

# LME / LME-U / LME-N

## Signal Tower



**LED**



**Cabtyre** (LME-U)



**90dB at 1m**  
(FB type)

**Electronic Sound 2**  
(FB type)

**Ø60**

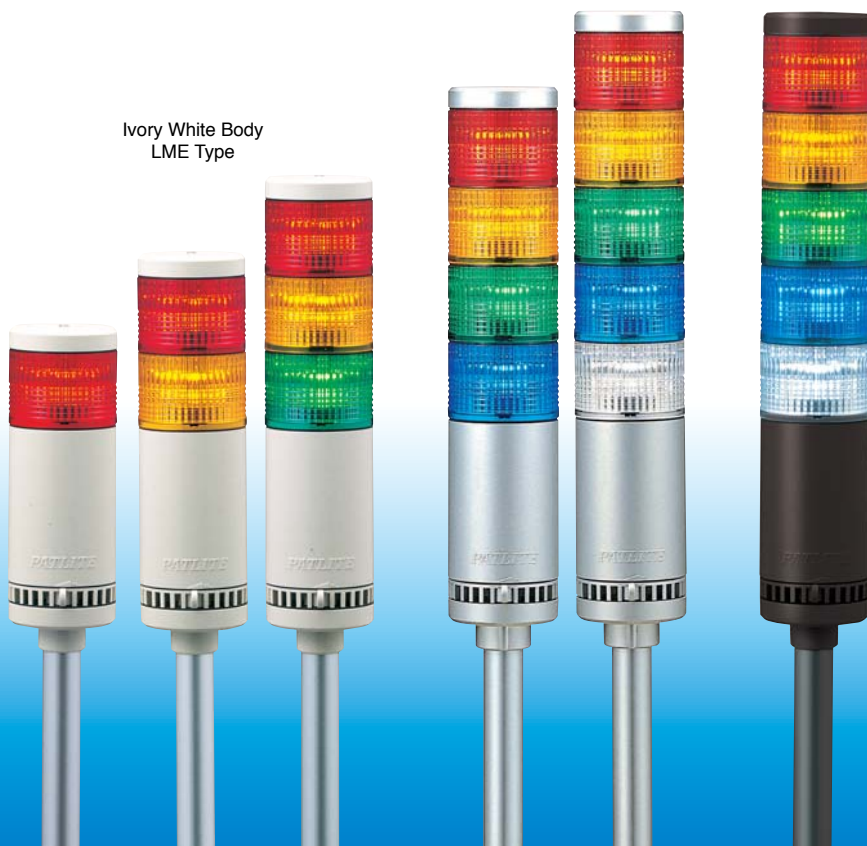
**IP65**  
(FB, L, K type: IP54)

**NPN/PNP**  
Open collector

Ivory White Body  
LME Type

Silver Color Body  
LME-U Type

Black Color Body  
LME-N Type



Reflection  
system



High visibility  
from any direction



Adjustable volume  
Max. 90dB at 1m

## Versatile, cost and energy efficient LED Signal Tower for every need.

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- FB type: 2 selectable built-in alarms with adjustable volume up to 90dB at 1m.
- Installation: Direct or pole mount.
- Interchangeable LED module: No re-wiring even after installation.
- Main Body: Superior impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- NPN/PNP Compatible: Except 100/220V AC LME-U type, compatible with NPN only.
- Available Colors: Red, Amber, Green, Blue, Clear/White.

### LME-U type

- Available 24V AC/DC only.
- Silver Color Body.
- Cabtyre Cable: Versatile and flexible 3m cable.
- Pole-mount with circular mounting base or wall mount bracket as an optional accessory.

### Available by Special Order

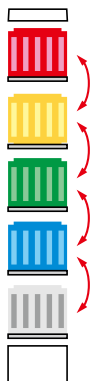
- UL type (E215660)

## Interchangeable LED modules

- Changeable color sequence: Easy to add / remove up to 5 colored modules even after installation.
- Note: LED modules of the same color within a signal tower will light up simultaneously.

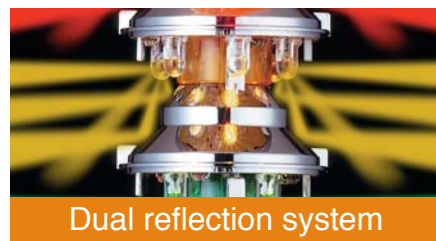
## The wiring remains the same

Each color of LED module corresponds to the lead wire color.



## Easy to add and remove

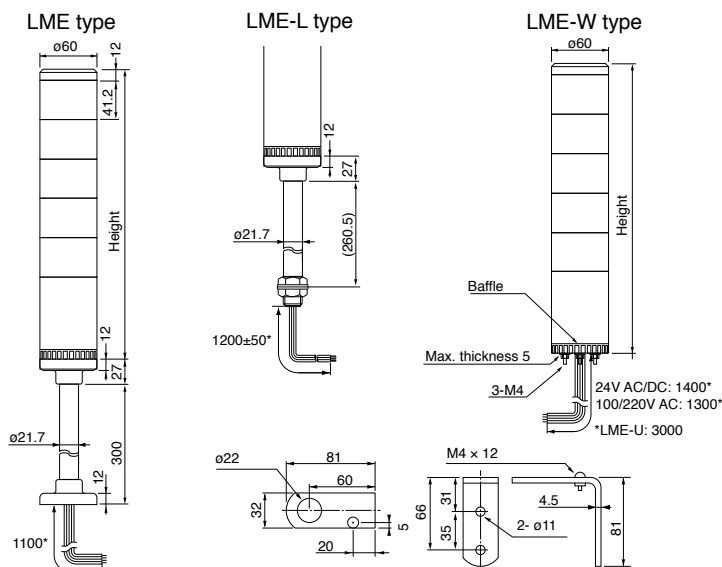
If the number of LED module is changed, center shaft must be purchased.



## Dual reflection system

PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and 5 color LED modules create bright, distinctive, even illumination.

## Dimensions



### 100/220V AC type

Height (mm)
1 Light: 206.0
2 Lights: 247.2
3 Lights: 288.4
4 Lights: 329.6
5 Lights: 370.8

### 24V AC/DC type

Height (mm)
1 Light: 150.0
2 Lights: 191.2
3 Lights: 232.4
4 Lights: 273.6
5 Lights: 314.8



(mm)

## Wiring Diagram

Note: See page 169 for wiring diagram

## LME Type

Number of Stacks	Model	Rated Voltage	Power Consumption	Mass		
				LME	LME-L	LME-W
1 Light	LME-102	24V AC/DC	2.2W	0.42kg	1.01kg	0.52kg
	LME-110	100V AC				
	LME-112	120V AC	5.1W	0.66kg	—	—
	LME-120	220V AC				
2 Lights	LME-202	24V AC/DC	3.4W	0.48kg	0.82kg	0.34kg
	LME-210	100V AC				
	LME-212	120V AC	7.1W	0.72kg	1.06kg	0.58kg
	LME-220	220V AC				
3 Lights	LME-302	24V AC/DC	3.8W	0.54kg	0.87kg	0.40kg
	LME-310	100V AC				
	LME-312	120V AC	7.9W	0.78kg	1.11kg	0.64kg
	LME-320	220V AC				
4 Lights	LME-402	24V AC/DC	4.2W	0.60kg	—	0.46kg
	LME-410	100V AC				
	LME-412	120V AC	8.7W	0.84kg	—	0.70kg
	LME-420	220V AC				
5 Lights	LME-502	24V AC/DC	4.6W	0.66kg	—	0.52kg
	LME-510	100V AC				
	LME-512	120V AC	9.5W	0.90kg	—	0.76kg
	LME-520	220V AC				

FB type: approx. 60 flashes per minute.

## How to Order

### LME-502UFBW-RYGBZ-Z

#### Stack

1~5

#### Rated Voltage

02: 24V AC/DC  
 10: 100V AC  
 12: 120V AC  
 20: 220V AC

#### Body Color

Blank: Ivory white  
 N: Black color  
 U: Silver color

#### Type

Blank: Continuous light  
 FB: Continuous or flashing light with audible alarm

#### Mount

Blank: Pole Mount (with circular mounting bracket)  
 K: Pole Mount (with SZ-020)  
 L: Pole Mount (with SZ-013)  
 W: Direct Mount

#### Color of LED

R: Red  
 Y: Amber  
 G: Green  
 B: Blue  
 C: Clear/White  
 Top to bottom

#### Color of Lens

Blank: Colored lens  
 Z: Clear lens

# Signal Tower INSTALLATION MANUAL

[Model : LME / LMS]

Thank you for specifying the PATLITE Signal Tower for your application. Please read these instructions carefully before you perform installation, maintenance and repair. Store this manual carefully for easy reference. If you have any questions about this product, please contact PATLITE Corporation.

## 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.

## 1. To operate this product safely, please observe the following

### Warning

- Make sure the power is off before wiring, repairing, or replacing parts to avoid a short-circuit, electric shock, or burn.
- Do not use this product with the lens damaged or removed, or without the head cover in order to avoid an electric shock.
- If installing this product requires construction work, please ask a specialist in order to avoid electric shock, fire, or personal injury.
- When this product is used for security purposes, it should be inspected daily. In case a malfunction should occur, it is recommended that you use this product together with other security products.
- Do not use this product to support your weight while climbing onto a machine. Mount the product so that it is clear of any moving parts - such as a machine cover.

### Caution

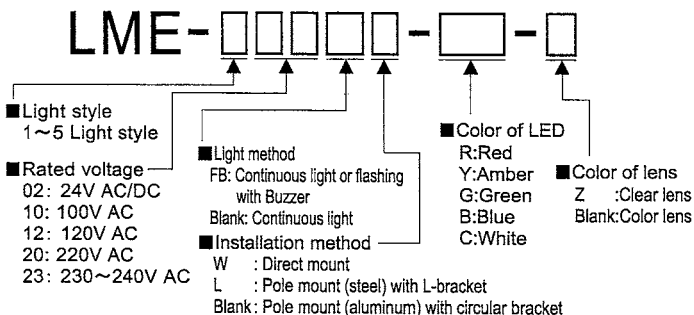
- Concerning replacement parts, such as LED unit, bulb or fuse, be sure to use those specified in this manual.
- For safety, make sure to connect an external fuse to the power source as shown in the wiring example.
- Do not substitute parts of units from other products as this may cause a breakdown.

## 2. Model No. Configuration

### ■ LME type

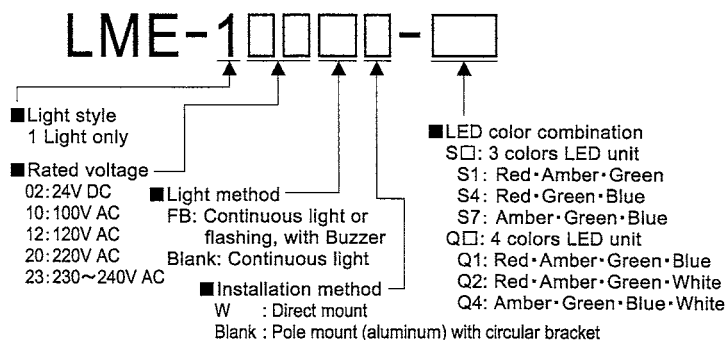
#### [Single color LED unit type]

- The single color LED unit has a set color for each light.  
The combination can be adapted from 1 color(1 light) to 5 colors (5 lights).

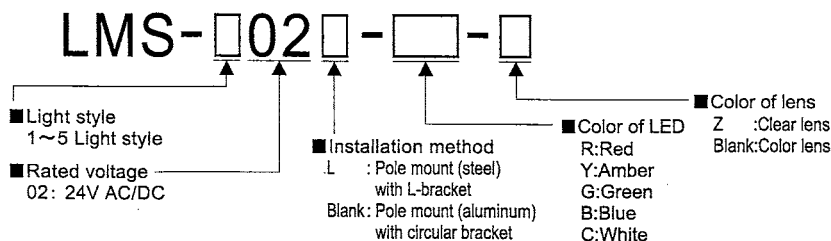


#### [Multi color LED unit type]

- The Multi LED unit can display 3 colors(or 4 colors) for one light, and a single color LED unit (separate cost) can be added to the Multi LED unit.



### ■ LMS type

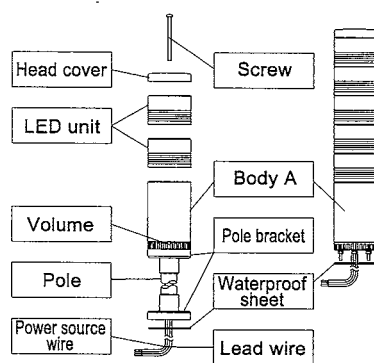


### 3. Part Names and Dimensions

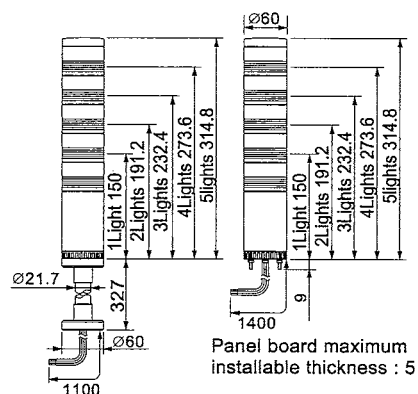
#### ■ LME type

● 24V AC/DC

(Part names)

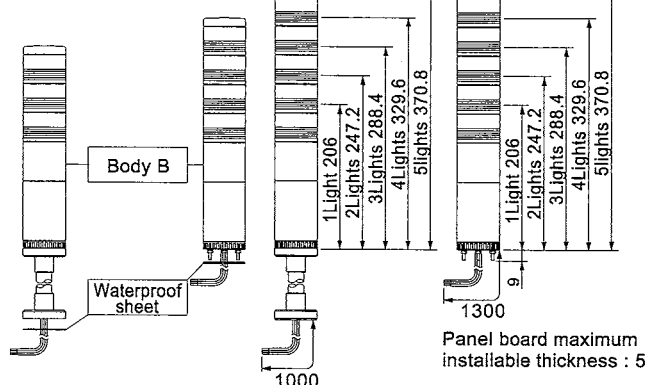


(Dimensions)



● 100/120/220/230~240V AC  
(Part names)

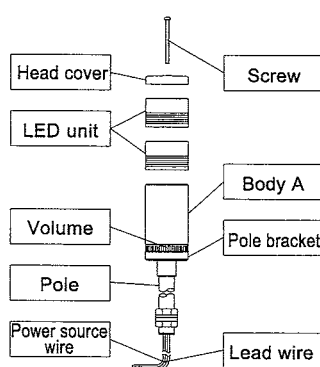
(Dimensions)



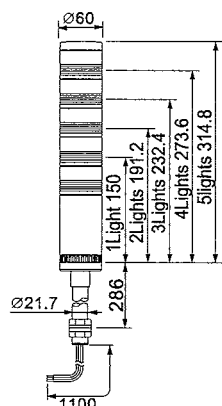
#### ■ LME-L type

● 24V AC/DC

(Part names)

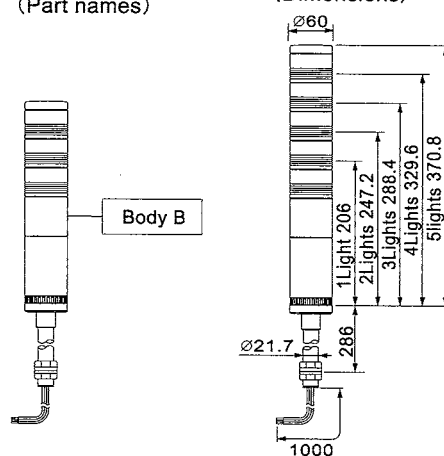


(Dimensions)



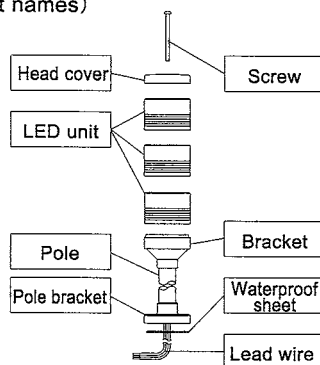
● 100V AC  
(Part names)

(Dimensions)

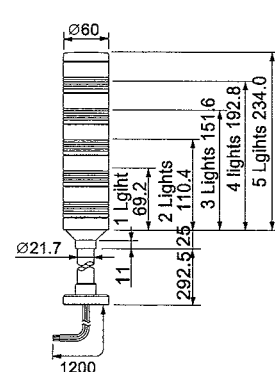


#### ■ LMS type

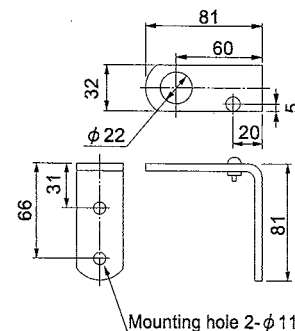
(Part names)



(Dimensions)

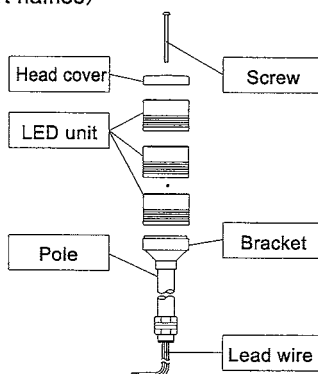


[ Accessory : L-bracket ]  
※ LME-L Type / LMS-L Type only

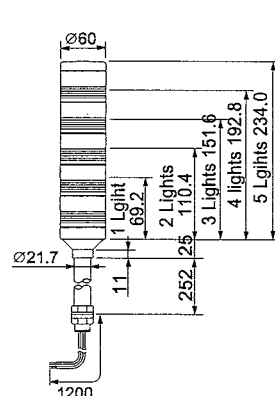


#### ■ LMS-L type

(Part names)



(Dimensions)



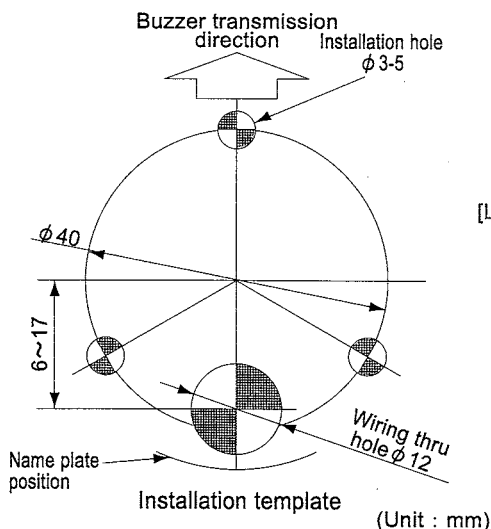
(Unit : mm)

## 4. Installation

### [Mounting]

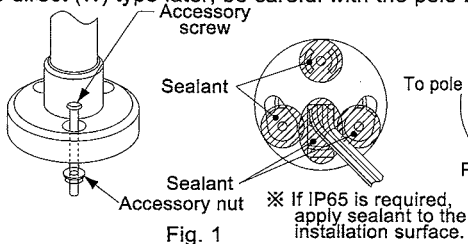
- Drill mounting holes in the wall (L-bracket installation) or panel (circular bracket installation and direct mount).
- Secure the side mount bracket with hex bolts and hex nuts (not supplied), or the flange mount bracket with the accessory screws and nuts (supplied).
- Install the Signal Tower vertically at a location that has sufficient strength and minimal vibration.
- With buzzer models, the alarm can be heard best from the front direction. Therefore, make sure the Signal Tower is facing the correction direction before installation.
- If IP65 is required for the pole type, apply sealant to the screws and nuts (3 locations) and the lead wire exit (as shown in Fig.1) when you install the pole bracket to the installation surface.
- If you install the pole bracket (option) to the direct (W) type later, be careful with the pole bracket direction to avoid biting the lead wire.

### [LME Type / LMS Type]



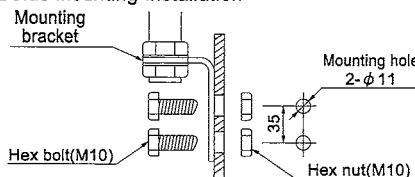
#### Using this template

1. Confirm the hole position on the product.
  2. Secure the template to the installation surface using adhesive tape.
  3. Mark the installation holes using a nail punch, etc.
  4. Drill the holes in the installation surface.
- ※ Confirm the direction of the name plate and the wiring route before you drill the holes.



### [LME-L Type / LMS-L Type]

#### ■ Side Mounting Installation



#### ■ Flat Surface Installation

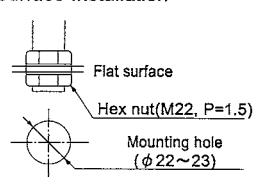


Fig. 2

### Caution

- This product can be used only indoors. (Do not use it outdoors.)
- Do not install the Signal Tower sideways or inverted.
- Make sure of the specified operating voltage and current before use.
- Do not leave the product or use it without LED unit installed.
- Use the soft cloth with moisture when the LED unit or bodies must be cleaned up. (Do not use thinner, benzene, gasoline or oil.)
- When installing this product, do not excessive torque or the product may be damaged.
- During installation, do not remove the waterproof sheet. It may cause a malfunction.
- This product has 1mm thick waterproof packing at the bottom of the pole bracket. However, when complete waterproofing is not provided due to the unevenness of the installation surface, apply waterproof sealant between the unit and the

## 5. Wiring Procedure

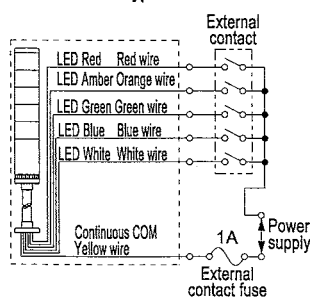
[Wiring procedure] (Concerning the mark ※, the conditions about the product corresponding to UL are mentioned.)

- Please make wiring connection according to wiring example.
- For wiring of 5 layers or less, please make wiring connection by increasing or decreasing external contacts in each layer according to wiring example.
- 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 light. (This is because LED units of the same color light up for one signal line.)
- ※ Fuse for protection of external contact should be installed within 305mm from the connected point of the power source wire.
- When wiring is completed, insulate the end of each unused lead wire by using insulation tape.
- ※ Use "Class II Circuit" for the power supply source and concerning fuse and fuse-holder, be sure to use the products authorized by UL Inc.
- ※ Use the fuse conforming to the rated current of the machine which you install product. (Example : Class J type fuse)
- ※ For the 120V AC and 230-240V AC models, connect the green / yellow lead wire to the ground.
- 100V and 220V type do not have green/yellow lead wire.
- If you have any questions about simultaneous use of multiple units or other special operations, contact PATLITE Customer Service before wiring.

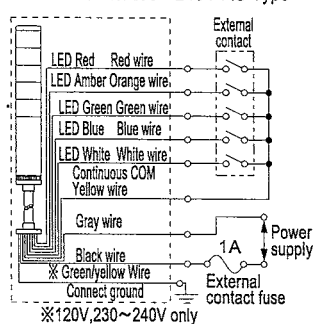
## 1. Wiring example Single LED unit Type

### LME Type / LMS Type [ Continuous light ]

#### ■ 24V AC/DC Type

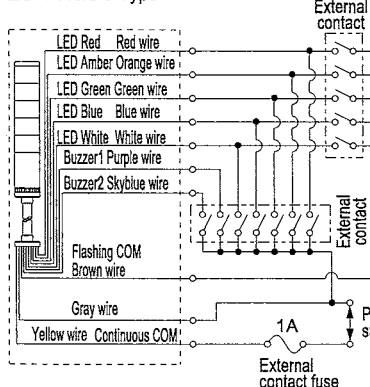


#### ■ 100/120/220/230~240V AC Type

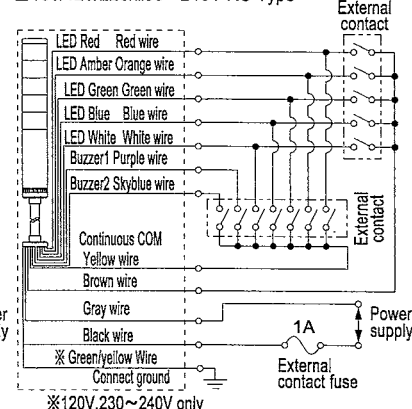


### LME-FB Type [ Continuous light or Flashing, with Buzzer ]

#### ■ 24V AC/DC Type



#### ■ 100/120/220/230~240V AC Type



[Wire color table]

LED unit color	Wire color
Red	Red wire
Amber	Orange wire
Green	Green wire
Blue	Blue wire
White	White wire

Buzzer	Wire color
Nothing	—
Buzzer1 : Pi · Pi · Pi · · ·	Purple wire
Buzzer2 : Pee · Pee · Pee	Skyblue wire

[External contact fuse]

Voltage	Ampere rating of fuse
All model	250V 1A

※Use the fuse conforming to the rated current of the machine which you install product.  
(Example : Class J type fuse)

[Single color LED unit type External contact capacity]

Voltage specs.		24V AC/DC	100V AC	120V AC	220V AC	230~240V AC
LED unit (1 Light)	Current consumption	Red · Amber : 52.5mA Green · Blue · White : 20mA				
	Contact capacity	Is ≥ 100mA Vs ≥ 35V AC				
Buzzer	Current consumption	40mA				
	Inrush current	250mA				
	Contact capacity	Is ≥ 300mA Vs ≥ 35V AC				
Power supply	Current consumption	360mA	100mA	50mA		
	Contact capacity	Is ≥ 500mA Vs ≥ 35V AC	Is ≥ 150mA Vs ≥ 125V AC	Is ≥ 100mA Vs ≥ 250V AC		

※Is : Current capacity  
Vs : Withstand voltage

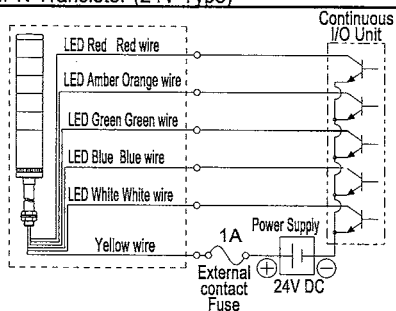
## Caution

- Make sure the power is OFF before wiring. A short circuit may damage internal circuits or cause an electric shock.
- Do not apply voltage directly to signal wires and common wires. It may damage the circuit. (100V, 120V, 220V, 230~240V AC)
- Do not pull out the lead wire or push it into the pole or the body.
- Install the external contact fuse on the power supply side as shown in the wiring example in order to prevent burn in case of a wiring error.
- Enough attention shall be paid for wiring because if there is any mistakes in wiring a circuit may brake down.
- Do not apply voltage directly to the brown lead wire. It may cause a breakdown.(FB type)
- Do not connect the yellow lead wire and the brown lead wire. It may damage the internal circuit.
- Simultaneously turning on the external contact for both constant lighting and flashing for the same light (color), may cause another light (color) to light up. To avoid this, provide separate switches for flashing or continuous lighting.
- When turning on the same function, such as flashing or alarms, for more than one product simultaneously, be sure to use separate external contacts for each product and function.
- When using both alarm sounds on one product, use separate contacts for the alarms and the lights.

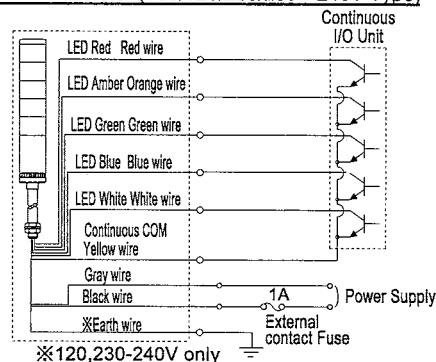
## 2. NPN(PNP)Transistor drive example

### ●Continuous light type

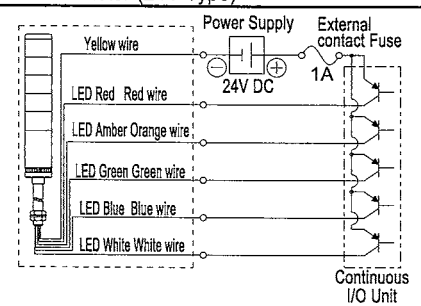
#### NPN Transistor (24V Type)



#### NPN Transistor (100/120/220/230~240V Type)



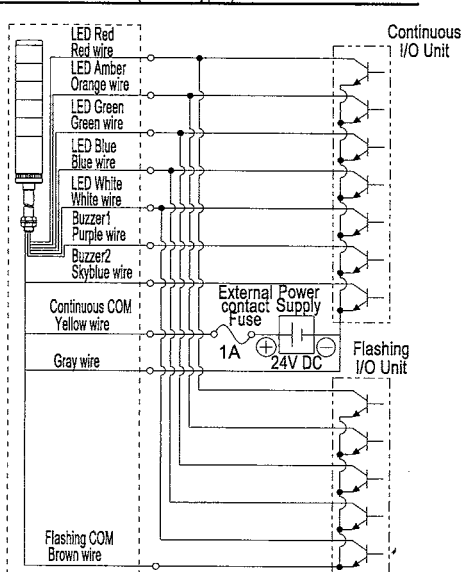
#### PNP Transistor (24V Type)



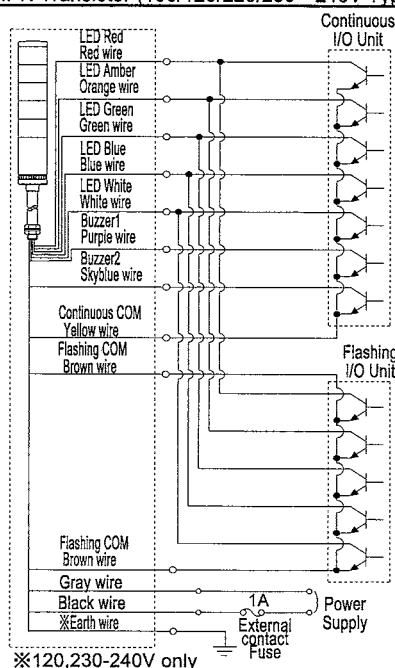
### ●Continuous light or Flashing, with Buzzer type

※When using the FB type, use a separate I/O unit for flashing

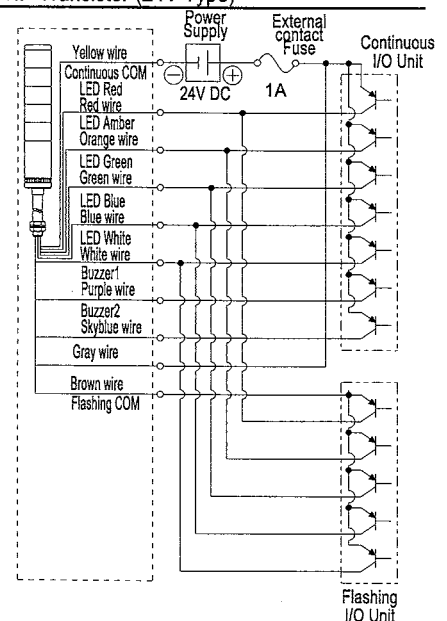
#### NPN Transistor (24V Type)



#### NPN Transistor (100/120/220/230~240V Type)



#### PNP Transistor (24V Type)



Model	Transistor (NPN or PNP)
Current capacity	Ic ≥ 100mA (LED unit) Ic ≥ 300mA (Buzzer)
Dielectric break down strength	Vc ≥ 35V
Leak current	IL ≤ 0.1mA

### 3. Wiring example Multi LED unit Type [LME-1□□(FB)(W)-S□, Q□ Type]

- The 24 V type S, Q series uses DC current only, so be sure to connect the power wire (yellow) to the positive terminal.
- When using a single color LED unit with a multi colored LED unit, both units will light if activated by the single wire for which they have the same color.
- When any colors are activated at the same time, those colors will light up simultaneously. This is not a malfunction.
- For the S and Q series, use only transistor of the NPN type.

#### [Wire color table]

##### ● S□ Type [3 colors LED unit]

LED unit color	Wire color
S1 Red·Amber·Green	Red·Orange·Green wire
S4 Red·Green·Blue	Red·Green·Blue wire
S7 Amber·Green·Blue	Orange·Green·Blue wire

##### ● Q□ Type [4 colors LED unit]

LED unit color	Wire color
Q1 Red·Amber·Green·Blue	Red·Orange·Green·Blue wire
Q2 Red·Amber·Green·White	Red·Orange·Green·White wire
Q4 Amber·Green·Blue·White	Orange·Green·Blue·White wire

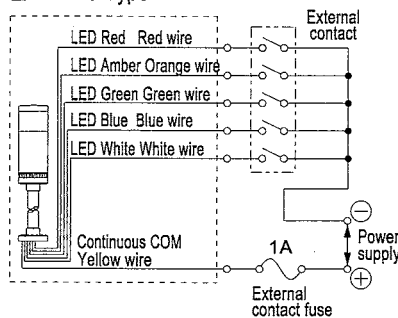
#### [External contact fuse]

Voltage	Ampere rating of fuse
All model	250V 1A

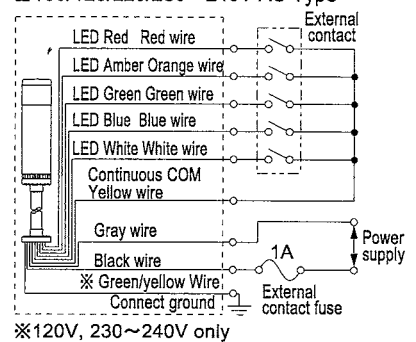
※Use the fuse conforming to the rated current of the machine which you install product.  
(Example : Class J type fuse)

#### LME-1□□(W)-S□, Q□ Type [Multi LED color unit / Continuous light]

##### ■ 24V DC Type



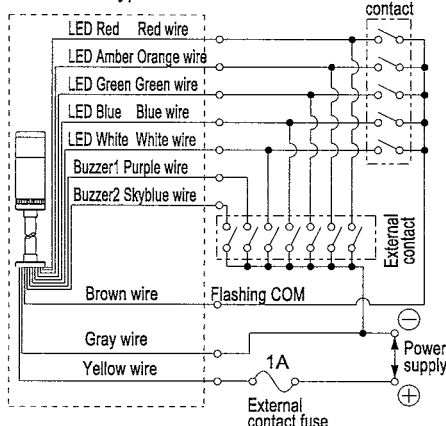
##### ■ 100/120/220/230~240V AC Type



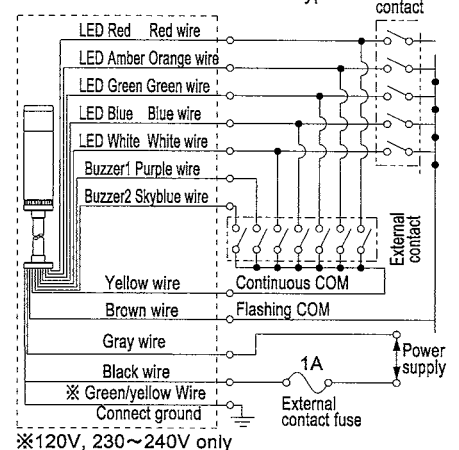
#### LME-1□□FB(W)-S□, Q□ Type

#### [Multi color LED unit / Continuous light or Flashing, with Buzzer]

##### ■ 24V DC Type



##### ■ 100/120/220/230~240V AC Type



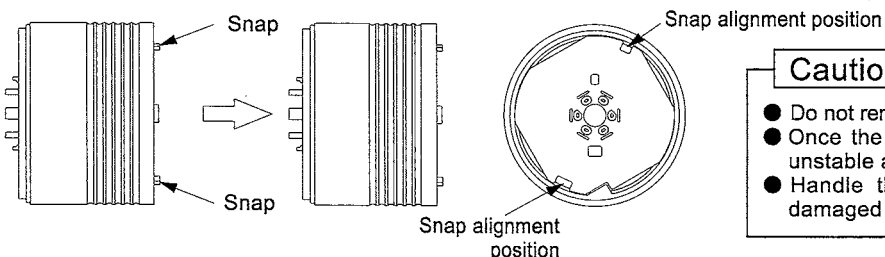
#### [Multi color LED unit External contact capacity]

Voltage specs.		24V DC	100V AC	120V AC	220V AC	230~240V AC
LED unit (1 Light)	Current consumption		S□:Red·Amber 50mA, Green·Blue·White 40mA Q□:Red·Amber 30mA, Green·Blue·White 50mA			
	Contact capacity		Is ≥ 100mA Vs ≥ 35V AC			
Buzzer	Current consumption		40mA			
	Inrush current		250mA			
	Contact capacity		Is ≥ 300mA Vs ≥ 35V AC			
Power supply	Current consumption	360mA	100mA		50mA	
	Contact capacity	Is ≥ 500mA Vs ≥ 35V AC	Is ≥ 150mA Vs ≥ 125V AC		Is ≥ 100mA Vs ≥ 250V AC	

※Is : Current capacity  
Vs : Withstand voltage

### 6. Changing LED unit positions

- Turn the power off before performing this procedure.
- Unscrew the head cover and remove the lens.
- Each LED unit is secured by 2 small snaps of different sizes to ensure that the module is assembled correctly.
- When increasing or decreasing the number of modules, install a new center screw (See 3. Part Names and Dimensions).

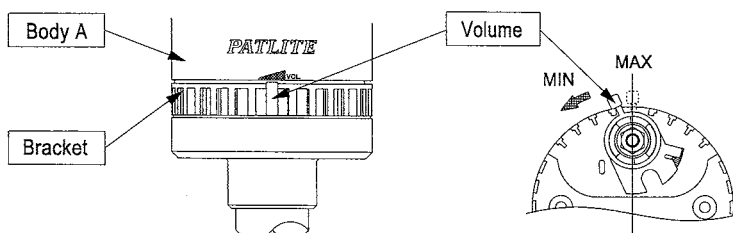


#### Caution

- Do not remove an LED unit forcibly as it may damage the unit.
- Once the center screw is loose or removed, the LED units are unstable and may separate. Handle carefully to avoid damage.
- Handle the LED units carefully so they are not warped or damaged while changing their positions on the tower.

### 7. Volume adjustment

- The volume can be adjusted by removing the lever near the bottom of the base to the left or right.
- The volume is at maximum when the lever is positioned front and center.



#### Caution

- Do not move the lever forcibly as it may damage the volume control.

### 8. To use this product in accordance with CE marking, please observe the followings

- Please use a fuse specified by IEC 127.
- When lead wires are exposed outside the body during pole installation, etc. always provide double insulation using insulation tape and vinyl tubing, etc.

## 9. Specifications

[LME Type]

Light style	Model	Rated voltage	UL standard	Power Consumption	Mass	Flashing cycle and Peak sound level Wire type /Dia
1 Light	-102(T)(FB)(W)	24V AC/DC	○	24V Type Red·Amber :1.3W Green·Blue·White:0.5W Buzzer :1.0W	0.46(0.30)kg	Flashing cycle FB Type 60 Flashes per minute  Sound level FB Type 70~90 dB / m
	-110(FB)(W)	100V AC	×		0.71(0.55)kg	
	-112(T)(FB)(W)	120V AC	○			
	-120(FB)(W)	220V AC	×			
	-123(T)(FB)(W)	230~240V AC	○			
2 Lights	-202(T)(FB)(W)	24V AC/DC	○	100,120,220,230~240V Type Red·Amber :2.0W Green·Blue·White:0.8W Buzzer :1.4W Standing by power consumption:1.7W	0.51(0.35)kg	Power source wire (24V Type) UL1007 / AWG22 (100, 220V Type) UL1007 / AWG20 (120, 230V Type) UL1015 / AWG18
	-210(FB)(W)	100V AC	×		0.76(0.60)kg	
	-212(T)(FB)(W)	120V AC	○			
	-220(FB)(W)	220V AC	×			
	-223(T)(FB)(W)	230~240V AC	○			
3 Lights	-302(T)(FB)(W)	24V AC/DC	○		0.56(0.40)kg	Lead wire UL1007 / AWG22  Green / Yellow wire (Connect ground) UL1015 / AWG18
	-310(FB)(W)	100V AC	×		0.81(0.65)kg	
	-312(T)(FB)(W)	120V AC	○			
	-320(FB)(W)	220V AC	×			
	-323(T)(FB)(W)	230~240V AC	○			
4 Lights	-402(T)(FB)(W)	24V AC/DC	○		0.61(0.45)kg	
	-410(FB)(W)	100V AC	×		0.86(0.70)kg	
	-412(T)(FB)(W)	120V AC	○			
	-420(FB)(W)	220V AC	×			
	-423(T)(FB)(W)	230~240V AC	○			
5 Lights	-502(T)(FB)(W)	24V AC/DC	○		0.66(0.50)kg	
	-510(FB)(W)	100V AC	×		0.91(0.75)kg	
	-512(T)(FB)(W)	120V AC	○			
	-520(FB)(W)	220V AC	×			
	-523(T)(FB)(W)	230~240V AC	○			
Multi color LED unit (S□)	-102(T)(FB)(W)	24V DC	○	24V Type Red·Amber :S□ 1.3W, Q□ 0.8W Green·Blue·White:S□ 1.0W, Q□ 1.1W Buzzer :1.0W	0.46(0.30)kg	
	-110(FB)(W)	100V AC	×		0.71(0.55)kg	
	-112(T)(FB)(W)	120V AC	○			
	-120(FB)(W)	220V AC	×			
	-123(T)(FB)(W)	230~240V AC	○			
Multi color LED unit (Q□)	-102(T)(FB)(W)	24V DC	○	100,120,220,230~240V Type Red·Amber :S□ 2.0W, Q□ 1.0W Green·Blue·White:S□ 1.5W, Q□ 1.5W Buzzer :1.4W Standing by power consumption:1.7W	0.46(0.30)kg	
	-110(FB)(W)	100V AC	×		0.71(0.55)kg	
	-112(T)(FB)(W)	120V AC	○			
	-120(FB)(W)	220V AC	×			
	-123(T)(FB)(W)	230~240V AC	○			

· ( ) is mass of the direct mount type[W type]

[LME-L Type]

Light style	Model	Rated voltage	UL standard	Power consumption	Mass	Flashing per minute and sound level	Wire type/Dia
1Light	-102(T)(FB)L	24V AC/DC	○	24V Type Red·Amber :1.3W Green·Blue·White :0.5W Buzzer :1.0W	0.76kg	FB Type 60flashes per minute & 70~90dB(1m) (Range of volume adjustment)	Power source wire (24V Type) UL1007 / AWG22 (100V Type) UL1007 / AWG20  Lead wire UL1007 / AWG22
	-110(FB)L	100V AC	×		1.01kg		
2Lights	-202(T)(FB)L	24V AC/DC	○	100V Type Red·Amber :2.0W Green·Blue·White :0.8W Buzzer :1.4W (Standing by power consumption :1.7W)	0.81kg		
	-210(FB)L	100V AC	×		1.06kg		
3Lights	-302(T)(FB)L	24V AC/DC	○		0.86kg		
	-310(FB)L	100V AC	×		1.11kg		
4Lights	-402(T)(FB)L	24V AC/DC	○		0.91kg		
	-410(FB)L	100V AC	×		1.16kg		
5Lights	-502(T)(FB)L	24V AC/DC	○		0.96kg		
	-510(FB)L	100V AC	×		1.21kg		

[LMS Type]

Light style	Model	Rated voltage	UL standard	Power consumption	Mass	Wire type/Dia
1 Light	-102(L)	24V AC/DC (50/60Hz)	○	Red·Amber :1.3W Green·Blue·White :0.5W	0.29(0.62)kg	Lead wires UL1007 AWG22
2 Lights	-202(L)		○		0.34(0.67)kg	
3 Lights	-302(L)		○		0.39(0.72)kg	
4 Lights	-402(L)		○		0.44(0.77)kg	
5 Lights	-502(L)		○		0.49(0.82)kg	

※( ) is mass of LMS-L type

### Caution

- PATLITE Corporation disclaims all liability for any malfunction or damage occurring as a result of handling contrary to the instructions, cautions and warnings mentioned in this manual.
- Specifications may change without notice due to continual product improvement.