

# SPECIFICATIONS

## 1. General Specifications

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
Outer Dimensions		Refer to the 3.Outer Dimensions
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)

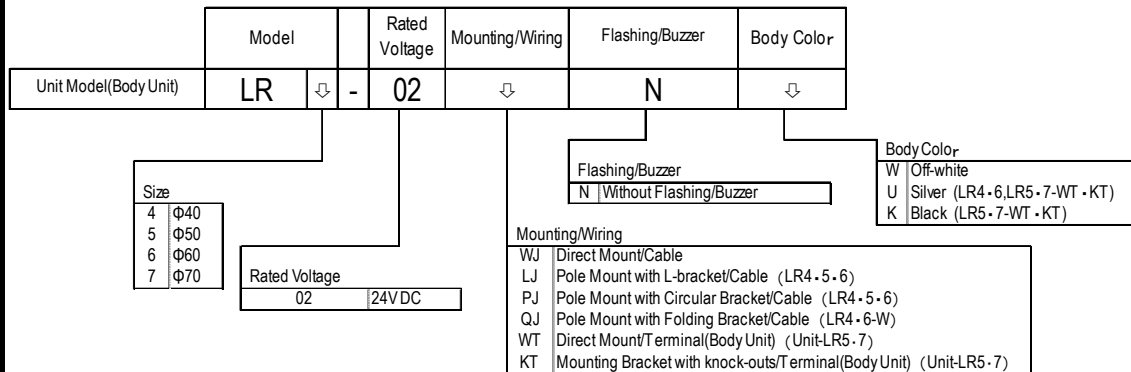
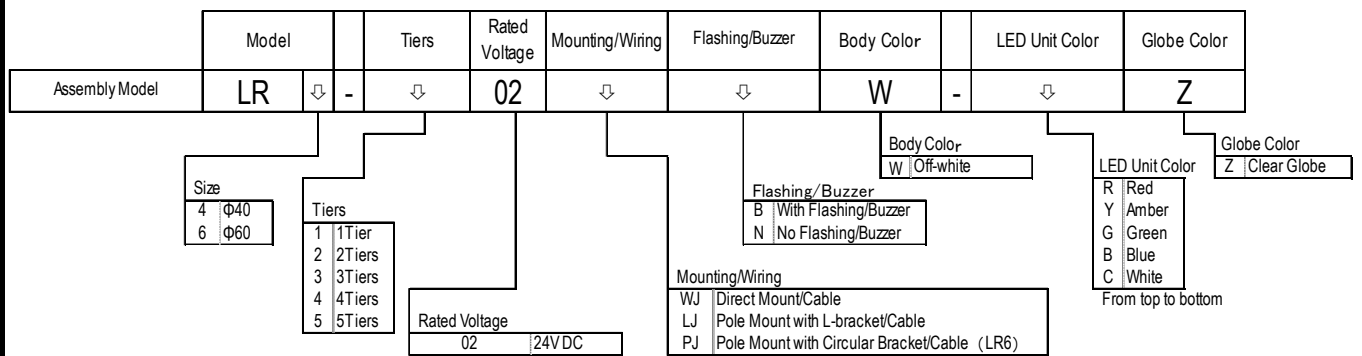
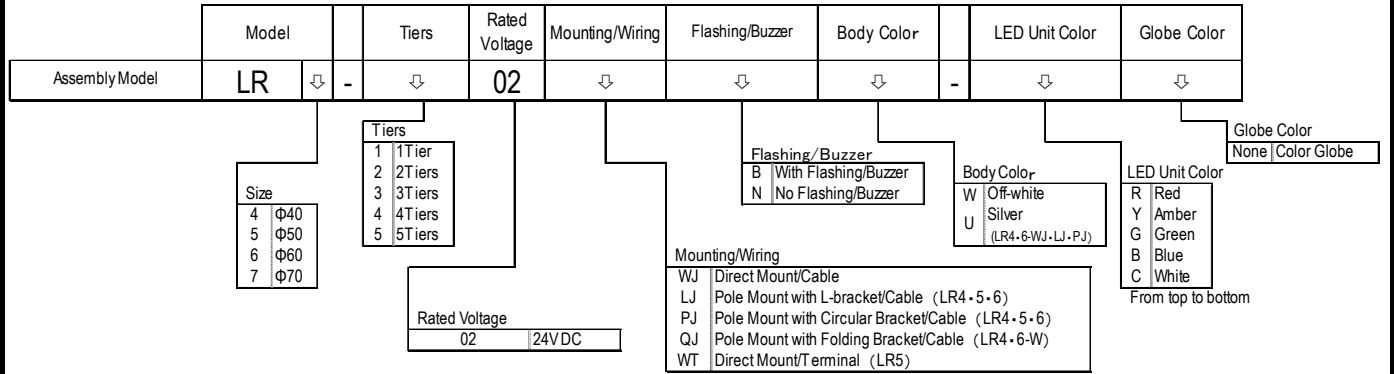
LR-502-W18E-1\_15

## PATLITE Corporation

Mass (Tolerance ±10%)	LR4	WJ	Body Color	(LED Unit) + [Buzzer Unit]	
			Off-white	0.17kg + (0.035kg)×Tiers + [0.035kg]	
		LJ	Silver	Off-white	0.32kg + (0.035kg)×Tiers + [0.035kg]
				Off-white	0.46kg + (0.035kg)×Tiers + [0.035kg]
		PJ	Silver	Off-white	0.61kg + (0.035kg)×Tiers + [0.035kg]
				Off-white	0.36kg + (0.035kg)×Tiers + [0.035kg]
	LR5	QJ	Silver	Off-white	0.51kg + (0.035kg)×Tiers + [0.035kg]
				Off-white	0.42kg + (0.035kg)×Tiers + [0.035kg]
		WT	Black	Off white	0.2kg + (0.04kg)×Tiers + [0.05kg]
				Off-white	0.49kg + (0.04kg)×Tiers + [0.05kg]
				Off white	0.38kg + (0.04kg)×Tiers + [0.05kg]
		KT	Black	Off-white	0.10kg + (0.04kg)×Tiers + [0.05kg]
	Off-white			0.10kg	
	Off-white			0.10kg	
	LR6	WJ	Silver	Off-white	0.22kg + (0.06kg)×Tiers + [0.06kg]
				Off-white	0.35kg + (0.06kg)×Tiers + [0.06kg]
		LJ	Silver	Off-white	0.5kg + (0.06kg)×Tiers + [0.06kg]
				Off-white	0.64kg + (0.06kg)×Tiers + [0.06kg]
		PJ	Silver	Off-white	0.4kg + (0.06kg)×Tiers + [0.06kg]
				Off-white	0.53kg + (0.06kg)×Tiers + [0.06kg]
	QJ	Off-white	0.46kg + (0.06kg)×Tiers + [0.06kg]		
	LR7	WJ	Silver	Off white	0.24kg + (0.065kg)×Tiers + [0.07kg]
				Off-white	0.15kg
		WT	Black	Off-white	0.15kg
				Off-white	0.15kg
		KT	Black	Off-white	0.15kg
				Off-white	0.15kg
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		
Setting		Depending on DIP Switch Settings Refer to the 6.Buzzer Pattern Set-up			
Sound Pressure Level	LR4	Typ.85dB		Sound Reduction Approx. -10dB Depending on DIP Switch Settings Refer to the 6.Buzzer Pattern Set-up	
	LR5	Typ.85dB			
	LR6	Typ.88dB			
	LR7	Typ.90dB			
Environmental Condition		Buzzer sound No.4 was measured from the total circumference of the Buzzer Unit at 1m			
Compatible Unit (Optional)	LED Unit Model		Buzzer Unit Model		
	LR4	LR4-E-R,Y,G,B,C,RZ,YZ,GZ,BZ	LR4-BW		
	LR5	LR5-E-R,Y,G,B,C,RZ,YZ,GZ,BZ	LR5-BW		
	LR6	LR6-E-R,Y,G,B,C,RZ,YZ,GZ,BZ,M	LR6-BW		
LR7	LR7-E-R,Y,G,B,C	LR7-BW			
LR-502-W18E-2_15					

## 2. Model

### 2.1.1 Model Number Configuration



### 2.1.2 Model Number Example

Assembly Model	LR4-302PJBW-RYGZ ●Φ40 ●LED Unit 3Tiers ●24V DC ●Pole Mount with Circular Bracket/Cable ●With Flashing/Buzzer ●Off-white ●(From top to bottom) Red-Amber-Green ●Clear Globe
	LR4-102LJNU-R ●Φ40 ●LED Unit 1Tier ●24VDC ●Pole Mount with L-bracket/Cable ●No Flashing/Buzzer ●Silver ●(From top to bottom) Red ●Color Globe
	LR5-302QJNW-RYG ●Φ50 ●LED Unit 3Tiers ●24V DC ●Pole Mount with Folding Bracket/Cable ●No Flashing/Buzzer ●Off-white ●(From top to bottom) Red-Amber-Green ●Color Globe
Unit Model (Body Unit)	LR6-02WJNW ●Φ60 ●24V DC ●Direct Mount/Cable ●No Flashing/Buzzer ●Off-white
	LR7-02WTNK ●Φ70 ●24VDC ●Direct Mount/Terminal ●No Flashing/Buzzer ●Black

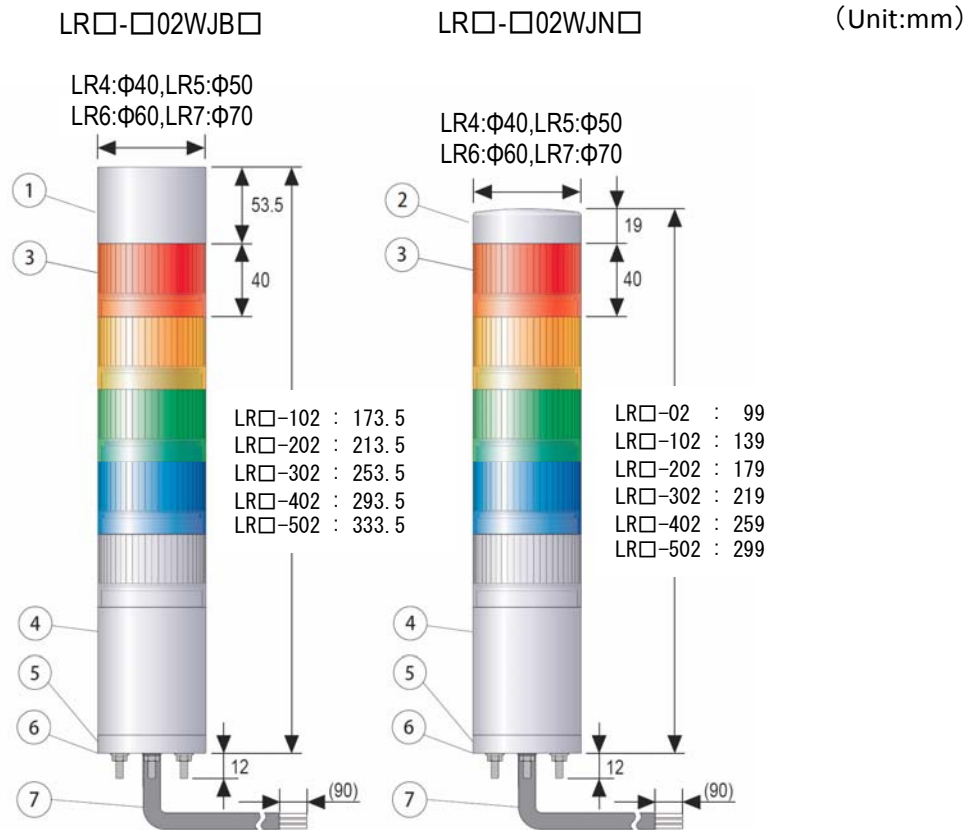
### 2.2. UL Registered Model

LR4	LR4-02WJB, LR4-02WJN, LR4-02WJN, LR4-02LJB, LR4-02LJN, LR4-02LJN, LR4-02PJB, LR4-02PJN, LR4-02PJN, LR4-02QJB, LR4-02QJN, LR4-02QJN
LR5	LR5-02WJB, LR5-02WJN, LR5-02WJN, LR5-02LJB, LR5-02LJN, LR5-02LJN, LR5-02PJB, LR5-02PJN, LR5-02PJN, LR5-02WTB, LR5-02WTN, LR5-02KTN
LR6	LR6-02WJB, LR6-02WJN, LR6-02WJN, LR6-02LJB, LR6-02LJN, LR6-02LJN, LR6-02PJB, LR6-02PJN, LR6-02PJN, LR6-02QJB, LR6-02QJN, LR6-02QJN
LR7	LR7-02WJB, LR7-02WJN, LR7-02WJN, LR7-02WTN, LR7-02KTN

### 3.Outer Dimensions

#### 3.1 LR□-□02WJ□□

■ **WJ** Direct Mount with Cable



- Maximum Board Thickness : 7
- Cable : UL2464 (φ7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length : Off-white(1300)
- Silver(3300)

Number	Name	Material	UL Flammability
1	Buzzer Case	PC	V-2
2	Head Cover	PC	V-2
3	Globe	PC	V-2
4	Body	PC	V-2
5	Direct Mount Bracket	PC	V-2
6	Waterproof Packing	Silicone Rubber	-
7	Cable	PVC	WV-1

Accessory	
<b>LR4.5 - WJ</b> Hexagon Nut with Flange (M3)  3pcs.	<b>LR6.7 - WJ</b> Hexagon Nut with Flange (M4)  3pcs.

### 3.2 LR□-□02LJ□□

■ LJ L-bracket and Pole Mount with Cable

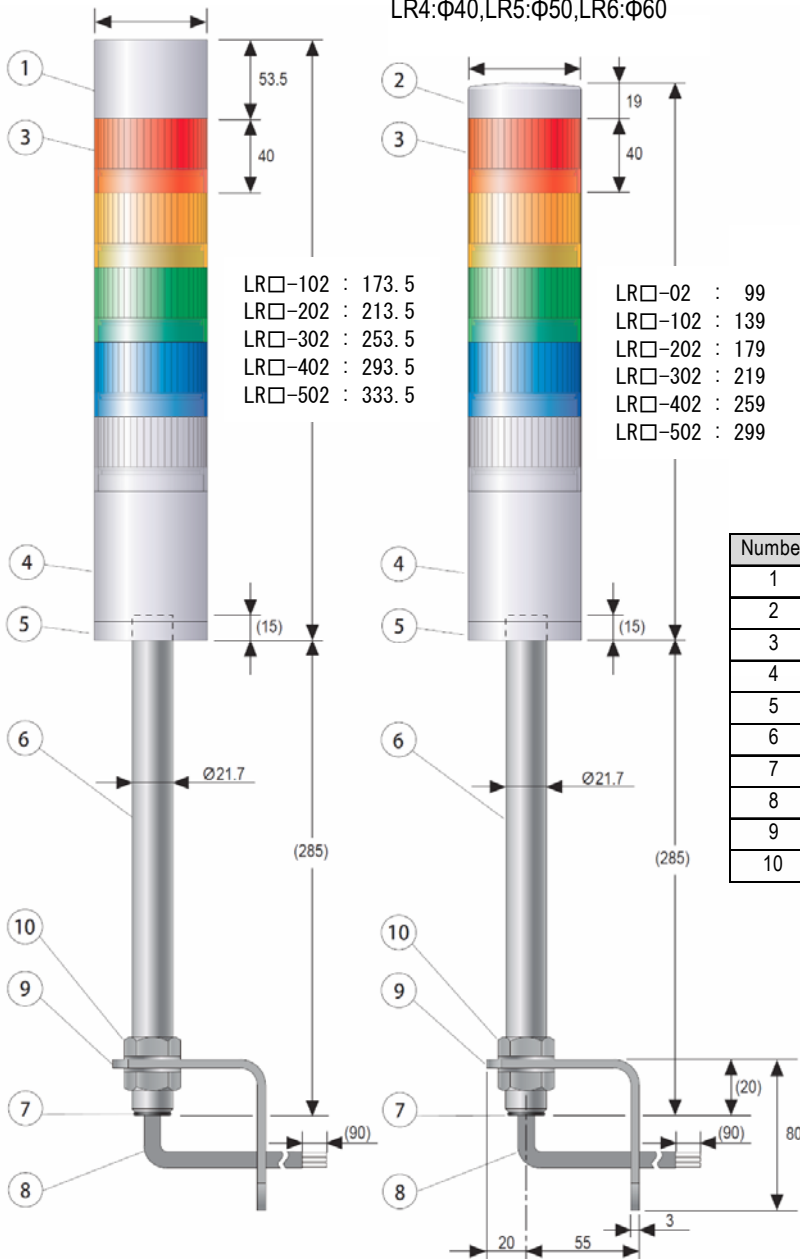
LR□-□02LJB□

LR□-□02LJN□

(Unit:mm)

LR4:Φ40,LR5:Φ50,LR6:Φ60

LR4:Φ40,LR5:Φ50,LR6:Φ60



Number	Name	Material	UL Flammability
1	Buzzer Case	PC	V-2
2	Head Cover	PC	V-2
3	Globe	PC	V-2
4	Body	PC	V-2
5	Pole Bracket	PC	V-1
6	Pole	AL	-
7	Rubber Bushing	EPR	-
8	Cable	PVC	WV-1
9	L-bracket	Steel	-
10	Hexagon Nut M22	SUM	-

- Cable : UL2464 (Φ 7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length : Off-white(1000)
- Silver(3000)

### 3.3 LR□-□02PJ□□

■ **PJ** Circular Bracket and Pole Mount with Cable

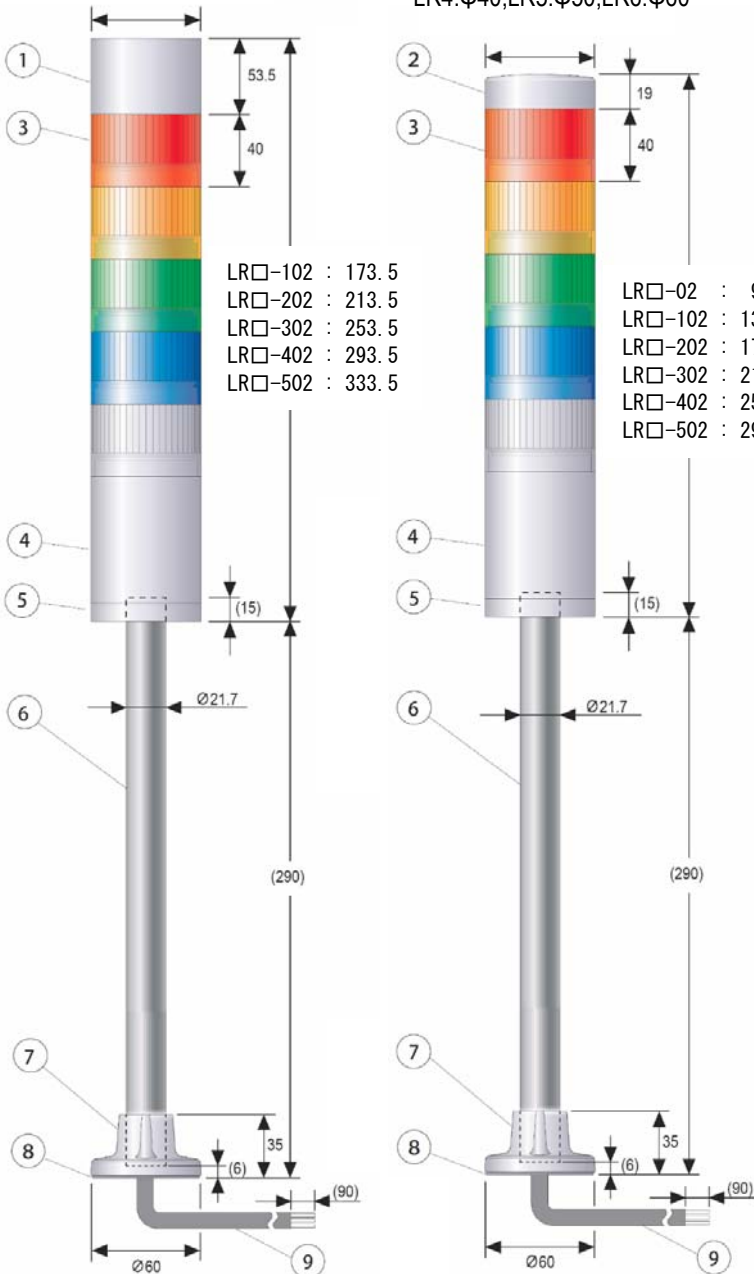
LR□-□02PJB□

LR□-□02PJN□

(Unit:mm)

LR4:φ40,LR5:φ50,LR6:φ60

LR4:φ40,LR5:φ50,LR6:φ60



LR□-102 : 173.5  
 LR□-202 : 213.5  
 LR□-302 : 253.5  
 LR□-402 : 293.5  
 LR□-502 : 333.5

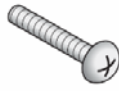
LR□-02 : 99  
 LR□-102 : 139  
 LR□-202 : 179  
 LR□-302 : 219  
 LR□-402 : 259  
 LR□-502 : 299

Number	Name	Material	UL Flammability
1	Buzzer Case	PC	V-2
2	Head Cover	PC	V-2
3	Globe	PC	V-2
4	Body	PC	V-2
5	Pole Bracket	PC	V-1
6	Pole	AL	-
7	Circular Bracket	PC	5VA
8	Waterproof Packing	Silicone Rubber	-
9	Cable	PVC	VW-1

**Accessory**


**LR4-5-6 - PJ**

Cross Recessed Pan Head Screw (M4x20)



3pcs.

Hexagon Nut with Flange (M4)



3pcs.

- Cable : UL2464 (Φ7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length : Off-white(1000)
- Silver(3000)

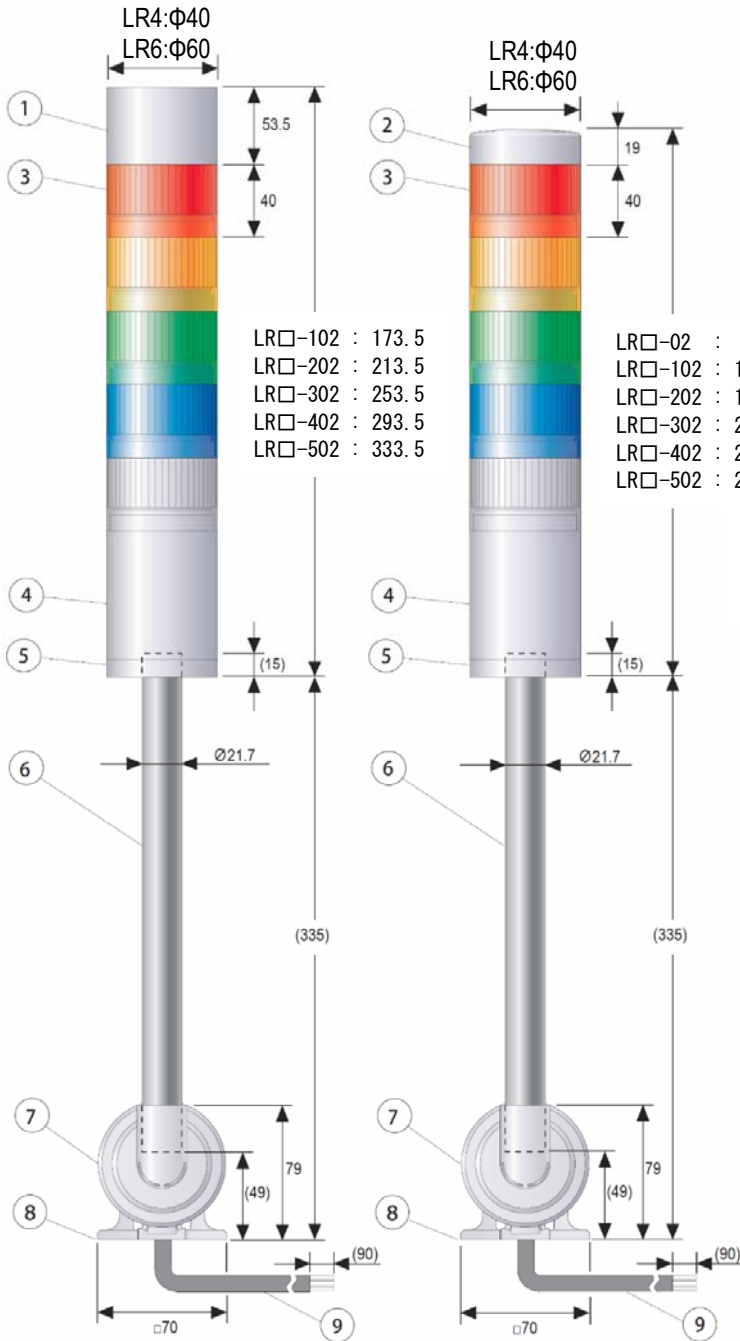
### 3.4 LR□-□02QJ□W

■ **QJ** Folding Bracket and Pole Mount with Cable

LR□-□02QJBW

LR□-□02QJNW

(Unit:mm)




Number	Name	Material	UL Flammability
1	Buzzer Case	PC	V-2
2	Head Cover	PC	V-2
3	Globe	PC	V-2
4	Body	PC	V-2
5	Pole Bracket	PC	V-1
6	Pole	AL	-
7	Folding Bracket	PC	V-2
8	Waterproof Packing	CR	-
9	Cable	PVC	VW-1

Accessory


**LR4-6 - QJ**

Cross Recessed Binding Head Screw (M5x25)

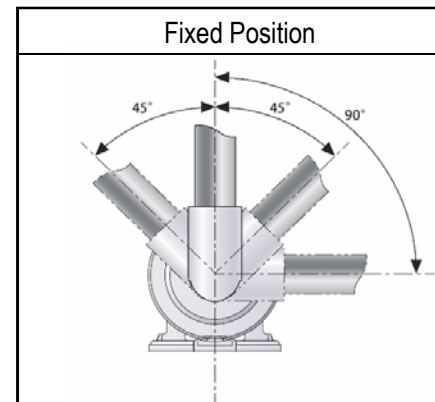


4pcs.

Hexagon Nut with Flange (M5)



4pcs.



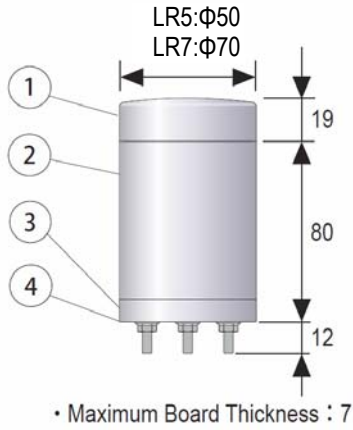
- Cable : UL2464 (φ7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length : (950)

### 3.5 LR□-02WTN□

■ Unit Model(Body Unit)

**WT** Direct Mount with Terminal Block

(Unit:mm)



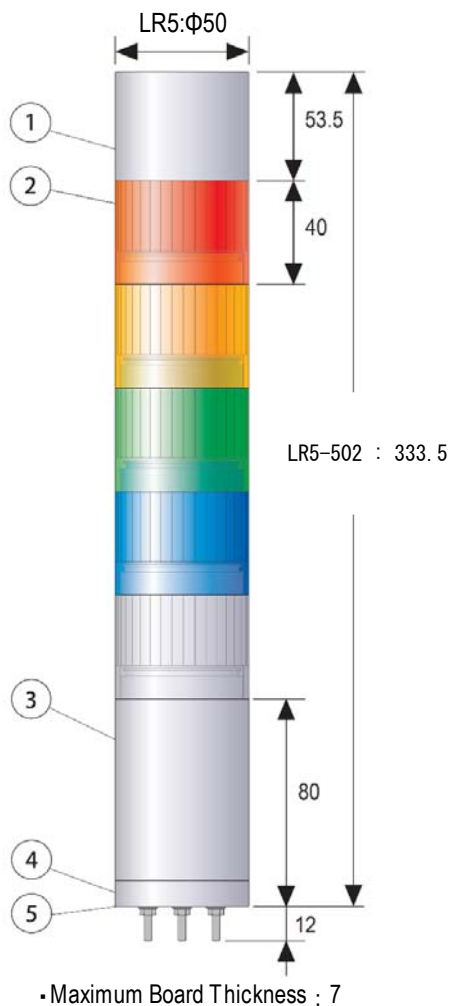
Number	Name	Material	UL Flammability
1	Head Cover	PC	V-2
2	Body	PC	V-2
3	Direct Mount Bracket	PC	V-2
4	Waterproof Packing	Silicone Rubber	-

Accessory	
<b>LR5 - WT</b> Hexagon Nut with Flange (M3)	<b>LR7 - WT</b> Hexagon Nut with Flange (M4)
 3pcs.	 3pcs.

### 3.6 LR5-502WTBW

■ Assembly Model

**WT** Direct Mount with Terminal Block



Number	Name	Material	UL Flammability
1	Buzzer Case	PC	V-2
2	Globe	PC	V-2
3	Body	PC	V-2
4	Direct Mount Bracket	PC	V-2
5	Waterproof Packing	Silicone Rubber	-

Accessory	
<b>LR5 - WT</b> Hexagon Nut with Flange (M3)	 3pcs.

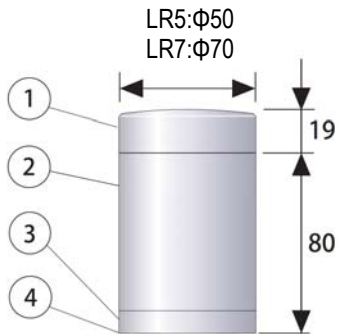


### 3.7 LR□-02KTN□





■ Unit Model(Body Unit)

KT Mounting Bracket with knock-outs and Terminal Block

(Unit:mm)



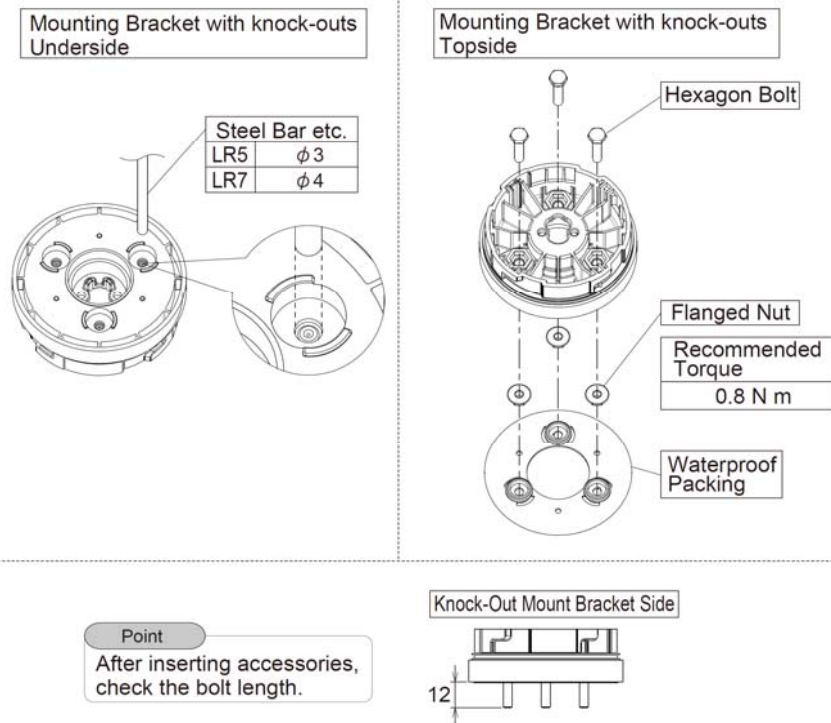
Number	Name	Material	UL Flammability
1	Head Cover	PC	V-2
2	Body	PC	V-2
3	Mounting Bracket with Knock-outs	PC	V-2
4	Waterproof Packing	Silicone Rubber	-

Accessory	
<p><b>LR5 - KT</b></p> <p>Hexagon Bolt (M3 x 20)</p>  <p>3pcs.</p> <p>Hexagon Nut with Flange (M3)</p>  <p>6pcs.</p>	<p><b>LR7 - KT</b></p> <p>Hexagon Bolt (M4 x 20)</p>  <p>3pcs.</p> <p>Hexagon Nut with Flange (M4)</p>  <p>6pcs.</p>

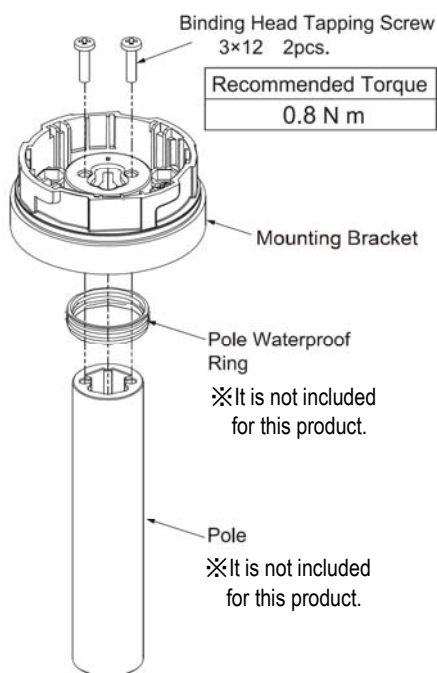
**KT** Direct Mount (Using accessory)

(Unit:mm)

1. Place the Mounting Bracket on the 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.



**KT** Pole Installation (Not using accessory)

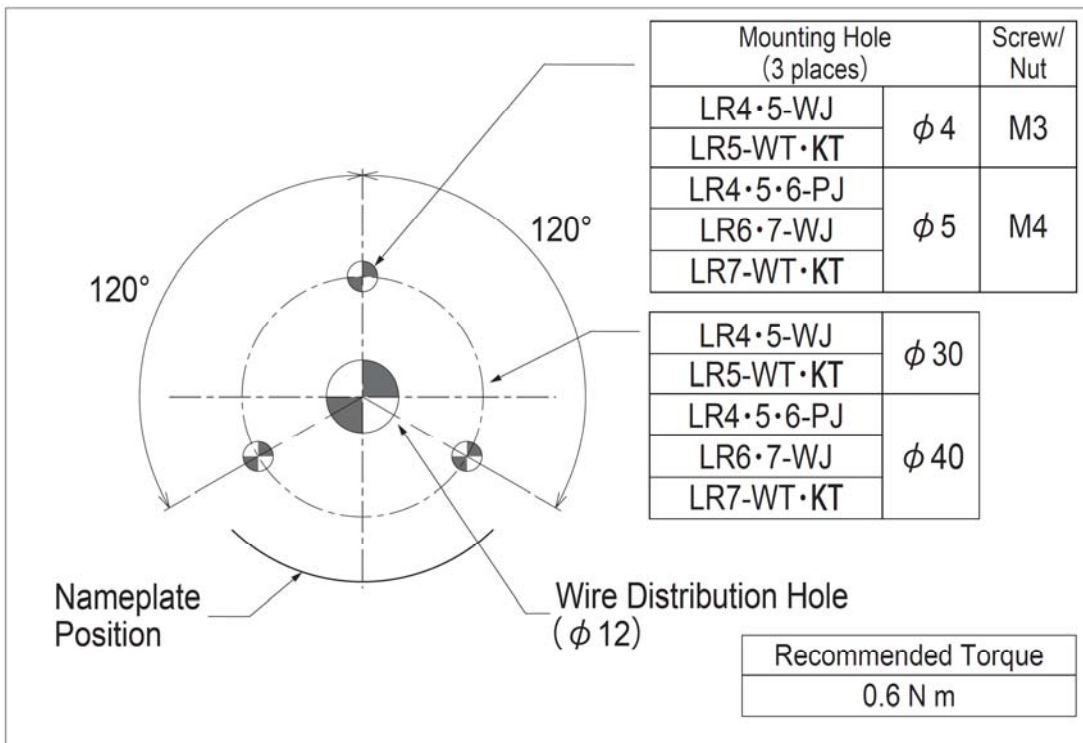


1. Be sure to remove the waterproof packing from the Mounting Bracket.
2. Install the Pole Waterproof Ring in the Mounting Bracket. Check that the 2 ribs are on the outside.

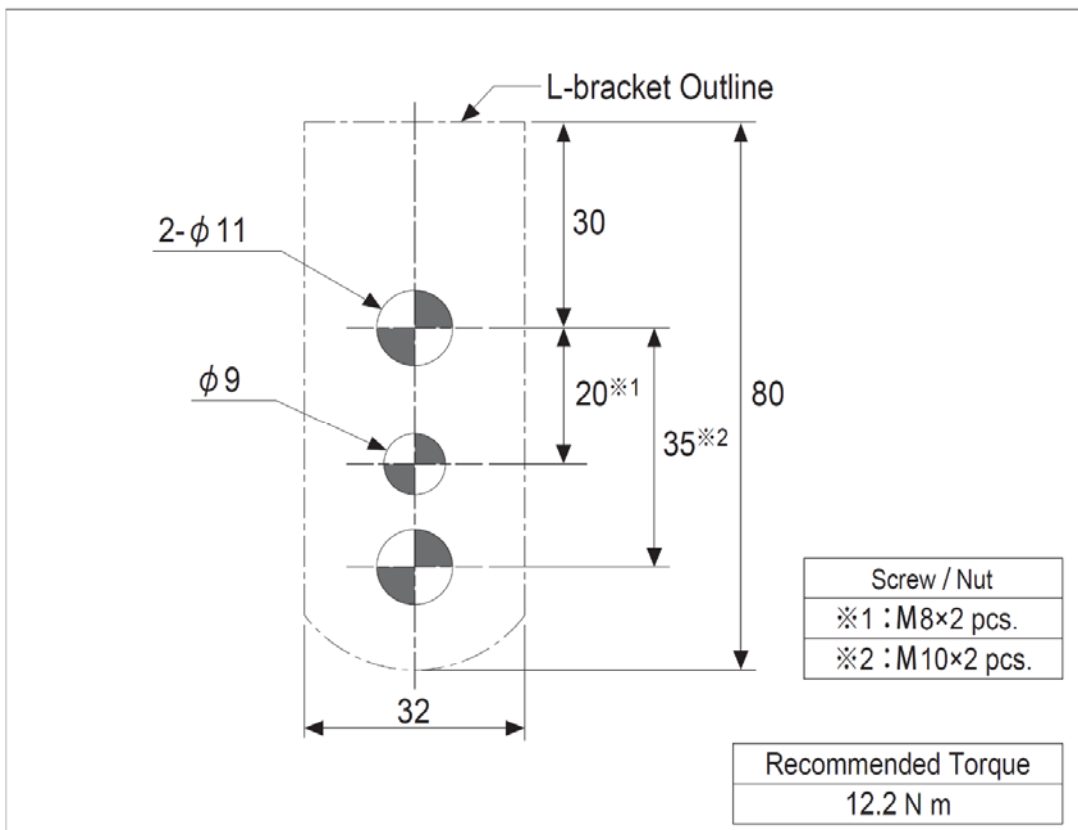
3. Insert Pole into the Mounting Bracket. See the figure on the left for details on the direction of insertion.
4. Tighten the Binding Head Tapping Screws (2 pcs.) from the topside of the Mounting Bracket.

#### 4. Mounting Dimensional Drawing

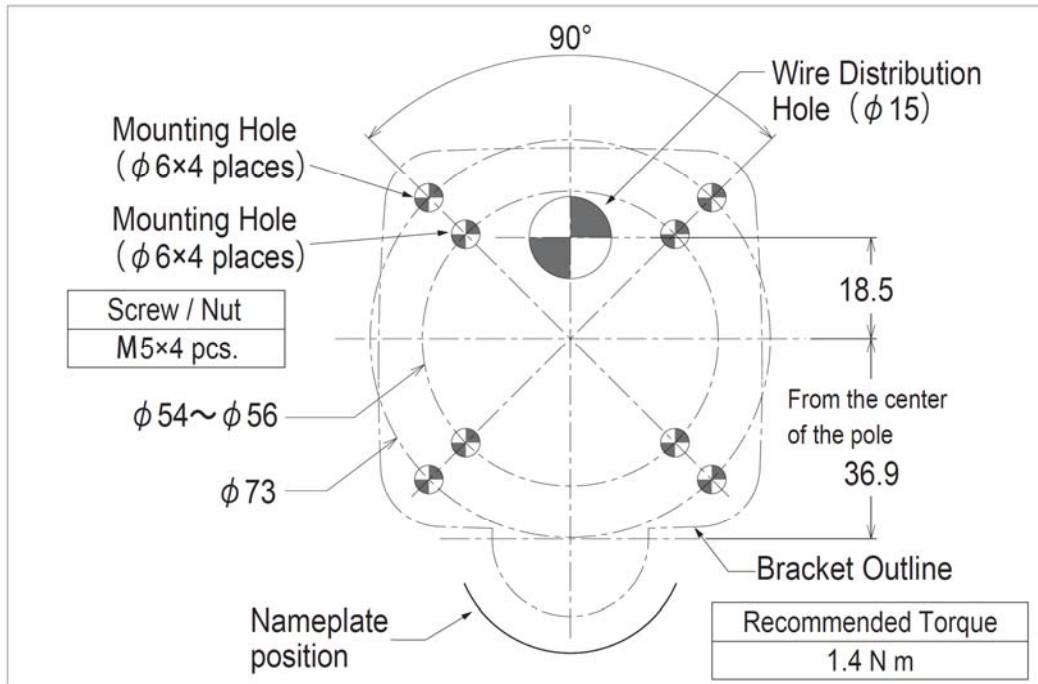
##### 4.1 [WJ] · [PJ] · [WT] · [KT] Mounting Dimensional Drawing (Unit: mm)



##### 4.2 [LJ] Mounting Dimensional Drawing (Unit: mm)

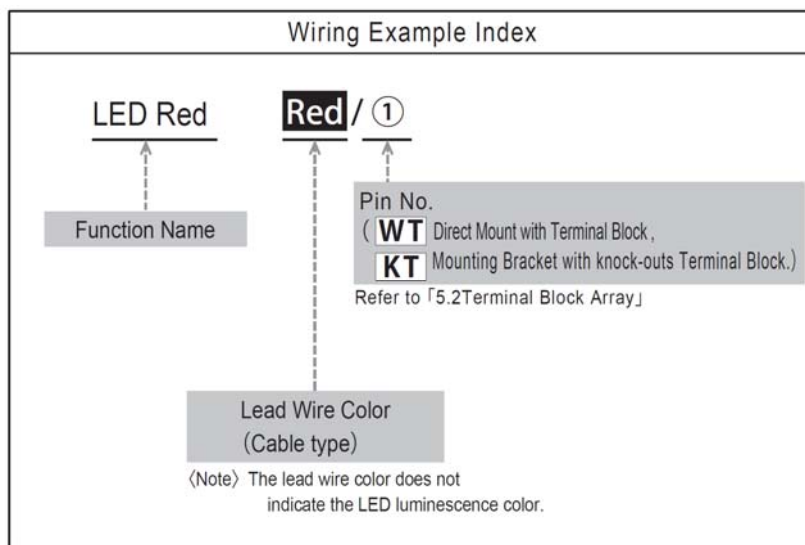


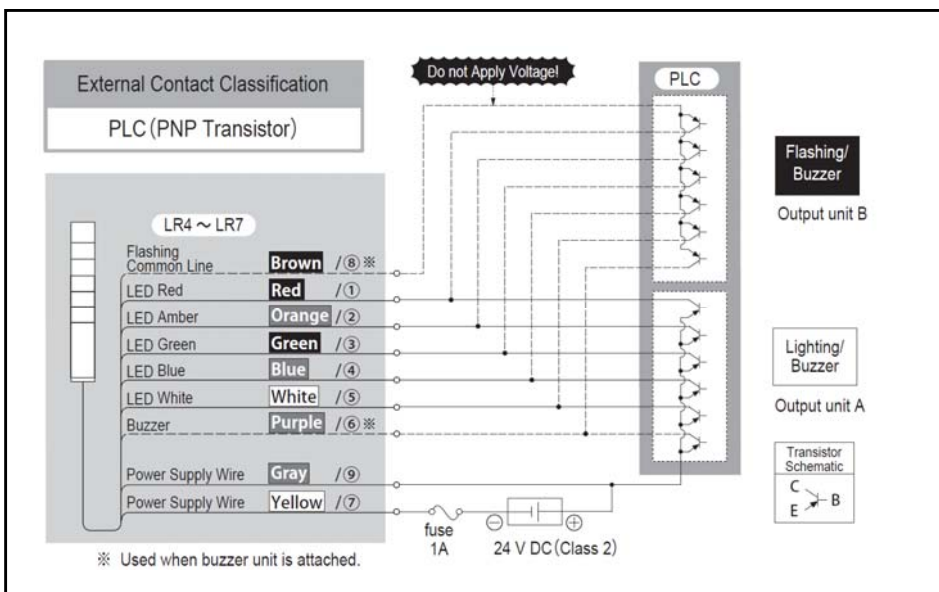
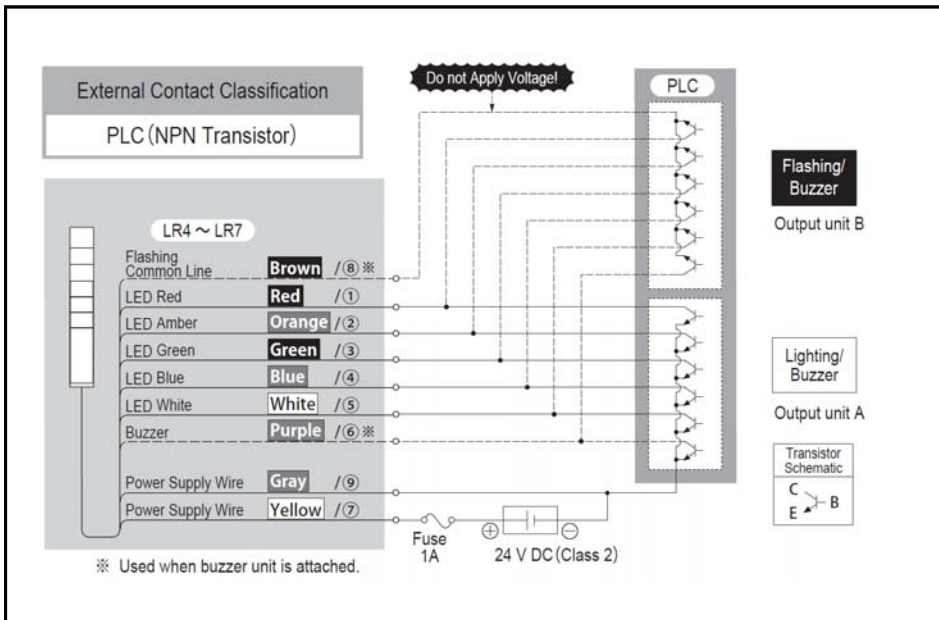
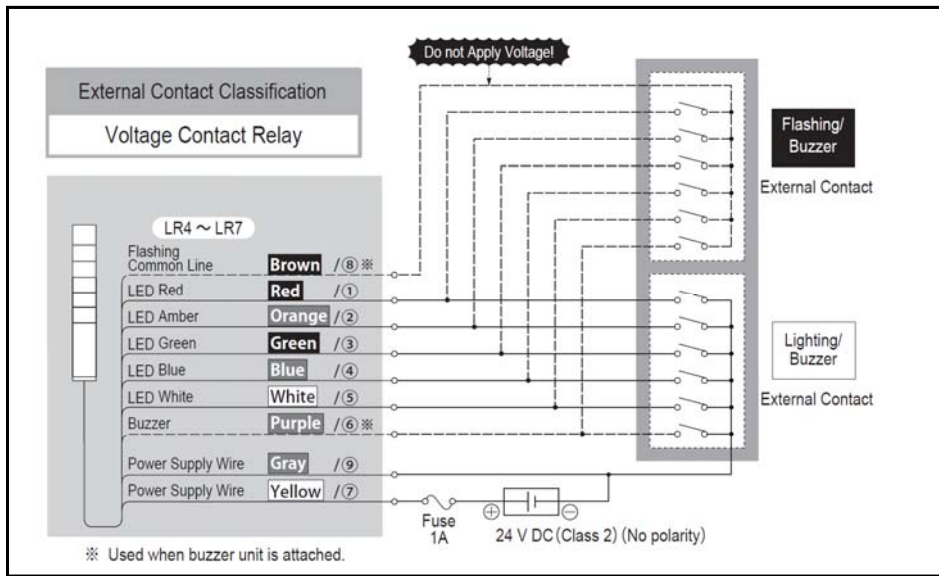
4.3 **QJ** Mounting Dimensional Drawing (Unit: mm)



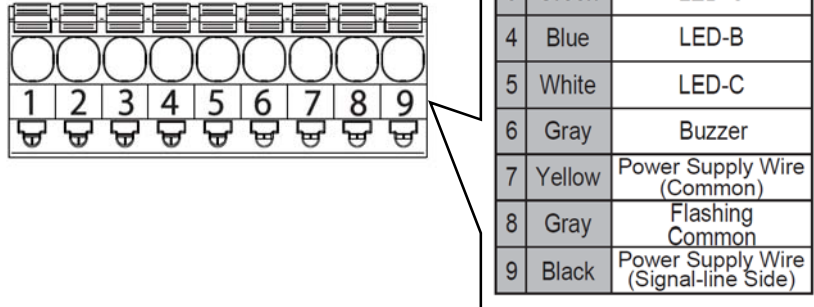
5. Wiring Diagram

5.1 Wiring Example





## 5.2 Terminal Block Array



### ■ Recommended lead wire specifications

Wire Type	Wire Gauge (Solid Wire)	Wire Gauge (Frayed Wire)
UL1007 / UL1430	0.14~1.5mm <sup>2</sup>	AWG30~14

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

## 5.3 External Contact Capacity

$I_s$  : Current Capacity  $V_s$  : Withstand Voltage  $I_L$  : Leakage Current

	Recommended contact capacity
LED Unit (1 Tier)	$I_s \geq 100\text{mA}$ $V_s \geq 35\text{VDC}$
Buzzer	$I_s \geq 300\text{mA}$ $V_s \geq 35\text{VDC}$
Power Supply	$I_s \geq 500\text{mA}$ $V_s \geq 35\text{VDC}$
Leakage Current	$I_L \leq 0.1\text{mA}$

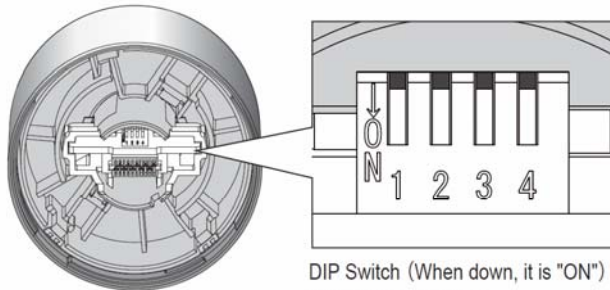
### ■ Recommended Fuse

Fuse Rated Current	250 V / 1 A (5x20mm Fast-Acting Glass Body Cartridge Fuse )
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## 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.

Buzzer Unit Underside



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

■ 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.