

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 : 300mA (※1)	
Inrush Current	Power Supply Wire	0.7A / Less than 0.5ms	
	Signal Wire	none	
Rated Power Consumption (Per Unit)	Typ.	LED Unit : 1W 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)(※2) / 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.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	
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)	
Remarks		(※1)Environmental Condition : Buzzer sound No.2 Continuous beep sound	
		(※2)LJ Type IP54	
		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)	

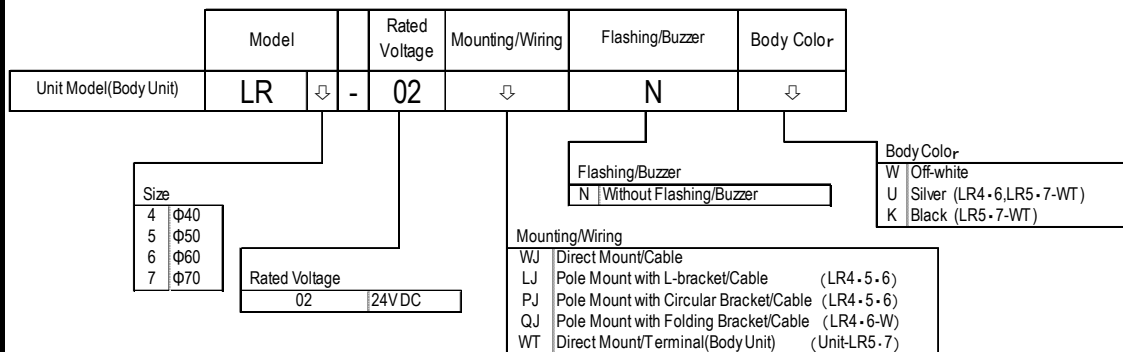
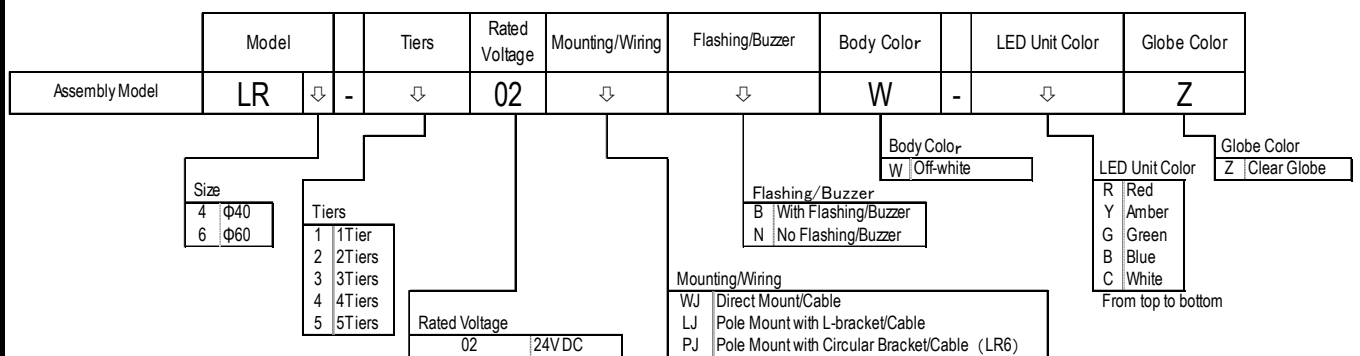
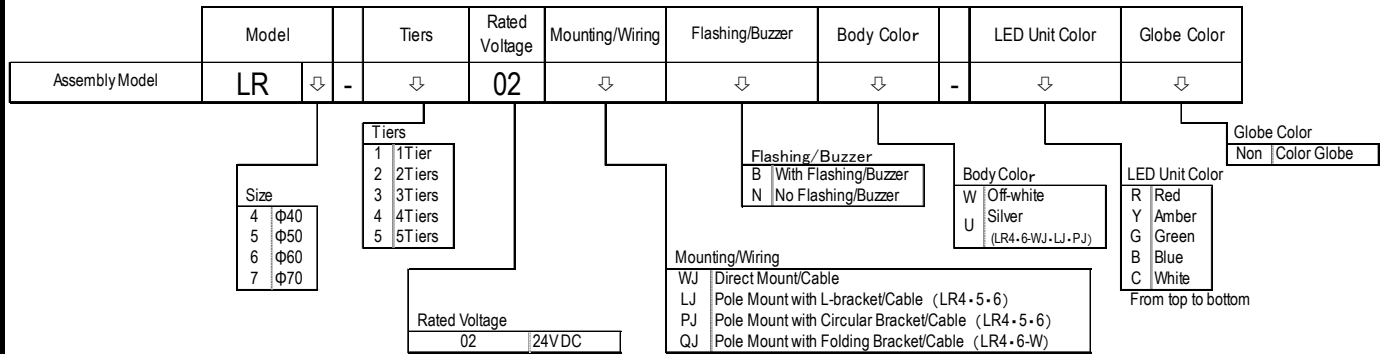
LR-502-W18C-1_13

PATLITE Corporation

Mass (Tolerance ±10%)	LR4	WJ	Body Color	(LED Unit) + [Buzzer Unit]	
			Off-white	$0.17\text{kg} + (0.035\text{kg}) \times \text{Tiers} + [0.035\text{kg}]$	
		LJ	Silver	$0.32\text{kg} + (0.035\text{kg}) \times \text{Tiers} + [0.035\text{kg}]$	
			Off-white	$0.46\text{kg} + (0.035\text{kg}) \times \text{Tiers} + [0.035\text{kg}]$	
		PJ	Silver	$0.61\text{kg} + (0.035\text{kg}) \times \text{Tiers} + [0.035\text{kg}]$	
			Off-white	$0.36\text{kg} + (0.035\text{kg}) \times \text{Tiers} + [0.035\text{kg}]$	
	LR5	QJ	Silver	$0.51\text{kg} + (0.035\text{kg}) \times \text{Tiers} + [0.035\text{kg}]$	
			Off-white	$0.42\text{kg} + (0.035\text{kg}) \times \text{Tiers} + [0.035\text{kg}]$	
		WT	Off white	$0.2\text{kg} + (0.04\text{kg}) \times \text{Tiers} + [0.05\text{kg}]$	
			Off-white	$0.49\text{kg} + (0.04\text{kg}) \times \text{Tiers} + [0.05\text{kg}]$	
			Off white	$0.38\text{kg} + (0.04\text{kg}) \times \text{Tiers} + [0.05\text{kg}]$	
		LR6	WJ	Off-white	0.10kg
	Silver				
	LJ		Off-white	$0.22\text{kg} + (0.06\text{kg}) \times \text{Tiers} + [0.06\text{kg}]$	
			Silver	$0.35\text{kg} + (0.06\text{kg}) \times \text{Tiers} + [0.06\text{kg}]$	
	PJ		Off-white	$0.5\text{kg} + (0.06\text{kg}) \times \text{Tiers} + [0.06\text{kg}]$	
			Silver	$0.64\text{kg} + (0.06\text{kg}) \times \text{Tiers} + [0.06\text{kg}]$	
	LR7	QJ	Off-white	$0.4\text{kg} + (0.06\text{kg}) \times \text{Tiers} + [0.06\text{kg}]$	
			Silver	$0.53\text{kg} + (0.06\text{kg}) \times \text{Tiers} + [0.06\text{kg}]$	
		Off-white	$0.46\text{kg} + (0.06\text{kg}) \times \text{Tiers} + [0.06\text{kg}]$		
	WT	Off white	$0.24\text{kg} + (0.065\text{kg}) \times \text{Tiers} + [0.07\text{kg}]$		
		Off-white	0.15kg		
		Silver			
	Black				
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	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-W18C-2_13					

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 ●24V DC ●Direct Mount/Terminal ●No Flashing/Buzzer ●Black

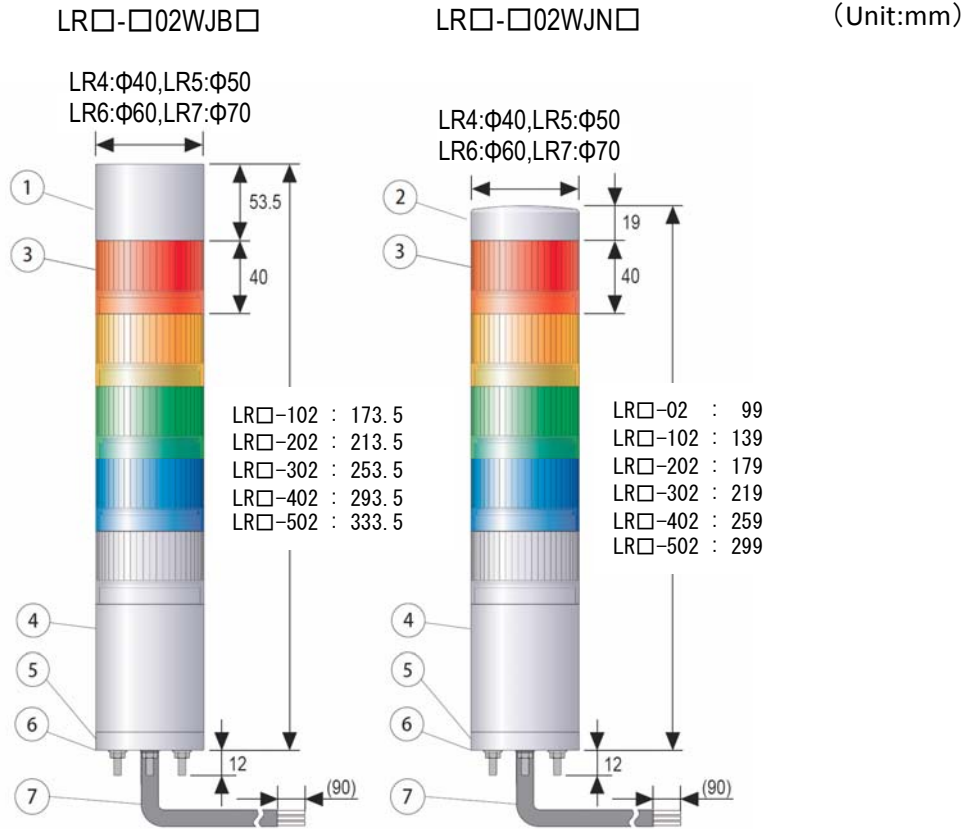
2.2. UL Registered Model

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

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

3.2 LR□-□02LJ□□

■ LJ L-bracket and Pole Mount with Cable

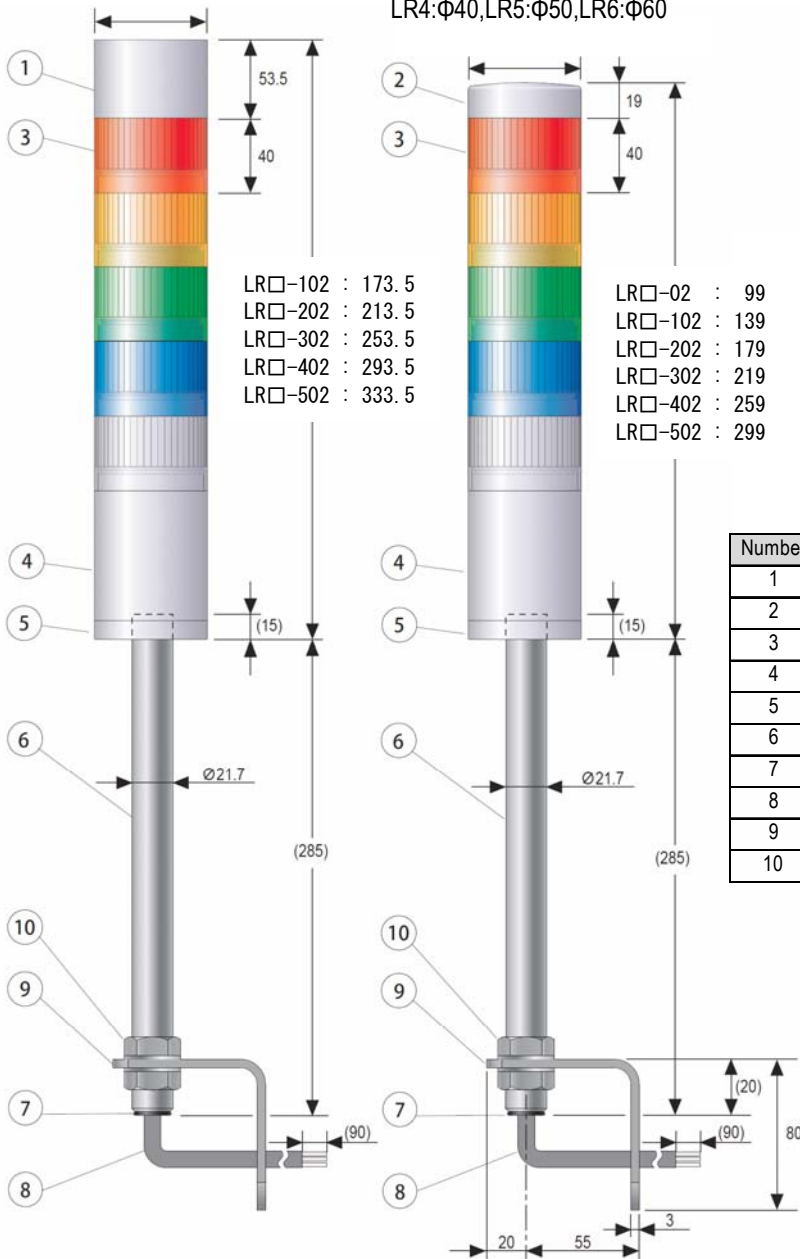
LR□-□02LJB□

LR□-□02LJN□

(Unit:mm)

LR4:Φ40,LR5:Φ50,LR6:Φ60

LR4:Φ40,LR5:Φ50,LR6:Φ60



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	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

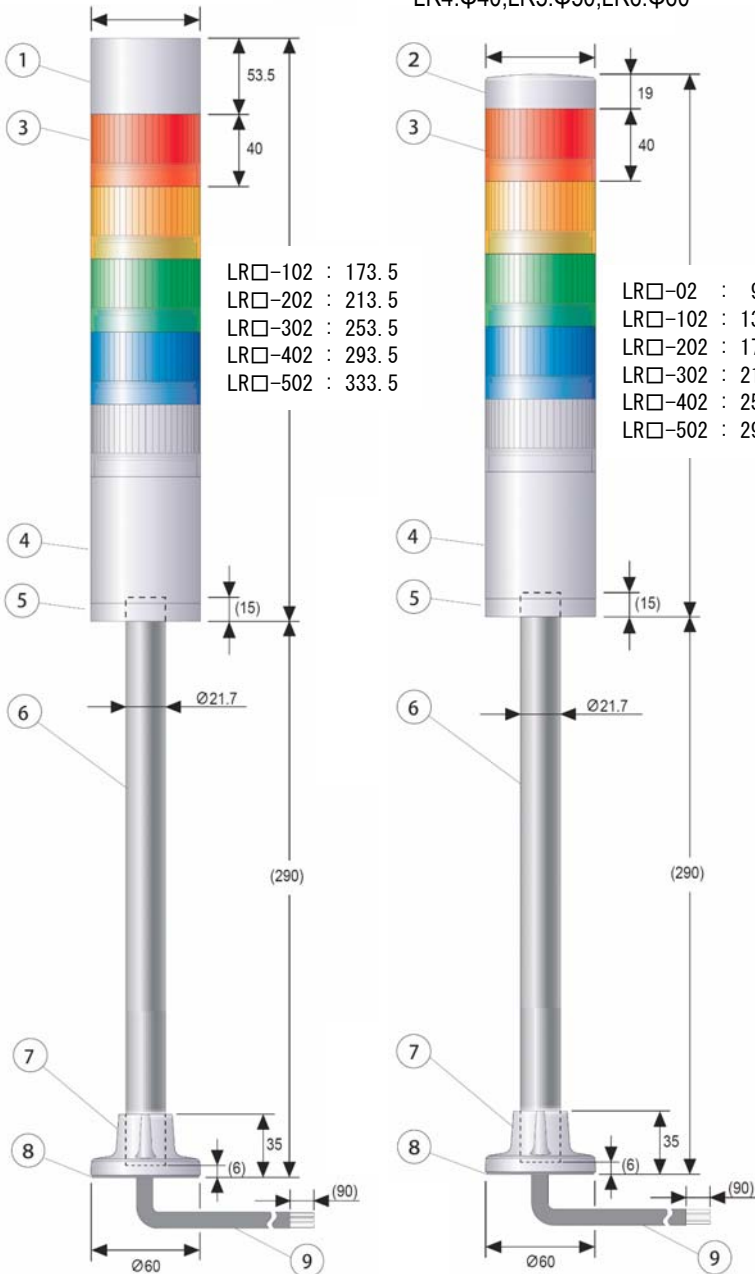
LR□-□02PJB□

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)

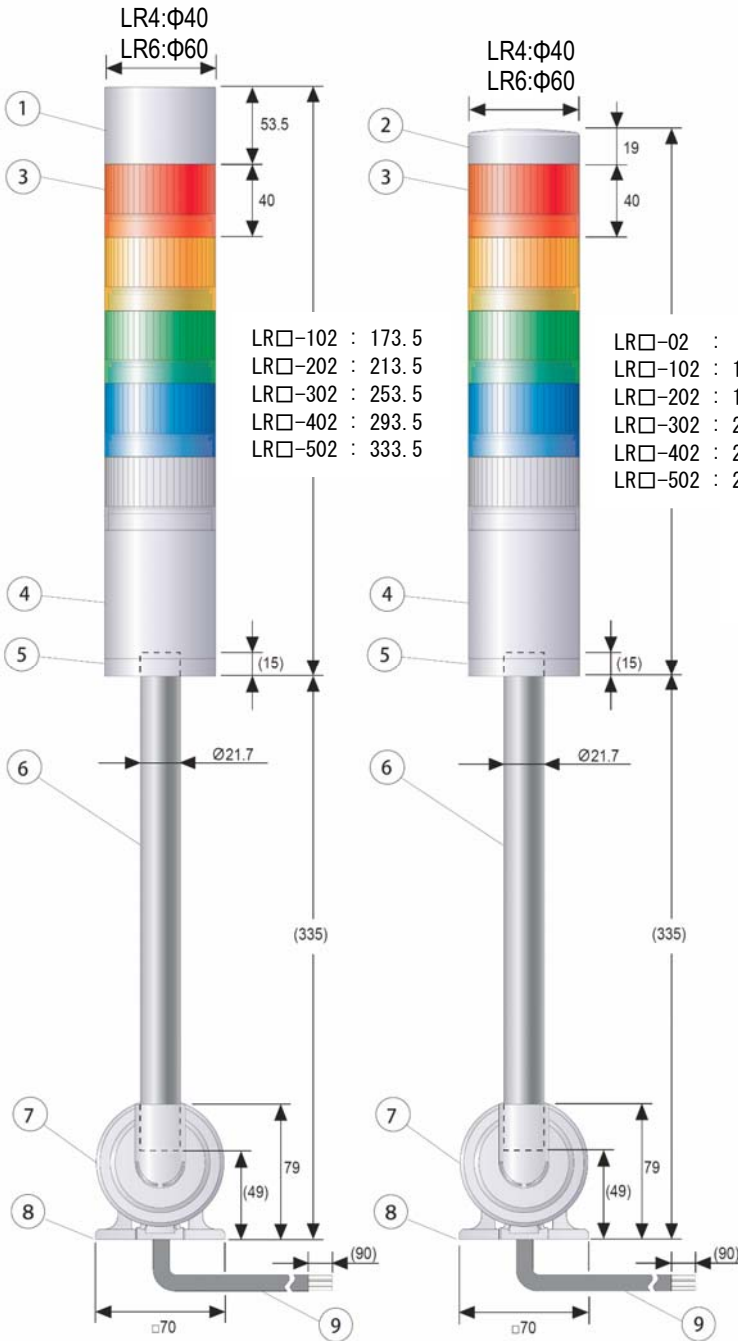
3.4 LR□-□02QJ□W

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

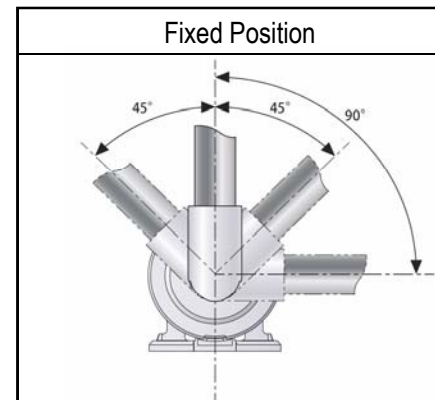
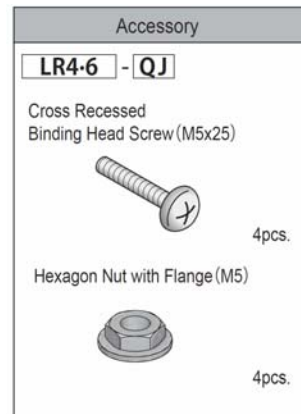
LR□-□02QJBW

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	Silicone Rubber	-
9	Cable	PVC	VW-1

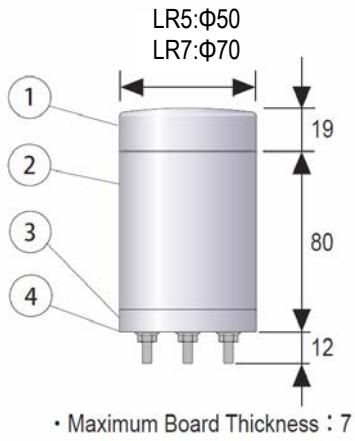


- Cable : UL2464 (φ7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length : (950)

3.5 LR□-02WTN□

■ WT Direct Mount with Terminal Block

(Unit:mm)

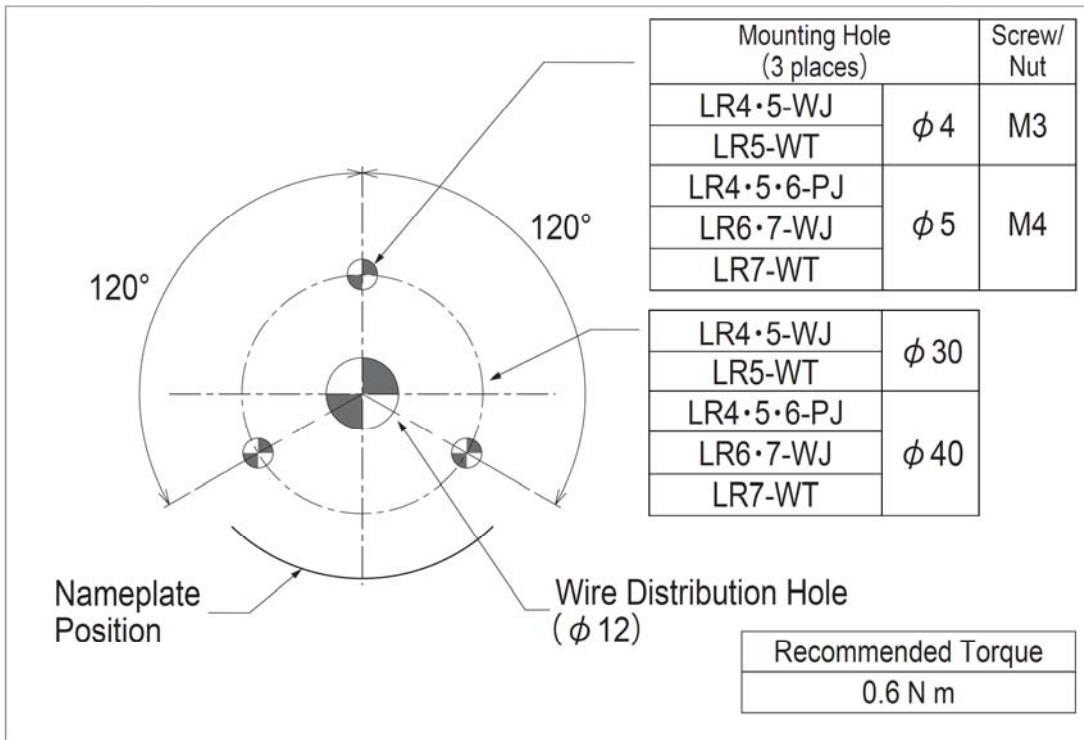


Number	Name	Material	UL Flammability
1	Head Cover	PC	V-2
2	Body	PC	V-2
3	Direct Mount Bracket	PC	V-2
4	Waterproof Packing	Silicone Rubber	-

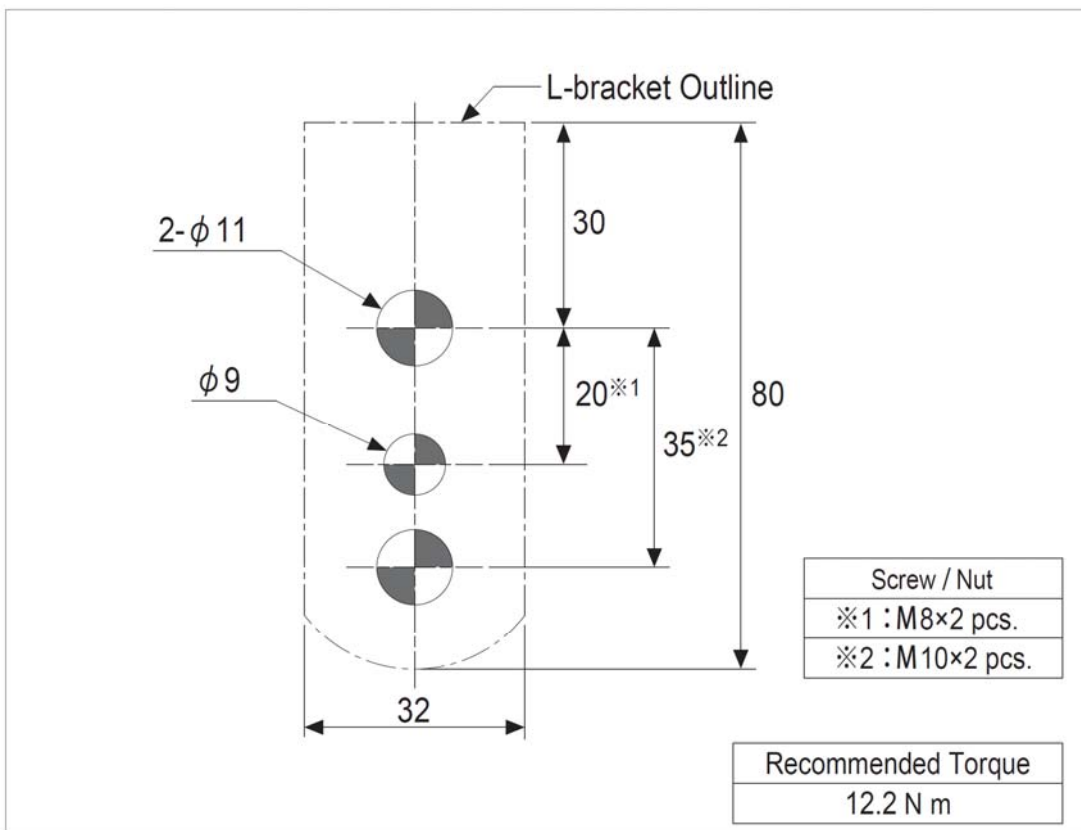
Accessory	
LR5 - WT Hexagon Nut with Flange (M3)	LR7 - WT Hexagon Nut with Flange (M4)
<p>3pcs.</p>	<p>3pcs.</p>

4. Mounting Dimensional Drawing

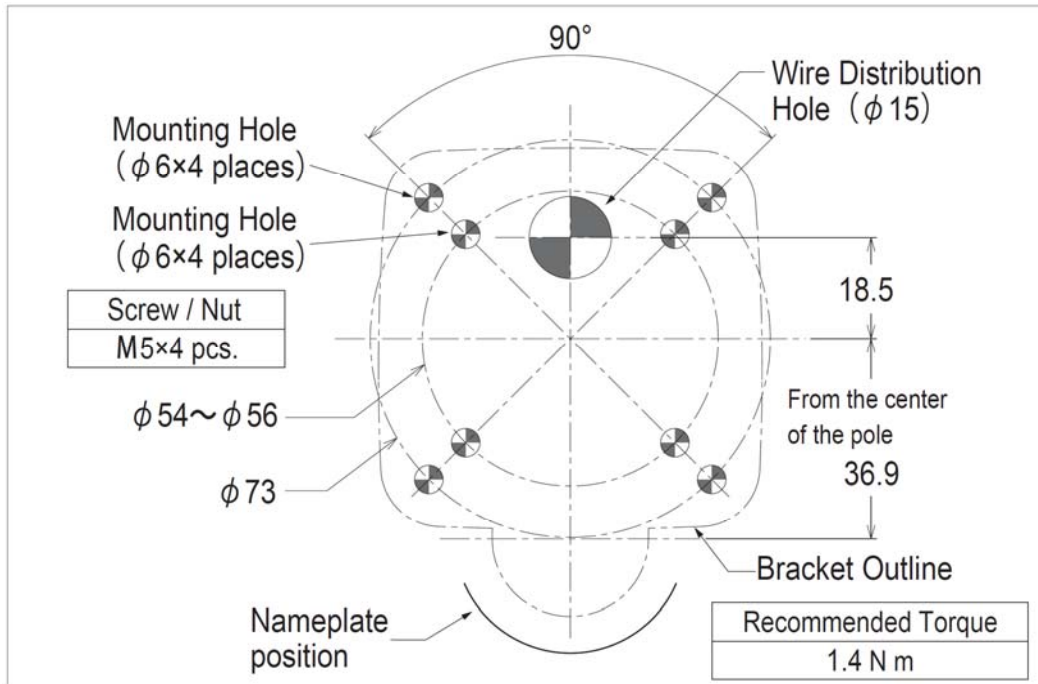
4.1 [WJ] - [PJ] - [WT] Mounting Dimensional Drawing (Unit: mm)



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

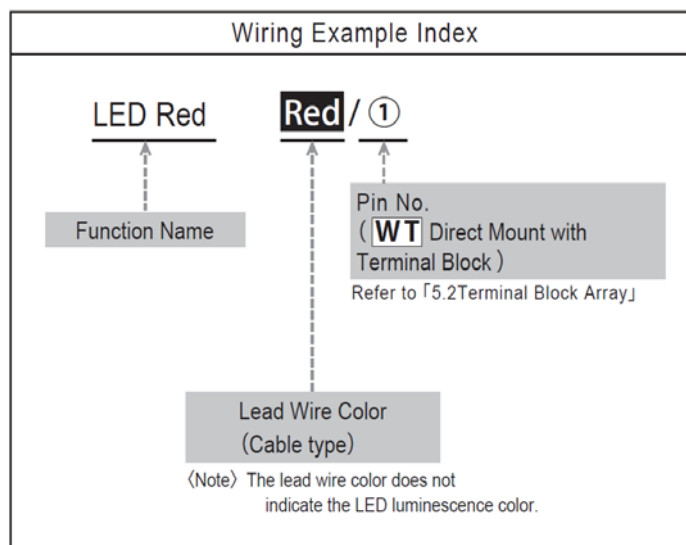


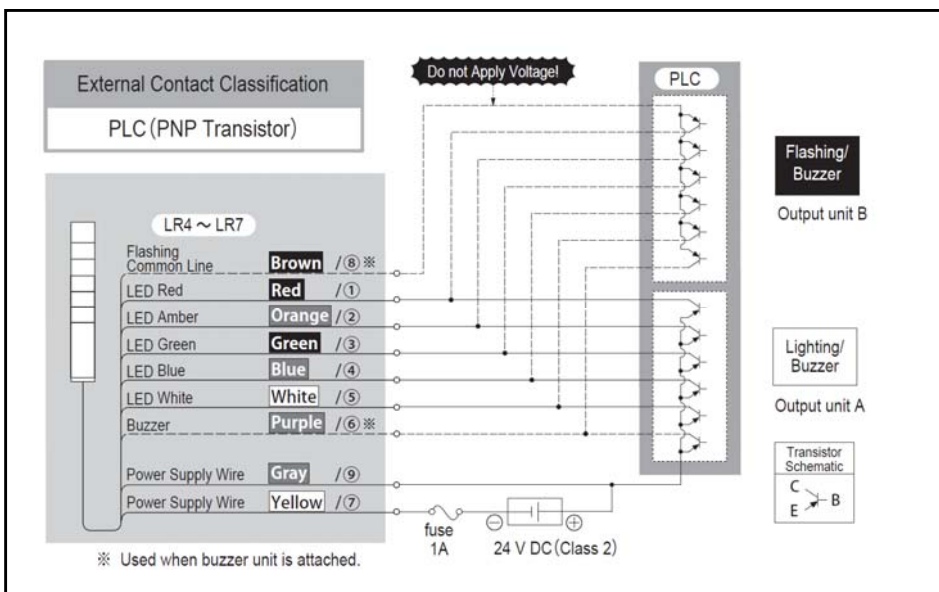
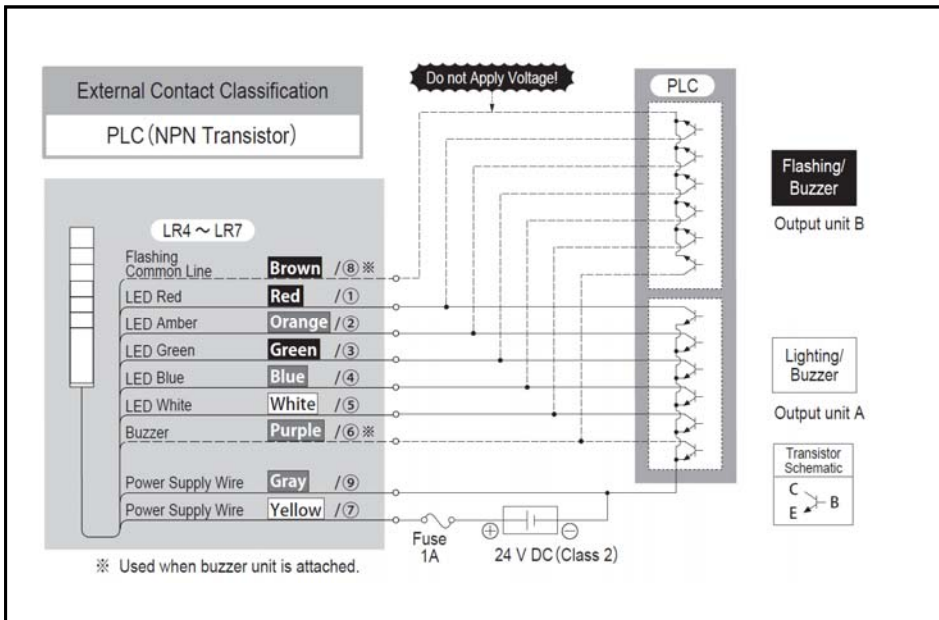
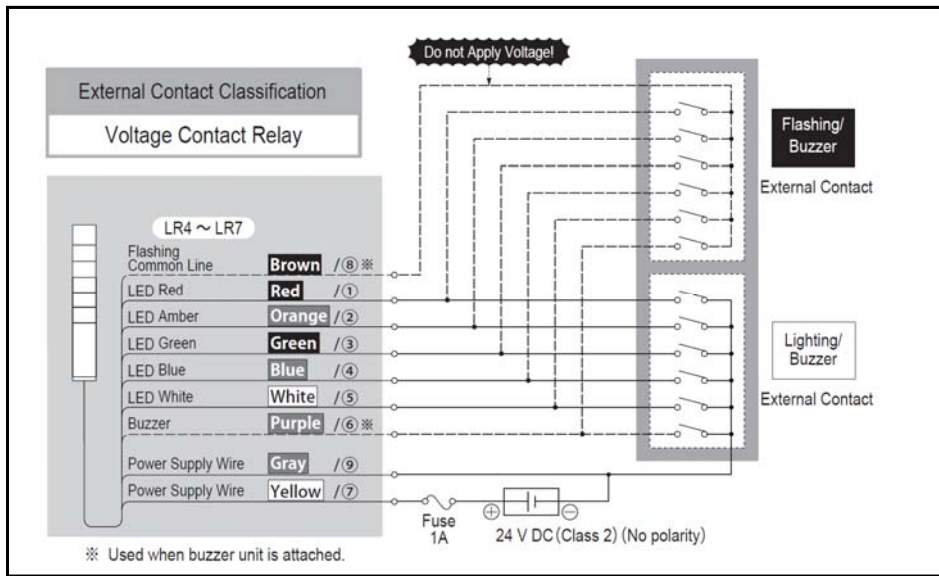
4.3 **QJ** Mounting Dimensional Drawing (Unit: mm)



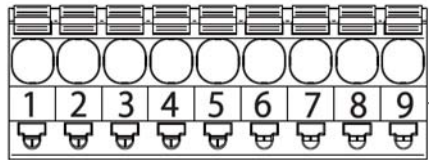
5. Wiring Diagram

5.1 Wiring Example





5.2 Terminal Block Array



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)

■ 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.

5.3 External Contact Capacity

I_S : Current Capacity V_S : Withstand Voltage I_L : Leakage Current

Rated Load Voltage		24VDC			
LED Unit (1 Tier)	Signal Wire Current	40mA			
	Contact Capacity	$I_S \geq 100\text{mA}$ $V_S \geq 35\text{VDC}$			
Buzzer	Signal Wire Current	40mA			
	Contact Capacity	$I_S \geq 300\text{mA}$ $V_S \geq 35\text{VDC}$ (※1)			
Power Supply	Current Consumption	250mA			
	Contact Capacity	$I_S \geq 700\text{mA}$ $V_S \geq \text{DC}35\text{V}$			
Inrush Current	Signal Wire	LED	None	Buzzer	None(※1)
	Power Supply Wire	0.7A / Less than 0.5ms			
Leakage Current		$I_L \leq 0.1\text{mA}$			

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

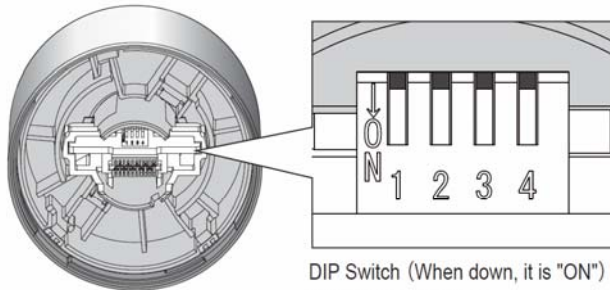
■ Recommended Fuse

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
ON		Sound Reduction

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