

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℃ ~ +50℃	
Operating Ambient Humidity		Less than 90% RH (No Condensation)	
Storage Ambient Temperature		-30℃ ~ +60℃	
Storage Ambient Humidity		Less than 90% RH (No Condensation)	
Mounting Location		Indoor Only	
Mounting Direction		Upright	
Protection Rating		IP65(IEC 60529) / NEMA TYPE 4X,13	
		LJ	IP54(IEC 60529) / NEMA TYPE 4X,13
		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)	

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PATLITE Corporation

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

2.1.1 Model Number Configuration

	Model		Tiers	Rated Voltage	Mounting/Wiring	Flashing/Buzzer	Body Color		LED Unit Color	Globe Color
Assembly Model	LR	↓	-	02	↓	↓	↓	-	↓	↓
	Size		Tiers	Rated Voltage	Mounting/Wiring	Flashing/Buzzer	Body Color		LED Unit Color	Globe Color
	4 Φ40 5 Φ50 6 Φ60 7 Φ70		1 1Tier 2 2Tiers 3 3Tiers 4 4Tiers 5 5Tiers	02 24V DC	WJ Direct Mount/Cable LJ Pole Mount with L-bracket/Cable (LR4-5-6) PJ Pole Mount with Circular Bracket/Cable (LR4-5-6) QJ Pole Mount with Folding Bracket/Cable (LR4-6-W) WT Direct Mount/Terminal (LR5)	B With Flashing/Buzzer N No Flashing/Buzzer	W Off-white U Silver (LR4-6-WJ-LJ-PJ)		R Red Y Amber G Green B Blue C White From top to bottom	None Color Globe
Assembly Model	LR	↓	-	02	↓	↓	W	-	↓	Z
	Size		Tiers	Rated Voltage	Mounting/Wiring	Flashing/Buzzer	Body Color		LED Unit Color	Globe Color
	4 Φ40 6 Φ60		1 1Tier 2 2Tiers 3 3Tiers 4 4Tiers 5 5Tiers	02 24V DC	WJ Direct Mount/Cable LJ Pole Mount with L-bracket/Cable PJ Pole Mount with Circular Bracket/Cable (LR6)	B With Flashing/Buzzer N No Flashing/Buzzer	W Off-white		R Red Y Amber G Green B Blue C White From top to bottom	Z Clear Globe
Unit Model(Body Unit)	LR	↓	-	02	↓	N	↓			
	Size			Rated Voltage	Mounting/Wiring	Flashing/Buzzer	Body Color			
	4 Φ40 5 Φ50 6 Φ60 7 Φ70			02 24V DC	WJ Direct Mount/Cable LJ Pole Mount with L-bracket/Cable (LR4-5-6) PJ Pole Mount with Circular Bracket/Cable (LR4-5-6) QJ Pole Mount with Folding Bracket/Cable (LR4-6-W) WT Direct Mount/Terminal(Body Unit) (Unit-LR5-7) KT Mounting Bracket with knock-outs/Terminal(Body Unit) (Unit-LR5-7)	N Without Flashing/Buzzer	W Off-white U Silver (LR4-6,LR5-7-WT-KT) K Black (LR5-7-WT-KT)			

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
Unit Model (Body Unit)	●Φ40 ●LED Unit 1Tier ●24V DC ●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

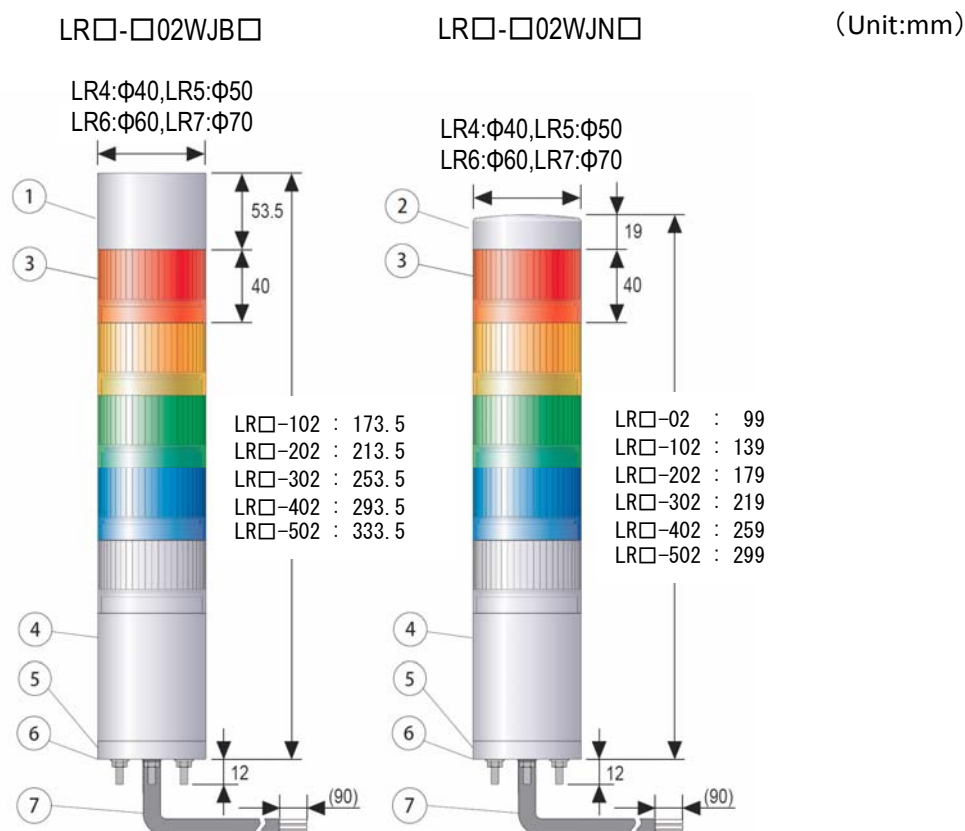
LR4	LR4-02WJB, LR4-02WJN, LR4-02WJN, LR4-02LJB, LR4-02LJN, LR4-02LJN, LR4-02PJB, LR4-02PJN, LR4-02PJN, LR4-02QJB, LR4-02QJN, LR4-02QJN
LR5	LR5-02WJB, LR5-02WJN, LR5-02WJN, LR5-02LJB, LR5-02LJN, LR5-02LJN, LR5-02PJB, LR5-02PJN, LR5-02PJN, LR5-02WTB, LR5-02WTN, LR5-02KTN
LR6	LR6-02WJB, LR6-02WJN, LR6-02WJN,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

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3.Outer Dimensions

3.1 LR□-□02WJ□□

■ **WJ** Direct Mount with Cable



- Maximum Board Thickness : 7
- Cable : UL2464 (Φ 7.5)
- 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	VW-1

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

3.2 LR□-□02LJ□□

■ **LJ** L-bracket and Pole Mount with Cable

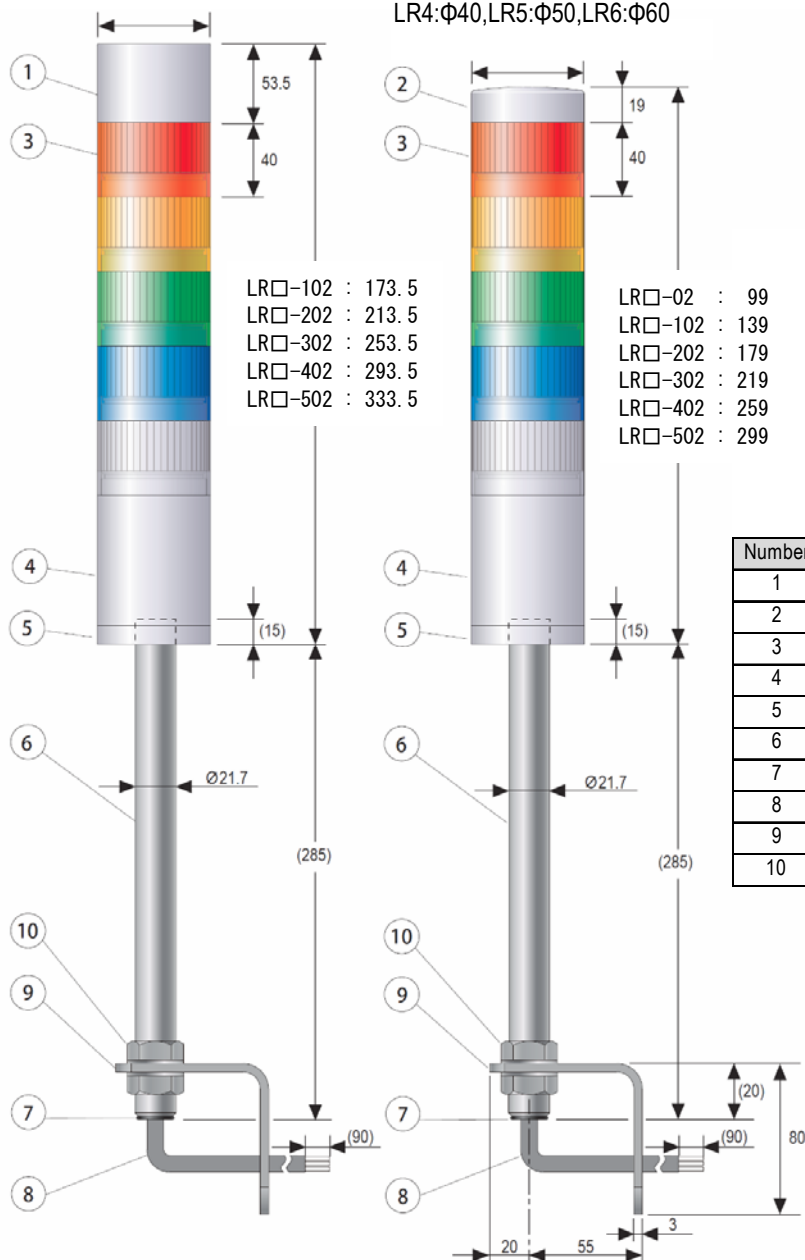
LR□-□02LJB□

LR□-□02LJN□

(Unit:mm)

LR4:Φ40,LR5:Φ50,LR6:Φ60

LR4:Φ40,LR5:Φ50,LR6:Φ60



- 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

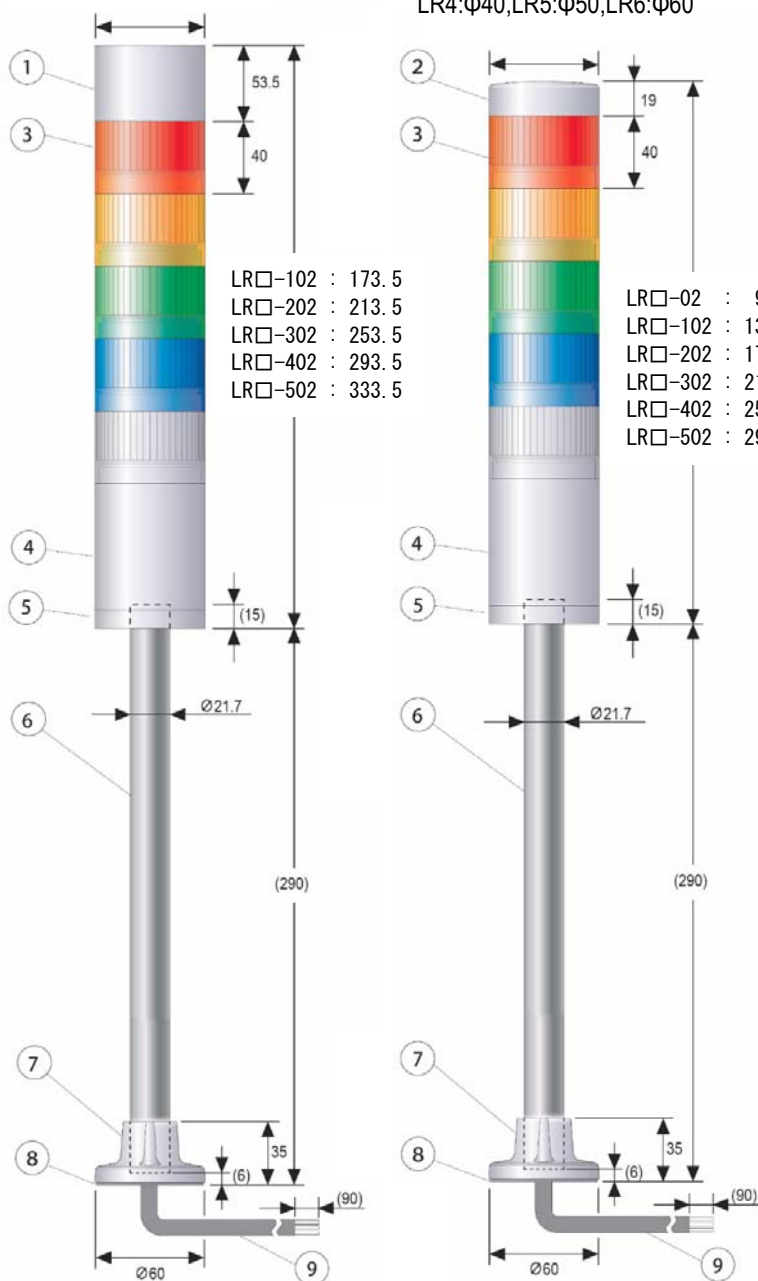
LR□-□02PJB□

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

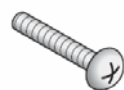
LR□-02 : 99
LR□-102 : 139
LR□-202 : 179
LR□-302 : 219
LR□-402 : 259
LR□-502 : 299

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)

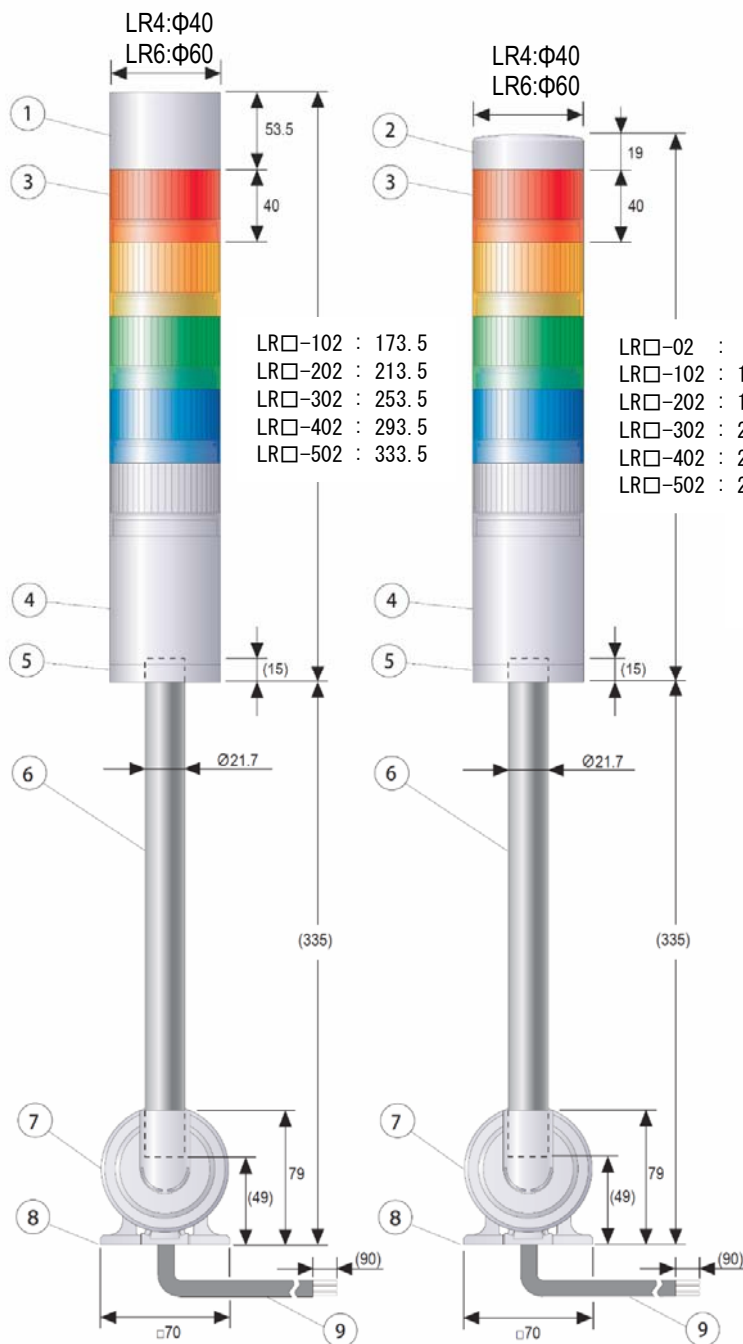
3.4 LR□-□02QJ□W

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

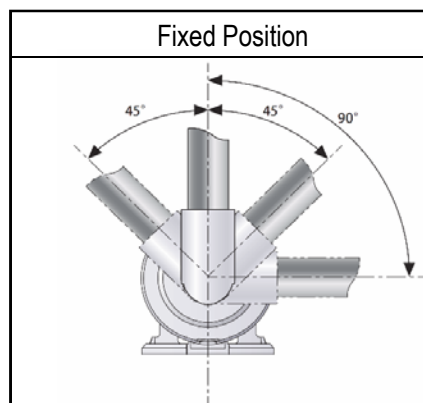
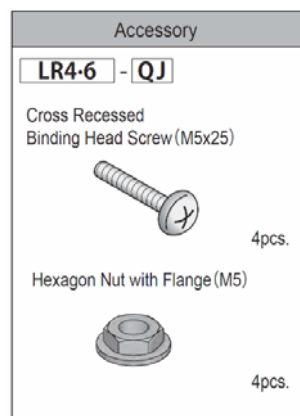
LR□-□02QJBW

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



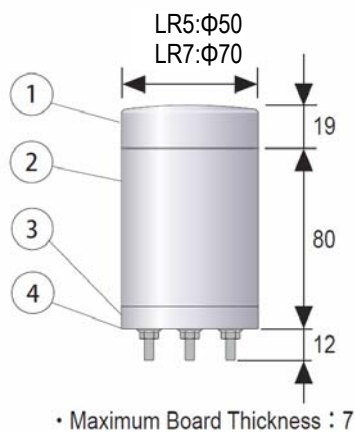
- Cable : UL2464 (Φ7.5)
- Signal Wire & Power Supply Wire : AWG24
- Cable Length : (950)

3.5 LR□-02WTN□

■ Unit Model(Body Unit)

WT Direct Mount with Terminal Block

(Unit:mm)



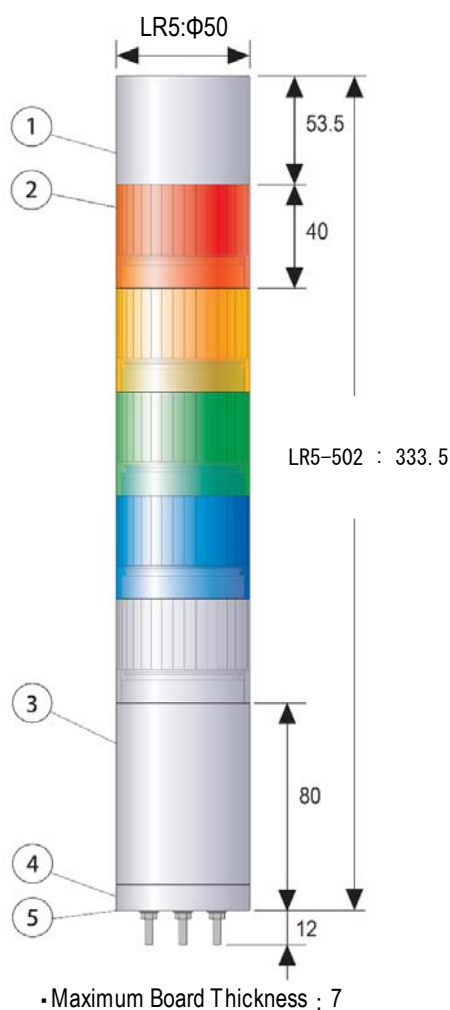
Number	Name	Material	UL Flammability
1	Head Cover	PC	V-2
2	Body	PC	V-2
3	Direct Mount Bracket	PC	V-2
4	Waterproof Packing	Silicone Rubber	-

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

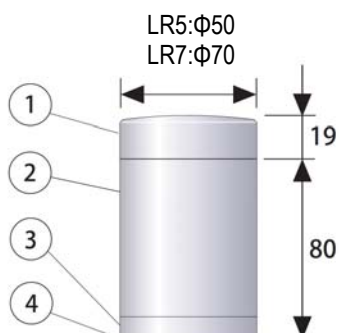
Accessory	
LR5 - WT Hexagon Nut with Flange (M3)  3pcs.	

3.7 LR□-02KTN□

■ Unit Model(Body Unit)

KT Mounting Bracket with knock-outs and Terminal Block

(Unit:mm)



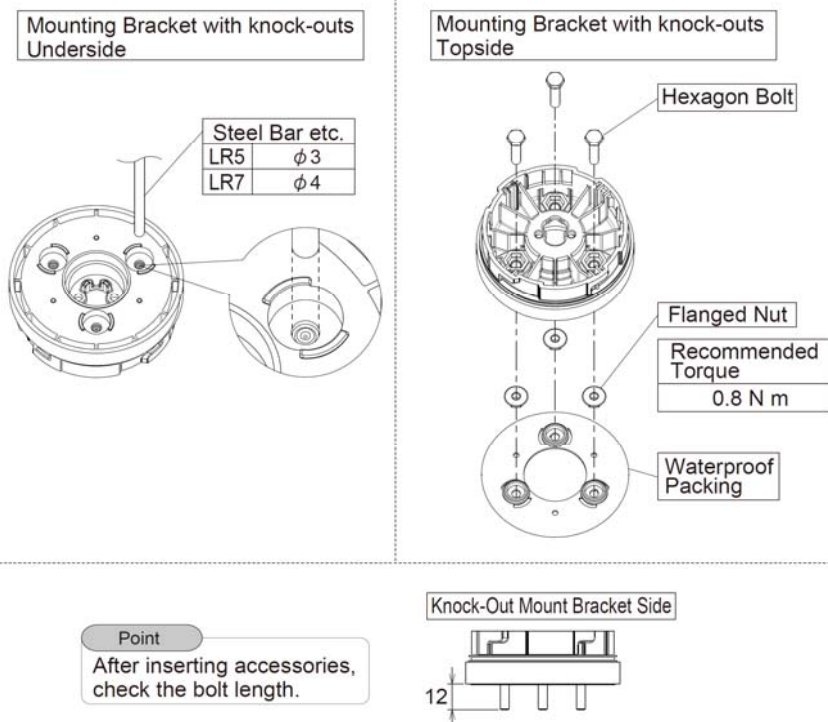
Number	Name	Material	UL Flammability
1	Head Cover	PC	V-2
2	Body	PC	V-2
3	Mounting Bracket with Knock-outs	PC	V-2
4	Waterproof Packing	Silicone Rubber	-

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

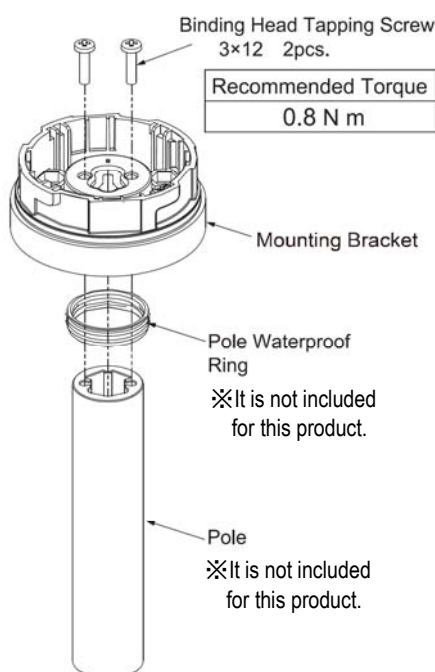
KT Direct Mount (Using accessory)

(Unit:mm)

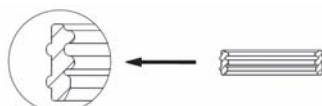
1. Place the Mounting Bracket on the even surface.
2. Be sure to remove the waterproof packing from the Mounting Bracket.
3. Knock out the three knock-out holes with a steel punch, etc.
4. Insert the hexagon bolt into the knockout holes and affix with the flanged nuts.
5. Insert the waterproof packing.



KT Pole Installation(Not using accessory)



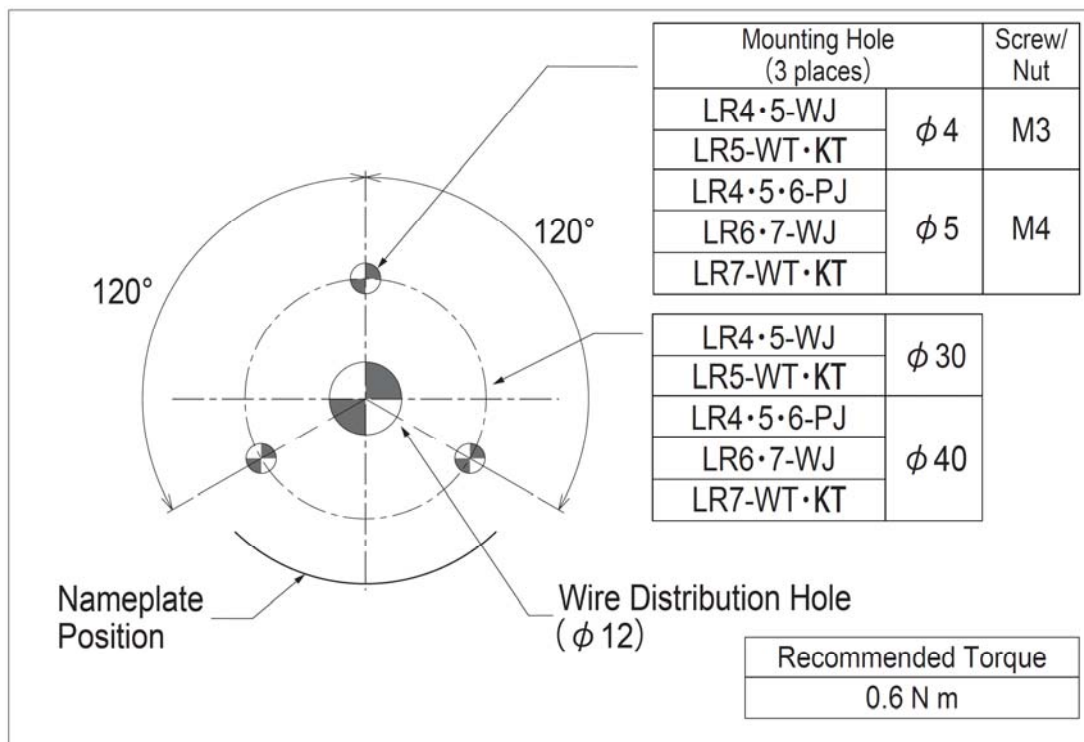
1. Be sure to remove the waterproof packing from the Mounting Bracket.
2. Install the Pole Waterproof Ring in the Mounting Bracket.
Check that the 2 ribs are on the outside.



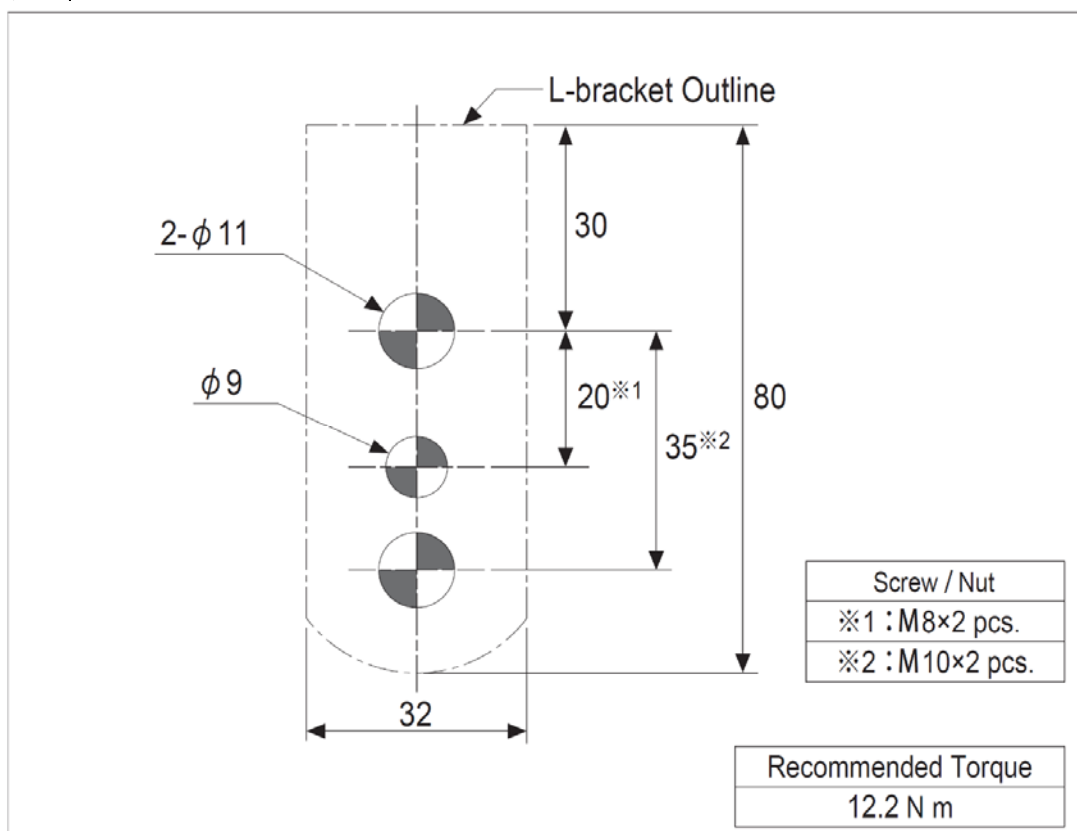
3. Insert Pole into the Mounting Bracket.
See the figure on the left for details on the direction of insertion.
4. Tighten the Binding Head Tapping Screws (2 pcs.) from the topside of the Mounting Bracket.

4. Mounting Dimensional Drawing

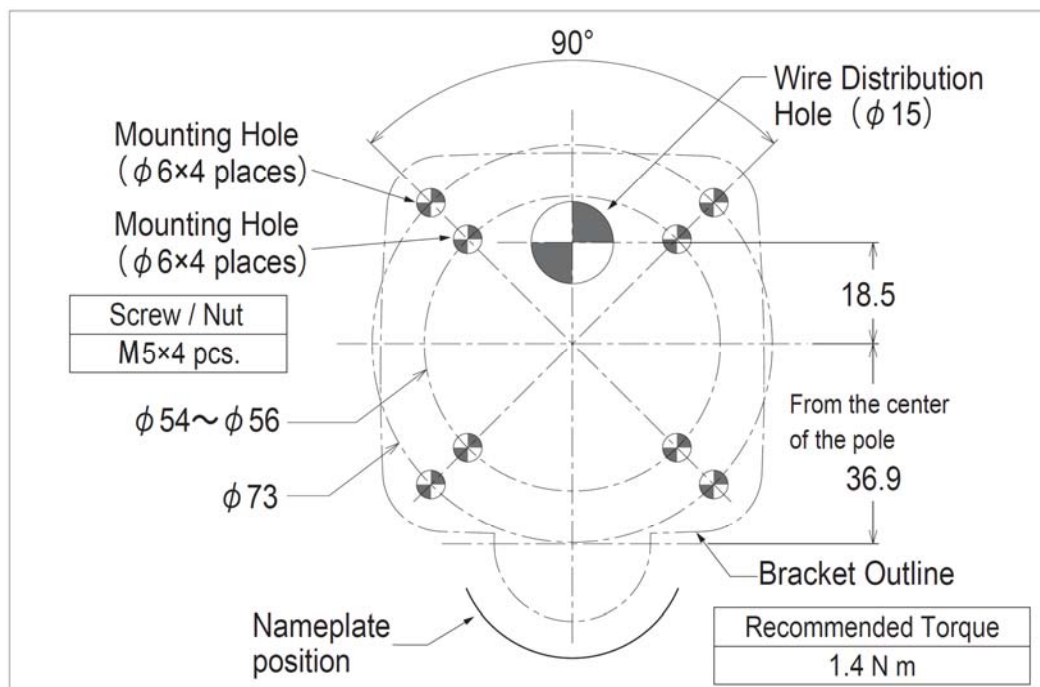
4.1 [WJ] · [PJ] · [WT] · [KT] Mounting Dimensional Drawing (Unit: mm)



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

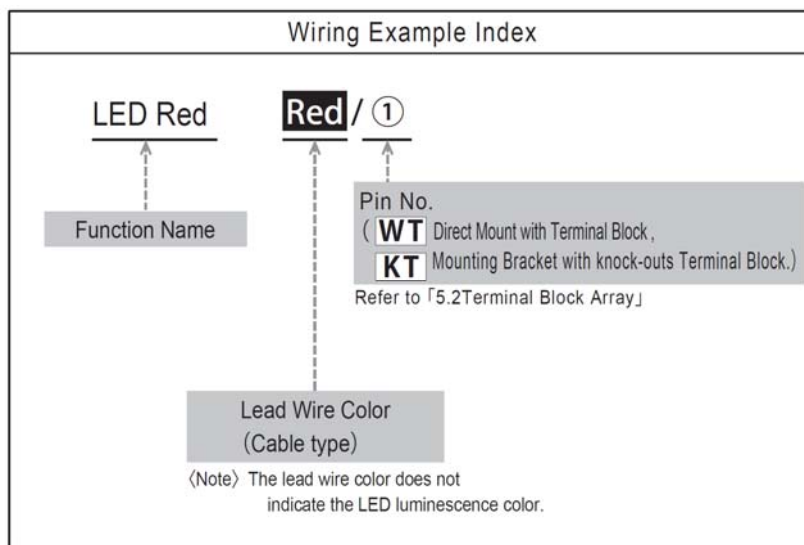


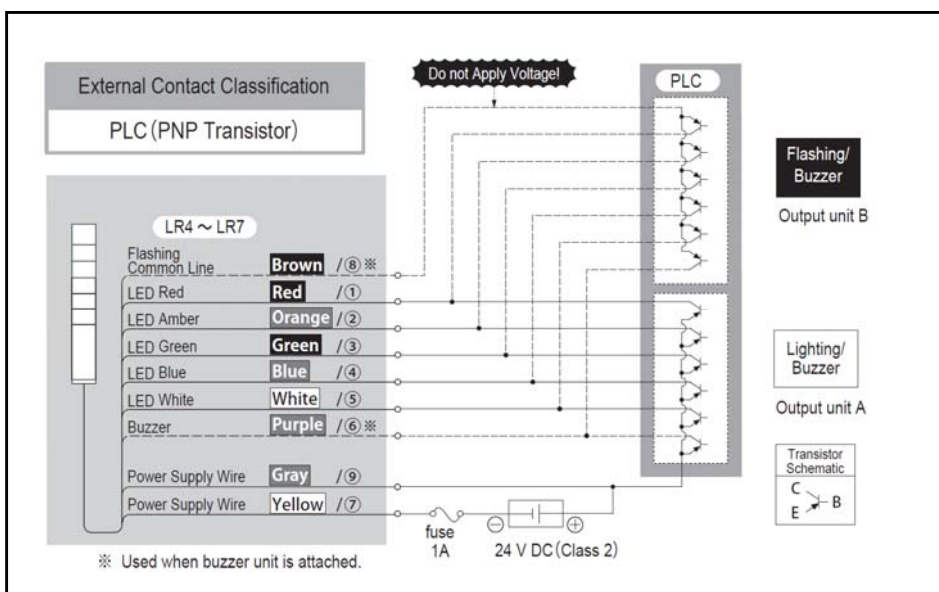
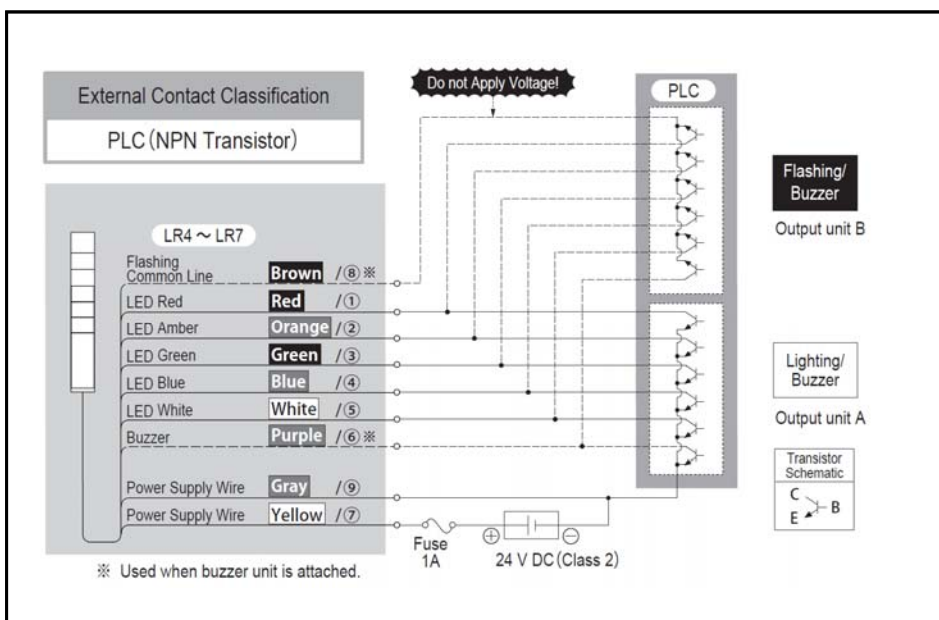
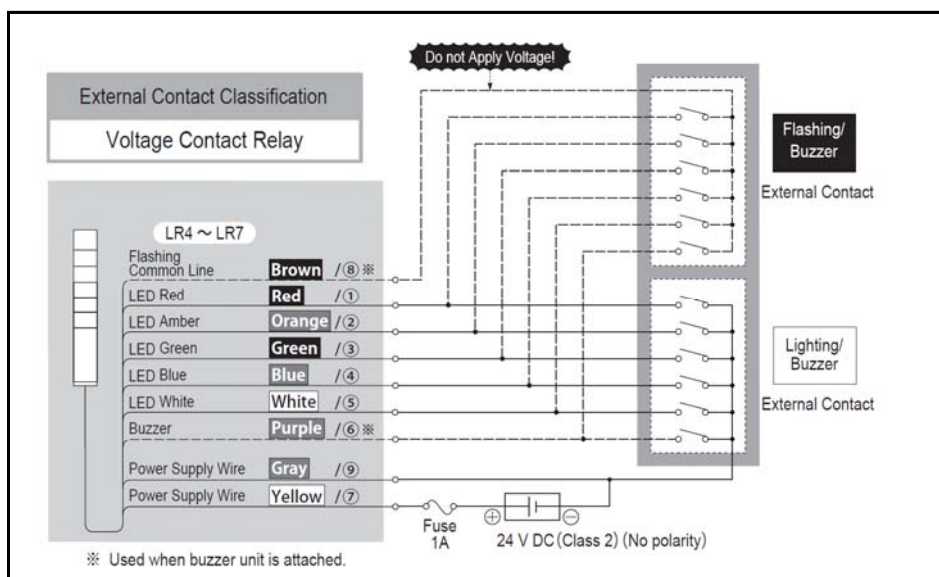
4.3 QJ Mounting Dimensional Drawing (Unit: mm)



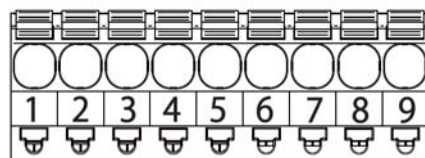
5. Wiring Diagram

5.1 Wiring Example





5.2 Terminal Block Array



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

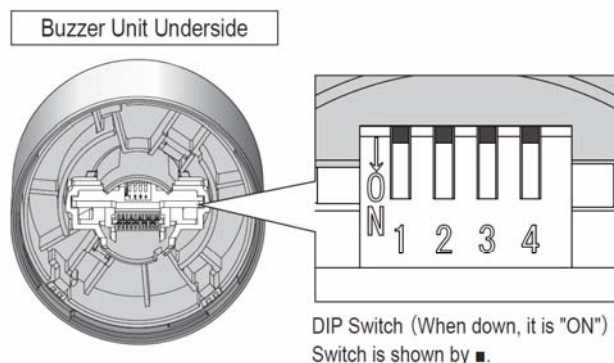
	Recommended contact capacity
LED Unit (1 Tier)	$I_s \geq 100\text{mA}$ $V_s \geq 35\text{VDC}$
Buzzer	$I_s \geq 300\text{mA}$ $V_s \geq 35\text{VDC}$
Power Supply	$I_s \geq 500\text{mA}$ $V_s \geq 35\text{VDC}$
Leakage Current	$I_L \leq 0.1\text{mA}$

■ 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.



■ 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.