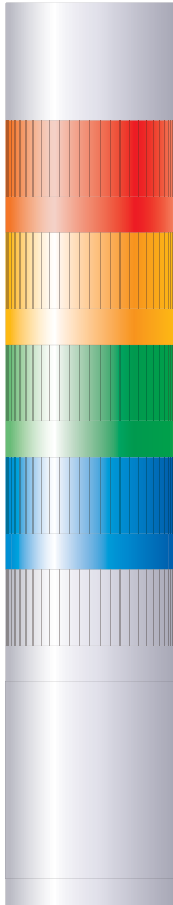


PATLITE®



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

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1 Safety Precautions

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

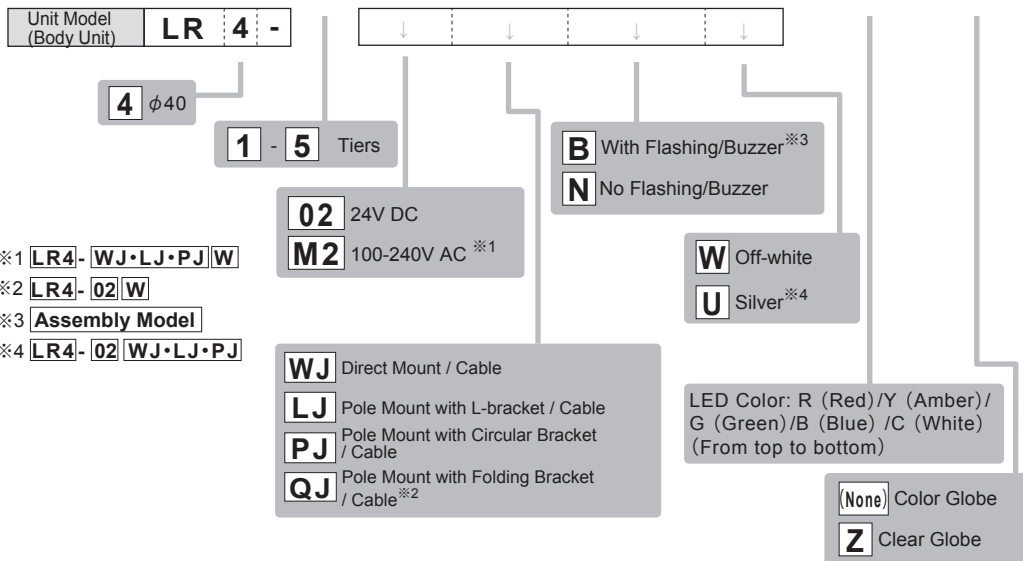
- **Avoid long exposure to the Buzzer sound from a close distance**. Failure to observe this may lead from irritation to permanent damage to the ears. ( Flashing/Buzzer)
- In order to maintain protection of this product against dust and waterproofing performance, **be sure to use the head cover, LED 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** ( , ). **Apply voltage to the power source line** () 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.)
- With a buzzer unit installed, moisture and oil that adheres to the buzzer unit will influence the sound pressure or tone quality produced, when an abundance is collected on the top surface of the buzzer unit. Be sure to periodically wipe off foreign objects with a soft cloth, etc.
- 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	Tiers	Rated Voltage	Mounting/Wiring	Flashing/Buzzer	Body Color	LED Unit Color	Globe Color
Assembly Model	LR 4 -	↓	↓	↓	↓	↓	- RYGB	↓



※1 **LR4**- **WJ**•**LJ**•**PJ**•**W**

※2 **LR4**- **02**•**W**

※3 **Assembly Model**

※4 **LR4**- **02**•**WJ**•**LJ**•**PJ**

Model Number Example

LR4-502PJBU-RYGB

- $\phi 40$ • 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

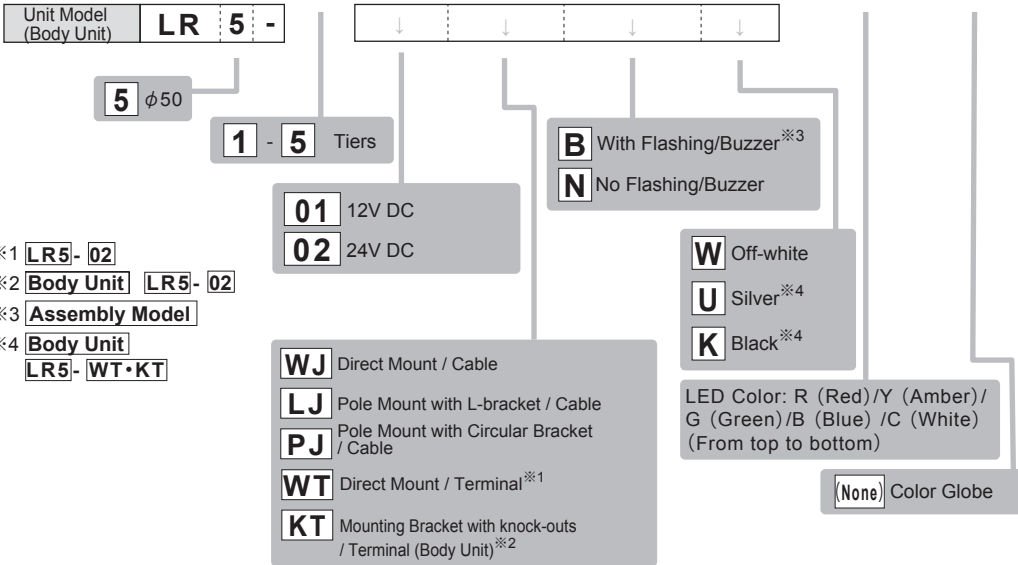
LR4-402QJNW-RYGB

- $\phi 40$ • 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 -	↓	↓	↓	↓	↓	- RYGB C	↓



Model Number Example

LR5-502PJBW-RYGB

- $\phi 50$ • 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

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

LR5-301LJNW-RYG

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

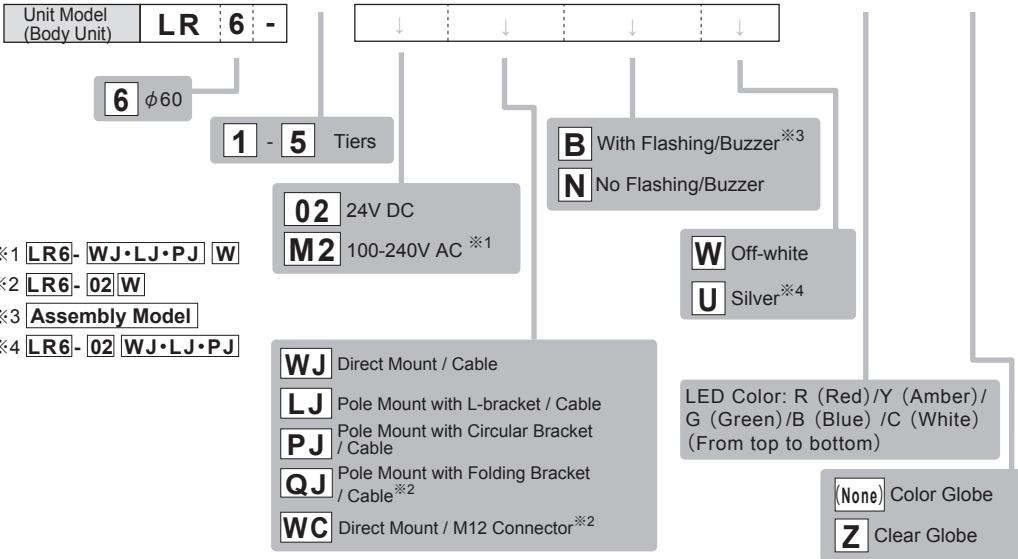
LR5-02WTNU

- $\phi 50$ • 24V DC • Direct Mount / Terminal • No Flashing/Buzzer • Silver

LR5-02KTNK

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

	Model	Tiers	Rated Voltage	Mounting/Wiring	Flashing/Buzzer	Body Color	LED Unit Color	Globe Color
Assembly Model	LR 6 -	↓	↓	↓	↓	↓	- RYGB	↓



※1 **LR6- WJ•LJ•PJ W**

※2 **LR6- 02 W**

※3 **Assembly Model**

※4 **LR6- 02 WJ•LJ•PJ**

Model Number Example

LR6-502PJBU-RYGB

- $\Phi 60$ • 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

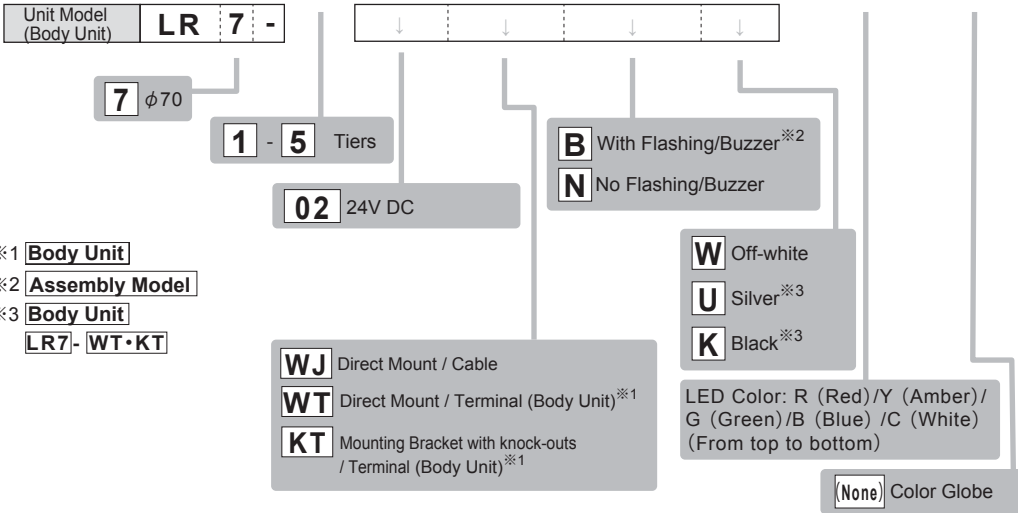
LR6-02WCNW

- $\Phi 60$ • 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 -	↓	↓	↓	↓	↓	- RYGB C	↓



Model Number Example

LR7-502WJBW-RYGB C

- $\phi 50$ • 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

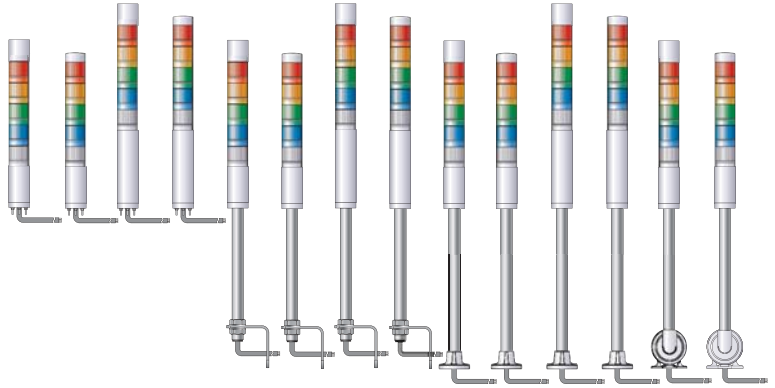
3 Part Names and Outer Appearance

Outer Appearance List

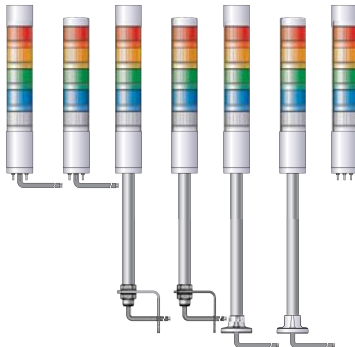
The full product appearance is indicated according to its model number. Refer to the model numbers as a reference to its appearance.
(Body Color: Off-White , Globe: Color Globe)

Assembly Model

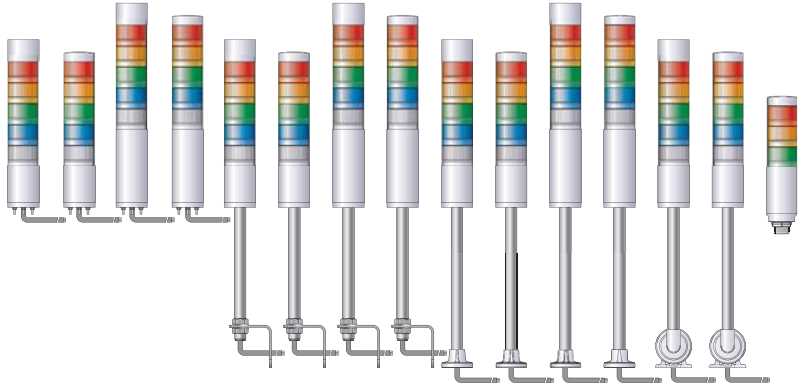
Model	LR4											
LED Tiers	1 Tier - 5 Tiers (Drawing is 5 Tiers.)											
Rated Voltage	02	M2	02	M2	02	M2	02	M2	02	M2	02	M2
Mounting/Wiring	WJ			LJ				PJ			QJ	
Flashing/Buzzer	B	N	B	N	B	N	B	N	B	N	B	N



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.)									
Rated Voltage	02	M2	02	M2	02	M2	02	M2	02	02
Mounting/Wiring	WJ		LJ			PJ		QJ	WC	
Flashing/Buzzer	B	N	B	N	B	N	B	N	B	N

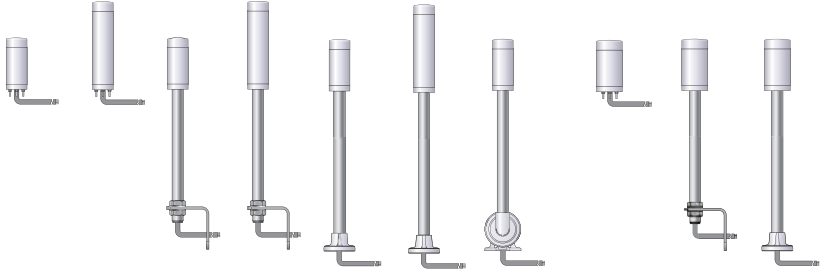


Model	LR7	
LED Tiers	1 Tier - 5 Tiers (Drawing is 5 Tiers.)	
Rated Voltage	02	
Mounting/Wiring	WJ	
Flashing/Buzzer	B	N

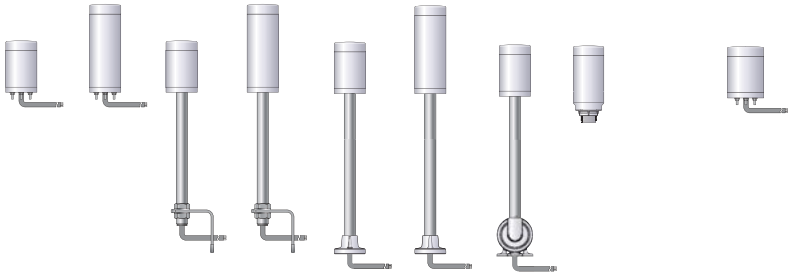


Unit Model (Body Unit)

Model	LR4						LR5		
Rated Voltage	02	M2	02	M2	02	M2	02	01 / 02	
Mounting/Wiring	WJ		LJ		PJ		QJ		WJ LJ PJ
Flashing/Buzzer	N						N		



Model	LR6						LR7	
Rated Voltage	02	M2	02	M2	02	M2	02	02
Mounting/Wiring	WJ	LJ		PJ		QJ	WC	WJ
Flashing/Buzzer	N						N	



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



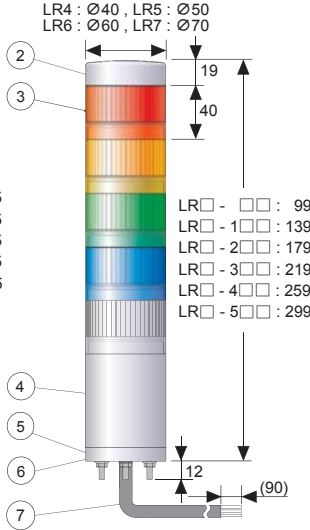
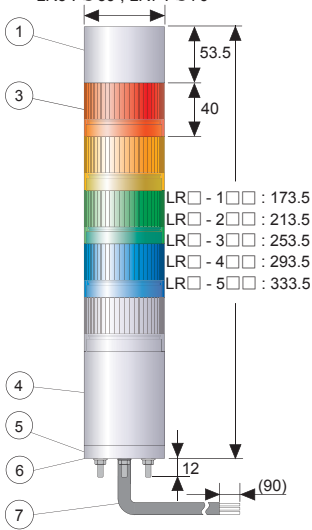
Part Name and Dimensions

(Unit: mm)

■ WJ Direct Mount with Cable (01 , 02)

LR□ - □□□WJB□
LR4 : Ø40 , LR5 : Ø50
LR6 : Ø60 , LR7 : Ø70

LR□ - □□□WJN□



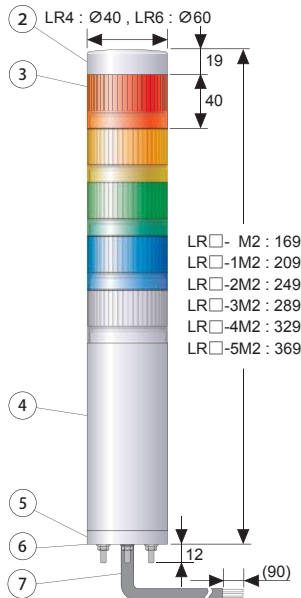
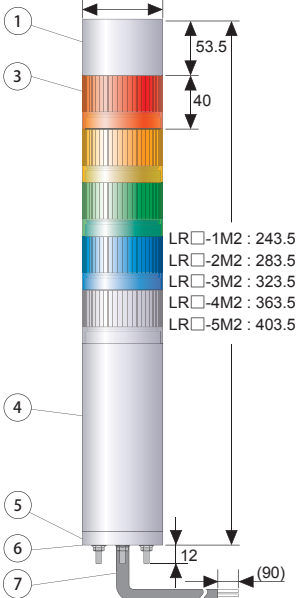
- Maximum Board Thickness : 7
- Cable : UL2464 (Ø7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length: Off-white (1300)
- Silver (3300)

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

■ WJ Direct Mount with Cable (M2)

LR□ - □M2WJBW
LR4 : Ø40 , LR6 : Ø60

LR□ - □M2WJNW



- 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) 3 pcs.	LR6-7-WJ Hexagon Nut with Flange (M4) 3 pcs.

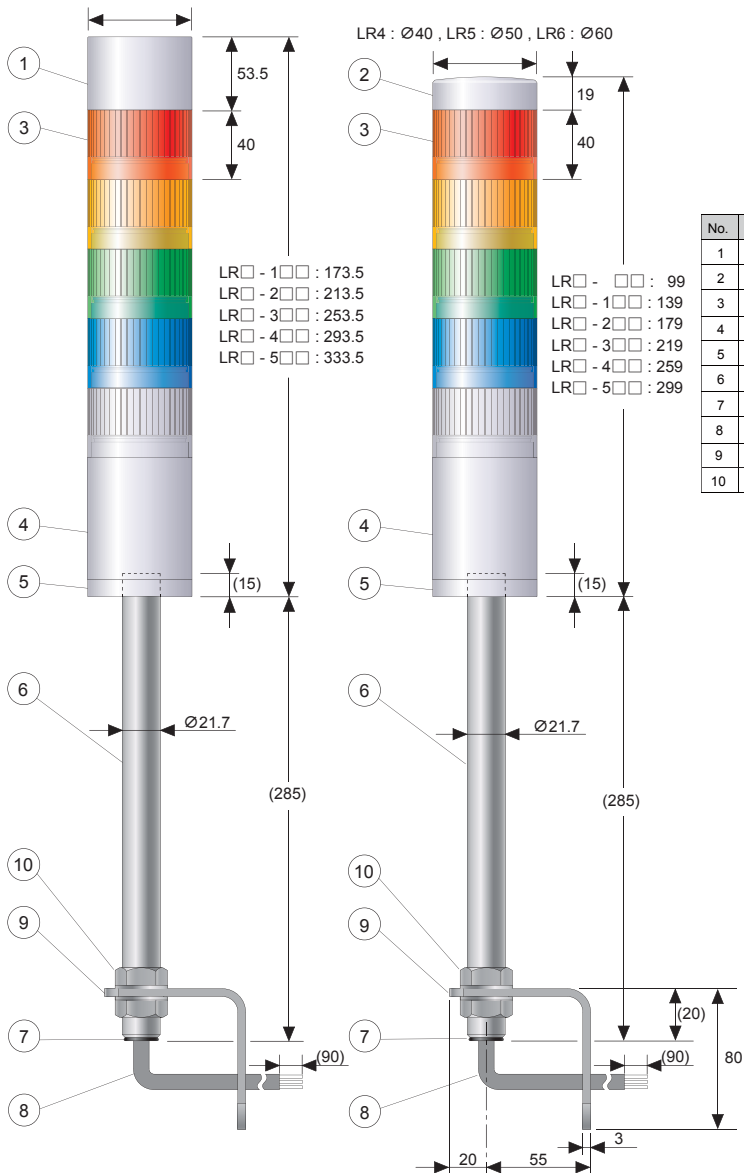
■ **LJ** L-bracket and Pole Mount with Cable (**01**, **02**)

LR□ - □□□LJB□

LR□ - □□□LJN□

LR4 : Ø40 , LR5 : Ø50 , LR6 : Ø60

LR4 : Ø40 , LR5 : Ø50 , LR6 : Ø60

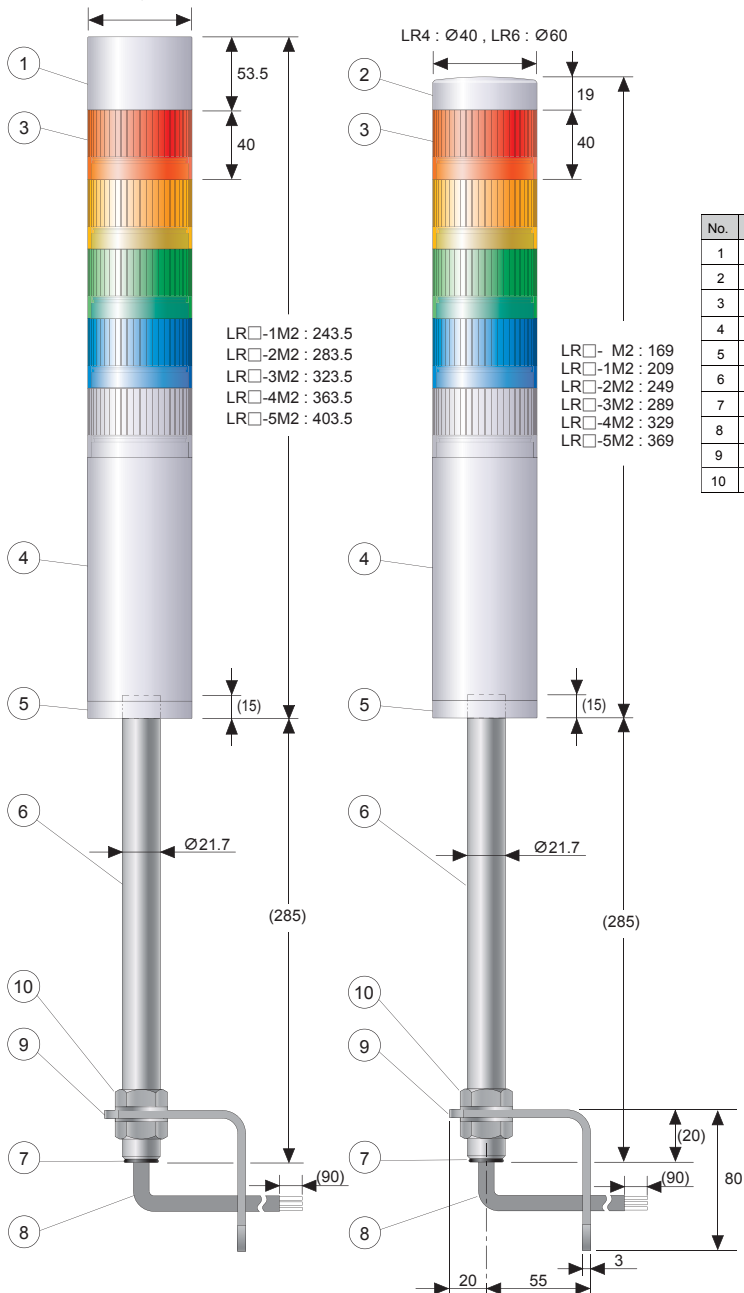


No.	Name	Material
1	Buzzer Unit	PC
2	Head Cover	PC
3	LED Unit	Globe: PC
4	Body	PC
5	Pole Bracket	PC
6	Pole	AL
7	Rubber Bushing	EPR
8	Cable	PVC
9	L-bracket	Steel
10	Hexagon Nut M22	SUM

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

LR□ - □M2LJBW
LR4 : Ø40 , LR6 : Ø60

LR□ - □M2LJNW



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

■ **PJ** Circular Bracket and Pole Mount with Cable (**01** , **02**)

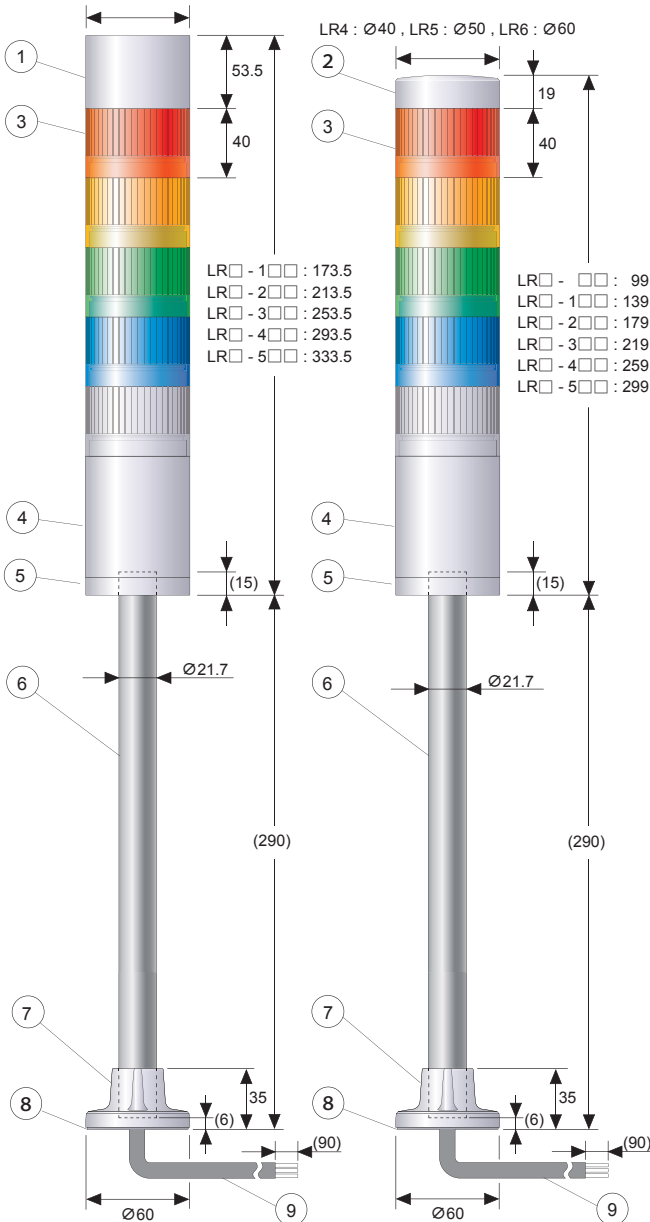
(Unit: mm)

LR□ - □□□PJ \square

LR□ - □□□PJ \square

LR4 : $\varnothing 40$, LR5 : $\varnothing 50$, LR6 : $\varnothing 60$

LR4 : $\varnothing 40$, LR5 : $\varnothing 50$, LR6 : $\varnothing 60$




LR□ - 1□□ : 173.5
 LR□ - 2□□ : 213.5
 LR□ - 3□□ : 253.5
 LR□ - 4□□ : 293.5
 LR□ - 5□□ : 333.5

LR□ - □□ : 99
 LR□ - 1□□ : 139
 LR□ - 2□□ : 179
 LR□ - 3□□ : 219
 LR□ - 4□□ : 259
 LR□ - 5□□ : 299

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


Accessory

LR4-5-6 - PJ
 Cross Recessed
 Pan Head Screw (M4x20)



3 pcs.

Hexagon Nut with Flange (M4)

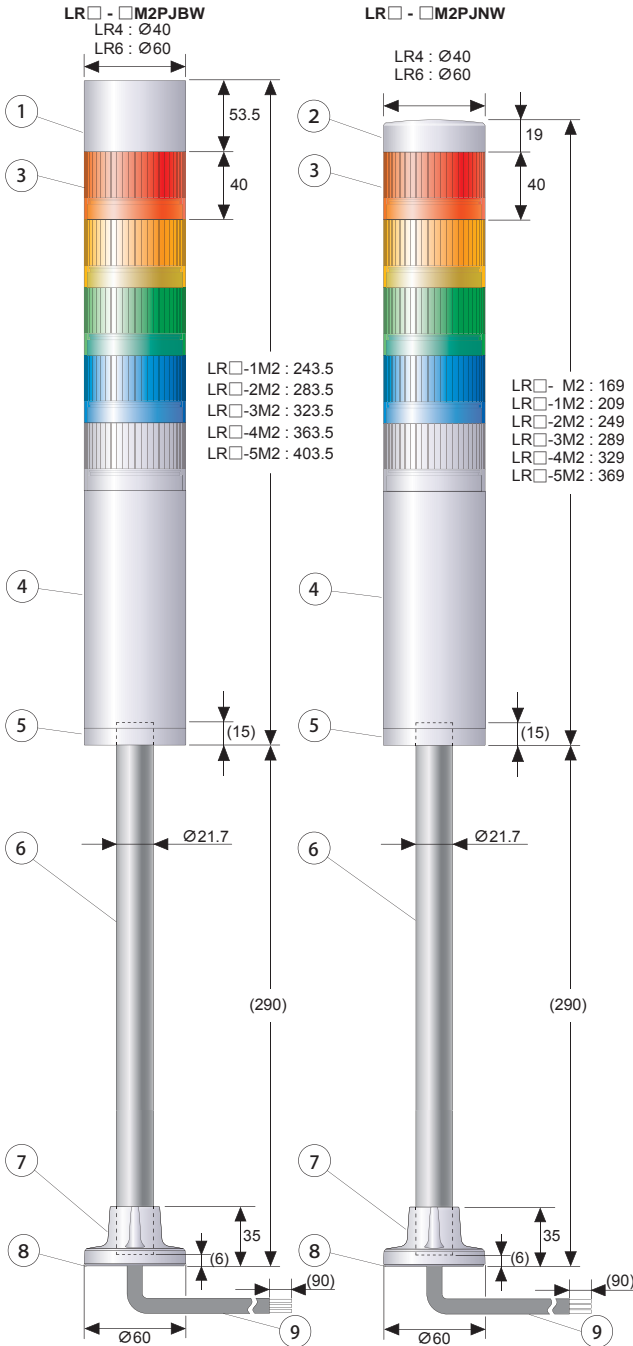


3 pcs.

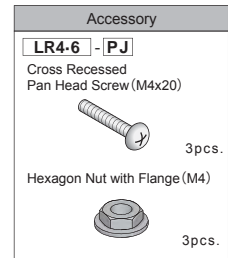
• Cable : UL2464 ($\varnothing 7.5$)
 Signal Wire & Power Supply Wire : AWG24
 Cable Length: Off-white (1000)
 Silver (3000) ※ LR4, LR6

■ **[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

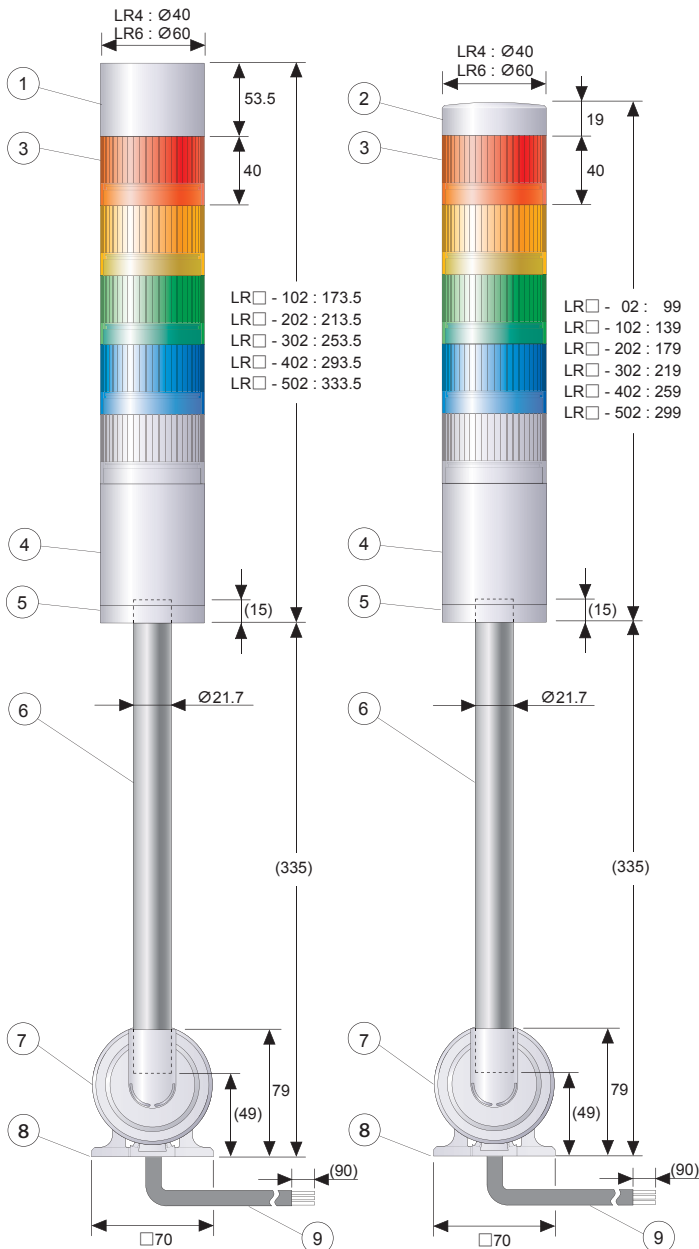


• Cable : UL2464 (Ø7.5)
Signal Wire : AWG24
Power Supply Wire : AWG18
Cable Length : (1000)

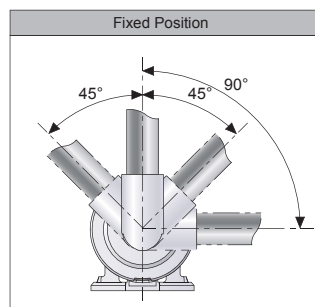
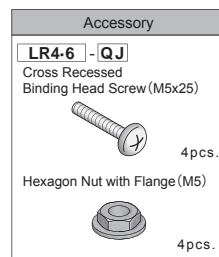
■ QJ Folding Bracket and Pole Mount with Cable (02)

LR□ - □02QJBW

LR□ - □02QJNW



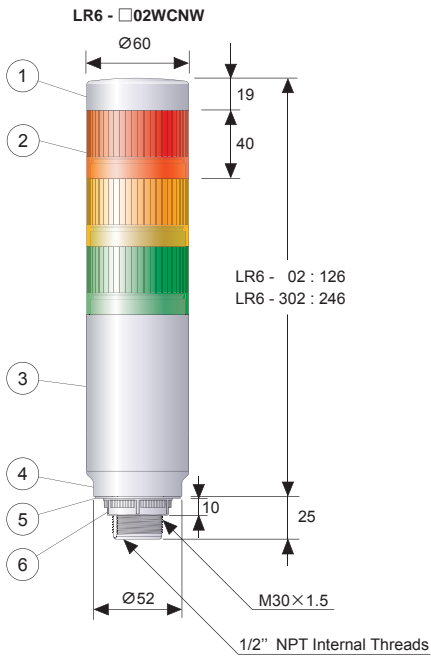
No.	Name	Material
1	Buzzer Unit	PC
2	Head Cover	PC
3	LED Unit	Globe: PC
4	Body	PC
5	Pole Bracket	PC
6	Pole	AL
7	Folding Bracket	PC
8	Waterproof Packing	CR
9	Cable	PVC



• Cable : UL2464 ($\varnothing 7.5$)
Signal Wire & Power Supply Wire : AWG24
Cable Length : (950)

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

(Unit: mm)

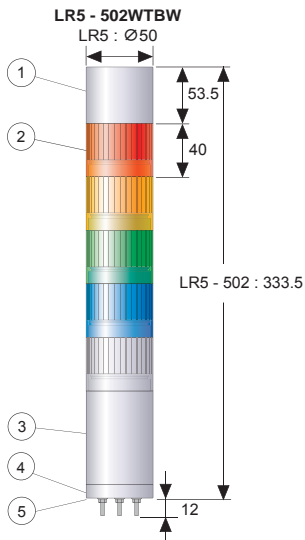


No.	Name	Material
1	Head Cover	PC
2	LED Unit	Globe: PC
3	Body	PC
4	Direct Mount Bracket	PC
5	Waterproof Packing (t=1)	Silicone Rubber
6	M30 Nut	PC


• Maximum Board Thickness : 10

■ **WT** Direct Mount with Terminal Block

(Unit: mm)

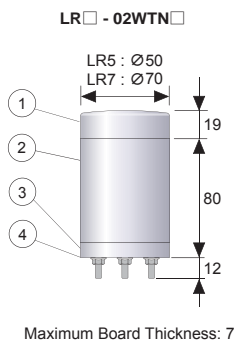


No.	Name	Material
1	Buzzer Unit	PC
2	LED Unit	Globe: PC
3	Body	PC
4	Direct Mount Bracket	PC
5	Waterproof Packing	Silicone Rubber



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

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

(Unit: mm)

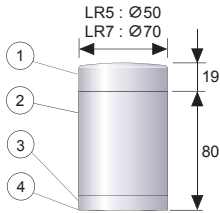


No.	Name	Material
1	Head Cover	PC
2	Body	PC
3	Direct Mount Bracket	PC
4	Waterproof Packing	Silicone Rubber

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	LR7 - KT
Hexagon Bolt (M3 x 20)	Hexagon Bolt (M4 x 20)
3 pcs.	3 pcs.
Hexagon Nut with Flange (M3)	Hexagon Nut with Flange (M4)
6 pcs.	6 pcs.
Pole Waterproof Ring	Pole Waterproof Ring
1 pc.	1 pc.

4 Installation

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.)

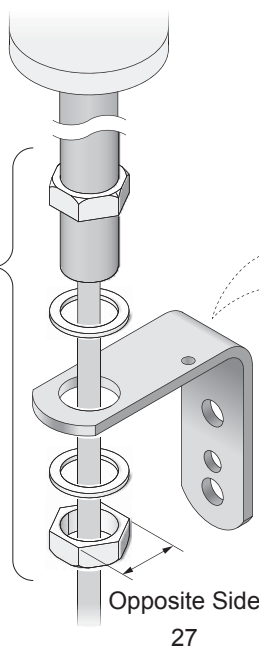
■ **LJ** Installation Figure (Unit: mm)

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

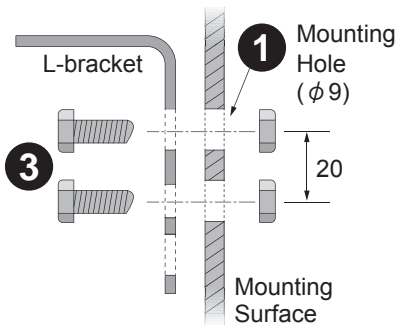
Recommended Nut Torque
30 N m

Point

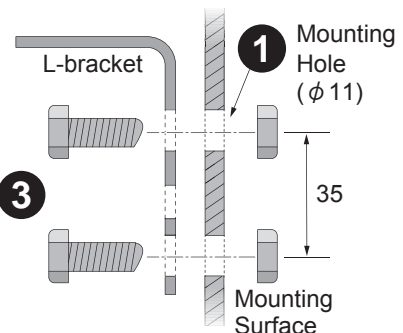
When not using a L-bracket attachment, make a fitting hole of $\phi 22$ -23mm.



For M8 screw and nut size



For M10 screw and nut size



Recommended screw Torque
12.2 N m

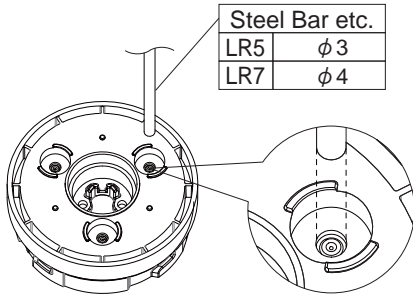
KT Select between "Direct" or "Pole" mounting

(Unit: mm)

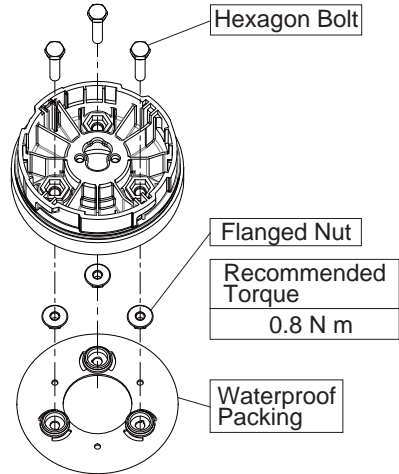
Direct Mount

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



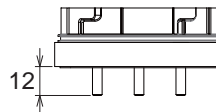
Mounting Bracket with knock-outs
Topside



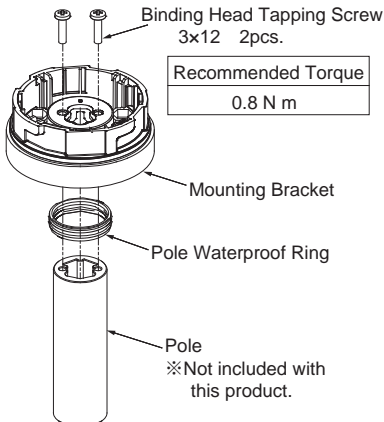
Point

After inserting accessories,
check the bolt length.

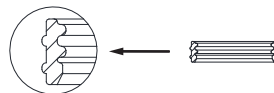
Knock-Out Mount Bracket Side



Pole Installation

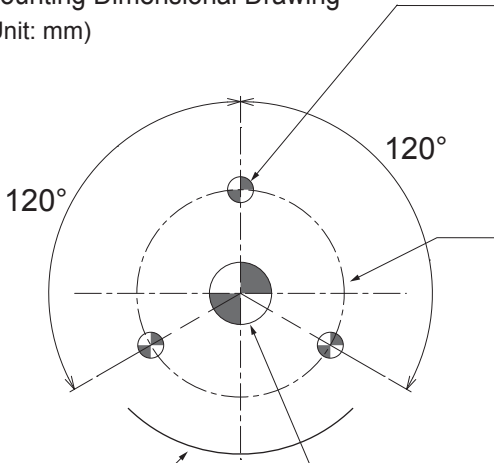


1. Be sure to remove the waterproof packing from the Mounting Bracket.
2. Install the Pole Waterproof Ring in the Mounting Bracket. Check that the 2 ribs are on the outside.



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

Nameplate
Position

Wire Distribution
Hole (φ 12)

Recommended Torque
0.6 N m

■ **QJ** Mounting
 Dimensional Drawing
 (Unit: mm)

Mounting Hole
(φ 6×4 places)

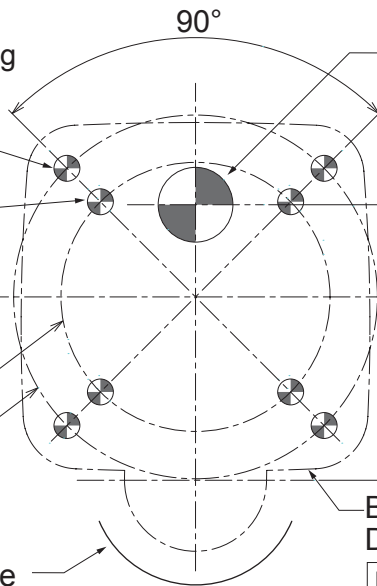
Mounting Hole
(φ 6×4 places)

Screw/Nut
M 5 × 4 pcs

φ 54 - φ 56

φ 73

Nameplate
Position



Wire Distribution
Hole (φ 15)

18.5

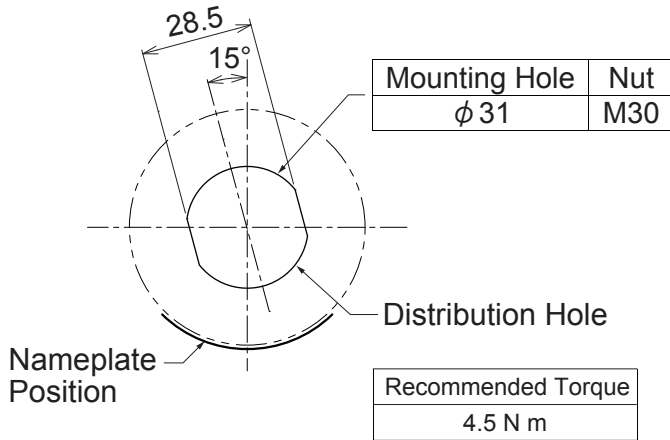
From the center
of the pole
36.9

Bracket Outer
Dimension

Recommended Torque
1.4 N m

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

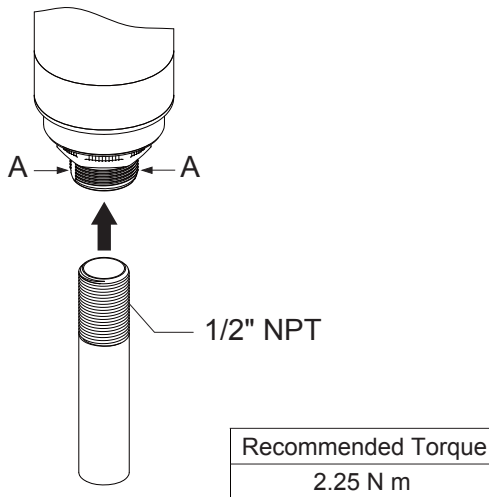
(Unit: mm)



■ **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.

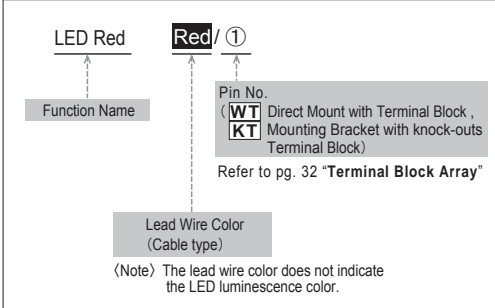
⚠ Caution

- **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.

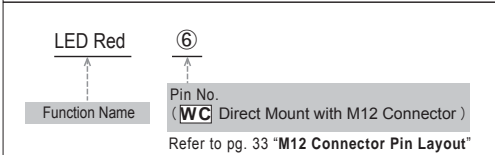
Notice

- 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**



Wiring Example Index **WC**



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.

Wire Type & Wire Gauge

- Wire type

UL2464

- Wire Gauge

01 12V DC, **02** 24V DC

Signal Wire: AWG24

Power Supply Wire: AWG24

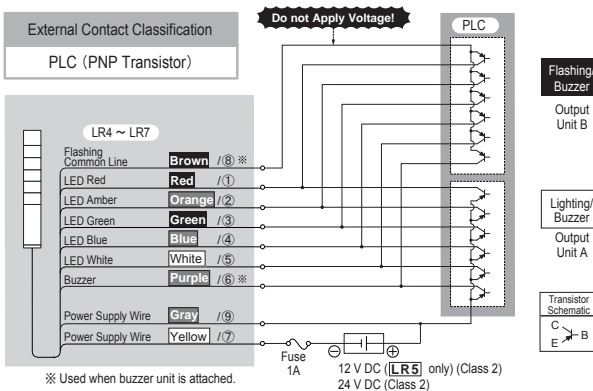
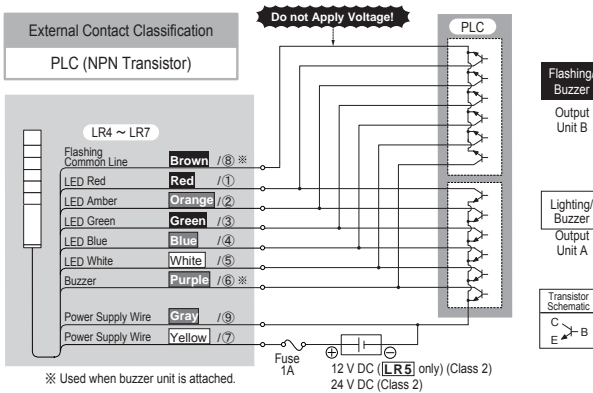
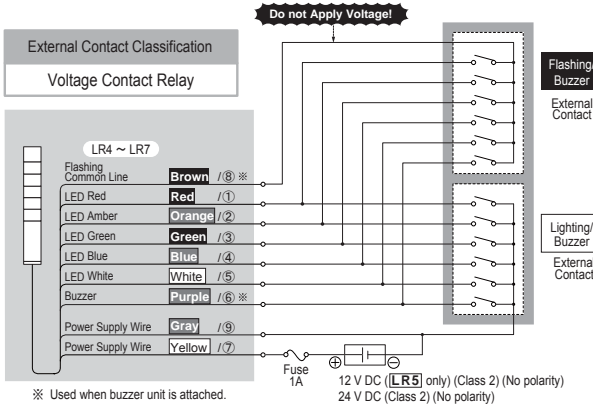
M2 100 ~ 240 V AC

Signal Wire: AWG24

Power Supply Wire: AWG18

Lighting / Flashing / Buzzer

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

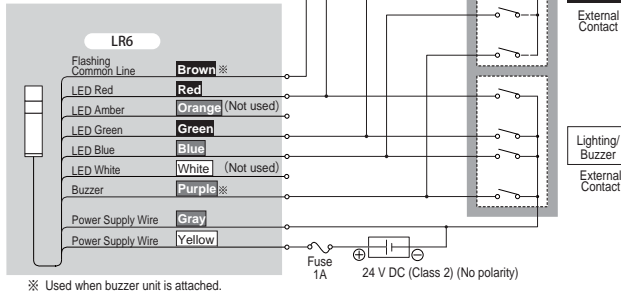


Lighting / Flashing / Buzzer (LR6-E-MZ)

Product Specifications **02** 24V DC

External Contact Classification

Voltage Contact Relay

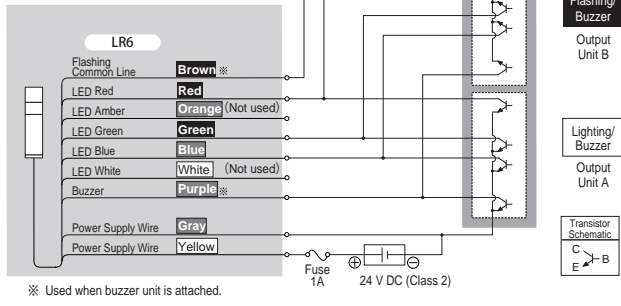


LR6-E-MZ Luminous Color

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

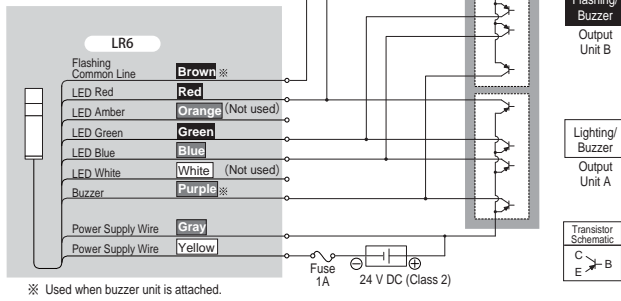
External Contact Classification

PLC (NPN Transistor)



External Contact Classification

PLC (PNP Transistor)



Point

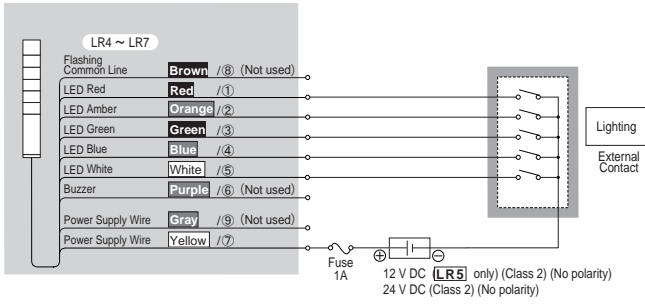
- When flashing the LR6-E-MZ simultaneously with the LR6-E-R(Z)/Y(Z)/G(Z)/B(Z)/C, the flashing cycle of the LR6-E-MZ may shift from the other LED units.

Lighting only

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

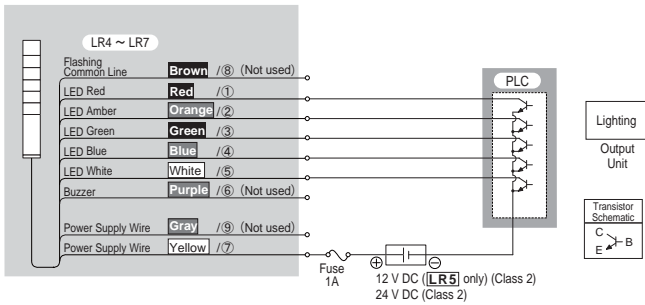
External Contact Classification

Voltage Contact Relay



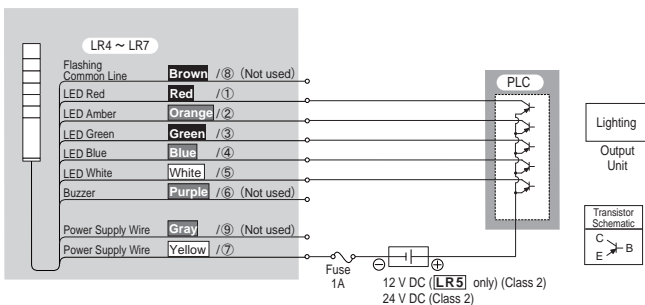
External Contact Classification

PLC (NPN Transistor)



External Contact Classification

PLC (PNP Transistor)

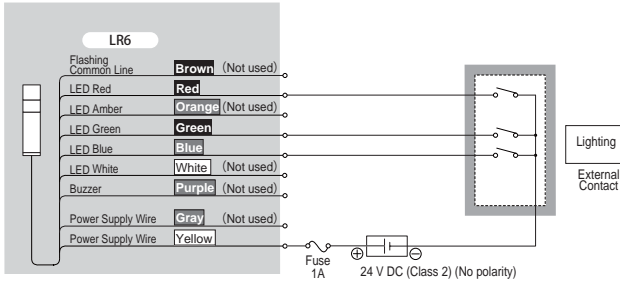


Lighting only (LR6-E-MZ)

Product Specifications **02** 24V DC

External Contact Classification

Voltage Contact Relay

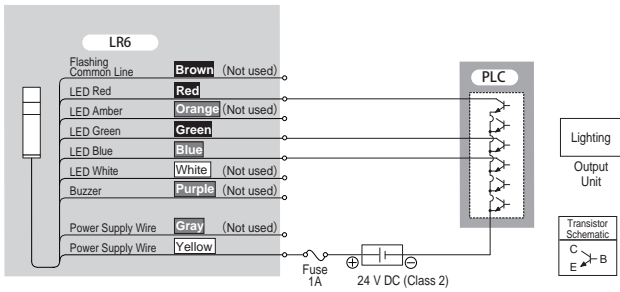


LR6-E-MZ Luminous Color

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

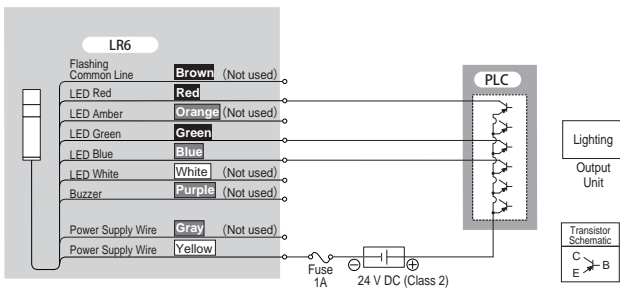
External Contact Classification

PLC (NPN Transistor)



External Contact Classification

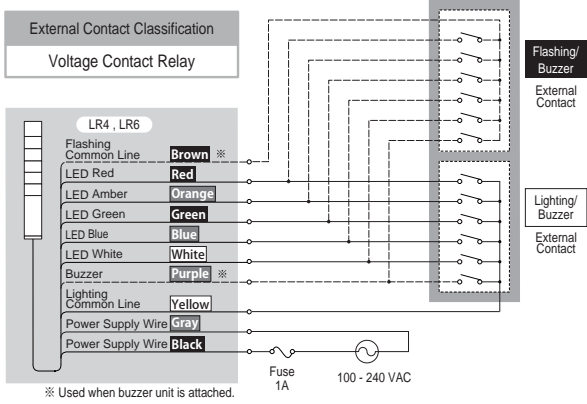
PLC (PNP Transistor)



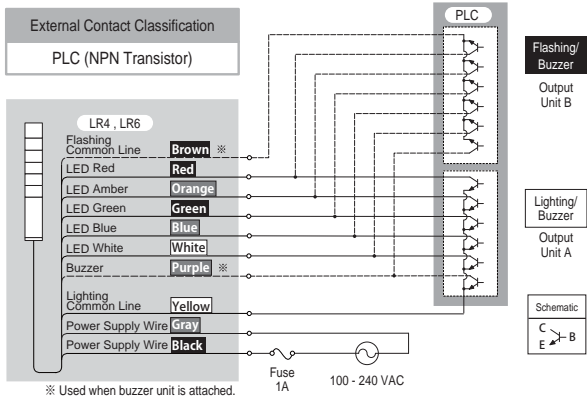
Lighting / Flashing / Buzzer

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

Only apply voltage to Power Supply Wires.



Only apply voltage to Power Supply Wires.

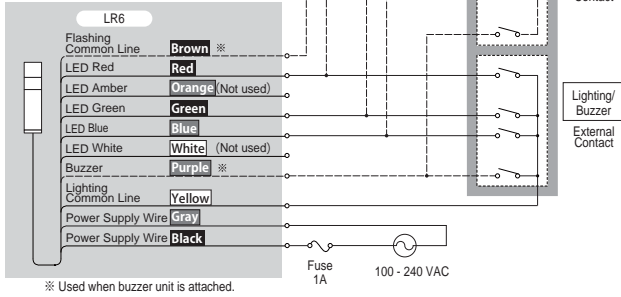


Lighting / Flashing / Buzzer (LR6-E-MZ)

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

Only apply voltage to Power Supply Wires.

External Contact Classification
Voltage Contact Relay

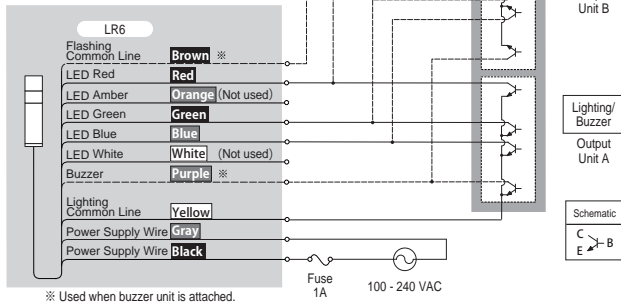


LR6-E-MZ Luminous Color

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

Only apply voltage to Power Supply Wires.

External Contact Classification
PLC (NPN Transistor)



Point

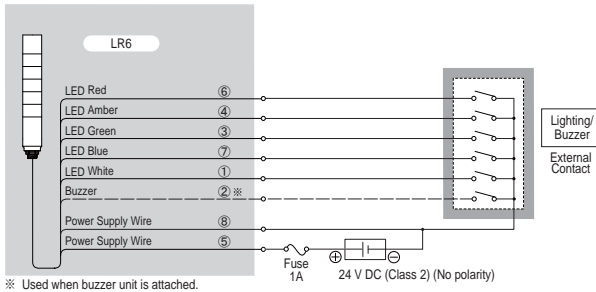
- When flashing the LR6-E-MZ simultaneously with the LR6-E-R(Z)/Y(Z)/G(Z)/B(Z)/C, the flashing cycle of the LR6-E-MZ may shift from the other LED units.

Lighting / Buzzer (LR6-WC)

Product Specifications **02 WC** 24V DC

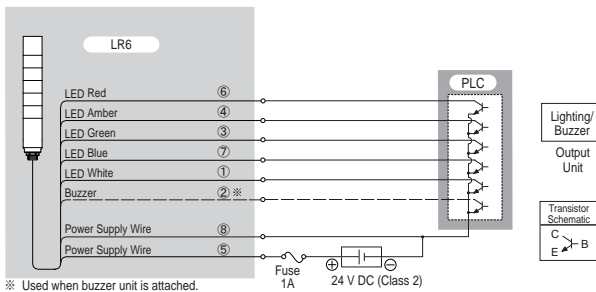
External Contact Classification

Voltage Contact Relay



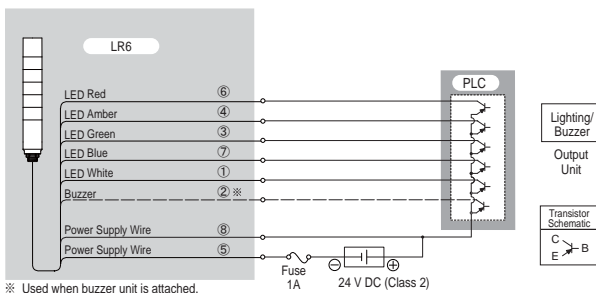
External Contact Classification

PLC (NPN Transistor)



External Contact Classification

PLC (PNP Transistor)



Point

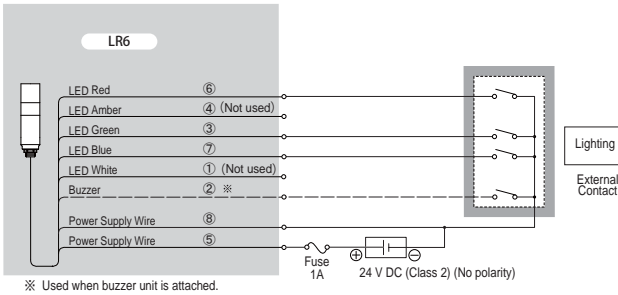
- The flashing function cannot be used.

Lighting / Buzzer (LR6-E-MZ)

Product Specifications **02 WC** 24V DC

External Contact Classification

Voltage Contact Relay

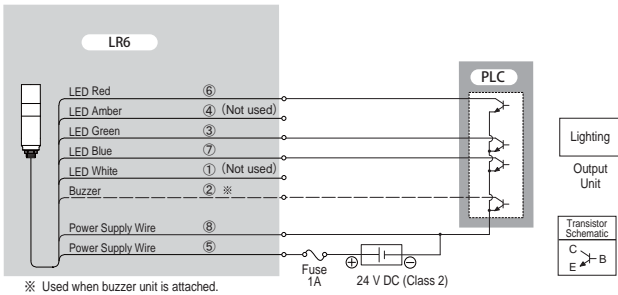


LR6-E-MZ Luminous Color

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

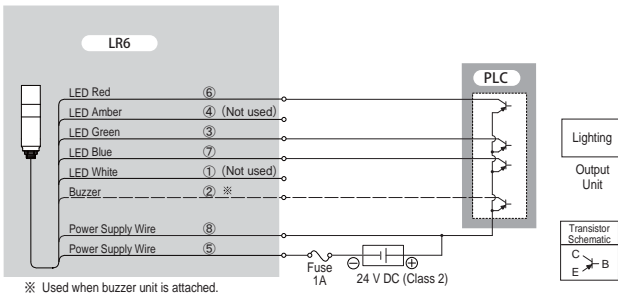
External Contact Classification

PLC (NPN Transistor)



External Contact Classification

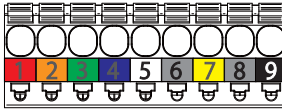
PLC (PNP Transistor)



Point

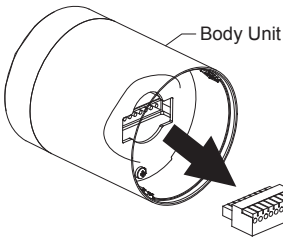
- The flashing function cannot be used.

WT | KT Terminal Block Array



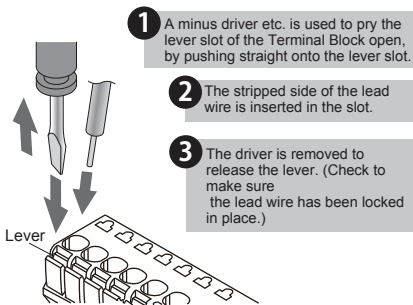
1	Red	LED-R
2	Orange	LED-Y
3	Green	LED-G
4	Blue	LED-B
5	White	LED-C
6	Gray	Buzzer
7	Yellow	Power Supply Wire (Common)
8	Gray	Flashing Common
9	Black	Power Supply Wire (Signal-line Side)

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.)

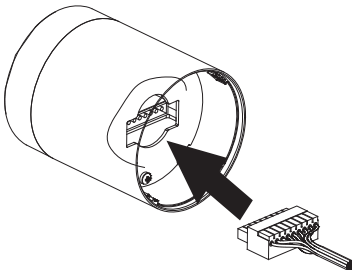
Recommended Lead-wire Specifications

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

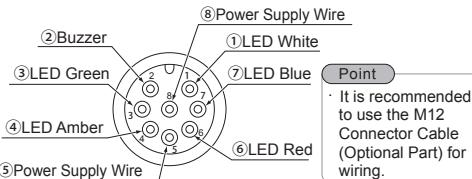
- The minus driver blade should be at about 2mm by 0.5mm in size.
- Do not forcibly push the lever more than necessary with the driver. Failure to comply may damage the unit.
- Strip 9 to 10mm of wire insulation from the wire to insert it in the Terminal Block.
- When removing the lead wire, do not pull to remove, be sure to operate the lever to release the lock.



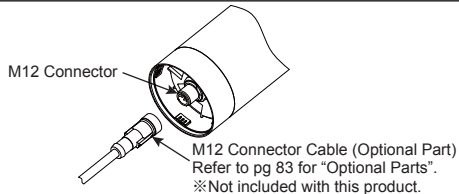
Attach the terminal block connector to the body unit after wiring.

※ 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



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 (Max.) / Voltage	100 mA / Power Supply Voltage	45 mA / Power Supply Voltage	45 mA / 24V DC
	Recommended Contact Capacity	Is ≥ 100 mA Vs ≥ 20 V DC (※1)	Is ≥ 100 mA Vs ≥ 35 V DC	Is ≥ 100 mA Vs ≥ 35 V DC
Buzzer	Signal Wire Current (Max.) / Voltage	250 mA / Power Supply Voltage	250 mA / Power Supply Voltage	250 mA / 24 V DC
	Recommended Contact Capacity	Is ≥ 300 mA Vs ≥ 20 V DC (※1)	Is ≥ 300 mA Vs ≥ 35 V DC	Is ≥ 300 mA Vs ≥ 35 V DC
Power Supply	Current Consumption (Max.)	500 mA (※2)	250 mA (※2)	150mA (※2)
	Recommended Contact Capacity	Is ≥ 700 mA Vs ≥ 20 V DC	Is ≥ 500 mA Vs ≥ 35 V DC	Inrush current or more contacts
Inrush Current	Signal Wire	LED [None (※1)] Buzzer [None (※1)]	LED [None] Buzzer [None (※3)]	None
	Power Supply Wire	0.7A / Less than 15ms	None (※4)	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) power supply wire is not connected, inrush current of 0.7A will flow through the signal wire.

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

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

※3 ... Not exceeding Maximum Signal Wire Current Rating.

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

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.

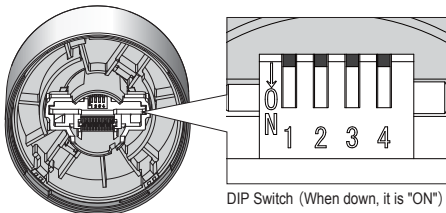
Set up the preferred pattern, using the DIP Switch after removing the buzzer unit.

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
3 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

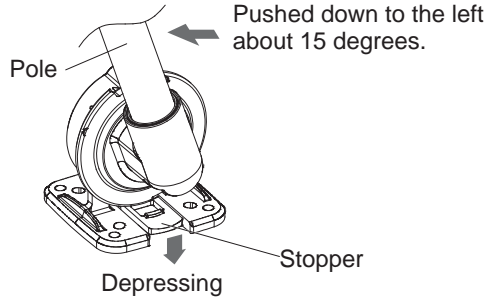
The **[Q]** Folding bracket is a retractable type, which can be pushed down while a product is still attached when transporting equipment.

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

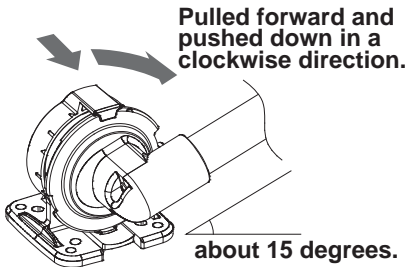
For example, when moving 90 degrees to the right from an upright position.

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

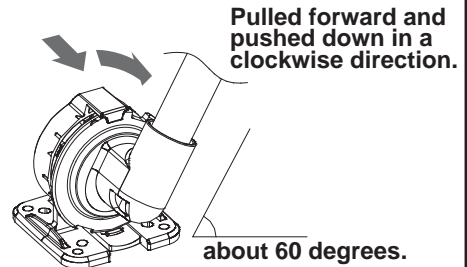
- 1** Depressing the locking lever on the left side of the Pole releases the bracket to be lowered. (Depressing the lock allows the Pole to swivel freely)



- 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)

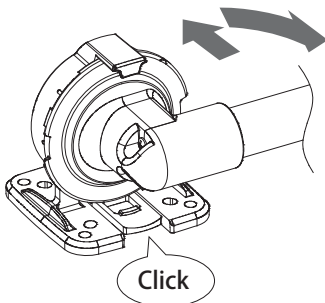


- 2** The Pole can then be pulled forward and pushed down in a clockwise direction. (From a level plane up to about a 60 degree angle)

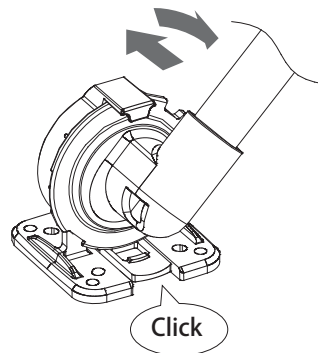


- 3** The Pole is pushed down to the right (clockwise). (The Pole is turned until it is latched in place by the locking lever)

Pushed down in a clockwise direction



Pushed down in a clockwise direction



8 Unit Detachment Method

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.



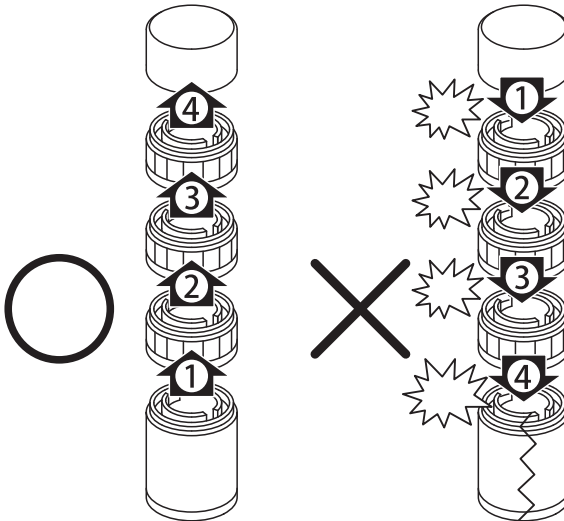
Patlite Web site

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.

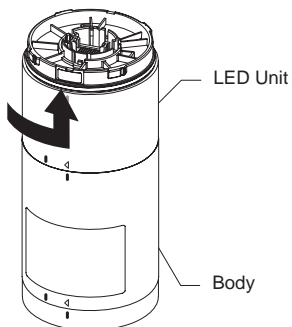


Notice

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

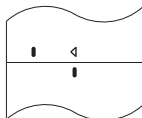
< LED Unit to Body >

■ Removal

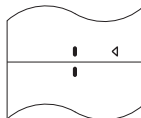


While holding the body, turn the LED unit counterclockwise, until it unlocks, then pull it upwards to remove.

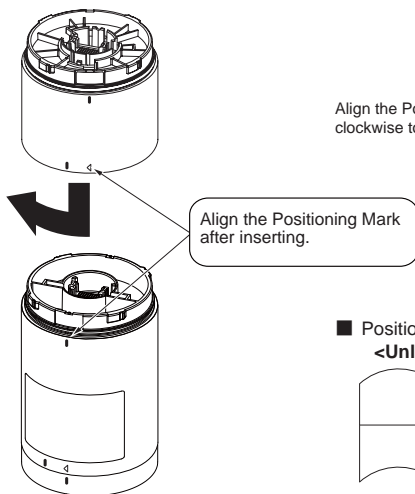
■ Positioning Mark <Locked>



<Unlocked>

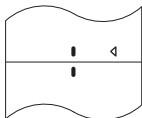


■ Attachment

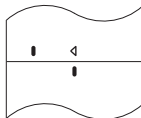


Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

■ Positioning Mark <Unlocked>

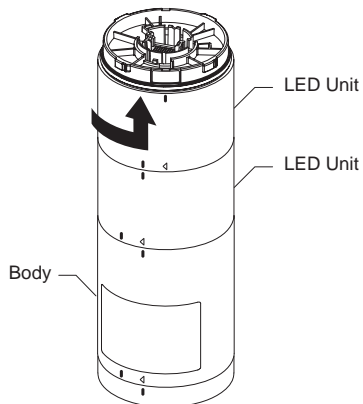


<Locked>



< LED Unit to LED Unit >

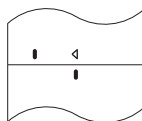
■ Removal



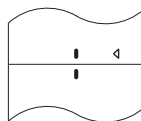
While holding LED unit, turn the LED unit counterclockwise, until it unlocks, then pull it upwards to remove it.

■ Positioning Mark

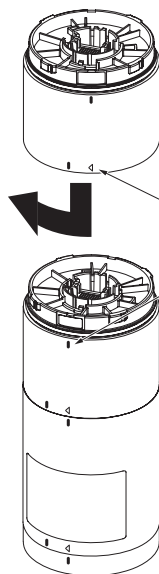
<Locked>



<Unlocked>



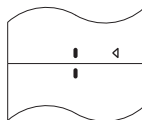
■ Attachment



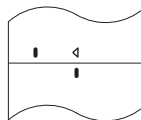
Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

■ Positioning Mark

<Unlocked>

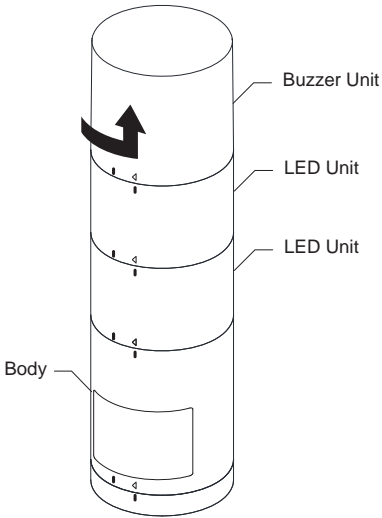


<Locked>



< Buzzer Unit to LED Unit >

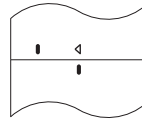
■ Removal



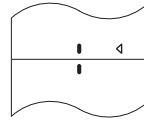
While holding LED unit, turn the buzzer unit counterclockwise, until it unlocks, then pull it upwards to remove it.

■ Positioning Mark

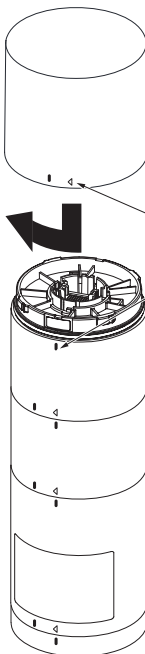
<Locked>



<Unlocked>



■ Attachment

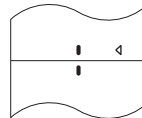


Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

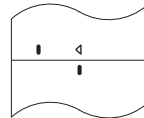
Align the Positioning Mark after inserting.

■ Positioning Mark

<Unlocked>

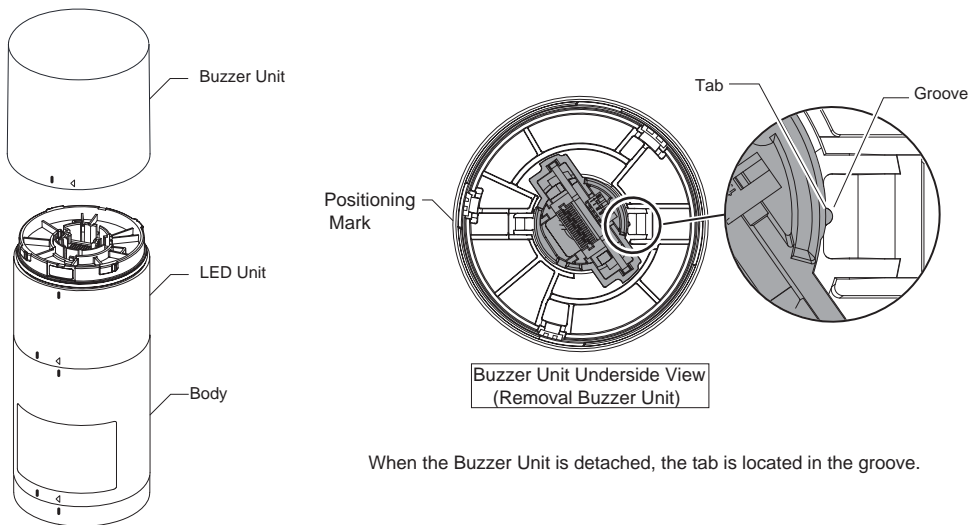


<Locked>



< When the Buzzer Unit will not attach >

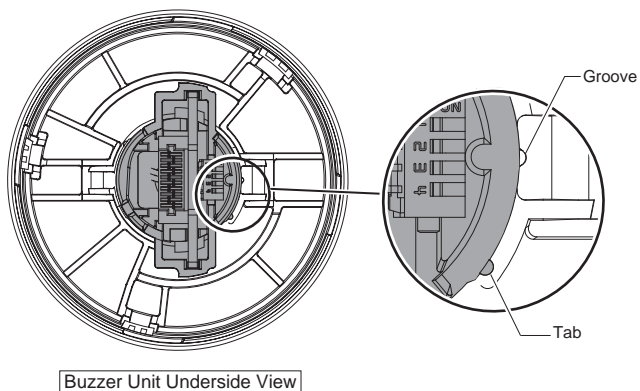
When the Buzzer Unit is detached, the tab and groove are positioned as in the figure below.



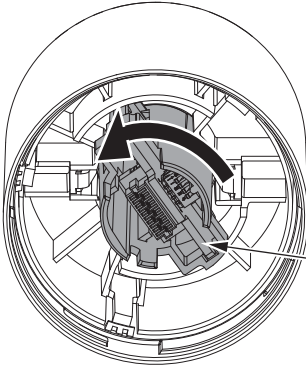
When the Buzzer Unit is detached, the tab is located in the groove.

⚠ 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.

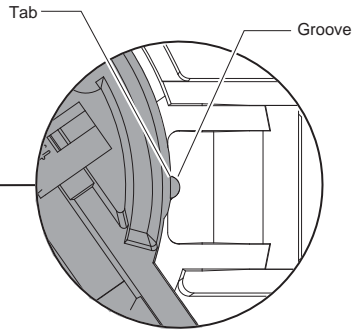
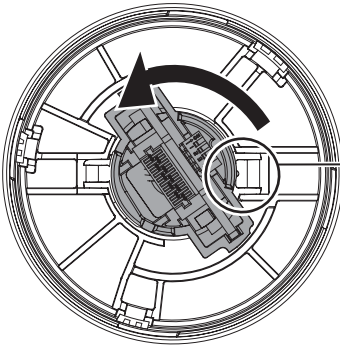


If the Buzzer Unit can't be attached, try the procedure below.



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

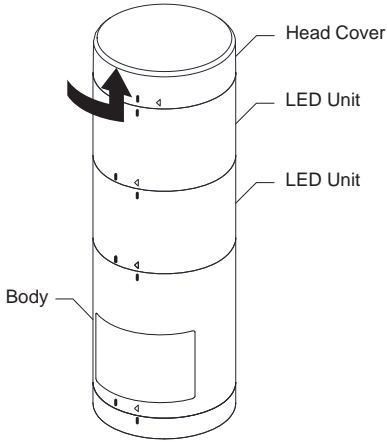
Turn this part counterclockwise.



Buzzer Unit Underside View

< Head Cover to LED Unit >

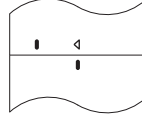
■ Removal



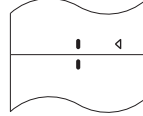
While holding the LED unit, turn the head cover counterclockwise until it unlocks, then pull it upwards to remove.

■ Positioning Mark

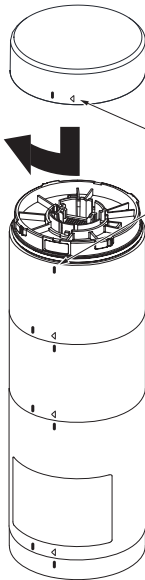
<Locked>



<Unlocked>



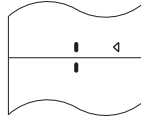
■ Attachment



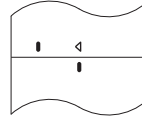
Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.

■ Positioning Mark

<Unlocked>

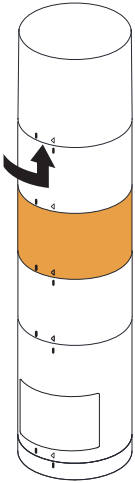


<Locked>

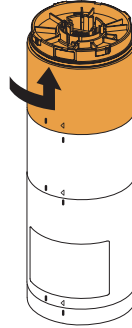


<Unit Replacement Procedure>

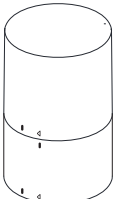
■ Decreasing the LED Units



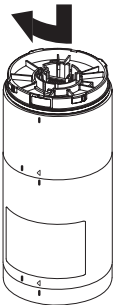
1 Remove the LED unit located above the unit which is intended to be removed.



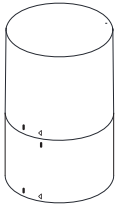
2 While holding the LED unit, turn the LED unit counterclockwise, until it unlocks, then pull it upwards to remove.



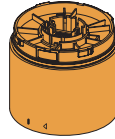
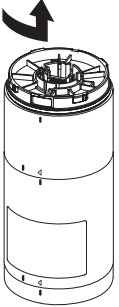
3 Align the Positioning Mark after insertion, then turn the unit which is removed (1) clockwise to lock it.



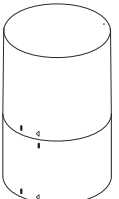
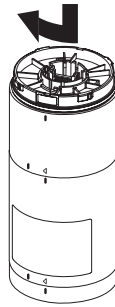
■ Increasing the LED Units



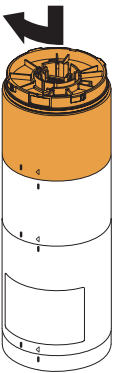
- 1 Remove the LED unit located above the unit which is intended to be attached.



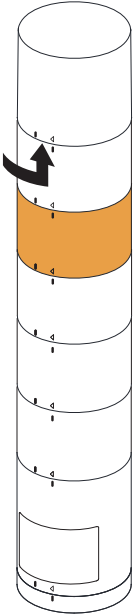
- 2 Align the Positioning Mark after insertion, then turn the unit clockwise to lock it.



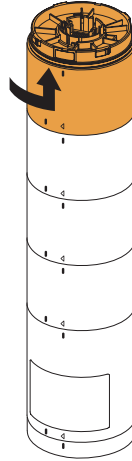
- 3 Align the Positioning Mark after insertion, then turn the unit which is removed (1) clockwise to lock it.



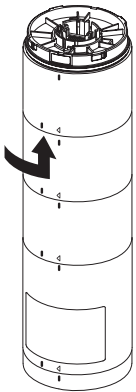
■ Recombining the LED Units



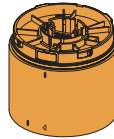
- 1 Remove the LED unit located above the unit which is intended to be relocated.



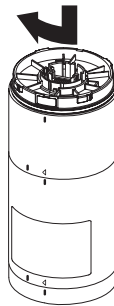
- 2 While holding the LED unit, turn the LED unit counterclockwise until it unlocks, then pull it upwards to remove.

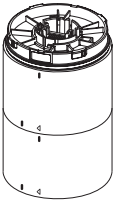


- 3 Remove the LED unit located above the unit which is intended to be relocated.

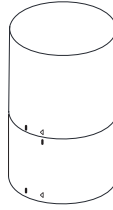
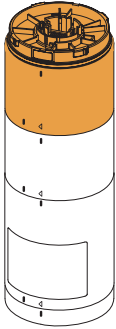


- 4 Align the Positioning Mark after insertion, then turn the unit which is removed (2) clockwise to lock it.

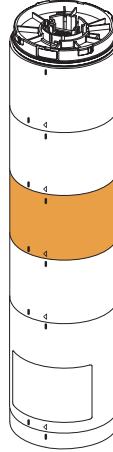




- 5 Align the Positioning Mark after insertion, then turn the unit which is removed (2) clockwise to lock it.

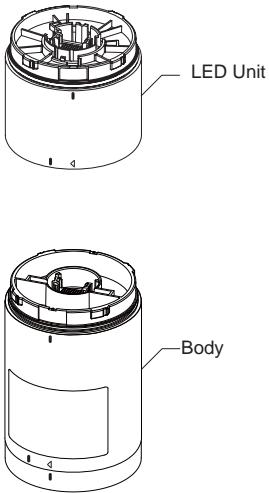
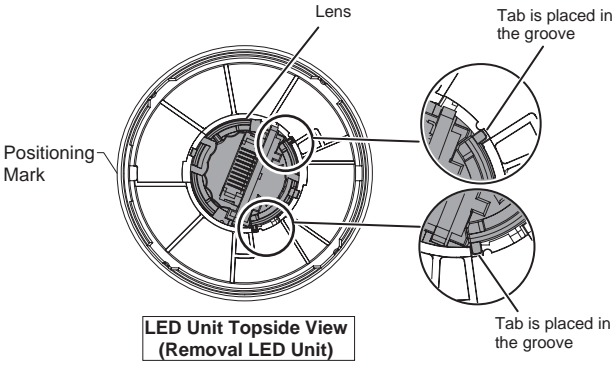
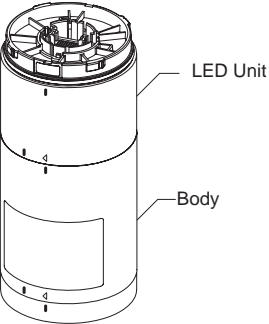
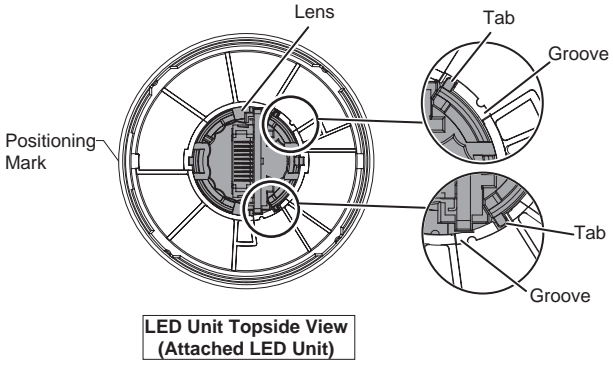


- 6 Align the Positioning Mark after insertion, then turn the unit which is removed (1) clockwise to lock it.



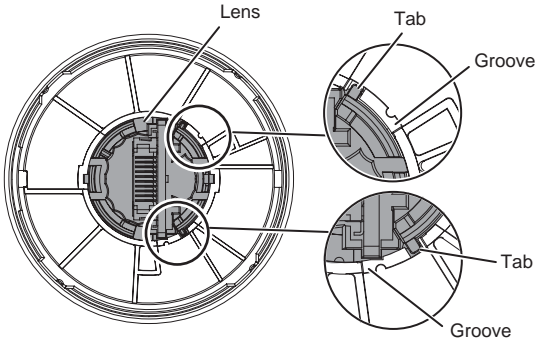
< When the LED Unit will not attach >

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

Situation	Structure
 <p>LED Unit</p> <p>Body</p>	 <p>Lens</p> <p>Positioning Mark</p> <p>Tab is placed in the groove</p> <p>Tab is placed in the groove</p> <p>LED Unit Topside View (Removal LED Unit)</p> <p>When LED Unit is detached, the lens tab is usually located in the groove.</p>
 <p>LED Unit</p> <p>Body</p>	 <p>Lens</p> <p>Positioning Mark</p> <p>Tab</p> <p>Groove</p> <p>Tab</p> <p>Groove</p> <p>LED Unit Topside View (Attached LED Unit)</p> <p>When LED Unit is attached, the lens tab is usually located out of the groove.</p>

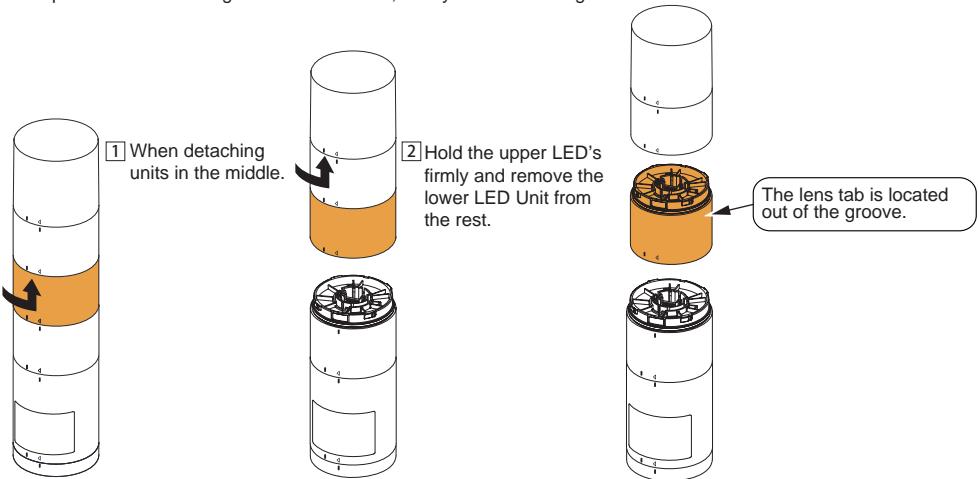
⚠ Caution

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.

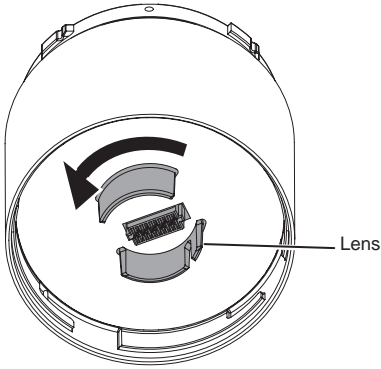


LED Unit Topside View

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.

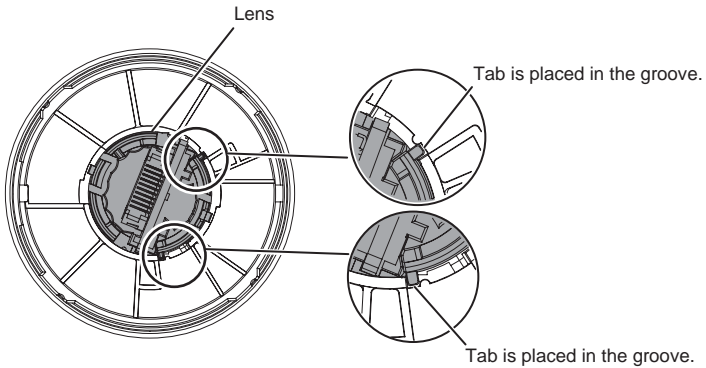


If the LED Unit can't be attached, try the procedure below.



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

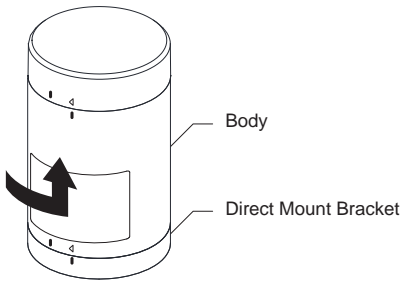
LED Unit Underside View



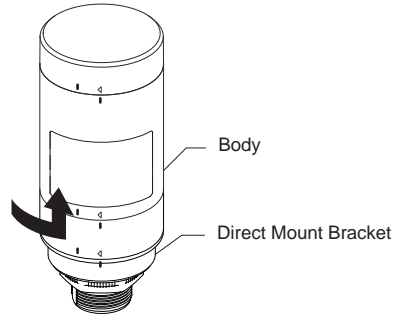
**LED Unit Topside View
(Attachable)**

<Body Unit>

■ Removal



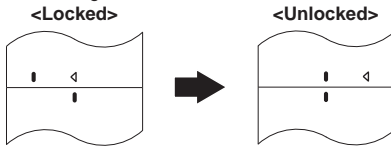
Example:LR7-WTNW



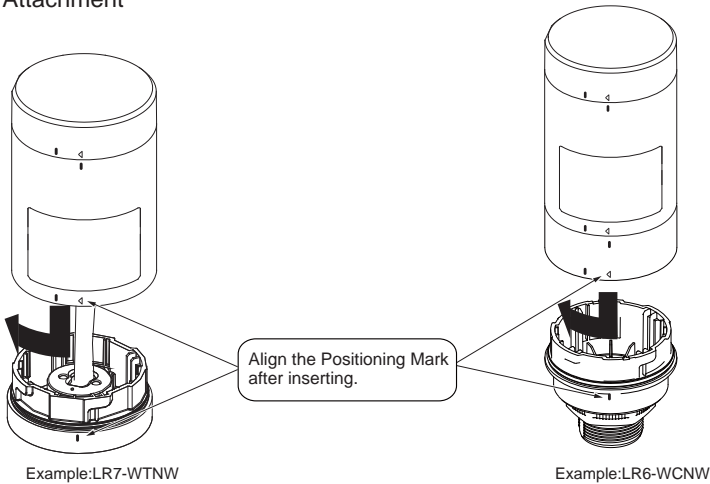
Example:LR6-WCNW

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

■ Positioning Mark



■ Attachment

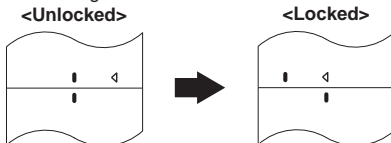


Example:LR7-WTNW

Example:LR6-WCNW

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

■ Positioning Mark



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				
		Buzzer Unit : 40mA (※1)				
	Max.	LED Unit : 45mA				
		Buzzer Unit : 250mA (※1)				
Inrush Current	Power Supply Wire	none (Signal Wire Current Maximum not exceeding the sum total)				
	Signal Wire	LED Unit : none				
		Buzzer Unit : none (Not exceeding Maximum Signal Wire Current Ratings)				
Rated Power Consumption (Per Unit)	Typ.	LED Unit : 1W				
		Buzzer Unit : 1W (※1)				
	Max.	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	
	Depending on DIP Switch settings. Refer to Section 6 "Buzzer Pattern Set-up".					
	Setting					
Outer Dimensions		Refer to Section 3 "Part Names and Outer Appearance"				
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]
	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. UL Recognized Component (File No.E215660)				

- 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°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	
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		
	Max.	Buzzer Unit : 90mA (※1) LED Unit : 100mA		
Inrush Current	Power Supply Wire	Buzzer Unit : 250mA (※1)		
	Signal Wire	0.7A / Less than 15ms LED Unit : none (※2) Buzzer Unit : none (Not exceeding Maximum Signal Wire Current Ratings) (※2)		
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°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		
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) (※2)When (Gray) power supply wire is not connected, inrush current or 0.7A will flow through the signal wires. Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur. UL Recognized Component (File No.E215660)		

- 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)



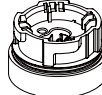
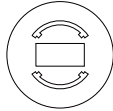
General Specifications (M2)


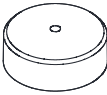
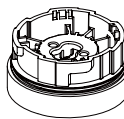
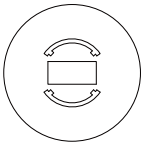
Model		LR□-□M2□□□W	
Rated Voltage		100-240V AC (50/60Hz)	
Operating Voltage Range		90-250V AC (50/60Hz)	
Signal Wire Current (Per Unit)	Typ.	LED Unit : 40mA Buzzer Unit : 40mA (※1)	
	Max.	LED Unit : 45mA Buzzer Unit : 250mA (※1)	
Inrush Current	Power Supply Wire	at 25°C : 25A/ Less than 2ms (Cold-start) at 50°C : 50A/ Less than 2ms (Cold-start)	
	Signal Wire	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°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	
Environmental Condition		LJ	IP54(IEC 60529) / NEMA TYPE 4X,13 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	0.25kg + (0.035kg) × Tiers + [0.035kg]
		LJ	0.54kg + (0.035kg) × Tiers + [0.035kg]
		PJ	0.44kg + (0.035kg) × Tiers + [0.035kg]
	LR6	WJ	0.32kg + (0.06kg) × Tiers + [0.060kg]
		LJ	0.60kg + (0.06kg) × Tiers + [0.060kg]
		PJ	0.50kg + (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. UL Recognized Component (File No.E215660)	

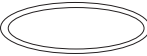
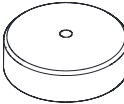
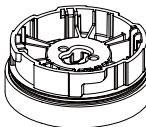
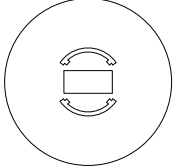
- When a regulated power supply is not being used, select a fuse that meets class CC or more.
- Use a **fuse holder** with UL standard certification. (Conformity requirements for UL Standard)
- This product is designed for use on a flat surface for a **Type 1 Enclosure**. (Conformity requirements for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


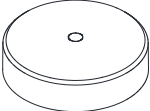
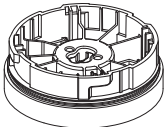
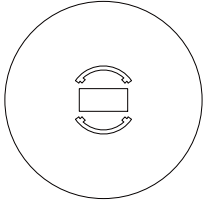
11 Replacement Parts

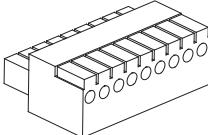

The following replacement parts for this product are available for the customer to change or replace.

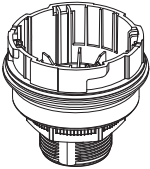
Replacement Parts for LR4			
O-ring 40	Head Cover 40 [W/U]	Pole Bracket 40 [W/U]	Filter Sheet 40
 5 pcs.		 Accessories: O-ring 40 1 pc. Pole Waterproof Ring 1 pc. Binding Head Tapping Screw 2 pcs.	 5 pcs.

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

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

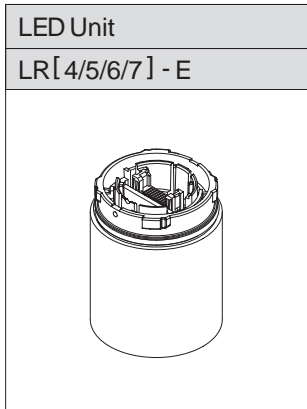
Replacement Parts for LR7			
O-ring 70	Head Cover 70 [W/U/K]	Pole Bracket 70 [W/U/K]	Filter Sheet 70
			
5 pcs.		Accessories: O-ring 70 1 pc. Pole Waterproof Ring 1 pc. Binding Head Tapping Screw 2 pcs.	5 pcs.

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]


12 Optional 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	Φ40	6	Φ60
5	Φ50	7	Φ70

※1 LR6 - Z

※2 LR4•5•6

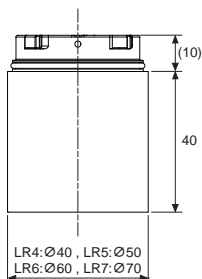
R	: Red	Y	: Amber
G	: Green	B	: Blue
C	: White		
M	: Multi Color ^{※1}		

(None) : Color Globe

Z : Clear Globe^{※2}

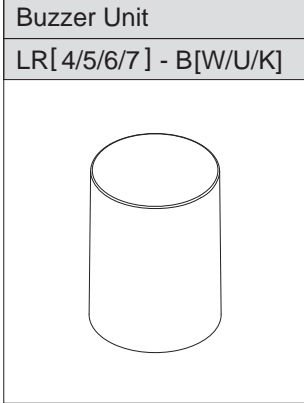
Outer Dimensions

(Unit: mm)

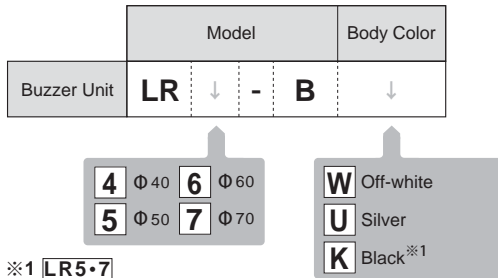


General Specifications

Model	LR□-E-□□	
Operating Ambient Temperature	-20°C ~ +50°C	
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.	

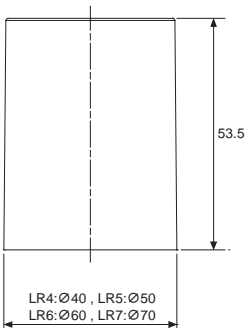


Model Number Configuration



Outer Dimensions

(Unit: mm)

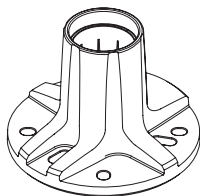


General Specifications

Model		LR□-B□
Operating Ambient Temperature		-20°C ~ +50°C
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
	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:

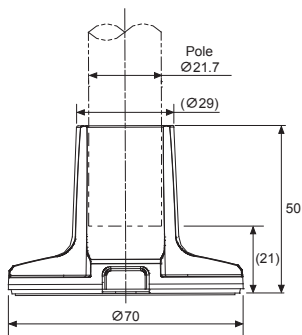
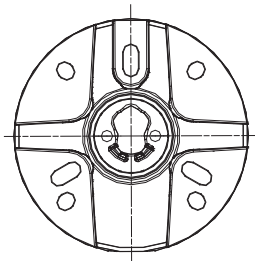
Waterproof Packing

Pole Waterproof Ring

Binding Head Tapping Screw (2 pcs.)

Outer Dimensions

(Unit: mm)



Model Number Configuration

	Model	Body Color
Circular Bracket	SZP - 001	↓

W Off-white

Compatible Models

LR4- PJ QJ , **LR5- PJ KT** ※1

LR6- PJ QJ , **LR7- KT** ※1

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

Compatible Pole

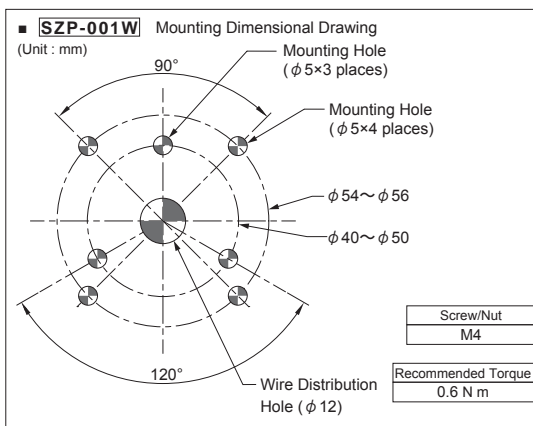
POLE22-0100AN, POLE22-0300AN
POLE22-0100ANK, POLE22-0300ANK

Specifications

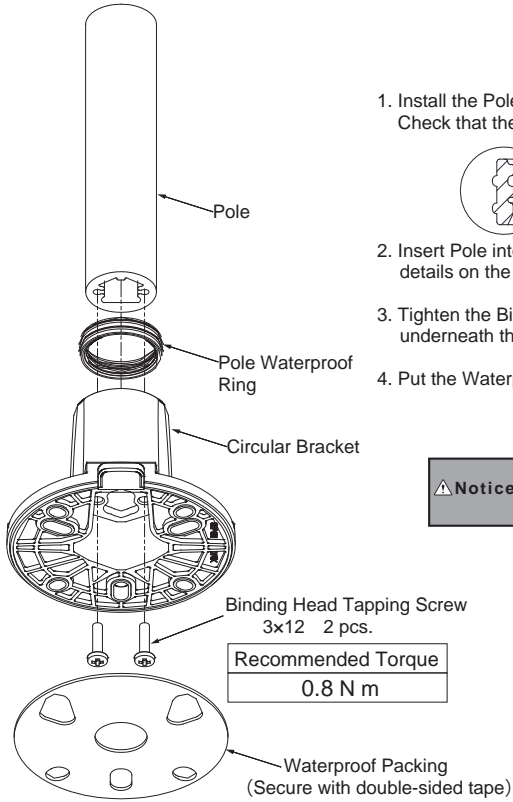
Model	SZP-001W
Mounting Location	Indoor Only
Protection Rating	IP65 (with product attached)
Material	PC
Mass (Tolerance ±10%) ※ No Accessories	0.04kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

(Note) • It's possible to run a cable out from the side.

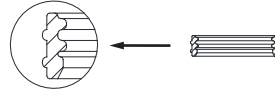
Mounting Dimensional Drawing



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.
4. Put the Waterproof Packing on the bottom of Circular Bracket.

⚠ Notice

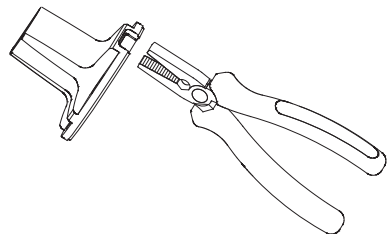
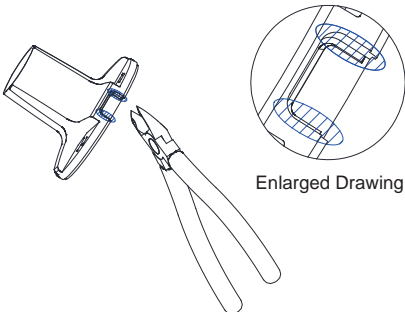
Installation using materials other than the specified accessories is not covered under warranty.

Cutting a side-hole for cable (Procedure)

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

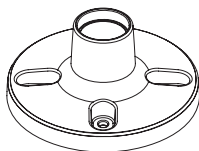
1. Refer to the enlarged drawing and cut the outlined part of the bracket. Cut in two places with nippers.

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



Circular Bracket

SZP-002U



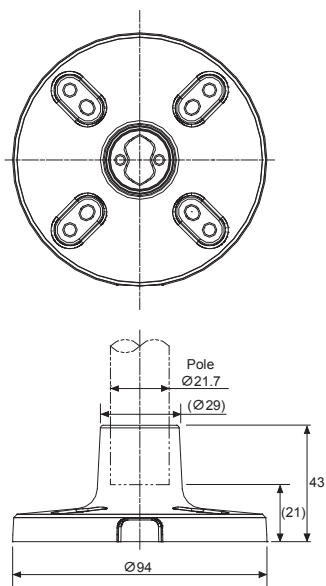
Accessories:

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

LR6- PJ QJ , **LR7- KT** ※1

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

Compatible Pole

POLE22-0100AN, POLE22-0300AN

POLE22-0500AN, POLE22-0800AN

POLE22-1000AN

POLE22-0100ANK, POLE22-0300ANK

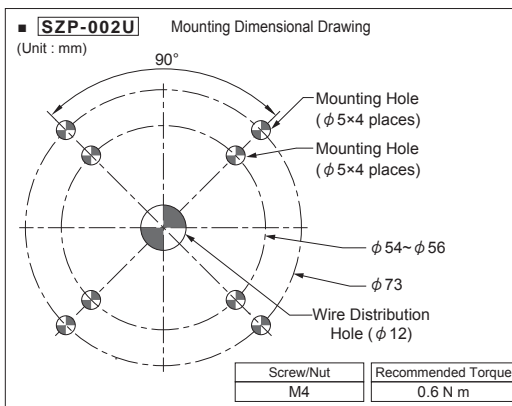
POLE22-0800ANK

Specifications

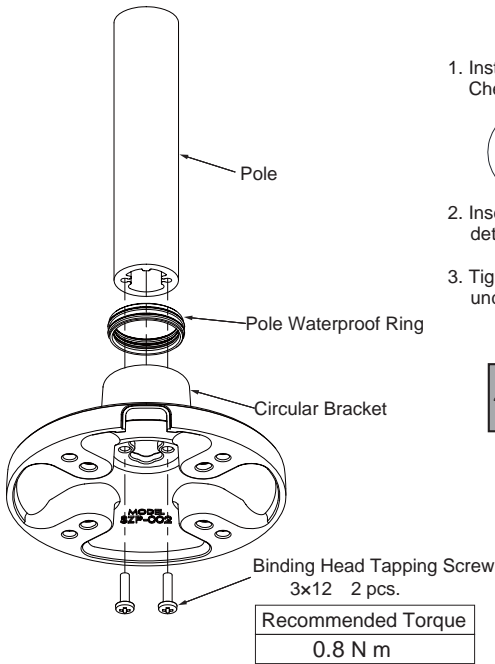
Model	SZP-002U
Mounting Location	Indoor Only
Protection Rating	IP20 (with product attached)
Material	ADC12
Mass (Tolerance $\pm 10\%$) ※ No Accessories	0.11kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

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

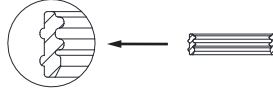
Mounting Dimensional Drawing



Pole Installation



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

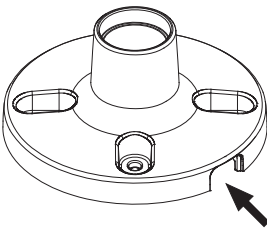


2. Insert Pole into the Circular Bracket. See the figure on the left for details on the direction of insertion.
3. Tighten the Binding Head Tapping Screws (2 pcs.) from underneath the Circular Bracket.

Notice	Installation using materials other than the specified accessories is not covered under warranty.
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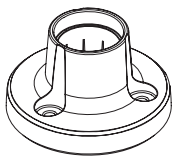
Running a cable out from the side-hole

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/K]



Accessories:

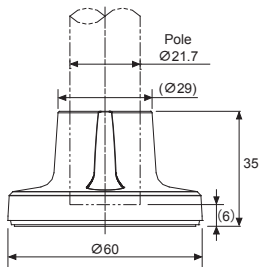
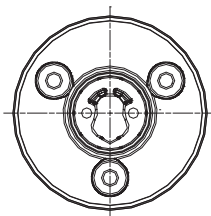
Waterproof Packing

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
K	Black

Compatible Models

LR4- PJ QJ , LR5- PJ KT※1

LR6- PJ QJ , LR7- KT※1

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

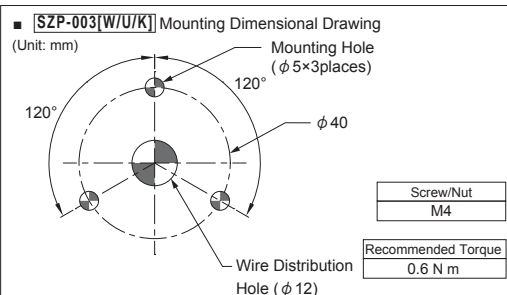
Compatible Pole

POLE22-0100AN, POLE22-0300AN
POLE22-0100ANK, POLE22-0300ANK

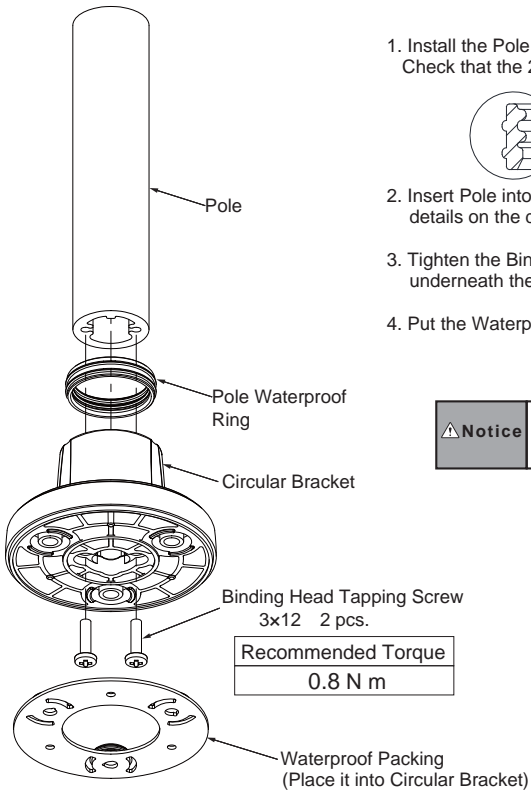
Specifications

Model	SZP-003[W/U/K]
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.

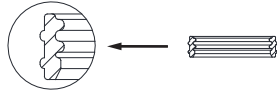
Mounting Dimensional Drawing



Pole Installation



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



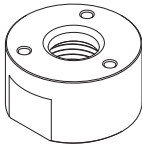
2. Insert Pole into the Circular Bracket. See the figure on the left for details on the direction of insertion.
3. Tighten the Binding Head Tapping Screws (2 pcs.) from underneath the Circular Bracket.
4. Put the Waterproof Packing on the bottom of Circular Bracket.

⚠ Notice

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

NPT Bracket

SZP-090U

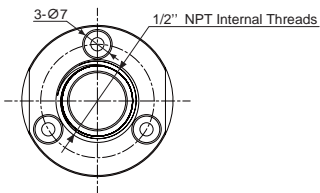
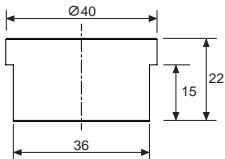
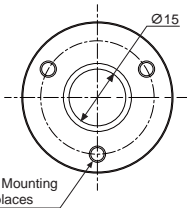


Accessories: Screw-tapped spacer (3 pcs.)



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

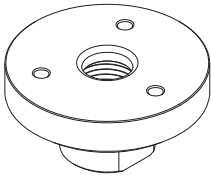
(※1) **KT** Direct Mount

Specifications

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

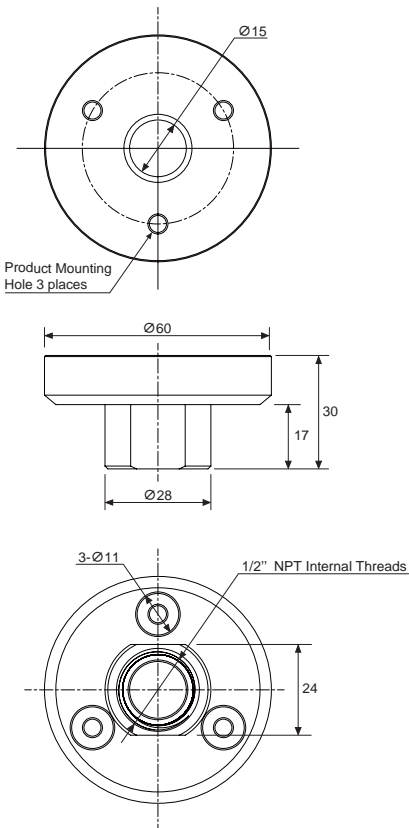
NPT Bracket

SZP-091U



Outer Dimensions

(Unit: mm)



Model Number Configuration

	Model	Body Color
Circular Bracket	SZP - 091	U

U Silver

Compatible Models

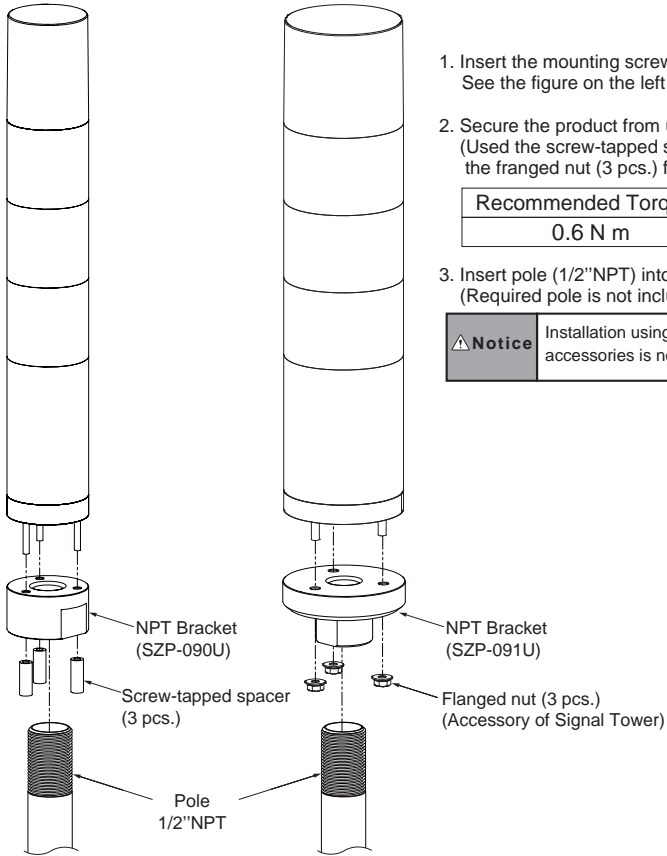
LR6- WJ, **LR7- WJ** **WT** **KT**※1

(※1) **KT** Direct Mount

Specifications

Model	SZP-091U
Mounting Direction	Upright
Mounting Location	Indoor Only
Material	AL
Mass (Tolerance $\pm 10\%$)	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.)

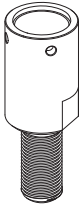
Recommended Torque
0.6 N m

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.
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Pole-compatible Adaptor

SZP-917U



Accessories:
 Plain Washer (1 pc.)
 Hexagon Nut (1 pc.)
 Hexagon Socket Set Screw (2 pcs.)

Model Number Configuration

	Model	Body Color
Pole-compatible Adaptor	SZP - 917	U



Compatible Models

LR4- LJ, **LR5- LJ**, **LR6- LJ**

Compatible Pole

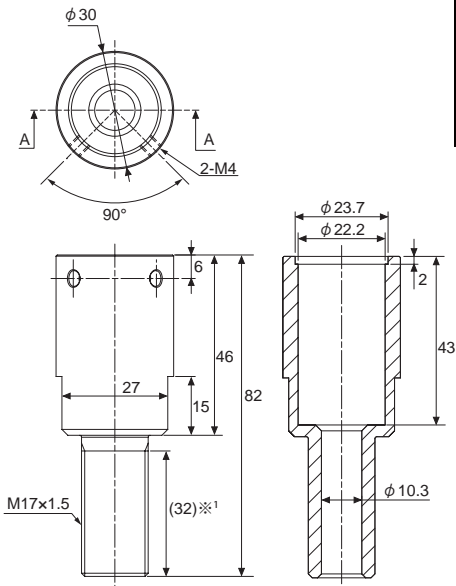
POLE22-0100AT, **POLE22-0300AT**
POLE22-0500AT, **POLE22-0800AT**
POLE22-1000AT

Specifications

Model	SZP-917U
Mounting Location	Indoor Only
Protection Rating	IP20 (with product attached)
Material	AL
Mass (Tolerance $\pm 10\%$) ※ No Accessories	0.05kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

Outer Dimensions

(Unit: mm)

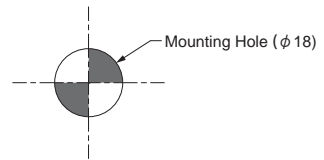


※¹ Effective threaded screw length

Mounting Dimensional Drawing

■ **SZP-917U** Mounting Dimensional Drawing

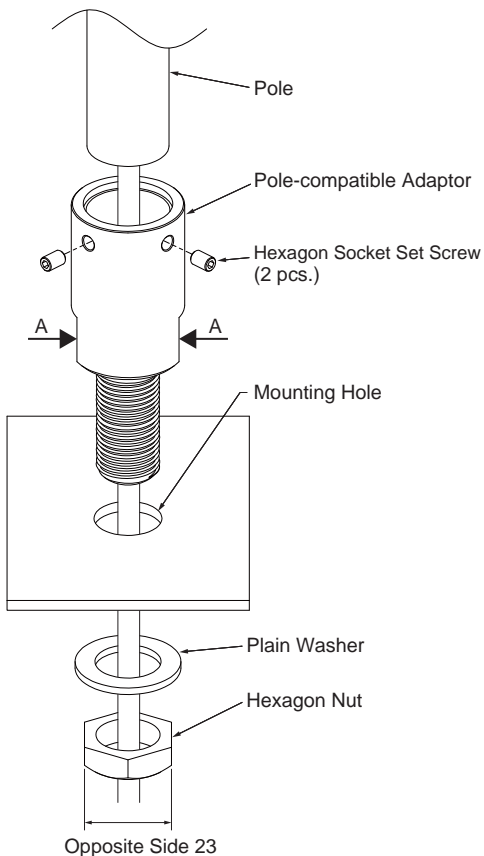
(Unit: mm)



Nut	Recommended Torque
M17	30 N m

Pole-compatible Adaptor Installation

(Unit: mm)



1. Run the wiring through the the Pole-compatible Adaptor. Insert the Pole into the Pole-compatible Adaptor.
2. Secure the Pole with the Hexagon Socket Set Screws (2 pcs.) on the pole-compatible adaptor.
3. Run the wiring through the mounting hole. While holding part "A", secure the Pole-compatible Adaptor with included Plain Washer and Hexagon Nut.

Recommended Torque

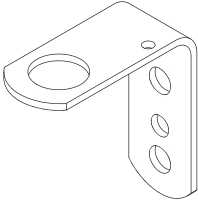
30 N m

△ Notice

Installation using materials other than the specified accessories is not covered under warranty. When the Pole-compatible Adaptor is installed, do not hold the product and the pole.

L-bracket

SZL-001



Compatible Models

LR4- LJ , LR5- LJ KT※1

LR6- LJ , LR7- KT※1

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

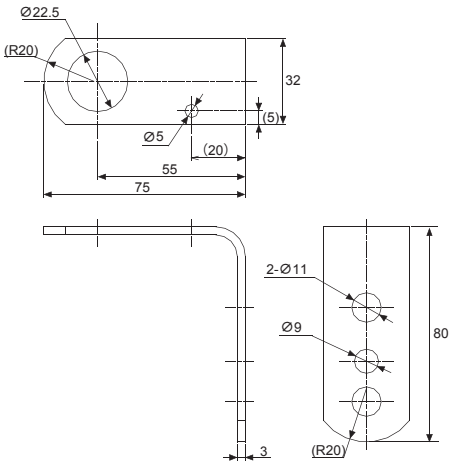
Compatible Pole POLE22-0100AT
POLE22-0300AT, POLE22-0500AT
POLE22-0800AT, POLE22-1000AT

Specifications

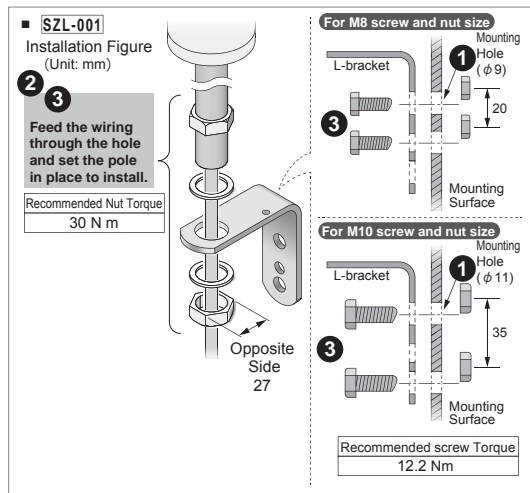
Model	SZL-001
Mounting Location	Indoor Only
Material	SPHC-P
Mass (Tolerance ±10%)	0.09kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

Outer Dimensions

(Unit: mm)

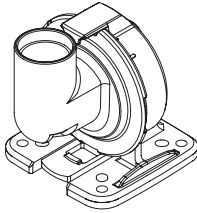


Installation Figure



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

LR6- PJ QJ, **LR7- KT**※1

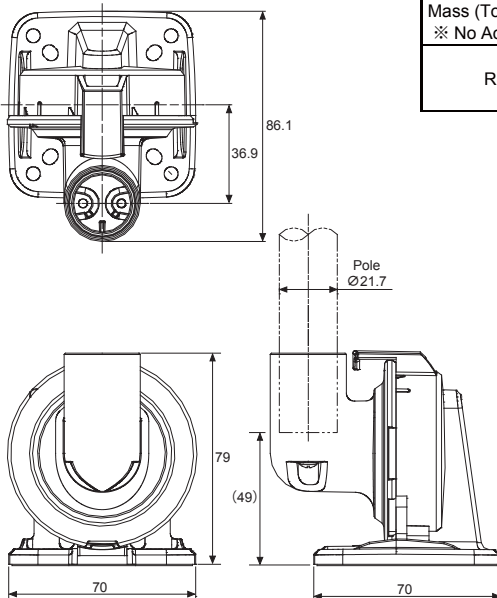
(※1) Required pole is not included with **KT**.

Compatible Pole

POLE22-0100AN, POLE22-0300AN
POLE22-0100ANK, POLE22-0300ANK

Outer Dimensions

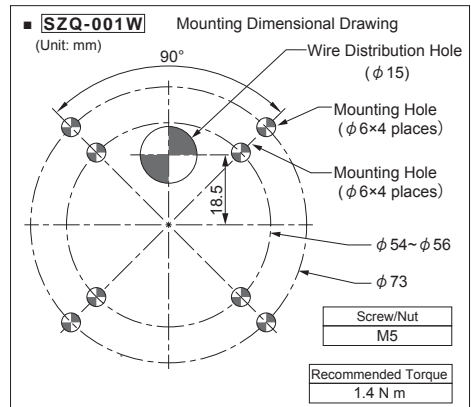
(Unit: mm)



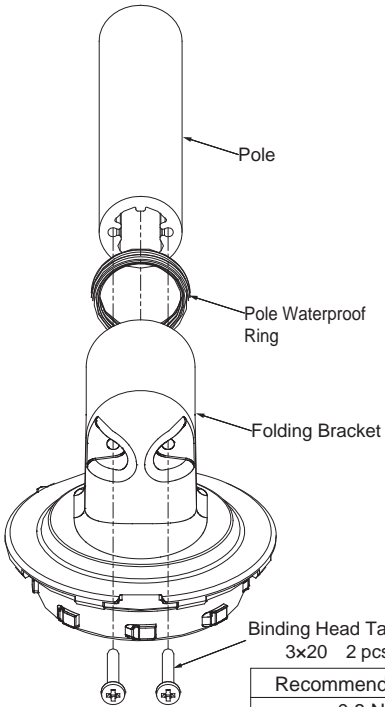
Specifications

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.

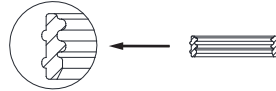
Mounting Dimensional Drawing



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

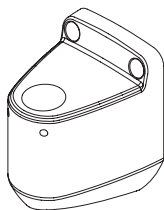
Installation using materials other than the specified accessories is not covered under warranty.

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

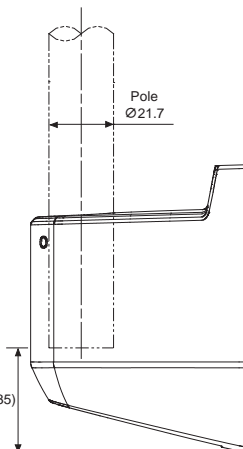
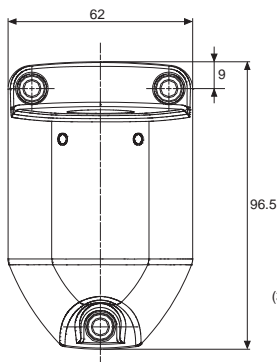
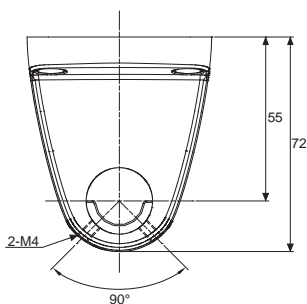
(※1) Required pole is not included with **KT**.

Compatible Pole

POLE22-0100AN, POLE22-0300AN
POLE22-0500AN, POLE22-0800AN
POLE22-1000AN
POLE22-0100ANK, POLE22-0300ANK
POLE22-0800ANK
POLE22-0100AT, POLE22-0300AT
POLE22-0500AT, POLE22-0800AT
POLE22-1000AT

Outer Dimensions

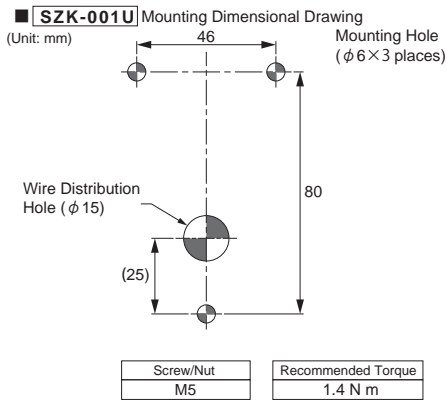
(Unit: mm)



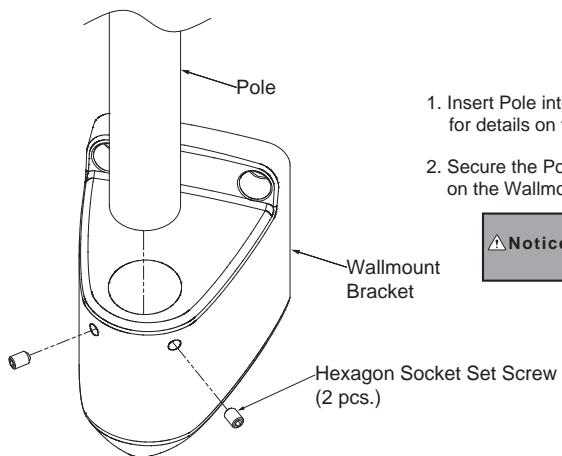
Specifications

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



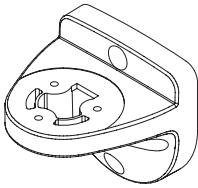
1. Insert Pole into the Wallmount Bracket. See the figure on the left for details on the direction of insertion.
2. Secure the Pole with the Hexagon Socket Set Screws (2 pcs.) on the Wallmount Bracket.

⚠ 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

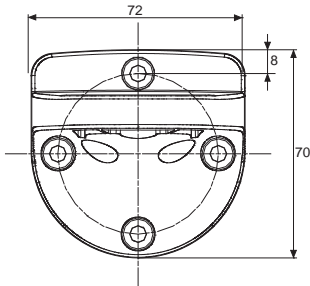
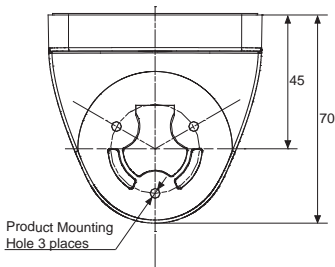
(※1) **KT** Direct Mount

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.

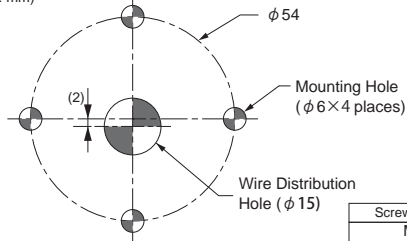
Outer Dimensions

(Unit: mm)



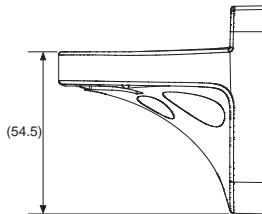
Mounting Dimensional Drawing

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



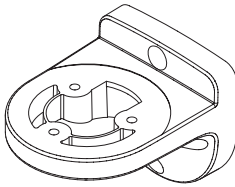
Screw/Nut
M5

Recommended Torque
1.4 N m



Wallmount Bracket

SZK-003 [W/U/K]



Model Number Configuration

	Model	Body Color
Wallmount Bracket	SZK - 003	↓

W	Off-white
U	Silver
K	Black

Compatible Models

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

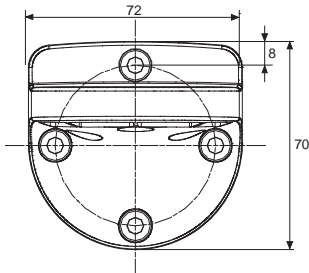
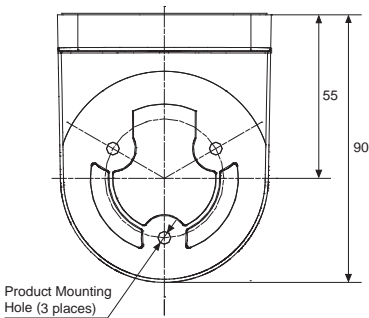
(※1) **KT** Direct Mount

Specifications

Model	SZK-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.

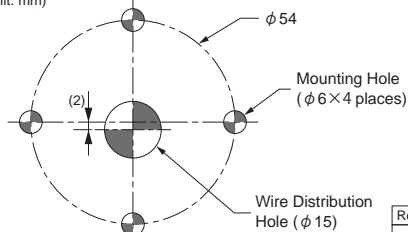
Outer Dimensions

(Unit: mm)



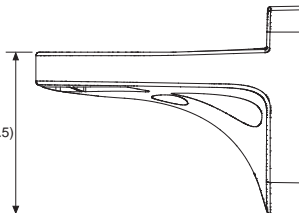
Mounting Dimensional Drawing

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



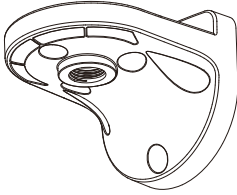
Screw/Nut
M5

Recommended Torque
1.4 N m



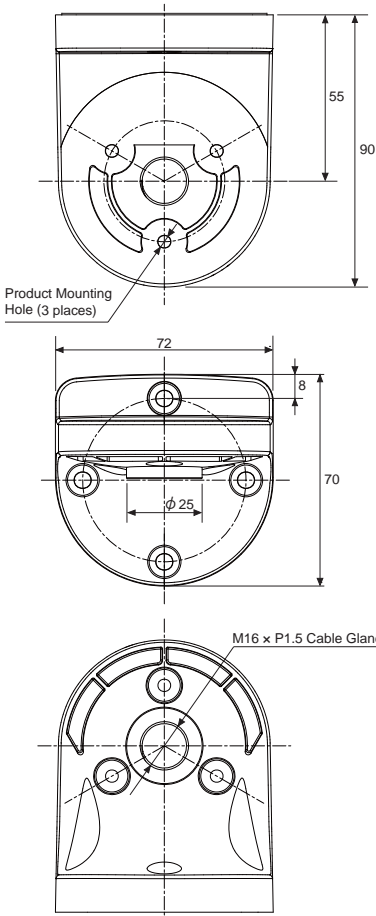
Wallmount Bracket

SZK-004W



Outer Dimensions

(Unit: mm)



Model Number Configuration

	Model	Body Color
Wallmount Bracket	SZK - 004	W

W Off-white

Compatible Models

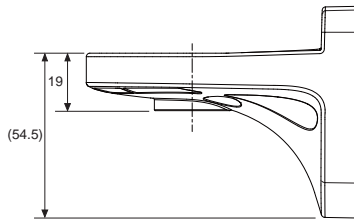
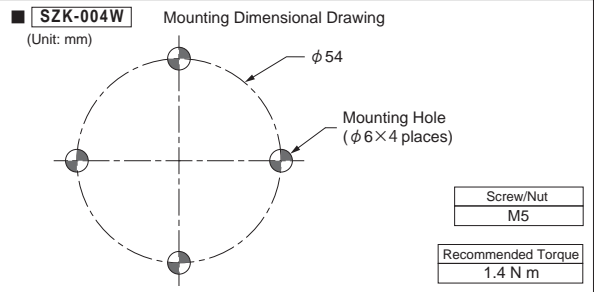
LR6- WJ, **LR7- WJ** **WT** **KT** ※1

(※1) **KT** Direct Mount

Specifications

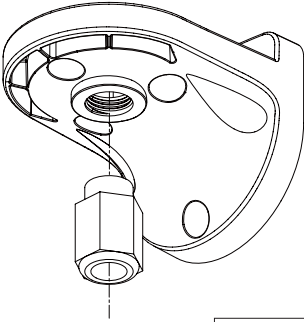
Model	SZK-004W
Mounting Location	Indoor Only
Protection Rating	IP65 (with product attached)
Material	PC
Mass (Tolerance ±10%)	0.07kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive. Compatible M16xP1.5 cable gland

Mounting Dimensional Drawing



Cable gland Installation

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



Maximum Torque
10 N m

Product Attachment

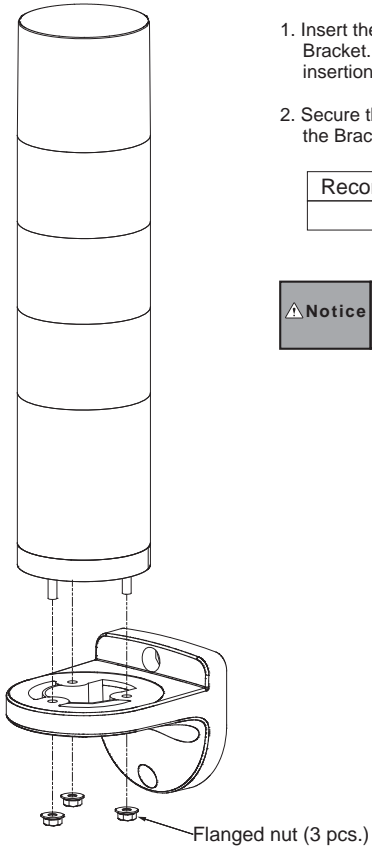
1. Insert the mounting screws of the product into the Wallmount Bracket. See the figure on the left for details on the direction of insertion.
2. Secure the product with the flanged nuts (3 pcs.) from underneath the Bracket.

Recommended Torque

0.6 N m

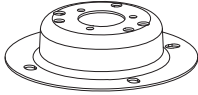
⚠ Notice

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



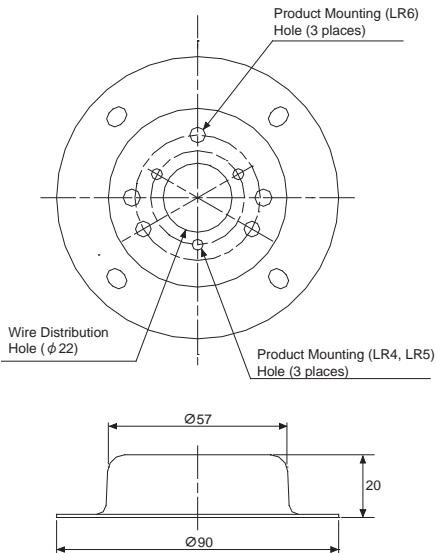
Circular Bracket

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

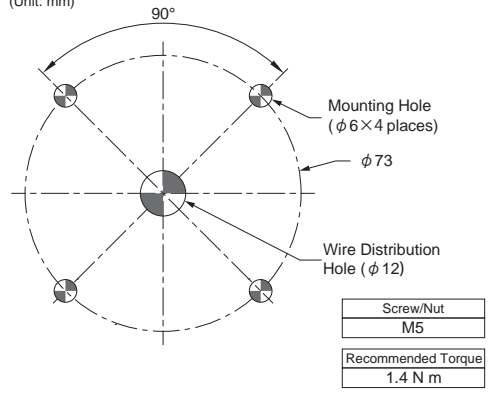
Specifications

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

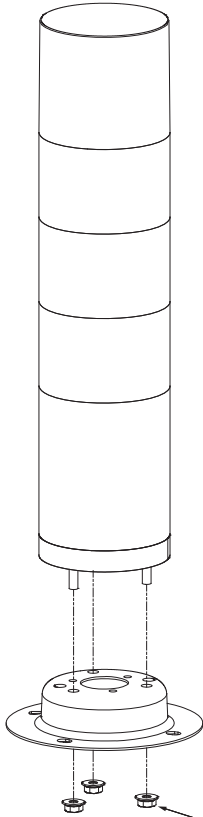
Mounting Dimensional Drawing

■ 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.

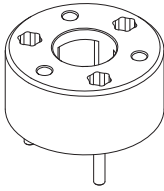
Recommended Torque
0.6 N m

⚠ Notice

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

Compatible Direct Mount Bracket

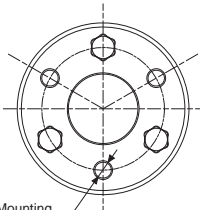
SZW-940U



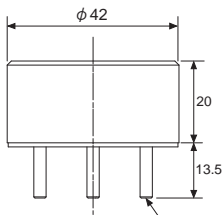
Accessories:
Hexagon Nut with Flange (3 pcs.)

Outer Dimensions

(Unit: mm)



Product Mounting
Hole 3 places



Maximum Board Thickness : 10

Model Number Configuration

	Model	Body Color
Compatible Direct Mount Bracket	SZW - 940	U

U Silver

Compatible Models

LR4 - WJ

Mounting Hole Compatible Model

LCE - W

LCE - AW

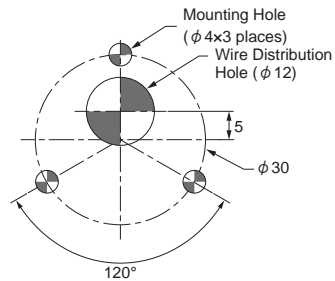
Specifications

Model	SZW-940U
Mounting Location	Indoor Only
Protection Rating	IP65 (with product attached)
Material	AL
Mass (Tolerance ±10%) ※ No Accessories	0.04kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

Mounting Dimensional Drawing

■ **SZW-940U** Mounting Dimensional Drawing

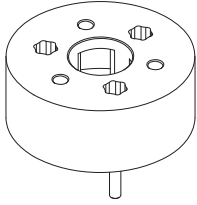
(Unit: mm)



Screw/Nut	Recommended Torque
M3	0.6 N m

Compatible Direct Mount Bracket

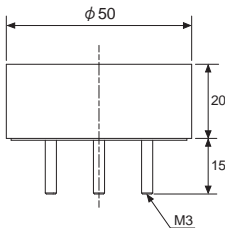
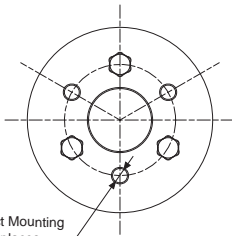
SZW-950U



Accessories:
Hexagon Nut with Flange (3 pcs.)

Outer Dimensions

(Unit: mm)



Maximum Board Thickness : 10

Model Number Configuration

	Model	Body Color
Compatible Direct Mount Bracket	SZW - 950	U

U Silver

Compatible Models

LR5 - WJ WT

Mounting Hole Compatible Model

LE - W

LES - AW

LU5

Specifications

Model	SZW-950U
Mounting Location	Indoor Only
Protection Rating	IP65 (with product attached)
Material	AL
Mass (Tolerance $\pm 10\%$) ※ No Accessories	0.07kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

Mounting Dimensional Drawing

■ **SZW-950U** Mounting Dimensional Drawing
(Unit: mm)

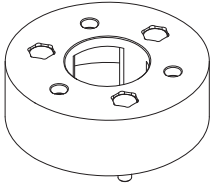
Screw/Nut (Mounting Hole A) M3	Screw (Mounting Hole B) M4	Recommended Torque 0.6 N m
--------------------------------------	----------------------------------	-------------------------------

(※1) Refer to "Product Attachment (SZW-950U Mounting Hole A)" for using the Mounting Hole A.

(※2) Refer to "Product Attachment (SZW-950U Mounting Hole B)" for using the Mounting Hole B.

Compatible Direct Mount Bracket

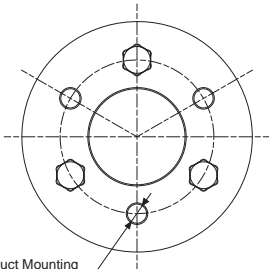
SZW-960U



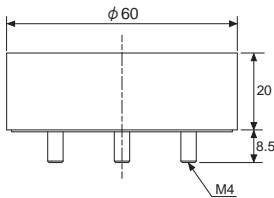
Accessories:
Hexagon Nut with Flange (3 pcs.)

Outer Dimensions

(Unit: mm)



Product Mounting
Hole 3 places



Maximum Board Thickness : 4

Model Number Configuration

	Model	Body Color
Compatible Direct Mount Bracket	SZW - 960	U

U Silver

Compatible Models

LR6 - WJ

Mounting Hole Compatible Model

LME - W

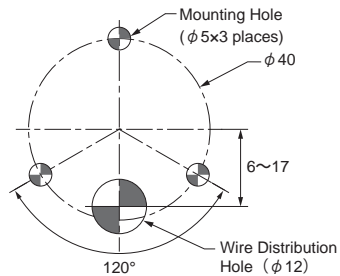
Specifications

Model	SZW-960U
Mounting Location	Indoor Only
Protection Rating	IP65 (with product attached)
Material	AL
Mass (Tolerance ±10%) ※ No Accessories	0.09kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

取付図

■ SZW-960U Mounting Dimensional Drawing

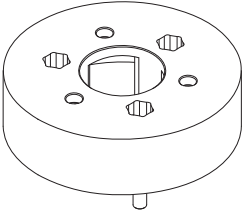
(Unit: mm)



Screw/Nut	Recommended Torque
M4	0.6 N m

Compatible Direct Mount Bracket

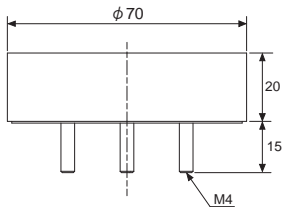
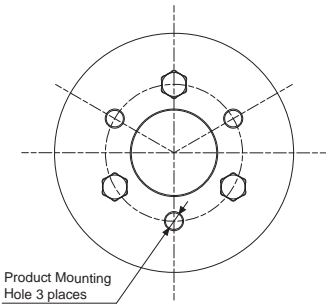
SZW-970U



Accessories:
Hexagon Nut with Flange (3 pcs.)

Outer Dimensions

(Unit: mm)



Maximum Board Thickness : 10

Model Number Configuration

	Model	Body Color
Compatible Direct Mount Bracket	SZW - 970	U

U Silver

Compatible Models

LR7 - WJ WT

Mounting Hole Compatible Model

LHE

LU7

Specifications

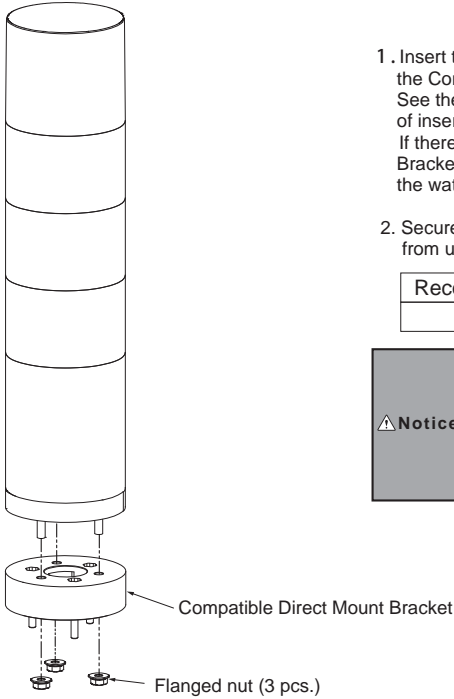
Model	SZW-970U
Mounting Location	Indoor Only
Protection Rating	IP65 (with product attached)
Material	AL
Mass (Tolerance ±10%) ※ No Accessories	0.12kg
Remarks	There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

Mounting Dimensional Drawing

■ **SZW-970U** Mounting Dimensional Drawing
(Unit: mm)

Screw/Nut	Recommended Torque
M4	0.6 N m

Product Attachment
(SZW-940U, SZW-960U, SZW-970U)

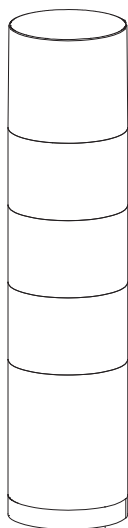


1. Insert the mounting screws of the product into the Compatible Direct Mount Bracket. See the figure on the left for details on the direction of insertion.
If there's a gap between the Compatible Direct Mount Bracket bottom and the waterproof packing, push until the waterproof packing hits the bottom.
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.
	Do not use if twisting, etc., has occurred in the waterproof packing. Failure to comply will result in lower waterproofing performance. Possible cause of failure may occur.

Product Attachment (SZW-950U Mounting Hole A)



1. Be sure to remove the waterproof packing, from the Compatible Direct Mount Bracket.
2. Insert the mounting screws of the product into the Compatible Direct Mount Bracket. See the figure on the left for details on the direction of insertion.
3. Secure the product with the flanged nuts (3 pcs.) from underneath the Compatible Direct Mount Bracket.

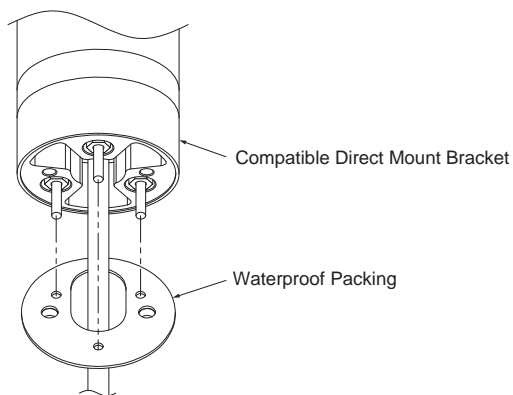
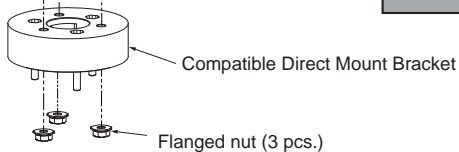
Recommended Torque

0.6 N m

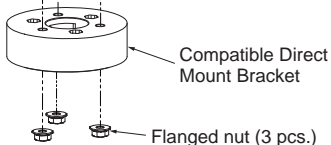
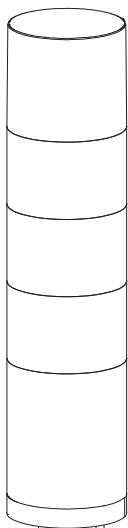
4. Put the waterproof packing on the Compatible Direct Mount Bracket bottom.

Push until the waterproof packing hits the Compatible Direct Mount Bracket bottom.

⚠ Notice	Installation using materials other than the specified accessories is not covered under warranty.
	Do not use if twisting, etc., has occurred in the waterproof packing. Failure to comply will result in lower waterproofing performance. Possible cause of failure may occur.



Product Attachment (SZW-950U Mounting Hole B)



1. Be sure to remove the waterproof packing, hexagon bolts and franged nuts from the Compatible Direct Mount Bracket.
2. Insert the mounting screws of the product into the Compatible Direct Mount Bracket.
See the figure on the left for details on the direction of insertion.
3. Secure the product with the flanged nuts (3 pcs.) from underneath the Compatible Direct Mount Bracket.

Recommended Torque
0.6 N m

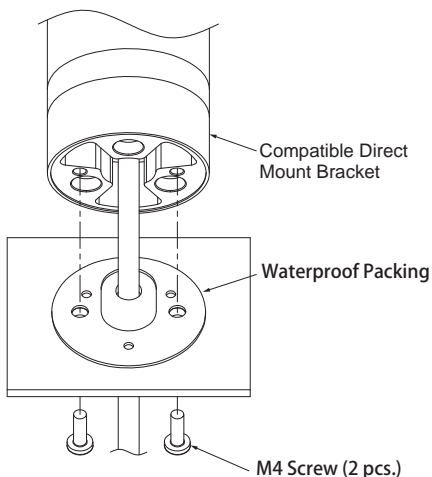
⚠ Notice Installation using materials other than the specified accessories is not covered under warranty.

4. Place the waterproof packing in line with the mounting hole.
5. Run the wiring through the distribution hole.
Secure the Compatible Direct Mount Bracket with M4 screw (2 pcs.).
※M4 screw is not included.
Be sure to prepare mounting screws separately, and consider the screw thread to be 14 mm or less in order to attach the Compatible Direct Mount Bracket, and the board thickness of the mounting surface.

Recommended Screw
M4×14


Recommended Torque
0.6 N m

⚠ Notice Do not use if twisting, etc., has occurred in the waterproof packing.
Failure to comply will result in lower waterproofing performance. Possible cause of failure may occur.



Pole N

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



Accessory : Binding Head Tapping Screw (2pcs.)

Model Number Configuration

	Model		Pole length		Color
Pole	POLE22	-	↓	AN	↓

0100 100mm	0800 800mm	(None) Silver
0300 300mm	1000 1000mm	K Black※1
0500 500mm		

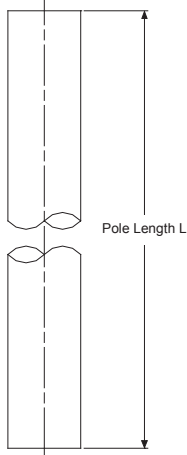
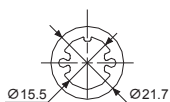
(※1) Pole length **0100**, **0300**, **0800** only

Compatible Models

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

Outer Dimensions

(Unit: mm)



Compatible Optional Parts

	SZP-001W	SZP-002U	SZP-003□	SZQ-001W	SZK-001U	SZ-010
POLE22-0100AN POLE22-0100ANK	○	○	○	○	○	○
POLE22-0300AN POLE22-0300ANK	○	○	○	○	○	○
POLE22-0500AN	×	○	×	×	○	○
POLE22-0800AN POLE22-0800ANK	×	○	×	×	○	○
POLE22-1000AN	×	○	×	×	○	○

Specifications


Model	POLE22-0100AN POLE22-0100ANK	POLE22-0300AN POLE22-0300ANK	POLE22-0500AN	POLE22-0800AN POLE22-0800ANK	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.

Pole T

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



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

Model Number Configuration

	Model		Pole length	
Pole	POLE22	-	↓	AT

0100	100mm	0800	800mm
0300	300mm	1000	1000mm
0500	500mm		

Compatible Models

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

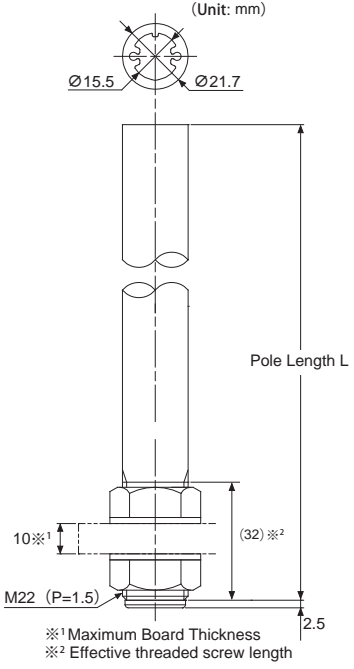
Compatible Optional Parts

SZP-917U, SZL-001, SZK-001U, SZ-010

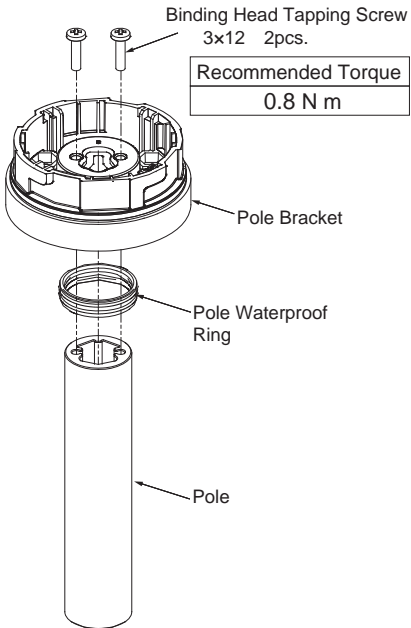
Specifications

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

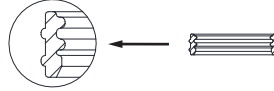


Pole Bracket Installation



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



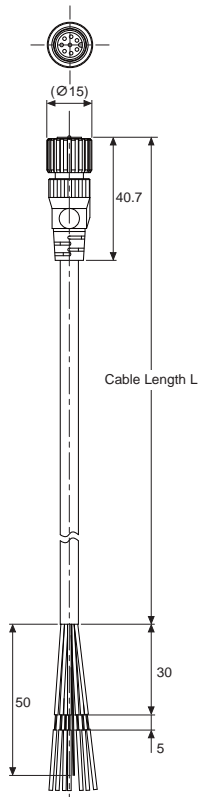
Compatible Models LR6-WC

Specifications

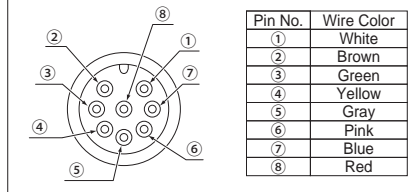
Model	SZ-120-02	SZ-120-05	SZ-120-10
Mounting Location	Indoor Only		
Cable length L (mm)	2000	5000	10000
Jacket Diameter / Color	φ 6.3 / Light gray		
Number of core wires	8		
Cross section Area	AWG23		
Remarks	Manufactured by the OMRON Corp.		

Outer Dimensions

(Unit: mm)



M12 Connector Pin Layout



PATLITE Corporation

G2G

PATLITE Corporation ※Head office ■<http://www.patlite.com/>
4-1-3, Kyutaromachi, Chuo-ku, Osaka 541-0056 Japan

PATLITE (U.S.A.) Corporation ■<http://www.patlite.com/>

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