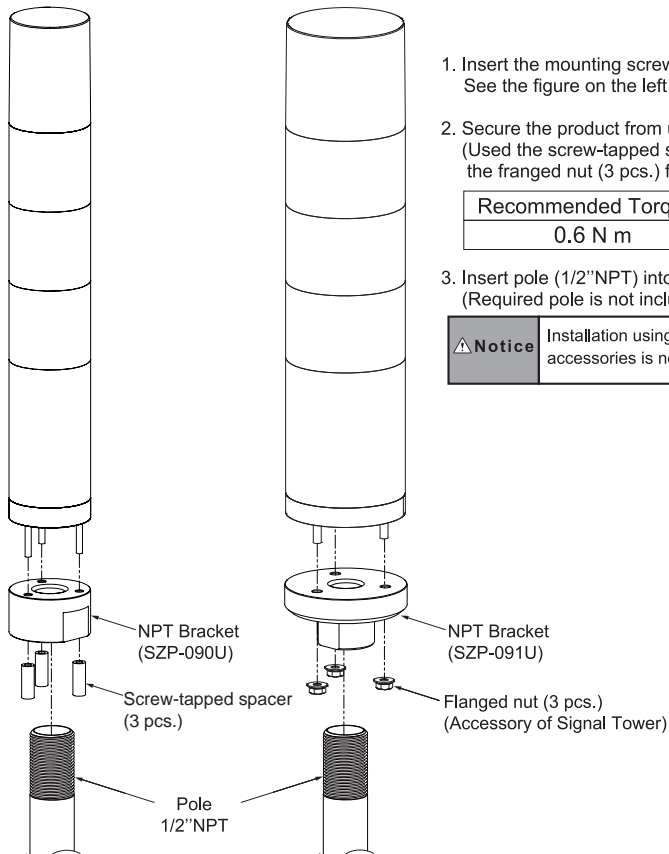
LR6- WJ, **LR7- WJ** **WT** **KT**※1

(※1) **KT** Direct Mount (Using accessory)

Specifications

| | |
|-----------------------|--|
| Model | SZP-091U |
| Mounting Direction | Upright |
| Mounting Location | Indoor Only |
| Material | AL |
| Mass (Tolerance ±10%) | 0.09kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

Product Attachment



1. Insert the mounting screws of the product into the NPT Bracket. See the figure on the left for details on the direction of insertion.

2. Secure the product from underneath the NPT Bracket. (Used the screw-tapped spacer (3pcs.) for SZP-090U and the franged nut (3 pcs.) for SZP-091U.)

Recommended Torque

0.6 N m

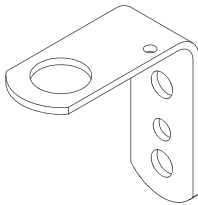
3. Insert pole (1/2"NPT) into the NPT Bracket. (Required pole is not included.)

Notice

Installation using materials other than the specified accessories is not covered under warranty.

L-bracket

SZL-001



Compatible Models

LR4-LJ, **LR5-LJ**, **KT**^{※1}, **LR6-LJ**

(※1) Required pole and pole waterproof ring are not included with **KT**.

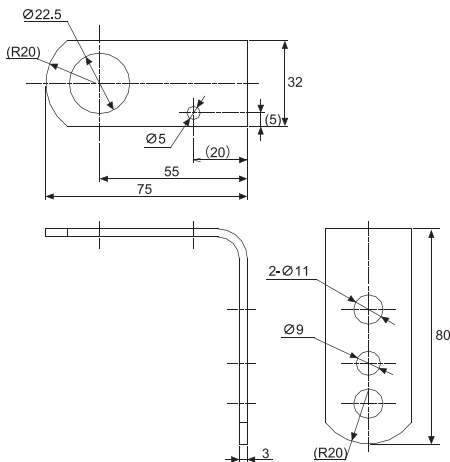
Compatible Pole **POLE22-0100AT**
POLE22-0300AT, **POLE22-0500AT**
POLE22-0800AT, **POLE22-1000AT**

Specifications

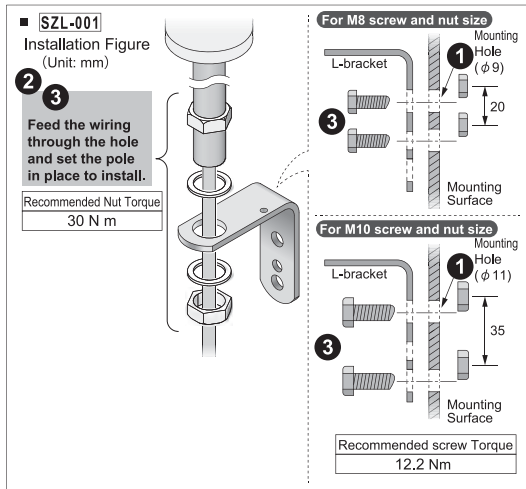
| | |
|-----------------------|--|
| Model | SZL-001 |
| Mounting Location | Indoor Only |
| Material | SPHC-P |
| Mass (Tolerance ±10%) | 0.09kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

Outer Dimensions

(Unit: mm)

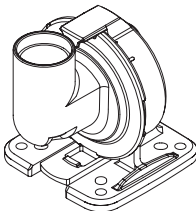


Installation Figure



Folding Bracket

SZQ-001W



Accessories:

Pole Waterproof Ring

Binding Head Tapping Screw (2 pcs.)

Model Number Configuration

| | Model | Body Color |
|------------------|------------------|------------|
| Circular Bracket | SZQ - 001 | W |

W Off-white

Compatible Models

LR4- PJ QJ , LR5- PJ KT ※1

LR4- PJ QJ , LR7- KT ※1

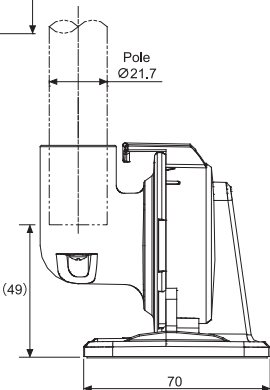
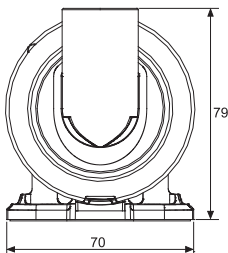
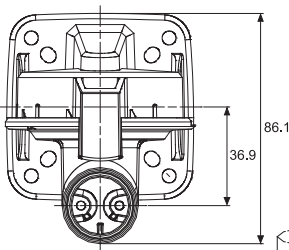
(※1) Required pole and pole waterproof ring are not included with **KT**.

Compatible Pole

POLE22-0100AN, POLE22-0300AN

Outer Dimensions

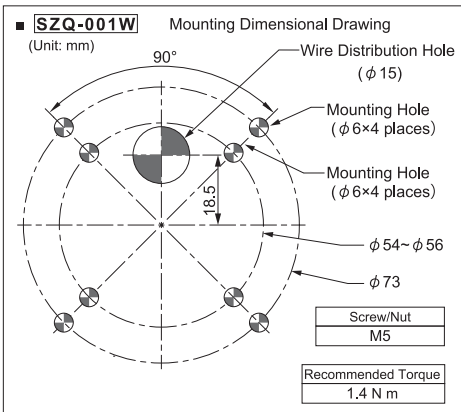
(Unit: mm)



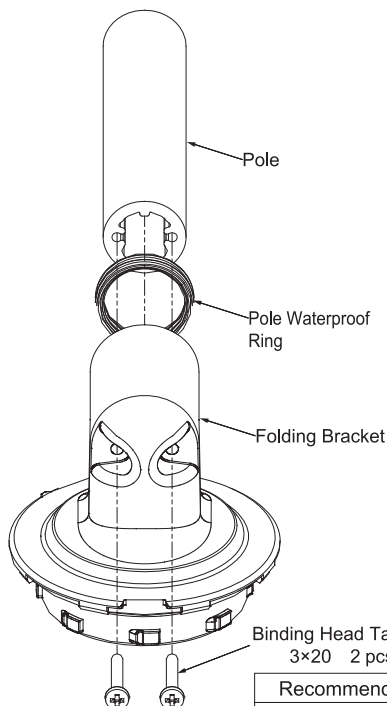
Specifications

| | |
|---|--|
| Model | SZQ-001W |
| Mounting Location | Indoor Only |
| Protection Rating | IP65 (with product attached) |
| Material | PC |
| Mass (Tolerance ±10%) ※ No Accessories | 0.09kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

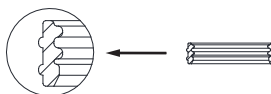
Mounting Dimensional Drawing



Pole Installation



1. Install the Pole Waterproof Ring in the Folding Bracket. Check that the 2 ribs are on the outside.



2. Insert Pole into the Folding Bracket. See the figure on the left for details on the direction of insertion.
3. Tighten the Binding Head Tapping Screws (2 pcs.) from underneath the Folding Bracket.

Notice

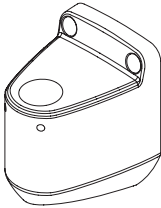
Installation using materials other than the specified accessories is not covered under warranty.

Binding Head Tapping Screw
3×20 2 pcs.

| |
|--------------------|
| Recommended Torque |
| 0.8 N m |

Wallmount Bracket

SZK-001U



Accessories:
Hexagon Socket Set Screw
(2 pcs.)

Model Number Configuration

| | Model | Body Color |
|-------------------|------------------|------------|
| Wallmount Bracket | SZK - 001 | U |

U Silver

Compatible Models

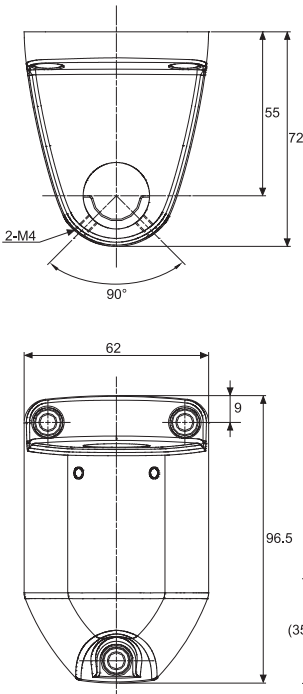
LR4- PJ QJ , **LR5- PJ KT** ※1
LR4- PJ QJ , **LR7- KT** ※1

(※1) Required pole and pole waterproof ring are not included with **KT**.

Compatible Pole **POLE22-0100AN**
POLE22-0300AN, **POLE22-0500AN**
POLE22-0800AN, **POLE22-1000AN**

Outer Dimensions

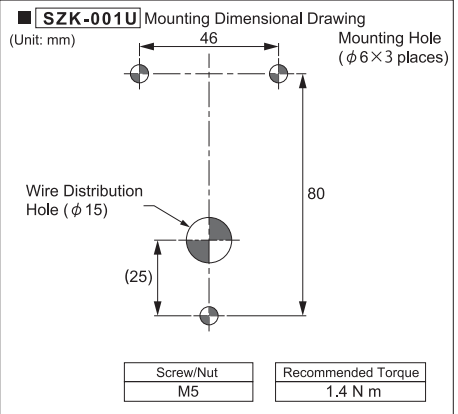
(Unit: mm)



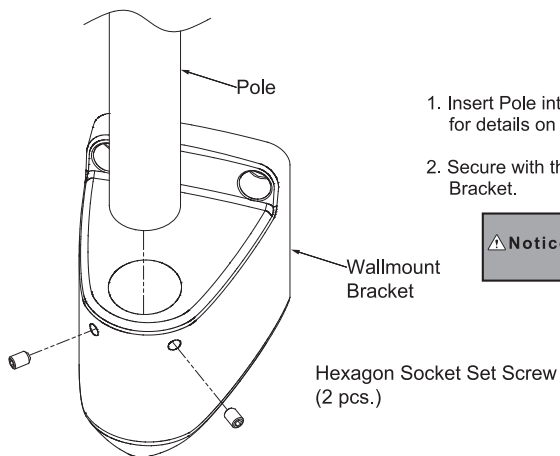
Specifications

| | |
|---|--|
| Model | SZK-001U |
| Mounting Location | Indoor Only |
| Protection Rating | IP20 (with product attached) |
| Material | ADC12 |
| Mass (Tolerance ±10%) ※ No Accessories | 0.19kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

Mounting Dimensional Drawing



Pole Installation



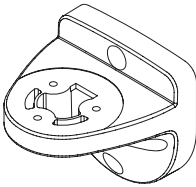
1. Insert Pole into the Wallmount Bracket. See the figure on the left for details on the direction of insertion.
2. Secure with the Hexagon Socket Set Screws (2 pcs.) on the Pole Bracket.

Notice

Installation using materials other than the specified accessories is not covered under warranty.

Wallmount Bracket

SZK-002 [W/U/K]



Model Number Configuration

| | Model | Body Color |
|-------------------|-------------------------|------------|
| Wallmount Bracket | SZK - 002 | ↓ |

| | |
|----------|-----------|
| W | Off-white |
| U | Silver |
| K | Black |

Compatible Models

LR4 - **WJ** , **LR5** - **WJ** **WT** **KT**※1

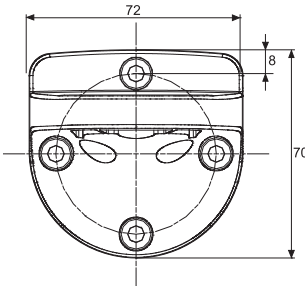
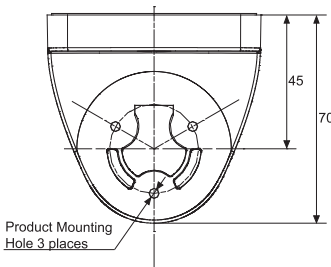
(※1) **KT** Direct Mount (Using accessory)

Specifications

| | |
|-----------------------|--|
| Model | SZK-002 [W/U/K] |
| Mounting Location | Indoor Only |
| Protection Rating | IP65 (with product attached) |
| Material | PC |
| Mass (Tolerance ±10%) | 0.06kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

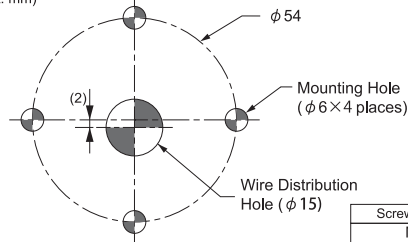
Outer Dimensions

(Unit: mm)

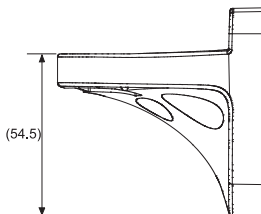


Mounting Dimensional Drawing

■ **SZK-002 [W/U/K]** Mounting Dimensional Drawing
(Unit: mm)

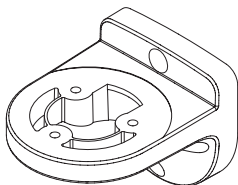


| |
|--------------------|
| Screw/Nut |
| M5 |
| Recommended Torque |
| 1.4 N m |



Wallmount Bracket

SKZ-003 [W/U/K]



Model Number Configuration

| | Model | Body Color |
|-------------------|-------------------------|------------|
| Wallmount Bracket | SKZ - 003 | ↓ |

| | |
|----------|-----------|
| W | Off-white |
| U | Silver |
| K | Black |

Compatible Models

LR6 - WJ , **LR7 - WJ** **WT** **KT**※1

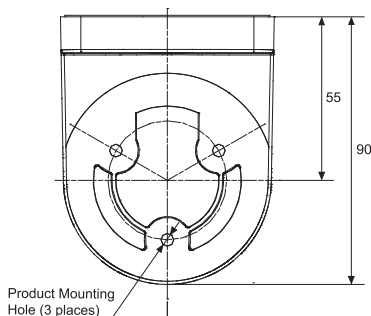
(※1) **KT** Direct Mount (Using accessory)

Specifications

| | |
|-----------------------|--|
| Model | SKZ-003 [W/U/K] |
| Mounting Location | Indoor Only |
| Protection Rating | IP65 (with product attached) |
| Material | PC |
| Mass (Tolerance ±10%) | 0.07kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

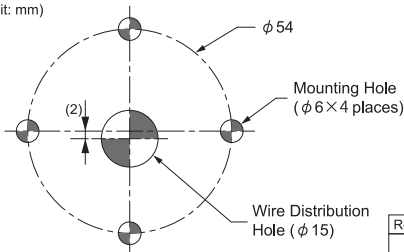
Outer Dimensions

(Unit: mm)



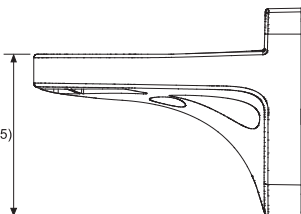
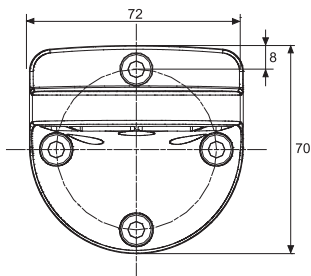
Mounting Dimensional Drawing

■ **SKZ-003 [W/U/K]** Mounting Dimensional Drawing
(Unit: mm)



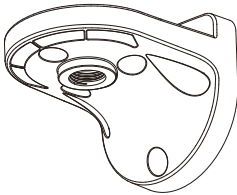
| |
|-----------|
| Screw/Nut |
| M5 |

| |
|--------------------|
| Recommended Torque |
| 1.4 N m |



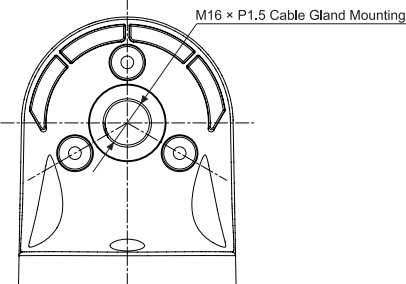
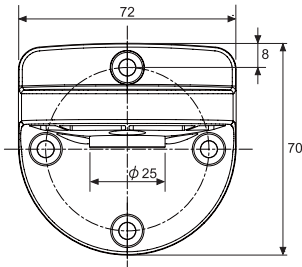
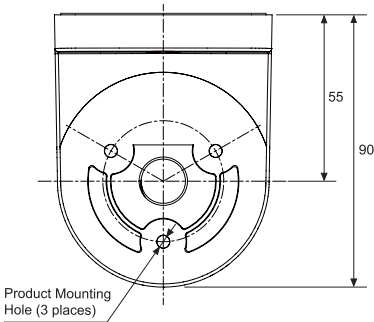
Wallmount Bracket

SZK-004W



Outer Dimensions

(Unit: mm)



Model Number Configuration

| | Model | Body Color |
|-------------------|------------------|------------|
| Wallmount Bracket | SZK - 004 | W |

W Off-white

Compatible Models

LR6 - WJ, **LR7 - WJ** **WT** **KT** ※1

(※1) **KT** Direct Mount (Using accessory)

Specifications

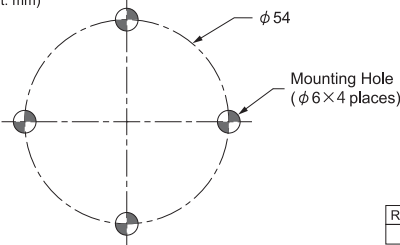
| | |
|-----------------------|---|
| Model | SZK-004W |
| Mounting Location | Indoor Only |
| Protection Rating | IP65 (with product attached) |
| Material | PC |
| Mass (Tolerance ±10%) | 0.07kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. Compatible M16×P1.5 cable gland |

Mounting Dimensional Drawing

■ **SZK-004W**

(Unit: mm)

Mounting Dimensional Drawing

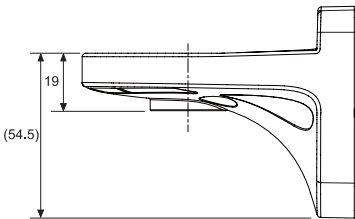


Screw/Nut

M5

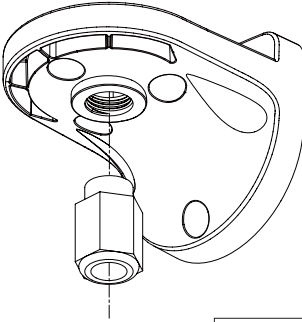
Recommended Torque

1.4 N m



Cable gland Installation

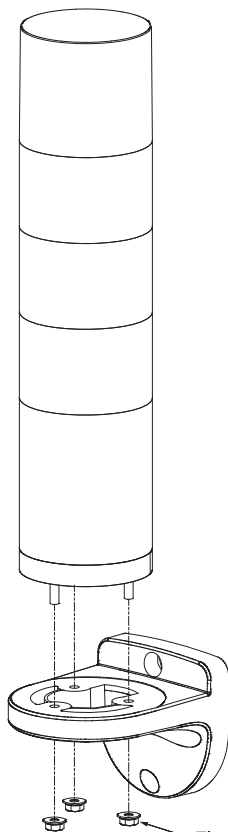
Install the cable gland into the Wall-mount Bracket from the bottom side. (Required cable gland is not included.)



| |
|----------------|
| Maximum Torque |
|----------------|

| |
|--------|
| 10 N m |
|--------|

Product Attachment



1. Insert the mounting screws of the product into the Wallmount Bracket. See the figure on the left for details on the direction of insertion.
2. Secure the product with the flanged nuts (3 pcs.) from underneath the Bracket.

| Recommended Torque |
|--------------------|
| 0.6 N m |



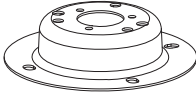
Notice

Installation using materials other than the specified accessories is not covered under warranty.

Flanged nut (3 pcs.)

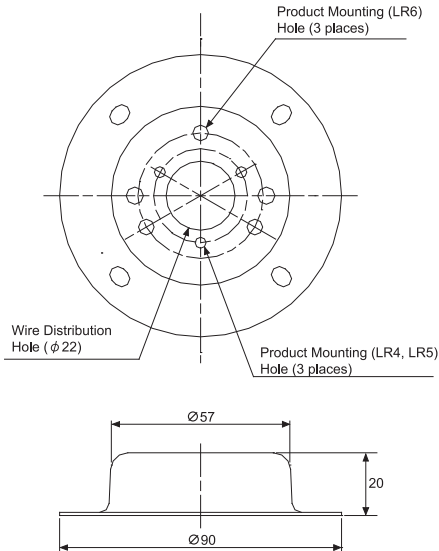
Circular Bracket

SZW-001W



Outer Dimensions

(Unit: mm)



Model Number Configuration

| | Model | Body Color |
|------------------|------------------|------------|
| Circular Bracket | SZW - 001 | W |

W Off-white

Compatible Models

LR4 - WJ, **LR5 - WJ** **WT** **KT**※1

LR6 - WJ (※1) **KT** Direct Mount (Using accessory)

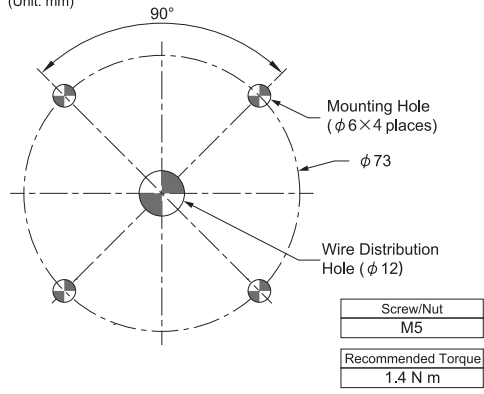
Specifications

| | |
|------------------------------|--|
| Model | SZW-001W |
| Mounting Location | Indoor Only |
| Material | SPCE |
| Mass (Tolerance $\pm 10\%$) | 0.06kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. |

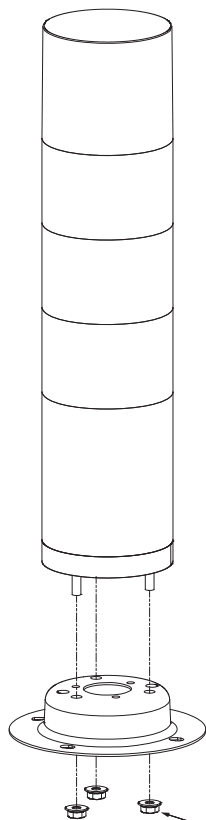
Mounting Dimensional Drawing

■ **SZW-001W** Mounting Dimensional Drawing

(Unit: mm)



Product Attachment



1. Insert the mounting screws of the product into the Circular Bracket. See the figure on the left for details on the direction of insertion.
2. Secure the product with the flanged nuts (3 pcs.) from underneath the Bracket.

| Recommended Torque |
|--------------------|
| 0.6 N m |




Notice

Installation using materials other than the specified accessories is not covered under warranty.

Pole N

POLE22- [0100/0300/0500/0800/1000] AN



Accessory : Binding Head Tapping Screw (2pcs.)

Compatible Models

LR4- PJ LJ QJ , LR5- PJ LJ KT ※1

LR6- PJ LJ QJ LR7- KT ※1

(※1) Required pole waterproof ring is not included with KT.

| | SZP-001W | SZP-002U | SZP-003W | SZQ-001W | SZK-001U |
|---------------|----------|----------|----------|----------|----------|
| POLE22-0100AN | ○ | ○ | ○ | ○ | ○ |
| POLE22-0300AN | ○ | ○ | ○ | ○ | ○ |
| POLE22-0500AN | × | ○ | × | × | ○ |
| POLE22-0800AN | × | ○ | × | × | ○ |
| POLE22-1000AN | × | ○ | × | × | ○ |

Specifications

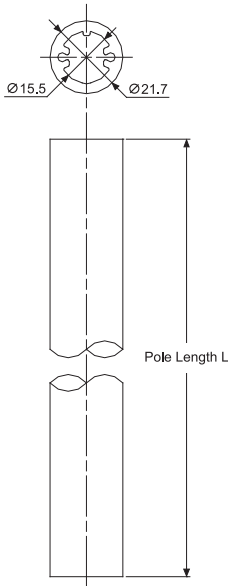
| Model | POLE22-0100AN | POLE22-0300AN | POLE22-0500AN | POLE22-0800AN | POLE22-1000AN |
|---|--|---------------|---------------|---------------|---------------|
| Mounting Location | Indoor Only | | | | |
| Pole length L (mm) | 100 | 300 | 500 | 800 | 1000 |
| Material | AL | | | | |
| Mass (Tolerance ±10%) ※ No Accessories | 0.05kg | 0.16kg | 0.26kg | 0.42kg | 0.52kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. | | | | |

⚠ Notice

- Use a pole which is 300mm or less in length when using a resin bracket.
- Use an AL Bracket when using a pole which is 500mm or more in length.

Outer Dimensions

(Unit: mm)



Pole T

POLE22- [0100/0300/0500/0800/1000] AT

Accessory :Hexagon Nut (2pcs.)
 Plain Washer (2pcs.)
 Binding Head Tapping Screw (2pcs.)

Compatible Models

LR4- **PJ** **LJ** **QJ** , LR5- **PJ** **LJ** **KT**※1
 LR6- **PJ** **LJ** **QJ** LR7- **KT** ※1

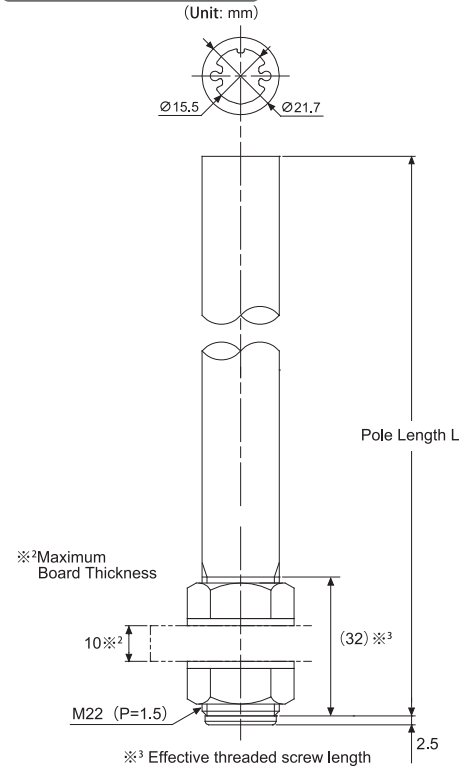
(※1) Required pole waterproof ring is not included with **KT**.

Compatible Optional Parts SZL-001

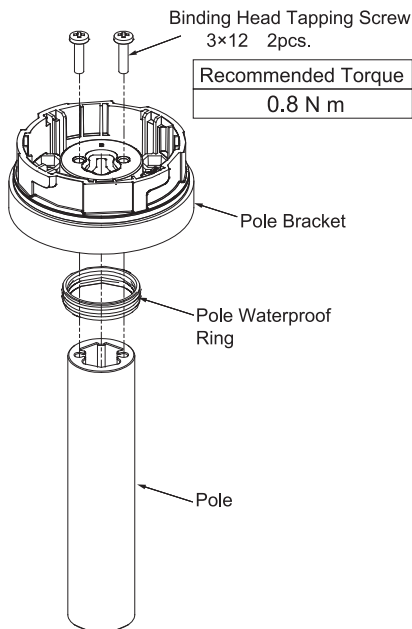
Specifications

| Model | POLE22-0100AT | POLE22-0300AT | POLE22-0500AT | POLE22-0800AT | POLE22-1000AT |
|---|--|---------------|---------------|---------------|---------------|
| Mounting Location | Indoor Only | | | | |
| Pole Length L (mm) | 100 | 300 | 500 | 800 | 1000 |
| Material | AL | | | | |
| Mass (Tolerance ±10%) ※ No Accessories | 0.05kg | 0.15kg | 0.26kg | 0.42kg | 0.52kg |
| Remarks | There are no contents of controlled substances exceeding the threshold for the RoHS Directive. | | | | |

Outer Dimensions

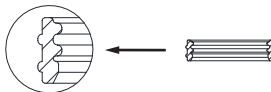


Pole Bracket Installation



Refer to "**8** Unit Detachment Method" under < Body Unit > removal on pg 49 for details.

1. Install the Pole Waterproof Ring in the Pole Bracket.
Check that the 2 ribs are on the outside.



2. Insert Pole into the Pole Bracket. See the figure on the left for details on the direction of insertion.
3. Tighten the Binding Head Tapping Screws (2 pcs.) from the topside of the Pole Bracket.

Notice

Installation using materials other than the specified accessories is not covered under warranty.

M12 Connector with Cable

SZ-120-02 / -05 / -10



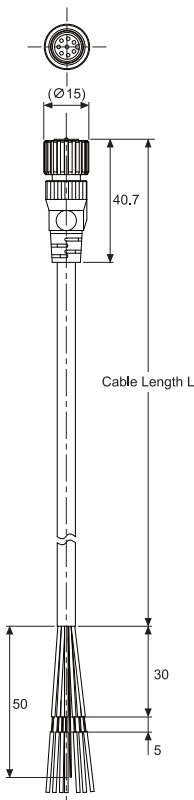
Compatible Models **LR6** - **WC**

Specifications

| Model | SZ-120-02 | SZ-120-05 | SZ-120-10 |
|-------------------------|---------------------------------|-----------|-----------|
| Mounting Location | Indoor Only | | |
| Cable length L (mm) | 2000 | 5000 | 10000 |
| Jacket Diameter / Color | φ 6.3 / Light gray | | |
| Number of core wires | 8 | | |
| Cross section Area | AWG23 | | |
| Remarks | Manufactured by the OMRON Corp. | | |

Outer Dimensions

(Unit: mm)



M12 Connector Pin Layout

