

PATLITE[®]
New Frontiers in Safety, Security and Comfort.

GENERAL CATALOG



www.patlite.com

“New Frontiers in Safety, Security and Comfort” is PATLITE’s mission.

PATLITE offers state-of-the-art equipment for process and industrial automation for over 60 years. Our Innovative and robust design, backed by a powerful commitment and years of knowledge, has made PATLITE the world’s best known manufacturer of the visual and audible signaling products.

We are also dedicated to the development of explosive and harsh-environment products to demonstrate our strong commitment to serving the industry with unique and innovative solutions.

In order to identify the diversified needs of our customers, and respond quickly and satisfactorily to those needs, we have implemented the POP (Point of Production) System together with a lean-manufacturing cell-based assembly system (combination, single, and flexible assembly). These new systems allow us to handle any order rapidly from single items to customized item orders.

We’ve also reduced development time and production cost by having our own in-house machinery to produce, design and manufacture metal moldings and plastic materials with the use of injection machinery.

From designing to production, from raw material to the finished product, we also manage our quality control throughout the entire process. This is how we maintain our world class quality reputation in the visual, audible signaling and networking information products.

- From designing to production, quality control is managed throughout the process



• 3D CAD Design



• Metal Part Molding Manufacturing



• Electrical discharge Machine



• Machining Center



• Injection molding Machine

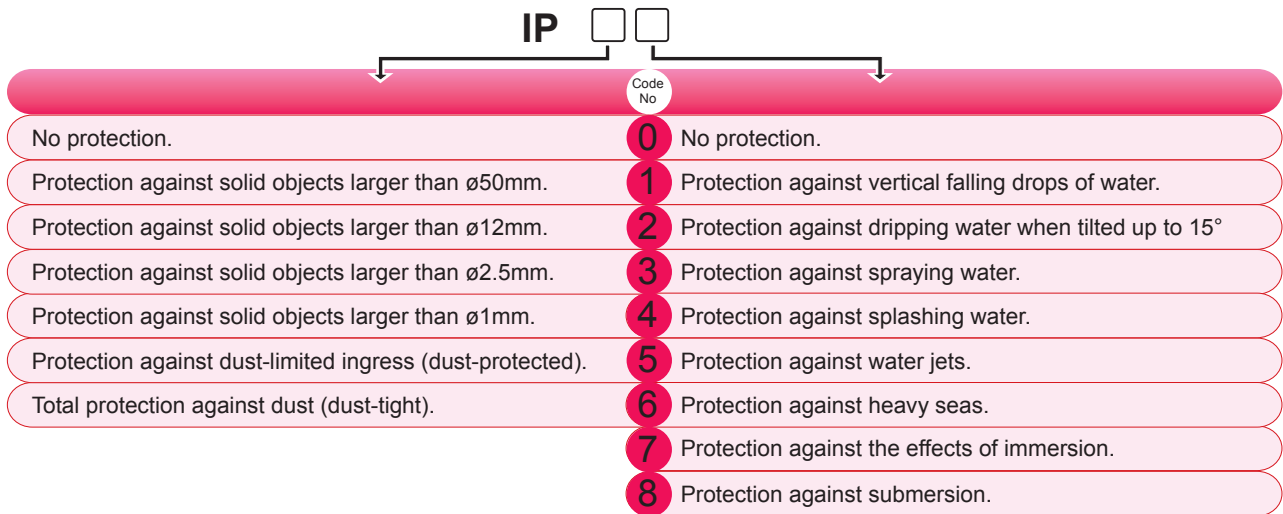
- Wide-range of Innovative and World-class Quality Products



World-wide Sales, Marketing and After-sales Support Network



Index of Ingress Protection defined by CEI / IEC 529



IP6X	IPX6	IPX7	IPX9X
Typical Environment	Dusty Environment	Watersplash Environment	Water Exposed Environment
<ul style="list-style-type: none"> Control/Switchboard Panel Lighting Machinery and Equipment Lighting 	<ul style="list-style-type: none"> Machining/Factory Sites Farmsteads Signboards/Working Lights Commercial/Public Furnishings 		<ul style="list-style-type: none"> Meat and Food Packaging/Processing Industry Beverage Industry Pharmaceutical Industry

Protection Rating Testing Requirements

- IP6X= The product is placed in a dust chamber with a negative pressure state so that dust is made to float, and there is no invasion inside.
- IPX6= A water nozzle with a diameter of 12.0mm is placed at a range from 2.5 to 3.0 meters with a water velocity of 100 litres per minute injected towards the test piece in an omni direction for three minutes or more without being affected by any harmful influences.
- IPX7= With the distance of 0.15 m from the top of the product to the water surface and a distance from the bottom of the product to the bottom of the tank at a distance of 1 m, it is submerged for 30 minutes with no harmful penetration.

* Since testing is performed under a controlled environment within provisions including a designated time, it does not consider conditions for continuous use.

IP69K

IP69K is the German DIN 40050 PART9 standard. It is defined as a protection regulation for high temperature and high-pressurized water. Water is heated up to 80°C and sprayed at a water pressure in the range from 80 to 100 bars at 14 to 16 liters per minute at the test object. The test object is at a distance of 100 to 150 mm from the nozzle and sprayed in all directions at 0, 30, 60, and 90 degrees, then sprayed at a horizontal angle while it is being rotated, all done for a period of 30 seconds without being affected by water penetration.



Symbols Used in this Catalog

Light Source

LED



High-intensity LEDs with about 60,000 hours worth of service life and low power consumption that outlasts any bulb.

Daylight Warm White



Temperature Color LEDs with a service life longer than incandescent and fluorescent, but with lower power consumption.

Bulb



Economical and readily available from PATLITE.

Halogen



Small and bright halogen bulb with long-life.

Sounds

Electronic Sound 1

Alarm with sounds that are easy to recognize and gentle on the ears.

85dB at 1m

Maximum sound pressure level based on controlled environmental conditions and recorded contents (such as melodies, alarms or messages).

4 Channels

The number of channels available when dividing the total recording time to making several different messages.

63 Seconds

The maximum recording time using the standard bit rate for the product. (Standard bit rate is usually 64kb/sec)

Some of PATLITE's audible alarm products may contain copyrighted music or songs which Patlite has not applied for permission to use outside Japan, so please contact your local copyright association before using certain audible alarm products. This disclaimer may not apply if the copyright association has not claimed the copyright of the music or songs in a particular country or jurisdiction.

Protection Resistance

IP69K

Protection Resistance classification for dust-proof, water-proof, and water-jet resistance based on ingress protection index. (CEI/IEC 529).

Explosion-Safe

Meets ATEX, NEC, CE and most other applicable Explosion-Safe standards.

Specifications

Φ60

The diameter size to fit into solutions like compact sized installations to fit perfectly onto that machine.

NPN/PNP Open-collector

Open collector allows direct connection to a PLC without the use of voltage-contact relays, etc.

Dual-face Reflector

The symmetrical dual-face reflectors emit a powerful rotating light.

Cable



Most products come with stranded wiring, but this corresponds to PATLITE products that offer cables as a standard or optional item.

Network

Use the latest technology in network protocol to communicate between product and machine or product-to-product.

Terminals



PATLITE now offers products that come with terminal connections to meet customer demands for easier wiring options.

Audio Icons



Products that emit sounds or voices, or both.



Sounds that are gentle on the ears in familiar sounds like melodies, and distinguishable alarms, along with MP3 programmable messages.



For more details on these products, refer to the Instruction Manuals and specification sheets prior to use. Follow all safeguards to prevent fire, electric shock or other accidents. Specifications are subject to change without prior notice.

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Network

							
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Model	NHL	PHE-3FBE1	PHC-100A	PHU-3	WDR-LE-Z2	WDT-5E-Z2	WDT-6M-Z2
Voltage	DC 5V			●**			
	DC 12V						
	DC 24V	●*	●*	●*	●*	●***	●***
Network Connection	LAN	●			●		
	USB			●	●		
	RS-232C		●	●			
	Wireless				●	●	●
Body Color	White	●					
	Ivory White		●	●	●	●	●
	Black						
Output (dB (at 1m))	80	80	-	-	-	-	-
Protection Rating	IP20	-	-	IP20	IP20	⊙	⊙







⊙ IP Rating is the same as the Signal Tower its attached to.

* Uses AC Adaptor

** Uses USB Power Source

*** Uses Signal Tower Power Source

Explosion-proof





						
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Model	AR-070	AR-078	EHS/EHV	LKEH-FV	LKEH-FE	CLN
Voltage	DC12V		●			
	DC24V	●	●	●	●	●
	AC24V	●	●			
	DC48V					
	AC100-110V					
	AC115-120V					
	AC200-220V					
AC230-240V						
Conformity	CE	●	●	●	●	●
	Ex	●	●	●	●	●
Zone	2, 22	2, 22	2, 22	2, 22	2, 22	2, 22
Output (dB (at 1m))	85	85	110	105	105	-
Protection Rating	IP65	IP65	IP65	IP53	IP53	IP66G/67G/69K

36	
VE25	VE100
●	●
●	●
-	-
-	-







47	48	49
CLK	CLA	RES-A
●	●	⊙
		⊙
		⊙
		●
		⊙
		●
		⊙
●	●	
●	●	
2, 22	2, 22	1, 2
-	-	-
IP66G/67G/69K	IP66/67/69K	IP65

© Available upon special order.

Signal Tower

										
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Model	ME-A	MES-A	MP	MPS	MP-C	LCE	LCE-U	LCS	LCS-U	
Size (φmm)	25		30			40				
Voltage	AC/DC12V									
	DC24V	●	●							
	AC/DC24V			●	●	●	●	●	●	●
	AC90-250V						●	●		
	AC100V									
	AC120V									
	AC220V									
	AC230V									
Body Color	White									
	Ivory White						●		●	
	Silver	●	●	●	●	●		●	●	
	Black									
Connection Type	Lead Wires	●	●	●	●		●	●	●	●
	Terminal									
	M12 QD					●				
Transistor Input	PNP			●	●	●	●	●	●	●
	NPN	●	●	●	●	●	●	●	●	●
Flashing Function						●	●			
Output (dB (at 1m))	-		-			85		-		
Protection Rating	IP42		IP65			IP65		IP54		

◎ Available upon special order.







													
Page No.	92		80		26		85						
Model	LHE-A	LS7-H	LS7-C	LU7-USB	LU7-S	LU7-SU	LU7-SK	LU7	LU7-U	LU7-K			
Size (φmm)				70									
Voltage	DC5V			●									
	DC12V												
	DC24V		●	●		●	●	●	●	●			
	AC/DC24V	●							●	●			
	AC90-250V								●	●			
	AC100V	●											
	AC120V												
	AC220V	●											
Body Color	White		●	●									
	Ivory White	●			●	●		●					
	Silver		●	●		●		●	●				
	Black		●	●	●		●			●			
Connection Type	Lead Wires	●	●										
	Terminal					●	●	●	●	●			
	M12 QD			●									
Transistor Input	PNP	●	●	●		●	●	●	●	●			
	NPN	●	●	●		●	●	●	●	●			
Flashing Function	●	●		●	●	●	●	●	●	●			
Output (dB (at 1m))	90	85		80	90								
Protection Rating	IP65	IP65		IP65	IP65								

65	63	68			16	72			78	75	
LE	LES-A	LU5	LU5-U	LU5-K	LA6	LME	LME-U	LME-N	LMS	LME-S	LME-Q
50					60						
●		●	●	●	●					●	●
●	●					●	●	●	●		
●						●	●			●	●
●						●	●	●		●	●
●						●	●			●	●
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	⊙	⊙
●		●	●	●	●	●	●	●		●	●
85	-	85			85	85				85	
IP54	IP65	IP65			IP65	IP65			IP65	IP65	

95	98	101	139	141	142	104	105
LGE	WE/WEP	WME-A	KUS	KJS(B)	KJ(B)	WSST	HSST
100	W90xD37.5	W70xD80	70 x 70	82 x 82	116 x 116		
				●			
				●	●	●*	●*
●	●	●	●	●	●		
●							
●							
●							
●	●	●	●	●	●	●	●
●	●	●	●	●	●		
●	●	●	●	●	●		
●	●	●	●	●	●		
85	90	90	80	85	85	-	-
IP54	IP65	IP54	IP54	IP23	IP23	-	-










* Uses AC Adaptor

Signal Light






						
Page No.	22	108	110	113	109	114
Model	NE-M1-CL	NE-24	PES-A	PSE	KHE	LFH
Size (φmm)	57		82		100	
Voltage	DC12V	●			●	●
	DC24V	●	●	●	●	●
	AC24V			●		
	DC48V					●
	AC100-230V				●	●
	AC100V			●		
	AC120V			●		
	AC200V			●		
	AC220V			●		
	AC230V			●		
Body Color	White	●	●	●	●	●
	Black					●
Transistor Input	PNP	●	●	●		
	NPN	●	●	●		
Output (dB (at 1m))	-	-	-	-	-	-
Protection Rating (w/Gasket)	IP66/67	IP65	IP23 (55)	IP23 (55)	IP23 (55)	IP66














△ Due to a specification change, body colors for Red and Yellow globes will be the same, but green and blue globes will have a white body.

Revolving Warning Light

									
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Model	RLE	RU	RS	RKE	RHE	RH-A	RK-A	SKH-EA	WH-A
Size (φmm)		82				100			100
Voltage	DC12V	●	●	●	●	●	●	●	●
	DC24V	●	●	●	●	●	●	●	●
	AC24V		●						
	DC48V				●	●			
	DC100V								
	AC100V	●	●	●	●	●	●	●	●
	AC120V						●	●	
	AC200V				●	●	●	●	●
	AC220V	●	●	●					●
	AC240V						●	●	
AC100-240V									
Body Color	White	●	●	●	●	●	●	△	●
	Black								
Globe Color	Red	●	●	●	●	●	●	●	●
	Yellow	●	●	●	●	●	●	●	●
	Green	●	●	●	●	●	●	●	●
	Blue		●	●	●	●	●	●	●
	Violet								
Light	Bulb		●	●			●	●	●
	LED	●			●	●			
	Halogen								
Output (dB (at 1m))	-	-	-	88	88	90	90	-	90
Protection Rating (w/ Gasket)	IP23 (55)	IP23 (55)	IP23 (55)	IP23 (55)	IP23 (55)	IP23 (55)	IP23 (55)	IP23	IP54

△ Due to a specification change, body colors for Red and Yellow globes will be the same, but green and blue globes will have a beige body.

				
115	110	112	116	117
LFK	PEW-A	KPE-A	XPE	XME
100	107	162		187
●	●		●	●
●	●		●	●
●	●		●	
●	●		●	●
	●	●		
	●			
	●			
●	●	●	●	△
-	85	-	-	-
IP55	IP54 (23)	IP23	IP23	IP23

												
125	126	127	128	129	132	133	130	134	135	136	138	137
WK-A	SKH-A	SKHE(B)	SKP-A	KP-A	SKHB-1006D	SKL-A	RLR	HP	KG	SKC-A	SKV-A	HKFM
100	118		138	162				182	186	187	204	-
●	●	●	●	●		●	●	●	●	●	●	●
●	●	●	●	●		●	●	●	●	●	●	●
			●				●					
●	●	●	●	●	△	●			●	●	●	
●	●	●	●	●		●					●	
●	●		△	●	●	△	●			△	●	
●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●		●	●	●	
90	90	88	-	-	75	-	-	-	-	-	-	-
IP54	IP23	IP23	IP23	IP23	IP23	IP23	IP66	-	IP23	IP23	IP66	-

▲ Used for charging, operates on a 6V battery supply.





LED Lights

Page No.		146					148			
Model		CLA					CLK			
Size (mm)		100	200	300	600	900	1200	200	300	600
Voltage	DC24V	●	●	●	●	●	●	●	●	●
Body Material	Aluminum							●	●	●
	Stainless Steel									
	Polycarbonate	●	●	●	●	●	●			
Cover	Tempered Glass							●	●	●
	PMMA Resin									
	Polycarbonate	●	●		●	●	●			
Light Color	Temperature (K)	6800K (-CD), 4800K (-CN)					6500K (-CD), 5000K (-CN)			
	Amber			●						
Resistance	Water	●	●	●	●	●	●	●	●	●
	Oil							●	●	●
	Corrosion									
	Dust	●	●	●	●	●	●	●	●	●
Protection Rating		IP66/67/69K					IP66G/67G/69K			


Audible Alarms & Annunciators





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Model		BM	BM-H	BM-D	BD	BK	BSV	BSV-L	BDV	BKV	EHS	EHV	
Size (mm)		φ30	φ30	φ30	80	120	75	75	80	120	-		
Voltage	DC12-24V				●	●			●	●	●	●	
	DC24V						●	●					
	DC 12-48V										●	●	
	AC/DC24V	●	●	●					●	●			
	AC100V	●	●	●	●	●			●	●			
	AC120V		●										
	AC220V	●	●	●	●	●			●	●			
AC100-240V										●	●		
Body Color	Light Gray				●	●			●	●			
	White						●	●			●	●	
	Dark Gray				●	●			●	●			
	Black	●	●	●			●	●					
	Silver						●	●					
Sound Function	MP3						●	●	●	●	●	●	
	Melody/Alarm	●	●	●	●	●	●	●			●	●	
	Sound Reduction						●	●			●	●	
Transistor Input	PNP	●	●	●	⊙	⊙	●	●	⊙	⊙	●	●	
	NPN	●	●	●	●	●	●	●	●	●	●	●	
Output (dB (at 1m))		85	90	80	90	95	87		87	95	110	110	
Channel Inputs (Bit (Binary))		2	2	2	4	8 (32)	4 (15)	4 (15)	4 (15)	5 (31)	8 (32)	8 (63)	
Playback Sounds (sec)		-	-	-	-	-	63	520	63	63		220	
Protection Rating		IP30	IP30	IP34	IP54	IP54	IP54		IP54	IP54	IP65		

⊙ Available upon special order.

			
148	150	152	20
CLK	CLN		
-SA/-SG	-T	- (P)T	
300	85x85		200 300 600
●	●	●	● ● ●
●	●	●	● ● ●
● (-SG) ● (-SA)	●	●	● ● ●
6500K (-CD), 5000K (-CN)	6500K (-CD), 2700K (-CL)	6500K (-CD)	6500K (-CD)
●	●	●	● ● ●
●	●	●	● ● ●
●	●	●	● ● ●
●	●	●	● ● ●
IP66G/67G/69K	IP66G/67G/69K	IP65	IP66G/67G

Hybrid Annunciators


176
FV-127JP
-
●
●
●
-
7 (127)*
480
-

							
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Model	LKEH-FE LKEH-FV	RFT	RFV	RT-F	RT-VF	KJT	
Size (mm)	φ100	115		φ162		116	
Voltage	DC24V	●	●	●	●	●	
	AC24V	●	●	●	●	●	
	AC100V	●	●	●	●	●	
	AC120V	●	●	●	●	●	
	AC200V	●	●	●	●	●	
Sound Function	MP3	●	●	●	●	●	
	Melody/Alarm	●	●	●	●	●	
Transistor Input	PNP	●	●	●	●	●	
	NPN	●	●	●	●	●	
Output (dB (at 1m))	105	105	90	95	105	105	85
Channel Inputs	8 (32)	5 (31)	8 (32)	4 (15)	8 (32)	4 (15)	8 (32)
Playback Duration (sec.)	-	63	-	63	-	63	-
Protection Rating	IP53	IP53	IP54	IP54	IP23	IP23	IP23

* When SD Card is used.



New Products



LA6

Signal Tower



LED



11 Alarm Sounds

85dB at 1m

IP65 (B Type:IP54)

Ø60

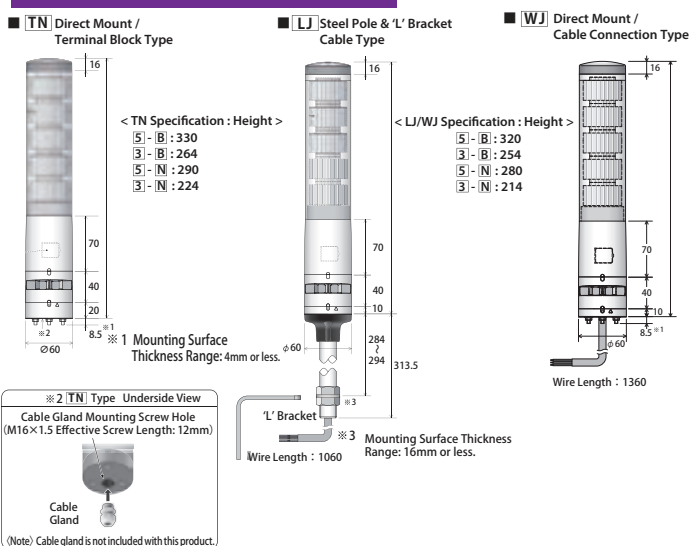


Display a variety of colors in various ways to improve your processes.

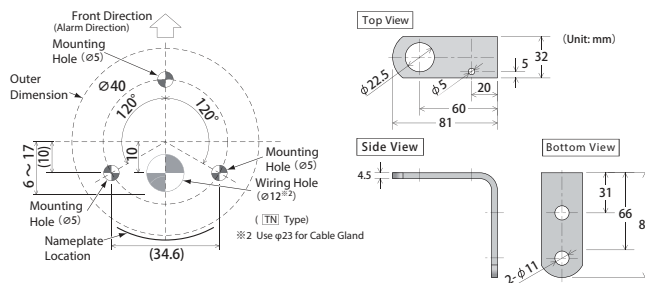
FEATURES

- Indicate abnormal conditions with a variety of color patterns. Can freely set up multiple colors. For example, a serious condition can be indicated with the "All-point Lighting" where the entire signal tower is the same color, thus conveying important information.
- Use "Operating Modes" to enhance a visual status condition. The downloadable program can be used to make patterns change at set intervals so the signal tower can be used to count time or set a pace.
- Simple and easy to use complimentary programming software. The downloadable complimentary programming software can be used to easily control which colors are displayed and how they are to behave.

Dimensions (Unit: mm)



'L' Bracket Dimensional Drawing



How to Order

Signal Tower LA6- ① D ② ③ ④ - ⑤

Example: LA6-5DTNUB-RYGBC

- LED Tiers...5
- Body Color...Silver
- Flashing-Alarm...with Flash and Alarm
- Mounting/Wiring...Direct Mount/Terminal Buss
- Color...Red/Amber/Green/Blue/White

① LED Tiers ② Mounting/Wiring ③ Body Color ④ Flashing/Alarm ⑤ Color

3: 3 Tiers WJ: Direct/Cable W: Off-white B: With RYG: 3 Tiers

5: 5 Tiers TN: Direct/Terminal U: Silver N: Without RYGBC: 5 Tiers

LJ: Steel Pole & Angle/Cable

※ The LED light color for each tier can be changed after purchase. ※ LJ type does not have a "U" (Silver) specification.



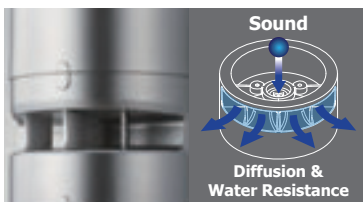
An internal Mode Switch is available. Use the internal mode switch to easily set up various functions, such as the alarm volume.



A new lens design optimizes visibility. The newly developed lens design efficiently diffuses LED light so that it is unmistakably visible, even from great distances.



Freely change luminescence colors and patterns with editing software. Upload colors and patterns using the editing program to the signal tower using a USB cable* connected to a PC. *The USB cable is sold separately (USB microB type with Charging/ Data Transfer capability).



The alarm has a total of 11 sounds to match various applications. The water-resistant speaker design is able to play clear sounds of up to 85 dB (at 1m) despite it's compact size. Alarm sounds can be set up with every display pattern.



Replacement Parts



Headcover (Off-white) B31310001-7F1 (Silver) B31310001-9F1



USB Port Cover (Off-white) B22100071-7F1 (Silver) B22100071-9F1



Waterproof Ring 'B' B25110042-F1

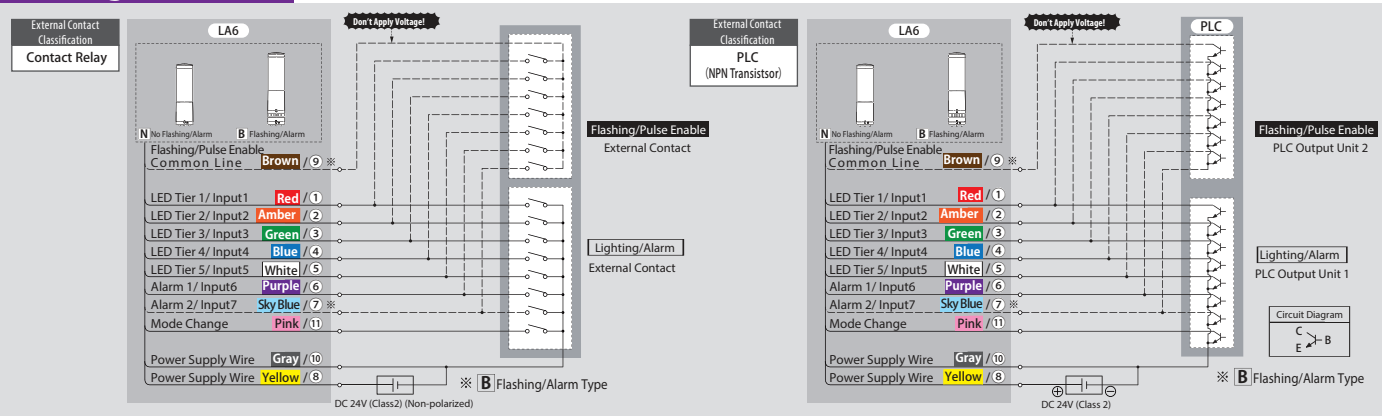


Pole Bracket (Off-white) B22210134-7F1



Waterproof O-ring B25110047-F1

Wiring



Specifications

Model		LA6-□D□□□-□					
Rated Voltage		DC24 V					
Operating Voltage Range		±10% of Rated Voltage					
Rated Power Consumption	Standard	LA6-5 D□□N-RYGB	5W		LA6-5 D□□B-RYGB	6.5W	
		LA6-3D□□N-RYG	3.5W		LA6-3D□□B-RYG	4.5W	
	Maximum	LA6-5 D□□N-YYYY	7W		LA6-5 D□□B-YYYY	8W	
		LA6-3D□□N-YYY	4.5W		LA6-3D□□B-YY	5.5W	
Test Condition		Power Consumption test with alarm set at Alarm Sound No.1 at maximum volume					
Signal Wire Current		Maximum 70mA					
Standby Current		Maximum 15mA					
Operating Ambient Temperature		-25□ to +60□					
Operating Humidity Range		Less than 90% RH (No Dew or Condensation)					
Storage Temperature Range		-25□ to +60□					
Storage Humidity Range		Less than 90% RH (No Dew or Condensation)					
Mounting Location		Indoor Only					
Mounting Direction		Upright/Inverted Direction					
Protection Rating		IP65 (With alarm: IP54) IEC 60529					
Test Condition		Installed in an upright position					
Vibration Resistance	LA6-□□LJ□□	Sweep Durability: Total amplitude: 0.3 mmp-p (10 - 57.5 Hz), Acceleration: 20.0 m/s ² (57.5 - 150 Hz) Fixed pitch durability: Acceleration 20.0 m/s ²					
	LA6-□□TN□□ LA6-□□WJ□□	Sweep Durability: Total amplitude 0.3 mmp-p (10 - 57.5 Hz), Acceleration: 20.0 m/s ² (57.5 - 150 Hz) Fixed Vibration Frequency Durability: Acceleration 10.0 m/s ²					
	JIS C 60068-2-6:2010						
Test Condition		Tested while installed in an upright position					
Insulation Resistance		More than 1Mohm at DC500V between the power input lead and chassis.					
Withstand Voltage		500VAC for 1min between terminals and chassis without breaking insulation					
Display Color		red (1000 mcd) yellow (1700 mcd) green (2600 mcd) blue (1000 mcd) white (1250 mcd)					
(Typical Luminous Intensity)		Purple (800 mcd) pink (850 mcd) cyan (2150 mcd) lemon (2150 mcd) * Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur.					
Flash Rate		60 ±2 fpm					
Alarm Sound (Typical Frequency)	No. 1	2400Hz Continuous beep sound		No. 2	2400Hz Rapid intermittent beep		
	No. 3	2400Hz Long intermittent beep		No. 4	2400Hz Fast intermittent beep		
	No. 5	3600Hz Continuous beep		No. 6	3600Hz Rapid intermittent beep		
	No. 7	3600Hz Long intermittent beep		No. 8	3600Hz Fast intermittent beep		
	No. 9	2400Hz & 3375Hz Multiplexed Beep		No. 10	2400Hz & 3600Hz Multiplexed Beep		
	No. 11	4000Hz & 4800Hz Multiplexed Beep					
	Sound Level		Maximum: 85dB				
Test Condition		Alarm Sound No.1 measured from the front direction of the alarm opening at 1m					
Volume Control		The set up button is the fourth step (Factory Default: Maximum). [Maximum] -> [-5dB drop from maximum (standard)] -> [-10dB drop from maximum (standard)] -> [OFF] (-> Returns to [Maximum])					
Data Transfer Interface	Main Unit	USB micro-B Terminal Female USB2.0/1.1 Interface, Transmission Rate: USB2.0/1.1/1.0					
	Transfer Cable	Charge /Data Transfer Micro USB (not included); Connector: USB Male- USB (MicroB) male					
Application Software		Exclusive Application Software (Downloadable from our Homepage)					
Mass (Tolerance 10%)	LA6-3DTN□B	480g	LA6-3DLJ□B	980g	LA6-3DWJ□B	450g	
	LA6-3DTN□N	420g	LA6-3DLJ□N	930g	LA6-3DWJ□N	400g	
	LA6-5 DTN□B	590g	LA6-5 DLJ□B	1090g	LA6-5 DWJ□B	560g	
	LA6-5 DTN□N	530g	LA6-5 DLJ□N	1040g	LA6-5 DWJ□N	510g	
Compliance Standards	EMC Directive (EN 61000-6-4, EN 61000-6-2)			RoHS Directive (EN 50581)			
	UL508, CSA-C22.2 No.14			KC (KN 61000-6-4, KN 61000-6-2)			
	FCC Part 15 SubpartB Class A			CE Marking			
Remarks		UL Recognized Component (File No.E215660)					

Success Story

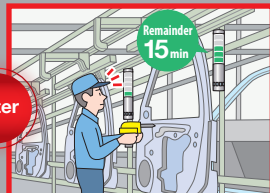
Case 1 Manage and control assembly line progress with "takt time visualization!"



Before

Uneven task completion!

Worker did not know how long it was taking to complete task, causing uneven progress of the entire assembly line and delays.

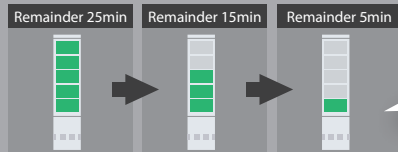


After

Visible progress -> Even completion!

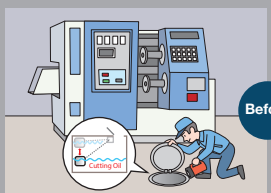
Workers can pace themselves to complete their tasks on time. The entire line can move more evenly and delays are reduced.

■ Display remaining work time with the number of tiers



Task progress is understood in real time!

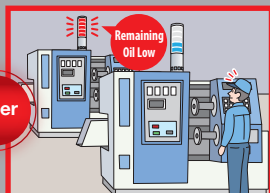
Case 2 Replenish with precise timing with "cutting fluid level visualization!"



Before

The amount of oil is unknown!

Cutting fluid level in the underground tank was unknown. Operators wasted a lot of time opening the tank to verify how much fluid was left.



After

The amount of oil is visible from a distance!

The amount of fluid in the tank could be determined with a glance, even from great distances, allowing quicker response to multiple machines, and improved operator productivity.

■ Remaining tank level indication



The status of the amount of oil can be seen at a glance from a distance!

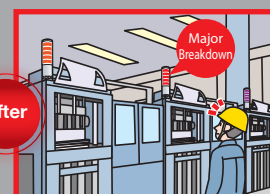
Case 3 Various machines can be monitored more precisely for abnormal conditions!



Before

An error condition is not understood!

Abnormalities for equipment was displayed and could be seen from a distance but its severity could not be determined unless extra time was taken to approach the machine.

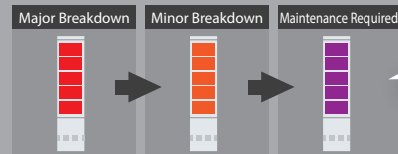


After

Various errors are now visible from a distance!

Now equipment can be checked for abnormalities at a glance from a distance, and when all tiers light up prompt attention can be given.

■ All tiers light-up for abnormal conditions.



According to color, each status can be seen at a glance from a distance!

CWK

LED Light Bar



Daylight



IP66G/67G

3meter Cable

Water and Oil resistant high-power LED Work Light with a wider illumination span.

- Made of aluminum alloy and tempered glass which is resistant to water and tooling oils.
- Special design disperses light for a wider and brighter illumination in the work space.
- The illuminance corresponds to EN1873 for safer exposure to eyes when working in the illuminated area.
- The product lineup includes a mounting bracket and two bracket options (swivel or panel mount) to adapt to various scenarios.
- Conforms to CE and RoHS requirements.
- UL Listed (File No. E306141).



The body is protected by the tempered glass which disperses the flying scrap.



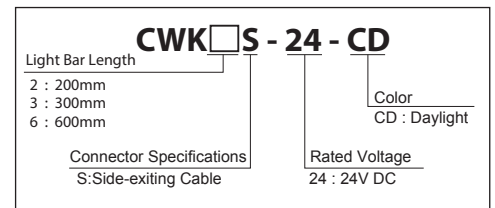
It has passed the oil resistant test from common cutting oils.

[Accelerated aging test with diluted oil at 55°C for 240 hours (10 days) sprayed onto the test object]

Specifications

Model	CWK2S-24	CWK3S-24	CWK6S-24
Luminous Color	Daylight		
Color Temperature (typ.)	6500K		
Illuminance (typ.) (at DC24V) 1.0m	600 lx	850 lx	1500 lx
Total Luminous Flux (typ.)	800 lm	1200 lm	2400 lm
Operating Voltage Range	24VDC ±10%		
Rated Current Consumption	360mA ±10%	480mA ±10%	960mA ±10%
Rated Power Consumption	8.6W	11.5W	23.0W
Operating Ambient Temperature	-10°C - +50°C		
Operating Ambient Humidity	90% RH or less, no condensation		
Main Unit Material	Body: Aluminum Alloy; Lens: Tempered Glass		
Cable Length	3 meters		
Mounting Location	Indoors		
Protection Rating	IP66G/ IP67G (JIS C0920)		
Insulation Resistance	500V DC 5MΩ or more		
Withstand Voltage	500VAC for 1 minute (Between terminals and chassis)		
Vibration Resistance	30Hz 20m/s ²		
Mass (Tolerance ±10%)	600g	750g	1230g

How to Order



Dimensions (Unit: mm)

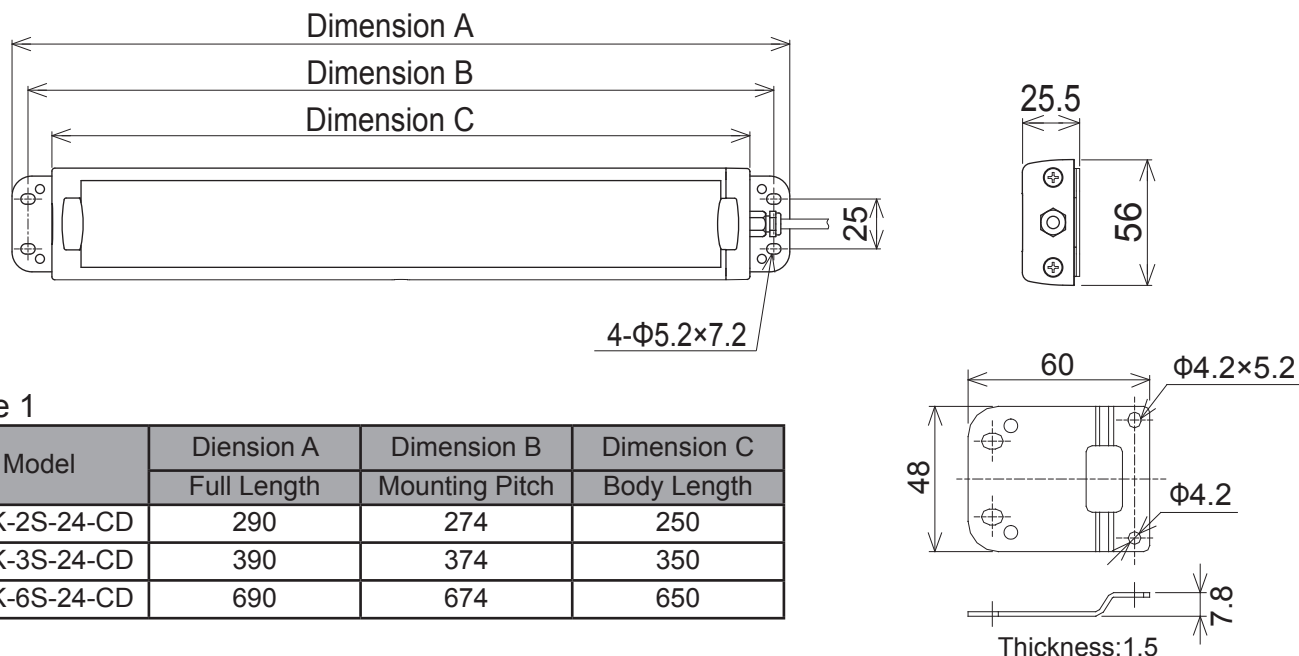
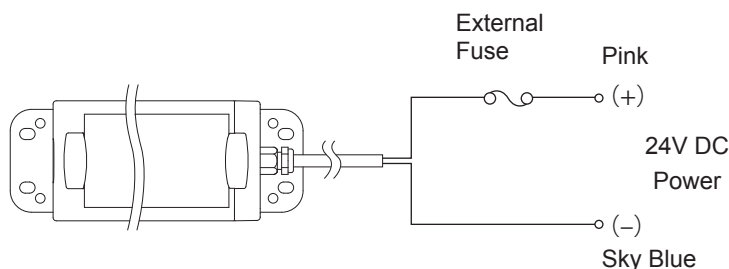


Table 1

Model	Diension A	Dimension B	Dimension C
	Full Length	Mounting Pitch	Body Length
CWK-2S-24-CD	290	274	250
CWK-3S-24-CD	390	374	350
CWK-6S-24-CD	690	674	650

Wiring



! [Enforced]

There is no protection rating for the area surrounding the tip of the cable.

To ensure insulation of water intrusion, the use of fillers (such as silicon, etc.) to plug up the tip part is recommended.

Oil Exam

It has passed the oil resistant test from the following common cutting oils.

Company	Oil Type
Hangsterfer's	Hangsterfer's S-500
Yushiro Chemical Industry Co., Ltd.	Yushiroken Synthetic #663
Castrol	Syntilo 9954
BlaserSwisslube Inc.	Blasocut BC35LFSW

Confirmation in result of swelling, contraction, dissolution, exfoliation, separation, cracks, and discoloration by the accelerated impregnation examination with the oil types indicated in the table on the left for diluted oil at 55°C for 240 hours (ten days) was made.

Due to the additive agents in oil, the application of oils other than the ones mentioned may influence physical properties, therefore, please inquire in advance.

* The mentioned company names, product names, trademarks, etc. are the registered trademarks or trademarks in Japan for each company, and/or other countries.

Standard Accessory

These brackets are included.

■ Mounting Brackets



Options

The following brackets can be used to fit various mounting applications.

■ Angle-adjustment Brackets



■ Surface-mount Brackets



NE-M1-CL7

LED Dome Signal Light



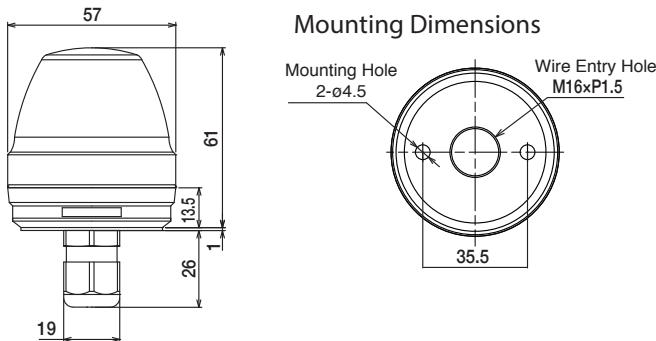
- LED
- IP66/67
- Φ57
- NPN/PNP
Open-collector

NE-M1-CL7 Series LED Dome Signal Light; One Signal Light with 7 LED color combinations provide multiple solutions with years of maintenance-free operation.

FEATURES

- Seven multicolored LEDs.
- Low power consumption to increase energy efficiency.
- High protection rating for outdoor use.
- Color-coded wires for easy wiring.
- Applications are suitable for AGV units, small tooling machines, control panels, etc.
- One unit can make colors in Red, Yellow, Green, Blue, Light Blue, Purple and White.
- Has the CE mark and conforms to the requirements for the EC directive.

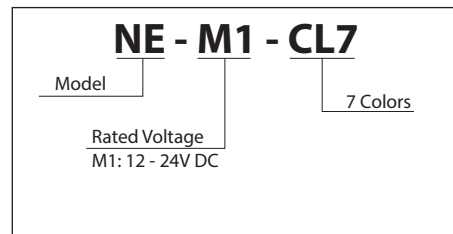
Dimensions (Unit: mm)



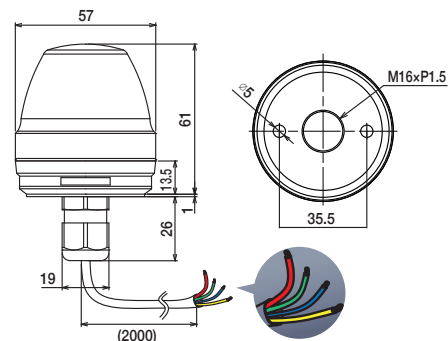
Specifications

Model	Rated Voltage	Operating Temperature Range	Operating Humidity	Protection Rating	Mass
NE-M1-CL7	12 - 24V DC	-30 C - +50 C	90% or less	IP66/IP67	55g

How to Order



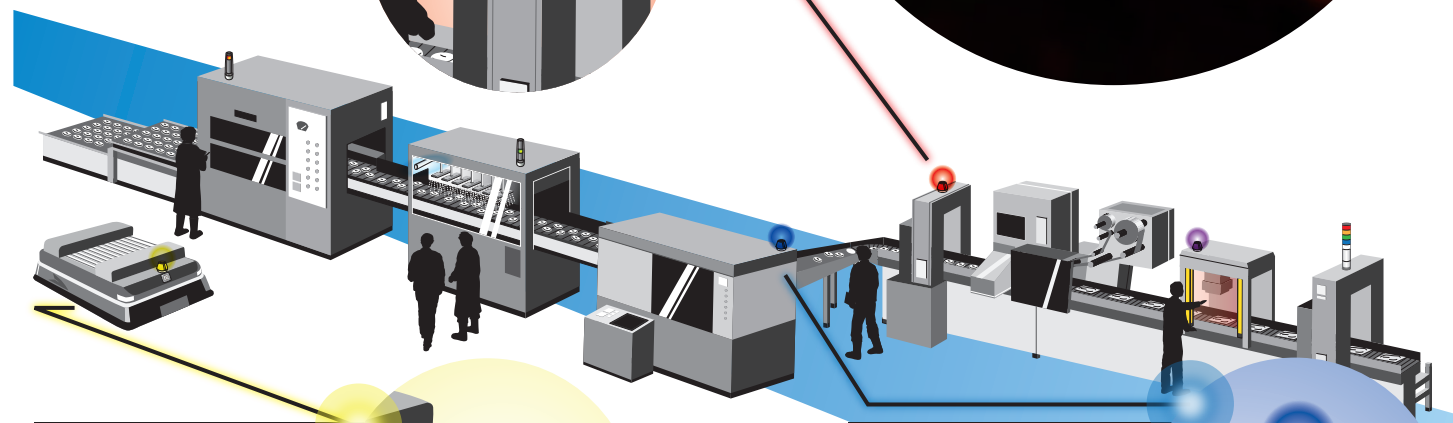
Wiring



Application Examples

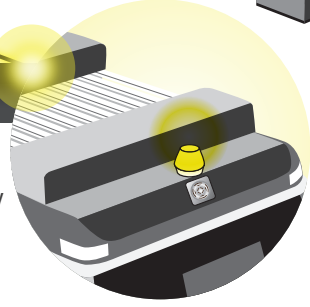
Conveyor Line

- Emergency Stop
- Error
- Operating
- Material Jammed
- Inspection
- Call Supervisor
- Ready to Start



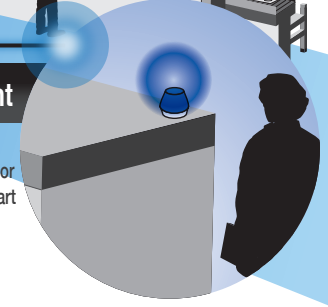
AGV

- Error
- Obstacle Detected
- Forward
- Reverse
- Turn
- Idle
- Dead Battery



Compact Equipment

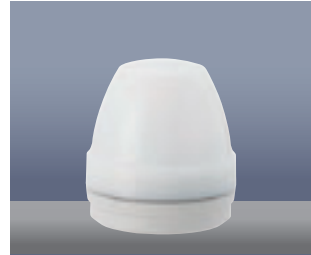
- Emergency Stop
- Error
- Operating
- Out of Material
- Idle
- Call Supervisor
- Ready to Start



Diverse Color Possibilities

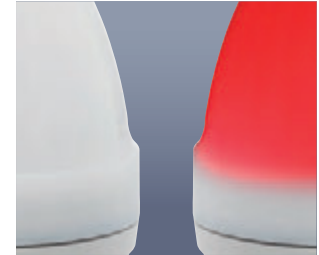


Compact Size



A compact design to fit with any piece of equipment.

Opaque Lens



The white colored lens displays various colors much clearer and uniformly diffuses the light source.

Environmental Resistant Characteristics



High Protection for an IP rating of 66 and 67, it can be used in environments with higher humidities and dust exposure.

Color Chart	
Wiring	LED Color
RED	RED
GREEN	GREEN
BLUE	BLUE
RED/GREEN	YELLOW
BLUE/GREEN	LIGHT BLUE
RED/BLUE	PURPLE
RED/GREEN/BLUE	WHITE

Model Name	NE-M1-CL7
Rated Voltage	12V DC~24V DC
Operating Voltage Range	10 V DC~30 V DC
Operating Temperature Range	-30 °C to + 50°C (90% RH or less)
Protection Rating	IP66/IP67
Display Color	7 Colors

BSV-L

Voice Annunciator



87 dB at 1m

15 Channels (Binary)

520 Seconds

IP54

□ 75

NPN/PNP
Open-collector



Now more playback time for longer, or more messages.

FEATURES

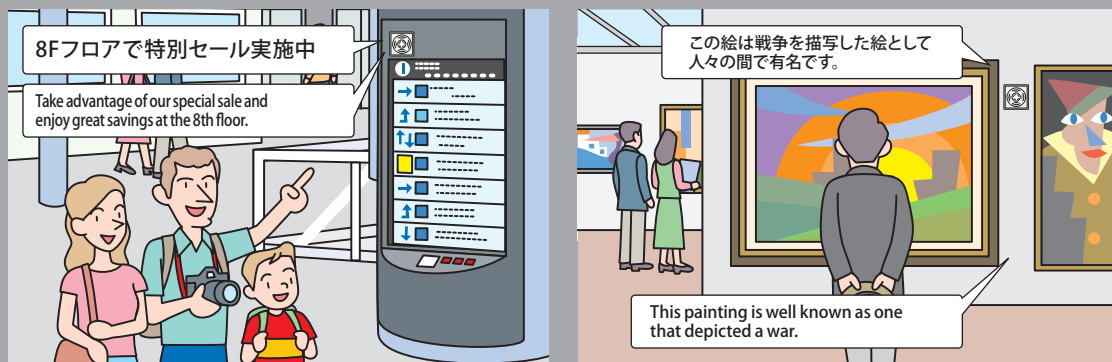
- Sound reduction
- Use the SD card to change messages while out in the field or set up modes for the right application.
- It complies with Europe's environment-friendly RoHS Directivem, conforms to the CE requirements and UL Listed.
- Can be used with transistor driven inputs. (Either NPN or PNP)
- A compact design with only a thickness of 19.9mm.
- Two installation choices of panel or wall mount with a Protection Rating of IP54 (Only for front panel mount attachment).
- The volume control is accessible from the front with maximum output of 87dB (at 1m).

Use it for multilingual messages

- Scene: Stores, Hotels, public transportation, tourist resort spots
- Application: Announce Events, Emergency Service, Museums, etc.

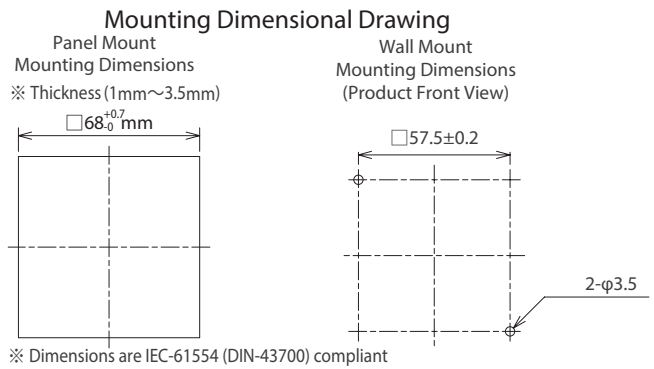
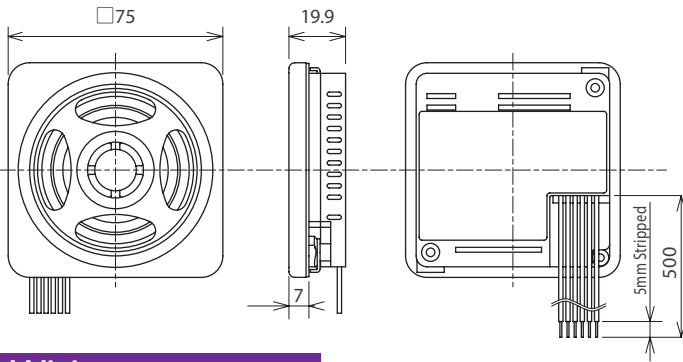


With a four-language playback, it gives 4 times as many messages.

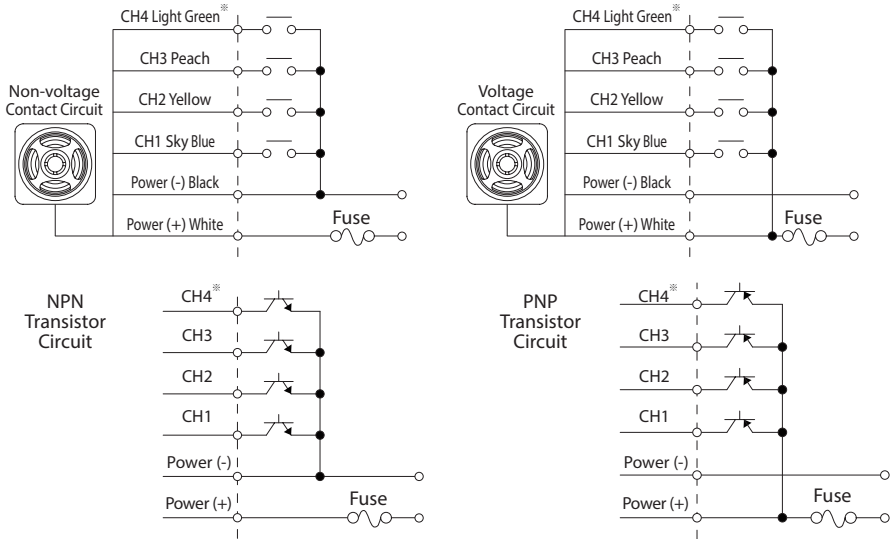


The support for multilingual communication is increasing due to the improvement in service at commercial establishments, such as for transportation, tourist resort, etc. and the audio assistance has been increased by more languages, such as Japanese, English, Chinese and Korean; therefore about 4 times the amount of playback time is needed. With the BSV-L model, a maximum of 520 seconds in playback is easy to support several multilingual messages.

Dimensions (Unit: mm)



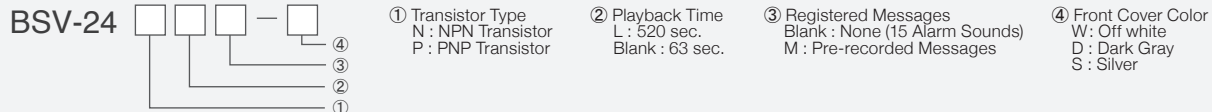
Wiring



Specifications and How to Order

520sec. Model

Specifications																					
Model	Transistor Type	Rated Voltage	Operating Voltage Range	Power Consumption	Sound Level	Operating Temperature Range	Max. Playback Time	Playback Channels	Protection Rating	Mass	Front Cover Color	Recorded Data									
BSV-24NLM-W/D	NPN Transistor	DC 12-24V	DC10.8V to 26.4V	3.5W	Max. 87dB (at 1m) 1kHz Sine Wave	-10°C to +50°C (RH 85% or less)	520sec.	4 (Bit Input) 15 (Binary Input) ※When using the Sound Reduction Function, the inputs become: 3 (Bit Input) 7 (Binary Input)	IP54 (Only for Panel Mount in the Upright Position) In accordance with IEC 60529	100g ±10%	Off white (-W) Dark Gray (-D)	Voice									
BSV-24NLM-S											Silver (-S)										
BSV-24NL-W/D											Off white (-W) Dark Gray (-D)	Alarm									
BSV-24NL-S											Silver (-S)										
BSV-24PLM-W/D	PNP Transistor										DC 12-24V	DC10.8V to 26.4V	3.5W	Max. 87dB (at 1m) 1kHz Sine Wave	-10°C to +50°C (RH 85% or less)	520sec.	4 (Bit Input) 15 (Binary Input) ※When using the Sound Reduction Function, the inputs become: 3 (Bit Input) 7 (Binary Input)	IP54 (Only for Panel Mount in the Upright Position) In accordance with IEC 60529	100g ±10%	Off white (-W) Dark Gray (-D)	Voice
BSV-24PLM-S																				Silver (-S)	
BSV-24PL-W/D																				Off white (-W) Dark Gray (-D)	Alarm
BSV-24PL-S																				Silver (-S)	



With the built-in SD card slot, MP3 data rewriting can be done with an SD card. In addition, rewriting or editing MP3 data files is possible with or without the exclusive PATLITE Playlist Editor 2 Application software.

Options

PATLITE Playlist Editor 2 (Free Download)

SD Card (2 GB) SDV-2GP

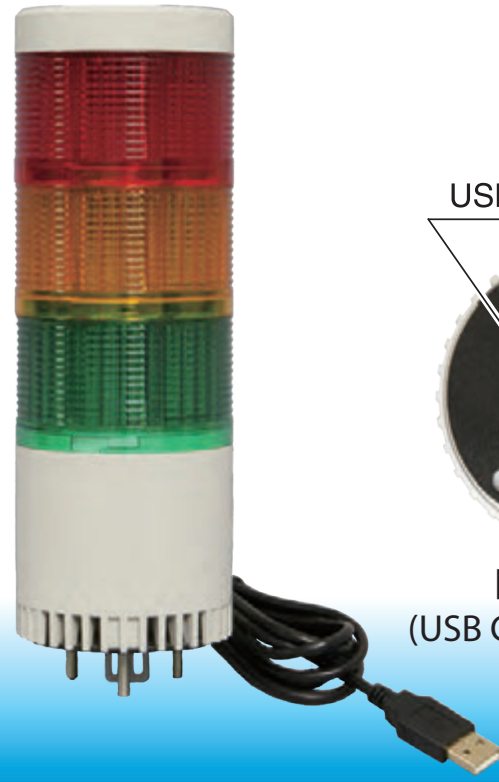
(OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)

- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.

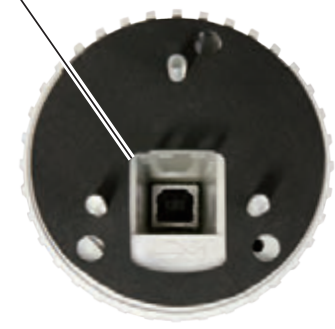
LU7-USB



Signal Tower



USB connector (Type B)



[Bottom View]
(USB Cable Not Included)

- LED
- 80dB at 1m
- IP65
- Ø70
- USB

USB powered Base Module with Integrated Alarms

FEATURES

- USB Bus Power - no power supply needed
- DLL Operable
- Supports a maximum of five tiers where three tiers can be lighted simultaneously
- Complies with CE/RoHS/FCC/CK Standards
- IP65 protection rating
- Adjustable alarm frequency
- Two levels of adjustable alarm sounds
- Sound pressure at a maximum of 80dB
- Four kinds of flashing patterns
- 13 variable alarm frequencies and five alarm sound patterns
- Vinyl strip to secure USB cable included (Cable not included)
- Supports Windows 7 and Windows 8 Operating Software

Free Downloadable Software

The Controllable Program is downloadable from the PATLITE website (<http://global.patlite.com/>)



How to Order

Short Base Unit

LU7 - 02S - USB

Model: LU7 - 02S - USB

Rated Voltage: 02: DC 24V

Base Color: Blank: Ivory White, K: Black

Dimensions (Unit: mm)

LED Unit (Optional) LU7-E-□

LED unit Qty	L
0	77.5
1	118.5
2	159.5
3	200.5

Maximum Product Installation Board Thickness: 10

LED Module

LU7-E-R

Model: LU7-E-R

Unit: E : LED Unit

Color: R: Red, Y: Amber, G: Green, B: Blue, C: White/Clear

Application Example

Printing Machines





LU7-LB

LU7-LB

Signal Tower



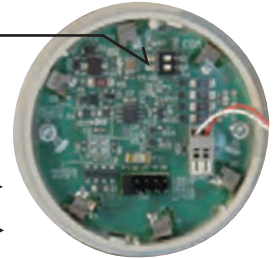
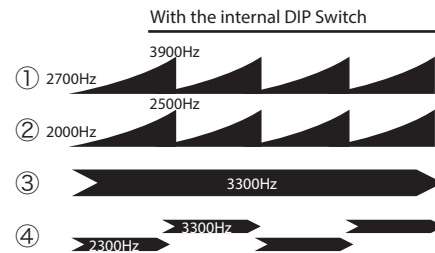
- 4 Sounds
- 100dB at 1m
- IP40
- Ø70
- NPN
Open-collector

Loud, multi-sound Module (LU7-LB)

FEATURES

- Loud sound pressure up to 100dB (±5dB)
- Four kinds of alarm sounds can be selected with a DIP switch for a wider alarm sound range
- IP40 Protection rating
- Complies with CE/RoHS/FCC Standards
- Can be used with LU7-02(FB), LU7-M2(FB), and LU7-02S(B)
- Alarm can be set to sound with a specific LED module for simultaneous control

4 Alarm sound Patterns



How to Order

LED Sound Module
LU7-LB
 Model Unit
 LB: Alarm Module

Stackable audible alarm

- Can be used with LU7-02(FB), LU7-M2(FB), and LU7-02S(B).
- Easily mounted at the top of the light stack.

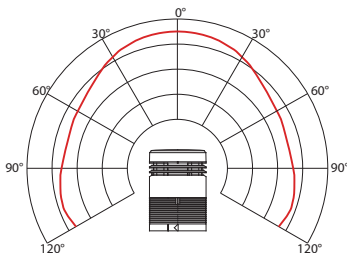
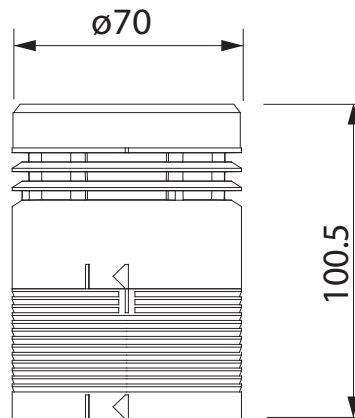


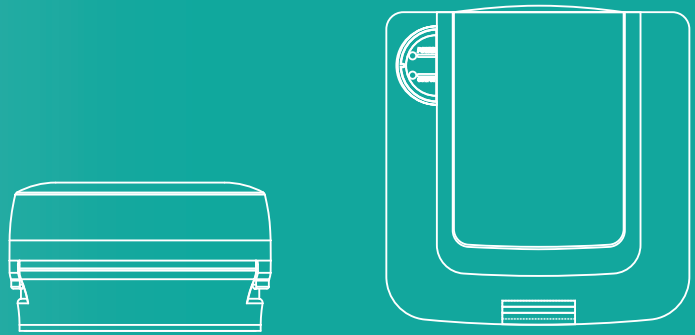
Diagram 1. Sound Direction

Dimensions (Unit: mm)

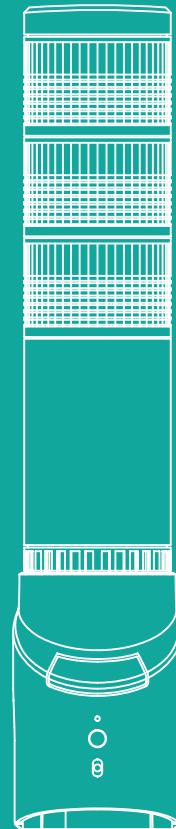


Specifications

Model	Type	Rated Voltage	Rated Current	Power Consumption	Mass
LU7-LB	Alarm Sound	DC 24V	150mA	-	140g



Network Products



NHL

Network Monitor Signal Tower



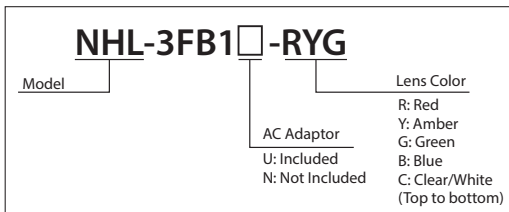
- LED
- 4 Alarm Sounds
- 80db at 1m
- Φ60
- Network

Network Monitoring With a New Look

FEATURES

- Not dependent upon the OS.
- Supports common protocols such as HTTP, SMTP, SNMP and includes RSH.
- Easily works with NMS (network management/integration / monitoring) software, etc.
- Easily controllable by the SNMP SET command and RSH commands.
- Conforms to the CE requirements. (AC Adaptor does not carry the CE mark.)
- Four different alarm sounds can be correlated to match the prioritized monitoring level.
- Contains the ICMP protocol so PING monitoring can be set up for a maximum of 24 nodes.
- Using the IP Address of the NHL Tower, detailed setup functions can be accessed via a browser.

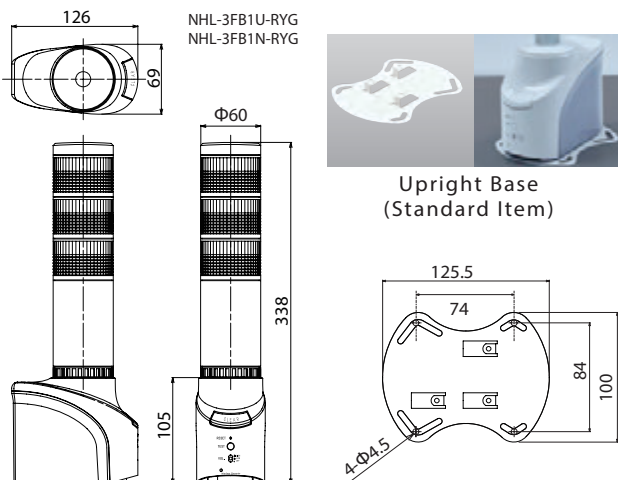
How to Order



Specifications

Model		NHL-3FB1U-RYG	NHL-3FB1N-RYG					
AC Adaptor	Rated Voltage	AC 100V to 240V	-					
	Operating Voltage Range	AC 90V to 264V	-					
Main Unit	Rated Voltage	DC 24V						
	Power Consumption	Unit	Red	Amber	Green	Blue	White	Buzzer
		2.0W	1.5W	1.5W	0.8W	0.8W	0.8W	2.0W
Operating Temperature Range		0°C - +40°C						
Storage Temperature Range		-10°C - +60°C						
Relative Humidity		RH of 20 to 80% (No Condensation)						
Vibration Resistance		19.6m/s ²						
Protection Rating		IP20 (Not Waterproof)						
Alarm Sound	Audio Level	Three-position switch for "HIGH", "LOW", "OFF" "HIGH": 80dB or more "LOW": 70dB or less (Tested at 1m from diaphragm in upright position)						
	Tone Pattern	Four distinctive patterns: (Slow Intermittent), (Fast Intermittent), (Fast Burst), (Continuous)						
Switches	"CLEAR"	Pushbutton Switch						
	"TEST"	Pushbutton Switch						
	"RESET"	Pushbutton Switch						
	"BUZZER"	Slide Switch						
Communication Method	Ethernet	Physical Layer: 10BASE-T/100BASE-TX (Auto-negotiation/Full Duplex/ Half Duplex)						
		Data Link Layer: CSMA/CD						
		Network Link Layer: IP / ARP / ICMP						
		Transport Layer: TCP / UDP						
Application Layer: HTTP / RSH / SMTP / SNMP / POP / DNS / NTP / DHCP / Socket								
Mounting	Location	Indoors Only						
	Direction	Desktop or Wall-mount in the Upright Position						
Mass		800g (AC Adaptor not included)						
Accessories		AC Adaptor, Rubber Feet, Adhesive Tape, Support Base			Rubber Feet, Adhesive Tape, Support Base			

Dimensions (Unit: mm)



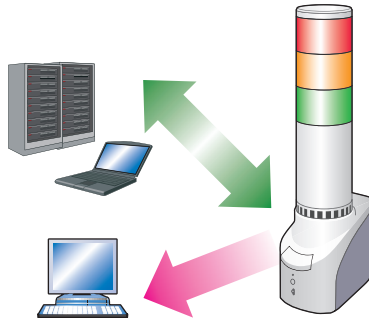
Easy Integration for many system applications

PING Device Monitor

Monitors Device Existence on the Network

The NH Tower initiates PING interaction with network devices to verify existence of up to 24 nodes. When the response to a PING fails, a warning with light and sound occurs to alert administrators.

Among the 24 nodes, 12 nodes (13th - 24th) can be set up for more detailed monitoring parameters.



Application Monitor

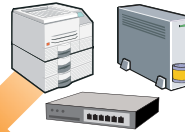
The tower can monitor important background applications and signal the administrator upon any failure.

SNMP v1-v2c

Monitor networking equipment at a low cost

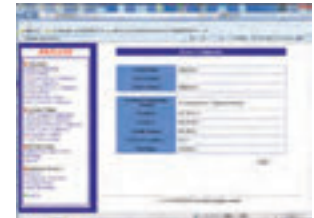
Many network devices (UPS, printers, routers, switches, etc.) generate SNMP TRAP messages when a failure occurs. The NHL tower can trigger a light and sound signal based on these SNMP TRAP messages to alert the administrator.

It can distinguish the various TRAPS. Register up to 16 groups (4 nodes per group).



Easy setup from a web browser

Detailed tower setup is accessed from a web browser directly to its IP Address. Firmware can also be upgraded remotely.

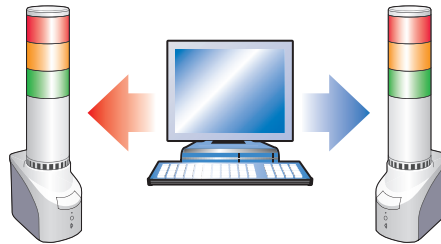


Web Setup Screen

Communication Commands for many customized applications

RSH

The RSH protocol is flexible with easily controllable commands. With the use of Network integrated management software; event information obtained from various monitoring tools etc., can be used as a trigger to cause a combination of flashing and alarm patterns to sound in synchronicity with the event.



Event Occurrence: Command Tier to light, alarm to sound.

RSH Example Code: rsh 192.168.10.1 -l root alert 111001

SOCKET Transmission

PHN Command Compatibility

Controlled with 2 byte commands.

- * Compatible with NHE-3FB, NHC-3FB, NHM-3FB, and PHN-3FBE1.
- * Some functionality is limited.

Event Occurrence: Command Tier to light, alarm to sound
PHN Example Code: 0x57,0x17

New PNS Command Compatibility

The PNS command can be used to control all pattern information.

* **The PNS command is a unique command from PATLITE.**

Event Occurrence: Command Tier to sound alarm

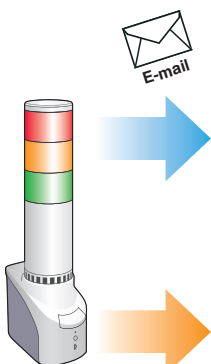
PNS Example Code:
0x58,0x58,0x53,0x00,0x00,0x06,0x01,0x01,0x01,0x00,0x00,0x01

Diagnostic / Reporting/ Notification Features

E-mail Transmission

Send e-mail with a maximum of eight selectable events

Up to eight events can be created and sent as a secure e-mail with the subject name and text corresponding to the event.



SNMP v2c

SNMP TRAP Transmission

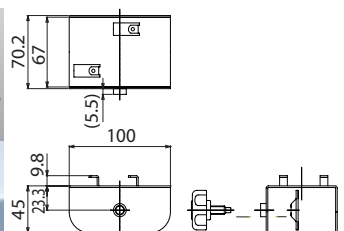
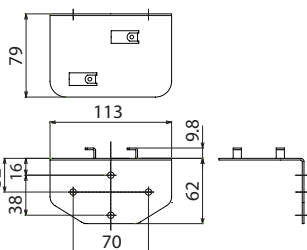
Can transmit from a maximum of eight network devices.

Self-diagnosis



The test switch on the front of the Body can check the Signal Tower and alarm operation functions easily without it being controlled through the network.

Options



PHC-100A

Interface Converter



Network

Terminal

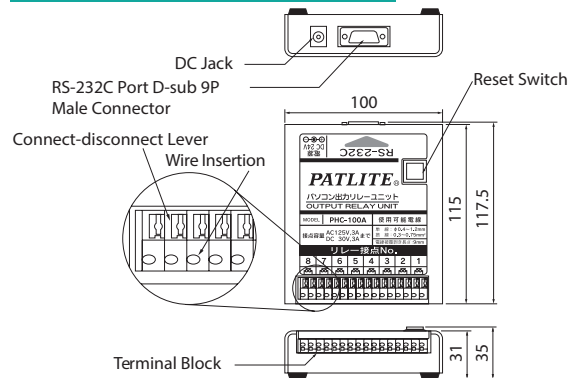
• This product requires the knowledge to program with ASCII commands to output through an RS-232C port.

The PHC-100A Interface Converter can be connected to the RS-232C port on your programmed PC to control most PATLITE products, both visual and audible.

FEATURES

- 16 terminals provide 8 isolated non-voltage contact outputs.
- Reset pushbutton provided to reset all outputs to the off state.

Dimensions (Unit: mm)

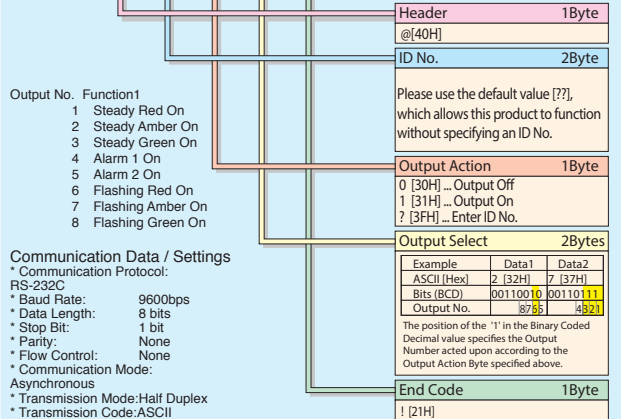


Specifications

Model		PHC-100A
Communication Protocol	Interface	RS-232C (Based on EIA)
	Method	Half-duplex, Full-duplex, Asynchronous
	Baud Rate	9,600 bps
	Data Bit	8 bit
	Stop Bit	1 bit
	Parity Bit	None
	Flow Control	None
PHC Base Terminal Buss Specifications	I/O Port	D-sub 9 pin Male Connector
	Contact Type	Non-voltage Contact
	Contact Outputs	8
	Output Load Capacity	AC 125V 3A / DC 30V 3A
PHC Base Terminal Buss Specifications	Connector	Screwless Terminal
	Applicable Wire Size	Solid Wire: AWG18 - 26 (0.4 - 1.2mm ²) Stranded Wire: AWG20 - 22 (0.3 - 0.75mm ²)
PHE Base Specifications	Dimensions (mm)	100(W) x 31(H) x 115(D)
	Power Supply Source	AC Adaptor (Sold Separately)
	Power Consumption	4.0W
	Operating Temperature Range	0°C to +40°C
	Humidity	20 to 80% RH (No Condensation)

PHE-3FBE1 / PHC-100A Control • ASCII Command String

@ ? ? 1 2 7 !



• The above example shows how to turn on the following output numbers : 6, 3, 2, 1



PHE-3FBE1

RS-232C / PC Controlled Signal Tower



- LED
- 2 Alarm Sounds
- 85dB at 1m
- Ø40
- Network

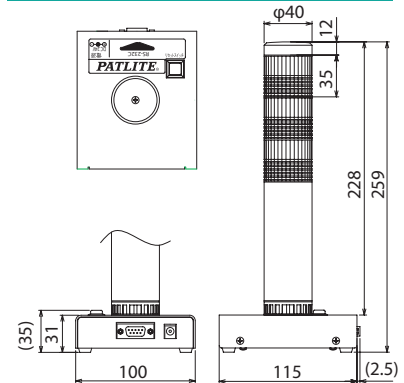
• This product requires the knowledge to program with ASCII commands to output through an RS-232C port.

Signal Tower can be controlled directly by PC through RS-232C.

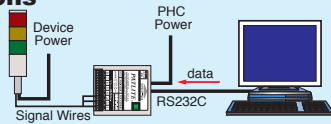
FEATURES

- Alarm is adjustable up to 85dB at 1m
- High-volume alarms (two patterns) can be heard even in a noisy factory.
- Bright LED signal tower
- PATLITE's original double reflection system with its exclusive hybrid prism-cut lens and 3 color LED modules create distinctive illumination that is bright and even.
- Light and alarm functions can be turned off by pressing the reset switch on the base.

Dimensions (Unit: mm)



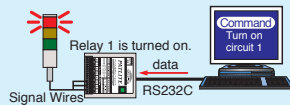
• Basic Connections



• Application Examples

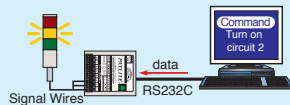
Transfer data to turn on relay circuit 1 from PC.

Data @??101!



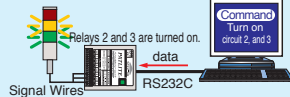
Transfer data to turn on relay circuit 2 from PC.

Data @??102!



Transfer data to turn on relay circuits 2 and 3 from PC.

Data @??106!



Specifications

	Model	PHE-3FBE1
Communication Protocol	Interface	RS-232C (Based on EIA)
	Method	Half-duplex, Full-duplex, Asynchronous
	Baud Rate	9,600 bps
	Data Bit	8 bit
	Stop Bit	1 bit
	Parity Bit	None
	Flow Control	None
Signal Tower Specifications	I/O Port	D-sub 9 pin Male Connector
	Flashing Rate	60 flashes per minute
	Sound Level	Adjustable from 70dB to 85dB (at 1m)
PHE Base Specifications	Tone Pattern	2 Alarms (Slow Intermittent, Fast Intermittent)
	Dimensions (mm)	100(W) x 259(H) x 115(D)
	Power Supply Source	AC Adaptor (Sold Separately)
	Power Consumption	6.5W
	Operating Temperature Range	0°C to +40°C
Humidity	20 to 80% RH (No Condensation)	

PHU-3

USB / PC Controlled Signal Tower

LED



Ø25

IP20

Network

USB



Signal Tower can be controlled directly by PC through the USB Port.

FEATURES

- Bright LED available as RYG or RYB three-tiered Signal Tower.
- PATLITE's original double reflection system with its exclusive hybrid prism-cut lens and 3 color LED modules create distinctive illumination that is bright and even.
- Power source supplied by USB Buss Power.

How to Order

PHU-3-RYG

Color

RYG: (Red, Amber, Green)

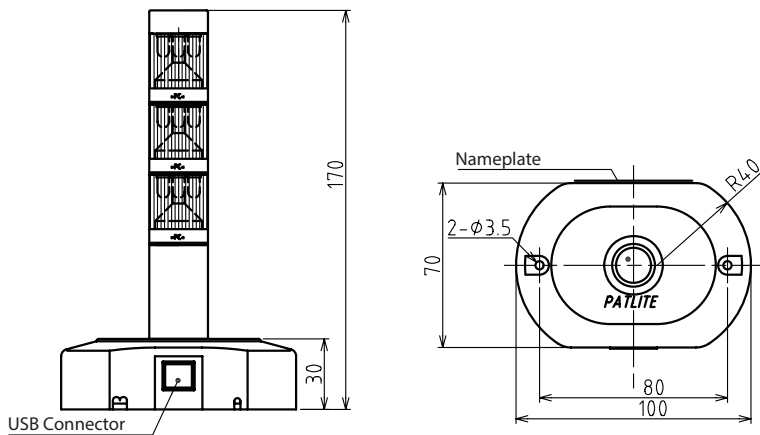
RYB: (Red, Amber, Blue)

(Top to bottom)

Specifications

Model		PHU-3-RYG	PHU-3-RYB
General	Rated Voltage	5V DC (USB Buss Power)	
	Operating Voltage Range	DC 4.4V to DC 5.25V	
	Rated Current Consumption (Power Source)	Standby Mode: 25mA Operating Mode: 230mA Max.	
	Operating Temperature Range	-10°C to +55°C	
	Relative Ambient Temperature	RH 90% or less (No Condensation)	
	Electric Noise Intensity Level	VCCI Class-B Equivalent	
Signal Tower	Installation	Upright Position Only	
	Protection Rating	IP20	
	Insulation Resistance	More than 1MΩ at DC500V between the terminals and Chassis	
	Withstand Voltage	AC 500V applied for 1 minute between the terminals and chassis without breaking insulation.	
	Mass	0.18kg	
Interface	Input / Output	Input: USB / Output: Lighting (Red, Amber, Green, Blue LED)	
	Physical Specifications	Connector Input: Series-B Receptacle (USB Rev. 1.1 Compliant)	

Dimensions (Unit: mm)



Example) PHU-3-RYG controlling Red and Green LED lights (*1)

• Logic Specifications

Action	Bit Data
"Red" Light ON	00000001
"Amber" Light ON	00000010
"Green" Light ON	00000100
"Blue" Light ON	00001000
"Red" and "Amber" Light ON; "Green" and "Blue" Light OFF	00000011
"Red" and "Green" Light ON; "Amber" and "Blue" Light OFF	00000101
"Amber" and "Green" Light ON; "Red" and "Blue" Light OFF	00000110
"Amber" and "Blue" Light ON; "Red" and "Green" Light OFF	00001010
"Red", "Amber", "Green" and "Blue" Light ON	00001111
"Red", "Amber", "Green" and "Blue" Light OFF	00000000

• Transfer Mode

Bulk Transfer

• Data Error Detection Criteria

CRC (Cyclic Redundancy Check)

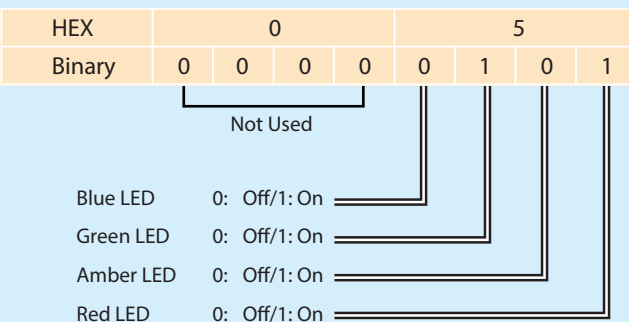
• Packet Commands

Token Packet (SOF, SETUP, OUT, IN)

Data Packet

Handshake Packet

Transmission Setting (Virtual COM)	
Bit Rate	: 19,200bps
Data Length	: 8 bits
Parity	: None
Stop Bit	: 1 bit
Control Flow	: None



*2, *3

*1 Drivers for Windows OS may have to be installed prior to use. Refer to the Instruction Manual on how to get the latest downloads.

*2 This product does not include a flashing function, but it can be controlled by programming it through the USB output.

*3 The control commands for the Green LED and Blue LED for the PHU-3-RYG and PHU-3-RYB are controlled separately.

* This unit is designed to be controlled by one computer, improper operation may occur with two or more units connected.

VE25 / VE100

Real-time Production Monitoring Solution



VE25-304SU
3 Row, 4 Digit Type
Digit Size : 25mm



VE100-304SU
3 Row, 4 Digit Type
Digit Size : 100mm



VE-IRU
Infrared Remote Control Unit
(Sold Separately)

*Compliant with FCC Title 47, Part 15, Subpart B

- LED
- Terminal
- 25mm/100mm
- Network

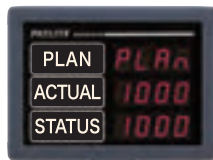
- Improve Manufacturing Productivity
- Reduce Down Time for "Kaizen"
- Ideal for Lean Manufacturing
- Real-time Production Monitoring
- Large Digital Displays
- Easy Installation

Our VE Series Real-time Production Monitoring Solution serves as a rugged, factory floor Andon system, with real-time production status indication to alert product performance to workers and supervisors. The VE Series Real-time Production Monitoring Solution is easy to install directly on operator workstations or automated machinery, and the wireless remote control unit enables easy setup. The VE Series Real-time Production Monitoring Solution comes in 2 models (25mm or 100mm character height), and it fully supports the principles of "Kaizen" (continuous improvement) to achieve a "Visual Factory", where clear and easy to understand information is quickly accessible.

FEATURES

- Available in 25mm and 100mm digit sizes.
- Production-control settings can easily be set-up with the remote control or PC (Sold Separately).
- Bright LED digits for easy viewing.
- External terminal output for adding an extra 3 color LED Signal Tower to add distinctive signaling.

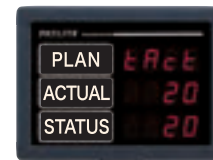
• Easy Setup



Plan



Prescale



Takt-time

• Three-terminal Output

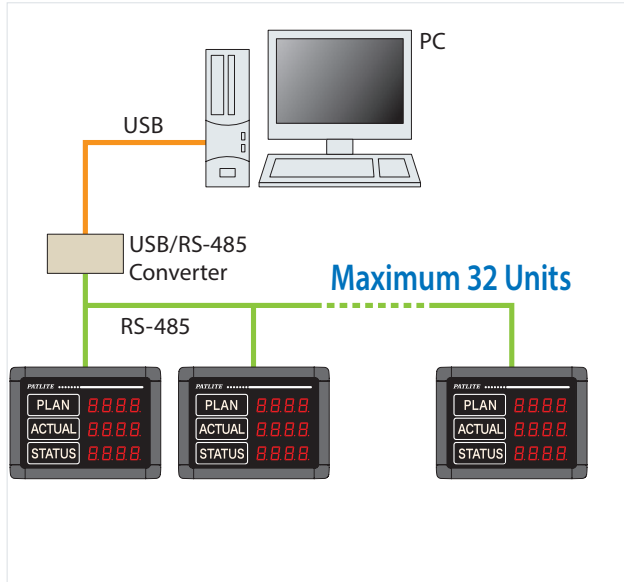


• Optional Bracket for VE-100 Available



VE-100 Brackets
(Set of 2, Sold Separately)

Serial Network Application



Stand-alone Application

Output Devices

- Beacons
- Audible Alarms
- Annunciators

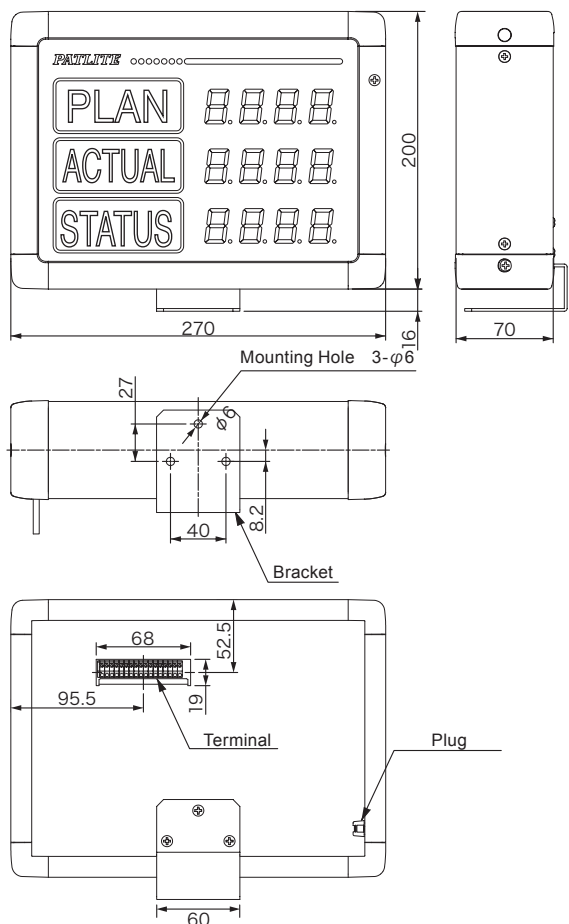
Input Devices

- Manual Switches
- Micro Switches
- Relays
- RS485 Converters

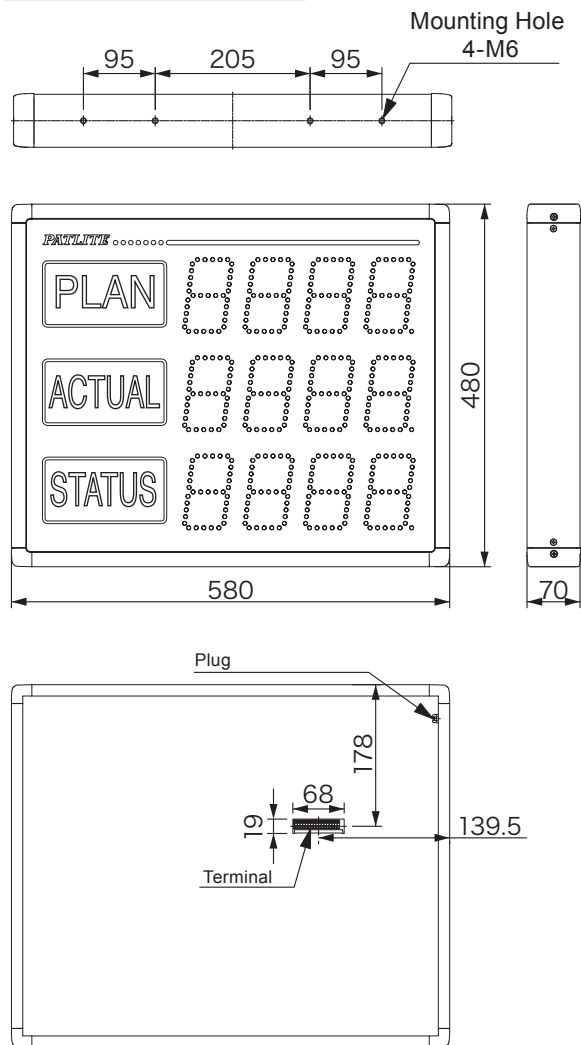


Dimensions (Unit: mm)

Model VE25-304SU



Model VE100-304SU



WD-Z2

Wireless Data Acquisition System



WDT-6M $\Phi 60$ Fits LME

WDT-5E $\Phi 50$ Fits LE

Wireless Network

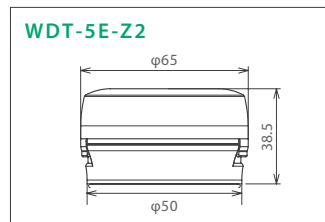
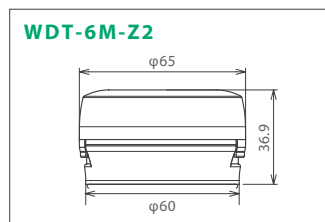
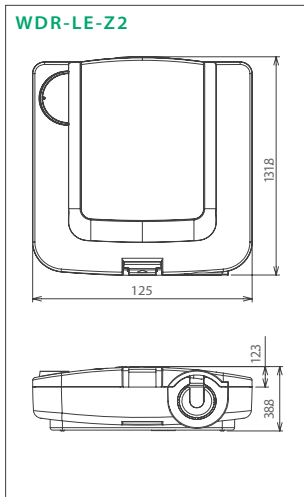
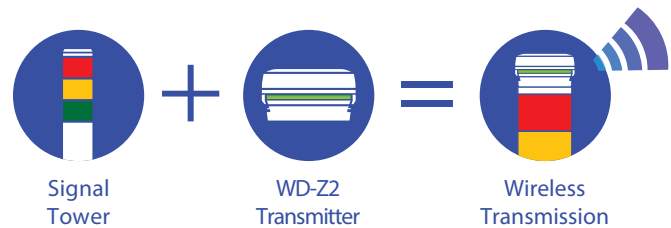


Monitor remotely and collect data wirelessly from a PATLITE Signal Tower

PATLITE wireless add-on modules and receivers make PATLITE Signal Towers capable of sending electrical signals over a wireless network to a data center. PATLITE wireless add-on modules and receivers are a uniquely practical and economical solution for data acquisition, machine status remote monitoring, and supervisory control of industrial processes. The WD-Z2 is an effective solution for lean manufacturing and a visual factory. PATLITE wireless add-on modules comply with IEEE802.15.4, operating in the 2.4 GHz band.

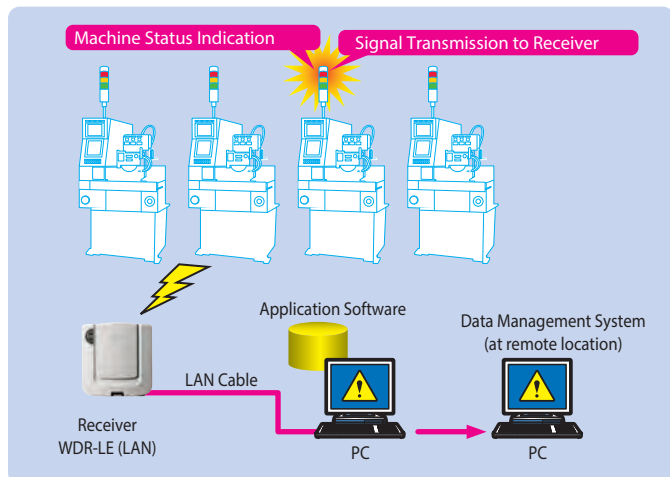
- 1) Simply add-on to a PATLITE Signal Tower
Operating conditions of Patlite signal towers installed on production machines or process systems can be transmitted wirelessly to a data center. Data acquisition and remote monitoring are possible instantly and economically through the WDR-Z2 receiver.
- 2) Wireless technology of today eliminates tedious wire installation
The WDT-Z2 add-on wireless modules tap their power from the PATLITE Signal Towers and transmit their electrical signals to the data center. This can reduce wiring, component installation and other related costs.
- 3) Multi-hopping topology and high transmitting reliability
With wireless multi-hopping, it minimizes potential transmitting failures or errors, adding a high level of stable operation and transmission reliability.

Dimensions (Unit: mm)



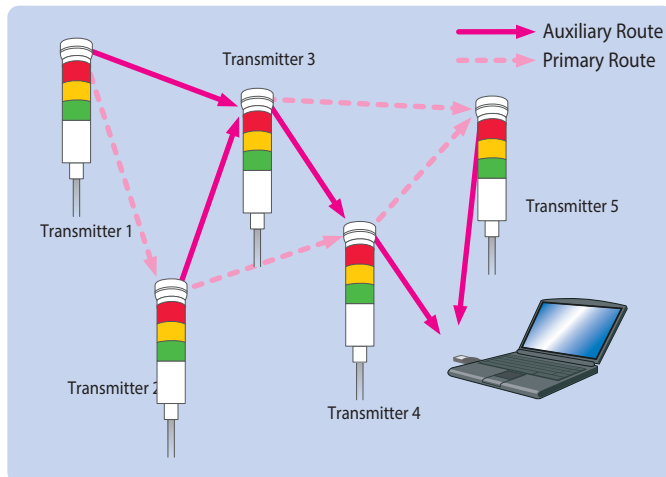
Typical Applications

- Multiple stand-alone machines can be networked by the WD-Z2 for data archiving and remote monitoring.
- The status and condition of the machines are indicated by the PATLITE signal towers.

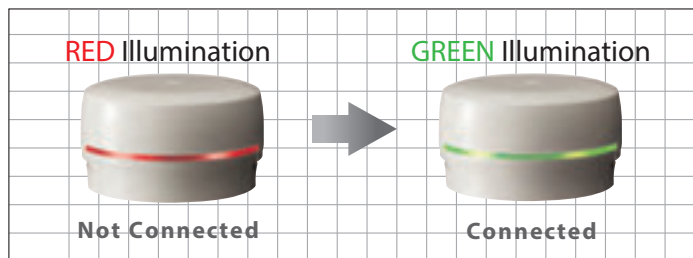


Wireless Concept IEEE 802.15.4 2.4GHz

- Wireless hopping/routing functions and mesh topology can make flexible and reliable wireless network configurations possible.
- Data archived by the WD-Z2 is stored in a file format CSV which any off-the-shelf data management software e.g, SCADA can handle.

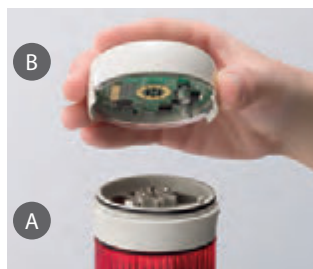


Network Connection Condition



※ The transmitter is designed for PATLITE Model Series LME and LE Signal Towers. (As of Dec, 2012)

Transmitter Installation



Affix the transmitter adaptor (A) on the Signal Tower and fasten it with the center screw. Then simply attach the transmitter (B) to the bracket. (Some applications don't require additional wiring.)

Specifications

Transmitters

Model	WDT-6M-Z2	WDT-5E-Z2
Applicable Signal Tower	Φ60 LME Series	Φ50 LE Series
Rated Voltage	DC 24V (No Polarity)	
Voltage Range	20.4V - 26.4V DC	
Current Consumption	35mA	
Operating Temperature	-10°C - +60°C (No Condensation)	
Storage Temperature	-20°C - +70°C (No Freezing)	
Relative Humidity	RH 85% or less	
Mounting Direction	Upright Position (Indoors Only)	
Protection Rating	Determined by PATLITE Signal Tower IP Ratings	
Dimensions (mm)	Φ65 x 36.9	Φ65 x 38.5
Mass	55g	

Ask your PATLITE Sales Representative for WD-Z2 compatible PATLITE Signal Towers

Receiver

Model	WDR-LE-Z2 (LAN/USB)
Rated Voltage	DC 24V (Power Supply not included)
Voltage Range	DC 20.4V - 26.4V
Current Consumption	150mA
Operating Temperature	-10°C - +60°C (No Condensation)
Storage Temperature	-20°C - +70°C (No Freezing)
Relative Humidity	RH 85% or less
Mounting Direction	Horizontal, Wall-mount (Indoors Only)
Protection Rating	IP20
Dimensions (mm)	131(H)x125(W)x38.5(D)
Mass	165g

Features

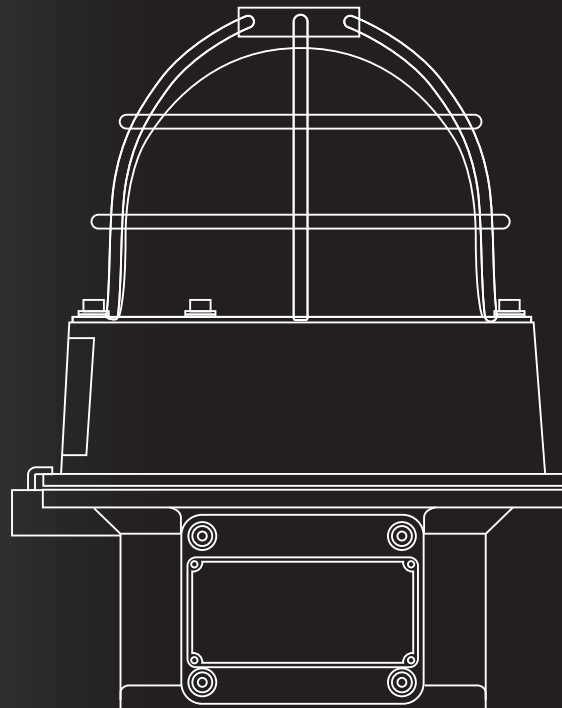
Wireless Standard	IEEE 802.15.4 for Zigbee 2.4GHz
Frequency Bandwidth	2,400MHz - 2,483.5MHz (16 Channels at 5MHz Step starting from 2,405MHz)
Networking Connections	up to 20 Units (*1)
Antenna Output	Maximum 1mW
Compliances	Wireless Telegraph Law, Electrical Appliance and Material Safety Law (AC Adaptor), RoHS, CE (R&TTE), FCC, China, Indonesia, Taiwan, Thailand, Philippines

(*1) Number of possible Units to connect is based on the wireless environment and installation location

- * This product operates on a frequency in compliance to FCC laws in the United States and its territories. Radio Laws for individual countries vary, and it is, therefore, the responsibility of the customer to comply with the laws in the country which applies to the application. Our company takes no responsibility directly, or indirectly, for claims from a customer or third party regarding Radio Laws or Wireless ordinance.
- * This product requires application software for configuration and data acquisition. For more information on the latest software and solution to fit the application, please contact your nearest PATLITE Sales Representative indicated on the backside of this Catalog.



Explosion-Safe Products



AR-070

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T85°C Dc IP65 94/9/EC (ATEX) CENELEC: EN 60079-0, EN 60079-15, EN 60079-31

Explosion-Safe Signal Tower



LED



FEATURES

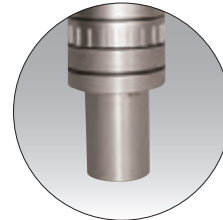
- Explosion-Safe for gas and dust
- Suitable for Zone 2 and Zone 22
- CE Compliance in accordance to ATEX
- Full and brilliant lumination
- LED double reflection lighting system
- Different lens colors available
- Stackable from 1 to 5 tiers
- Wall mount or direct mount
- Ingress protection of IP65 (IP54 with buzzer)
- Available with "flashing/ non-flashing" and two audible alarm sounds

85dB at 1m

IP65 (IP54 with Buzzer)

Explosion-Safe

Ø40



1/2" NPT

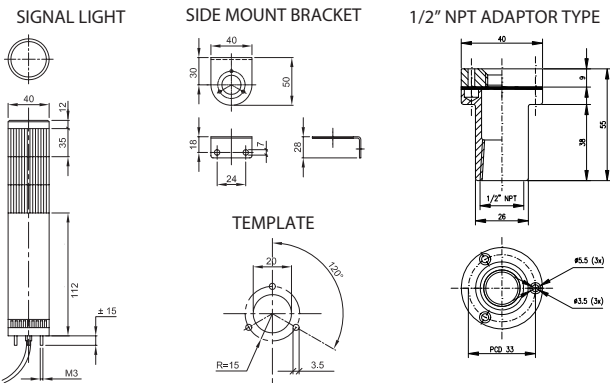
*1/2 NPT Adaptor also available



Side-mount Bracket

Explosion-Safe Signal Tower ø40mm with sealed cable

Dimensions (Unit: mm)



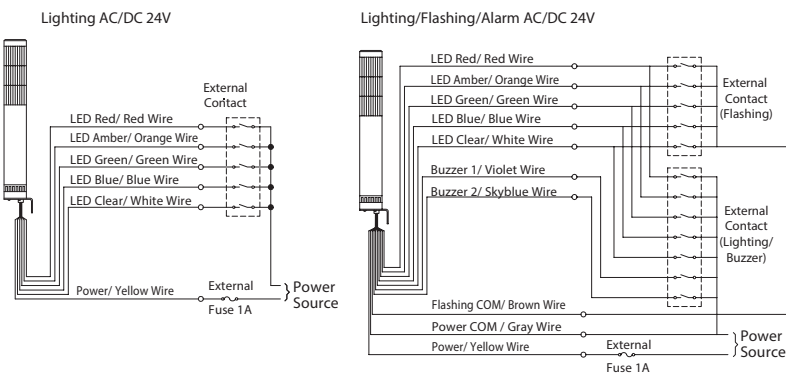
Specifications

Explosion-safety	CE Ex II 3GD; Ex nA IIC T4 Gc; Ex tc IIIC T85°C Dc IP65
CE Conformities	EN 60079-0, EN 60079-15, EN 60079-31
Certification	EC Declaration of Conformity
Ambient Temperature	-30°C - +60°C
Ingress Protection	IP65 to EN 60529
Material	ABS Tower Body
Lighting Source	Multiple LED's with Double Reflection System
Acoustical Source	Buzzer with two different tones: 85dB (at 1m)
Rated Voltage	AC/DC 24V
Assembly Position	As Desired
Activation Time	100%
Module Colors Available	Red, Amber, Green, Blue, Clear/White
Cable	Factory sealed cable, ø8mm, length 3 meters

CURRENT RATINGS

LED		BUZZER	
Signal Line Current		Signal Line Current	Inrush Current
Red, Amber	Green, Blue, Clear	ab. 40mA	ab. 250mA
ab. 30mA	ab. 25mA		

Wiring



How to Order

AR-070-0 1 / -RYGBC

Model Code

1 : Continuous Light
2 : Flashing / Alarm

Rated Voltage

1: AC/DC 24V

Tiers

1: 1 Tier
2: 2 Tiers
3: 3 Tiers
4: 4 Tiers
5: 5 Tiers

LED Color

R: Red
Y: Amber
G: Green
B: Blue
C: Clear/White
(From top to bottom)

Bracket Code

Blank : L Type
N : NPT Type

※ AC type available by special order.



AR-078

AR-078

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T85°C Dc IP65 94/9/EC (ATEX) CENELEC: EN 60079-0, EN 60079-15, EN 60079-31

Explosion-safe Signal Tower



Side-mount Bracket



3/4" NPT

*3/4 NPT Adaptor also available

FEATURES

- Explosion-Safe for gas and dust
- Suitable for Zone 2 and Zone 22
- CE Compliance in accordance to ATEX
- Full and brilliant lumination
- LED double reflection lighting system
- Different lens colors available
- Stackable from 1 to 5 tiers
- Wall mount or direct mount
- Ingress protection of IP65 (IP54 with buzzer)
- Available with "flashing/ non-flashing" and two audible alarm sounds



LED

90dB at 1m

IP65 (IP54 with Buzzer)

Explosion-Safe

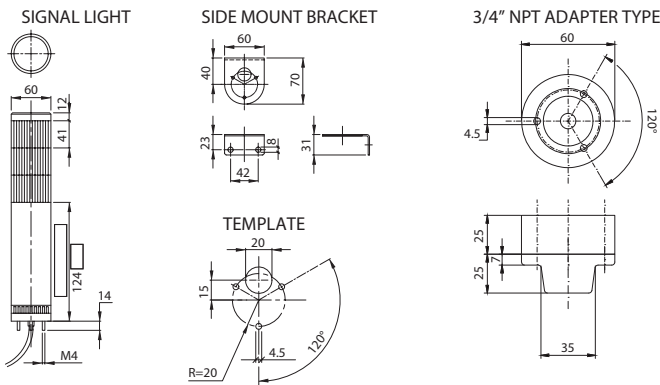
Ø60

Explosion-Safe Signal Tower ø60mm with sealed cable

Specifications

Explosion-safety	CE Ex II3 GD; Ex nA IIC T4 Gc; Ex tc IIIC T85°C Dc IP65
CE Conformities	EN 60079-0, EN 60079-15, EN 60079-31
Certification	EC Declaration of Conformity
Ambient Temperature	-30°C - +60°C
Ingress Protection	IP65 to EN 60529
Material	ABS Tower Body
Lighting Source	Multiple LED's with Double Reflection System
Acoustical Source	Buzzer with two different tones: 90dB (at 1m)
Rated Voltage	AC/DC 24V
Assembly Position	As Desired
Activation Time	100%
Module Colors Available	Red, Amber, Green, Blue, Clear/White
Cable	Factory sealed cable, ø8mm, length 3 meters

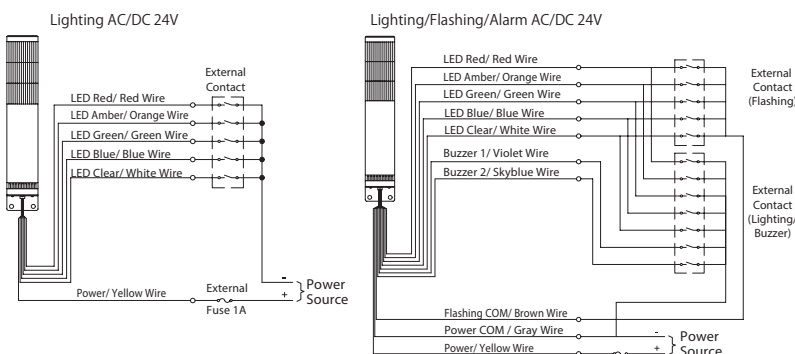
Dimensions (Unit: mm)



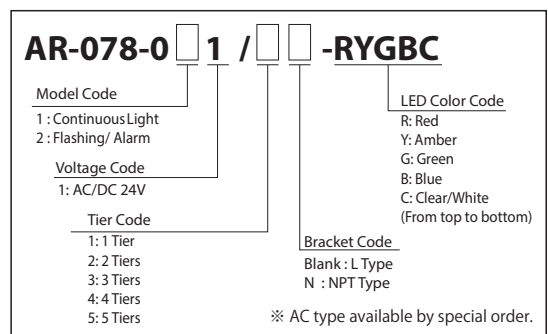
CURRENT RATINGS

LED		BUZZER	
Signal Line Current		Signal Line Current	Inrush Current
Red, Amber	Green, Blue, Clear	ab. 40mA	ab. 250mA
ab. 30mA	ab. 25mA		

Wiring



How to Order



LKEH-EX



CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIB T85°C Dc IP54 94/9/EC (ATEX) CENELEC: EN 60079-0, EN 60079-15, EN 60079-31

Explosion-Safe LED Hybrid Signal Tower



LED



32 Channels (Binary)

63 Seconds

105dB at 1m

Explosion-Safe

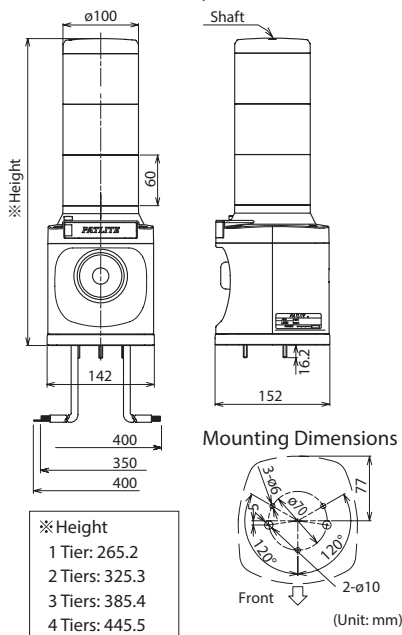
FEATURES

- Explosion-Safe for gas and dust
- Suitable for Zone 2 and Zone 22
- CE Compliance in accordance to ATEX
- LED brightness is visible from a far distance with a big 100mm diameter module
- Super-bright LED colors corresponding to different voice, alarm, chimes and melody sounds.
- Voice alert messages of up to 63 seconds (64kbit/sec) with 5 channels for playback.
- 32 different melody, chime sound combinations are pre-recorded
- 8 sounds can be played back with bit input, or 32 sounds with binary input
- Stackable from 1 to 4 tiers
- Adjustable volume from 0 to 105dB (at 1m)
- MP3 model is field-programmable, using an SD Card for model LKEH-FV-EX
- Robust design able to withstand vibrations of up to 2G.
- Body is made of Acrylonitrile-Ethylene-Styrene for weather resistance
- One common wire can easily control both LED Units and audible signals
- NPN open-collector connection is standard, PNP is available upon request

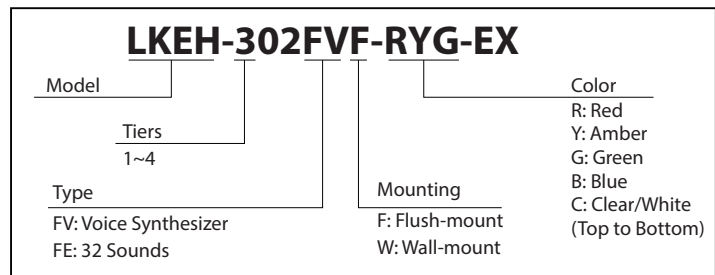


Dimensions (Unit: mm)

Model LKEH-FEW-EX, LKEH-FVW-EX



How to Order



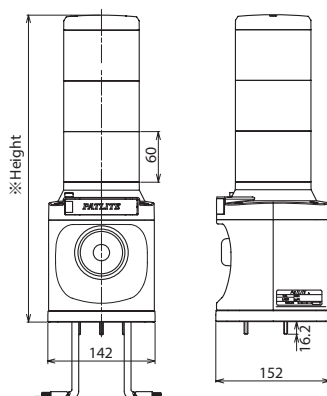
Model	MP3	Power
LKEH-FEF-EX/LKEH-FEW-EX	—	14.2W
LKEH-FVF-EX/LKEH-FVW-EX	Supports	14.2W

SD Card (SDV-128) for models LKEH-FVF-EX and LKEH-FVW-EX is sold separately.

Sound Selection Chart

Beep (slow intermittent)	Stutter + Bell	Inverted Reveille	Annie Laurie
Stutter (rapid intermittent)	Melody Chime	Galactic Motor	London Bridge is falling down
Bell (clear high-pitch)	Chime	Ringling Phone	Mary had a little Lamb
Yelp (rapid siren)	Call Sign	Two Tone	Camptown Races
Rapid Hi-Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Galloping Hi-Lo	Ringling Hi-Lo	Mozart Symphony No. 40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Bach Minuet in Gmaj	Grandfather's Clock

Model LKEH-FEF-EX, LKEH-FVF-EX



Specifications

Model	Rated Voltage	MP3, Melody	Operating Temperature Range	Recordable Duration	Mounting Brackets	Channels	Mass
LKEH-FEF-EX	DC 24V	Type-E	-10°C to +50°C 85% RH or less	Pre-recorded	Flush-mount	8ch bit input, 32ch binary input	2.8kg
LKEH-FEW-EX		Type-E			Wall-mount	8ch bit input, 32ch binary input	3.2kg
LKEH-FVF-EX		MPEG1-Audio Layer III, 64kbit/s		63 seconds	Flush-mount	5ch bit input, 32ch binary input	2.8kg
LKEH-FVW-EX		MPEG1-Audio Layer III, 64kbit/s			Wall-mount	5ch bit input, 32ch binary input	3.2kg

• The mass is based on a 3-tiered LED Model LKEH. The mass will change in accordance to the number of tiers.



EHS-EX/EHV-EX

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T85°C Dc IP65 94/9/EC (ATEX) CENELEC: EN 60079-0, EN 60079-15, EN 60079-31

Explosion-Safe Melody/Alarm Horn



EHV 63 Channels (Binary)

110 dB at 1m (EHS)

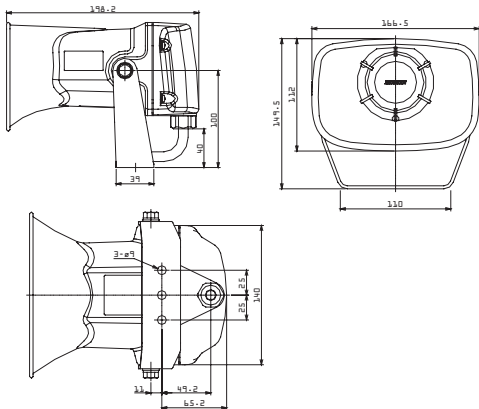
IP65

Explosion-Safe

FEATURES

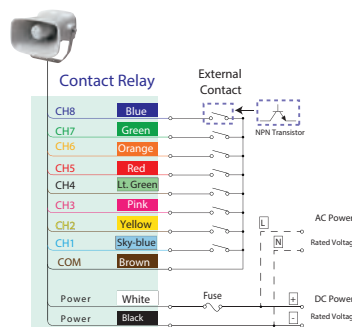
- Protection Rating of IP65.
- Explosion-Safe for gas and dust
- Suitable for Zone 2 and Zone 22
- CE Compliance in accordance to ATEX
- EHS-EX comes with 32 preloaded melody and alarm sounds with adjustable volume up to 110dB (at 1m).
- Robust, indoor and outdoor use with vibration resistance up to 4.5G.
- EHV-EX comes with 63 preloaded crisp and clear melody and alarm sounds with adjustable volume up to 110dB (at 1m).
- EHV-EX offers a field-programmable MP3 function with a maximum of 220 sec. of recording time (at 64bps) and an adjustable volume up to 105dB (at 1m).
- Ideal for plant-wide notification, public address and process control.
- UL464, CSA-C22.2 NO.205-M1983, FCC Part 15 Subpart B Class 4.
- CE, RoHS Compliant (EHS-M1 and EHV-M1 Only).

Dimensions (Unit: mm)

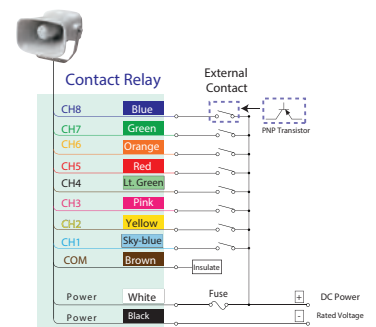


Wiring

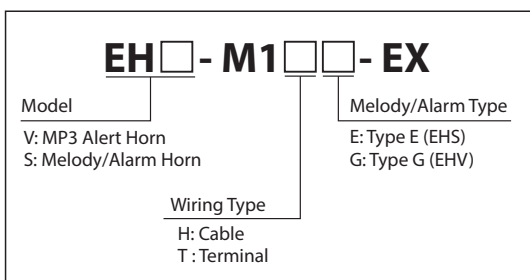
Non-voltage (NPN) Wiring



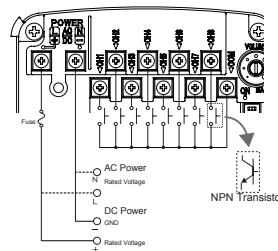
PNP Wiring



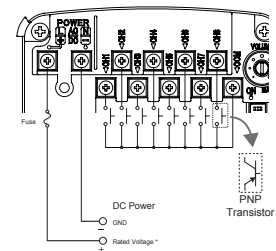
How to Order



Terminal (NPN)



Terminal (PNP)



Specifications

Model	Rated Voltage	Voltage Range	Power Consumption	Rated Current Consumption	Sound Pressure (max)	Operating Temperature Range	No. of Playback Messages	Protection Rating	Wiring Type	Mass
EHS-M1H-EX	DC 12 - 24V	DC 10.8V to 26.4V	4W (at DC24V)	450mA (max)	Alarm: 110dB (at 1m)	-20°C to +50°C (Less than 85% RH)	Bit Input: 8 Binary Input: 32	IP65	Cable	1.25kg
EHS-M1T-EX									Terminal	
EHV-M1H-EX	DC 12 - 24V	DC 10.8V to 26.4V	4W (at DC24V)	400mA (max)	Alarm: 110dB (at 1m) MP3: 105dB (at 1m)	-20°C to +50°C (Less than 85% RH)	Bit Input: 8 Binary Input: 63	IP65	Cable	1.25kg
EHV-M1T-EX									Terminal	

Note 1: The sound pressure level is based on measurements under controlled conditions (voice-synthesized 1 kHz sine wave played back from a distance of 1 meter), therefore the surrounding environmental conditions and message content will result in different values for the sound pressure level.

Note 2: Even when starting two or more units simultaneously, a lag will occur during message playback.

EHS-EX/EHV-EX

CLN-EX

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T135°C Dc IP65 94/9/EC (ATEX) CENELEC: EN 60079-0, EN 60079-15, EN 60079-31

Explosion-Safe LED Work Light



Daylight

IP66G/67G/69K

Explosion-Safe

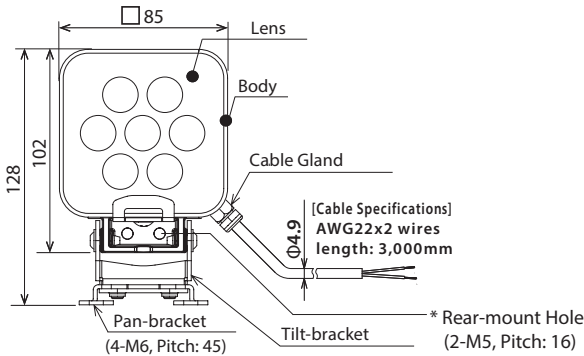
FEATURES

- 820 lx brightness
- 60,000 hrs., or about 7 years of long service life (*1)
- IP66G, IP67G, IP69K protection (*2)
- Low current draw of 174mA
- DC 24V (Polarized)
- Wide operating temperature range (-40 to +60°C)
- IEC62471 Compliance (Photobiological Safety Standard)
- Daylight Color Temperature (6,500K), suitable for very detailed work
- Made of aluminum alloy and tempered glass, is resistant to water, oil and coolants
- Includes a flexible stainless-steel angle bracket to adapt to various scenarios (*3)
- Compact, light-weight, durable design (Thickness:22.2mm x Width: 85mm x Height: 128mm)

*1 : The typical value of LED brightness is 70% of the original specification, but may vary depending on actual applications.
 *2 : IP66G and IP67G are Japanese Industrial Standards (JIS C0920-2003), and IP69K is the German DIN 40050 PART9 Standard.
 *3 : CLN-24-CD-PT-EX Work Light can only be installed where risk of mechanical danger is limited to 2 Joules of impact energy.

Dimensions (Unit: mm)

• Pan/Tilt Type (PT Type)



How to Order

CLN-24-CD-PT-EX

Movable Type

PT : Pan/Tilt

Specifications

Model	CLN-24-CD-PT-EX
Color Code (Color)	CD (Daylight)
Color Temperature (typ.)	6500K
Illumination (typ.) (Centered at DC 24V)	820 lx
Total Luminous Flux (typ.)	550 lm
Rated Voltage	DC 24V (Polarized)
Operating Voltage Range	DC 24V ±10%
Rated Consumption Current/Power Dissipation	174mA ±10% / 4.2W
Operating Ambient Temperature	-40°C to +60°C (90% RH, no condensation)
Main Unit Material	Body: Aluminum Alloy Lens: Tempered Glass
Protection Rating	IP66G/67G (JIS C 0920)/69K (DIN 40050 part 9) (excluding cable ends)
Mounting Location/Direction	Indoor / Any Direction
Insulation Resistance	DC 500V 5MΩ or more between power input and metallic part
Withstand Voltage	500VAC for 1 minute between power input and chassis
Vibration Resistance	30Hz total amplitude 0.3mm ^{P-P} (Back and forth, up and down, left and right for 2 hrs each) total amplitude 0.3mm ^{P-P} (10-57Hz), Acceleration 19.6m/s ²
Mass (Tolerance ±10%)	430g

CLN-EX

CLK-EX

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T135°C Dc IP65 94/9/EC (ATEX) CENELEC: EN 60079-0, EN 60079-15, EN 60079-31

Explosion-Safe LED Work Light



CLK6C-24AG-CD-EX

CLK3S-24AG-CD-EX

Daylight
Natural White

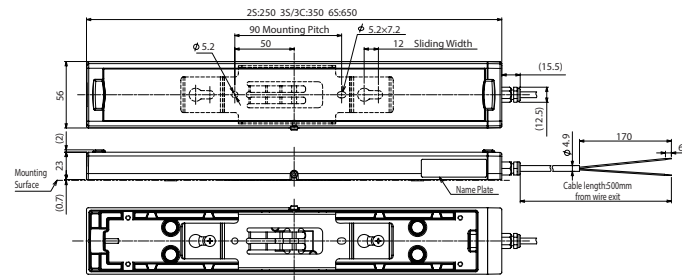
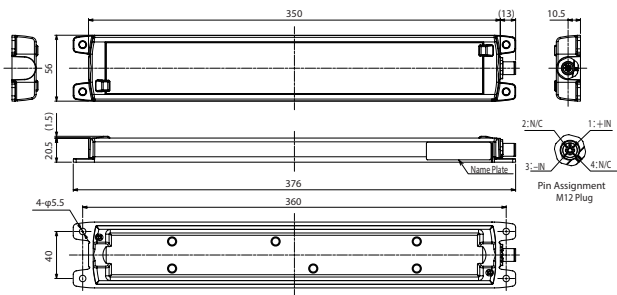
IP66G/67G/69K

Explosion-Safe

FEATURES

- Aluminum Housing
- Tempered glass lens
- IP66G/67G/69K ratings
- Explosion-safe for gas and dust
- Suitable for Zone 2 and Zone 22
- Temperature Range of -40°C to +60°C
- CE Compliance in accordance to ATEX
- 1,200 lx (3S/3C) and 2,100 lx (6S) brightness
- Outdoor installation allows Upright installation only
- LED Color Temperatures of 6,500K (CD) and 5,000K (CN)
- Stainless Steel Housing (available for 350mm long models)
- 250mm length (2S, 350mm length (3S/3C), 650mm length (6S) available

Dimensions (Unit: mm)



How to Order

CLK-□□-24-□□-□□-EX

Illumination Area Size
2: 200mm 3: 300mm 6: 600mm

Color
CD: Daylight
CN: Natural White

Wiring Specifications
S: Side-exiting Cable C: M12 Quick Disconnect

Body & Lens
AG: Aluminum & Glass
SG: Stainless Steel & Glass

Specifications

Model	CLK-□□-24-□□-□□-EX
Color Code (Color)	Natural White (CN) / Daylight (CD)
Rated Voltage	DC 24V
Operating Voltage Range	DC 24V ±10%
Rated Consumption Current	522mA ±40mA (3S / 3C Type)
Light Source	High intensity LED x 18 elements (3S / 3C Type)
Luminous Intensity at Optical Center (lx at 1m)	1200 (3S / 3C Type)
Main Unit Material	Body: Aluminum Alloy or Stainless Steel Lens: Tempered Glass
Operating Temperature Range	-40°C to +60°C (90% RH, no condensation)
Mounting Location/Direction	Indoor / Any Direction
Protection Rating	IP66G/67G (JIS C 0920)/69K (DIN 40050 part 9) (excluding cable ends)
Vibration Resistance	19.6m/s ²
Mass (Tolerance ±10%)	1.49kg

*1 : The LED Work Light can only be installed in places where risk of mechanical danger is limited to an impact energy of 2 Joules. (1kg mass dropped at a 20cm height)

CLA-EX

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T135°C Dc IP65 94/9/EC (ATEX) CENELEC: EN 60079-0, EN 60079-15, EN 60079-31

Explosion-Safe LED Work Light



Daylight
Natural White



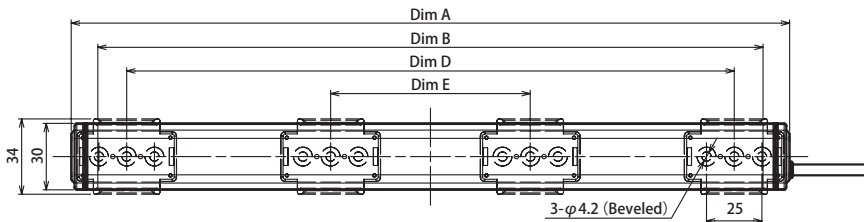
IP66/67/69K

Explosion-Safe

FEATURES

- Explosion-safe for gas and dust
- Suitable for Zone 2 and Zone 22
- CE Compliance in accordance to ATEX
- DC 24V (Polarized, ±10%)
- Cable length: 3 meters
- IP66/67/69K ratings
- Body made of Polycarbonate Resin
- Polycarbonate mounting brackets available
- Lengths available are; 100mm (140 lx), 200mm (270 lx), 300mm (400 lx), 600mm (650 lx), 900mm (810 lx), 1,200mm (890 lx), 1,500mm (945 lx)
- Temperature Range of -40°C to +60°C (RH 90% or less, no condensation)

Dimensions (Unit: mm)



Model Name	Dim A Total Length	Dim B Lighting Area	Dim D Mounting Pitch	Dim E	Standard Bracket SZ-310AR
CLA1S	124	100	74	—	2 pcs.
CLA2S	224	200	174	—	
CLA3S	324	300	274	—	
CLA6S	624	600	574	—	4 pcs.
CLA9S	924	900	874	290	
CLA12S	1,224	1,200	1,174	390	

How to Order

CLA S-24- -30-EX

LED Color

CD: Daylight (6800K)

CN: Natural White (4800K)

Length (L)

- 1: 100mm 6: 600mm
- 2: 200mm 9: 900mm
- 3: 300mm 12: 1,200mm

Specifications


Model	Luminous Color	Length	Rated Voltage	Rated Current Consumption	Center Radiation (lx/50cm)	Mounting Direction	Vibration Resistance	Mass		
CLA1S -24-CD-30-EX	Daylight	100mm	DC 24V (Polarized)	104mA	140 lx	Any Direction (Indoors Only)	19.6m/s ²	80g		
CLA2S -24-CD-30-EX	Daylight	200mm		208mA	270 lx			130g		
CLA3S -24-CD-30-EX	Daylight	300mm		240mA	400 lx			180g		
CLA3S -24-CN-30-EX	Natural White			480mA	650 lx			340g		
CLA6S -24-CD-30-EX	Daylight	600mm		720mA	810 lx			500g		
CLA6S -24-CN-30-EX	Natural White			960mA	890 lx			660g		
CLA9S -24-CD-30-EX	Daylight	900mm								
CLA12S -24-CD-30-EX	Daylight	1200mm								

RES-A

TIIS Exd IIB+H2T6

Explosion-Safe Revolving Warning Light



-  **Bulb**
- Ø224**
- IP65**
- Explosion-Safe**

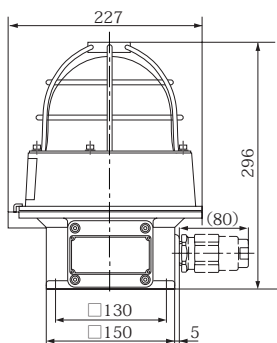
Robust Heavy Duty Revolving Warning Light.

FEATURES

- φ224mm Diameter.
- Rotating parabolic reflector to enhance visibility from a distance.
- Upright, inverted, and sideways installation allowed for indoors; and upright for outdoors only.
- Main body is made of Aluminum Alloy Die-cast with silver-colored baked enamel finish.
- Dome is made from superior weather-resistant and light-translucent acrylic resin.
- Available Colors are Red, Amber, Green, and Blue.

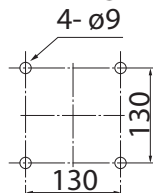
*Cable Glands are optional parts and need to be ordered separately.

Dimensions (Unit: mm)



Mounting Dimensions

Mounting Hole

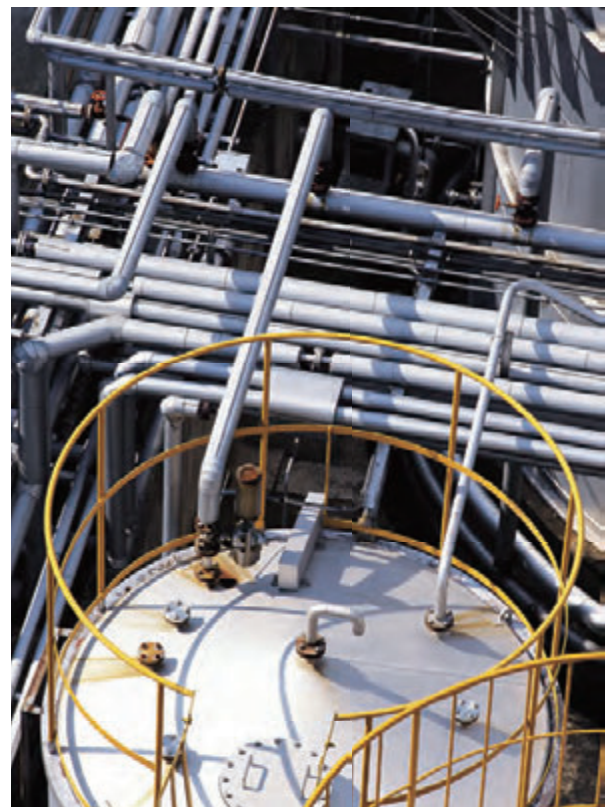


Specifications

Model	Rated Voltage	Current	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
⊙ RES-12A	DC 12V	0.9A	170	12V 10W	9	6.5kg
⊙ RES-24A	DC 24V	0.5A		24V 10W	10	
⊙ RES-48A	DC 48V	0.3A	150	48V 10W	11	
RES-100A	AC 100V - 110V	0.1A	170	12V 5W	12	
⊙ RES-120A	AC 115V - 120V					
RES-220A	AC 200 - 220V	0.05A				
⊙ RES-240A	AC 230 - 240V					

Bulb: G18 BA15S

© Special Order





Signal Tower

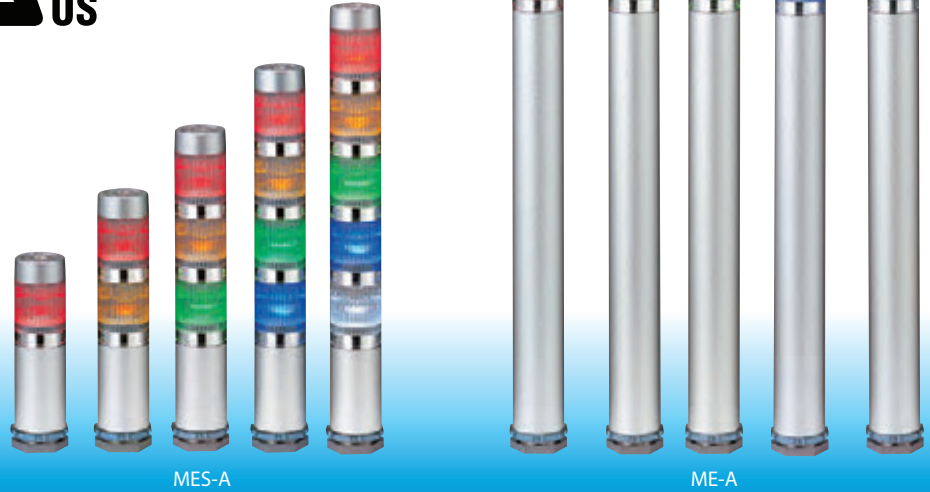


ME-A/MES-A

Signal Tower



- LED
- IP42
- Ø25
- NPN
Open-collector
- Cable



Super-slim 25mm Signal Tower with aluminum body, ideal for small devices.

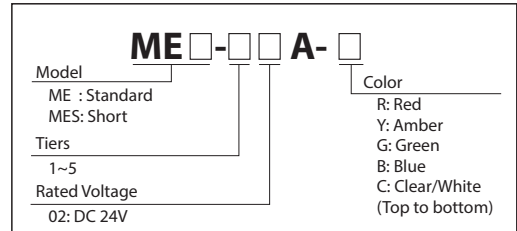
FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Lens is made of superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Colors are in Red, Amber, Green, Blue, and Clear/White.
- Specially enhanced high intensity illumination design.
- Direct mount installation with just a single hole.
- Interchangeable Modules need no re-wiring, even after installation.
- Main body is constructed of corrosion resistant anodized aluminum to retain its external beauty.
- Body Length for MES-A is 40mm, and for the ME-A is 200mm.
- Conforms to the CE requirements.
- UL recognized components (File No. E215660)

AVAILABLE BY SPECIAL ORDER

- Cable: Versatile and flexible 3m cable.
- IP65 (for ME/MES).
- PNP Compatible: ME and MES 24V Types.

How to Order

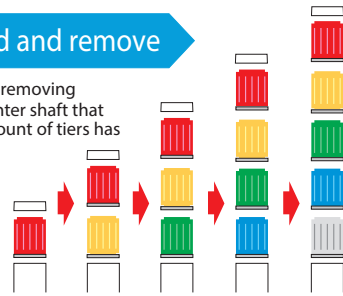


Patented reflection system increases visibility.



Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



Interchangeable LED Modules

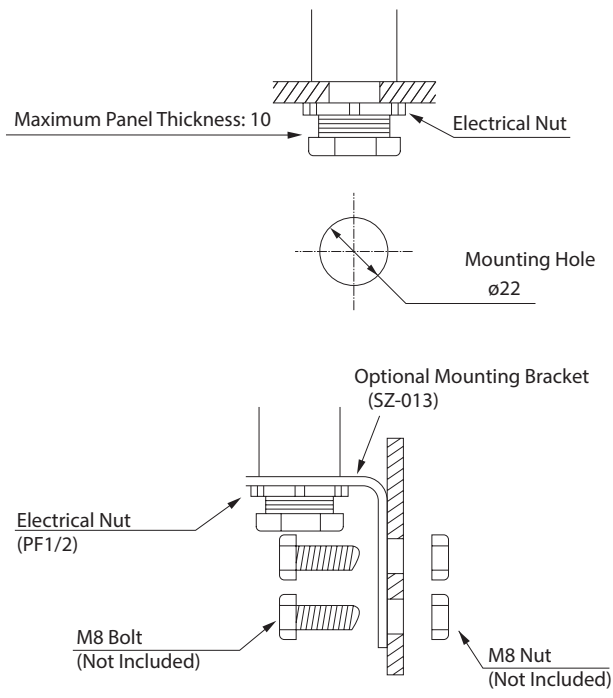
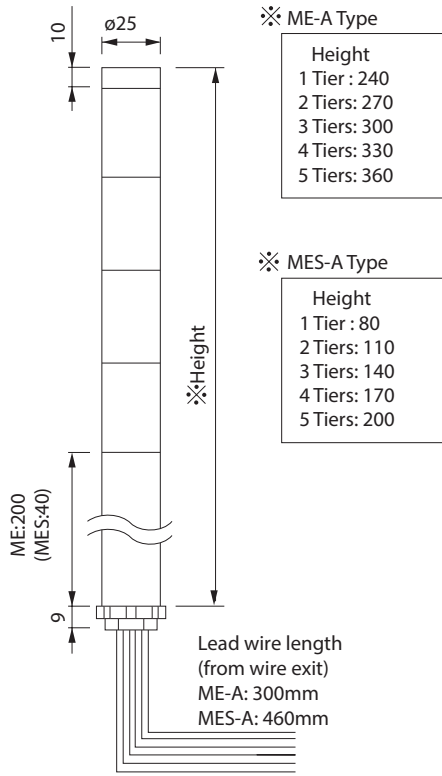
Changeable color sequence: Easy to add/remove up to 5 colored modules even after installation.
 Note: LED modules of the same color within a signal tower will light up simultaneously.



Wiring doesn't change

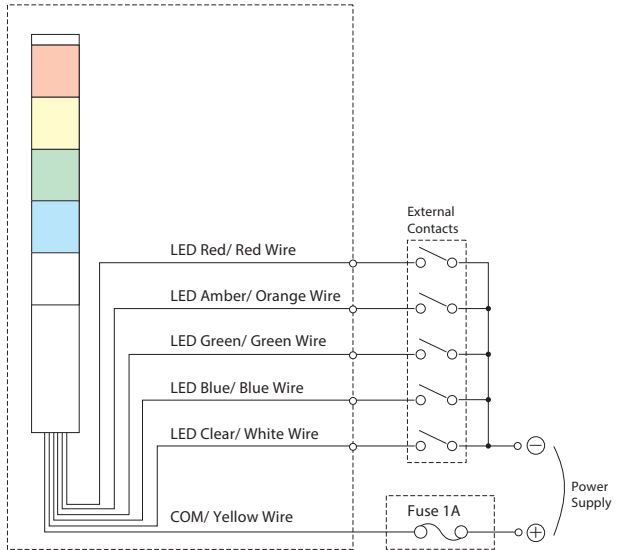
- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

Dimensions (Unit: mm)

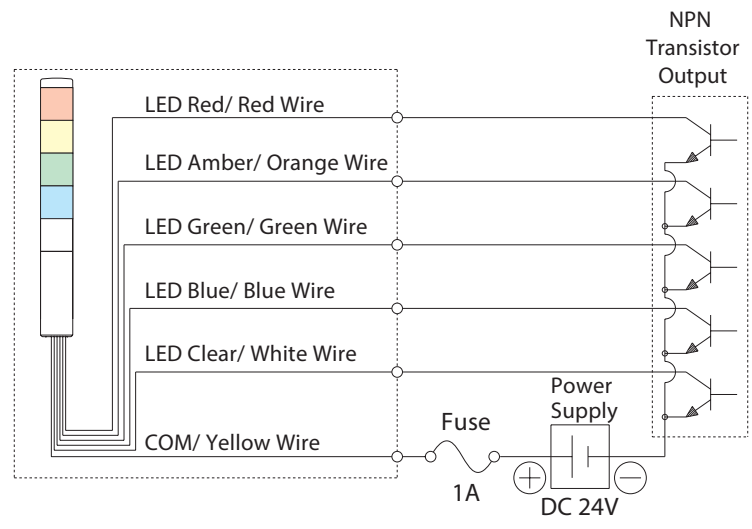


Wiring

- ME-A/MES-A Contact/ Switch



- ME-A/MES-A NPN Open Collector



Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass	
				ME	MES
1 Tier	ME/MES-102A-R	DC 24V	0.6W	220g	120g
	ME/MES-102A-Y		0.6W		
	ME/MES-102A-G		0.5W		
	ME/MES-102A-B		0.5W		
	ME/MES-102A-C		0.5W		
2 Tiers	ME/MES-202A-RY		1.2W	230g	130g
	ME/MES-202A-RG		1.1W		
	ME/MES-202A-RB		1.1W		
	ME/MES-202A-RC		1.1W		
3 Tiers	ME/MES-302A-RYG		1.7W	240g	140g
	ME/MES-302A-RYB	1.7W			
	ME/MES-302A-RYC	1.7W			
4 Tiers	ME/MES-402A-RYGB	2.3W	250g	150g	
	ME/MES-402A-RYGC	2.3W			
5 Tiers	ME/MES-502A-RYGBC	2.8W	260g	160g	

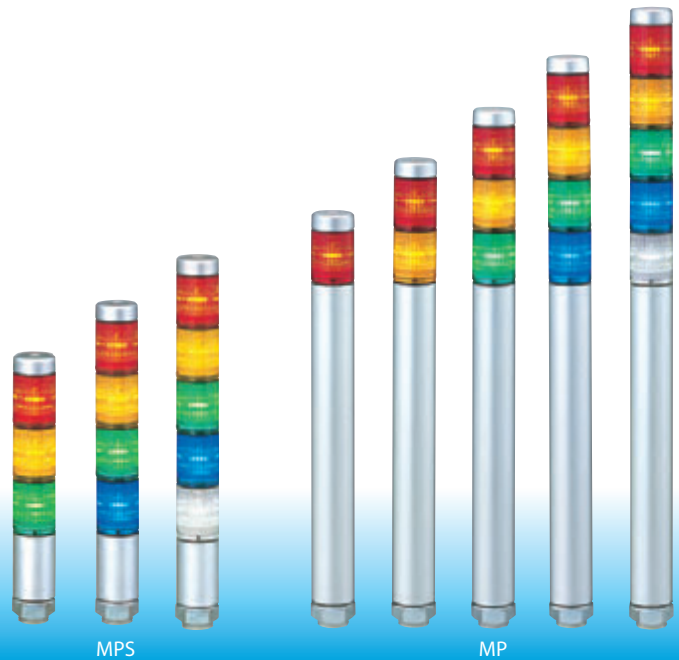
MP/MPS



Signal Tower



- LED
- IP65
- Ø30
- Cable
- NPN/PNP
Open-collector



Super slim 30mm silver body Signal Tower, ideal for small devices.

FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Double-insulated construction for enhanced durability and safety in the work environment.
- Direct mount installation with just a single hole.
- Interchangeable Modules need no re-wiring, even after installation.
- Main body is constructed of superior impact and heat resistant ABS resin.
- Lens is made of superior weather resistant and light translucent AS resin.
- Available Colors are in Red, Amber, Green, Blue, and Clear/White.
- Conforms to the CE requirements.
- UL Recognized Components (File No. E215660)

Patented reflection system increases visibility.



High-intensity LED

Good visibility from any direction

AVAILABLE BY SPECIAL ORDER

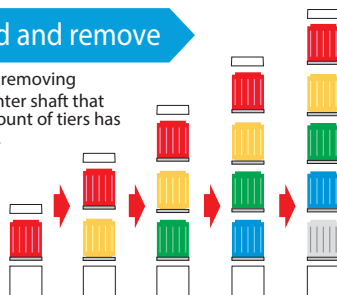
- All Clear Lenses: Distinctive color recognition when operated with clear lenses (B0738 type).
- Cable: Versatile and flexible 3m cable.



Optional MP-B Buzzer
(See Pg. 193)

Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



Interchangeable LED Modules

Changeable color sequence: Easy to add/remove up to 5 colored modules even after installation.

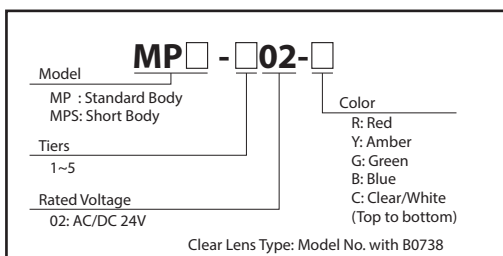
Note: LED modules of the same color within a signal tower will light up simultaneously.



Wiring doesn't change

- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

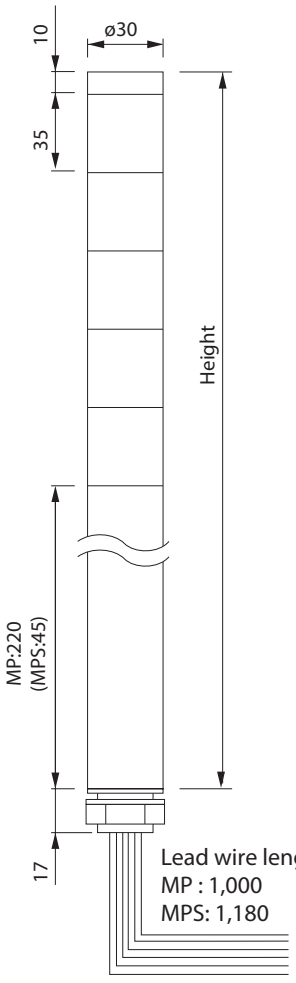
How to Order



Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass	
				MP	MPS
1 Tier	MP/MPS-102	AC/DC 24V	0.7W	210g	110g
2 Tiers	MP/MPS-202		1.4W	230g	130g
3 Tiers	MP/MPS-302		2.0W	250g	150g
4 Tiers	MP/MPS-402		2.6W	270g	170g
5 Tiers	MP/MPS-502		3.2W	290g	190g

Dimensions (Unit: mm)

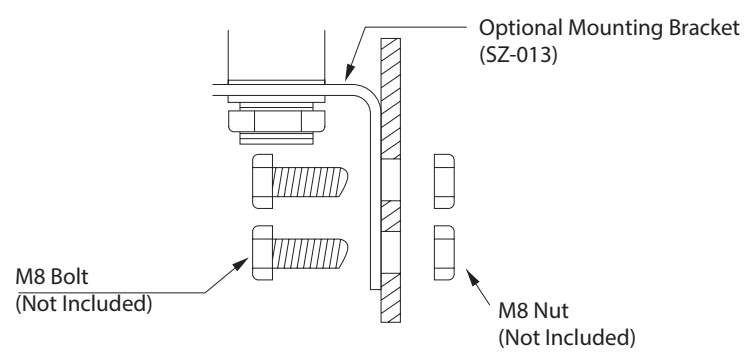
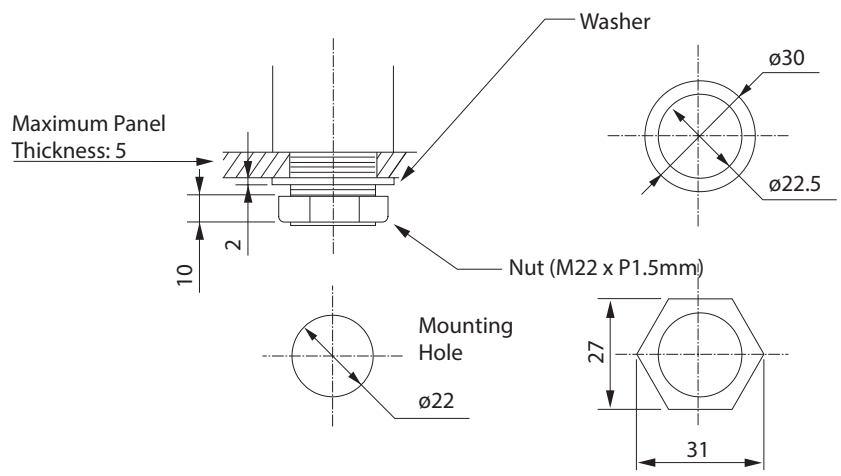


MP Type

Height
1 Tier : 265
2 Tiers : 300
3 Tiers : 335
4 Tiers : 370
5 Tiers : 405

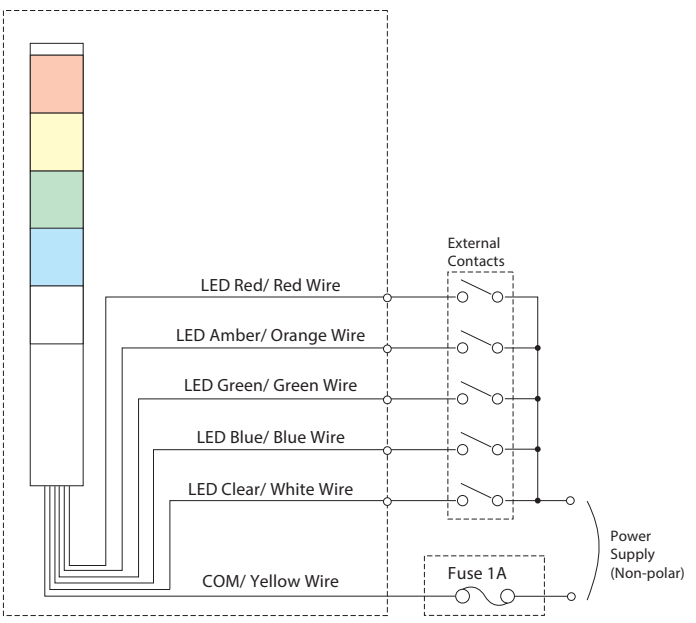
MPS Type

Height
1 Tier : 90
2 Tiers : 125
3 Tiers : 160
4 Tiers : 195
5 Tiers : 230

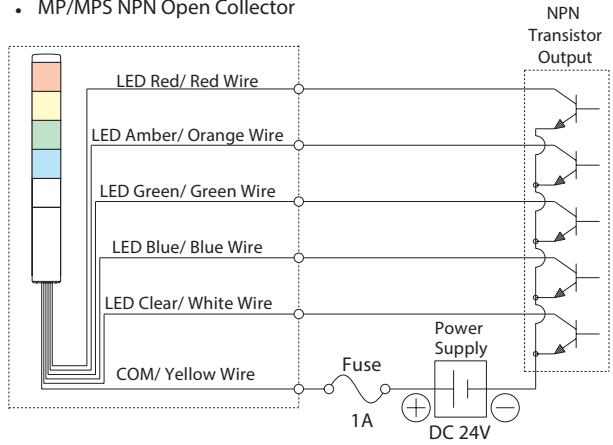


Wiring

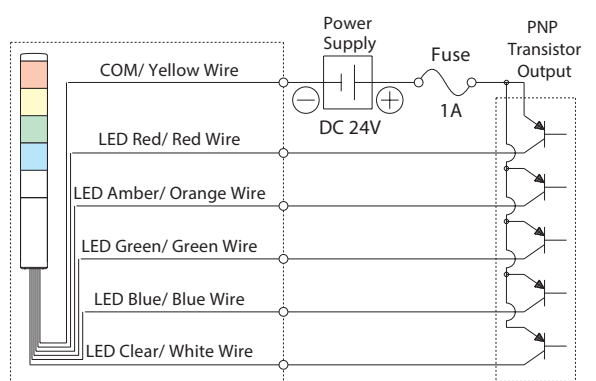
- MP/MPS Contact/ Switch



- MP/MPS NPN Open Collector



- MP/MPS PNP Open Collector



MP-C



Signal Tower



- LED
- IP65
- Ø30
- M12 Cable
- NPN/PNP
Open-collector

Super slim 30mm silver body Signal Tower with M12 disconnect.

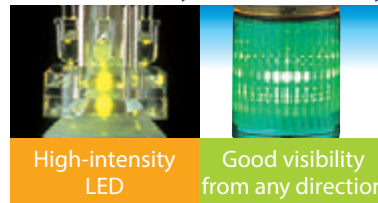
FEATURES

- Quick Disconnect M12 connector for the MP Signal Tower.
- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Double-insulated construction for enhanced durability and safety in the work environment.
- Direct mount installation with just a single hole.
- Interchangeable Modules need no re-wiring, even after installation.
- Main body is constructed of superior impact and heat resistant ABS resin.
- Lens is made of superior weather resistant and light translucent AS resin.
- Available in 1, 2 or 3 tier stacks with colors in Red, Amber and Green.
- Conforms to the CE requirements.
- UL Recognized Components (File No. E215660)



Optional MP-B Buzzer
(See Pg. 193)

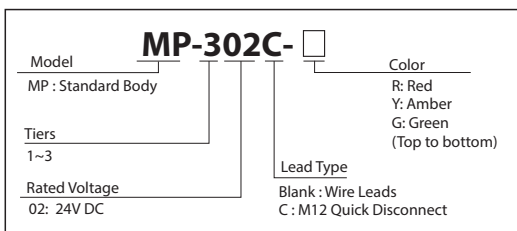
Patented reflection system increases visibility.



High-intensity LED

Good visibility from any direction

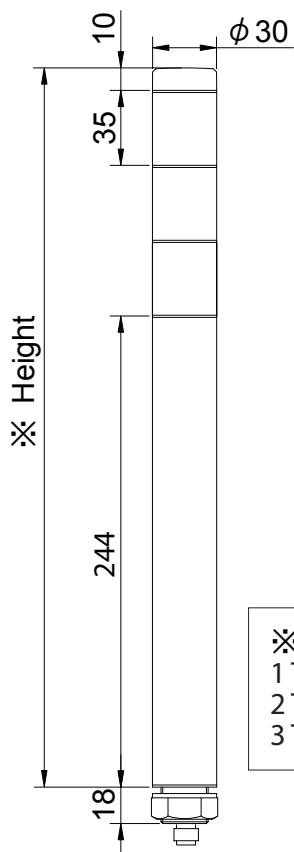
How to Order



Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass
1 Tier	MP-102	DC 24V	0.7W	240g
2 Tiers	MP-202		1.4W	260g
3 Tiers	MP-302		2.0W	280g

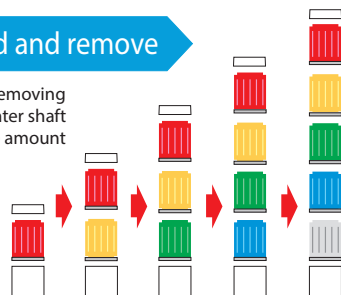
Dimensions (Unit: mm)



※ Height
 1 Tier : 289
 2 Tiers: 324
 3 Tiers: 359

Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



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.



Wiring doesn't change

- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

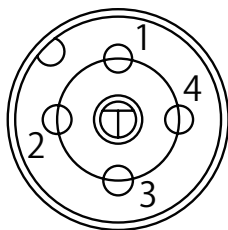
Wiring

External Contact Capacity		Is: Current Capacity		Vs: Withstand Voltage
LED Unit (1 Tier)	Current Consumption	Red: 29.mA	Amber: 29.5mA	Green: 23.9mA
	Capacity	Is≥50mA		Vs≥35V DC
Power Supply	Current Consumption	200mA		
	Capacity	Is≥200mA		Vs≥35V DC

- MP-C M12 Connector

M12 Connector Pin No.

Pin No.	LED Unit Color
1	Green
2	Red
3	Common
4	Amber



M12 Connector Pin Layout

LCE/LCE-U



Signal Tower



Ivory-white Body
Model LCE

Silver Color Body
Model LCE-U

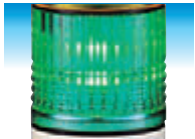
- LED**
- 2 Alarm Sounds** (FB Type)
- 85db at 1m** (FB Type)
- IP65** (LCE-FB Type: IP54)
(LCE-K Type: IP54)
- Ø40**
- Cable**
- NPN/PNP
Open-collector**



The low-priced, high quality LED Signal Tower featuring low maintenance and energy savings.

FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Original Dual Reflection System for enhanced light diffusion; creating bright, distinctive illumination while saving energy.
- Two Built-in Alarms (FB Type) with selectable sound patterns.
- Adjustable volume with a maximum of 85dB (at 1m).
- Direct or pole mount installation.
- Color-coordinated Wiring Corresponding to the lens color for quick wiring and verification.
- Interchangeable LED Modules requires no re-wiring, even after installation.
- Main body made of ABS resin with superior resistance to impact and heat. (U type has silver body and 3m cable)
- Lens is made of superior impact resistant and light translucent AS resin.
- NPN/PNP Compatible inputs for 24V DC type (M2 type compatible with NPN only).
- Available Colors are in Red, Amber, Green, Blue, and Clear/White.
- High visibility from any angle.
- Conforms to the CE requirements (for 24V type).
- UL Recognized Components (File No. E215660).
- NEMA Type 4/4X/13 for -W, -FBW Only



High visibility from any angle



Adjustable Volume (Max. 85dB at 1m)

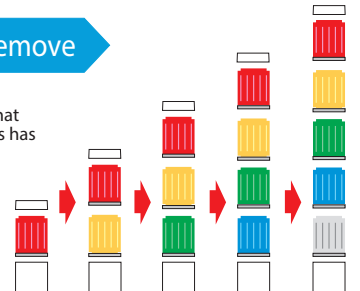


Dual Reflection System

PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and five color LED modules, creates a bright and evenly distributed illumination.

Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



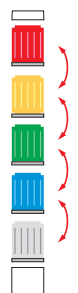
How to Order

LCE- [] [] [] [] [] - [] [] [] []	
Model	Lens Color
Tiers	Blank: Colored lens
1~5	Z: Clear lens
Rated Voltage	LED Color
02: AC/DC 24V	R: Red
M2: AC 90~250V	Y: Amber
Body Color	G: Green
Blank: IvoryWhite	B: Blue
U: Silver	C: Clear/White (Top to bottom)
Type	Mount
Blank: Continuous light	Blank: SZ-012 Pole Mount
FB: Flashing/ Alarm	W: Direct Mount
FBK: SZ-021 Pole Mount	

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.

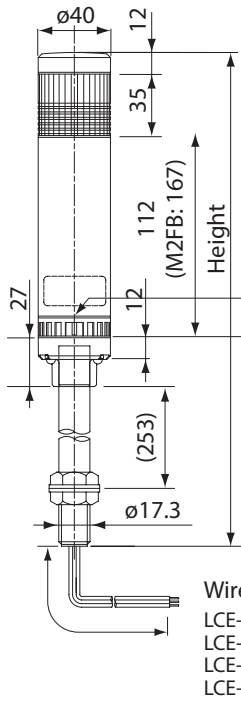


Wiring doesn't change

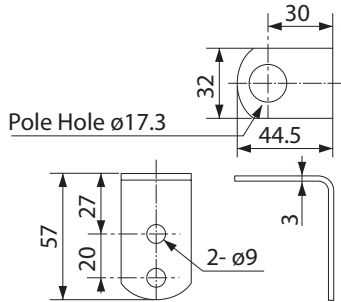
- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

Dimensions (Unit: mm)

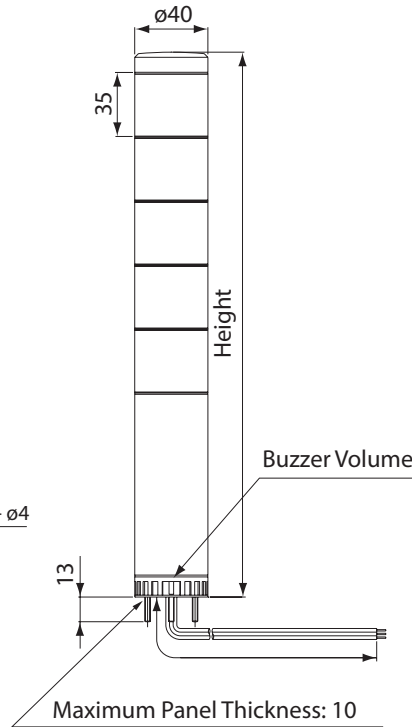
LCE Type LCE-U Type



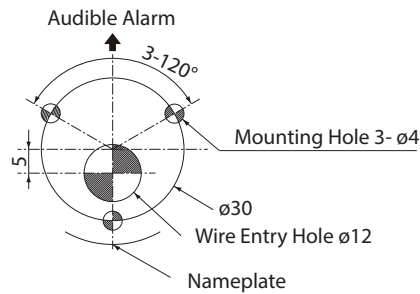
Side-Mount Bracket



LCE-W Type LCE-UW Type



Direct-mount Dimensions



LCE-M2FB Type

Height
1 Tier : 213
2 Tiers: 248
3 Tiers: 283
4 Tiers: 318
5 Tiers: 353

LCE Type LCE-U Type

Height
1 Tier : 158
2 Tiers: 193
3 Tiers: 228
4 Tiers: 263
5 Tiers: 298

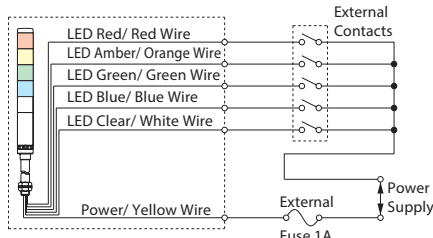
Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass			
				LCE	LCE-W	LCE-FB	LCE-FBW
1 Tier	LCE-102(U)	AC/DC 24V	1.7W	520g	160g	580g	220g
	LCE-1M2	AC 90 -250V	1.9W	600g	240g	650g	290g
2 Tiers	LCE-202(U)	AC/DC 24V	2.4W	550g	190g	610g	250g
	LCE-2M2	AC 90 -250V	2.6W	630g	270g	680g	320g
3 Tiers	LCE-302(U)	AC/DC 24V	3.0W	580g	220g	640g	280g
	LCE-3M2	AC 90 -250V	3.2W	660g	300g	710g	350g
4 Tiers	LCE-402(U)	AC/DC 24V	3.6W	610g	250g	670g	310g
	LCE-4M2	AC 90 -250V	3.8W	690g	330g	740g	380g
5 Tiers	LCE-502(U)	AC/DC 24V	4.2W	640g	280g	700g	340g
	LCE-5M2	AC 90 -250V	4.4W	720g	360g	770g	410g

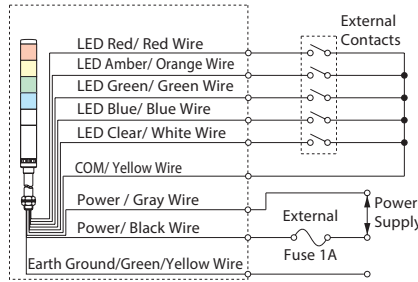


Wiring

• AC/DC 24V Lighting Type



• AC 90 - 250V Lighting Type

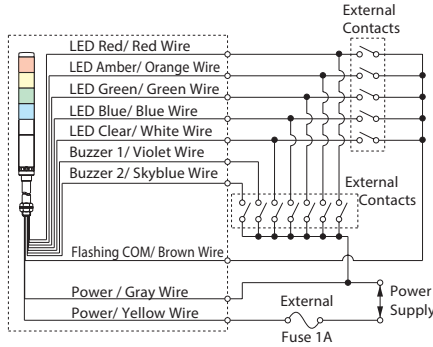


Lead-wire color coordination table

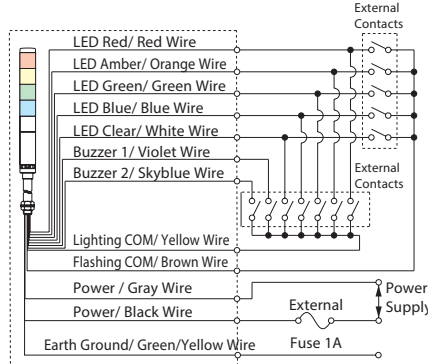
LED Unit Color	Lead Wire Color
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

Alarm Sounds	Lead Wire Color
Buzzer 1	Purple
Buzzer 2	Skyblue

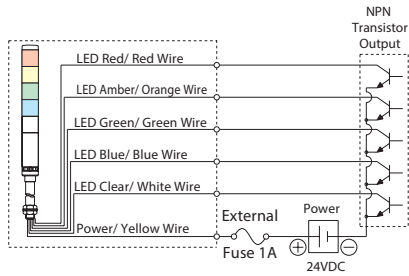
• AC/DC 24V Lighting/Flashing Type



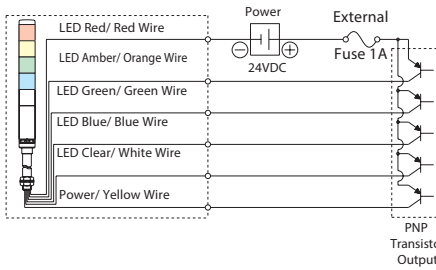
• AC 90 - 250V Lighting/Flashing Type



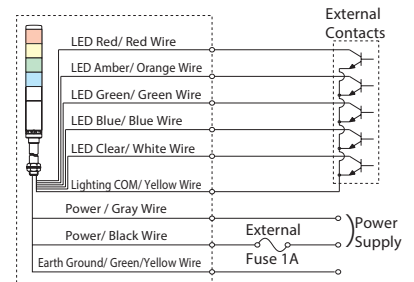
• DC 24V NPN Type



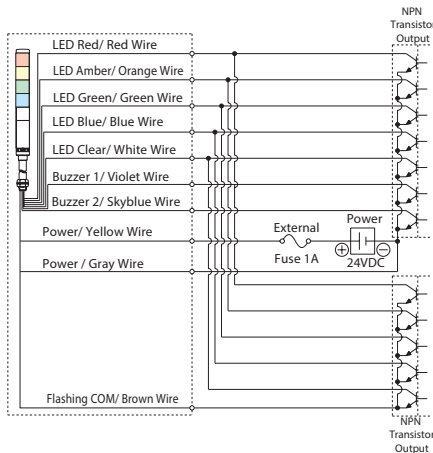
• DC 24V PNP Type



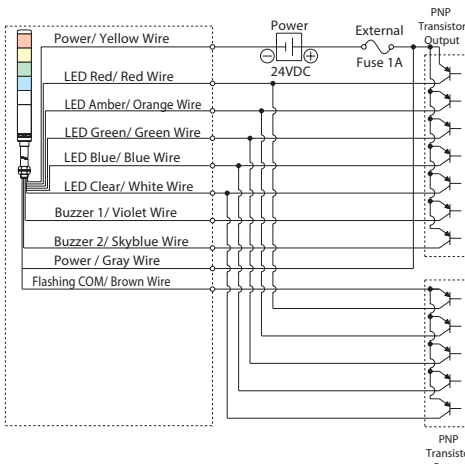
• AC 90 - 250V NPN Type



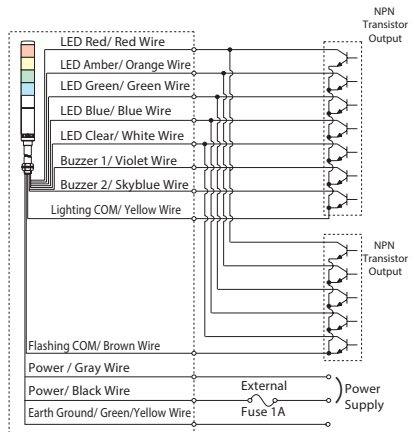
• DC 24V NPN FB Type



• DC 24V PNP FB Type



• AC 90 - 250V NPN FB Type



Signal Line voltage and current per LED Module

Model	Rated Voltage	Signal Line Voltage	LED		Alarm	
			Signal Line Current		Signal Line Current	Inrush Current
			R, Y	G, B, C		
LCE/LCE-U	AC/DC 24V	AC/DC 24V	30mA	25mA	40mA	250mA
LCE-M2	AC 90V - 250V	DC 24V	30mA	25mA	40mA	250mA

LCS/LCS-U

LCS/LCS-U

Silver Body
Model LCS-U

Ivory-white Body
Model LCS

Signal Tower



Versatile LED Signal Tower, featuring high quality with low price.

FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Original Dual Reflection System for enhanced light diffusion; creating bright, distinctive illumination while saving energy.
- Direct or pole mount installation.
- Color-coordinated wiring corresponding to the lens color for quick wiring and verification.
- Interchangeable LED Modules requires no re-wiring, even after installation.
- Main body made of ABS resin with superior resistance to impact and heat.
- Lens is made of superior impact resistant and light translucent AS resin.
- Available Colors are in Red, Amber, Green, Blue, and Clear/White.
- Has the CE mark and conforms to the requirements for the EC directive.
- Is a UL Recognized Component (File No. E215660).

AVAILABLE BY SPECIAL ORDER

- Cable: Versatile and flexible 3m cable.
- Body Color: Silver (LCS-U)
- All Clear Lenses: Distinctive color recognition when operated with clear lenses (B0738 type)
- Available Colors: Red, Amber, Green, Blue, White



Dual Reflection System

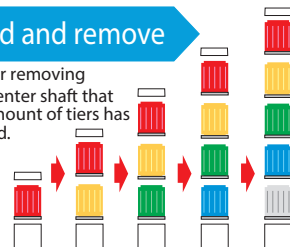
PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and five color LED modules, creates a bright and evenly distributed illumination.



High visibility from any angle

Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



Interchangeable LED Modules

Changeable color sequence: Easy to add/remove up to 5 colored modules even after installation.

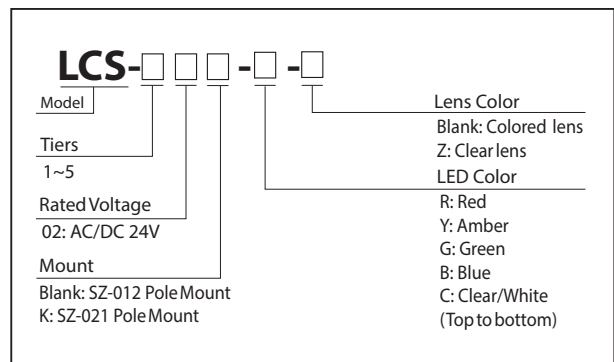
Note: LED modules of the same color within a signal tower will light up simultaneously.



Wiring doesn't change

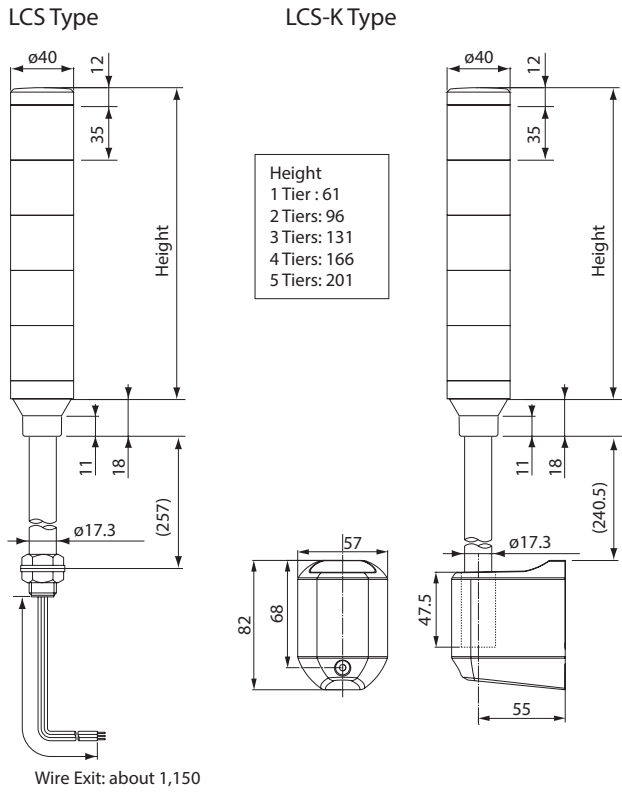
- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

How to Order



When ordering the clear-lens Signal Tower type, be sure to add "-Z" at the end of the part number when ordering.

Dimensions (Unit: mm)

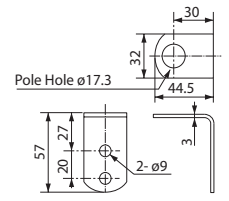


Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass	
				LCS	LCS-K
1 Tier	LCS-102	AC/DC 24V	0.7W	420g	540g
2 Tiers	LCS-202		1.4W	450g	570g
3 Tiers	LCS-302		2.0W	480g	600g
4 Tiers	LCS-402		2.6W	510g	—
5 Tiers	LCS-502		3.2W	540g	—

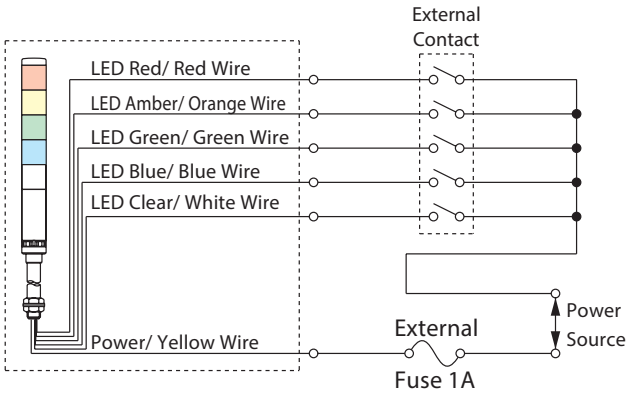


Side-Mount Bracket



Wiring

AC/DC 24V Lighting Type



Lead-wire color coordination table

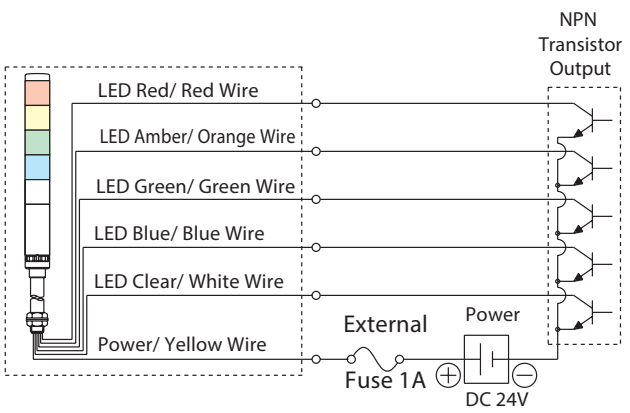
LED Unit Color	Lead Wire Color
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

Alarm Sounds	Lead Wire Color
Buzzer 1	Purple
Buzzer 2	Skyblue

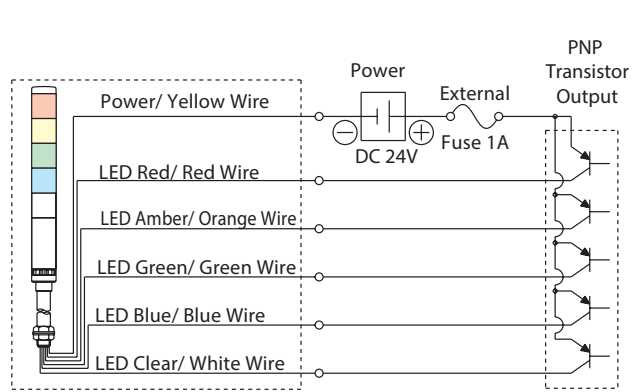
Signal Line voltage and current per LED Module

Model	Voltage Type	Signal Line Voltage	LED		Alarm	
			Signal Line Current		Signal Line Current	Inrush Current
			R, Y	G, B, C		
LCS	AC/DC 24V	AC/DC 24V	30mA	25mA	40mA	250mA

DC 24V NPN Type



DC 24V PNP Type



LES-A

LES

Signal Tower



- LED
- IP54 (Pole-mount IP23)
- Ø50
- NPN/PNP Open-collector

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



High visibility from any angle



Dual Reflection System

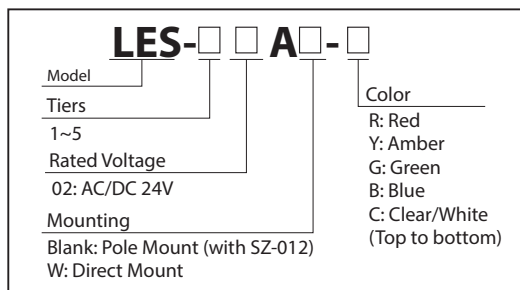
PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and five color LED modules, creates a bright and evenly distributed illumination.

FEATURES

- PATLITE's exclusive Prism-Cut Lens designed for enhanced visibility from any direction and distance.
- Original Dual Reflection System for enhanced light diffusion; creating bright, distinctive illumination while saving energy.
- Direct or pole mount installation.
- Main body is constructed of ABS resin with superior resistance to impact and heat.
- Lens is made of superior impact resistant and light translucent AS resin.
- NPN/PNP Compatible.
- Conforms to the CE requirements.
- UL Recognized Components (File No. E215660).
- Available colors* are in Red, Amber, Green, Blue, and Clear/White.

*Tiers cannot be increased due to the number of wires corresponding to the amount of tiers.

How to Order

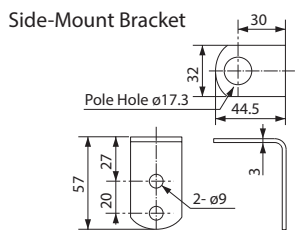
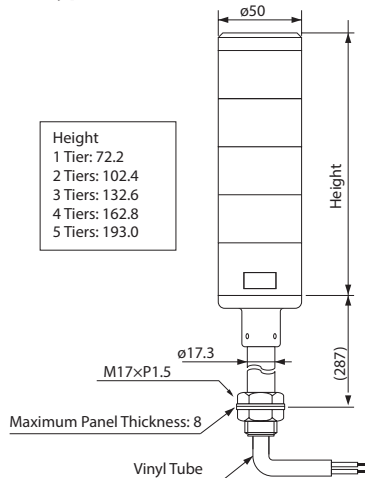


Specifications

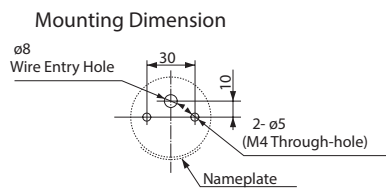
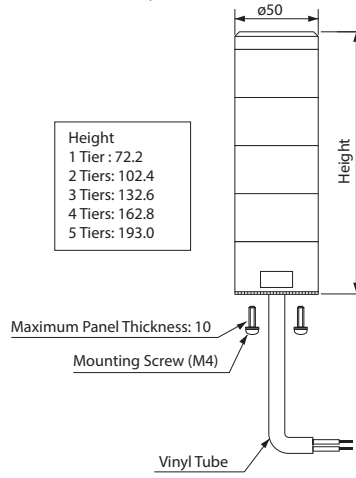
Stack Number	Model	Rated Voltage	Power Consumption	Mass
Pole Type	1 Tier	LES-102A	0.6W	500g
	2 Tiers	LES-202A	1.2W	530g
	3 Tiers	LES-302A	1.7W	560g
	4 Tiers	LES-402A	2.2W	590g
	5 Tiers	LES-502A	2.7W	600g
Direct Mount Type	1 Tier	LES-102AW	0.6W	70g
	2 Tiers	LES-202AW	1.2W	100g
	3 Tiers	LES-302AW	1.7W	130g
	4 Tiers	LES-402AW	2.2W	160g
	5 Tiers	LES-502AW	2.7W	190g

Dimensions (Unit: mm)

LES-A Type



LES-AW Type

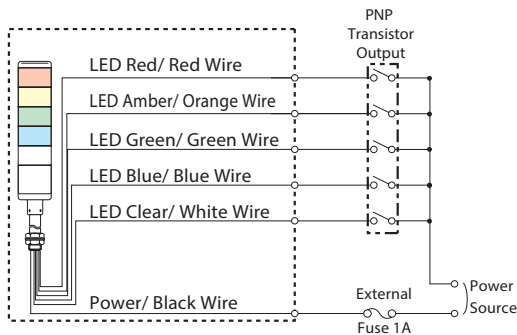


Lead-wire color coordination table

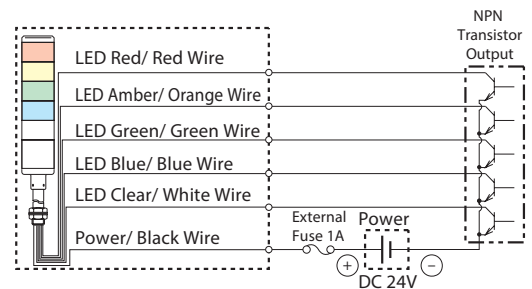
LED Unit Color	Lead Wire Color
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

LES Model

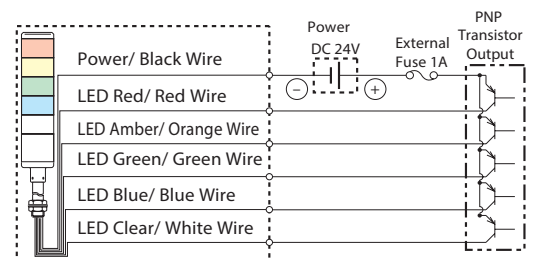
AC/DC 24V Lighting Type



DC 24V NPN Type

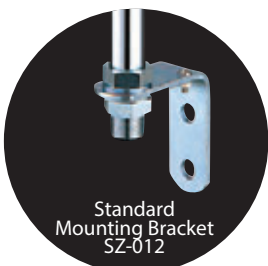


DC 24V PNP Type



Signal Line voltage and current per LED Module

Model	Voltage Type	Signal Line Voltage	LED Signal Line Current		
			R, Y	G, C	B
			LES	AC/DC 24V	AC/DC 24V





LE



Direct Mount

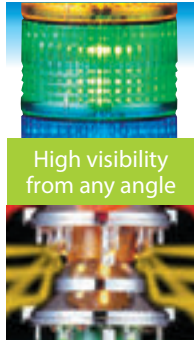
Pole Mount

Signal Tower



- LED**
- 2 Alarm Sounds** (FB Type)
- 85dB** at 1m
- IP54** (Pole-mount IP23)
- Ø50**
- NPN/PNP**
Open-collector

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



High visibility from any angle

Dual Reflection System

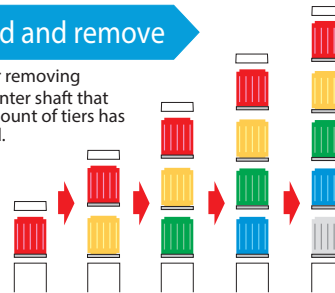
PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and five color LED modules, creates a bright and evenly distributed illumination.

FEATURES

- PATLITE's exclusive Prism-Cut Lens designed for enhanced visibility from any direction and distance.
- Original Dual Reflection System for enhanced light diffusion; creating bright, distinctive illumination while saving energy.
- Two built-in alarms (FB Type) with selectable sound patterns.
- Adjustable volume of up to 85dB (at 1m).
- Direct or pole mount installation.
- Color-coordinated wiring corresponding to the lens color for quick wiring and verification.
- Interchangeable Modules need no re-wiring, even after installation.
- Main body is constructed of ABS resin with superior resistance to impact and heat.
- Lens is made of superior impact resistant and light translucent AS resin.
- NPN/PNP Compatible (Except for LE 100/220V AC, compatible with NPN only).
- Available colors are in Red, Amber, Green, Blue, and Clear/White.
- Conforms to the CE requirements (for 12V, 24V type only).
- UL Recognized Components (File No. E215660) (for 12V,24V type only).

Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



Interchangeable LED Modules

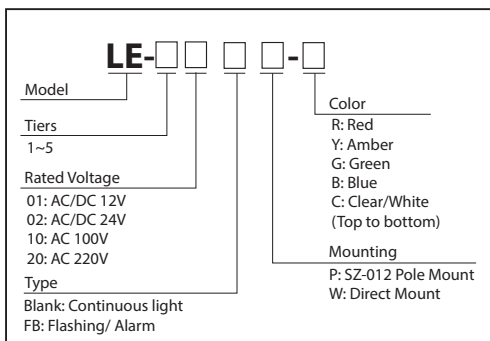
Changeable color sequence: Easy to add/remove up to 5 colored modules even after installation.

Note: LED modules of the same color within a signal tower will light up simultaneously.

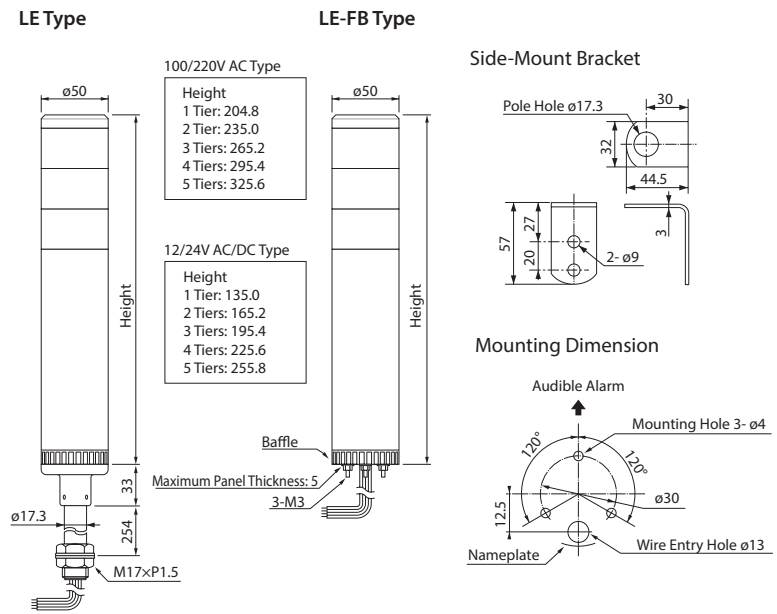
Wiring doesn't change

- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

How to Order

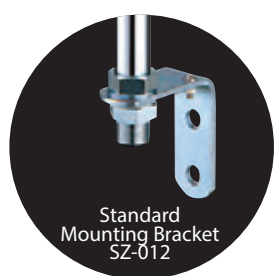


Dimensions (Unit: mm)



Specifications

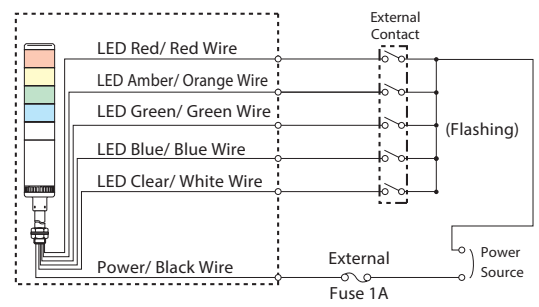
Stack Number	Model	Rated Voltage	Power Consumption	Mass	
				(FB)P	(FB)W
1 Tier	LE-101	AC/DC 12V	1.1W	640g	260g
	LE-102	AC/DC 24V	1.6W		
	LE-110	AC 100V	5.7W	780g	400g
	LE-120	AC 220V			
2 Tiers	LE-201	AC/DC 12V	1.7W	690g	310g
	LE-202	AC/DC 24V	2.2W		
	LE-210	AC 100V	6.7W	830g	450g
	LE-220	AC 220V			
3 Tiers	LE-301	AC/DC 12V	2.2W	740g	360g
	LE-302	AC/DC 24V	2.7W		
	LE-310	AC 100V	7.5W	880g	500g
	LE-320	AC 220V			
4 Tiers	LE-401	AC/DC 12V	2.7W	790g	410g
	LE-402	AC/DC 24V	3.2W		
	LE-410	AC 100V	8.3W	930g	550g
	LE-420	AC 220V			
5 Tiers	LE-501	AC/DC 12V	3.2W	840g	460g
	LE-502	AC/DC 24V	3.7W		
	LE-510	AC 100V	9.1W	980g	600g
	LE-520	AC 220V			



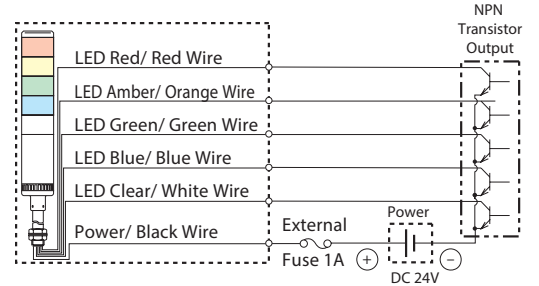
Wiring

LE Model

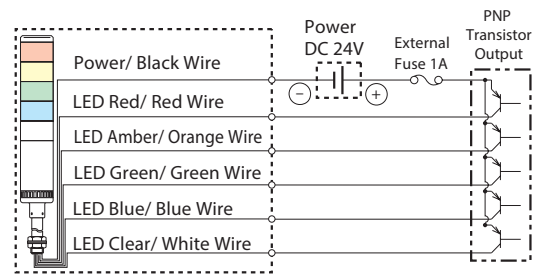
AC/DC 24V Lighting Type



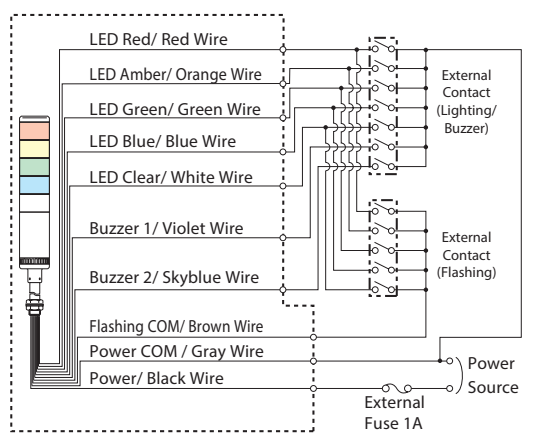
DC 24V NPN Type



DC 24V PNP Type

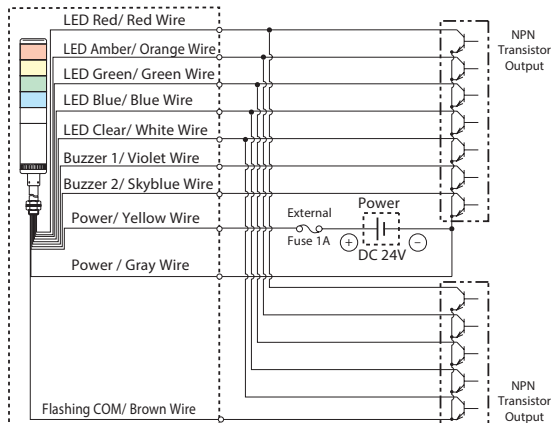


AC/DC 24V Lighting/Flashing Type

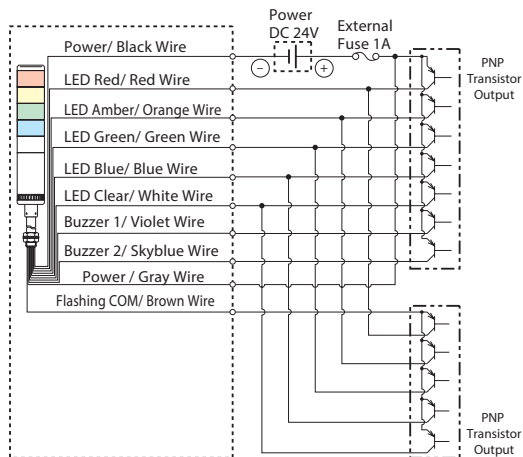


LE Model

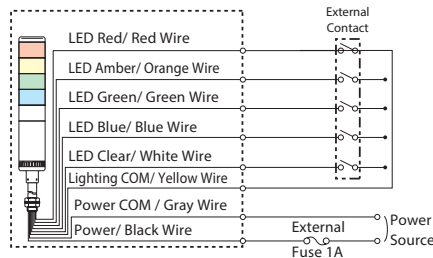
DC 24V NPN FB Type



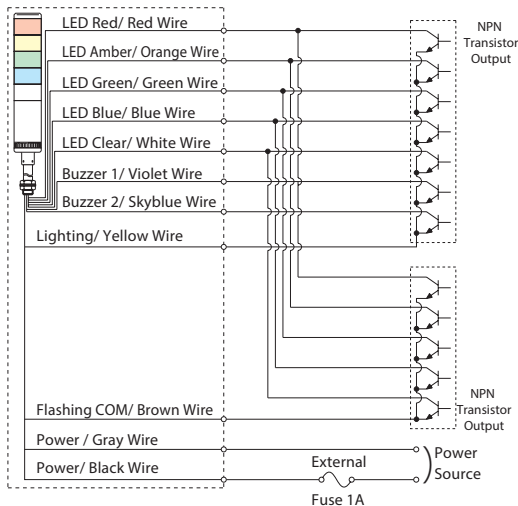
DC 24V PNP FB Type



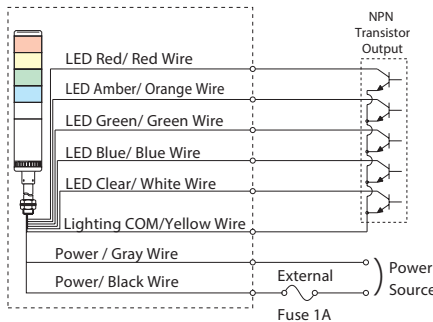
AC Power Lighting Type



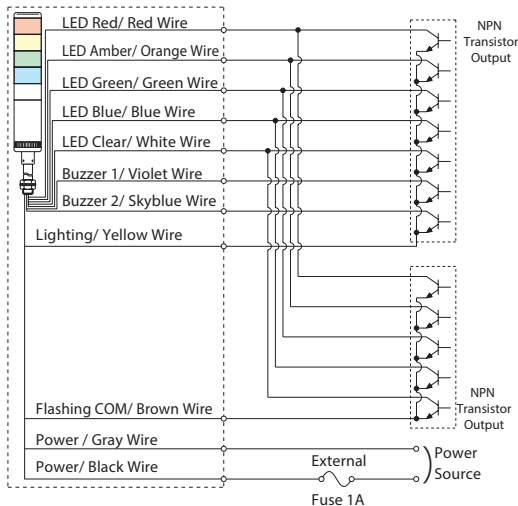
AC Power Lighting/Flashing Type



AC Power NPN Type



AC Power NPN FB Type



Signal Line Voltage and Current per LED Module

Voltage Type	Signal Line Voltage	LED			Alarm	
		Signal Line Current			Signal Line Current	Inrush Current
		R, Y	G, C	B		
AC/DC 12V	AC/DC 12V	50mA	40mA	44mA	40mA	150mA
AC/DC 24V	AC/DC 24V	25mA	20mA	22mA		
AC 100V, 220V	DC 24V	25mA	20mA	22mA		

Lead-wire color coordination table

LED Unit Color	Lead Wire Color
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

Alarm Sounds	Lead Wire Color
Buzzer 1	Purple
Buzzer 2	Skyblue

LU5

Signal Tower



LED



2 Alarm Sounds

85dB at 1m

IP65

Ø50

NPN/PNP
Open-collector



Versatile modular Signal Tower featuring easy assembly and wiring designed for every need.

FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Two built-in alarms (FB Type) with selectable sound patterns.
- Maximum volume of up to 85dB (at 1m).
- Direct or pole* mount installation.
- Color-coordinated Terminal block corresponding to the lens colors for quick wiring and verification.
- Interchangeable LED Modules requires no re-wiring, even after installation.
- Lens is made of superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Colors are in Red, Amber, Green, Blue, and Clear/White.

AVAILABLE BY SPECIAL ORDER

- Modules of the same color can be modified to operate from different terminals.

* Optional part sold separately.



How to Order

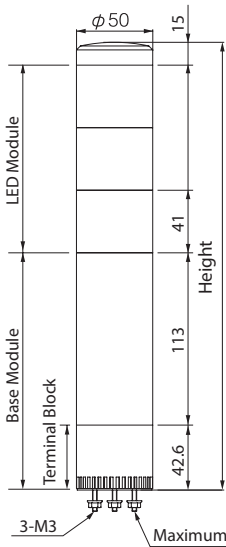
LED Module		Base Unit	
LU5-E-R		LU5-02UFB	
LED Unit	Color	Rated Voltage	Type
	R: Red	02: DC 24V	Blank: Continuous Light
	Y: Amber	Base Color	FB : Flashing/ Alarm
	G: Green	Blank: Ivory White	
	B: Blue	U : Silver	
C: White/Clear	K : Black		

Specifications (Module)

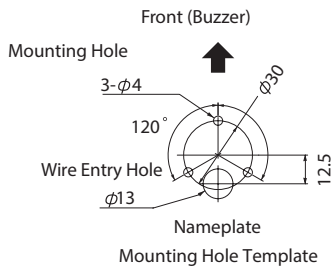
Module Color	Model	Rated Voltage	Operating Voltage Range	Current/Power Consumption	Mass
RED	LU5-E-R	DC 24V	21.6V - 26.4V	44mA/1.06W	44g
AMBER	LU5-E-Y				
GREEN	LU5-E-G				
BLUE	LU5-E-B				
CLEAR	LU5-E-C				
				17mA/0.41W	

Specifications (Base)

Model	Options	Rated Voltage	Operating Voltage Range	Open Collector	Mass
LU5-02	Continuous	DC 24V	21.6V - 26.4V	NPN/PNP	182g
LU5-02FB	2 Sounds/Flash				200g



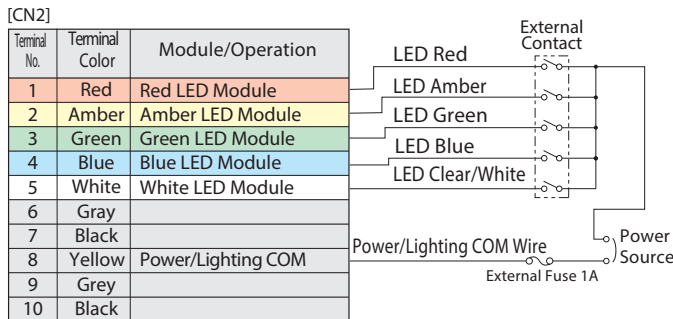
Mounting Dimensions



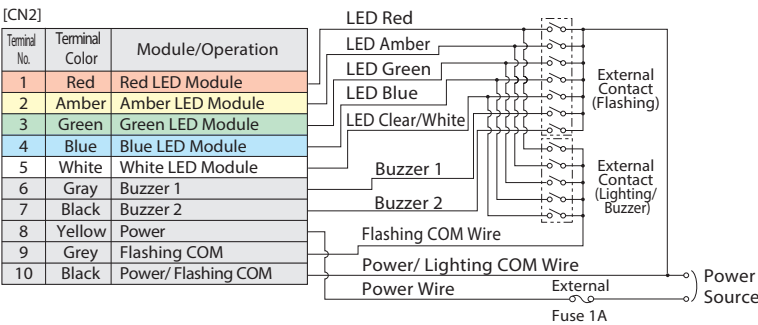
LU5 Type

Height	
1 Tier:	211
2 tiers:	252
3 Tiers:	293
4 Tiers:	334
5 Tiers:	375

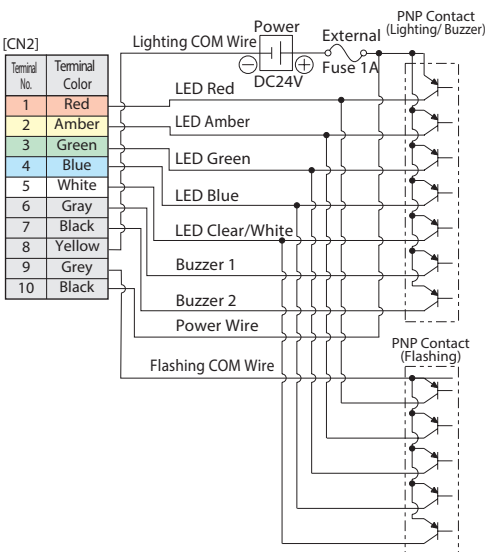
• AC/DC 24V Lighting Type



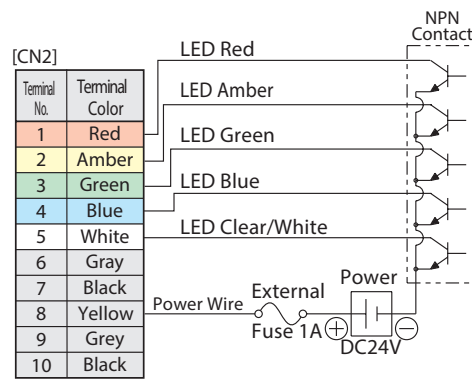
• AC/DC 24V Lighting/Flashing Type



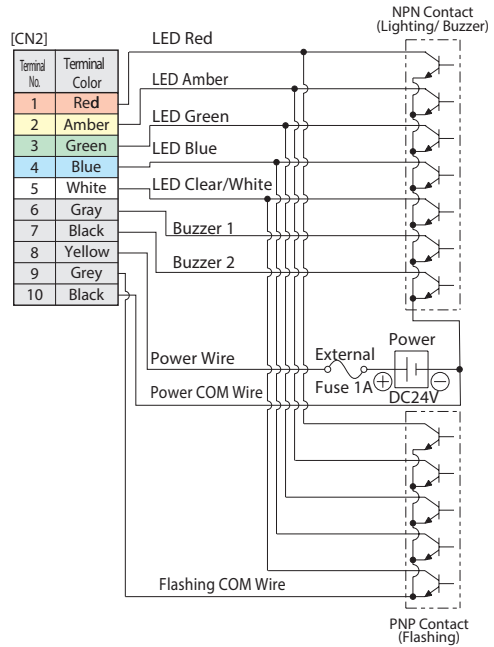
• DC 24V PNP FB Type



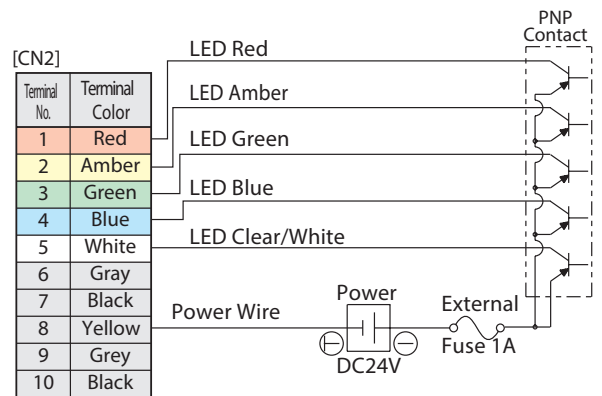
• DC 24V NPN Type



• DC 24V NPN FB Type



• DC 24V PNP Type

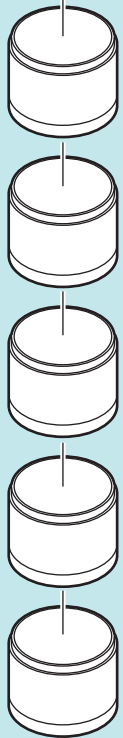
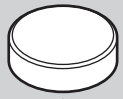


External Contact Capacity

Specifications		24V DC
LED Unit (1 Unit)	Current Consumption	Red,Amber: 52mA Green,Blue,White/Clear: 42mA
	Contact Capacity	Is≥100mA, Vs≥35V AC
Buzzer	Current Consumption	50mA
	Inrush Current	100mA
	Contact Capacity	Is≥100mA, Vs≥35V AC
Power Supply	Current Consumption	360mA
	Contact Capacity	Is≥500mA, Vs≥35V AC

External Contact Fuse

Voltage	Fuse Amperage Rating
All Models	250V, 1A



LED Units



Model	LU5-E-R	LU5-E-Y	LU5-E-G	LU5-E-B	LU5-E-C
Unit Color					
Rated Voltage	24V DC				
Operating Voltage Range	Rated Voltage $\pm 10\%$ (21.6 to 26.4V)				
Current/Power Consumption	52mA/1.25W		42mA/1.0W		
Operating Temperature Range	-30°C to +60°C				
Mass (Tolerance $\pm 10\%$)	44g				



BASE Units



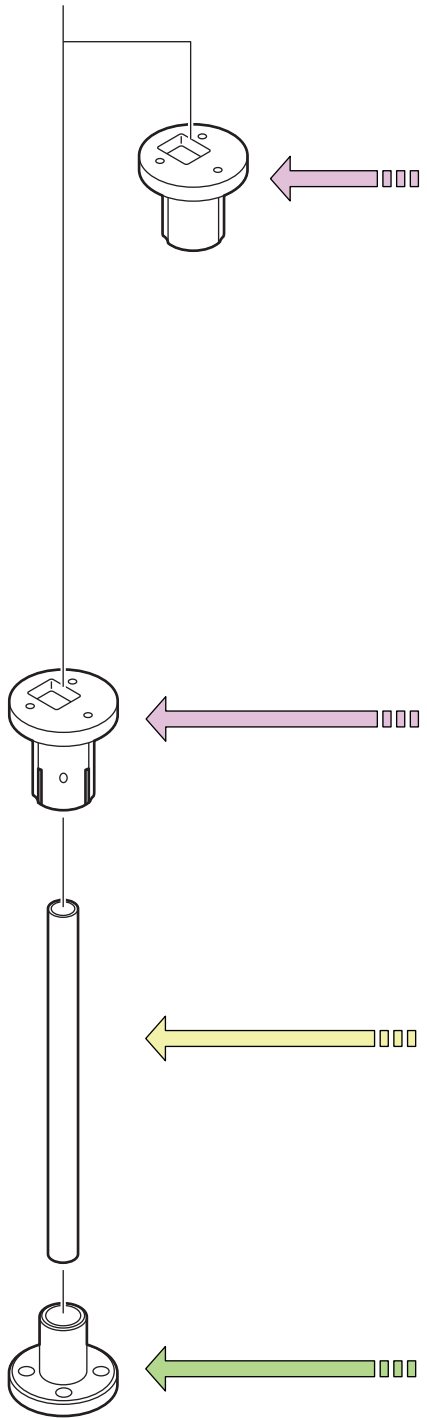
Model	LU5-02	LU5-02FB	
Color			
Body Style	Standard		
Rated Voltage	24V DC		
Operating Voltage Range	Rated Voltage $\pm 10\%$ (21.6 ~ 26.4V)		
Alarm		*Buzzer 1	*Buzzer 2
Current Consumption		50 \pm 10mA	24 \pm 10mA
Power Consumption		1.2 \pm 0.25W	0.58 \pm 0.25W
Sound Level		Max:85 \pm 5dB (at 1m)	
Flashing Cycle		60 \pm 12 flashes per minutes	
Operating Temperature Range	-30°C to +60°C		
Mounting Direction	Upright, indoor only		
Protection Rating	IP65		
Mass (Tolerance $\pm 10\%$)	182g	200g	
Open Collector	PNP/NPN		

* Buzzer 1 : Continuous Sound **Buzzer 2 : Intermittent Sound



Optional Parts

Optional Parts



Upper Bracket

SZ-60NPT
(for 1/2" NPT Pole)

Upper Bracket

SZ-60-U

Pole

21.7mm

Height

Steel Pole

Model	POLE-800S21	POLE-300S21	POLE-100S21
Height	800mm	300mm	100mm

Aluminum Pole

Model	POLE-800A21	POLE-300A21	POLE-100A21
Height	800mm	300mm	100mm

Mounting Bracket

SZ-016A
(For ϕ 21.7mm Pole)

SZ-70-B
(For ϕ 21.7mm Aluminum Pole Only)

Wall Mount Bracket

SZ-020
(For ϕ 21.7mm Pole)

SZ-017
(For ϕ 21.7mm Pole)

LME/LME-U/LME-N



Signal Tower

Silver Color Body
Model LME-U

Black Color Body
Model LME-N

- LED**
- 2 Alarm Sounds** (FB Type)
- 90dB at 1m** (FB Type)
- IP65** (FB, L, K: IP54)
- Ø60**
- Cable** (LME-U)
- NPN/PNP Open-collector**



Ivory-white Body
Model LME



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



High visibility from any angle



Adjustable Volume (Max. 90dB at 1m)



Dual Reflection System

PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and five color LED modules, creates a bright and evenly distributed illumination.

FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Original Dual Reflection System for enhanced light diffusion; creating bright, distinctive illumination while saving energy.
- Two built-in alarms (FB Type) with selectable sound patterns.
- Adjustable volume of up to 90dB (at 1m).
- Direct or pole mount installation.
- Interchangeable Modules need no re-wiring, even after installation.
- Main body is constructed of ABS resin with superior resistance to impact and heat. (U type has silver body and 3m cable)
- Lens is made of superior impact resistant and light translucent AS resin.
- NPN/PNP Compatible (Except 120/220V AC LME-U, compatible with NPN only).
- Available colors are in Red, Amber, Green, Blue, and Clear/White.
- Conforms to the CE requirements (for 24V type only).
- UL Recognized Components (File No. E215660; for 24V, 120V, 230V type only)



When ordering the clear-lens Signal Tower type, be sure to add "-Z" at the end of the part number when ordering.

Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.

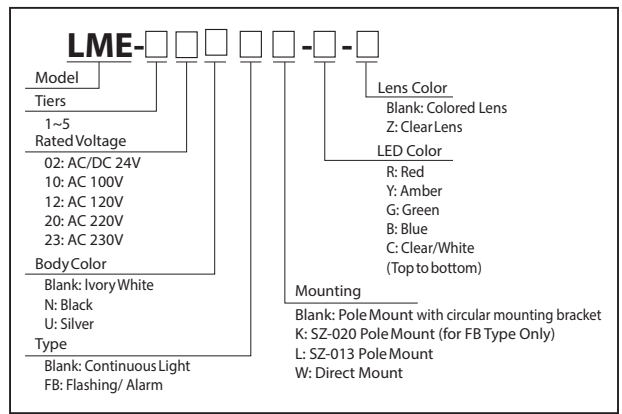
Interchangeable LED Modules

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.

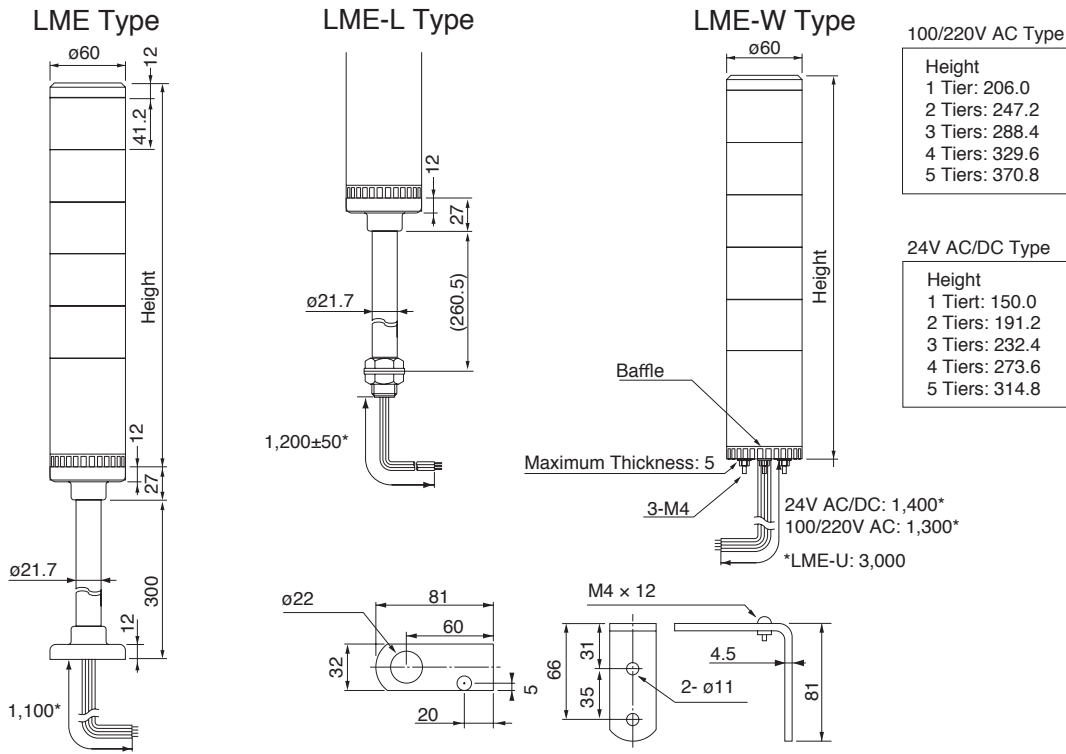
Wiring doesn't change

- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

How to Order



Dimensions (Unit: mm)



Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass		
				LME	LME-L	LME-W
1 Tier	LME-102	AC/DC 24V	2.2W	0.43kg	0.73kg	0.27kg
	LME-110	AC 100V	5.1W	0.68kg	1.06kg	0.52kg
	LME-112	AC 120V				
	LME-120	AC 220V				
	LME-123	AC 230V				
2 Tiers	LME-202	AC/DC 24V	3.4W	0.48kg	0.78kg	0.32kg
	LME-210	AC 100V	7.1W	0.73kg	1.10kg	0.57kg
	LME-212	AC 120V				
	LME-220	AC 220V				
	LME-223	AC 230V				
3 Tiers	LME-302	AC/DC 24V	3.8W	0.53kg	0.83kg	0.37kg
	LME-310	AC 100V	7.9W	0.78kg	1.14kg	0.62kg
	LME-312	AC 120V				
	LME-320	AC 220V				
	LME-323	AC 230V				
4 Tiers	LME-402	AC/DC 24V	4.2W	0.58kg	0.88kg	0.42kg
	LME-410	AC 100V	8.7W	0.83kg	1.18kg	0.67kg
	LME-412	AC 120V				
	LME-420	AC 220V				
	LME-423	AC 230V				
5 Tiers	LME-502	AC/DC 24V	4.6W	0.63kg	0.93kg	0.47kg
	LME-510	AC 100V	9.5W	0.86kg	1.22kg	0.72kg
	LME-512	AC 120V				
	LME-520	AC 220V				
	LME-523	AC 230V				

Lead-wire color coordination table

LED Unit Color	Lead Wire Color
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

Alarm Sounds	Lead Wire Color
Buzzer 1	Purple
Buzzer 2	Skyblue

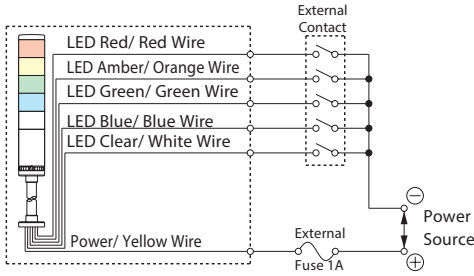
Signal Line voltage and current per LED Module

Rated Voltage	Signal Line Voltage	LED		Alarm	
		Signal Line Current R, Y	Signal Line Current G, B, C	Signal Line Current	Inrush Current
AC/DC 24V	AC/DC 24V	50mA	20mA	40mA	250mA
AC 100V	DC 24V				
AC 200V					

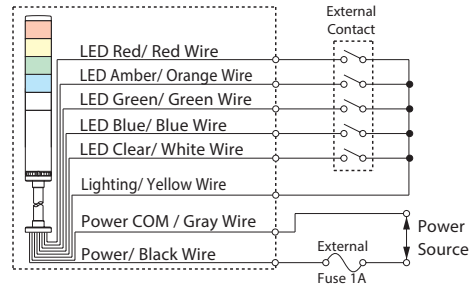
Wiring

LME/LME-U/LME-N

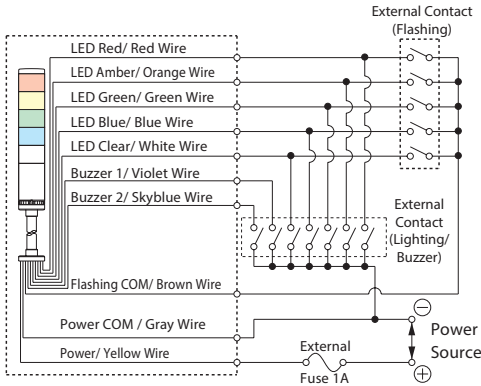
• DC 24V Lighting Type



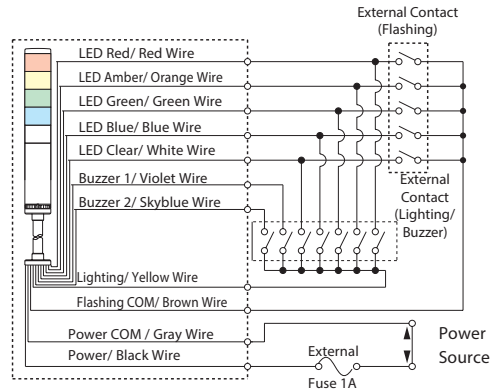
• AC Power Lighting Type



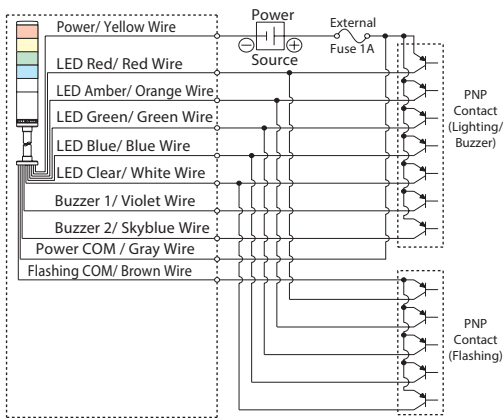
• DC 24V Lighting/Flashing Type



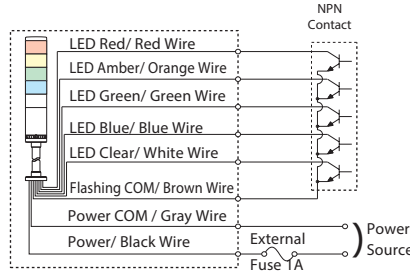
• AC Power Lighting/Flashing Type



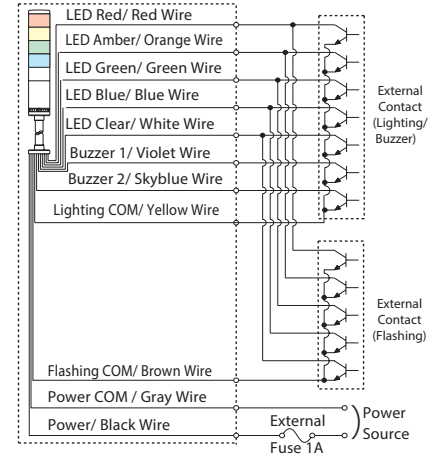
• DC 24V NPN FB Type



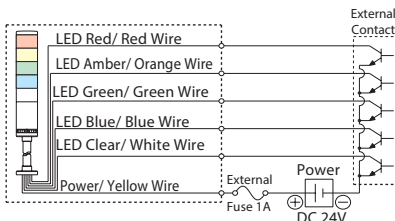
• AC Power NPN Type



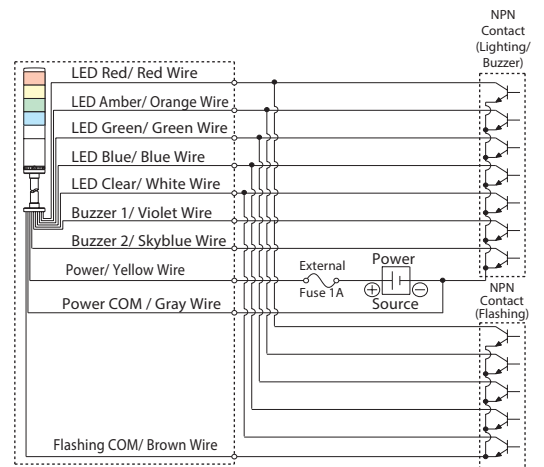
• AC Power NPN FB Type



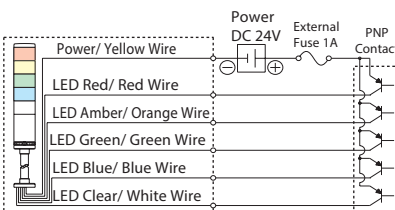
• DC 24V NPN Type



• DC 24V PNP FB Type



• DC 24V PNP Type





LME-S / LME-Q

Signal Tower



LED

2 Alarm Sounds (FB Type)

90dB at 1m (FB Type)

IP65 (FB Type:IP54)

Cable

Ø60

NPN/PNP
Open-collector

LME-S/LME-Q



Space-saving, multi-color single-tier LED Signal Tower.



High visibility from any angle

Adjustable Volume (Max. 90dB at 1m)



Dual Reflection System

PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and five color LED modules, creates a bright and evenly distributed illumination.

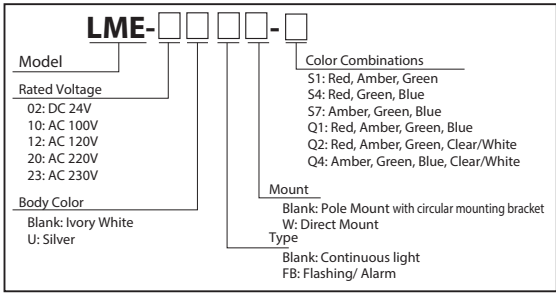
FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Original Dual Reflection System for enhanced light diffusion; creating bright, distinctive illumination while saving energy.
- Two built-in alarms (FB Type) with selectable sound patterns.
- Adjustable volume of up to 90dB (at 1m).
- Direct or pole mount installation.
- Interchangeable Modules need no re-wiring, even after installation.
- PATLITE's single-tiered triple or quadruple colored unit is ideal for applications with limited vertical space.
- Pole-mount installation includes a circular mounting base as standard equipment.
- See "Color Coordination Combination" Section for available colors.

MODEL LME-S AVAILABLE BY SPECIAL ORDER

- Rated Voltage: AC/DC 24V only.
- Body: Silver Color
- Cable: Versatile and flexible 3m cable.
- PNP compatible

How to Order



Specifications

Series	Stack Number	Model	Rated Voltage	Power Consumption	Mass	
					LME	LME-W
LME-S	1 Tier	LME-102	DC 24V	2.2W	430g	270g
		LME-110	AC 100V			
		LME-112	AC 120V	5.1W	860g	520g
		LME-120	AC 220V			
		LME-123	AC 230V			
LME-Q	1 Tier	LME-102	DC 24V	2.2W	430g	270g
		LME-110	AC 100V			
		LME-112	AC 120V	5.1W	680g	520g
		LME-120	AC 220V			
		LME-123	AC 230V			

Patlite's unique single-tier unit with triple or quadruple colors integrated.

S1: Red, Amber, Green



S4: Red, Green, Blue



S7: Amber, Green, Blue



Q1: Red, Amber, Green, Blue



Q2: Red, Amber, Green, Clear/White



Q4: Amber, Green, Blue, Clear/White

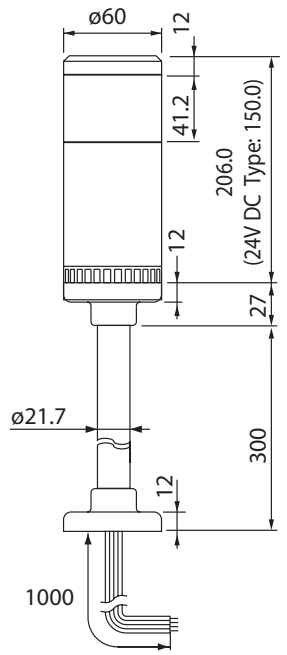


Clear Lens

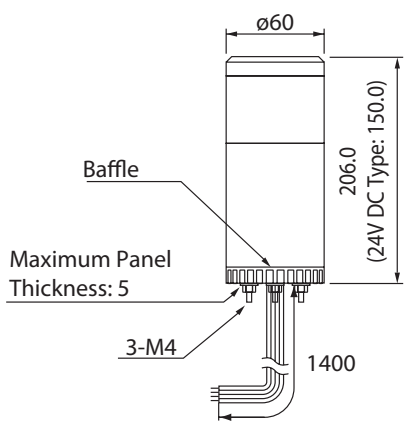
Patlite's new single-tier, multi-color unit is ideally suited for installations requiring a multiple color display but has limited vertical space. The clear lenses are easily distinguishable between lit and unlit lamps, and the unlit look can integrate visually with the equipment it is attached to.

Dimensions (Unit: mm)

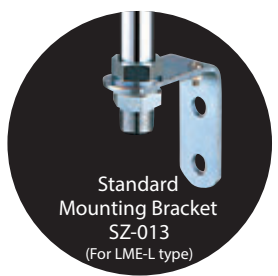
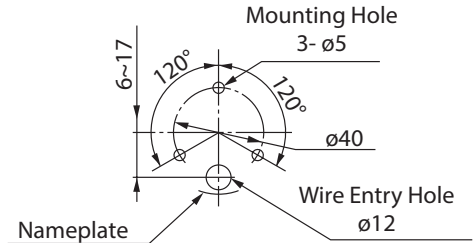
LME Type



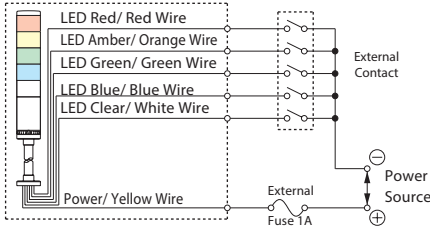
LME-W Type



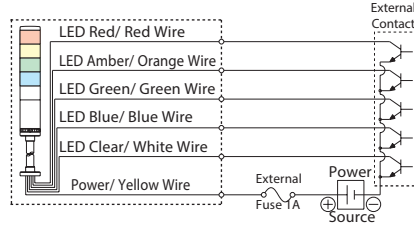
Mounting Dimensions (LME-W)



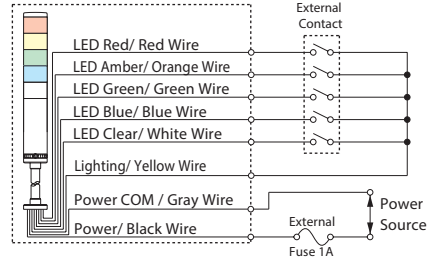
• DC 24V Lighting Type



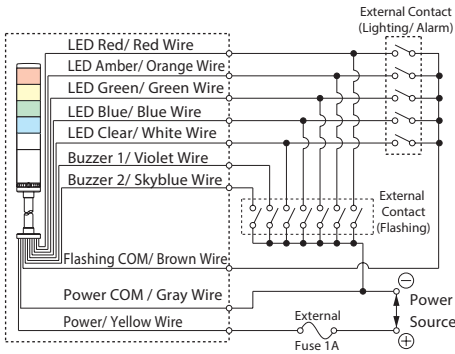
• DC 24V NPN Type



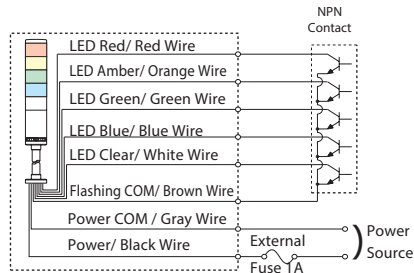
• AC Power Lighting Type



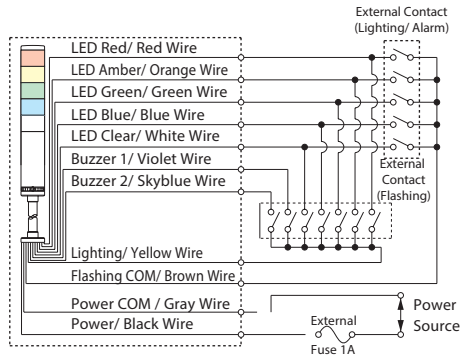
• DC 24V Lighting/Flashing Type



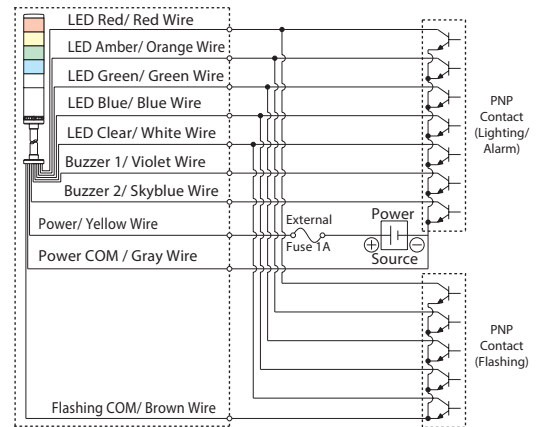
• AC Power NPN Type



• AC Power Lighting/Flashing Type



• DC 24V NPN FB Type



LME-S/Q Lead-wire Color Table

	LED Unit Color	Lead Wire Color
S1	Red, Amber, Green	Red, Orange, Green
S4	Red, Green, Blue	Red, Green, Blue
S7	Amber, Green, Blue	Orange, Green, Blue
Q1	Red, Amber, Green, Blue	Red, Orange, Green, Blue
Q2	Red, Amber, Green, Clear/White	Red, Orange, Green, White
Q4	Amber, Green, Blue, Clear/White	Orange, Green, Blue, White

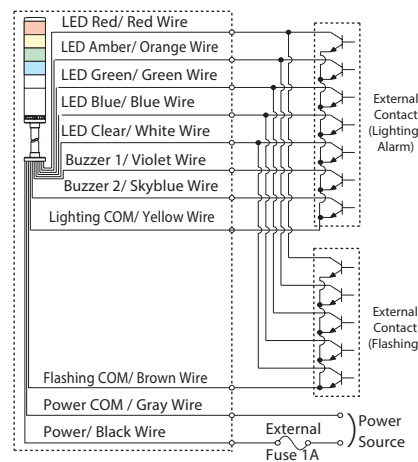
Signal Line voltage and current per LED Module

Rated Voltage	Signal Line Voltage	LED		Alarm	
		Signal Line Current	LED	Signal Line Current	Inrush Current
		R, Y	G, B, C		
DC 24V	DC 24V	50mA	20mA	40mA	250mA
AC 100V	DC 24V				
AC 120V					
AC 200V					
AC 220V					
AC 230V					

Lead-wire color coordination table

LED Unit Color	Lead Wire Color	Alarm Sounds	Lead Wire Color
Red	Red	Buzzer 1	Purple
Amber	Orange	Buzzer 2	Skyblue
Green	Green		
Blue	Blue		
Clear/White	White		

• AC Power NPN FB Type



LMS

Signal Tower



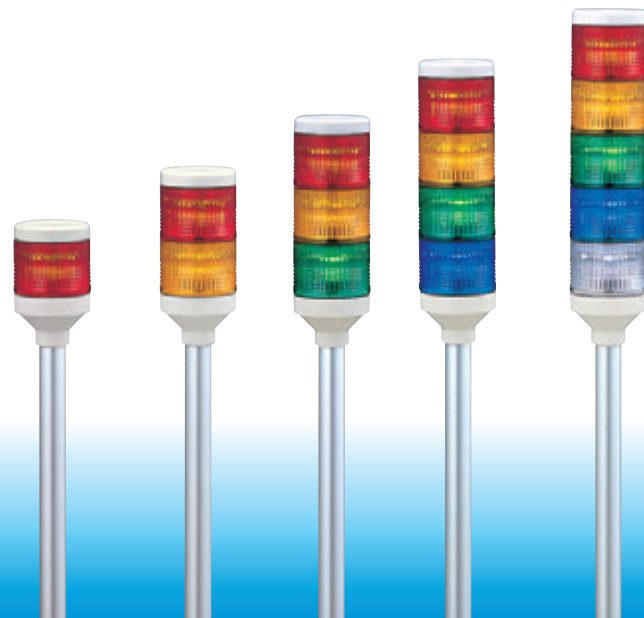
LED



IP65 (KType: IP54)

Φ60

NPN/PNP
Open-collector



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



Reflection System



High visibility from any angle

FEATURES

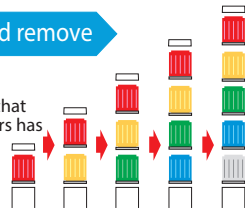
- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Original Dual Reflection System for enhanced light diffusion; creating bright, distinctive illumination while saving energy.
- Pole-mount installation.
- Interchangeable Modules need no re-wiring, even after installation.
- Main body is constructed of ABS resin with superior resistance to impact and heat.
- Lens is made of superior impact resistant and light translucent AS resin.
- Available colors are in Red, Amber, Green, Blue, and Clear/White.
- Has the CE mark and conforms to the requirements for the EC directive.
- Is a UL Recognized Component (File No. E215660)

AVAILABLE BY SPECIAL ORDER

- Model LMS-U: Silver Color Body (FB060 type).

Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



Interchangeable LED Modules

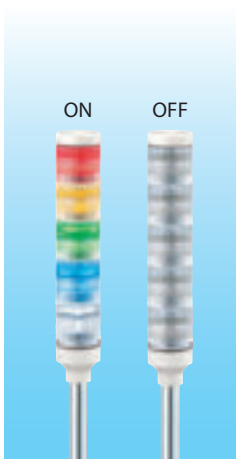
Changeable color sequence: Easy to add/remove up to 5 colored modules even after installation.

Note: LED modules of the same color within a signal tower will light up simultaneously.



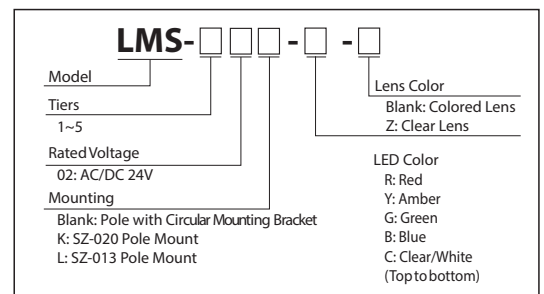
Wiring doesn't change

- The LED Module colors correspond to the wiring, so re-wiring is not necessary.



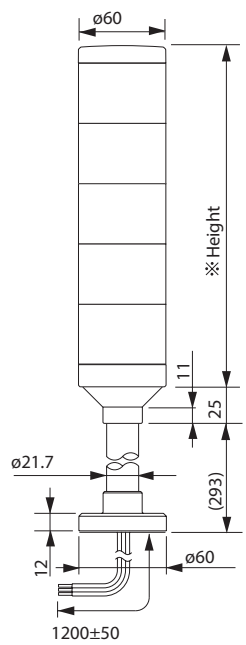
When ordering the clear-lens Signal Tower type, be sure to add "-Z" at the end of the part number when ordering.

How to Order



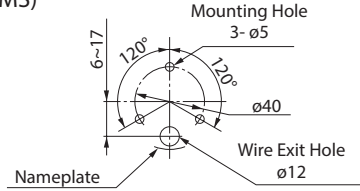
Dimensions (Unit: mm)

LMS

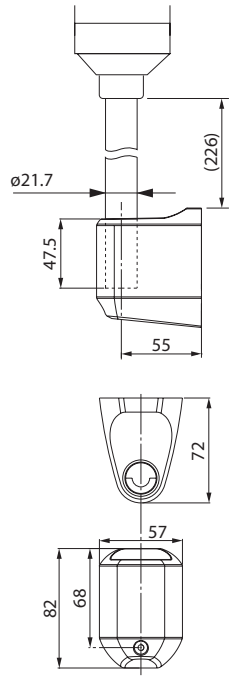


LMS Type	※Height
1 Tier:	69.2
2 Tiers:	110.4
3 Tiers:	151.6
4 Tiers:	192.8
5 Tiers:	234.0

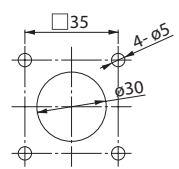
Mounting Dimensions (LMS)



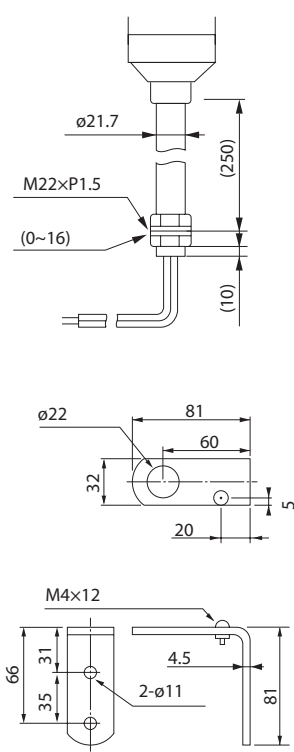
LMS-K



Mounting Dimensions (LMS-K)

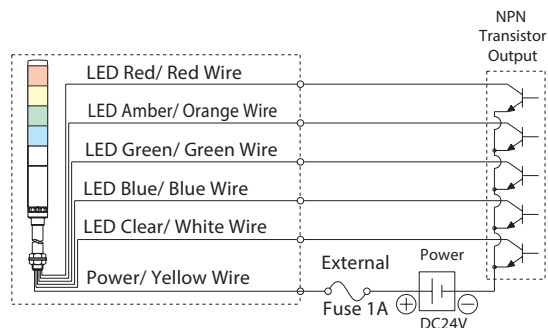


LMS-L

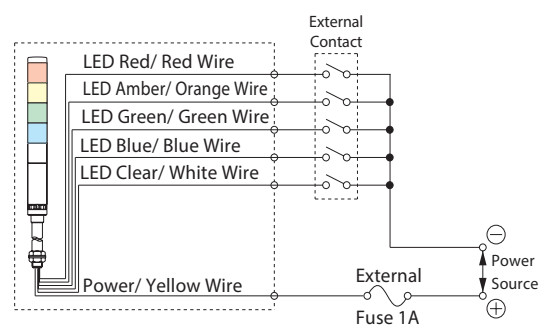


Wiring

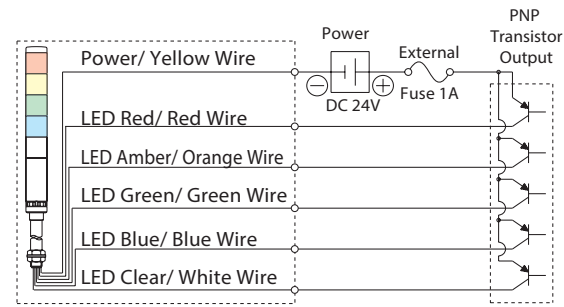
- DC 24V NPN Type



- AC/DC 24V Lighting Type



- DC 24V NPN FB Type



Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass		
				LMS	LMS-L	LMS-K
1 Tier	LMS-102	AC/DC 24V	1.2W	290g	620g	420g
2 Tiers	LMS-202		2.4W	340g	670g	480g
3 Tiers	LMS-302		2.8W	390g	720g	540g
4 Tiers	LMS-402		3.2W	440g	770g	600g
5 Tiers	LMS-502		3.6W	490g	820g	660g

LS7

Signal Tower



LED



2 Alarm Sounds (FB Type)

90dB at 1m (FB Type)

IP65 (B Type:IP54)

Ø70

NPN/PNP
Open-collector

Off-white Body
without Buzzer

Dark Gray Body
without Buzzer

Silver Body
without Buzzer

Off-white Body
with Buzzer

Dark Gray Body
with Buzzer

Silver Body
with Buzzer



New concept!
Smart & smooth signal light body which improves harmony with equipment.

How to Order

LED Signal Tower

LS7- ① 02 ② ③ ④ W ⑤ — ⑥

- ① No. of Lighting Units
3:3 Tiers
5:5 Tiers
- ② Body Color
No Mark:Off-white
D: Dark Gray
S: Silver
- ③ Lighting
No Mark:Illumination Only
F: Illumination·Flashing
- ④ Buzzer
No Mark: No Buzzer
B: Buzzer
- ⑤ Wiring
C:M12 Connector
H:Lead Wires[※]
- ⑥ LED Color
R:Red
Y:Yellow
G:Green
B:Blue
C:White
N:Blank

Ex.: LS7-302WC-RYGNN

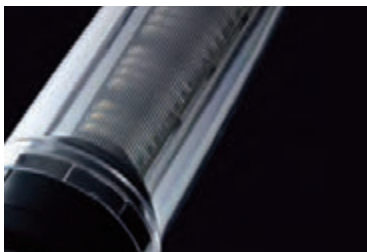
- Body Color...Off-white
- Buzzer...None
- LED Colors:Red, Yellow, Green, (Blank), (Blank)
- Lighting...Illumination
- Wiring...M12 Connector

- F type models with Illumination·Flashing are only available for Lead Wire and requires an H mark.
- C type models (M12 Connector Type) are only available with a continuous sound buzzer.

Specifications

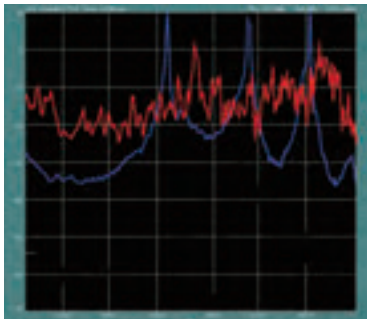
Model	Number of Lighting Units	Rated Voltage	Mounting	Rated Current Consumption	Maximum Rated Current	Maximum Sound Pressure	Operating Temperature Range	Protection Rating	Mass:			
									Lead-wire Type (H)		M12 Connector Type (C)	
									Illumination (No Mark)	Illumination/Flash/ 2 Alarms (FB)	Illumination (No Mark)	1 Alarm (B)
LS7-302	3 Tiers	DC 24V (±10%)	Direct (Indoors Only)	Red: 20mA	Red: 35mA	Buzzer1 ab. 82dB Lead-wire Type (Intermittent Beep1) M12 Connector type (Continuous Beep)	-30°Cto+60°C (Less than 85% RH)	Illumination Type: IP65* Buzzer Type: IP54	280g ±10%	370g ±10%	260g ±10%	320g ±10%
LS7-502	5 Tiers			Amber, Green, Blue, Clear/White 30mA Alarm 40mA	Amber, Green, Blue, Clear/White 40mA Alarm 55mA	Buzzer2 ab. 85dB Lead-wire Type (Intermittent Beep2) M12 Connector type (None)						

* IP67 available by special order




A smooth-surfaced body without any metal exposed

By changing the surface of the body into a smoother form, the adhesion of water and dust is reduced. Also, the structure does not have screws, shafts, etc., exposed, which gives comfort for applications in the lithium ion battery manufacturing and food processing industries. And, with the outer lens structure, the risk of environmental stress cracks due to oil mist is reduced. The lens cover is made of shock-resistant polycarbonate.

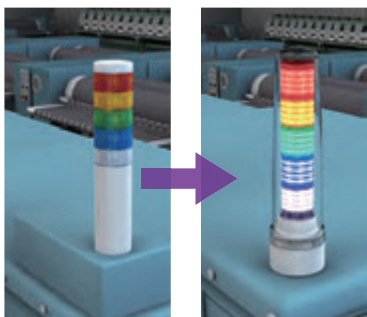


A sound heard throughout various environments

In addition to the existing lead wire, M12 connector quick disconnect is also available. Moreover, when moving to carry and to go out of the device, it is possible to detach it easily with the M12 connector.  Speaker Horn (Alarm Type)

Frequency graph of a metal-working shop sound mixed with buzzer2 alarm. (Inter-corporate Measurement)

* Buzzer1 (H type or C type) is measured at 2000Hz.



Easy attachment, no need for Relay Box

In addition to the conventional three-bolt installation, a two-bolt installation from the upper mount has been added to help make a smoother installation. Therefore, by using the mount as a relay box, it reduces the manufacturing cost for an extra relay box, which used to be a necessity up until now.



M12 Connector Wiring & Tiered Construction

The stackable design and M12 connector quick disconnect (Cable Sold Separate) can drastically reduce labor and time. Moreover, the disconnection and reconnection of the body when removing it to relocate a machine has become smoother.

Stackable Construction



High-contrast Visibility

With the adoption of an inner lens, the LED emits a more efficient light. Moreover, the contrast is increased when the Signal Tower lights up or flashes, with a distinguishable signal color which remarkably improves visibility.

Remarkable display in ANY environment

The LS7 has passed various tests for water resistance, dust, temperature, and variable vibration frequency tests, etc., so that it can endure various environments.

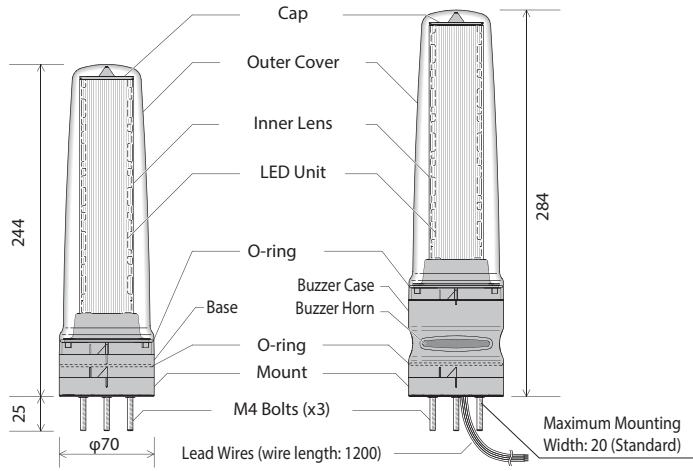


All-plastic Bracket

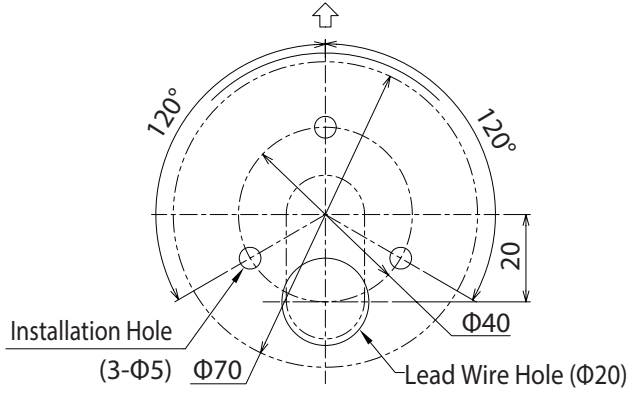
Like the body, the smooth-shaped platform bracket won't collect water or dust. Since no metal parts like screws and shafts are exposed, worries of food tampering can be put to rest in the food process lines.



Dimensions (Unit: mm)



Product Front (Buzzer Horn Direction)



Optional Parts

Like the body, the smooth-shaped platform bracket won't collect water or dust. Since no metal parts like screws and shafts are exposed, worries of food contamination can be put to rest in food processing.

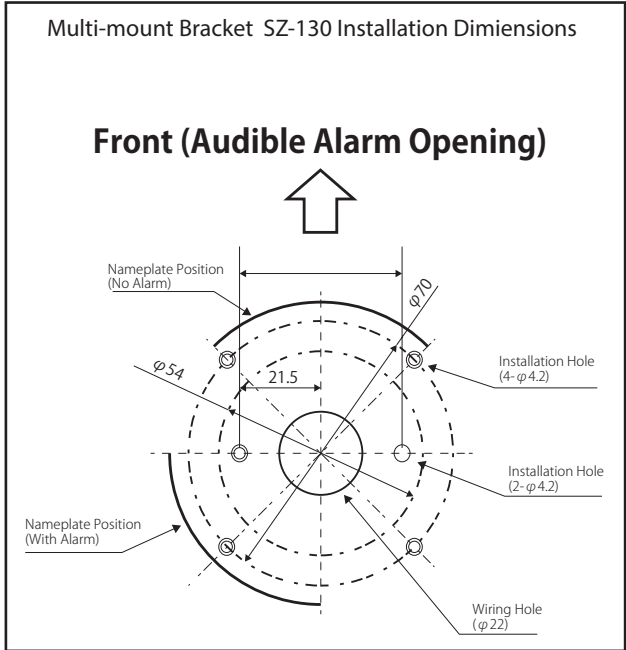
Platform Bracket SZ-100



Wall Mounting Bracket SZ-110



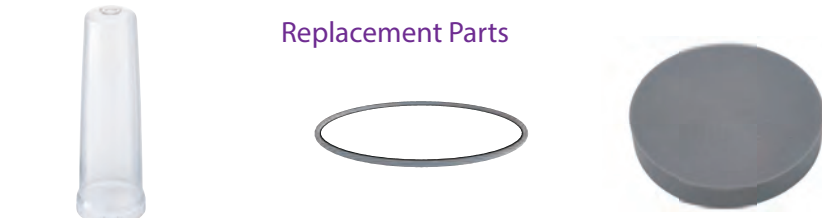
Multi-mount Bracket SZ-130



M12 Connector & Cable
 Manufactured by the OMRON Corp.)
 SZ-120-02 Cable Length 2 m (XS2F-D821-DH0-R)
 SZ-120-05 Cable Length 5 m (XS2F-D821-GH0-R)
 SZ-120-10 Cable Length 10m (XS2F-D821-JH0-R)

*Only for connecting to the LS7.

Replacement Parts



Outer Cover for LS7*
 Material: Polycarbonate

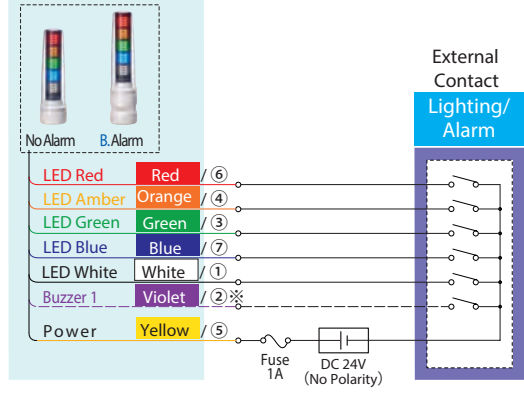
O-ring for LS7
 Material: Silicone

Mount Cover for LS7 (Accessory)
 Material: Silicone

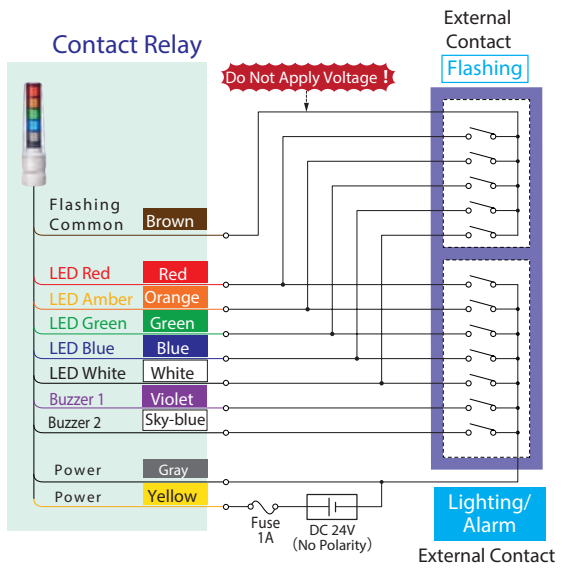


Wiring

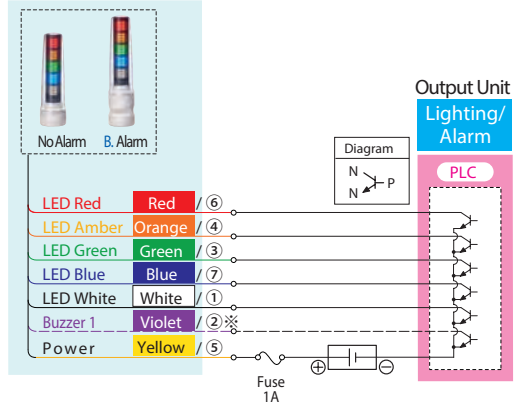
Contact Relay



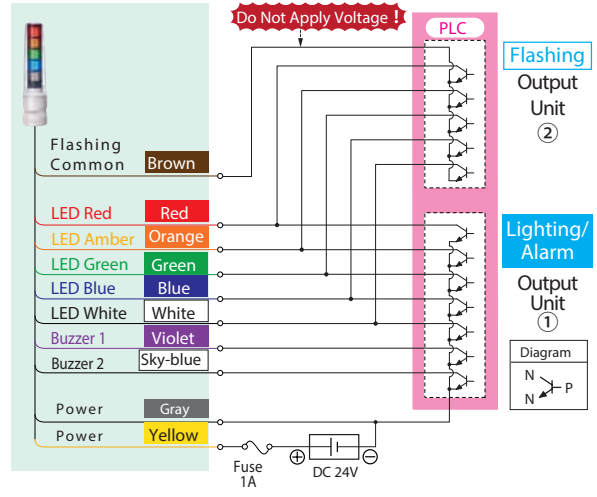
Contact Relay



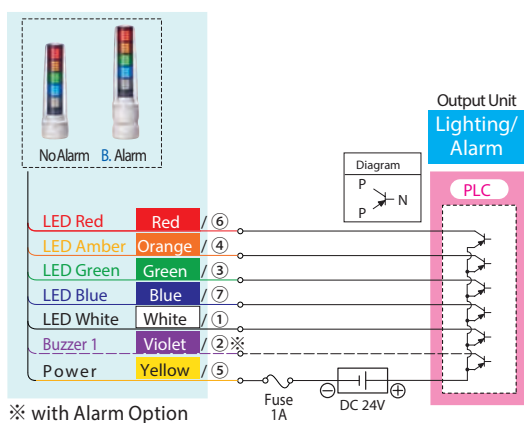
PLC (NPN Transistor)



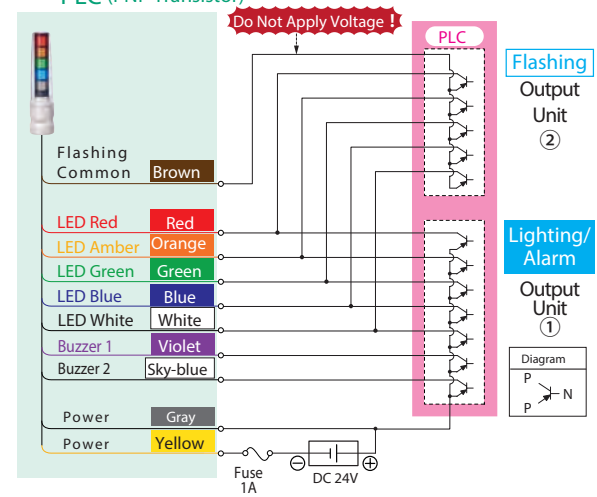
PLC (NPN Transistor)



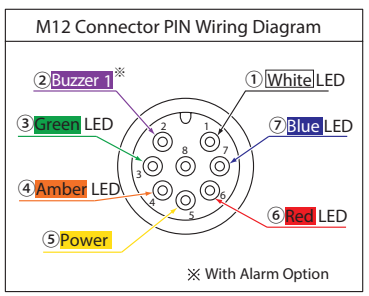
PLC (PNP Transistor)



PLC (PNP Transistor)



※ with Alarm Option



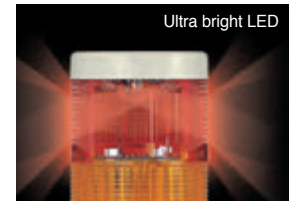
Note: When connecting the PLC outputs for illumination and flashing functions, the wiring (Common Wires) has to be separate between the flashing and non-flashing circuits.

PATLITE's LU5 & LU7 Series signal towers deliver the advantages of superior LED technology, innovative design, and the convenience of modular assembly with only 9 basic modular components to meet just about every indicating need.



Ultra Bright LEDs combined with an Innovative Prism Lens Design

Allows the light emitted from the signal tower to be seen from greater distances. This also allows for use of a smaller diameter light, reducing the cost of the light tower.



Color-coordinated & Spring-loaded Terminal Block

Makes wiring easy and more reliable compared to screw-type connections. Each color corresponds to the color of the LED module to be used.



Wiring Terminals

Two user-selectable Alarms Integrated in the Base Module

Allows sound to enhance the critical nature of a visual signal, bringing more attention to certain conditions. Also, since the modules are built into the base, up to 5 LED modules can be used on the light tower.



Delivers Sounds up to 90dB (at 1 m)

Alarm can be easily heard over ambient noise.

Modular Design

Makes it easy to configure and assemble a light tower. Modules can be put away before shipping the machine, reducing shipping and crate costs.



Modular Construction

O-rings

Seal out liquids so that the tower achieves an IP65 rating allowing the tower to be used in wet conditions.



IP65 Protection

IP65 & IP66 with Optional Cable Gland

The O-rings seal the tower from liquids so that an IP65 rating can be achieved to allow the tower to be used in wet environments. Adding a Cable Gland (user supplied) the tower's IP rating is increased to IP66.





LU7

Signal Tower



2 Alarm Sounds (FB Type)

IP65

Ø70

NPN/PNP Open-collector



Versatile modular Signal Tower featuring easy assembly and wiring designed for every need.

FEATURES

- PATLITE's exclusive hybrid prism-cut lens designed for enhanced visibility from any direction and distance.
- Two built-in alarms (FB type)
- Adjustable volume of up to 90dB (at 1m).
- Direct mount installation is standard; pole-mount is available with the optional mounting pole.
- Color-coordinated Terminal block corresponding to the lens colors for quick wiring and verification.
- Interchangeable LED Modules requires no re-wiring, even after installation.
- Lens is made of superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Module Colors are in Red, Amber, Green, Blue, and Clear/White.
- Available Base colors are in Black, Silver and Ivory White.
- Conforms to the CE requirements (for 24V type).
- Is a UL Recognized Component (File No. E215660).
- Product Shipped in a modular style for customer's customized assembly.

How to Order









LED Module	
LU7-E-R	
Model	Color
	R: Red
	Y: Amber
	G: Green
	B: Blue
	C: White/Clear
Unit	
E : LED Unit	
XE: Strobe Unit	

Long Base Unit		Short Base Unit	
LU7-02UFB		LU7-02SUFB	
Model	Type	Model	Type
	Blank: Continuous light		Blank: Continuous light
	FB: Flashing/ Alarm		FB: Flashing/ Alarm
Rated Voltage		Rated Voltage	
O2: DC 24V		O2: DC 24V	
M2: AC 100 - 240V		M2: AC 100 - 240V	
Base Color		Base Color	
Blank: Ivory White		Blank: Ivory White	
U : Silver		U : Silver	
K : Black		K : Black	

Specifications (Base)

LU7 Base Units

Model	LU7-02S	LU7-02	LU7-02FB	LU7-02M2	LU7-02M2FB	Unit Color Variation			
Rated Voltage	DC 24V			AC 100 to 240V (50/60Hz)		Short Body			
Operating Voltage Range	DC 21.6 - 26.4V			AC 90 to 250V (50/60Hz)		Ivory White	Silver	Black	
Alarm	—	Buzzer 1*	Buzzer 2**	—	Buzzer 1*	Buzzer 2**			
Current Consumption	—	50±10mA	24±10mA	—	50±10mA	24±10mA			
Power Consumption	—	1.2±0.25W	0.58±0.25W	—	1.8±0.25W	1.3±0.25W			
Sound Level	—	Max: 90±5dB (at 1m) Min: 70dB or less (at 1m)		—	Max: 90±5dB (at 1m) Min: 70dB or less (at 1m)		LU7-02S	LU7-02SU	LU7-02SK
Flash Cycle	—	60±12 flashes per minute		—	60±12 flashes per minute		Standard Body		
Operating Temperature Range	-30°C to +60°C			-25°C to +55°C					
Mounting Direction	Upright, Indoor Only								
Protection Rating	IP65 (IP66 with Cable Gland***)								
Mass (±10%)	150g	250g	280g	310g	340g				
Open Collector	PNP/NPN				NPN				
									
							LU7-02/M2	LU7-02U/M2U	LU7-02K/M2K

*Buzzer 1: Continuous **Buzzer 2: Intermittent ***Cable Gland to be supplied by user

Specifications (Module)

LU7 LED Units*

Model	LU7-E-R	LU7-E-Y	LU7-E-G	LU7-E-B	LU7-E-C
Unit /LED Color	LED Unit Red	LED Unit Amber	LED Unit Green	LED Unit Blue	LED Unit White/Clear
Rated Voltage	DC 24V				
Operating Voltage Range	DC 21.6 - 26.4V				
Current/Power Consumption	52mA/1.25W		42mA/1.0W		
Operating Temperature Range	-30°C to +60°C				
Mass (±10%)	60g				

*Operates on LU7-02, LU7-02FB, LU7-M2 and LU7-M2FB Base Units

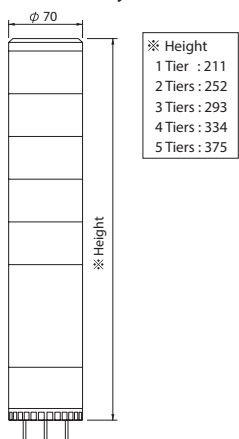
LU7 LED Strobe Units**

Model	LU7-XE-R	LU7-XE-Y	LU7-XE-G	LU7-XE-B	LU7-XE-C
Unit Color	LED Unit Red	LED Unit Amber	LED Unit Green	LED Unit Blue	LED Unit Clear/White
Rated Voltage	DC 24V				
Current Consumption	290mA		140mA	270mA	280mA
Mass (±10%)	70g				

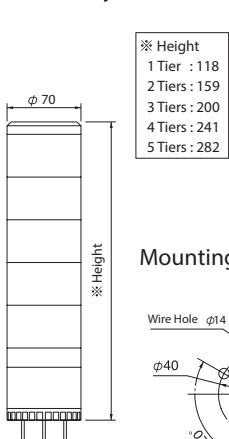
**Operates with LU7-02, LU7-02S, and LU7-02FB bases only. When using with LU7-02FB, the module should be controlled by the continuous common wire.

Dimensions (Unit: mm)

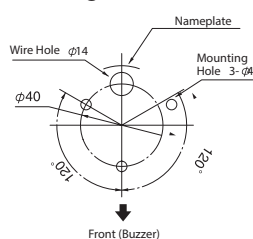
LU7
Standard Body



LU7-02S
Short Body



Mounting Dimensions



Wiring

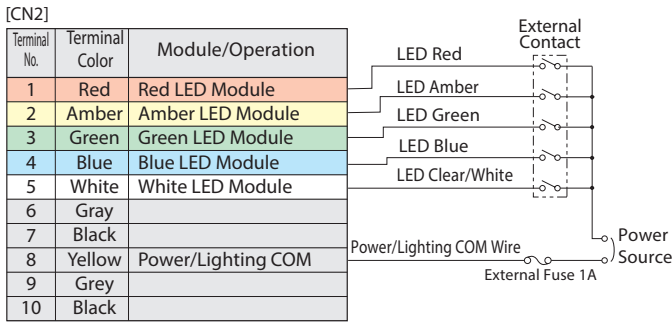
External Contact Capacity

Specifications		DC 24V	AC 100 - 240V
LED Unit (1 Unit)	Current Consumption	Red,Amber: 52mA Green,Blue,White/Clear: 42mA	
	Contact Capacity	Is≥100mA, Vs≥AC 35V	
Alarm	Current Consumption	50mA	
	Inrush Current	100mA	
	Contact Capacity	Is≥100mA, Vs≥AC 35V	
Power Supply	Current Consumption	360mA	40mA (250VAC) - 110mA (90VAC)
	Contact Capacity	Is≥500mA Vs≥AC 35V	9A (90V) - 25A (250V) Vs≥AC 250V

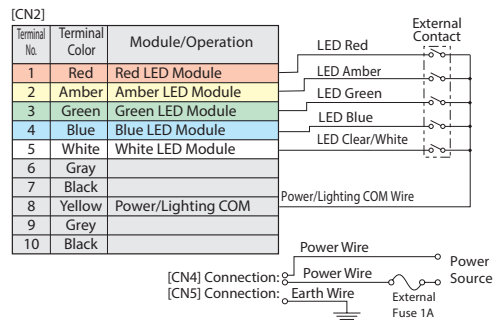
External Contact Fuse

Voltage	Fuse Amperage Rating
All Models	250V, 1A

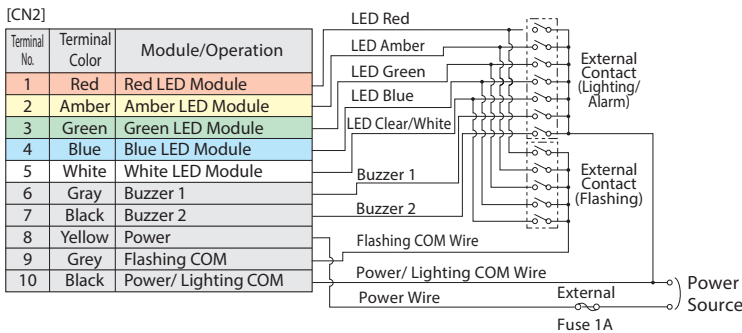
AC/DC 24V Lighting Type



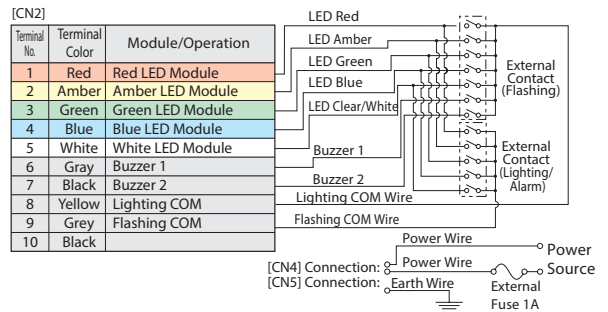
AC Power Lighting Type



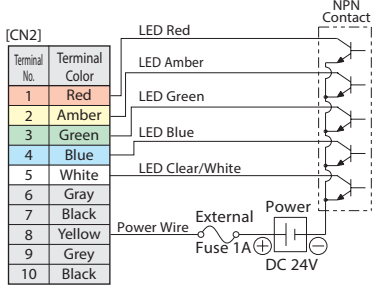
AC/DC 24V Lighting/Flashing Type



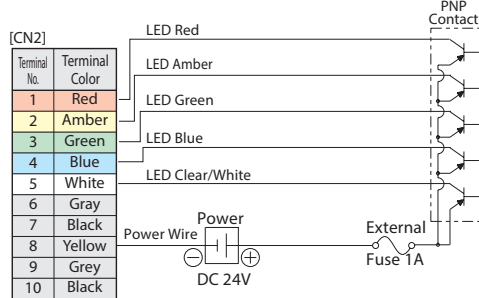
AC Power Lighting/Flashing Type



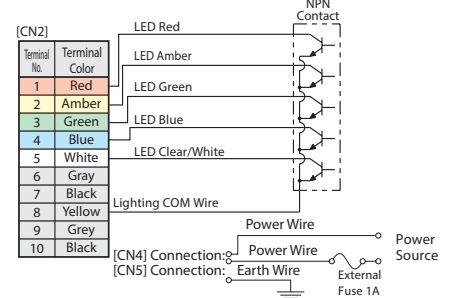
DC 24V NPN Type



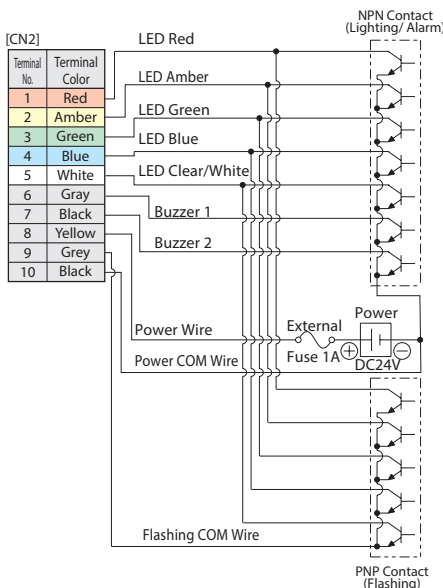
DC 24V PNP Type



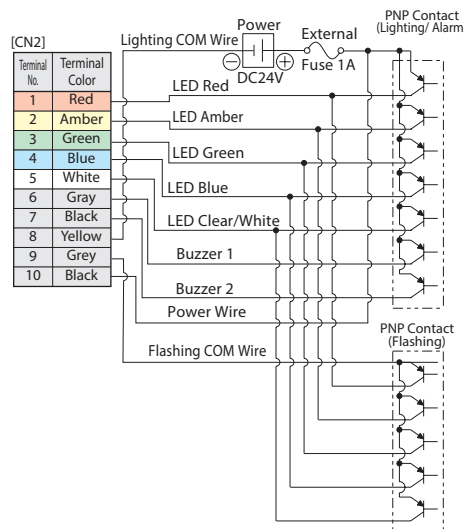
AC Power NPN Type



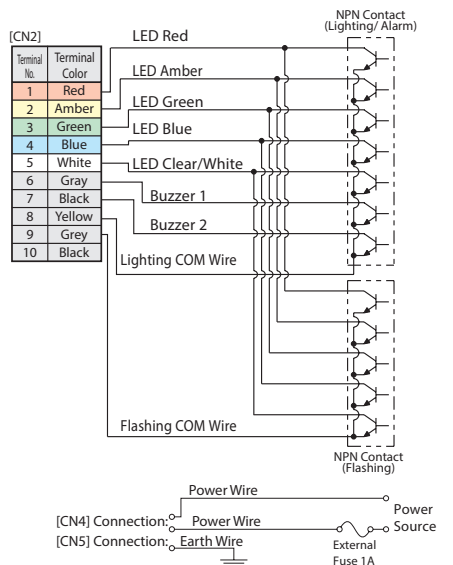
DC 24V NPN FB Type

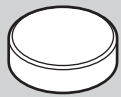


DC 24V PNP FB Type

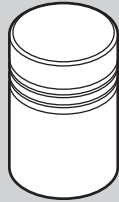


AC Power NPN FB Type





Voice and Alarm Module



Model	LU7-LB	LU7-V1
Type	Alarm Module	Voice Synthesizer Module
Rated Voltage	24V DC	24V DC
Power Consumption	3.6W	3.5W
Mass (±10%)	140g	170g



LED Units



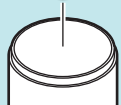
Model	LU7-E-R	LU7-E-Y	LU7-E-G	LU7-E-B	LU7-E-C
Unit Color					
Rated Voltage	24V DC				
Operating Voltage Range	Rated Voltage±10% (21.6 ~ 26.4V)				
Current/Power Consumption	52mA/1.25W		30mA/0.72W		
Operating Temperature Range	-30°C ~ +60°C				
Mass (±10%)	60g				



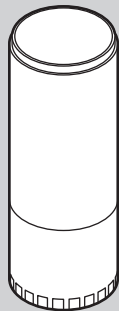
LED Strobe Module



Model	LU7-XE-R	LU7-XE-Y	LU7-XE-G	LU7-XE-B	LU7-XE-C
Unit Color					
Rated Voltage	24V DC				
Power Consumption	290mA	290mA	140mA	270mA	280mA
Mass (±10%)	70g				



Base Units



Standard Body



Short Body



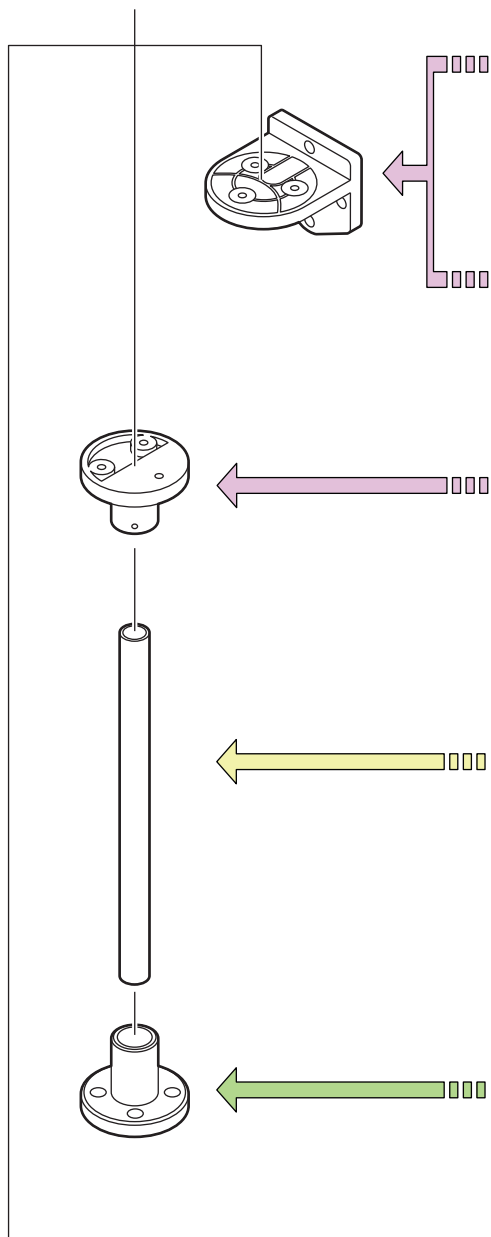
Model	LU7-02S	LU7-02	LU7-02FB	LU7-M2	LU7-M2FB
Color					
Base Type	Short	Standard		Standard	
Rated Voltage	24V DC			90 ~ 250V (50/60Hz)	
Operating Voltage Range	Rated Voltage±10% (21.6 ~ 26.4V)			90 ~ 250V (50/60Hz)	
Alarm	-	*Buzzer 1	**Buzzer 2	-	*Buzzer 1 **Buzzer 2
Current Consumption	-	50±10mA	24±10mA	-	50±10mA 24±10mA
Power Consumption	-	1.2±0.25W	0.58±0.25W	-	1.8±0.25W 1.3±0.25W
Sound Level	-	Max:90±5dB (at 1m) Min:70dB or Less (at 1m)		-	Max:90±5dB (at 1m) Min:70dB or Less (at 1m)
Flashing Cycle	-	60±12 flashes per minute		-	60±12 flashes per minute
Operating Temperature Range	-30°C ~ +60°C			-25°C ~ +55°C	
Mounting Direction	Upright, Indoor only			Upright, Indoor only	
Protection Rating	IP65			IP65	
Mass (±10%)	150g	250g	280g	310g	340g
Open Collector	PNP/NPN			NPN	

* Buzzer 1 : Continuous Sound **Buzzer 2 : Intermittent Sound

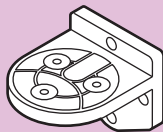


Optional Parts

Optional Parts

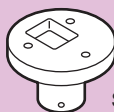


Wall Mount Bracket



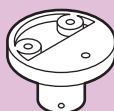
Model	SZ-18	SZ-18U	SZ-18K
Color	Ivory White	Silver (U)	Black (K)

Upper Bracket



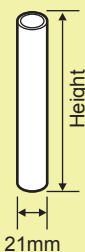
SZ-50NPT (For 1/2" NPT Pole)

Upper Bracket



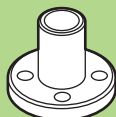
Model	SZ-50-U	SZ-50U-U	SZ-50K-U
Color	Ivory White	Silver (U)	Black (K)

Pole

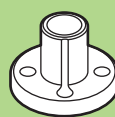


Pole	Length		
	800mm	300mm	100mm
Aluminum Pole			
Model	POLE-800A21	POLE-300A21	POLE-100A21
Steel Pole			
Model	POLE-800S21	POLE-300S21	POLE-100S21
Black Pole			
Model	POLE-800B21	POLE-300B21	POLE-100B21

Mounting Bracket



SZ-016A
(For φ21.7mm Pole)



SZ-70-B
(For φ21.7mm Aluminium Pole Only)

Wall Mount Bracket

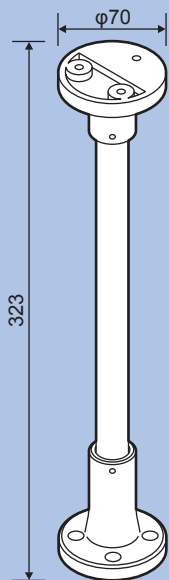


SZ-020
(For φ21.7mm Pole)

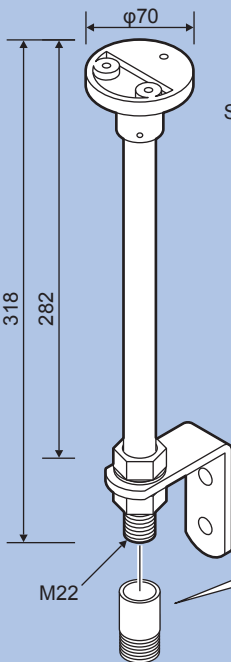


SZ-017
(For φ21.7mm Pole)

Pre-assembled



SZ-50T



SZ-50L

Adaptor



SZ-904

For 3/4" NPT



LU7-V1

Signal Tower



- 4 Messages (MP3)
- 80dB at 1m
- IP65
- Ø70
- NPN Open-collector

Omni-directional MP3 Smart Alert Module (LU7-V1)

FEATURES

- Volume adjustable from 9dB to 80dB at 1m (depends on type of sound or message)
- High quality MP3 supported voice and sound module replays up to 4 alarms or messages with 32 seconds of total program time
- Playback sound selected by the position of internal jumper pin
- MP3 data is recorded before shipment of order
- CE compliant

Stackable audible alarm

- Can be used with LU7-02(FB), LU7-M2(FB), and LU7-02S(B).
- Easily mounted at the top of the light stack.

Diagram 1. Sound Direction

How to Order

LED Sound Module

LU7-V1

Model Unit

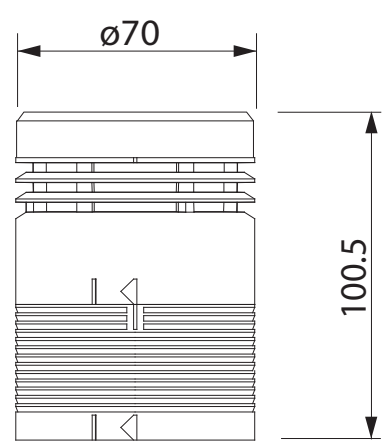
V1: Voice Module

Selectable playback sound

• The jumper position determines the sound

LU7-V1

Dimensions (Unit: mm)



Specifications

Model	Type	Rated Voltage	Rated Current	Power Consumption	Mass
LU7-V1	MP3 Sound Alarm	DC 24V	-	3.5W	170g

LU7-XE

Signal Tower



LED



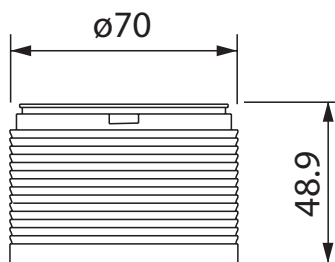
Φ70

Stackable LED strobe module saves energy and requires low maintenance.

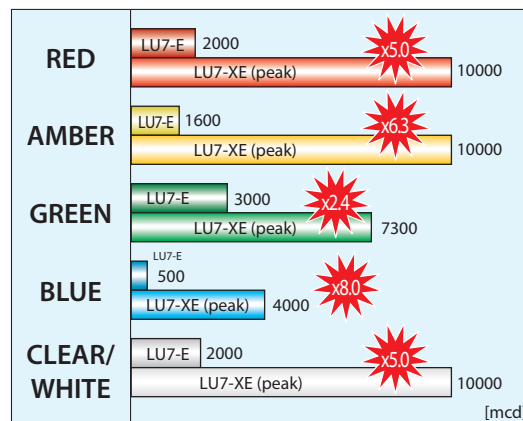
FEATURES

- Application* can be used with the LU7 Series Signal Tower.
 - A visually stunning double-flash light pattern for immediate attention.
 - Incorporates super-bright LED technology for enhanced visibility.
 - Easily stackable and interchangeable, before or after installation.
 - Has the CE mark and conforms to the requirements for the EC directive.
 - Is UL Listed (File No. E215660) for use with LU7-02 and LU7-02FB.
- (1) For use with LU7-02, LU7-02S, and LU7-02FB bases only.
 Note: When using with LU7-02FB, the module should be controlled by the continuous common wire.

Dimensions (Unit: mm)



Brightness Comparison



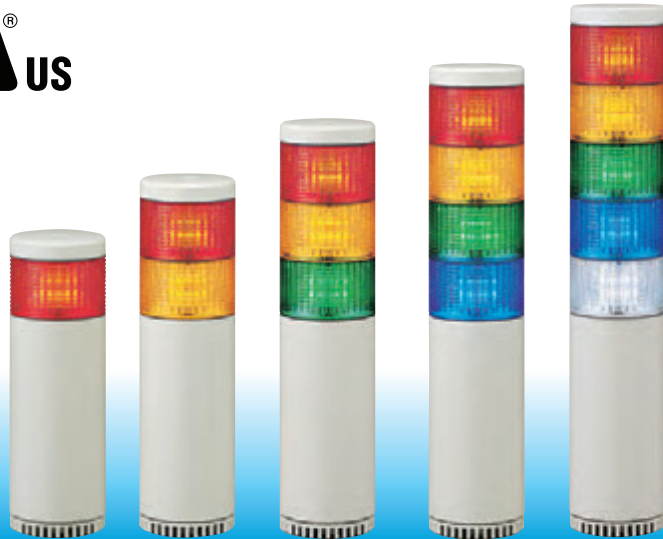


LHE-A

Signal Tower



- LED**
- 2 Alarm Sounds** (FB Type)
- 90dB at 1m** (FB Type)
- IP65** (FB Type:IP54)
- Ø70**
- NPN Open-collector**



Adjustable Volume (Max. 90dB at 1m)

The Signal Tower with a water resistant design for wet environments.



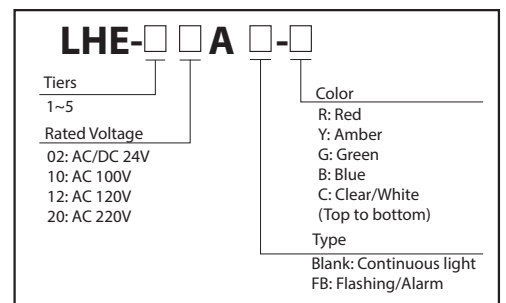
Dual Reflection System

PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and five color LED modules, creates a bright and evenly distributed illumination.

FEATURES

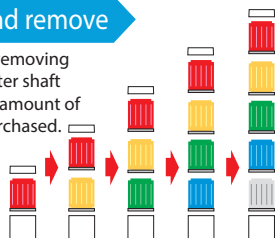
- Original LED reflection system to improve brightness and provide maintenance-free operation.
- Two built-in alarms (FB type)
- Adjustable volume of up to 90dB (at 1m).
- Direct mount installation is standard; pole-mount is available with the optional mounting pole.
- Interchangeable Modules need no re-wiring, even after installation.
- Lens is made of superior impact and heat resistant AS resin for superior durability and light transmission.
- Available colors are in Red, Amber, Green, Blue, and Clear/White.
- Has the CE mark and conforms to the requirements for the EC directive. (for 24V type)
- Is a UL Recognized Component (File No. E215660, for 24V type only).

How to Order



Easy to add and remove

- When adding or removing modules, the center shaft that matches the amount of tiers has to be purchased.



Interchangeable LED Modules

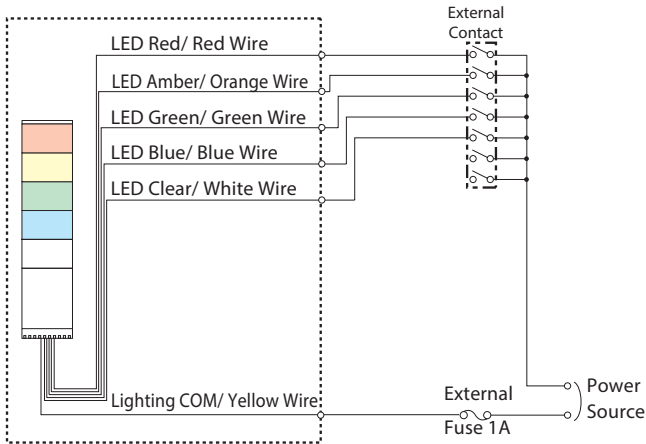
- Changeable color sequence: Easy to add/remove up to 5 colored modules even after installation.
Note: LED modules of the same color within a signal tower will light up simultaneously.



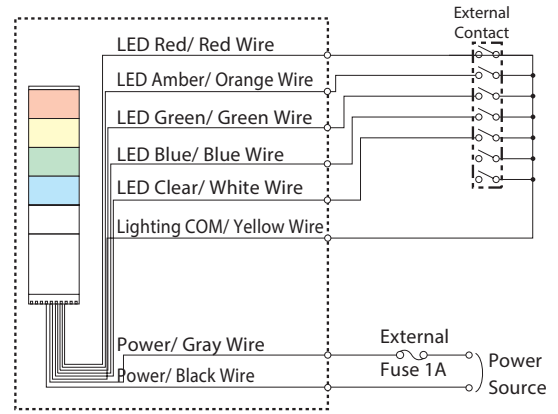
Wiring doesn't change

- The LED Module colors correspond to the wiring, so re-wiring is not necessary.

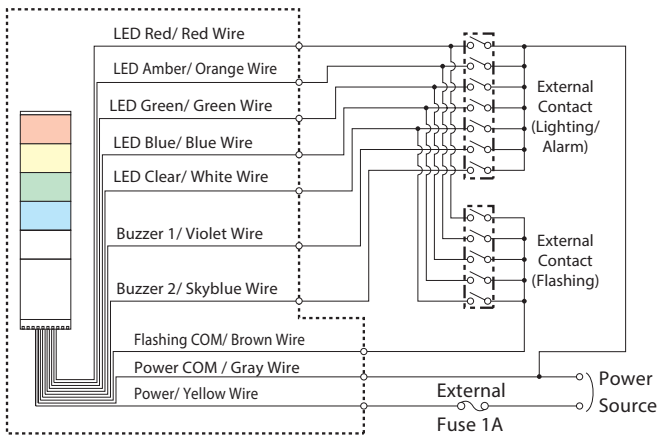
AC/DC 24V Lighting Type



AC Power Lighting Type



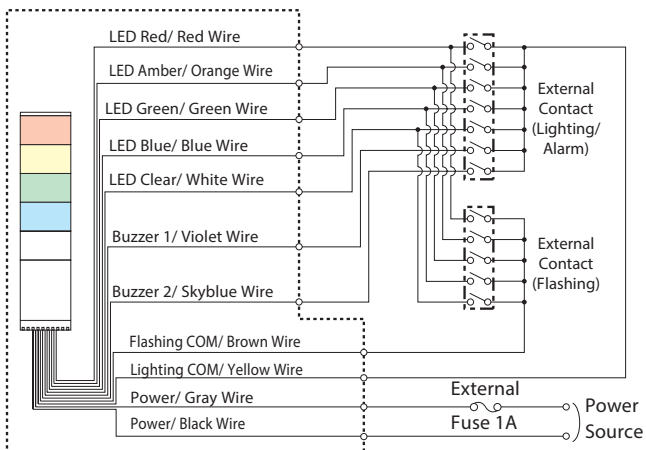
AC/DC 24V Lighting/Flashing Type



Signal Line voltage and current per LED Module

Rated Voltage	Signal Line Voltage	LED		Alarm	
		R, Y	G, C, B	Signal Line Current	Inrush Current
AC/DC 24V	AC/DC 24V	50mA	40mA	40mA	150mA
AC 100V	DC 24V	50mA	40mA		
AC 120V					
AC 220V					

AC Power Lighting/Flashing Type



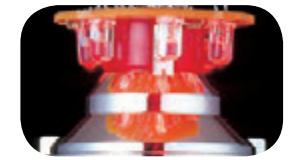
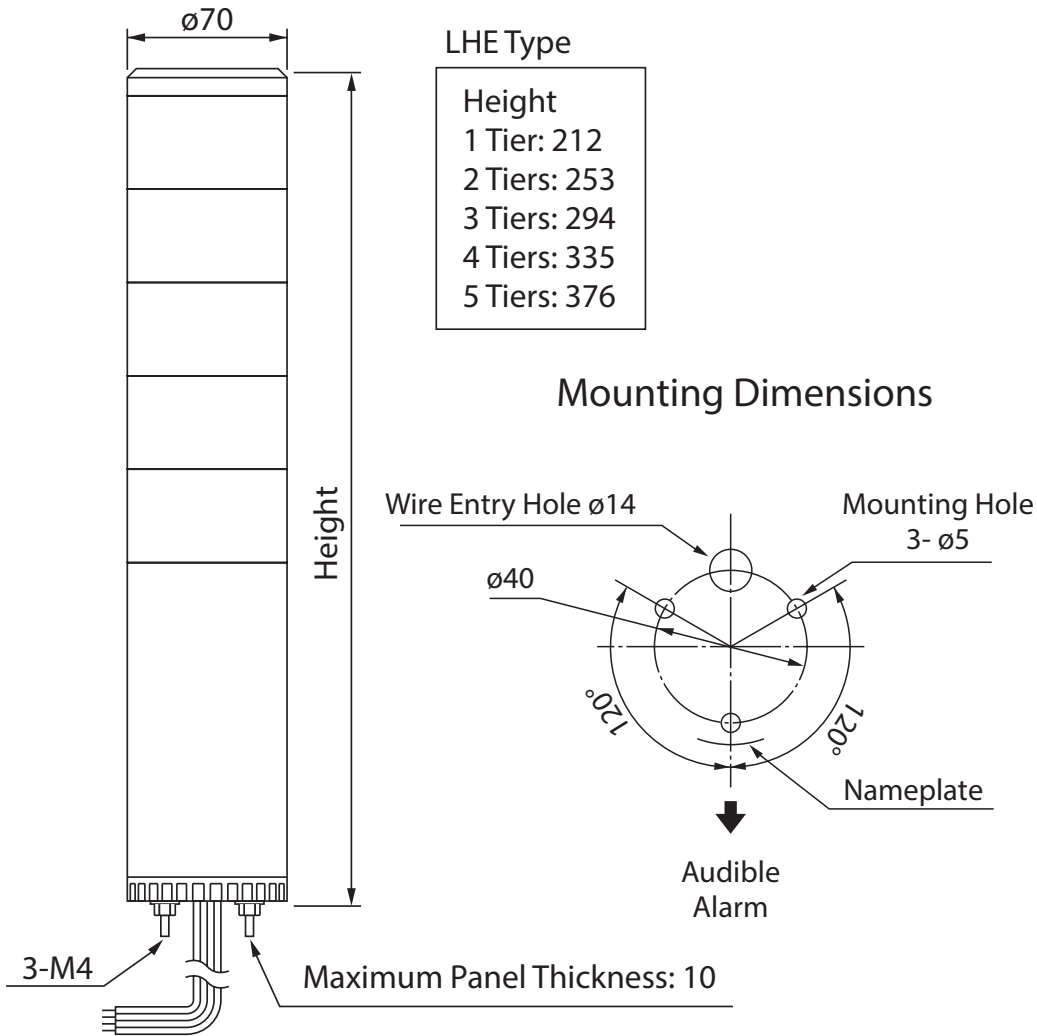
Lead-wire color coordination table

LED Unit Color	Lead Wire Color
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

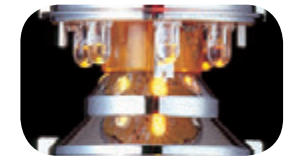
Alarm Sounds	Lead Wire Color
Buzzer 1	Purple
Buzzer 2	Skyblue

Dimensions (Unit: mm)

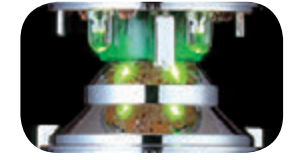
"Super Bright" LED provides the highest level of visibility.



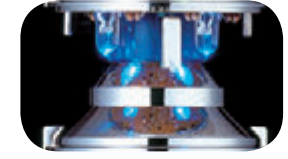
RED



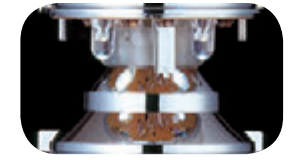
AMBER



GREEN



BLUE



CLEAR/WHITE

Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass
1 Tier	LHE -102A/AFB	AC/DC 24V	2.2W	400g
	LHE -110A/AFB	AC 100V	4.7W	650g
	LHE -112A/AFB	AC 120V		
	LHE -120A/AFB	AC 220V		
2 Tiers	LHE -202A/AFB	AC/DC 24V	3.4W	450g
	LHE -210A/AFB	AC 100V	6.4W	700g
	LHE -212A/AFB	AC 120V		
	LHE -220A/AFB	AC 220V		
3 Tiers	LHE -302A/AFB	AC/DC 24V	4.4W	500g
	LHE -310A/AFB	AC 100V	7.9W	750g
	LHE -312A/AFB	AC 120V		
	LHE -320A/AFB	AC 220V		
4 Tiers	LHE -402A/AFB	AC/DC 24V	5.4W	550g
	LHE -410A/AFB	AC 100V	9.4W	800g
	LHE -412A/AFB	AC 120V		
	LHE -420A/AFB	AC 220V		
5 Tiers	LHE -502A/AFB	AC/DC 24V	6.4W	600g
	LHE -510A/AFB	AC 100V	10.9W	850g
	LHE -512A/AFB	AC 120V		
	LHE -520A/AFB	AC 220V		



- LED**
- 1 Alarm Sound** (FB Type)
- 85dB** at 1m
- IP54**
- Ø100**
- NPN/PNP**
Open-collector

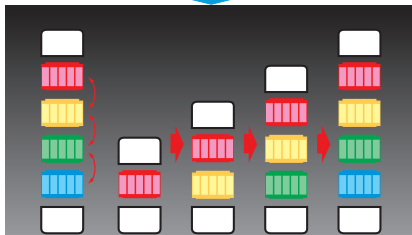
Large Signal Tower featuring enhanced visibility and downward illumination, designed for large machines.

Triple Reflection System



PATLITE's triple-reflection system creates an even brighter and distinctive illumination with its exclusive hybrid prism-cut lens for 5 color LED module variations.

Interchangeable LED Modules



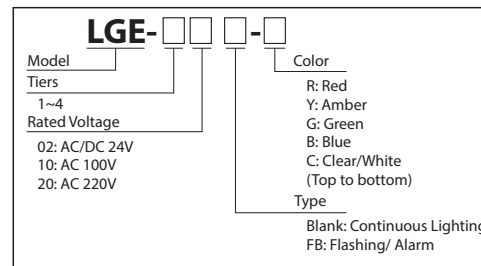
LED Tiers are changeable, even after installation.

Note: Shafts that match the number of tiers also has to be purchased.

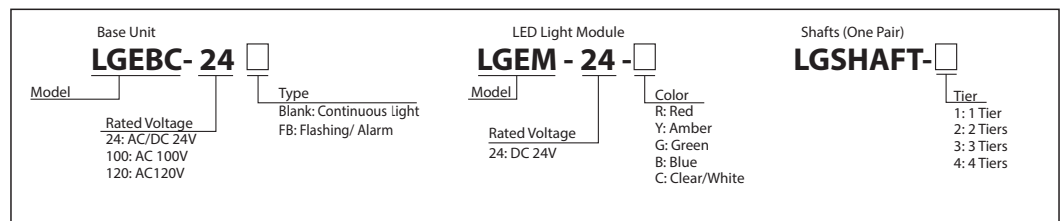
FEATURES

- PATLITE's large prism cut lens to enhance illumination in the downward direction. (Lens Size: ϕ 100mm x 60mm high)
- The FB type offers a flashing and continuous lighting pattern.
- A built-in buzzer (FB type) has a sound of up to 85dB (at 1m).
- Direct mount Installation.
- Interchangeable Modules need no re-wiring, even after installation.
- Lens is made of superior impact and heat resistant polycarbonate resin for superior durability and illumination.
- Both NPN and PNP compatible for the DC24V type; NPN compatible with the AC 100/220V type only.
- Available Colors are in Red, Amber, Green, Blue, and Clear/White.
- Has the CE mark and conforms to the requirements for the EC directive. (for 24V type)

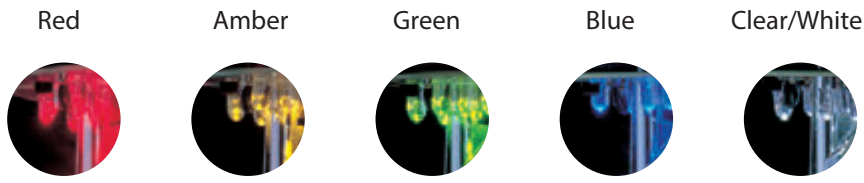
How to Order (Pre-assembled)



How to Order (Module)



5 "Super Bright" LED Colors to choose from!



Specifications (Pre-assembled)

(No Alarm)				
Light System	Model	Rated Voltage	Power Consumption	Mass
1 Tier	LGE-102	AC/DC 24V	2.0W	0.4kg
	LGE-110	AC 100V	5.2W	1.0kg
	LGE-120	AC 220V		
2 Tiers	LGE-202	AC/DC 24V	4.0W	0.6kg
	LGE-210	AC 100V	7.7W	1.2kg
	LGE-220	AC 220V		
3 Tiers	LGE-302	AC/DC 24V	6.0W	0.8kg
	LGE-310	AC 100V	10.2W	1.4kg
	LGE-320	AC 220V		
4 Tiers	LGE-402	AC/DC 24V	8.0W	0.9kg
	LGE-410	AC 100V	12.7W	1.5kg
	LGE-420	AC 220V		

Alarm Type (Intermittent Rate: ab. 60 beeps per min)				
Light System	Model	Rated Voltage	Power Consumption	Mass
1 Tier	LGE-102FB	AC/DC 24V	2.5W	0.4kg
	LGE-110FB	AC 100V	5.7W	1.0kg
	LGE-120FB	AC 220V		
2 Tiers	LGE-202FB	AC/DC 24V	4.5W	0.6kg
	LGE-210FB	AC 100V	8.2W	1.2kg
	LGE-220FB	AC 220V		
3 Tiers	LGE-302FB	AC/DC 24V	6.5W	0.8kg
	LGE-310FB	AC 100V	10.7W	1.4kg
	LGE-320FB	AC 220V		
4 Tiers	LGE-402FB	AC/DC 24V	8.5W	0.9kg
	LGE-410FB	AC 100V	13.2W	1.5kg
	LGE-420FB	AC 220V		

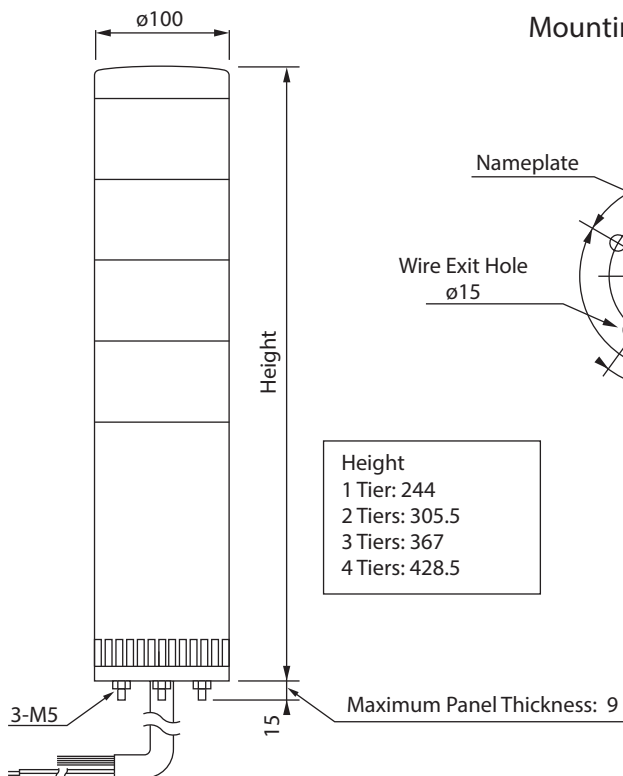
Specifications (Modules)

Light Unit	Color	Rated Voltage	Power Consumption
LGEM24-R	RED	AC/DC 24V	2.0W
LGEM24-Y	AMBER		
LGEM24-G	GREEN		
LGEM24-B	BLUE		
LGEM24-C	CLEAR		

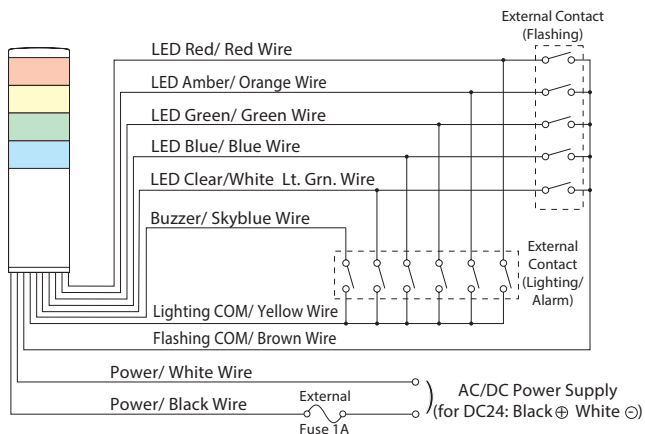
Power Unit	Rated Voltage	Operation
LGEBC-100	AC 100V	Continuous
LGEBC-120	AC 120V	
LGEBC-24	AC/DC 24V	
LGEBC-100FB	AC 100V	Continuous/ Flashing/Alarm
LGEBC-120FB	AC 120V	
LGEBC-24FB	AC/DC 24V	

Part No.	Light Units per Base
LGSHAFT-1	1
LGSHAFT-2	2
LGSHAFT-3	3
LGSHAFT-3	3
LGSHAFT-4	4

Dimensions (Unit: mm)



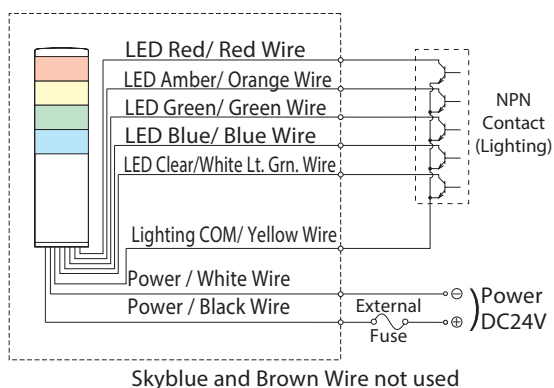
AC/DC 24V Lighting/Flashing Type



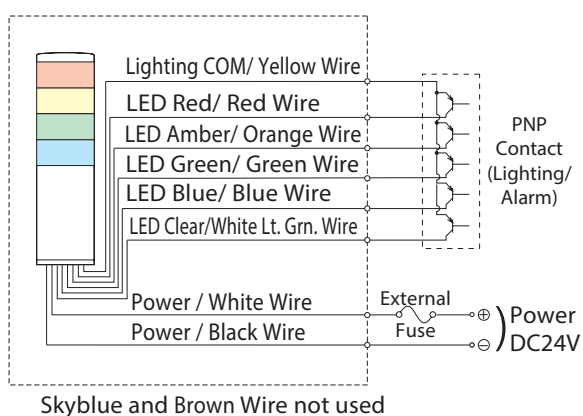
Signal Line voltage and current per LED Module

Model	Rated Voltage	Signal Line Voltage	LED		
			Signal Line Current	Alarm Signal Line Current	Inrush Current
LGE-A	AC/DC 24V	AC/DC 24V	90mA	20mA	250mA
LGE-A	AC 100	DC 24V			
LGE-A	AC 220V				

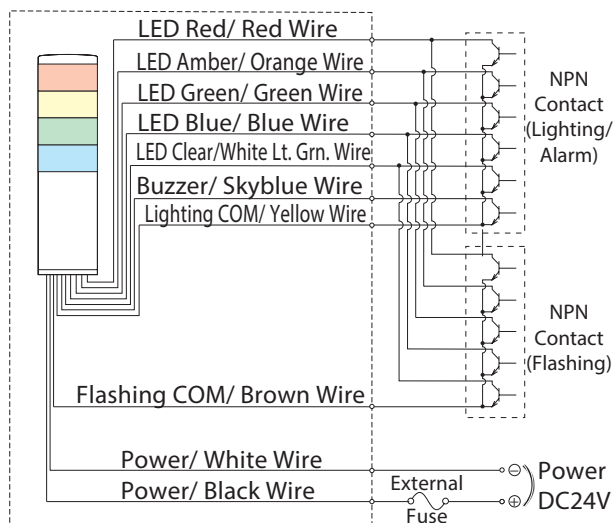
DC 24V NPN Type



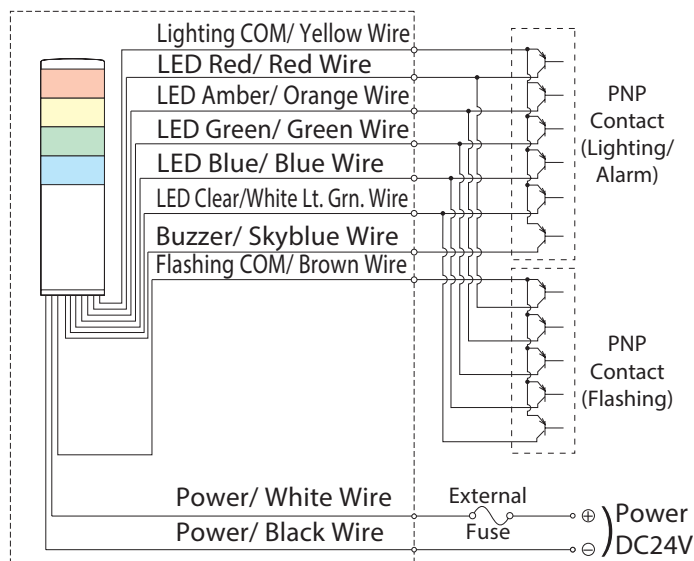
DC 24V PNP Type



DC 24V NPN FB Type



DC 24V PNP FB Type



WE/WEP

Signal Tower



LED



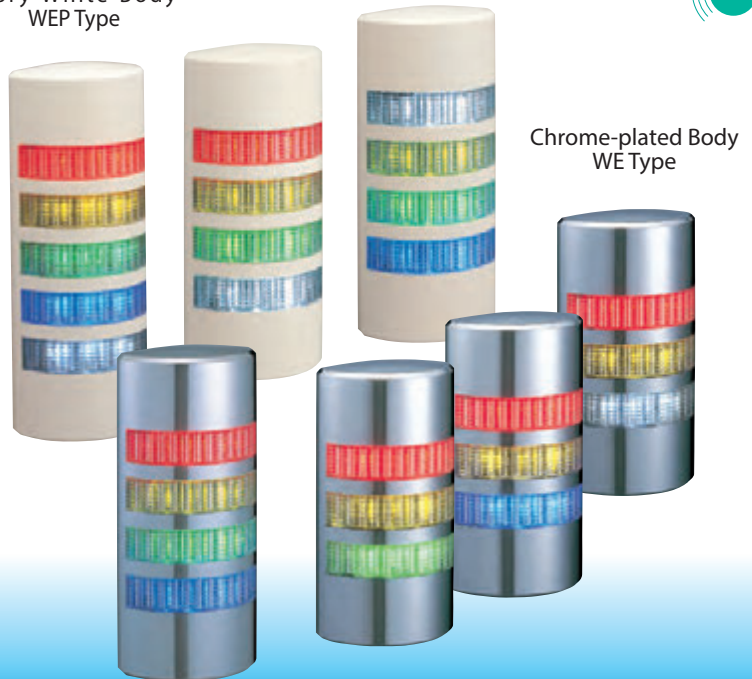
2 Alarm Sounds (FB Type)

90dB at 1m (FB Type)

IP65 (FB Type: IP54)

NPN/PNP
Open-collector

Ivory White Body
WEP Type



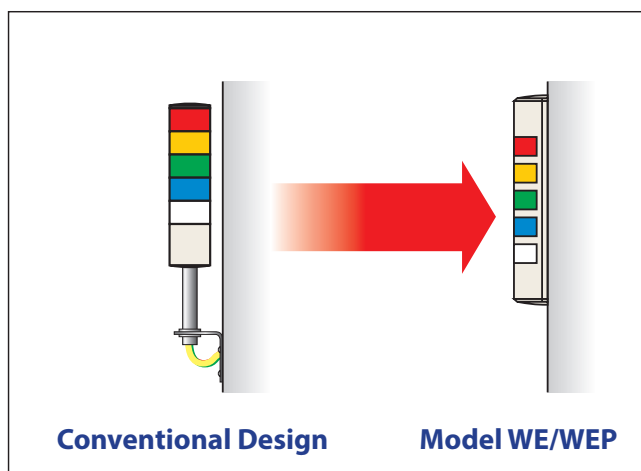
Chrome-plated Body
WE Type

Ultra slim half-moon shaped Signal Tower offers seamless integration with most equipment.

FEATURES

- Clear vertical-cut lens for enhanced illumination over a wide perspective.
- Has an optional built-in audible alarm (FB type) with an output of 90dB (at 1m).
- Installation can be vertical or horizontal.
- Two body color selections of chrome plated or ivory white.
- Lens made of superior impact and heat resistant polycarbonate resin for superior durability and enhanced illumination.
- Both NPN and PNP Compatible for direct connection to a PLC (24V DC ONLY)
- Two lighting patterns of flashing and continuous lighting.
- Dust and water resistance rating of IP65 (except for FB type: IP54).
- Available colors are in Red, Amber, Green, Blue, and Clear/White.
- Has the CE mark and conforms to the requirements for the EC directive.
- Is a UL Recognized Component (File No. E215660).

37.5mm Super-thin Design!

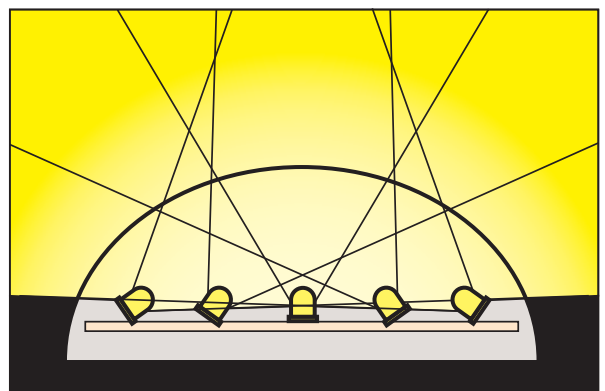


Conventional Design

Model WE/WEP

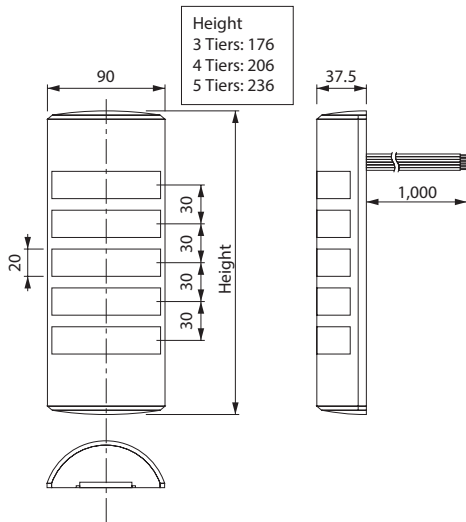
Patlite has perfected a 37.5mm-thin design that significantly enhances integration with the equipment as a built-in signal system.

Exclusively New LED Lighting Design

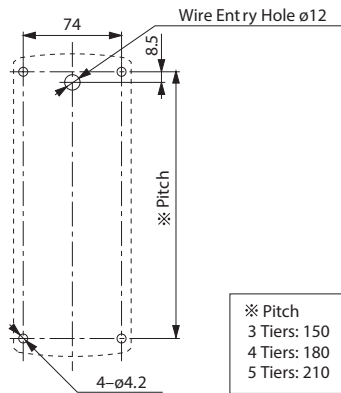


Patlite has created a revolutionary patented lighting design in which multiple LEDs project light across a broad peripheral area, ensuring equal intensity at the sides as well as the front. This design, with its side-projection technology, is a unique achievement in signal light design.

Dimensions (Unit: mm)

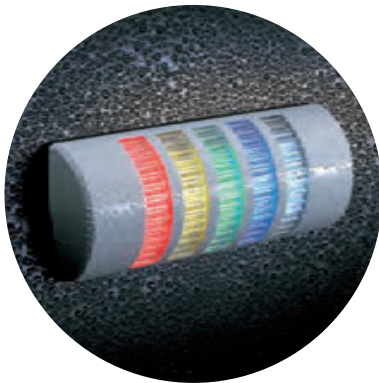
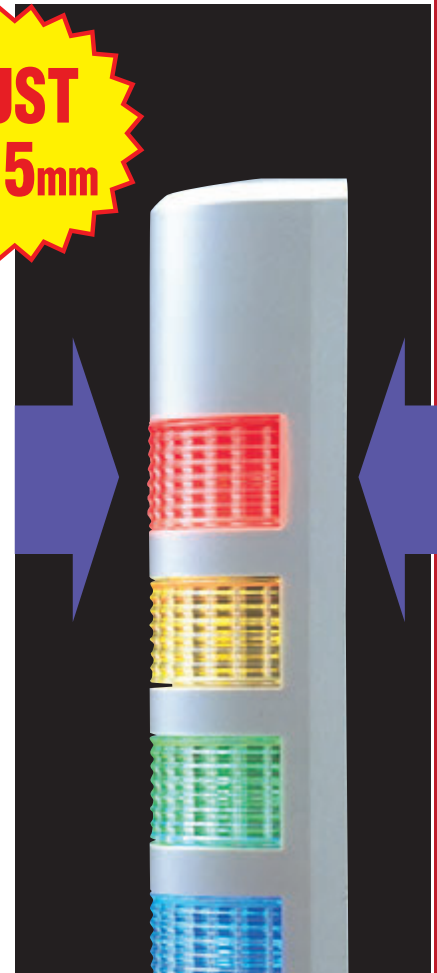


Mounting Dimensions



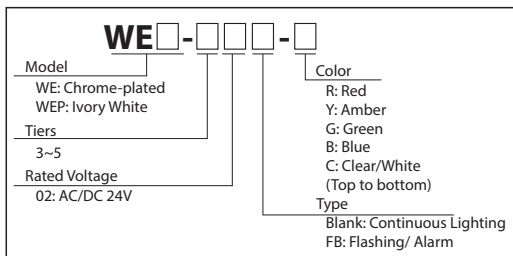
※ Pitch
3 Tiers: 150
4 Tiers: 180
5 Tiers: 210

JUST 37.5mm



IP65 construction is safe for installation in damp locations and dusty factory environments.

How to Order



Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass
3 Tiers	WE(P)-302	AC/DC 24V	1.7W	260g
	WE(P)-302FB		2.7W	300g
4 Tiers	WE(P)-402		2.0W	310g
	WE(P)-402FB		3.2W	350g
5 Tiers	WE(P)-502		2.7W	310g
	WE(P)-502FB		3.7W	350g

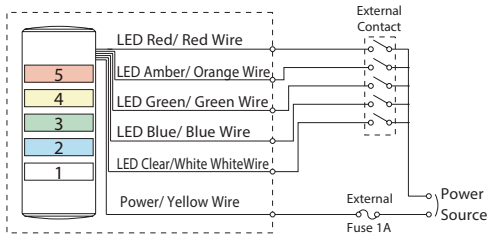
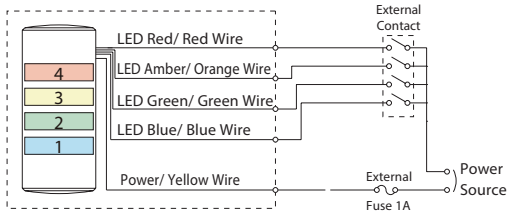
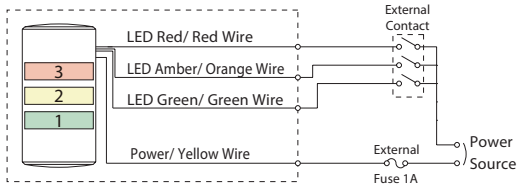
Alarm Sounds	Lead Wire Color
Buzzer 1	Purple
Buzzer 2	Skyblue

Signal Line voltage and current per LED Module

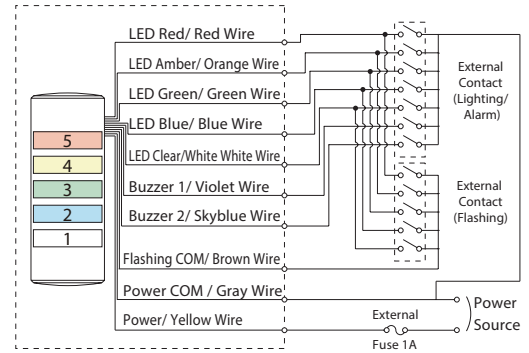
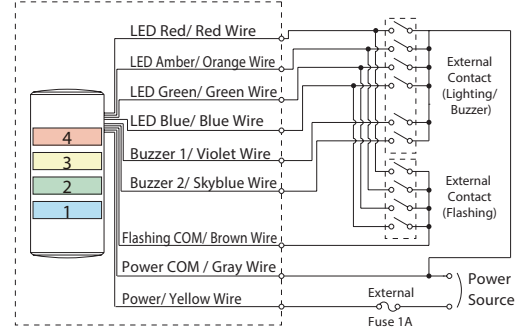
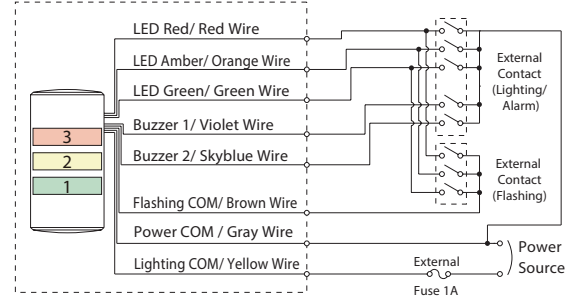
Model	Rated Voltage	Signal Line Voltage	LED		Alarm	
			Signal Line Current		Signal Line Current	Inrush Current
			R, Y	G, B, C		
WE/WEP	AC/DC 24V	AC/DC 24V	30mA	25mA	40mA	250mA

Wiring

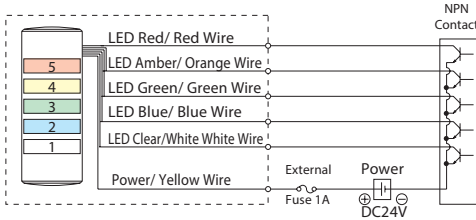
AC/DC 24V Lighting Type



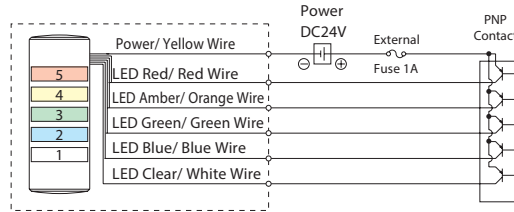
AC/DC 24V Lighting/Flashing Type



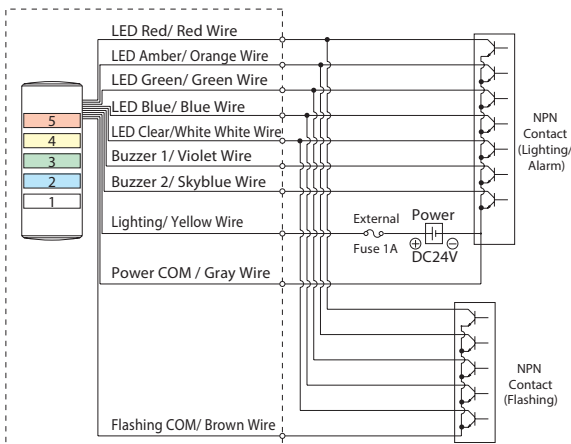
DC 24V NPN Type



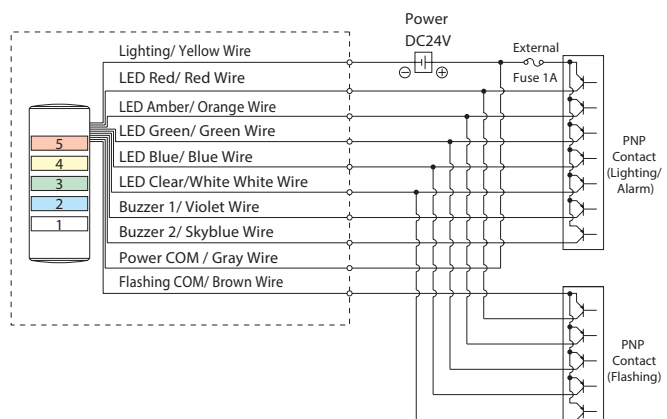
DC 24V PNP Type



DC 24V NPN FB Type



DC 24V PNP FB Type





WME-A

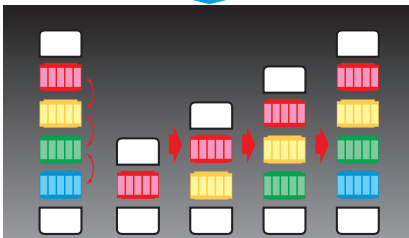
Signal Tower



- LED
- 2 Alarm Sounds (FB Type)
- 90dB at 1m
- IP65 (FB Type:IP54)
- W70 D80
- NPN/PNP Open-collector

Exclusive wall-mount design saves space and enhances its integral appearance.

Interchangeable LED Modules



LED Tiers are changeable, even after installation.

Note: Shafts that match the number of tiers also has to be purchased.

FEATURES

- Built-in audible alarm (FB type)
- Volume output of up to 90dB (at 1m).
- Easy vertical or horizontal installation when used with mounting brackets.
- Interchangeable Modules need no re-wiring, even after installation.
- Install as an option with a compatible household switch box (JISC 8336 with 82.5m pitch).
- Main body is made of ABS resin.
- Lens is made with superior impact and heat resistant polycarbonate resin for superior durability and illumination.
- Compatible for use with NPN or PNP controlled inputs (24V DC type ONLY).
- Available Colors are in Red, Amber, Green, Blue, and Clear/White.
- Has the CE mark and conforms to the requirements for the EC directive.
- Is a UL Recognized Component (File No. E215660).

AVAILABLE BY SPECIAL ORDER

- 1 Tier Type
- Individual module control for single color

5 "Super Bright" LED Colors to choose from!

Red



Amber



Green



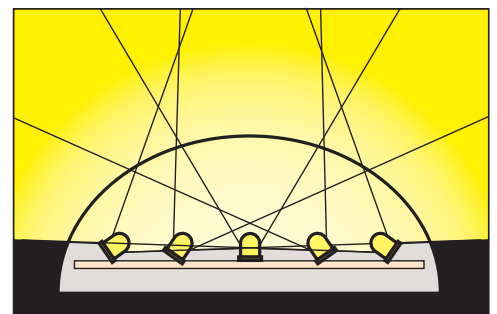
Blue



Clear/White

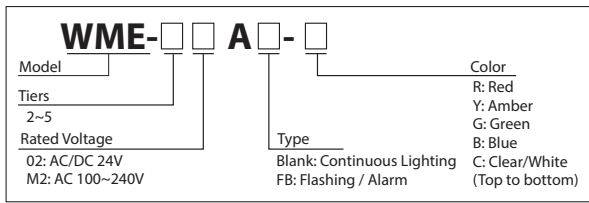


Exclusively New LED Lighting Design



Patlite has created a revolutionary patented lighting design in which multiple LEDs project light across a broad peripheral area, ensuring equal intensity at the sides as well as the front. This design, with its side-projection light technology, is a unique achievement in signal light design.

How to Order



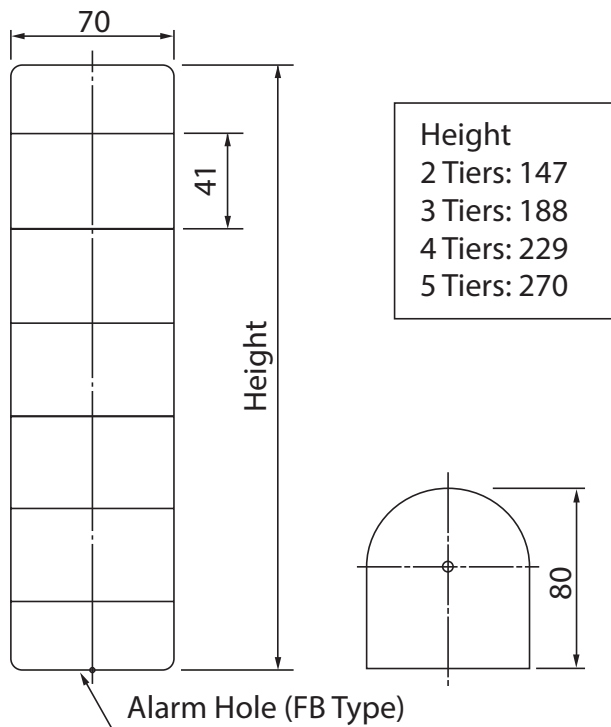
Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Mass
2 Tiers	WME-202A	AC/DC 24V	2.7W	390g
	WME-2M2A	AC 100 - 240V	4.6W	460g
3 Tiers	WME-302A	AC/DC 24V	3.3W	470g
	WME-3M2A	AC 100 - 240V	6.0W	540kg
4 Tiers	WME-402A	AC/DC 24V	4.4W	550g
	WME-4M2A	AC 100 - 240V	8.0W	620g
5 Tiers	WME-502A	AC/DC 24V	5.5W	630g
	WME-5M2A	AC 100 - 240V	10.0W	700g

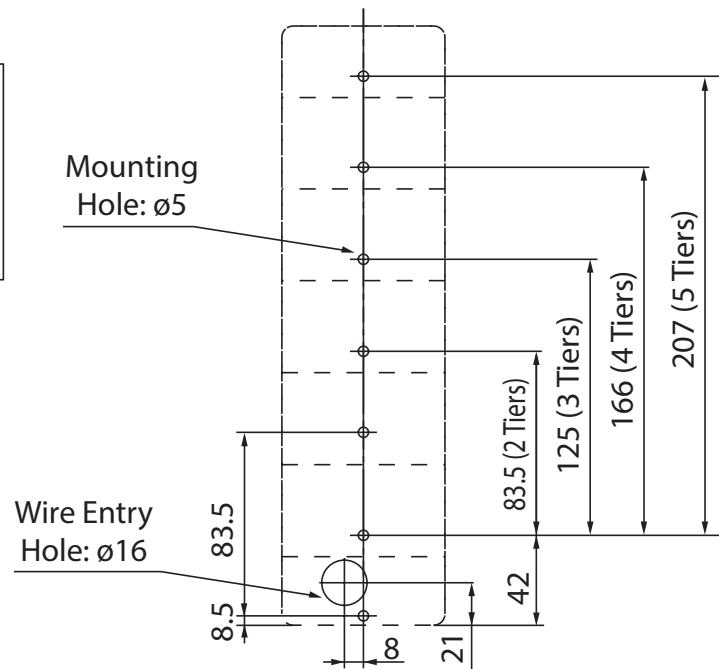
Signal Line voltage and current per LED Module

Model	Rated Voltage	Signal Line Voltage	LED		Alarm	
			Signal Line Current		Signal Line Current	Inrush Current
			R, Y	G, B, C		
WME-A	AC/DC 24V	AC/DC 24V	35mA	50mA	40mA	250mA
	AC 100V - 240V	DC 24V				

Dimensions (Unit: mm)



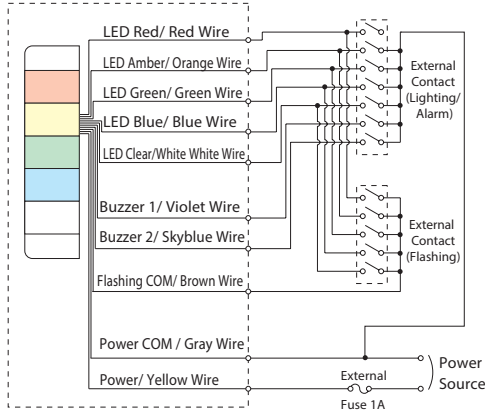
Mounting Dimensions



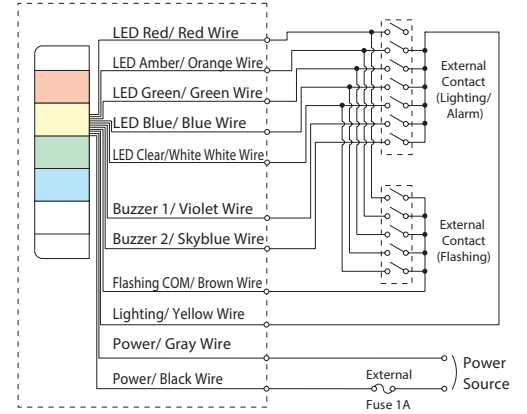
- The LED Colors are stackable, even after installation. However, the applicable Center Shaft and backplate needs to be purchased.
- Install with the alarm in the downward direction in order to preserve the IP54 rating.

Wiring

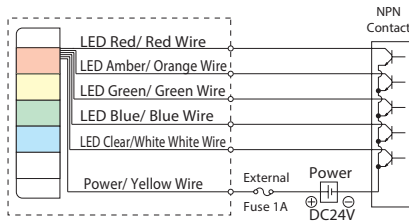
AC/DC 24V Lighting/Flashing Type



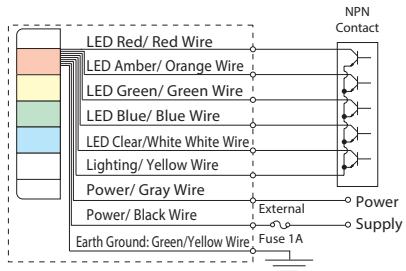
AC Power Lighting/Flashing Type



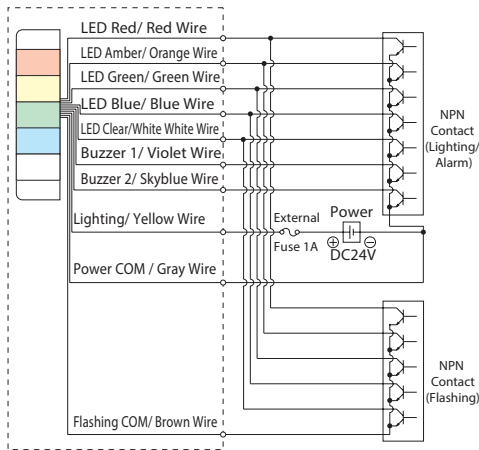
DC 24V NPN Type



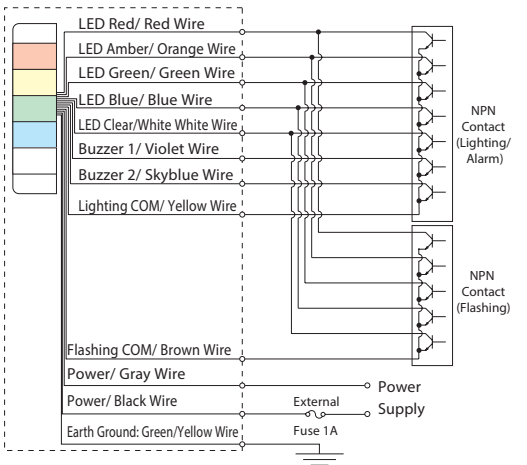
AC Power NPN Type



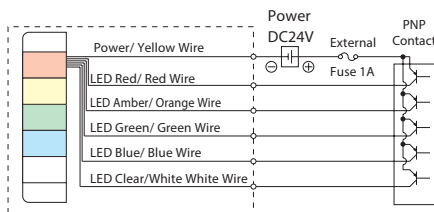
DC 24V NPN FB Type



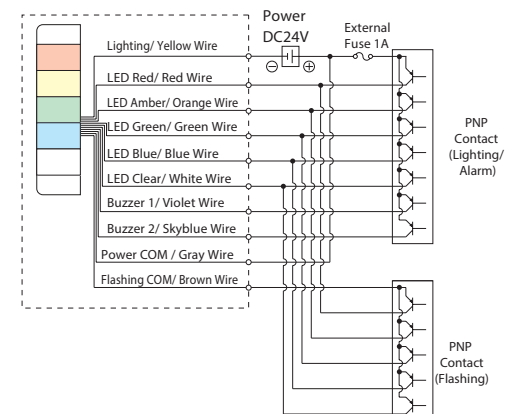
AC Power NPN FB Type



DC 24V PNP Type



DC 24V PNP FB Type



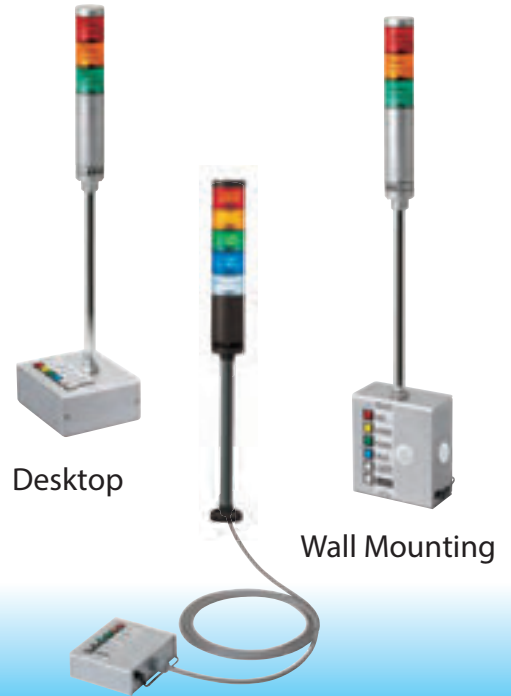
WSST

Manual Control Box

Terminal



WSST Manual Control Box



Desktop

Wall Mounting

Signal Towers, Cables and poles sold separately

PATLITE's WSST Control Box offers excellent all-in-one functionality to meet the growing needs of the manufacturing sector and beyond.

APPLICATIONS

- Workstations and work cells
- Real-time line status indication for managers and line supervisors
- Lean manufacturing, safety and security applications
- Manual assembly operations
- Retail check-out stations
- Call centers

FEATURES

- Universal manual control box for PATLITE LED Signal Towers.
- Sturdy metal construction with 6 color-coordinated push buttons.
- Recommended Signal Towers to choose from are ME; MES; LCE; LE; LES; LME-L; and SZ-60L & SZ-50L Pole Kits
- Install up to 5 Tiers (Red, Amber, Green, Blue and Clear/White).
- Add optional sound alarm or flash functionality (must purchase FB type Signal Towers).
- Various mounting methods include Wall or Desktop installations or as Remote. Recommended Signal Towers for Remote applications (10 ft. cable included) are the LCE-U (with "L" bracket) or LME-U (with flange-mount bracket) Signal Towers.
- Power Supply is included (WSST-KIT).

How to Order

WSST-KIT

Package Description

- KIT: Complete Kit includes
- Control Box
 - Cable Gland
 - 16mm Plug (1pc)
 - 22mm Plug (2 pcs)
 - Instruction Manual
 - Power Supply

CB: Complete Kit (excluding Power Supply)

PS: Power Supply Only

Specifications

Rated Voltage	Operating Voltage	Operating Temperature Range	Mounting Location	Mass (±10%)
DC 24V (Non-polar)	DC 21.6 -26.4V	0°C - +40°C (RH less than 90%)	Indoor Only	1,11kg (Switch Box)



Complete HSST-312 Kit



Control Box



12 in.
Mounting Pole
& Bracket



LED

The HSST includes a 3-tiered LED Signal Tower kit as a low- cost complete turn-key solution for manual assembly factories where lean manufacturing practices are dependent upon the overall operation efficiency.

APPLICATIONS

- Assembly workstations
- Safety and security applications
- Call centers
- Retail check stands
- Hospitals
- Airports

FEATURES

- Complete kit includes a 50mm diameter red, amber, green 3-tier LED Signal Tower with 4-foot Cable, poles, three-button control box, AC power adaptor and mounting brackets that can fit onto standard cubicle partitions.
- AC power adaptor (UL Listed) rated at 120VAC with 6 ft. cable length is included to allow easy set-up in any location.
- LED light illumination offers maintenance-free operation.
- Optional Extention Cable (Part No. DT-HSST-10) available in 10 ft. segments.
- Mounting screws included with the three-button control box.
- Choice of 3 in. (80mm) or 12 in. (300mm) pole included in set.

How to Order

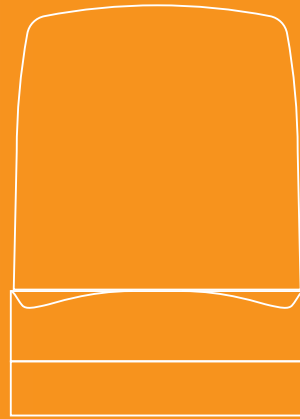
HSST-312

Package Description

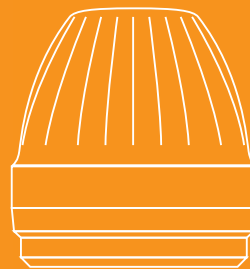
- 312: Complete Kit including
- 3 button Control Box
 - Control Box mounting screws
 - 3 tiered Signal Tower (Red, Amber, Green)
 - AC 120V Power Adaptor
 - 4 ft. cable for Signal Tower
 - 3" Pole (80mm)
 - 12" Pole (300mm)
 - Pole Mounting Brackets
 - Instruction Manual

Specifications

Model	Rated Voltage	Tiers	Power Supply
HSST-312	DC 24V	3 Tiers (R,Y,G)	AC120V / DC24V (Center Negative)



Signal Lights



NE-24

LED Dome Signal Light



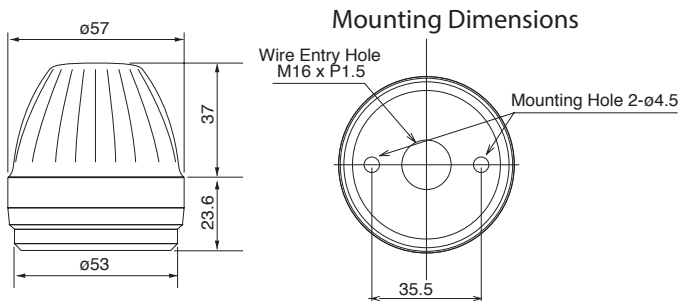
- LED
- IP65
- Ø57
- NPN/PNP
Open-collector

NE Series LED Dome Indicator Light;
The dome-shaped globe provides increased visibility while
the LEDs provide years of maintenance-free operation.

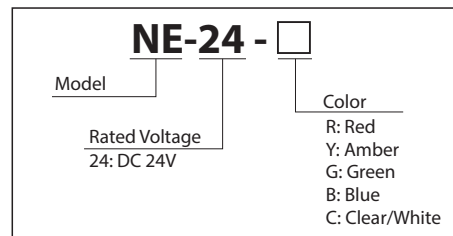
FEATURES

- Enhanced Illumination with the use of long-life, super bright LEDs.
- Low power consumption increases energy efficiency.
- High vibration-resistance and unnecessary bulb replacement makes it maintenance-free.
- Uses a terminal block for easy wiring.
- Applications are suitable for small tooling machines, control panels, etc.
- Available colors are in Red, Amber, Green, Blue, and Clear/White.
- Has the CE mark and conforms to the requirements for the EC directive.

Dimensions (Unit: mm)



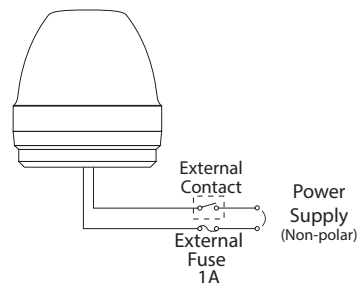
How to Order



Specifications

Model	Color	Rated Voltage	Power Consumption	Operating Temperature Range	Mass
NE-24-R	RED	DC 24V	0.63W	-30 C - +50 C	55g
NE-24-Y	AMBER				
NE-24-G	GREEN				
NE-24-B	BLUE				
NE-24-C	CLEAR/WHITE				

Wiring



KHE

LED Multi-signal Light



- LED
- IP55 with SZ-200A
- Ø100
- NPN/PNP Open-collector

KHE features three flashing patterns for diverse applications.

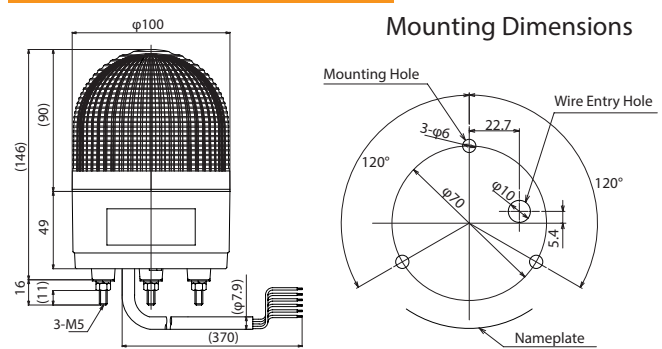
FEATURES

- Super-bright long life LED's used for three signaling patterns that simulate rotation, strobe, and blinking.
- Enhanced Illumination with the use of long-life, super bright LEDs.
- No motor or bulb replacement makes it Maintenance-free.
- Low power consumption increases energy efficiency.
- Indoor installation can be upright, inverted or sideways; Outdoors is for upright only.
- Available colors are in Red, Amber, Green, and Blue.
- Has the CE mark and conforms to the requirements for the EC directive.
- Is UL Listed (File No. E215660).

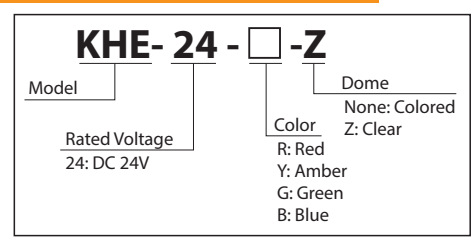
AVAILABLE BY SPECIAL ORDER

- Body Color: Silver

Dimensions (Unit: mm)



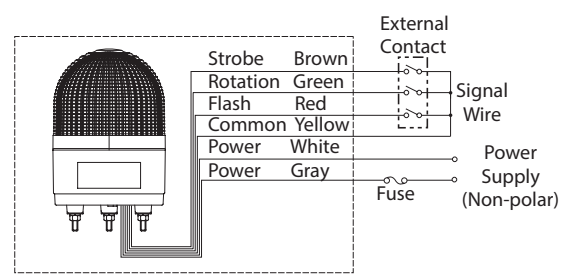
How to Order



Specifications

Model	Color	Rated Voltage	Power Consumption	Flash Patterns			Mass
				Flash	Rotation	Strobe	
KHE-24	RED	DC 24V	8.2W	55 ± 10% fpm	175 ± 10% fpm	75 ± 10% fpm (double-flash)	450g
	AMBER						
	GREEN						
	BLUE						
			10.1W				
			21.6W				

Wiring





PEW-A/PES-A

Multi-speed Flashing Signal Light



Optional Rubber Gasket SZ-210

- LED**
- 1 Alarm Sound** (PEW-B)
- 85dB at 1m** (PEW-B)
- IP55***
- Ø82**
- NPN Open-collector**

* PEW-A: IP54 (IP23 with side-wire exit mounting)
 * PES-A: IP55 with the optional rubber gasket SZ-210 (IP23 without SZ-210).

Dome shape LED Signal Light featuring enhanced visibility and maintenance-free operation.

FEATURES

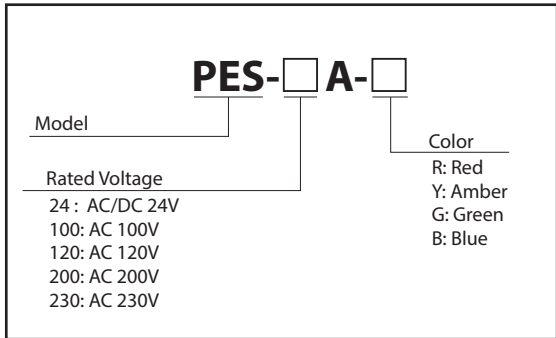
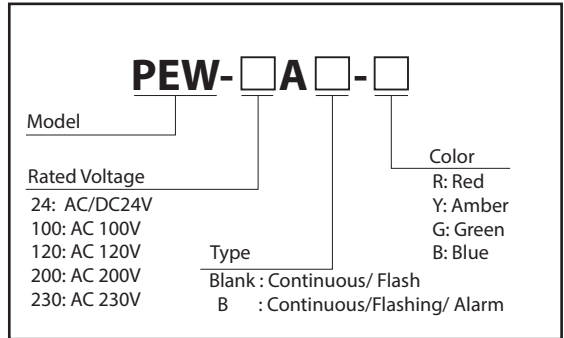
- Has maintenance-free LED's that consume nearly half the power incandescent bulb models (AC100V/200V) do.
- Newly-developed triple-reflection system for enhanced visibility and low power consumption.
- PEW-B type has a built-in adjustable audible alarm with a volume of up to 85dB (at 1m).
- Indoor installation can be upright, inverted or sideways; Outdoors is for upright only.
- The PES is rated for IP55 with the optional rubber gasket SZ-210 (IP23 without SZ-210).
- Has the CE mark and conforms to the requirements for the EC directive. (for 24V type)
- Is a UL Recognized Component (File No. E215660, for 24V, 120V, 230V types only).
- Dome is made of superior weather resistant and light translucent acrylic resin.
- Three flashing patterns of 60/120/180 fpm, switch selectable.
- The PEW is rated for IP54 (IP23 with side-wire exit mounting)
- Available colors are in Red, Amber, Green, and Blue.

AVAILABLE BY SPECIAL ORDER

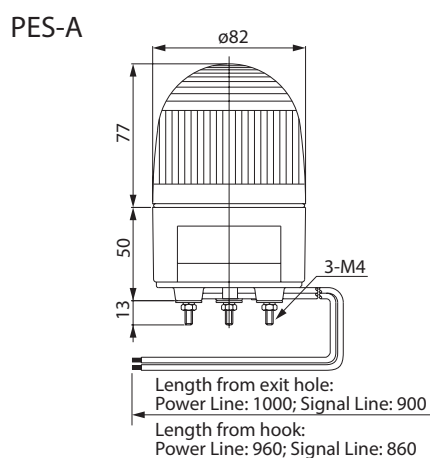
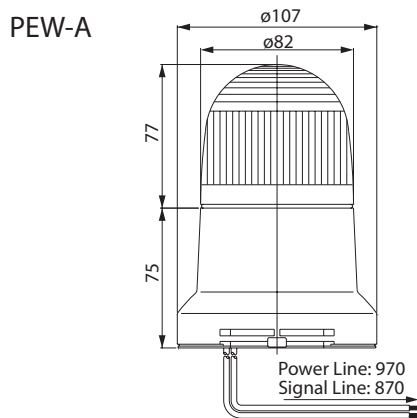
- Body Color: Silver
- IP65: PEW type only



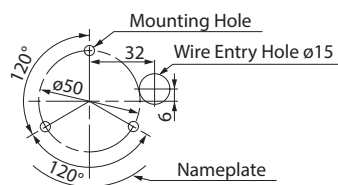
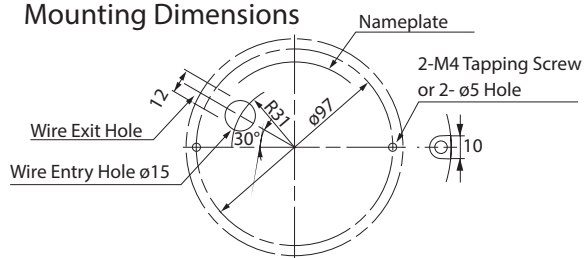
How to Order



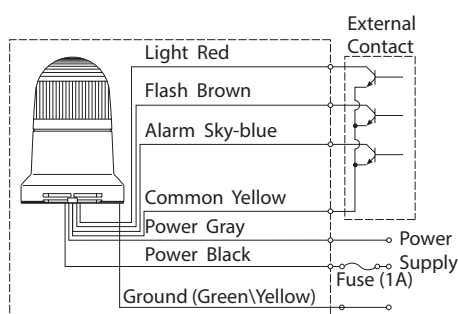
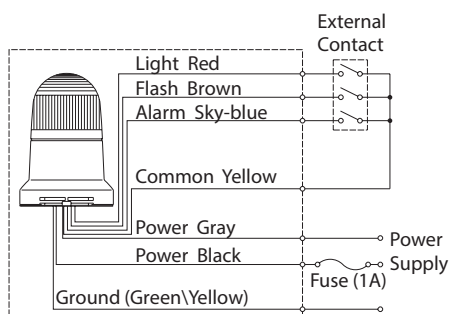
Dimensions (Unit: mm)



Mounting Dimensions



Wiring



- * All Models have the same wiring
- * Sky-blue signal wire is for buzzer type only
- * Ground wire is added for high-voltage types only

Specifications

Model	Color	Rated Voltage	Power Consumption	Inrush Current	Mass
PEW-24A	R/Y	AC/DC 24V	1.2W	2.5A	320g
	G/B		1.5W		
PEW-24AB	R/Y	AC/DC 24V	2.2W	2.5A	340g
	G/B		2.5W		
PEW-100A	R/Y	AC 100V	2.8W	1.0A	520g
	G/B		3.3W		
PEW-100AB	R/Y	AC 100V	5.3W	1.0A	540g
	G/B		5.8W		
PEW-120A	R/Y	AC 120V	3.0W	1.0A	520g
	G/B		3.5W		
PEW-120AB	R/Y	AC 120V	5.7W	1.0A	540g
	G/B		6.2W		
PEW-200A	R/Y	AC 200V	2.5W	0.5A	520g
	G/B		3.2W		
PEW-200AB	R/Y	AC 200V	4.9W	0.5A	540g
	G/B		5.6W		
PEW-230A	R/Y	AC 230V	3.1W	0.5A	520g
	G/B		3.8W		
PEW-230AB	R/Y	AC 230V	5.9W	0.5A	540g
	G/B		6.4W		

Model	Color	Rated Voltage	Power Consumption	Inrush Current	Mass
PES-24A	R/Y	AC/DC 24V	1.2W	2.5A	240g
	G/B		1.5W		
PES-100A	R/Y	AC 100V	4.2W	1.0A	430g
	G/B		4.7W		
PES-120A	R/Y	AC 120V	4.4W	1.0A	430g
	G/B		4.9W		
PES-200A	R/Y	AC 200V	4.0W	0.5A	430g
	G/B		4.7W		
PES-230A	R/Y	AC 230V	4.6W	0.5A	430g
	G/B		5.3W		

KPE-A

Flashing/Rotating Light



LED



IP23

Ø162

Revolving Warning Light featuring maintenance-free LED's, Corrosion-proof plastic and adjustable flashing cycles.

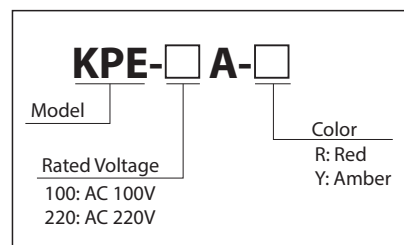
FEATURES

- Enhanced design with special high-intensity illumination to improve light diffusion and ensure sufficient brightness, even outdoors.
- Internally adjustable flashing cycle between 50 and 200 times per minute.
- Extended long-life with LEDs so no bulb replacement is needed, perfect for "hard-to-service" locations.
- Indoor installation can be upright, inverted or sideways; Outdoors is for upright only.
- With an electronic rotating light system, no worn-out motors to replace.
- Main body is made of special weather-resistant resin.
- Dome is made from superior weather-resistant and light translucent acrylic resin.
- Stainless mounting bolts with corrosion-proof screws.
- Available Colors are Red and Amber.

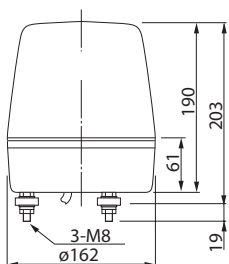
Specifications

Model	Rated Voltage	Power Consumption	Flash Rate	Mass
KPE-100A	AC 100V	Continuous: 4W Flashing: 9W	50 - 200 rpm 60 fpm	1.5kg
KPE-220A	AC 220V			

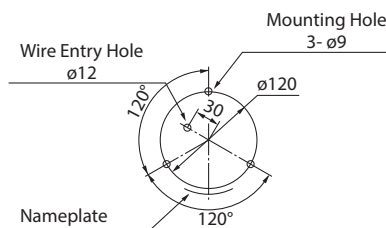
How to Order



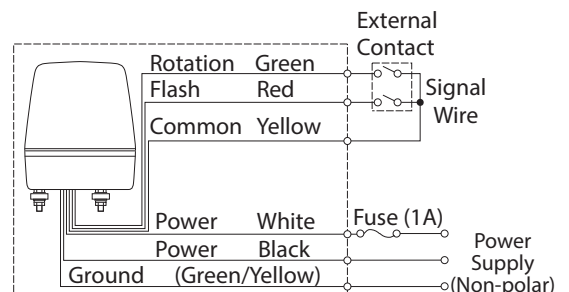
Dimensions (Unit: mm)



Mounting Dimensions



Wiring



PSE

LED Signal Light



LED

IP55 with SZ-210

Ø82



Optional Rubber Gasket SZ-210

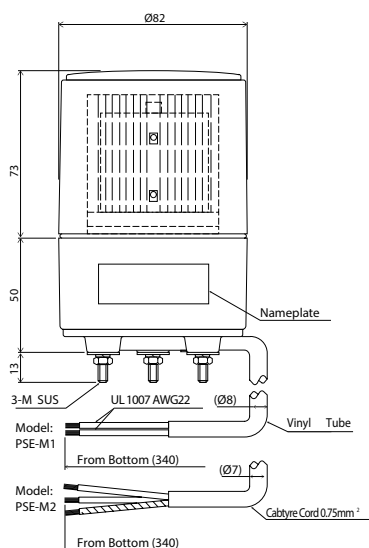


New LED flashing beacon! Can outlast a conventional Xenon lamp and is available in four LED Colors.

FEATURES

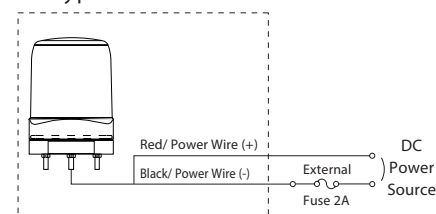
- Has maintenance-free LED's that consume nearly half the power incandescent bulb models do.
- The PSE is rated for IP55 with the optional rubber gasket SZ-210 (IP23 without SZ-210).
- Has the CE mark and conforms to the requirements for the EC directive.
- Three flashing patterns of 110 fpm (±10%).

Dimensions (Unit: mm)

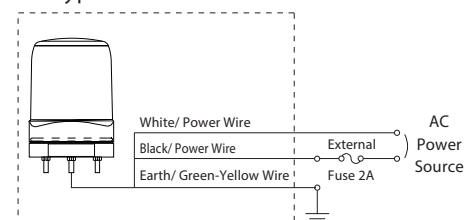


Wiring

M1 Type



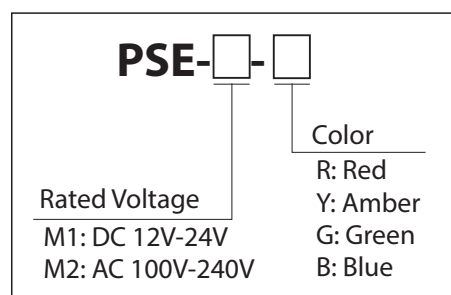
M2 Type



Specifications

Model	PSE-M1	PSE-M2
Rated Voltage	DC 12V - 24V	AC 100V-240V
Power Consumption	3.0W	3.2W
Maximum Operating Ambient Temperature	60°C	
Protection Rating	IP23	
Mounting Location	Indoor or Outdoor Use	
Flash Rate	110 ±10rpm (Triple-flash)	
Mass	0.30kg	0.35kg

How to Order



LFH

LED Signal Light



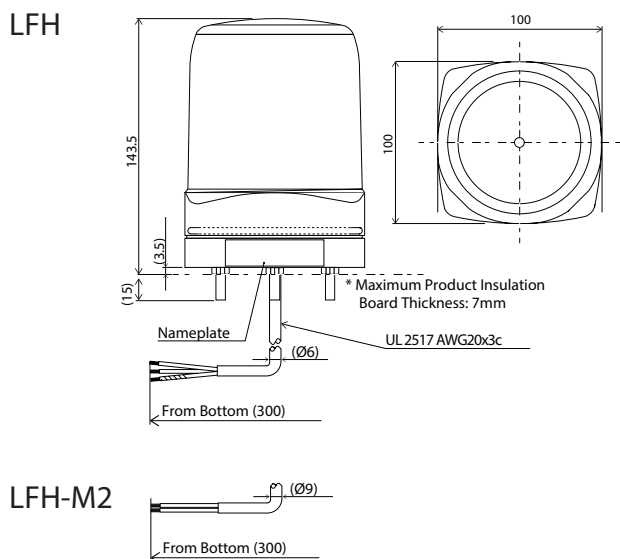
LED

IP66

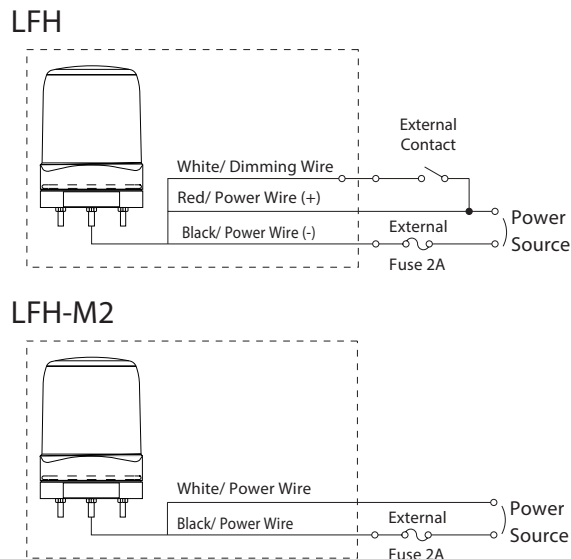
Ø100

New LED flashing beacon! Available in five outdoor visible LED Colors and has UL certification.

Dimensions (Unit: mm)



Wiring

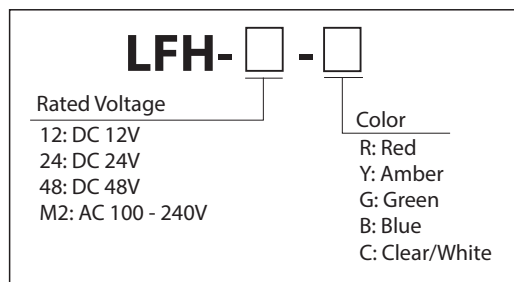


Specifications

Model	LFH-12	LFH-24	LFH-48	LFH-M2
Rated Voltage	DC 12V	DC 24V	DC 48V	AC 100 - 240V
Current Consumption (max)	0.50A	0.23A	0.18A	0.12A
Operating Ambient Temperature Range	-30°C to +70°C		-20°C to +60°C	
Protection Rating	IP66			
Mounting Location	Indoor or Outdoor Use			
Flash Rate	110 ±10fpm (Triple-flash)			
Certifications	UL, CE ¹ , RoHS, FCC			
Mass		0.57kg		0.61kg

*1 LFH-48 not CE certified.

How to Order



LFK-S

LED Signal Light



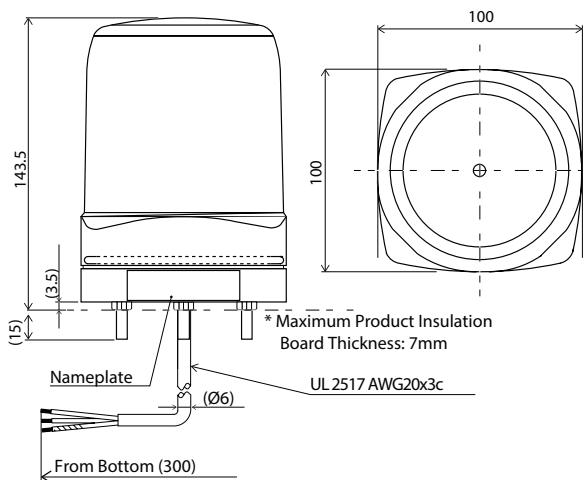
LED

IP55

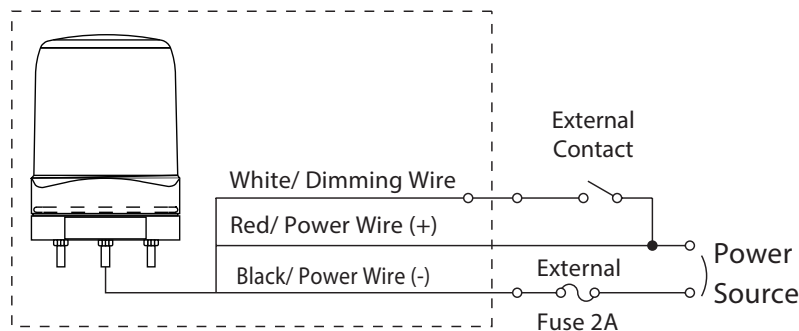
Ø100

New LED flashing beacon! So bright, it has a dimming input.

Dimensions (Unit: mm)



Wiring

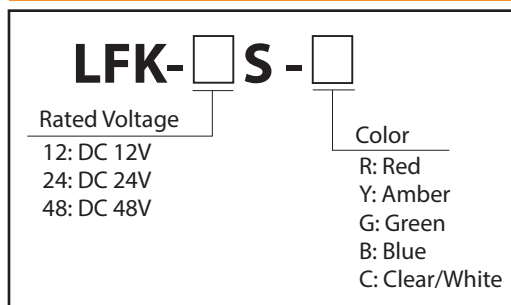


Specifications

Model	LFK-12S	LFK-24S	LFK-48S
Rated Voltage	DC 12V	DC 24V	DC 48V
Current Consumption (max)	0.49A	0.23A	0.17A
Operating Ambient Temperature Range	-20°C to +60°C		
Protection Rating	IP55		
Mounting Location	Indoor or Outdoor Use		
Flash Rate	140 ±14fpm (Triple-flash)		
Certifications	CE [†] , RoHS, ECE		
Mass	0.5kg		

*1 LFK-48 not CE certified.

How to Order



XPE

LED Signal Light



LED



IP23

Ø162

New LED flashing beacon! Available in four LED Colors.

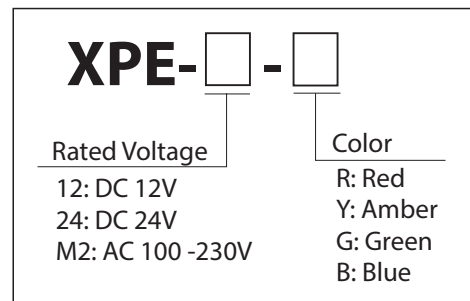
FEATURES

- Long-lasting LED's greatly reduce maintenance costs.
- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Main Body is made of impact and heat-resistant ABS resin.
- Dome lens is made of superior weather-resistant and light-translucent AS resin.
- Available Colors are Red, Amber, Green, and Blue.
- CE Compliant
- RoHS Compliant (DC 12V and DC 24V Type).

Specifications

Model	XPE-12	XPE-24	XPE-M2
Rated Voltage	DC 12V	DC 24V	AC 100 - 230V
Voltage Range	DC 9.5-15V	DC 20 - 30V	AC 90 - 250V
Current Consumption	0.50A	0.23A	0.12A (at 100VAC)
Operating Ambient Temperature	-30°C to +70°C		-20°C to +60°C
Protection Rating	IP23		
Mounting Location	Indoor or Outdoor Use		
Flash Rate	110 ±10fpm (Triple-flash Pattern)		
Certifications	RoHS		

How to Order





XME

LED Signal Light



LED

IP23

Ø187

New Large Sized LED flashing beacon! Available in three LED Colors.

FEATURES

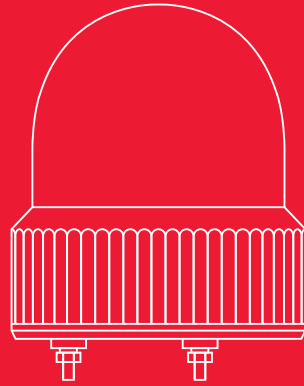
- Extended product lifespan by using LED lights.
- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Main body is made of a melamine baked finish with a corrosion-proof stainless steel (SUS 304) lens mounting fixture.
- Dome lens is made of superior weather-resistant and light-translucent AS resin.
- Mounting Bolts are drip-proof and made of rust-free stainless steel.
- Available Colors are Red, Amber, and Blue.
- CE Compliant
- RoHS Compliant (DC 12V and DC 24V Type).

Specifications

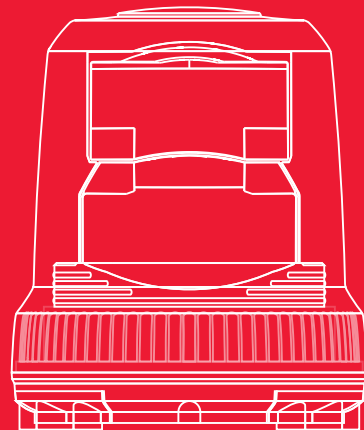
Model	XME-12	XME-24	XME-M2
Rated Voltage	DC 12V	DC 24V	AC 100 - 230V
Voltage Range	DC 9.5-15V	DC 20 - 28V	AC 90 - 250V
Current Consumption	0.50A	0.23A	0.12A (at 100VAC)
Operating Ambient Temperature	-30°C to +70°C		-20°C to +60°C
Protection Rating	IP23		
Mounting Location	Indoor or Outdoor Use		
Flash Rate	110 ±10fpm (Triple-flash Pattern)		
Certifications	RoHS		

How to Order

XME- [] - []	
Rated Voltage	Color
12: DC 12V	R: Red
24: DC 24V	Y: Amber
M2: AC100 - 230V	B: Blue



Revolving Warning Lights



RLE

Revolving Warning Light



Optional Rubber Gasket SZ-210

 **LED**

IP55 with SZ-210

Ø82

LED Signal Light featuring energy-saving and enhanced illumination with an LED integrated reflection system.

FEATURES

- Indoors allows upright, inverted, and horizontal installation; outdoors allows upright installation only.
- Dome lens is made of superior impact and heat resistant polycarbonate resin.
- Compact motor with high durability and energy-efficient characteristics.
- LED integrated reflection system for enhanced illumination.
- Energy-efficient and maintenance-free LED array
- Main body is made of impact and heat resistant ABS resin.
- Colors available are Red, Amber, and Green.

Specifications

Model	Rated Voltage	Power Consumption	Flash Rate (fpm)	Mass
Ⓞ RLE-12	DC 12V	2.5W	120	400g
RLE-24	DC 24V	3.0W		400g
RLE-100	AC 100V	4.0W		600g
RLE-220	AC 220V			600g

Ⓞ Available by Special Order

How to Order

RLE- -

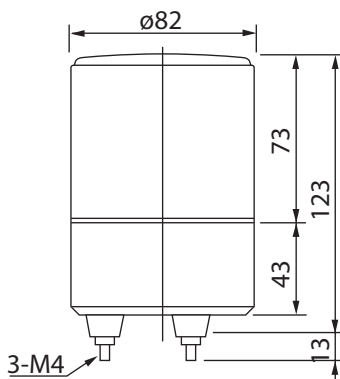
Model Color

Rated Voltage

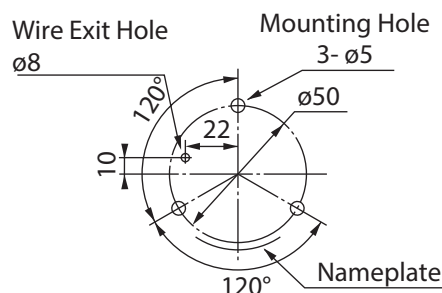
12 : DC 12V
 24 : DC 24V
 100: AC 100V
 220: AC 220V

R: Red
 Y: Amber
 G: Green
 B: Blue

Dimensions (Unit: mm)



Mounting Dimensions



RU / RUP / RS

Revolving Warning Light



Bulb

IP55 with SZ-210

Ø82

Optional Rubber Gasket SZ-210

Compact Revolving Warning Light perfectly designed for small devices.

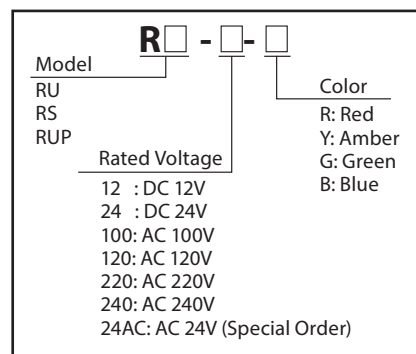
FEATURES

- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Has the CE mark and conforms to the requirements (for 12V, 24V type only) for the EC directive.
- Dome is made from superior impact and heat resistant polycarbonate resin.
- Main body is made of impact and heat-resistant polycarbonate resin.
- Rotating parabolic reflector to enhance visibility from a distance.
- Vibration-resistant automobile bulb for extended bulb life.
- Available Colors are Red, Amber, Green, and Blue.

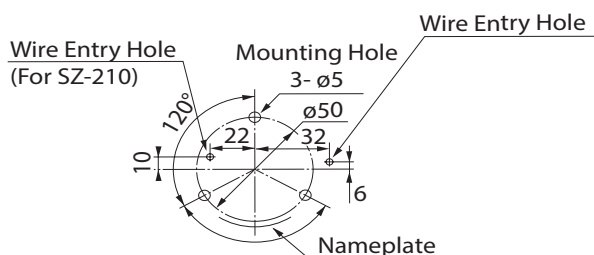
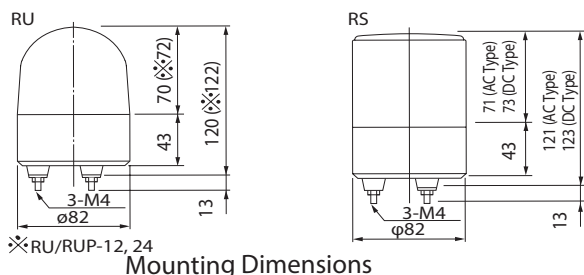
AVAILABLE BY SPECIAL ORDER

- Body Color: Silver
- Mounting Pole and Bracket: Standard with RUP Series.

How to Order



Dimensions (Unit: mm)



Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass	
				Ratings	Repl. No.	RU/RS	RUP
RU(P)/RS-12	DC 12V	0.5A	120	12V 6W	18	0.4kg	0.8kg
RU(P)/RS-24	DC 24V	0.3A		24V 6W	19		
RU(P)/RS-100	AC 100V	0.1A		12V 6W	18	0.6kg	1.0kg
RU(P)/RS-120	AC 120V						
RU(P)/RS-220	AC 220V	0.05A		24V 6W	19	0.4kg	0.8kg
RU(P)/RS-240	AC 240V						
RU(P)/RS-24AC	AC 24V	0.3A					

◎ Available by Special Order



RKE/RKEB/RHE/RHEB

Super-bright LED Revolving Warning Light



- LED**
- IP55** with SZ-200A
- 1 Alarm Sound** (RHEB & RKEB)
- 90dB at 1m** (RHEB & RKEB)
- Ø100**



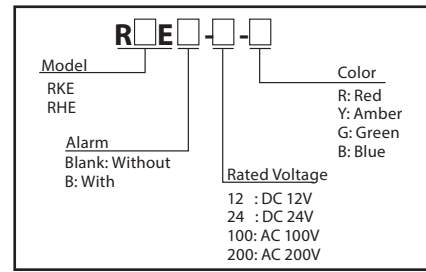
Optional Rubber Gasket SZ-200A

Compact LED revolving warning light featuring one super-bright LED chip and an enhanced high dispersion reflection system.

FEATURES

- RHEB/RKEB includes an internal alarm (hi-pitched tone) of 90dB (at 1m) that is synchronized with the light operation.
- Has the CE mark and conforms to the requirements (for 12V, 24V type only) for the EC directive.
- Compact motor with high durability and energy-efficient characteristics.
- Dome lens is made of impact and heat resistant polycarbonate resin.
- Energy-efficient by using only 1 LED chip which is super-bright.
- Main body is made of impact and heat resistant ABS resin.
- Colors available are Red, Amber, Green, and Blue.
- Uses a terminal block for easy wiring.

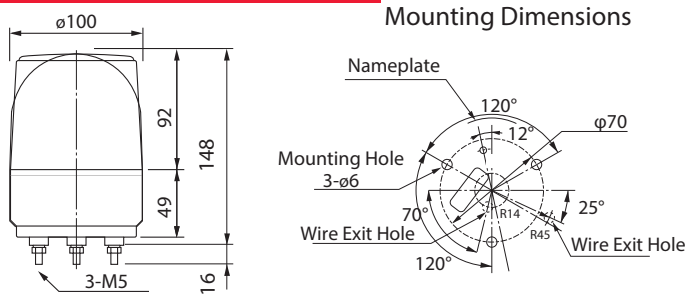
How to Order



Specifications

Model	Rated Voltage	Current Consumption	Flash Rate	Mass
RKE/RKEB-12	DC 12V	0.25A	120 fpm	400g
RKE/RKEB-24	DC 24V	0.16A		400g
RKE/RKEB-100	AC 100V	0.04A		600g
RKE/RKEB-200	AC 200V	0.02A		600g
RHE/RHEB-12	DC 12V	0.25A		400g
RHE/RHEB-24	DC 24V	0.16A		400g
RHE/RHEB-100	AC 100V	0.04A	600g	600g
RHE/RHEB-200	AC 200V	0.02A		600g

Dimensions (Unit: mm)



Newly developed reflector for LED revolving warning light



The PATLITE LED revolving warning light uses a unique and patented reflecting system, solely designed for these models. Even though the dispersion characteristics of the LED chip is less than an incandescent bulb, PATLITE's unique design creates an equivalent dispersion effect with the light reflector.



The uniquely designed reflectors not only reflect upward and to the side, but also downward; this cannot be achieved by incandescent bulb type revolving warning lights. The PATLITE LED revolving warning light is suitable for applications where high visibility from a low angle is required.



RH-A/ RK-A

Revolving Warning Light



Optional Rubber Gasket SZ-200A

Bulb

IP55 with SZ-200A

1 Alarm Sound (RHB & RKB)

90dB at 1m (RHB & RKB)

Terminal

Ø100

RH-A/RKA

Compact Revolving Warning Light featuring high durability and easy wiring with terminal block.

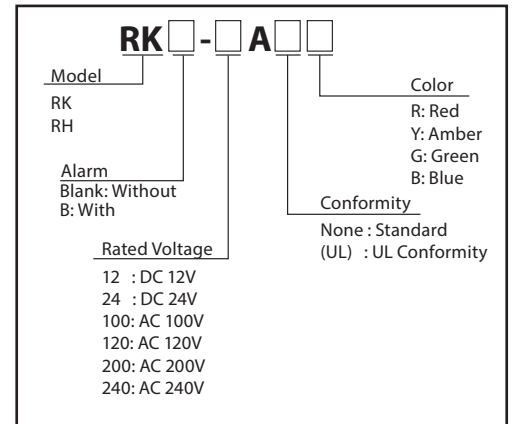
FEATURES

- Indoors allows upright, inverted, and sideways installation; Outdoors allows upright installation only.
- Has the CE mark and conforms to the requirements (for 12V, 24V type only) for the EC directive.
- Dome is made from superior impact and heat resistant polycarbonate resin.
- Main body is made of impact and heat-resistant polycarbonate resin.
- Built-in audible alarm for models RHB/RKB at a sound of 90dB (at 1m).
- Rotating parabolic reflector to enhance visibility from a distance.
- Is UL Listed for 24V, 120V, and 240V types (File No. E215660)
- Vibration-resistant automobile bulb for extended bulb life.
- Available Colors are Red, Amber, Green, and Blue.
- Utilizes a terminal block for easy wiring.

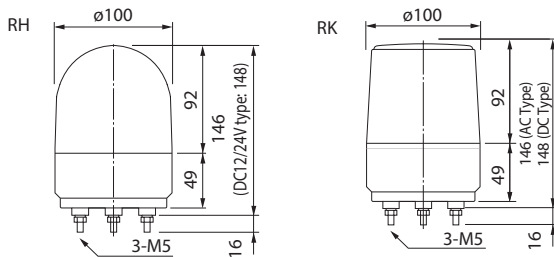
AVAILABLE BY SPECIAL ORDER (RH-A TYPE)

- Body Color: Silver

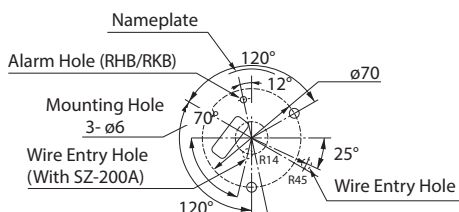
How to Order



Dimensions (Unit: mm)



Mounting Dimensions



Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Rated	Repl. No.	
RH/RHB-12A	DC 12V	0.8A	170	12V 10W	9	400g
RH/RHB-24A (UL)	DC 24V	0.5A		24V 10W	10	
RH/RHB-120A (UL)	AC 120V	0.1A		12V 5W	12	600g
RH/RHB-200A	AC 200V	0.03A				
RH/RHB-240A (UL)	AC 240V	0.05A		24V 10W	10	400g
RK/RKB-24A (UL)	DC 24V	0.5A				
RK/RKB-120A (UL)	AC 120V	0.1A		12V 5W	12	600g
RK/RKB-200A	AC 200V	0.03A				
RK/RKB-240A (UL)	AC 240V	0.05A				

SKH-EA

Revolving Warning Light



- Bulb**
- IP23**
- Ø100**

Best-selling Revolving Warning Light for wide range of applications.

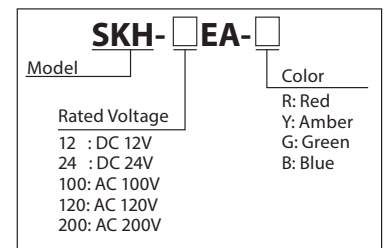
FEATURES

- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Has the CE mark and conforms to the requirements (for 12V, 24V type only) for the EC directive.
- Dome is made from superior weather-resistant and light-translucent acrylic resin.
- Rotating parabolic reflector to enhance visibility from a distance.
- Vibration-resistant automobile bulb for extended bulb life.
- Available Colors are Red, Amber, Green, and Blue.

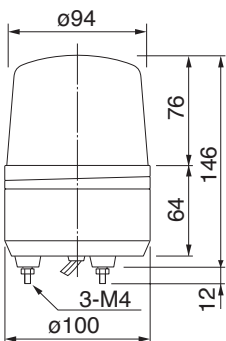
Specifications

Series	Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
					Ratings	Repl. No.	
USA Version	SKH-12EA	DC 12V	0.8A	170	12V 10W	9	400g
	SKH-24EA	DC 24V	0.5A		24V 10W	10	400g
	SKH-120EA	AC 120V	0.07A		12V 5W	12	600g
Standard Version	SKH-12EA	DC 12V	0.8A		12V 10W	9	400g
	SKH-24EA	DC 24V	0.5A		24V 10W	10	400g
	SKH-100EA	AC 120V	0.065A		12V 5W	12	600g
	SKH-200EA	AC 200V	0.03A				

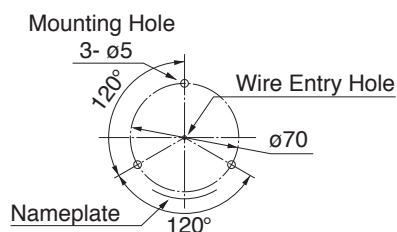
How to Order



Dimensions (Unit: mm)



Mounting Dimensions





WH-A / WK-A

Revolving Warning Light



WH-A/WK-A



WH-A



WK-A



Bulb

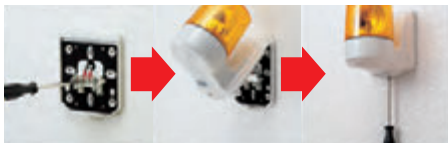
1 Alarm Sound (WHB-A Only)

90dB at 1m (WHB-A Only)

IP54 (B Type:IP23)

Ø100

Easily attachable to an electrical box with easy wiring to a terminal block.



Install in various directions when using for indoor applications.

- Sideways
- Upside-down



When installing the WHB, direct the buzzer in a downward direction.

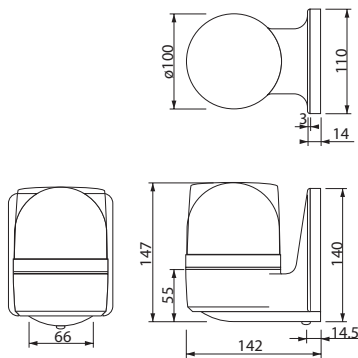
Wall-mount Revolving Warning Light featuring easy wiring with terminal block.

FEATURES

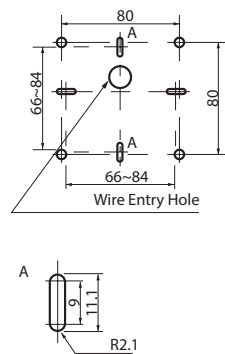
- Has the CE mark and conforms to the requirements (12V, 24V type only) for the EC directive.
- Upright, inverted, and sideways installation allowed for indoors as well as outdoors*.
- Dome is made from superior weather-resistant and light-translucent acrylic resin.
- Rotating parabolic reflector to enhance visibility from a distance.
- Compact motor with high durability and energy-efficient characteristics.
- Vibration-resistant automobile bulb for extended bulb life.
- Main body is made of impact and heat resistant ABS resin.
- Available Colors are Red, Amber, Green, and Blue.
- Uses a terminal block for easy wiring.

*WHB installation is upright only for outdoor use.

Dimensions (Unit: mm)



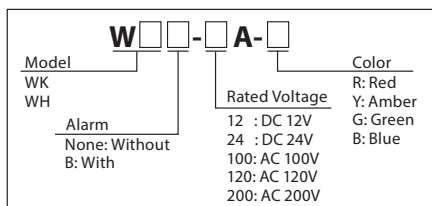
Mounting Dimensions



Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
WK-12A	DC 12V	0.8A	170	12V 10W	9	550g
WH-24A	DC 24V	0.5A		24V 10W	10	
WK-24A				12V 5W	12	750g
WH-100A	AC 100V	0.07A				
WK-100A						
WH-120A	AC 120V	0.08A				
WK-120A						
WH-200A	AC 200V	0.04A				
WK-200A						
WKB-12A	DC 12V	0.85A		12V 10W	9	550g
WHB-24A	DC 24V	0.5A		24V 10W	10	
WKB-24A				12V 5W	12	750g
WHB-100A	AC 100V	0.07A				
WKB-100A						
WHB-120A	AC 120V	0.07A				
WKB-120A						
WHB-200A	AC 200V	0.04A				
WKB-200A						

How to Order





SKH-A

Revolving Warning Light

CE (12/24V Only)



Bulb

1 Alarm Sound (SKHB)

90dB at 1m (SKHB)

IP54 (SKH-SA, others IP23)

Ø118

Corrosion-proof plastic Revolving Warning Light for a variety of applications.

FEATURES

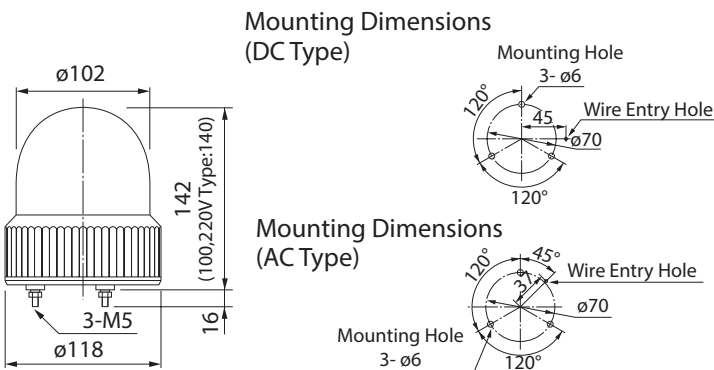
- Rotating parabolic reflector to enhance visibility from a distance.
- Vibration-resistant automobile bulb for extended bulb life.
- Includes an internal alarm of 90dB (at 1m) that is synchronized with the light operation.
- Upright, inverted, and sideways installation allowed for indoors* as well as outdoors.
- Dome is made from superior weather-resistant and light-translucent acrylic resin.
- Available Colors are Red, Amber, Green, and Blue.
- Has the CE mark and conforms to the requirements (for 12V, 24V type only) for the EC directive.

*SKH-SA installation allows upright and inverted installation only for indoor use.

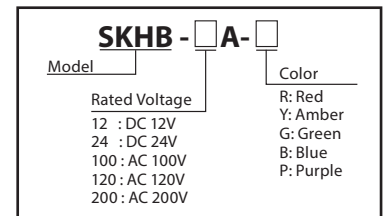
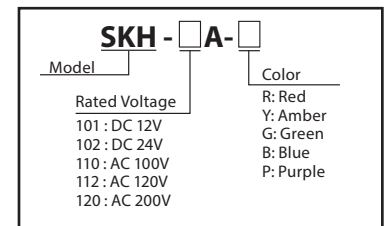
Specifications

Model		Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
SKH-A Series	SKHB-A Series				Ratings	Repl. No.	
SKH-101A	SKHB-12A	DC 12V	0.8A	170	12V 10W	9	400g
SKH-102A	SKHB-24A	DC 24V	0.5A		24V 10W	10	
SKH-110A	SKHB-100A	AC 100V	0.065A		12V 5W	12	600g
SKH-112A	SKHB-120A	AC 120V	0.07A				
SKH-120A	SKHB-200A	AC 200V	0.03A				
Ships/Boat	SKH-102SA	-	DC24V	0.5A	24V 10W	10	400kg
	SKH-110SA	-	AC 100V	0.1A	12V 5W	12	600g

Dimensions (Unit: mm)



How to Order





SKHE / SKHEB

Super-bright LED Revolving Warning Light



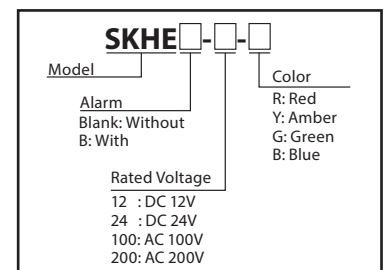
SKHE/SKHEB

Compact LED revolving warning light featuring one super-bright LED chip and an enhanced high dispersion reflection system.

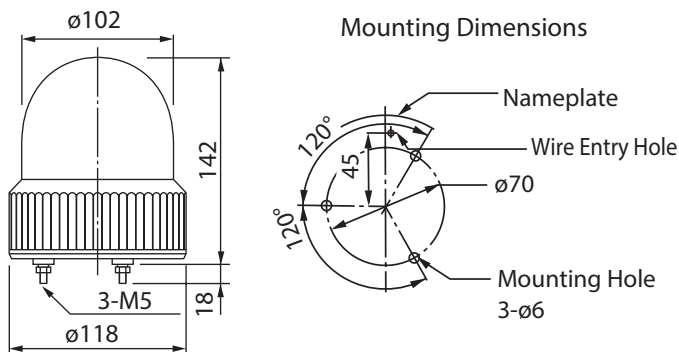
FEATURES

- SKHEB series includes an internal alarm (hi-pitched tone) of 90dB (at 1m) that is synchronized with the light operation.
- Indoors allows upright, inverted, and horizontal installation; outdoors allows upright installation only.
- Has the CE mark and conforms to the requirements (for 12V, 24V type only) for the EC directive.
- Compact motor with high durability and energy-efficient characteristics.
- Energy-efficient by using only 1 LED chip which is super-bright.
- Dome lens is made of impact and heat resistant polycarbonate resin.
- Colors available are Red, Amber, Green, and Blue.

How to Order



Dimensions (Unit: mm)



Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Mass
SKHE/SKHEB-12	DC 12V	0.25A	120	400g
SKHE/SKHEB-24	DC 24V	0.16A		600g
SKHE/SKHEB-100	AC 100V	0.04A		
SKHE/SKHEB-200	AC 200V	0.02A		

Newly developed reflector for LED revolving warning light



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The uniquely designed reflectors not only reflect upward and to the side, but also downward; this cannot be achieved by incandescent bulb type revolving warning lights. The PATLITE LED revolving warning light is suitable for applications where high visibility from a low angle is required.

SKP-A

Revolving Warning Light



Bulb



IP23

Ø138



A Revolving Warning Light featuring corrosion-resistance and a stable and silent rotation.

FEATURES

- Main body is made of a melamine baked finish with a corrosion-proof stainless steel (SUS 304) lens mounting fixture.
- Has the CE mark and conforms to the requirements (for 12V, 24V, 48V DC types only) for the EC directive.
- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Dome lens is made of superior impact and heat resistant polycarbonate resin.
- Rotary Mechanism is gear-driven for stable rotation under vibration.
- Available Colors are in Red, Amber, Green, and Blue.

Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
SKP-101A	DC 12V	2.6A	140	12V 35W	1	0.8kg
SKP-102A	DC 24V	1.2A		24V 35W	2	
SKP-104A	DC 48V	0.8A		48V 35W	5	0.9kg
⊙ SKP-110ADC	DC 100V	0.35A	120	120V 40W	36	
SKP-110A	AC 100V	0.3A		220V 30W	37	1.0kg
SKP-120A	AC 200V	0.13A				

⊙ Available by Special Order

How to Order

SKP- A-

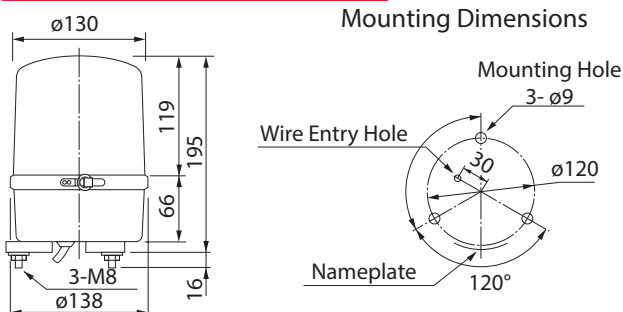
Model Color

Rated Voltage

- 101 : DC 12V
- 102 : DC 24V
- 104 : DC 48V
- 110 : AC 100V
- 120 : AC 200V
- 110ADC: DC 100V (Special Order)

R: Red
Y: Amber
G: Green
B: Blue

Dimensions (Unit: mm)



KP-A

Revolving Warning Light



-  **Bulb**
- IP23**
- Ø162**

Corrosion-proof plastic Revolving Warning Light for a wide range of applications.

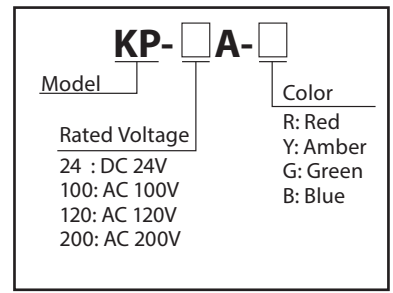
FEATURES

- Extended product lifespan by using vibration-resistance and reliable operation, even under a severely cold environment (-30°C).
- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Has the CE mark and conforms to the requirements (for 24V type only) for the EC directive.
- Dome lens is made of superior weather-resistant and light-translucent acrylic resin.
- Mounting Bolts are drip-proof and made of rust-free stainless steel.
- Rotating parabolic reflector to enhance visibility from a distance.
- Main Body is made of special UV and water-resistant resin.
- Available Colors are Red, Amber, Green, and Blue.

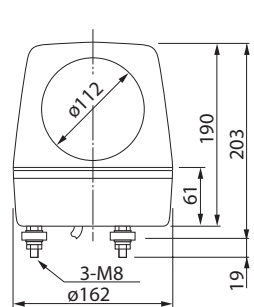
Specifications

How to Order

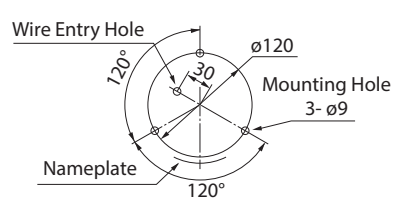
Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
KP-24A	24V DC	1.2A	140	24V 35W	2	1.0kg
KP-100A	100V AC	0.3A		120V 40W	6	
KP-120A	120V AC	0.4A		220V 30W	37	
KP-200A	200V AC	0.13A	120			1.2kg



Dimensions (Unit: mm)



Mounting Dimensions



RLR

LED Revolving Warning Light



LED



IP66

Ø162



Ideal for forklift, material handling equipment and a great variety of applications.

FEATURES

- Has the CE mark and conforms to the requirements (for 12V, 24V, 48V type) for the EC directive.
- Colors available are Red, Amber, Green, and Blue.
- RLR complies with the RoHS Directive.

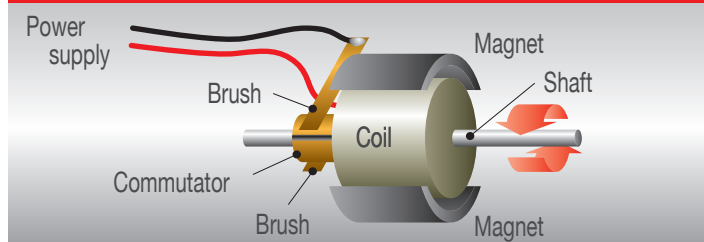
LED + Brushless Motor + Bearing Mechanism



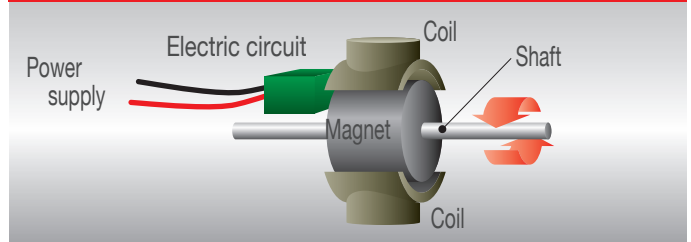
■ Long Life

The RLR has many advantages in comparison to a rotating beacon using incandescent bulbs and the conventional motor. The LED will last approximately 20 to 40 times longer than an incandescent bulb, and in combination with a brushless motor with bearings, allows the RLR to operate from 8,000 hrs to 10,000 hrs, compared to 5,000 hrs for other rotating beacons.

Conventional Motor Construction



Brushless Motor Construction





Vibration Resistance*



High Visibility



High Protection

IP66 TEST PROCEDURE

IPX6= Water is sprayed for at least 3 minutes at a flow rate of 100 L/min from a distance between 2.5m to 3.0m, and from all 360° directions using a 12.5mm diameter jet hose nozzle.

IP6X= The target unit is tested under-pressure in a dust chamber for 8 hours.

How to Order

Model Code	Rated Voltage 04 : DC 48V M1 : DC 12-24V M2 : AC 90~250V	RLR- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	Color R : Red Y : Amber G : Green B : Blue	Mounting Dimensions Blank : $\phi 140$ P : $\phi 120$
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Typical Vibration Values

2G (19.6m/s²)



Passenger Car

4.5G (44.1m/s²)



Construction Machinery

7G (68.6m/s²)



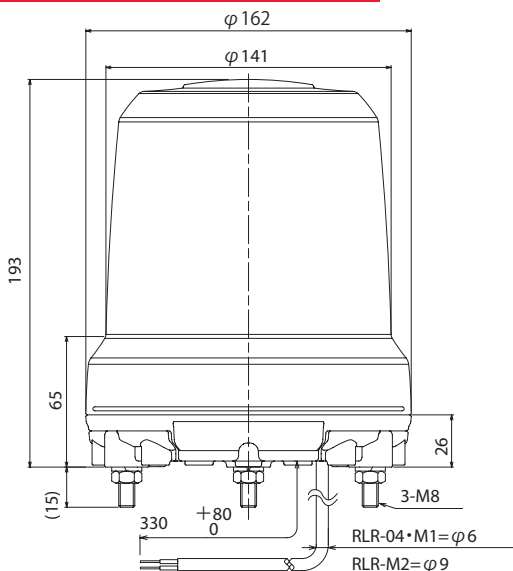
Emergency Vehicle

11G (107.8m/s²)

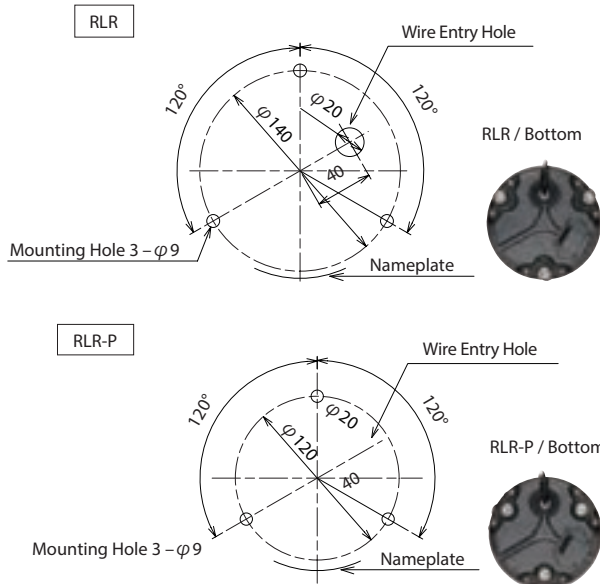


Dump Trucks

Dimensions (Unit: mm)



Mounting Dimensions



Specifications

Model	Rated Voltage	Operating Voltage Range	Vibration Resistance	Operating Temperature Range	Dome	Mass
RLR-M1	DC 12-24V	DC 9.5V - 32V	110m/s ² (11G)	-30 C - +70 C	-R (Red) -Y (Amber) -G (Green) -B (Blue)	1.0kg
RLR-04	DC 48V	DC 20V - 30V				
RLR-M2	AC 90-250V	AC 90V - 250V	45m/s ² (4.5G)	-10 C - +50 C		1.06kg

SKHB-1006D



Revolving Warning Light



Bulb



1 Alarm Sound

IP23

Ø162

Portable

Portable Revolving Warning Light with dry cell batteries.

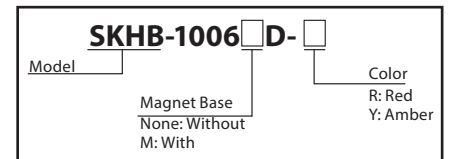
FEATURES

- Built-in operation-selectable alarm with external switch for light rotation only, or with buzzer and light rotation (solenoid buzzer sound).
- Contains five (5) SUM-1 batteries for 4 hours of operation, or five (5) LR20 for about 15 hours.
- Dome is made of superior weather-resistant and light-translucent acrylic resin.
- The 1006MA type includes a powerful magnet for secure placement.
- Installation is for the upright position only.
- Available Colors are Red and Amber.

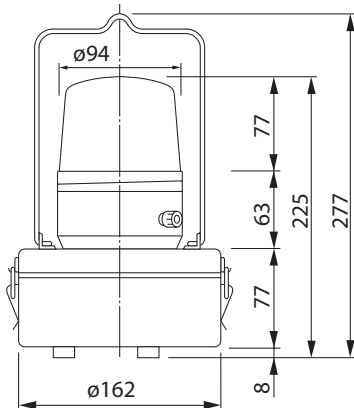
Specifications

Model	Rated Voltage	Power Consumption	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
SKHB-1006D	DC6V (SUM-1x5)	3W	150	6V 3W	8	2.0kg
SKHB-1006MD						2.1kg

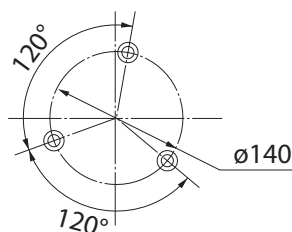
How to Order



Dimensions (Unit: mm)



Mounting Dimensions



SKL-A

Revolving Warning Light

CE (12/24/48V Only)



-  **Bulb**
- IP23**
- Ø162**

Basic Large-sized Revolving Warning Light with highly durable housing.

FEATURES

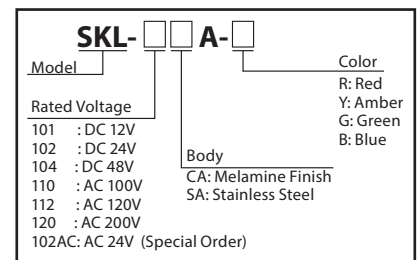
- Main body for the SKL-CA has a scratch-free melamine baked finish, and the SKL-SA is of corrosion-proof stainless steel.
- Has the CE mark and conforms to the requirements (for 12V, 24V, 48V DC type only) for the EC directive.
- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Dome is made of a superior impact and heat-resistant polycarbonate resin.
- Available Colors are Red, Amber, Green, and Blue.

Specifications

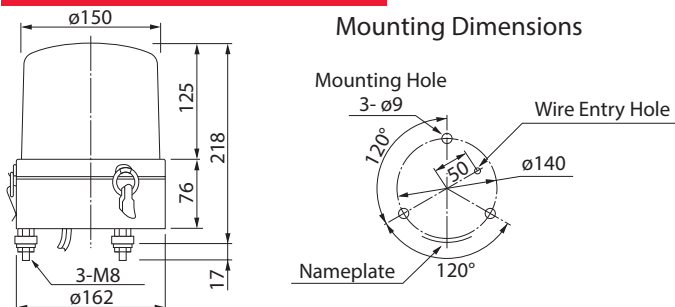
Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Rated	Repl. No.	
SKL-101CA/101SA	12V DC	2.6A	140	12V 35W	1	1.3kg
SKL-102CA/102SA	24V DC	1.2A		24V 35W	2	
SKL-102ACSA	24V AC			48V 35W	5	
SKL-104CA	48V DC	0.8A		120V 40W	36	1.5kg
SKL-110CA/110SA	100V AC	0.3A	220V 30W	37		
SKL-112SA	120V AC	0.4A				
SKL-120CA/120SA	200V AC	0.13A	120			

⊙ Available by Special Order

How to Order



Dimensions (Unit: mm)



HP

Revolving Warning Light



Halogen 

Ø182

Large Revolving Warning Light with a solid design.

FEATURES

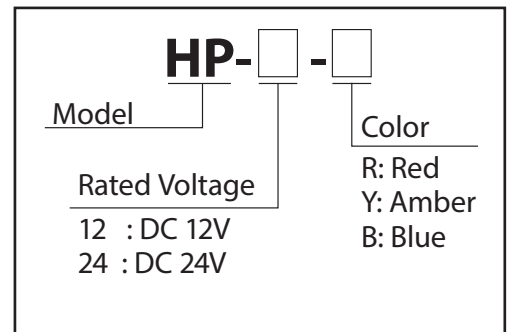
- Dome is made from superior weather-resistant and light-translucent acrylic resin.
- Main body is made of impact and heat resistant ABS resin.
- Available Voltages are DC 12V and DC 24V.
- Available Colors are Red, Amber, and Blue.
- Utilizes a Halogen Bulb (Sold Separately).

Specifications

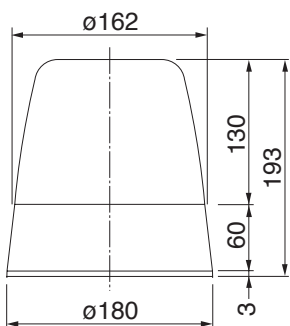
Model	Rated Voltage	Halogen Bulb	Flash Rate (fpm)	Mass
		Bulb sold separately		
⊙ HP-12	12V/24 DC	0.5A	160	1.0kg
⊙ HP-24				

⊙ Available by Special Order

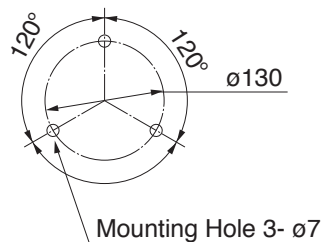
How to Order



Dimensions (Unit: mm)




Mounting Dimensions



KG

Revolving Warning Light



-  **Bulb**
- IP23**
- Ø186**
- Dual-face Reflector**

Large lightweight Revolving Warning Light with dual-face reflector.

FEATURES

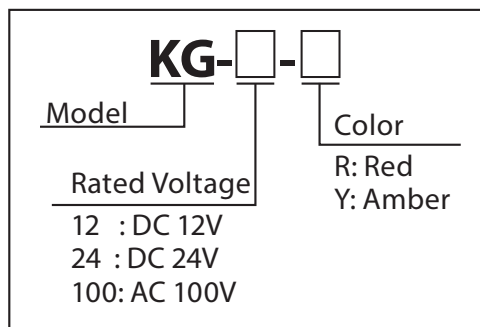
- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Main Body is made of a black resin for resistance against harsh weather and UV rays.
- Compact motor with high durability and energy-efficient characteristics.
- The red dome is made of AS resin; the amber dome is made of PS resin.
- Dual-face reflector for a powerful rotary flash.
- Available Colors are in Red and Amber.

*Please contact your local PATLITE representative for other available voltages.

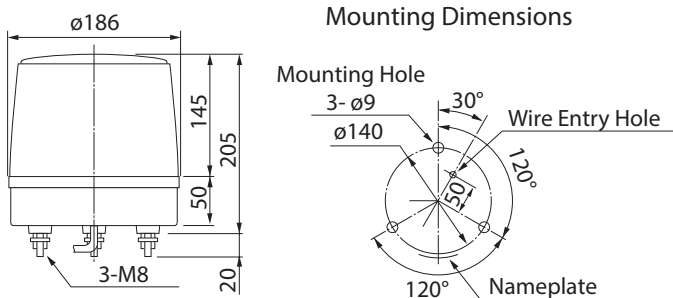
Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
KG-12	DC 12V	2.7A	180	12V 35W	1	700g
KG-24	DC 24V	1.2A		24V 35W	2	
KG-100	AC 100V	0.32A		120V 40W	36	900g

How to Order



Dimensions (Unit: mm)



SKC-A

Revolving Warning Light



Bulb



IP23

Ø187

Dual-face Reflector



Large Revolving Warning Light featuring a powerful dual-face reflector flash.

FEATURES

- Extended product lifespan by using vibration-resistance and reliable operation, even under a severely cold environment (-30°C).
- Main body is made of a melamine baked finish with a corrosion-proof stainless steel (SUS 304) lens mounting fixture.
- Indoors allows upright, inverted, and sideways installation; outdoors allows upright installation only.
- Has the CE mark and conforms to the requirements (for 12V, 24V type only) for the EC directive.
- Dome lens is made of superior weather-resistant and light-translucent acrylic resin.
- The rotary mechanism is belt-driven for an extremely quiet and stable rotation.
- Compact motor with high durability and energy-efficient characteristics.
- Available Colors are in Red, Amber, Green, and Blue.
- Dual-face reflector for a powerful rotary flash.

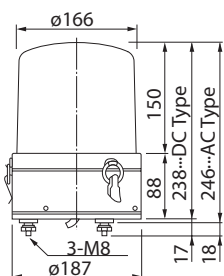
Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
SKC-201A	12V DC	2.6A	200	12V 35W	1	1.6kg
SKC-202A	24V DC	1.2A		24V 35W	2	
SKC-210A	100V AC	0.3A		120V 40W	36	1.8kg
SKC-212A	120V AC	0.4A	220V 30W	37		
SKC-220A	200V AC	0.13A			160	

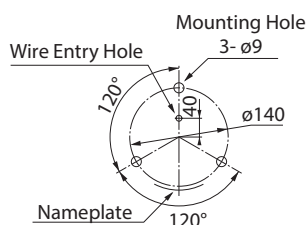
How to Order

SKC-□ A-□	
Model	Color
Rated Voltage	R: Red Y: Amber G: Green B: Blue
201: DC 12V	
202: DC 24V	
210: AC 100V	
212: AC 120V	
220: AC 200V	

Dimensions (Unit: mm)



Mounting Dimensions



HKFM

Revolving Warning Light



 Halogen

Compact revolving warning light with cigar lighter plug to attach onto your car for road service.

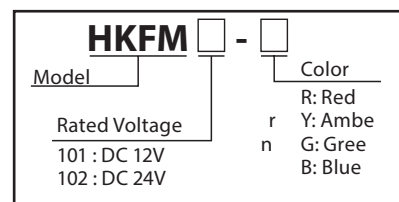
FEATURES

- Large-sized rotating parabolic reflector to enhance visibility from a distance.
- Cigar lighter plug with a 4m cable for easy power connection.
- Available Colors are in Red, Amber, Green, and Blue.
- Rim-drive motor for a quiet and stable rotation.
- Dome lens is made of polycarbonate resin.

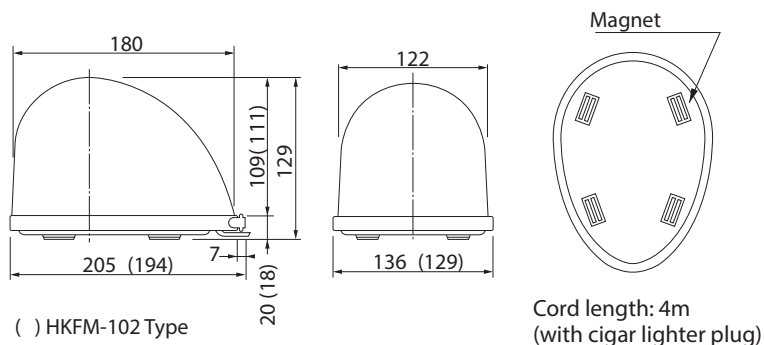
Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb	Mass
HKFM-101	DC 12V	2.9A	230	12V 35W	800g
HKFM-102	DC 24V	1.9A		24V 55W	

How to Order



Dimensions (Unit: mm)



SKV-A

Revolving Warning Light

CE (12/24V Only)



Bulb



IP66

Ø204

Corrosion-resistant Revolving Warning Light.

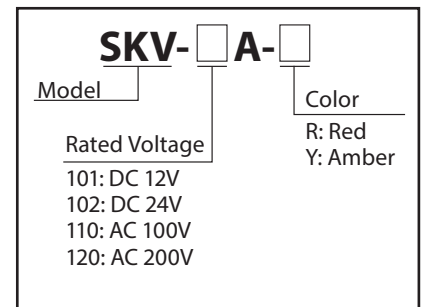
FEATURES

- Main body is made of corrosion-resistant aluminum alloy die-cast with a metal cable gland.
- Dome lens is made of superior impact and heat resistant polycarbonate resin.
- Operating Temperature Range is from -30°C to +80°C.
- Allows upright, inverted, and sideways installation.
- Available Colors are in Red and Amber.

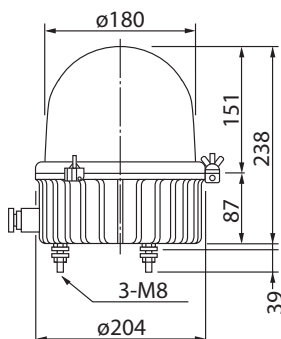
Specifications

Model	Rated Voltage	Current Consumption	Flash Rate (fpm)	Bulb		Mass
				Ratings	Repl. No.	
SKV-101A	12V DC	2.6A	140	12V 35W	1	2.6kg
SKV-102A	24V DC	1.2A		24V 35W	2	
SKV-110A	100V AC	0.3A	120	120V 40W	36	2.8kg
SKV-120A	200V AC	0.13A		220V 30W	37	

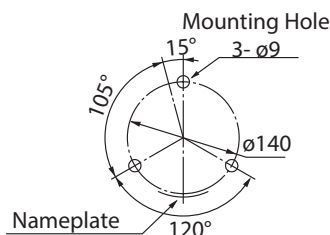
How to Order



Dimensions (Unit: mm)



Mounting Dimensions



KUS

Cube Tower



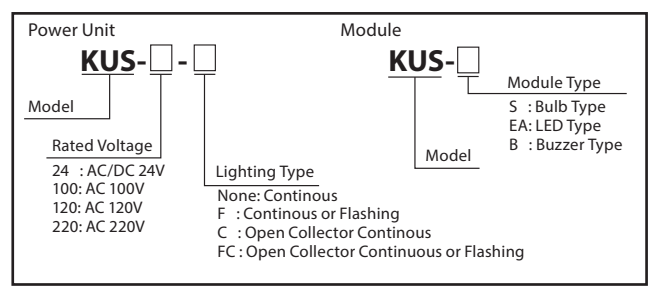
- LED
- Bulb
- 1 Alarm Sound
- 80db at 1m
- IP54 (Except KUS-B)
- 70

The KUS Series cube tower; uses advanced technology with a modular design to combine two different lights on one unit.

FEATURES

- Light modules can be stacked up to 4 tiers in any color combination.
- RoHS Compliance for Models KUS-24, KUS24F, KUS-EA-R/Y/G/B/C.
- Lenses are made of heat and shock resistant polycarbonate resin.
- Each light has a built-in dip switch to control the light on or off.
- Maximum power consumption of the base unit is 21 watts.
- Light and Base units are sold separately.
- IP rating of IP54 (Except the KUS-B)
- KUS-F flashes 60 times a minute.

How to Order



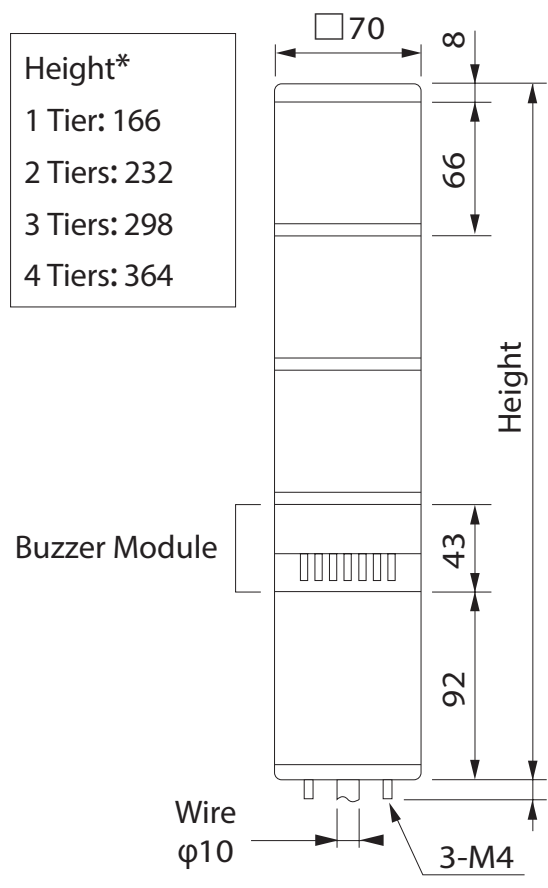
Specifications

Power Unit	Model	Rated Voltage	Power Consumption
Continuous Lighting	KUS -24	AC/DC 24V	21W
	KUS -100	AC 100V	
	KUS -120	AC 120V	
	KUS -220	AC 220V	
Continuous Lighting or Flashing	KUS -24 F	AC/DC 24V	
	KUS -100 F	AC 100V	
	KUS -120 F	AC 120V	
	KUS -220 F	AC 220V	
Open-Collector Continuous Lighting	KUS -24 C	AC/DC 24V	
	KUS -100 C	AC 100V	
	KUS -120 C	AC 120V	
	KUS -220 C	AC 220V	
Open-Collector Continuous Lighting or Flashing	KUS -24 FC	AC/DC 24V	
	KUS -100 FC	AC 100V	
	KUS -120 FC	AC 120V	
	KUS -220 FC	AC 220V	

Model	Rated Voltage	Power Consumption	Bulb	
			Ratings	Repl. No.
KUS-S (Bulb)	DC 24V	6W	24V 6W	19
KUS-EA (LED)			—	—

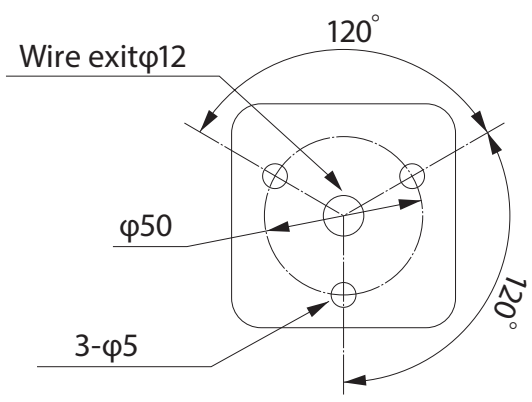
Model	Rated Voltage	Power Consumption	Volume
KUS-B	DC 24V	0.5W	80dB (at 1m)

Dimensions (Unit: mm)



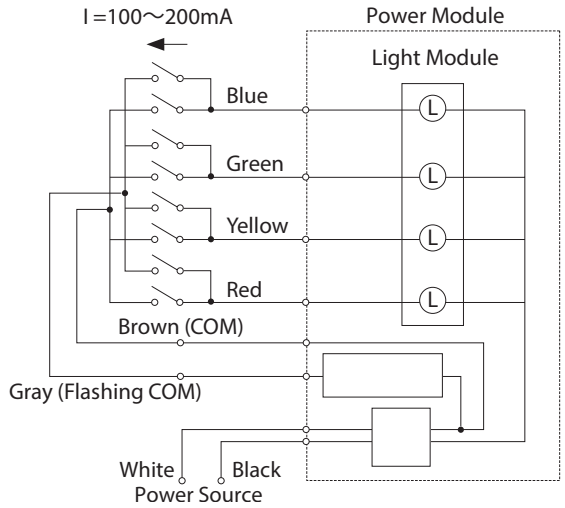
* Buzzer module height not included

Mounting Dimensions

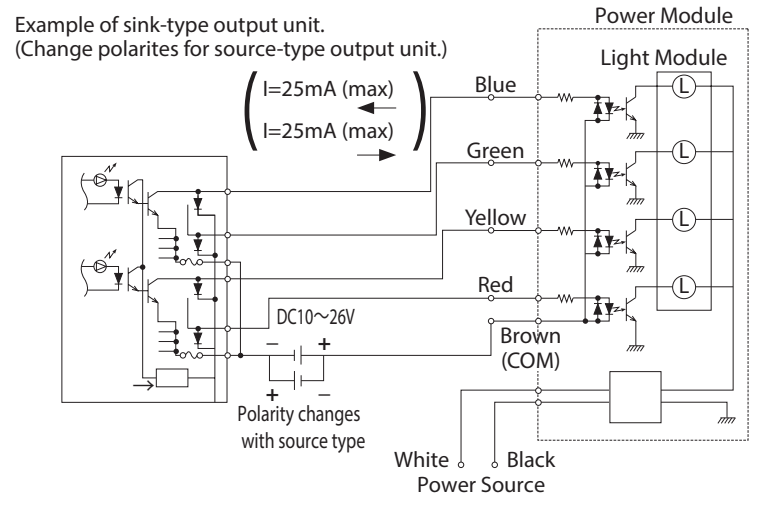


Wiring

Contact Input Type
 (KUS, KUS-F)



Open-collector Type
 (NPN/PNP for KUS-FC,C)





KJS / KJSB

KJS/KJSB

Cube Tower



- Bulb**
- 1** Alarm Sound
- 80** db at 1m (KJSB)
- IP23**
- 82**
- NPN/PNP**
Open-collector

Lightweight Cube Tower featuring a built-in buzzer designed to fit applications for small equipment.

FEATURES

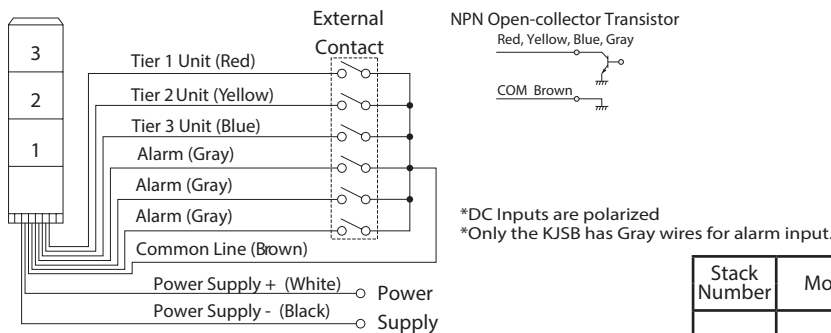
- Built-in Alarm with intermittent buzzer sound and volume of up to 85dB (at 1m).
- Lens is made of superior weather-resistant and light-translucent AS resin.
- Rotating parabolic reflector to enhance visibility from a distance.
- Main body is made of impact and heat resistant ABS resin.
- Available colors are Red, Amber, Green, and Blue.
- Flashing cycle of 160 times/min.
- One spare bulb is included.

How to Order

KJS□-302-RYG

<p>Type</p> <p>Blank: No Alarm B: With Alarm</p> <p>Tiers 1~3</p>	<p>Color</p> <p>R: Red Y: Amber G: Green B: Blue (Top to bottom)</p>	<p>Rated Voltage</p> <p>01: DC 12V 02: DC 24V 10: AC 100V 12: AC 120V 20: AC 220V</p>
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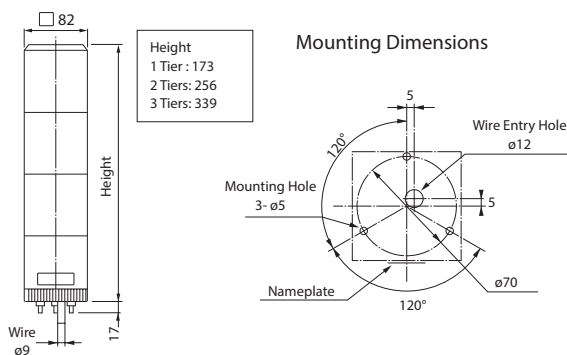
Wiring



Specifications

Stack Number	Model	Rated Voltage	Power Consumption	Flash Rate (fpm)	Bulb	
					Ratings	Repl. No.
1 Tier	KJS KJSB	-101 DC 12V	6W	160	12V 5W	12
		-102 DC 24V	12W		24V 10W	10
		-110 AC 100V	8W		12V 5W	12
		-112 AC 120V			12V 5W	12
		-120 AC 200V			12V 5W	12
2 Tiers	KJS KJSB	-201 DC 12V	11W		12V 5W	12
		-202 DC 24V	24W		24V 5W	10
		-210 AC 100V	16W		12V 5W	12
		-212 AC 120V			12V 5W	12
		-220 AC 200V			12V 5W	12
3 Tiers	KJS KJSB	-301 DC 12V	16W	12V 10W	9	
		-302 DC 24V	35W	24V 10W	10	
		-310 AC 100V	23W	12V 5W	12	
		-312 AC 120V		12V 5W	12	
		-320 AC 200V		12V 5W	12	


Dimensions (Unit: mm)



KJ / KJB

Cube Tower



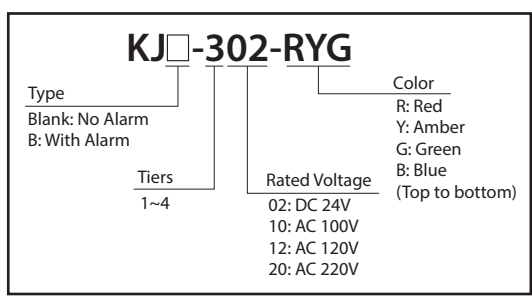
- Bulb** 
- 1 Alarm Sound**
- 85dB at 1m (KJB)**
- IP23**
- 116**

Lightweight Cube Tower featuring a built-in buzzer suitable for various indoor applications.

FEATURES

- Built-in Alarm with intermittent buzzer sound and volume of up to 85dB (at 1m).
- Lens is made of superior weather-resistant and light-translucent AS resin.
- Rotating parabolic reflector to enhance visibility from a distance.
- Main body is made of impact and heat resistant ABS resin.
- Available colors are Red, Amber, Green, and Blue.
- Installation is in the upright position only.
- Flashing cycle of 130 times/min.
- One spare bulb is included.

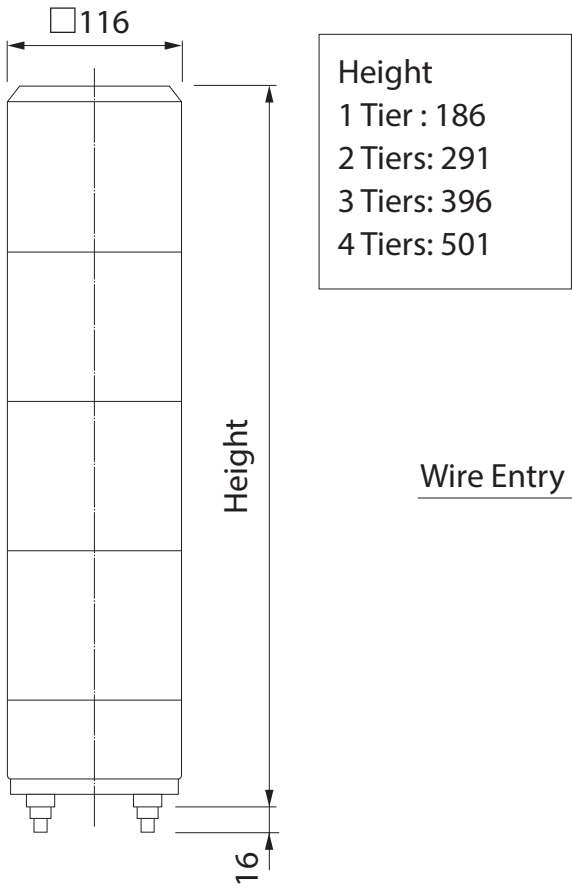
How to Order



Specifications

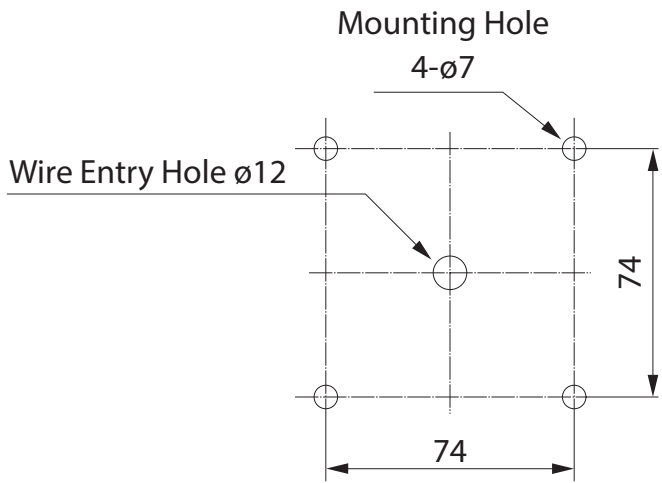
Stack Number	Model		Rated Voltage	Power Consumption	Flash Rate (fpm)	Bulb		
						Ratings	Repl. No.	
1 Tier	KJ	KJB	-102	DC 24V	13.5W	130	24V 10W	10
			-110	AC 100V	6W		12V 5W	12
			-112	AC 120V	7W			
			-120	AC 200V	5.5W			
2 Tiers	KJ	KJB	-202	DC 24V	25.54W	130	24V 5W	10
			-210	AC 100V	11W		12V 5W	12
			-212	AC 120V	13W			
			-220	AC 200V	9.9W			
3 Tiers	KJ	KJB	-302	DC 24V	37.5W	130	24V 10W	10
			-310	AC 100V	16W		12V 5W	12
			-312	AC 120V	18W			
			-320	AC 200V	14.3W			
4 Tiers	KJ	KJB	-402	DC 24V	49.5W	130	24V 10W	10
			-410	AC 100V	21W		12V 5W	12
			-412	AC 120V	26W			
			-420	AC 200V	18.7W			

Dimensions (Unit: mm)



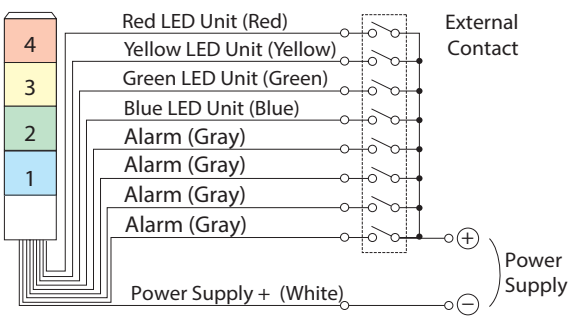
Height
 1 Tier : 186
 2 Tiers: 291
 3 Tiers: 396
 4 Tiers: 501

Mounting Dimensions

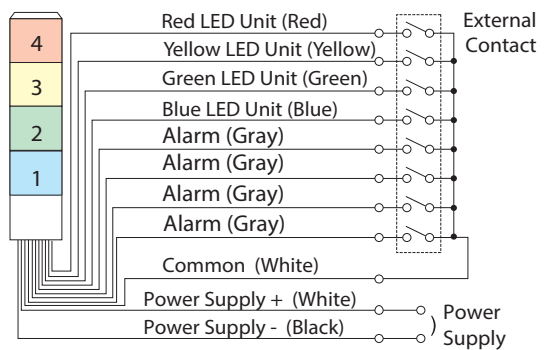


Wiring

KJ/KJB (24V DC)



KJ/KJB (100V AC, 220V AC)

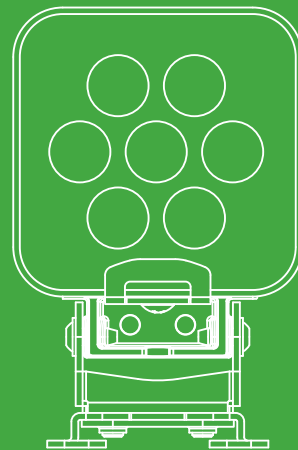


*KJ-110/112/120 are voltage-contact type, therefore have no alarm signal wires.
 *Only the KJB has Gray wires for alarm input.

Current Consumption and Contact Capacity per Module					
Rated Voltage	Signal Wire Current	Inrush Current	External Contact Capacity	Alarm Wire Current	Alarm Wire Inrush Current
24V DC	0.42A	4.6A	5A or more	60mA	500mA
100VAC/120VAC/220VAC					



LED Lights



CLA

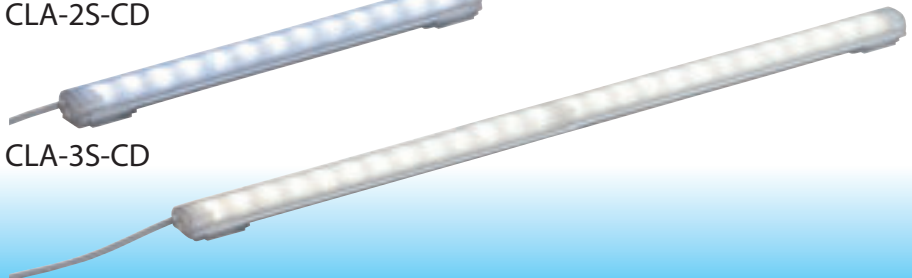
LED Light Bar



CLA-2S-CD



CLA-3S-CD



CLA-6S-CN

Daylight, Amber
Natural White



IP66/67/69K

More than a diffusion LED light bar, it can be used in places like the food-processing industry with its protection rating of "IP69K", which can endure high-pressurized hot water washing.

- Bright, long lasting LED's.
- Suitable for food, beverage and pharmaceutical applications where high-pressure, 80°C high-temperature wash-downs are required. Also meets IP66/67 standards.
- The radiating temperature is reduced to 40 degrees or less (34% reduction in comparison to a 20W fluorescent light), increasing environmental efficiency.
- Six lengths in the range from 100 to 1200mm to choose from, with three colors (Daylight, Natural White, Amber), and four types of attachments, including a magnet one, offering a potential for various applications.
- The operating temperature range from -40°C to +60°C allows installation in sub-freezing temperatures, such as walk-in freezers.
- It is constructed with strong polycarbonate resin, which is resistant to shock.
- Corresponds to Europe's RoHS Directive.
- Obtained certification for ECOLAB.
- Conforms to CE requirements.
- UL Listed (File No. E306141).

Luminous Color

With a high-intensity lumination, its suitable for applications such as lighting processing machinery workspace, for lighting up a video inspection system to light up more details, etc.



A 6800K daylightlight light bar at a distance of 50 cm from the center of irradiation has measured a maximum brightness of 400lx.

How to Order

CLA <input type="checkbox"/> S-24- <input type="checkbox"/> - <input type="checkbox"/>	
Model	Cable Length
Light Bar Length	Blank : 0.5m 30 : 3.0m
1 : 100mm	Luminous Color
2 : 200mm	-CD (Daylight)
3 : 300mm*	-CN* (Natural White)
6 : 600mm	-Y* (Amber)
9 : 900mm	
12 : 1,200mm	
* -Y is only available in 300mm lengths	
* -CN is only available in 600 and 900mm lengths.	



CLA-CN (Natural White: 4800K)

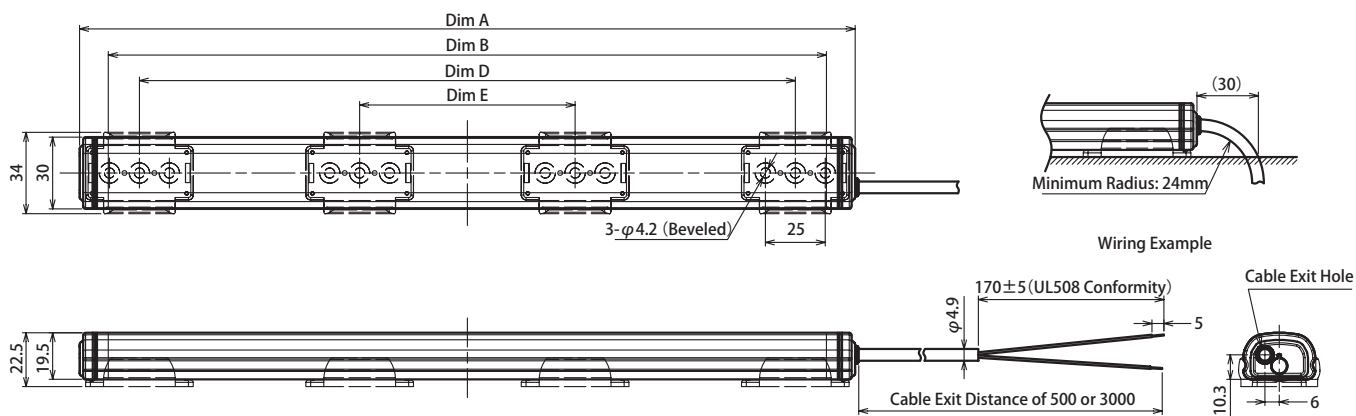


CLA-CD (Daylight: 6800K)

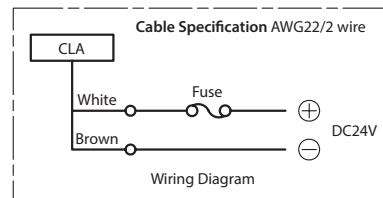


CLA-Y (Amber)

Dimensions (Unit: mm)



Model Name	Dim A	Dim B	Dim D	Dim E	Standard Bracket SZ-310AR
	Total Length	Lighting Area	Mounting Pitch		
CLA1S	124	100	74	—	2 pcs.
CLA2S	224	200	174	—	
CLA3S	324	300	274		
CLA6S	624	600	574		
CLA9S	924	900	874	290	4 pcs.
CLA12S	1,224	1,200	1,174	390	



Options



Standard

Rear Attachment
(Screw Mount)
Model SZ-310AR



Option

Rear Attachment
(Magnetic Mount)
Model SZ-310ARM



Option

Side Attachment
(Screw Mount)
Model SZ-310AS



Option

Side Attachment
(CLB-24N Compatible)
Model SZ-310ASB

Specifications

Model	Luminous Color	Rated Voltage	Vibration Resistance	Operating Temperature Range	Rated Current Consumption	Center Radiation (lx/50cm)	Main Body Material	Protection Rating	Mass
CLA1S -24 -CD	Daylight	DC 24V (Polarized)	19.6 m/s ²	-40°C - +60°C (RH 90% or less)	104mA	140	Polycarbonate	IP66/67/69K	80g
CLA2S -24 -CD	Daylight				208mA	270			130g
CLA3S -24 -CD	Daylight				240mA	400			180g
CLA3S -24 -CN	Natural White					220			
CLA3S -24 -Y	Amber				480mA	650			340g
CLA6S -24 -CD	Daylight					720mA			
CLA6S -24 -CN	Natural White				960mA				890
CLA9S -24 -CD	Daylight								
CLA12S -24 -CD	Daylight								

CLK

LED Light Bar



(M12 type is UL Recognized)
(SG/SA type has no UL certifications)



Daylight
Natural White

IP66G/67G/69K

M-12 Daisylink

(Cable not included)

Water, Oil and Chemical Resistant LED Light Bar with an Illuminance of 2,100lx. (Measurement based on CLK6S-24AG-CD)

FEATURE

- Attained the IP69K standard for the meat/food processing, beverages and medicine manufacturing industries which demands the waterproofing performance. It also corresponds to IP66G/67G standards.
- Special design to reduce "Blinding Light" effect, reducing the risk of retinal damage (EN62471-2 for Photobiological Safety of Lamps and Lamp Systems).
- The product lineup includes three sizes (200mm, 300mm, 600mm), two colors (Daylight, Natural White), and different series (Side-exit Cable; M12 Quick-disconnect; Aluminum Alloy and Stainless Steel Body) for various applications.
- The operating temperature range from -40°C to +60°C allows installation in sub-freezing temperatures, such as walk-in freezers.
- Slim Profile
- Corresponds to Europe's RoHS Directive.
- Conforms to CE requirements.
- UL Listed (File No. E306141, M12 type is UL Recognized, SG/SA type is not UL certified).
- Passed IEC 62471

Specifications

Specifications/Material	Water and Oil Resistance/Aluminum Alloy						Water and Chemical Resistance/ SUS316 Stainless Steel		
Lens Material	Tempered Glass						Specially-treated Lens \diamond		
Model	2S-AG	3S-AG	6S-AG	3C-AG	3CL-AG	6C-AG	6CL-AG	3C-SG	3C-SA
Lens Size	200mm	300mm	600mm	300mm		600mm		300mm	
LED Color	Daylight: 6,500K: CD								
	●	●	●	●	●	●	●	●	—
	Natural White: 5,000K: CN								
	△	●	△	●	●	●	—	—	●
Center Illumination (@1m)	820lx	1,200lx	2,100lx	1,200lx		2,100lx		1,200lx	
Connection Type	Side-exiting Cable, L=0.5m			M12 Quick Disconnect	M12 Daisy Link	M12 Quick Disconnect	M12 Daisy Link	M12 Quick Disconnect	
Power Consumption	8.4W	12.5W	25W	12.5W		25W		12.5W	
Rated Voltage	DC24V (Polarized)								
Operating Temperature Range	-40°C - +60°C (RH 90% or less)								
Protection Rating	IP 66G/67G (IEC 60529)/IP69K (DIN 40050 Part 9)								

△ : Inquire before Ordering

◇: Specially-treated lens has three layers embedded; PMMA, Shatter-proof Film, Tempered Glass

How to Order

Model Code

Illumination Area Size
2: 200mm 3: 300mm 6: 600mm

Model **CLK** -24 -

LED Color
CD: Daylight, CN: Natural White

Wiring Method
S: Side-exiting Cable C: M12 Cable CL: M12 Daisy Link

Body Material AG: Aluminum & Glass
SG: Stainless Steel & Glass
SA: Stainless Steel & Special Lens

Oil Exam

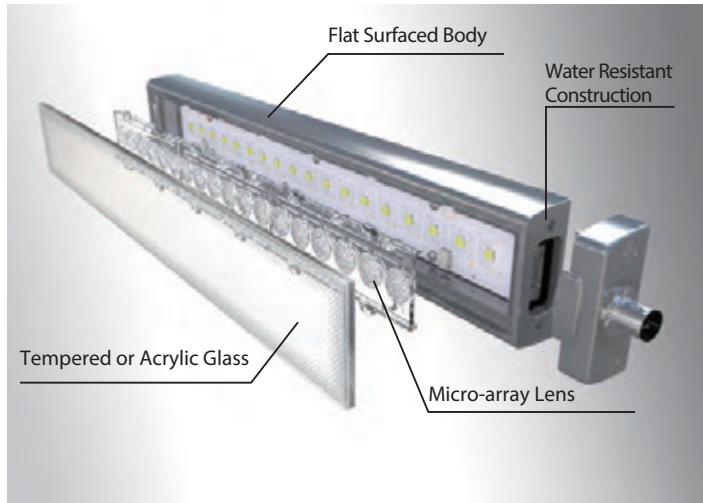
It has passed the oil resistant test from the following common cutting oils.

Company	Oil Type
Hangsterfer's	Hangsterfer's S-500
Yushiro Chemical Industry Co., Ltd.	Yushiroken Synthetic #663
Castrol	Syntilo 9954
BlaserSwisslube Inc.	Blasocut BC35LFSW

Confirmation in result of swelling, contraction, dissolution, exfoliation, separation, cracks, and discoloration by the accelerated impregnation examination with the oil types indicated in the table on the left for diluted oil at 55°C for 240 hours (ten days) was made.

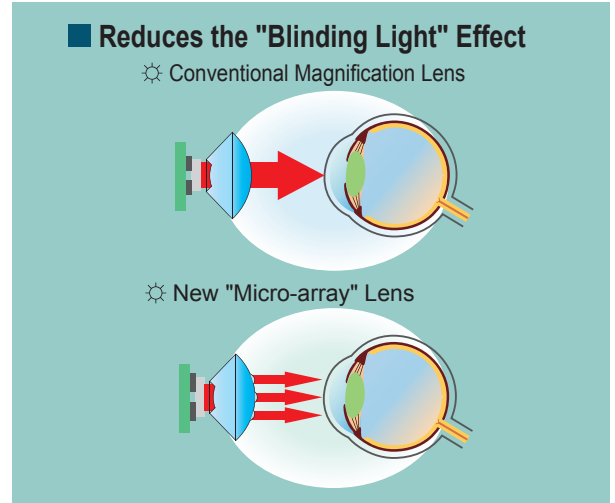
Due to the additive agents in oil, the application of oils other than the ones mentioned may influence physical properties, therefore, please inquire in advance.

* The mentioned company names, product names, trademarks, etc. are the registered trademarks or trademarks in Japan for each company, and/or other countries.



Angled Body and Flat Surface

The side body angle was designed to prevent dirt accumulation, and for water and oil to roll off the surface. The LED lens retains a simple flat-surface for lighting and to help when wiping it down.



Reduces the "Blinding Light" Effect

This design conforms to the Photobiological Safety of Lamps and Lamp Systems (Compliance :EN62471- 2) in the Exempt Risk Group, which determines that no immediate retina damage is done.



One-touch Installation

Just sliding the body onto the bracket makes attachment easy; and it locks in place with a locking screw (which is hidden from the front). (Aluminum Body Only)

Angle Adjustment Bracket

The Worklight can be freely adjusted up to 60° up and down from the center. (With a scale at 10° step marks and screws to lock it into place.)

Surface-mounting Bracket

A space-saving flush-mount bracket. (Limited board thickness and lead wire specification of 6mm or less; M12 connector specification of 3mm or less) (Models 3 S-AG/3 C-AG Only)

Options

Refer to Page 192 for "Optional Parts"

Product Lineup

Specifications Length	Side-exiting Cable Series (S)	M12 Quick Disconnect Series (C)	M12 Quick Disconnect Daisy Link Series (CL)	Stainless Steel (SUS) Body Series (CSG/C-SA)
200 mm	2S (-CD) (-CN)	_____	_____	_____
300 mm	3S (-CD) (-CN)	3C (-CD) (-CN)	3CL (-CD) (-CN) *Up to 4 Units	3C (-CD) (-CN)
600 mm	6S (-CD)	6C (-CD) (-CN)	6CL (-CD) (-CN) *Only 1 Unit	_____

CLN

LED Work Light



Daylight
Warm White



IP66G/67G/69K

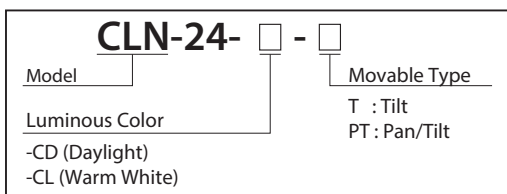
Water and Oil resistant high-power LED Work Light with an illuminance of 820 lx.

Industry's thinnest design at 22.2mm.

*The industry's first based on corporate investigation

- Made of aluminum alloy and tempered glass which is resistant to water, oil and coolants.
- Special design disperses heat radiation with illumination to surpass a 40W light bulb.
- The product lineup includes two colors (Daylight, Warm White) and two bracket options of Tilt (forward and back) or Pan & Tilt (forward, back and swivel left & right) to adapt to various scenarios.
- The operating temperature range of -40 to +60°C allows installation in sub-freezing temperature environments, such as cold storage warehouses.
- Conforms to CE and RoHS requirements.
- UL Listed (File No. E306141).

How to Order

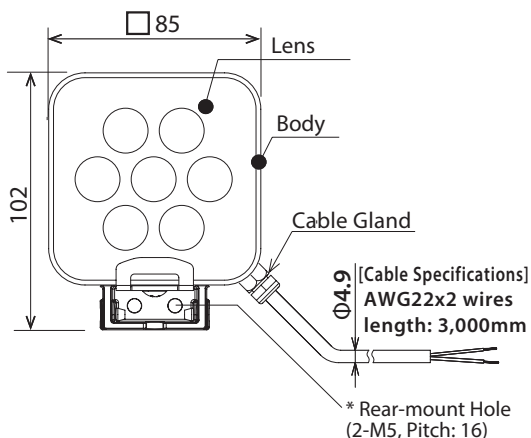


Specifications

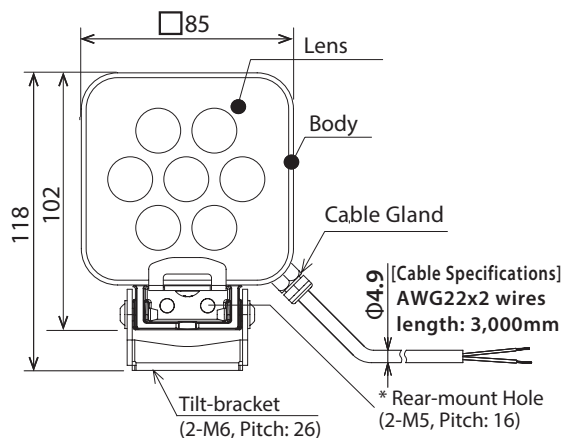
Model	CLN-24- <input type="checkbox"/> -T		CLN-24- <input type="checkbox"/> -PT	
Color Code (Color)	CD (Daylight)	CL (Warm White)	CD (Daylight)	CL (Warm White)
Color Temperature (typ.)	6500K	2700K	6500K	2700K
Illumination (typ.) (Centered at DC 24V)	820 lx	620 lx	820 lx	620 lx
Total Luminous Flux (typ.)	550 lm	330 lm	550 lm	330 lm
Rated Voltage	DC 24V (Polarized)			
Operating Voltage Range	DC 24V ±10%			
Protection Rating	IP66G/67G (JIS C 0920)/69K (DIN 40050 part 9) (excluding Cable ends)			
Mounting Location/Direction	Indoor / Any Direction			
Mass (Tolerance ±10%)	360g		430g	

Dimensions (Unit: mm)

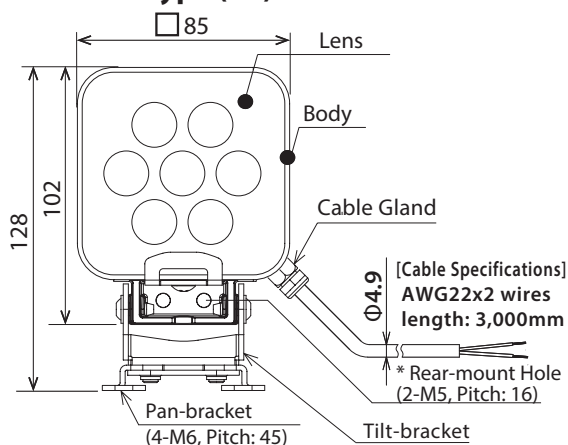
• Rear-mount Type (T/PT)



• Tilt Type (T)



• Pan/Tilt Type (PT)



Oil Exam

It has passed the oil resistant test from the following common cutting oils.

Company	Oil Type
Hangsterfer's	Hangsterfer's S-500
Yushiro Chemical Industry Co., Ltd.	Yushiroken Synthetic #663
Castrol	Syntilo 9954
BlaserSwisslube Inc.	Blasocut BC35LFSW

Confirmation in result of swelling, contraction, dissolution, exfoliation, separation, cracks, and discoloration by the accelerated impregnation examination with the above-mentioned oil type for diluted oil at 55°C for 240 hours (ten days) was made.

Due to the additive agents in oil, the application of oils other than the ones mentioned may influence physical properties, therefore, please inquire in advance.

* The mentioned company names, product names, trademarks, etc. are the registered trademarks or trademarks in Japan for each company, and/or other countries.

Features

Tilt Type (T Type)

Tilt Type Adjusts to 180°

Has tilt adjustment of 180°, and can be folded up to a width of 33mm, making it easier to mount.

Floor Mount Example



Wall Mount Example



Ceiling Mount Example



Pan/Tilt Type (PT Type)

Pan/Tilt Type Adjusts to 180°

Adjusts to 120°

Has tilt adjustment of °180 with a pan angle of °120, and can be folded up to a width of 43mm. Horizontal wall-mounting and free adjustment for any application.

Floor Mount Example



Wall Mount Example



Ceiling Mount Example



※ The tilt & pan/tilt brackets can also be removed for Rear Attachment applications.

CWA

LED Light Bar



Daylight

IP65

CWA-3S-CD

CWA-6S-CD

CWA-9S-CD

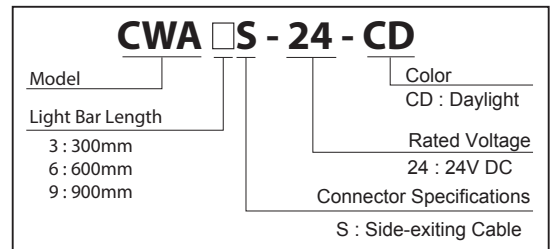
Affordable replacement for fluorescent lighting.

An affordable replacement, the slim LED light bar can outperform a conventional fluorescent lamp. The protection rating of IP65 is a standard which allows installation in most common environments.

FEATURES

- Available for DC 24V applications
- Long-lasting LED's greatly reduce maintenance costs
- Total luminous flux of 350lm, 100lx luminance at 1m (Voltage: DC24V)
- A set of two stainless-steel mounting brackets is a standard accessory
- Operating temperature range from -30 to +60 degrees C.
- LED color temperature is Daylight (6500K)

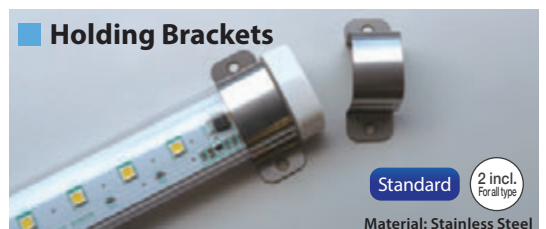
How to Order



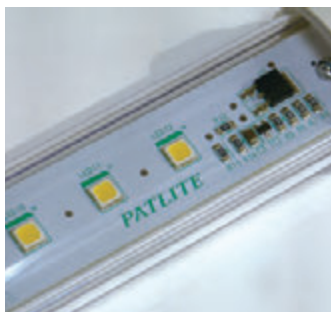
Specifications

Model	CWA3S-24-CD	CWA6S-24-CD	CWA9S-24-CD	
Luminous Color	Daylight			
Color Temperature (typ.)	6500K			
Illuminance (at DC24V)	1.0m	440 lx	800 lx	990 lx
Total Luminous Flux (typ.)	350 lm	700 lm	1050 lm	
Operating Voltage Range	24VDC ±10%			
Current Consumption	180mA	360mA	540mA	
Rated Power Consumption	6W	12W	18W	
Operating Ambient Temperature	-30°C - +60°C			
Operating Ambient Humidity	90% RH or less, no condensation			
Main Unit Material	Body: Polycarbonate Resin; Packing: Silicon			
Cable Length	3 meters			
Mounting Location	Indoors			
Protection Rating	IP65 (Cable ends not included)			
Insulation Resistance	500V DC 5MΩ or more			
Withstand Voltage	500VAC for 1 minute (Between terminals and screw)			
Vibration Resistance	30Hz 19.6m/s ²			
Mass (Tolerance ±10%)	215g	385g	540g	

Standard Accessory



Highly reliable LED chips are used

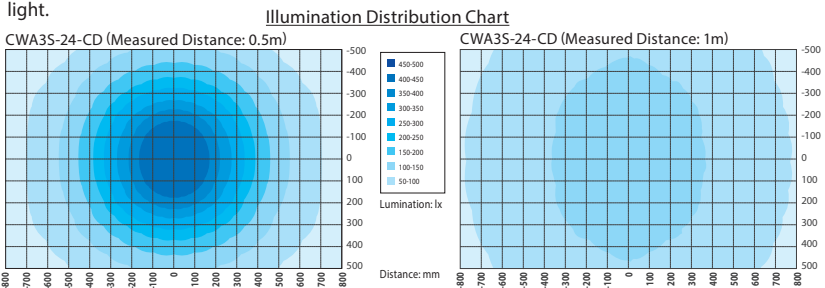


High-definition LED chip

The highly reliable LED chip, which is the core of LED lighting, has nearly 10 times (about 40,000 hours) the lifespan (based on LED brightness of 70%) in comparison to the common fluorescent light, it also does not contain any mercury.

A uniform light that subdues glare

In comparison to an LED luminous source, we take advantage of the straight beam optical characteristic of the LED without dropping brightness or overdoing it, but reproducing a natural light.



Cost Saving

Energy ab. **82.7%** Less

Based on 10 hrs. per day for 365 days

Annual Power Consumption	100V20W Fluorescent: 88kWh	CWA LED Light Bar: 15.3kWh
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Earth Friendly

CO2 Emissions ab. **80.7%** Less*

Based on 10 hrs. per day for 365 days

CO2 Annual Power Consumption	100V20W Fluorescent: 31kg	CWA LED Light Bar: 6kg
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Long Life

Lifespan **9** times more

Lifespan	Conventional Fluorescent: 4,000 to 13,000Hrs.	CWA LED Light Bar: 36,000Hrs.
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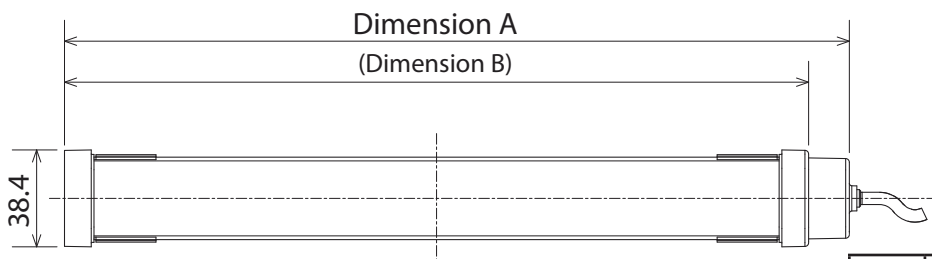
Low Heat

In Comparison ab. **31%** Less

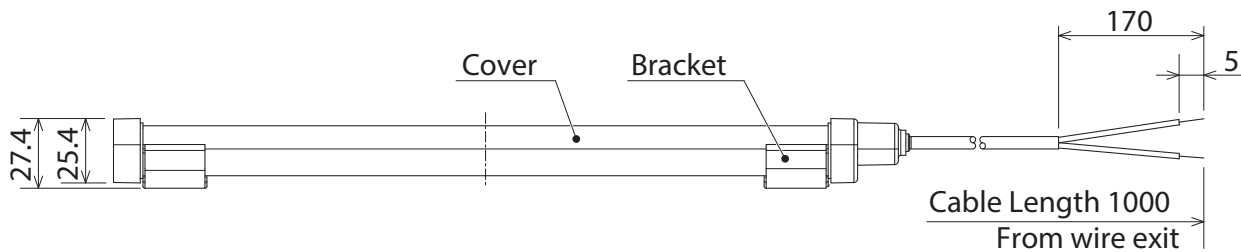
Measured 1 hr. after lighting

Heat Radiation	Flourescent (FL20SS): 60°C At Room Temperature	CWA LED Light Bar: 41.5°C At Room Temperature
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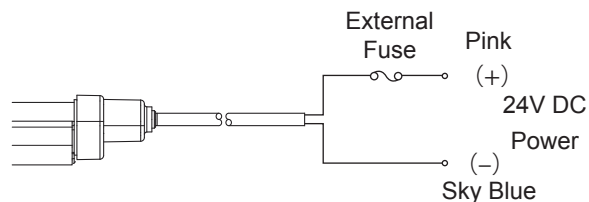
Dimensions (Unit: mm)



Model Name	Dimension A	Dimension B
	Total Length	Lighting Area
CLA3S	315.5	300
CLA6S	621.0	600
CLA9S	916.5	900

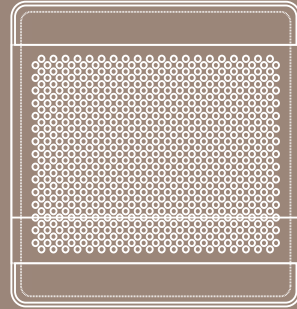


Wiring

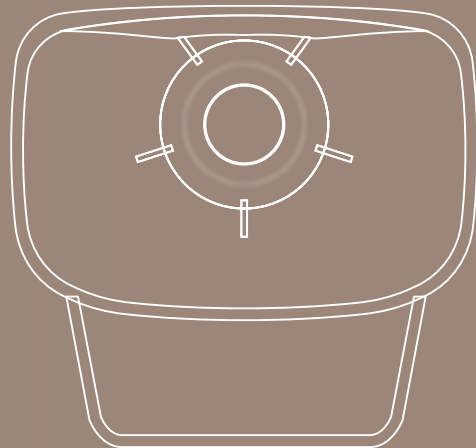


[Enforced]

There is no protection rating for the area surrounding the tip of the cable. To ensure insulation of water intrusion, the use of fillers (such as silicon, etc.) to plug up the tip part is recommended.



Alarm Products





Signal Horn

CE (AC/DC 24V Only)

90dB at 1m (BM-H Type)

2 Channels

IP34 (BM-D Front Only)

Ø30

**NPN/PNP
Open-collector**



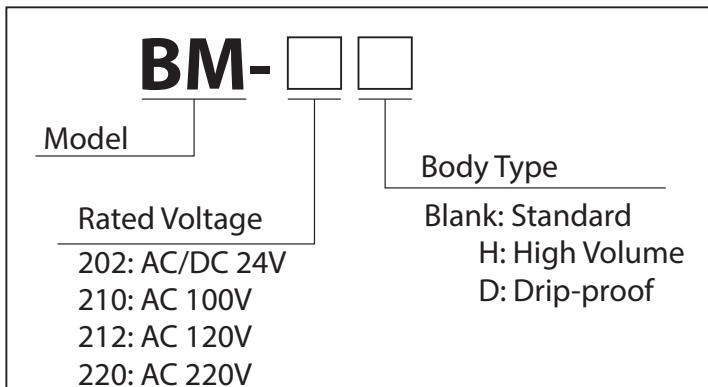
Compact Signal Horn designed to integrate with control panel, switchboard and other production equipment applications.

FEATURES

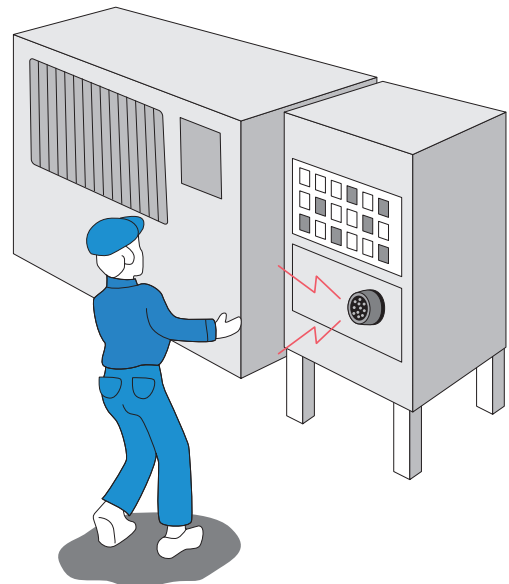
- Built-in Alarm with an audible sound of up to 90dB (at 1m*1).
- Has two selectable alarm sound patterns.
- Three Types to choose from; Standard (BM), High Volume (BM-H), Drip-proof (BM-D)
- Body is compact and lightweight (100g).
- The 24V type is compatible with NPN and PNP inputs.
- Has the CE mark and conforms to the requirements for the EC directive. (For AC/DC 24V only.)

*1 Model BM-H: 90dB (at 1m); Model BM: 85dB (at 1m); Model BM-D: 80dB (at 1m)

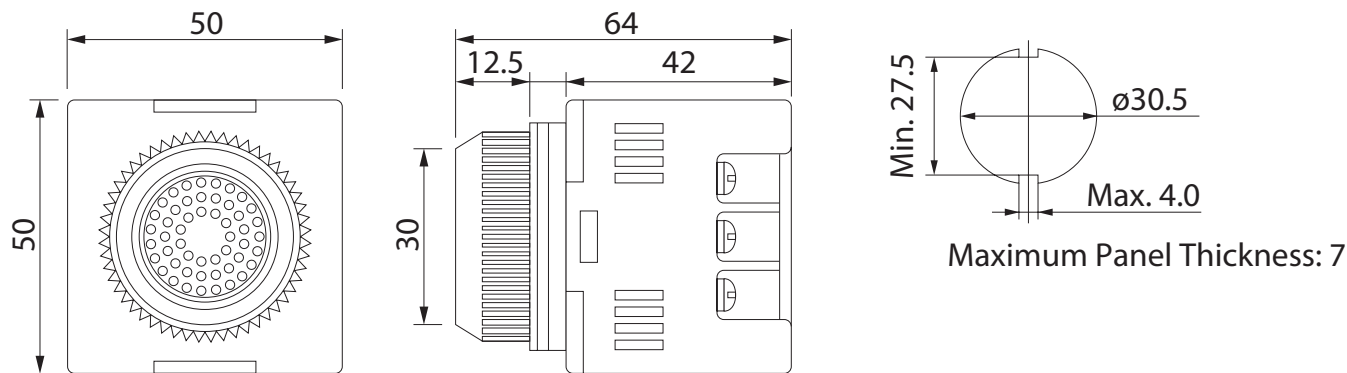
How to Order



Application Example

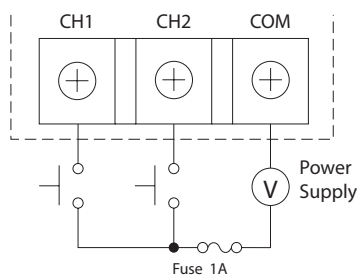


Dimensions (Unit: mm)



Wiring

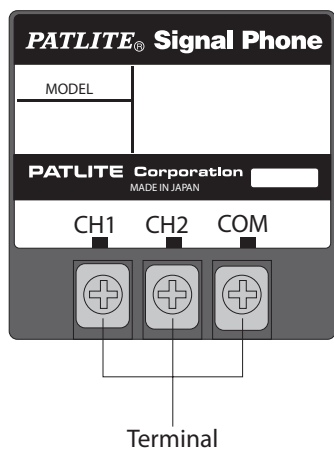
Terminal Bus Input



• Channel Priority

CH1 > CH2
 CH1 has priority when CH2 and CH1 are activated simultaneously

Rear View



External Contact Capacity : No less than 100mA
Auxiliary Input : Voltage Contact
Input Channels : 2

Specifications

Type	Model	Rated Voltage	Voltage Range	Power Consumption	Max. Volume (at 1m)	Operating Temperature Range	Protection Rating	Mass
Standard	BM -202	AC/DC 24V	AC/DC 22V-26V	0.4W	80dB	-10°C - +60°C (RH 85% or less)	IP30	100g
	BM -210	AC 100V	AC 90V-110V	2.5W	85dB			
	BM -220	AC 220V	AC 200V-240V	3.5W				
High Volume	BM -202H	AC/DC 24V	AC/DC 22V-26V	0.4W	85dB			
	BM -210H	AC 100V	AC 90V-110V	2.5W	90dB			
	BM -212H	AC 120V	AC 108V-132V					
	BM -220H	AC 220V	AC 200V-240V					
Drip-proof	BM -202D	AC/DC 24V	AC/DC 22V-26V	0.4W	75dB		IP34	
	BM -210D	AC 100V	AC 90V-110V	2.5W	80dB			
	BM -220D	AC 220V	AC 200V-240V	3.5W				

BD-A

Audible Alarm



AC/DC 24V Only



AC/DC 24V Only

90dB at 1m
4 Channels / 32 Sounds
IP54
□80
**NPN
Open-collector**


The BD Series can play melodies, chimes and alarms with variable audible control and a compact, but loud speaker.

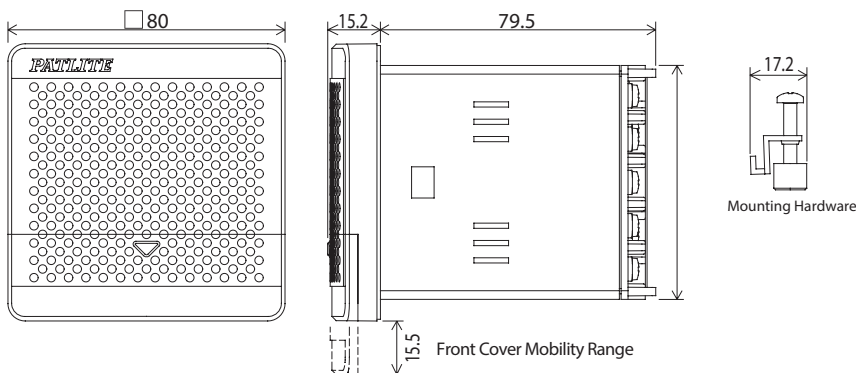
FEATURES

- Maximum output level of 90dB (at 1m) is suitable for use in a noisy factory.
- 32 pre-recorded sounds in one unit to be used for various applications.
- Sound output level and sound group can be selected by rotary switches stored behind the front panel for easier operation, even after installation.
- Select a sound group to playback 4 pre-recorded sounds.
- A new sound group can be created from the 32 sounds by using an optional memory card (sold separately).
- Compliant with the RoHS directive
- Has the CE mark and conforms to the requirements (for 12V/24V type) for the EC directive.
- Is a UL recognized component (File No. E24210).

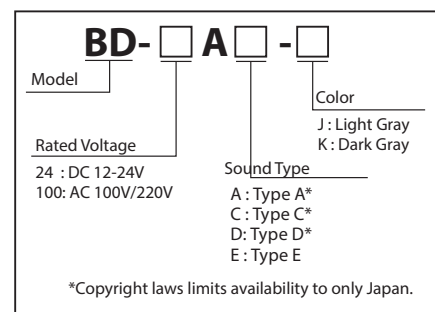
AVAILABLE BY SPECIAL ORDER

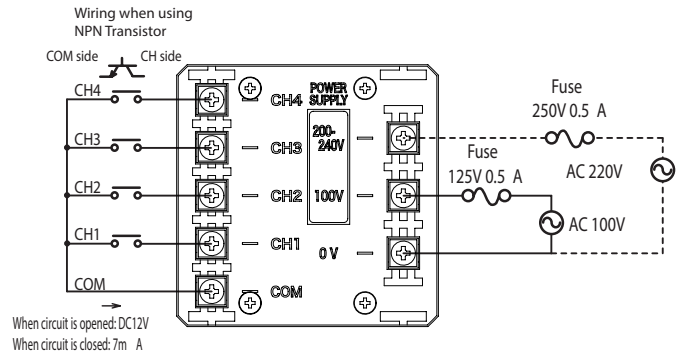
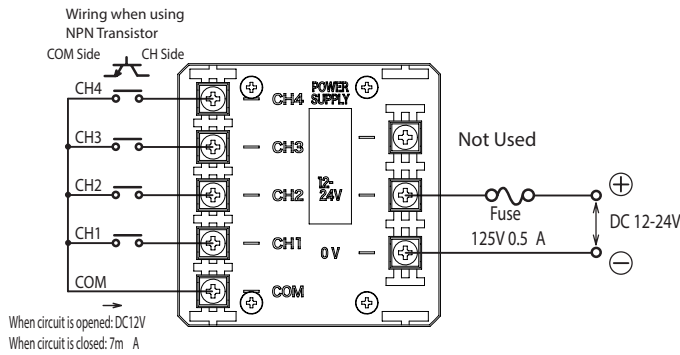
- Binary input controlled 15 sound playback model.
- PNP open collector transistor type.

Dimensions (Unit: mm)



How to Order





Melody List

Type A		(Japan Only)	
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter + Bell	Synthesized Melody	Chime	Call Sign
Fur Elise	Maiden's Prayer	Bach Minuet in Gmaj	Annie Laurie
London Bridge is falling down	Hol-di-ri-Dia	Mary had a little Lamb	Camptown Races
Cuckoo Song	Village Blacksmith	On the Bridge of Avignon	Daydream Believer
Amaryllis	Mozart Symphony No. 40	Quiet Lakeside	Ich bin ein Musikante
Spanish Romance	Katyusha	Grandfather's Clock	Ave Maria

Type D		(Japan Only)	
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Runner	Mamotte Agetai	Chime	Call Sign
Iribiao Kikinagara	September	Doyoubino Koibito	Akino Kehai
Saafu Tengoku Sukii Tengoku	Iro White-blend	Happy Birthday	Hi Ho
I've been working on the Railroad	The Bear Song	Toys Go "Cha-cha-cha"	Konnako Irukana
Schubert's Lullaby	Rudolph the red-nosed Reindeer	She Wore a Yellow Ribbon	My Darling, Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Air

Type C		(Japan Only)	
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Synthesized Melody	Synthesized Piano	Synthesized Bell
Stutter + Bell	Synthesized Melody Chime	Chime	Call Sign
Can't take my eyes off of you	Top of the World	The Entertainer	Amazing Grace
Amairono Kamino Otome	Les Champs-Elysees	Canon	Rara Sunshine
Uchuusenkan Yamamoto	Oshiete	Makenaide	Gonna Fly Now (Theme from "Rocky")
I don't Wanna Miss a Thing	Yozorano Mukou	Aiwa Katsu	Haruyo Koi
Gattsudaze	Odoru Ponpokorin	Imasugu Kisu Mi	Truth

Type E		(Worldwide)	
Beep (slow intermittent)	Stutter + Bell	Inverted Reveille	Annie Laurie
Stutter (rapid intermittent)	Synthesized Melody	Galactic Motor	London Bridge is falling down
Bell (clear high-pitch)	Chime	Ringing Phone	Mary had a little Lamb
Yelp (rapid siren)	Call Sign	Two Tone	Camptown Races
Rapid Hi-Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Galloping Hi-Lo	Ringing Hi-Lo	Mozart Symphony No. 40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Bach Minuet in Gmaj	Grandfather's Clock

Specifications

Model	BD-24A □ - □	BD-100A □ - □
Rated Voltage	DC 12V - 24V	AC 100V/AC 220V (50/60Hz)
Operating Voltage Range	DC 10.8V- 26.4V	AC 100V ±10%/AC 220V ±10%
Operating Temperature Range	-20°C - +55°C	
Relative Humidity	85% RH (No Condensation)	
Power Consumption	Maximum 4.0W	Maximum 5.5W
Volume	Adjustable up to a maximum of 90dB (at 1m) when flushmounted. (Volume may be less, depending on surrounding environment and playback sound)	
Input Method	Bit Input	
Input Signal Duration	Continuous	
Boot-up Time	Input Voltage: 1 sec. or less	Channel Signal Input: 170msec or less
Channels	4 Channels	
Recorded Sound	32 Melodies and Alarm Sounds	
Sound Group	16 Patterns (A to P)	
Protection Rating	IP54 (When flush-mounted, Upright direction Only)	
Vibration Resistance	19.6m/s ²	
Mass (Tolerance ±10%)	160g	180g

Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C, and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody charts Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

BK



Audible Alarm



AC/DC 24V Only



AC/DC 24V Only

95dB at 1m

8 Channels / 32 Sounds

IP54

□120

NPN
Open-collector

The BK Series can play melodies, chimes and alarms with variable audible control and a compact but loud speaker.

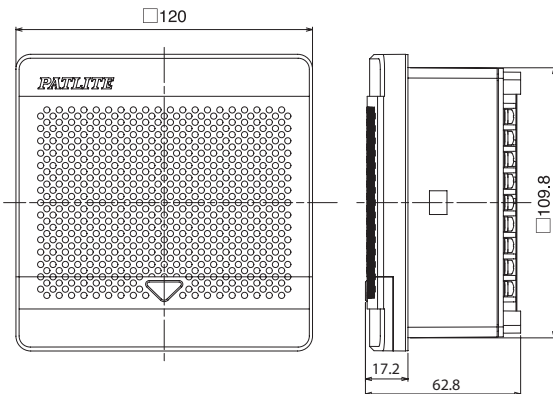
FEATURES

- 32 pre-recorded sounds in one unit to be used for various applications.
- Maximum output level of 95dB (at 1m) is suitable for use in a noisy factory.
- Rotary switch to easily change sound groups and adjust volume output from the front panel, even after installation.
- Use bit input to select a sound group to playback 8 pre-recorded sounds.
- A new sound group can be created from the 32 sounds by using an optional memory card (sold separately).
- Compliant with the RoHS directive
- Has the CE mark and conforms to the requirements (for 12V/24V type) for the EC directive.
- Is a UL recognized component (File No. E24210).

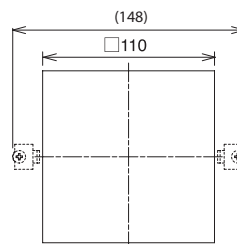
AVAILABLE BY SPECIAL ORDER

- PNP open collector transistor type.

Dimensions (Unit: mm)

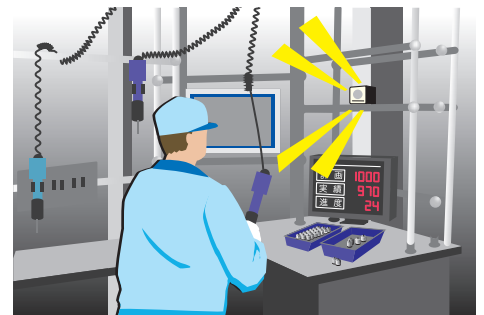


Mounting Dimensions



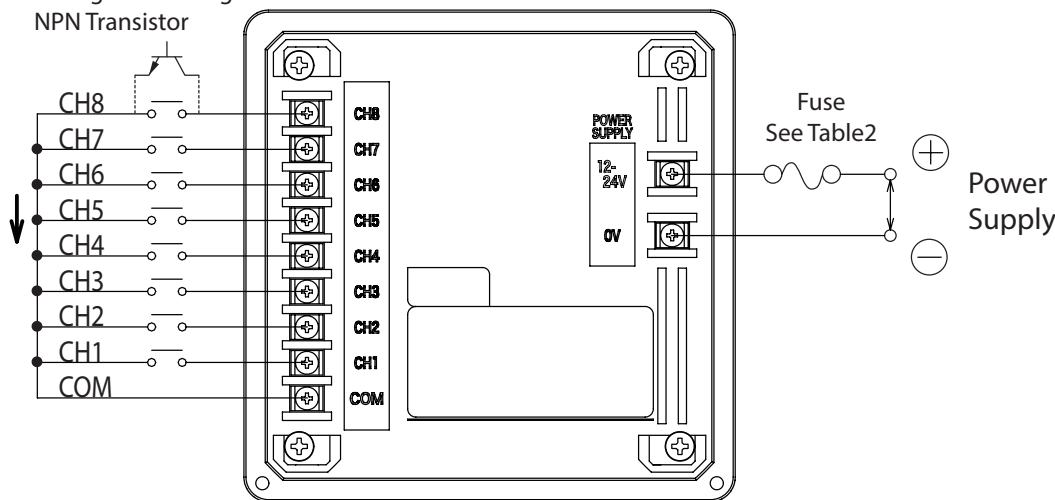
How to Order

BK-□□-□		Color
Model		J: Light Gray K: Dark Gray
Rated Voltage		Sound Type
24 : DC 12-24V		A : Type A*
100: AC 100V		C : Type C*
220: AC 220V		D : Type D*
		E : Type E
*Copyright laws limits availability to Japan only.		



Wiring

Wiring when using NPN Transistor



Melody List

Type A		(Japan Only)	
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter + Bell	Synthesized Melody	Chime	Call Sign
Fur Elise	Maiden's Prayer	Bach Minuet in Gmaj	Annie Laurie
London Bridge is falling down	Hol-di-ri-Dia	Mary had a little Lamb	Camptown Races
Cuckoo Song	Village Blacksmith	On the Bridge of Avignon	Daydream Believer
Amaryllis	Mozart Symphony No. 40	Quiet Lakeside	Ich bin ein Musikante
Spanish Romance	Katyusha	Grandfather's Clock	Ave Maria

Type D		(Japan Only)	
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Runner	Mamotte Agetai	Chime	Call Sign
Iribiao Kikinagara	September	Doyubino Koibito	Akino Kehai
Saafu Tengoku Sukii Tengoku	Iro White-blend	Happy Birthday	Hi Ho
I've been working on the Railroad	The Bear Song	Toys Go "Cha-cha-cha"	Konnako Irukana
Schubert's Lullaby	Rudolph the red-nosed Reindeer	She Wore a Yellow Ribbon	My Darling, Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Air

Type C		(Japan Only)	
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Synthesized Melody	Synthesized Piano	Synthesized Bell
Stutter + Bell	Synthesized Melody Chime	Chime	Call Sign
Can't take my eyes off of you	Top of the World	The Entertainer	Amazing Grace
Amairono Kamino Otome	Les Champs-Elysees	Canon	Rara Sunshine
Uchuusenkan Yamamoto	Oshiete	Makenaide	Gonna Fly Now (Theme from "Rocky")
I don't Wanna Miss a Thing	Yozorano Mukou	Aiwa Katsu	Haruyo Koi
Gattsudaze	Odoru Ponpokorin	Imasugu Kisu Mi	Truth

Type E		(Worldwide)	
Beep (slow intermittent)	Stutter + Bell	Inverted Reveille	Annie Laurie
Stutter (rapid intermittent)	Synthesized Melody	Galactic Motor	London Bridge is falling down
Bell (clear high-pitch)	Chime	Ringling Phone	Mary had a little Lamb
Yelp (rapid siren)	Call Sign	Two Tone	Camptown Races
Rapid Hi-Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Galloping Hi-Lo	Ringling Hi-Lo	Mozart Symphony No. 40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Bach Minuet in Gmaj	Grandfather's Clock

Specifications

Model	BK-24 □	BK-100 □	BK-220 □
Rated Voltage	DC 12V-24V	AC 100V (50/60Hz)	AC 220V (50/60Hz)
Operating Voltage Range	DC 10.8V- 26.4V	AC 100V ±10%	AC 220V ±10%
Operating Temperature Range	-20°C - +50°C		
Relative Humidity	85% RH (No Condensation)		
Power Consumption	Maximum 12W	Maximum 10W	Maximum 11W
Volume	Adjustable up to a maximum of 95dB (at 1m) when flushmounted. (Volume may be less, depending on surrounding environment and playback sound)		
Input Method	Bit Input, Binary Input		
Input Signal Duration	Continuous		
Boot-up Time	Input Voltage: 1 sec. or less Channel Signal Input: 170msec or less		
Channels	Bit: 4 Channels; Binary: 32 Channels		
Recorded Sound	32 Melodies and Alarm Sounds		
Sound Group	16 Patterns (A to P)		
Protection Rating	IP54 (When flush-mounted, Upright direction Only)		
Vibration Resistance	45m/s ²	19.6m/s ²	
Mass (Tolerance ±10%)	350g	530g	

Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C, and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody charts Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.



Melody/Alarm Horn



(M3 Not Included)



(12/24V Only)

110dB at 1m

32 Channels (Binary)

IP65

NPN/PNP
Open-collector

Cable



Terminal



Exceptional Sound Quality Field Programmable Melody/Alarm Horn

FEATURES

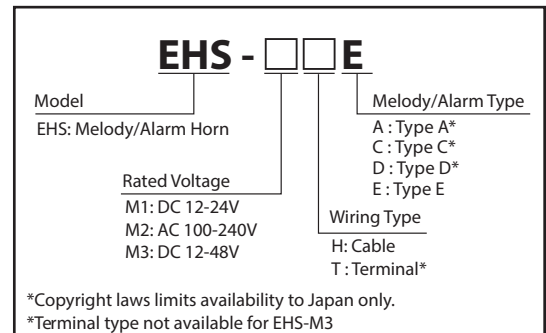
- EHS comes with 32 preloaded melody and alarm sounds with adjustable volume up to 110dB (at 1m).
- Ideal for plant-wide notification, public address and process control.
- Robust, indoor and outdoor use with vibration resistance up to 4.5G.
- Protection Rating of IP65.
- UL464, CSA-C22.2 NO.205-M1983, FCC Part 15 Subpart B Class 4.
- CE, RoHS Compliant (EHS-M1 Only).

EHS vs EHV (Functionality Comparisons)

Model	Onboard Sounds	MP3 Playback	Playback Modes	No. of Playback Channels
EHS	32 Sounds	No	1 Mode	8 ch Bit Input/ 32 ch Binary Input
EHV	63 Sounds	Yes*	4 Modes	8 ch Bit Input/ 63 ch Binary Input

* Internal Memory size of 2 Mbytes, maximum playback of 220 seconds at a 64kbit/sec rate

How to Order



Specifications

EHS

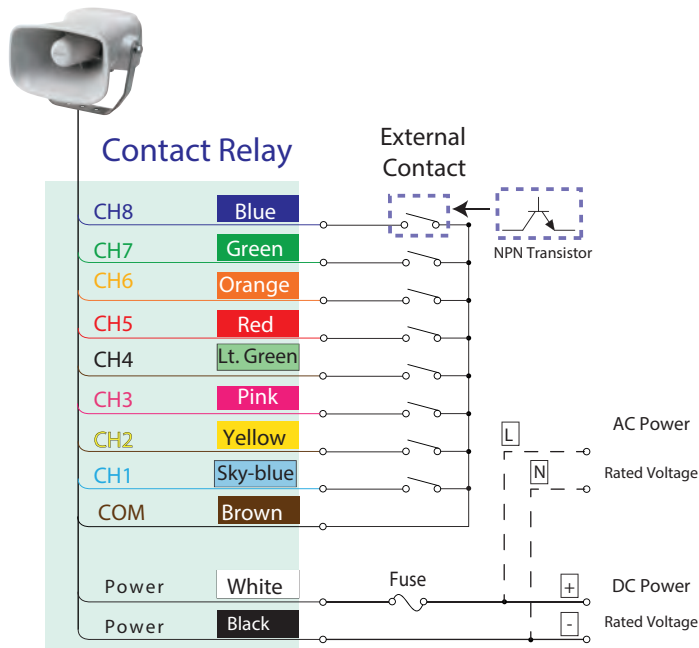
Model	Rated Voltage	Voltage Range	Power Consumption	Sound Pressure	Operating Temperature Range	No. of Playback Messages	Protection Rating	Wiring Type	Mass
EHS- M1H	DC 12 - 24V	DC 10.8V to 35V	5.0W (DC24V NPN, Non-voltage Contact)	Alarm: Max. 110dB (at 1m)	-20°C to +50°C (85% RH or less)	Bit Input: 8 Binary Input: 32	IP65	Cable	1.25kg
EHS- M1T			5.9W (DC24V PNP, Voltage Contact)					Terminal	
EHS- M3H	DC 12 - 48V	DC 10V to 60V	5.1W (DC48V NPN, Non-voltage Contact)					Cable	1.15kg
EHS- M2H			AC 100 - 240V					AC 90V to 264V	6.9W (AC240V NPN, Non-voltage Contact)
EHS- M2T	Terminal								

Notes:

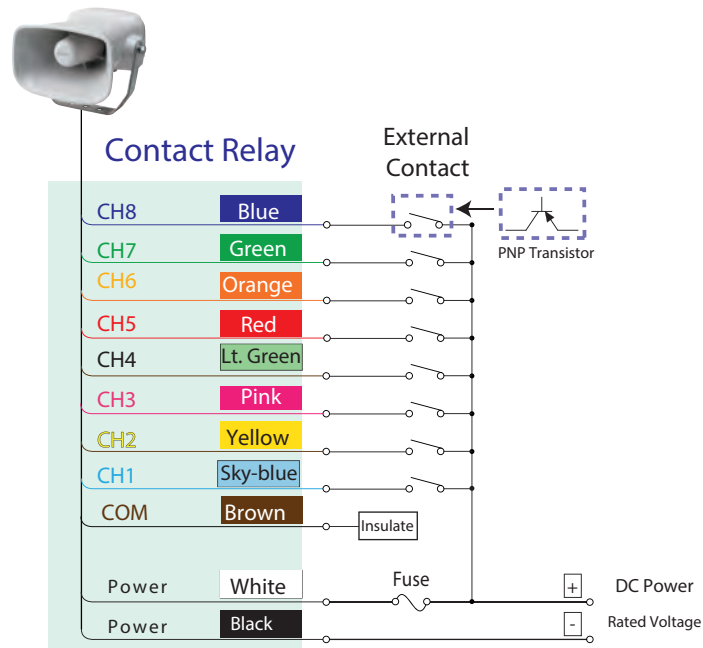
- The sound pressure level is based on measurements under controlled conditions (voice-synthesized 1 kHz sine wave played back from a distance of 1 meter), therefore the surrounding environmental conditions and message content will result in different values for the sound pressure level.
- Even when starting two or more units simultaneously, a lag will occur during message playback.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

Wiring

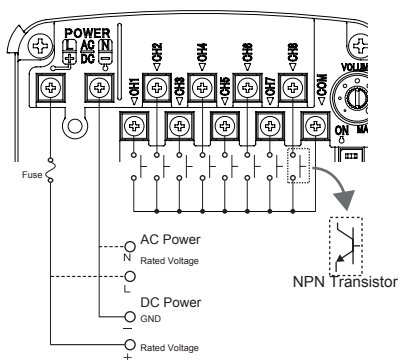
Non-voltage (NPN) Wiring



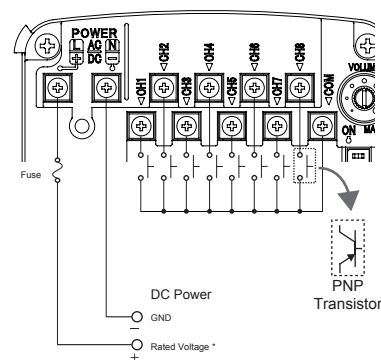
PNP Wiring



Terminal (NPN)



Terminal (PNP)



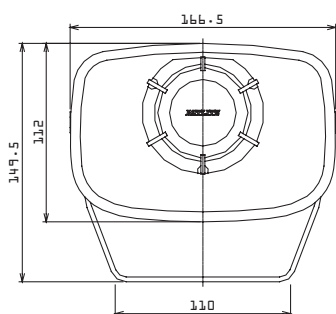
Transistor Capacity (NPN & PNP)	
Current Capacity	$I_c \geq 15\text{mA}$
Current Leakage	$I_L \leq 0.1\text{mA}$
Withstand Voltage	$V_c \geq 35\text{V}$
ON Voltage (V_{sat})	Less than 1V

Recommended Fuse	
Rated Voltage	250V
Rated Current	1A
Fuse Type	Standard

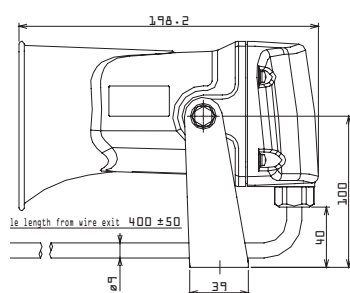
Maximum Inrush Current	
EH-M1	12.5A
EH-M2	23.0A
EH-M3	45.0A

Dimensions (Unit: mm)

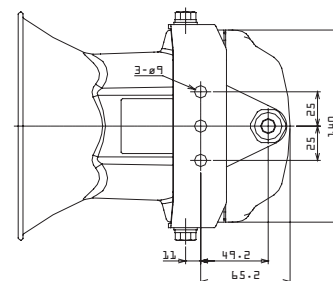
Front View

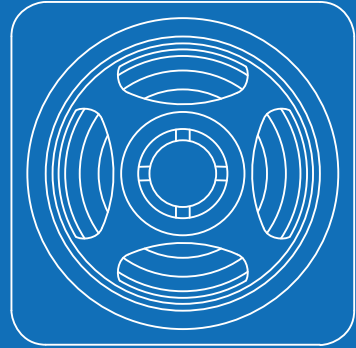


Side View

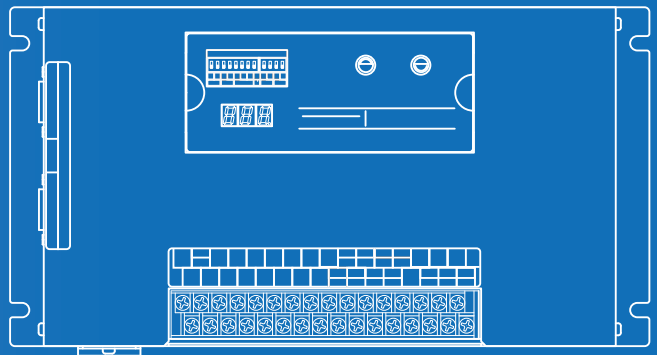


Underside View





Voice & Sound





Model EHV



Model BSV



Model BDV



Model BKV



Model LKEH



Model RFV



Model FV-127JP

STEP 1

Get the New Playlist Editor 2

The Playlist Editor 2 is free from PATLITE. Download the PATLITE Playlist Editor 2 from our Global Home Page, or contact us by E-mail, which can be located on the back of this catalog.

STEP 2

Get the Recommended SD Card (Model SDV-2GP)

The SDV2-GP is an SD Card approved and supplied by PATLITE. (The PATLITE Corporation is a member of the SD Card Association.)

STEP 3

Create the MP3 messages

Convert any message into MP3 data.
(Remove "ID3" tags and be sure the sample rate is the standard rate of 64kb/sec for PATLITE products and the SD Card is formatted for "FAT16".)

STEP 4

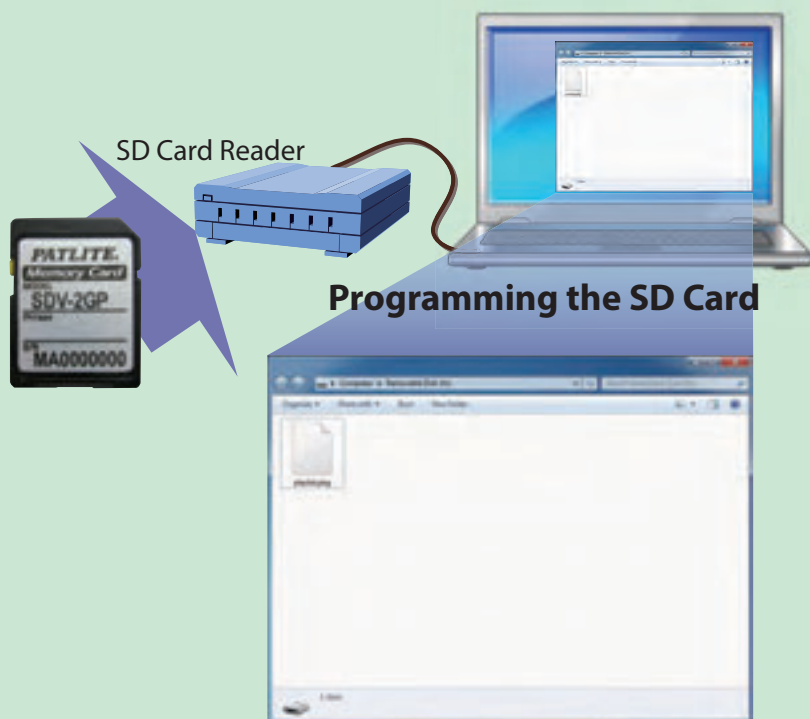
Save the MP3 messages on the SD Card

Use the Playlist Editor 2 to create a playlist and save it on an SD Card. (Refer to the product manual for detailed information)

STEP 5

Load the MP3 Data into the Product

Programming can be done right out in the field!
Insert the SD Card into the Product's SD Card slot and listen for the Beep that tells it's programming (Refer to the product manual for detailed information on programming).



PATLITE Playlist Editor 2

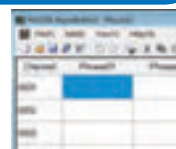
Create any Playlist using Playlist Editor2
With PATLITE's downloadable Playlist Editor2 from the Web, and most Windows OS software;

Playlist Editor 2 Overview

1. Decide on the sounds and messages for Channels and Phrases
2. Start the Software.



1. Insert the sound or message files into appropriate channels and phrases
2. Save as "playlist.slp" after all files are installed
3. The playlist creation is completed.



Get the Necessary Items:

1. An SD Card to save the data onto for rewriting (Recommended Parts : option part SDV-2GP)
2. Personal Computer with all hardware operating normally.
3. SD card reader/writer (if one is not built inside the personal computer)
4. Application Software (PATLITE Playlist Editor 2)

Corresponding OS: Windows® XP, Windows Vista™ 32 bits/64 bit, Windows® 7 32bit/64 bit, Windows® 8 32bit/64 bit.

* Writing data onto the SD Card with a computer can be done without the PATLITE Playlist Editor 2, but some functions may be limited. (Refer to the product manual for mor-e details)

Example (EHV)

1. Remove the cover to access the SD Card Slot. (Refer to the product manual for more details)
2. After inserting the SD Card with the stored data into the slot, a high-low beep will sound to indicate rewriting has begun.
3. When a short beep sound is heard, it indicates the rewriting sequence is complete and the SD Card can be removed from the slot.
 * Rewriting should be completed within 60 seconds. The rewriting is not successfully completed if beeping sounds other than indicated above are heard, or when there is no response (Refer to the product manual for more details). In addition, if the volume has been minimized, the beeping sounds cannot be heard.
4. Playback the channels to verify the rewriting has been successful. (Refer to the product manual for more details)

Table: Corresponding Application Software

Application Software	Usable	Outline
PATLITE Playlist Editor 2	All PATLITE Products	This is a newer version of the PATLITE Playlist Editor. A playlist package can be created and the MP3 data and channel function assignment for the product can be rewritten.
FV-Win	Limited PATLITE Products (Products prior to the EHV)	This product is not compatible with the playlist created by FV-Win or the PATLITE Playlist Editor. However, the playlist can be changed into a playlist package using the PATLITE Playlist Editor 2.
PATLITE Playlist Editor		

Caution

- FV-Win or the PATLITE Playlist Editor can only be used with certain models, but the PATLITE Playlist Editor 2 will work with all PATLITE products.

Please

- It is recommended to use Model SDV-2GP (sold separately). Proper operation is not guaranteed with other SD Cards.
- When inserting the SD Card into the slot, be sure to insert it in the proper direction and do not forcibly insert the card. Failure to comply will result in damage to the SD Card and/or product.
- Avoid the intrusion of any foreign substances from entering the card slot.
- While rewriting the messages, do not disconnect power or remove the SD Card.

Note

- If the SD Card was inserted during message playback, the rewriting procedure will commence soon after the message completes its playback.
- During the message rewrite, any signal inputs on the Audio Input line will be ignored.

BDV

Voice Annunciator



(BDV-15JF Only)

87 dB at 1m

15 Channels (Binary)

63 Seconds

IP54 (Upright Only)

80

NPN
Open-collector

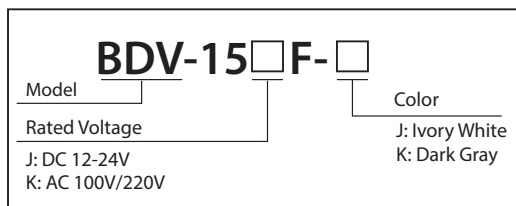


Excellent sound quality with MP3 playback! This panel-mounted MP3 voice annunciator uses SD cards*, allowing messages to be changed easily. (*Recommended: SDV-2GP)

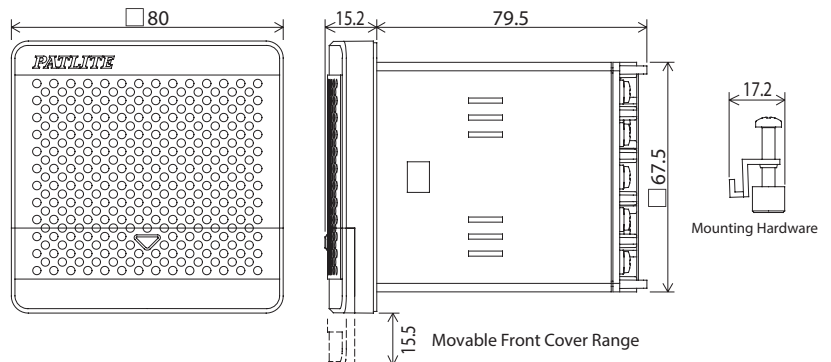
FEATURES

- Only Flush-mounting style available.
- Able to produce a loud sound of up to 87 dB (at 1m) despite its compact size
- A volume control on the front panel provides an easy way to adjust the sound volume.
- The use of an SD card allows message changes without uninstalling the device.
- Environmentally friendly since the unit complies with the EU RoHS Directives.
- Several playback modes are available for various applications.
- Includes binary input as a standard option for selecting up to 15 messages.
- Supports input selection using NPN open-collector transistor.
- The unit complies with EU Directives and includes the CE mark (BDV-15JF only)
- Two colors are available for selecting the best color match for the installation.
- Protection rating: IP54 (only the front panel when flush-mounted)

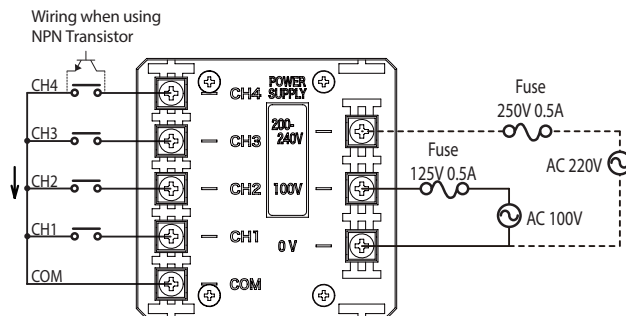
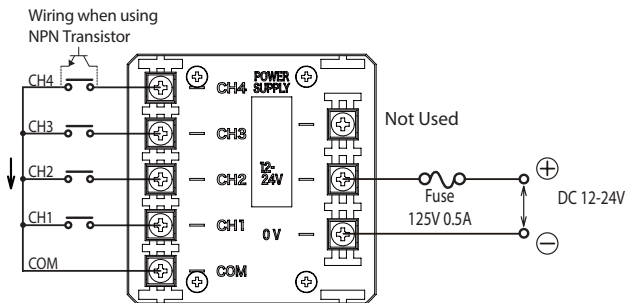
How to Order



Dimensions (Unit: mm)



Wiring Diagram



Playback Modes

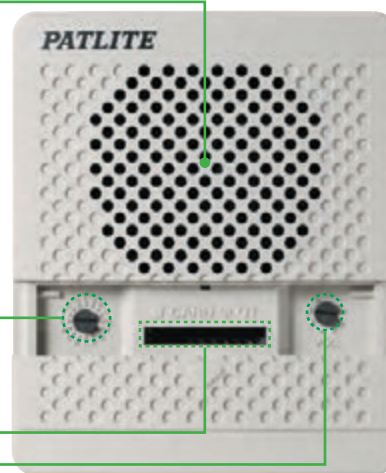
Mode Selector Switch

Several playback modes for a combination of applications.

A	Bit Input Mode	Plays back up to 4 messages using Channels 1 to 4.
B	Binary Input Mode	Plays back up to 15 messages using Channels 1 to 4.
C	Bit Input/Volume Reduction Mode	Plays back up to 3 messages using Channels 1 to 3. When Channel 4 receives an input, the volume is reduced by about -10dB.
D	Binary Input/Volume Reduction Mode	Plays back up to 7 messages using Channels 1 to 3. When Channel 4 receives an input, the volume is reduced by about -10dB.
E	Bit Input/Priority Message Playback Mode	Plays back up to 7 messages using Channels 1 to 3. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.
F	Binary Input/Priority Message Playback Mode	Plays back up to 15 messages using Channels 1 to 4. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.
G	Bit Input/Hold Message Playback Mode	Plays back up to 4 messages using Channels 1 to 4. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
H	Binary Input/Hold Message Playback Mode	Plays back up to 15 messages using Channels 1 to 4. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
I - P	Test Playback Mode	Plays back Message No. 1

Up to 87dB (at 1m)

Despite its slim appearance, it is able to produce a maximum of 87dB (at 1m). (Actual sound level will depend on sound type and surrounding operating conditions.)



Volume Control

The volume is easily accessible from the front for adjustment.

Memory Card Slot

With an SD Card, messages can be changed while the unit is still mounted.

Options

PATLITE Playlist Editor 2
(Free Download)

SD Card
(2 GB)
SDV-2GP



(OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)

- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.

Specifications

Model	Rated Voltage	Operating Voltage Range	Power Consumption	Sound Level (Max.)	Voice File	Operating Temperature Range	Maximum Playback Time	No. of Playback Inputs	Protection Rating	Mass
BDV-15JF	DC 12-24V	DC 10.8V - 26.4V	4W	87dB* (at 1m)	MPEG- Audio Layer (MP3) Standard Bit Rate: 64kb/s Fs=44.1kHz	-10 - +50°C (RH less than 85%)	63 sec.	Bit: 4 Binary: 15	IP54 (Panel Mount)	220g
BDV-15KF	AC 100/220V	AC 100V ±10% AC 220V±10%	5W							340g

Notes:

- Actual sound level will depend on sound type and surrounding operating conditions.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

BKV

Voice Annunciator



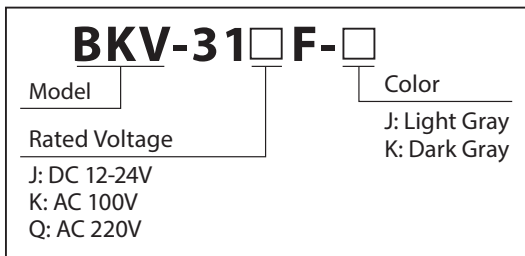
- 95dB at 1m
- 31 Channels (Binary)
- 63 Seconds
- IP54 (Upright Only)
- 120
- NPN Open-collector

Excellent sound quality with MP3 playback! This panel-mounted MP3 voice annunciator uses SD cards,* allowing messages to be changed easily. (*Recommended: SDV-2GP)

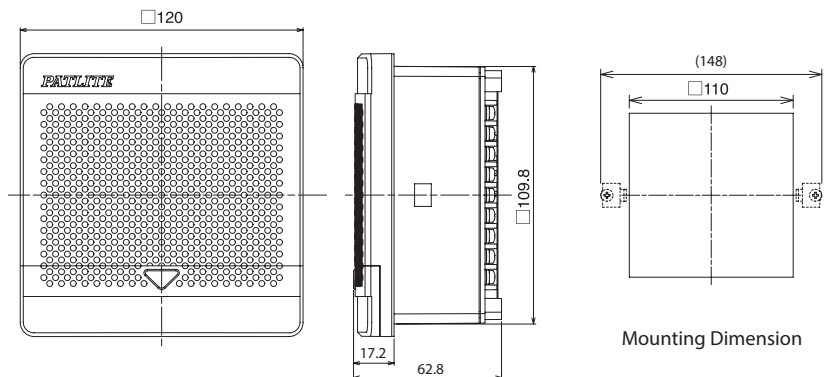
FEATURES

- Only Flush-mounting style available.
- Able to produce a loud sound of up to 87 dB (at 1m) despite its compact size
- A volume control on the front panel provides an easy way to adjust the sound volume.
- The use of an SD card allows message changes without uninstalling the device.
- Environmentally friendly since the unit complies with the EU RoHS Directives.
- Several playback modes are available for various applications.
- Includes binary input as a standard option for selecting up to 15 messages.
- Supports input selection using NPN open-collector transistor.
- The unit complies with EU Directives and includes the CE mark (BKV-15JF only)
- Two colors are available for selecting the best color match for the installation.
- Protection rating: IP54 (only the front panel when flush-mounted)

How to Order



Dimensions (Unit: mm)



Playback Modes

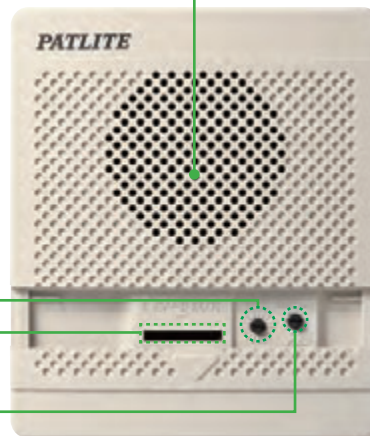
Mode Selector Switch

Several playback modes for a combination of applications.

A	Bit Input Mode	Plays back up to 5 messages using Channels 1 to 5.
B	Binary Input Mode	Plays back up to 31 messages using Channels 1 to 5.
C	Bit Input/Volume Reduction Mode	Plays back up to 4 messages using Channels 1 to 4. When Channel 5 receives an input, the volume is reduced by about -15dB.
D	Binary Input/Volume Reduction Mode	Plays back up to 15 messages using Channels 1 to 4. When Channel 5 receives an input, the volume is reduced by about -15dB.
E	Bit Input/Priority Message Playback Mode	Plays back up to 5 messages using Channels 1 to 5. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.
F	Binary Input/Priority Message Playback Mode	Plays back up to 31 messages using Channels 1 to 5. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.
G	Bit Input/Hold Message Playback Mode	Plays back up to 5 messages using Channels 1 to 5. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
H	Binary Input/Hold Message Playback Mode	Plays back up to 31 messages using Channels 1 to 5. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
I-P	Test Playback Mode	Plays back Message No. 1

Up to 95dB (at 1m)

Despite its slim appearance, it is able to produce a maximum of 87dB (at 1m). (Actual sound level will depend on sound type and surrounding operating conditions.)



Volume Control

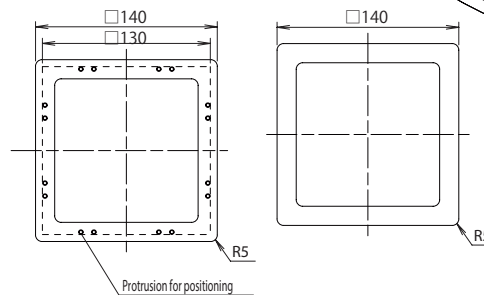
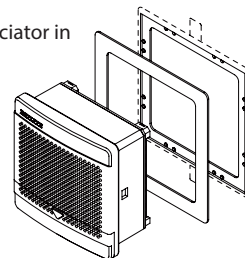
The volume is easily accessible from the front for adjustment.

Memory Card Slot

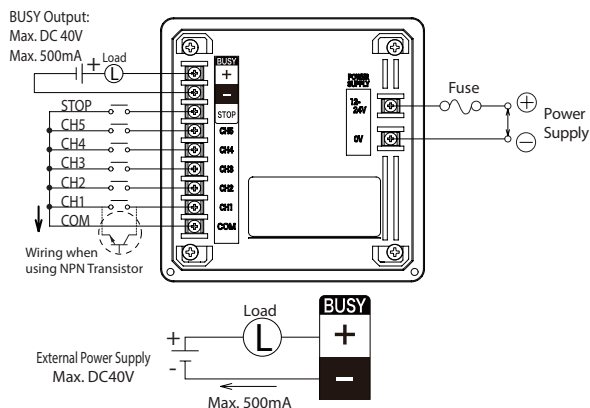
With an SD Card, messages can be changed while the unit is still mounted.

Optional Bracket (BK-001)

This bracket is used to install the annunciator in a place where holes have already been drilled for conventional PATLITE products. (φ133mm Type)



Wiring Diagram



Options

PATLITE Playlist Editor 2
(Free Download)

SD Card
(2 GB)
SDV-2GP



- (OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)
- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.

Specifications

Model	Rated Voltage	Operating Voltage Range	Power Consumption	Sound Level (Max.)	Voice File	Operating Temperature Range	Maximum Playback Time	No. of Playback Inputs	Protection Rating	Mass
BKV-31JF	DC 12-24V	DC 10.8V - 26.4V	9W	95dB (at 1m)	MPEG- Audio Layer (MP3) Standard Bit Rate: 64kb/s Fs=44.1kHz	-10 - +50°C (RH less than 85%)	63 sec.	Bit: 5 Binary: 31	IP54 (Panel Mount)	350g
BKV-31KF	AC 100V	AC 100V ±10%	10W							530g
BKV-15KF	AC 220V	AC 220V ±10%								530g

Notes: - Actual sound level will depend on sound type and surrounding operating conditions.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

BSV

Voice Annunciator



87 dB at 1m

15 Channels (Binary)

63 Seconds

IP54 (Upright Only)

□75

NPN/PNP
Open-collector



The unbelievably thin design for tighter installations.

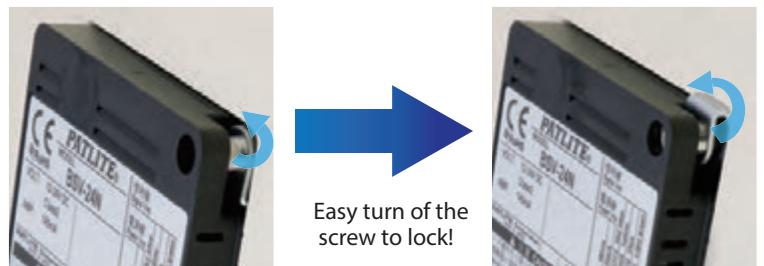
FEATURES

- Sound reduction is made with just one signal input. (Using the sound reduction function reduces the number of playback messages.)
- Diverse operational modes in combination with commands can be setup for the right application.
- The use of the SD card can allow changing messages while out in the field.
- Protection Rating of IP54 (Only for front panel mount attachment).
- Despite the thin shape, it has a maximum output of 87dB (at 1m).
- It complies with Europe's environment-friendly RoHS Directive.
- Can be used with transistor driven inputs. (Either NPN or PNP)
- A compact design with only a thickness of 19.9mm.
- Two installation choices of panel or wall mount.
- The volume control is accessible from the front.
- Listed by Underwriters Laboratories Inc.
- Conforms to the CE requirements.



Easy installation from the front.

With only the need to access the front cover, reduction in labor time and maintenance is simpler with easily removing the front cover for installation and volume adjustment, etc.



With the built-in SD card slot, MP3 data rewriting can be done with an SD card. In addition, rewriting or editing MP3 data files is possible with or without the exclusive PATLITE Playlist Editor 2 Application software.

Options

PATLITE Playlist Editor 2
(Free Download)

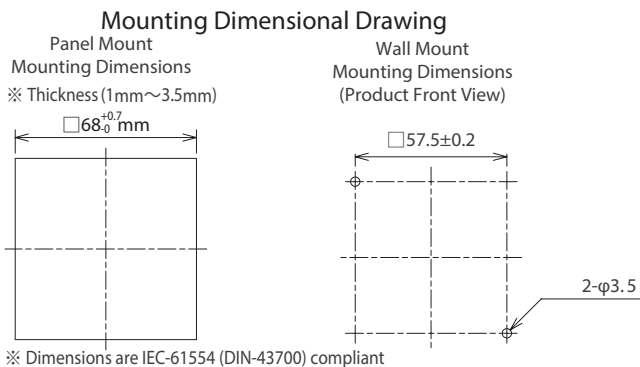
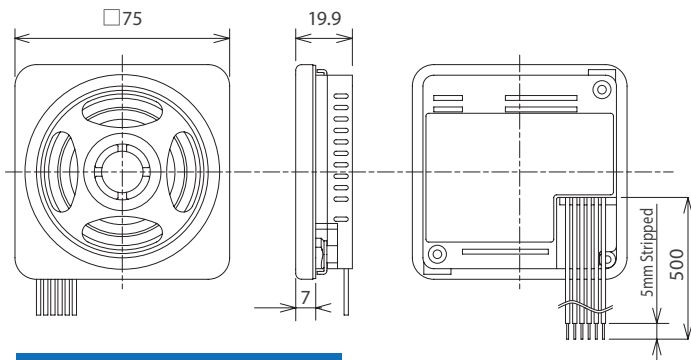
SD Card
(2 GB)
SDV-2GP

(OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)

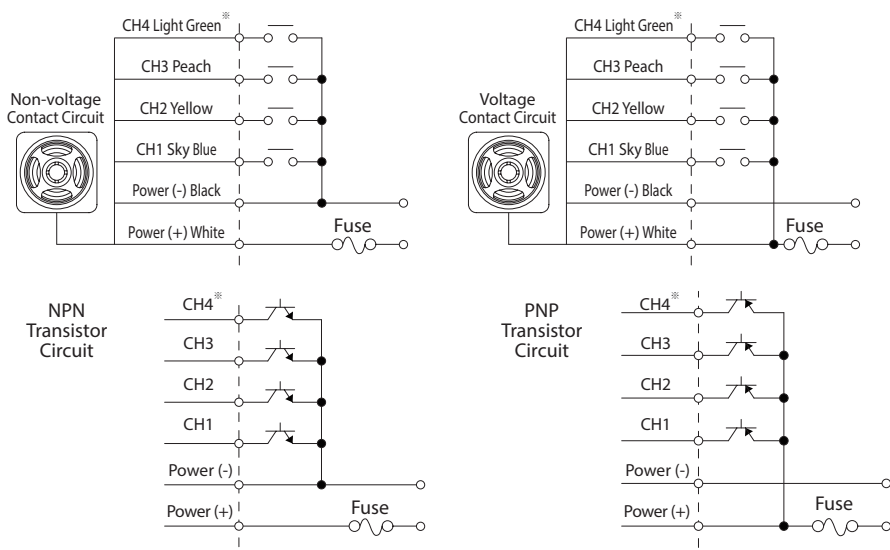
- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.



Dimensions (Unit: mm)



Wiring



Specifications and How to Order

Specifications												
Model	Transistor Type	Rated Voltage	Operating Voltage Range	Power Consumption	Sound Level	Operating Temperature Range	Max.Playback Time	Playback Channels	Protection Rating	Mass	Front Cover Color	Recorded Data
BSV-24NM-W/D	NPN Transistor	DC 12-24V	DC10.8V to 26.4V	3.5W	Max. 87dB (at 1m) 1kHz Sine Wave	-10°C to +50°C (RH 85% or less)	63sec.	4 (Bit Input) 15 (Binary Input) ※When using the Sound Reduction Function, the inputs become: 3 (Bit Input) 7 (Binary Input)	IP54 (Only for Panel Mount in the Upright Position) In accordance with IEC 60529	100g ±10%	Off white (-W) Dark Gray (-D)	Voice
BSV-24NM-S											Silver (-S)	
BSV-24N-W/D											Off white (-W) Dark Gray (-D)	Alarm
BSV-24N-S											Silver (-S)	
BSV-24PM-W/D	PNP Transistor	DC 12-24V	DC10.8V to 26.4V	3.5W	Max. 87dB (at 1m) 1kHz Sine Wave	-10°C to +50°C (RH 85% or less)	63sec.	4 (Bit Input) 15 (Binary Input) ※When using the Sound Reduction Function, the inputs become: 3 (Bit Input) 7 (Binary Input)	IP54 (Only for Panel Mount in the Upright Position) In accordance with IEC 60529	100g ±10%	Off white (-W) Dark Gray (-D)	Voice
BSV-24PM-S											Silver (-S)	
BSV-24P-W/D											Off white (-W) Dark Gray (-D)	Alarm
BSV-24P-S											Silver (-S)	

BSV-24

① Transistor Type
N : NPN Transistor
P : PNP Transistor

② Playback Time
L : 520 sec.
Blank : 63 sec.

③ Registered Messages
Blank : None (15 Alarm Sounds)
M : Pre-recorded Messages

④ Front Cover Color
W : Off white
D : Dark Gray
S : Silver

Notes:

- Actual sound level will depend on sound type and surrounding operating conditions.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing.

☐ The method for data rewriting when not using the exclusive application software:

STEP-1 Make a data file with the PC.
※Allocate channel message data (*.mp3) in advance.

A.MP3 Data
001.mp3 Assigned Message No. (Ex.:001=1CH)
001.mp3

※1CH Assigned Message Example="Machine in Operation."
B.Operation Mode Setting File (*.txt File)
MODE-A10.txt Sound Reduction (dB)(Ex:10=-10dB)
MODE-A10.txt Operation Mode

STEP-2 Copy the data to the SD Card

STEP-3 Insert the SD Card into the BSV

"Machine in Operation."

① Allocate messages for every channel...② Establish the operation mode...③ Control the sound reduction...

When using the exclusive application software, the combination of adjusting the volume of a message or separately making a volume adjustment is possible.

EHV



MP3 Alert/Melody/Alarm Horn



(M3 Not Included)



(12/24V Only)



110dB at 1m

63 Channels (Binary)

IP65

NPN/PNP
Open-collector

Cable



Terminal

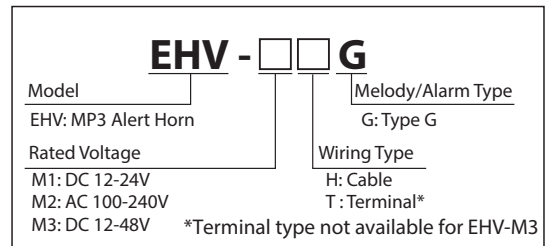


Exceptional Sound Quality Field-programmable MP3 Alarm

FEATURES

- EHV comes with 63 binary channels with adjustable volume up to 110dB (@ 1m).
- EHV offers a field-programmable MP3 function with a maximum of 220 sec. of recording time (@ 64bps), ideal for plant-wide notification and process control.
- Robust, indoor and outdoor use with vibration resistance up to 4.5G, ideal for public address.
- Compliant to UL464 (EHV-M3 Not Included), CSA-C22.2 NO.205-M1983, FCC Part 15 Subpart B Class 4.
- Protection Rating of IP65 and CE (EHV-M2 Not Included), RoHS Compliant.

How to Order



EHS vs EHV (Functionality Comparisons)

Model	Onboard Sounds	MP3 Playback	Playback Modes	No. of Playback Channels
EHS	32 Sounds	No	1 Mode	8 ch Bit Input/ 32 ch Binary Input
EHV	63 Sounds	Yes*	4 Modes	8 ch Bit Input/ 63 ch Binary Input

* Internal Memory size of 2 Mbytes, maximum playback of 220 seconds at a 64kbit/sec rate

4 Playback Modes

Normal Playback

Designated audio message is played back by distinctive signal input. Audio message is played back once in case of one shot input, and audio message is repeated when the signal is input continuously.

Latest Input Priority Playback

When a signal is input during a message playback, the current message playing back will be stopped, and the message of the signal input will be played instead.

Memory Playback

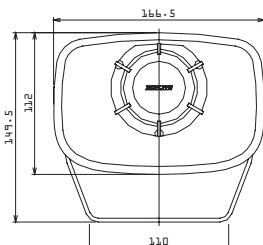
Up to 23 audio message inputs can be memorized in order of input. After one playback is finished, the next memorized audio message will be played back. The inputs exceeding the limit will not be memorized.

Momentary Playback

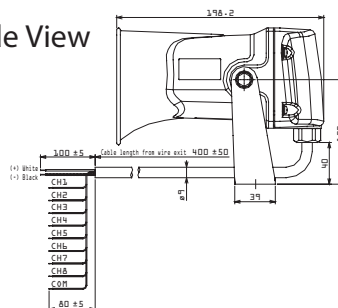
Audio message is played back only while the signal input is maintained. Playback will be stopped when the signal input is stopped.

Dimensions (Unit: mm)

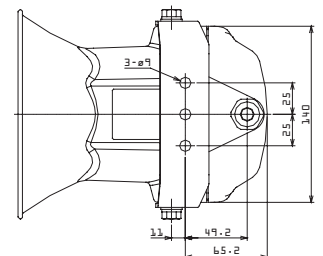
Front View



Side View

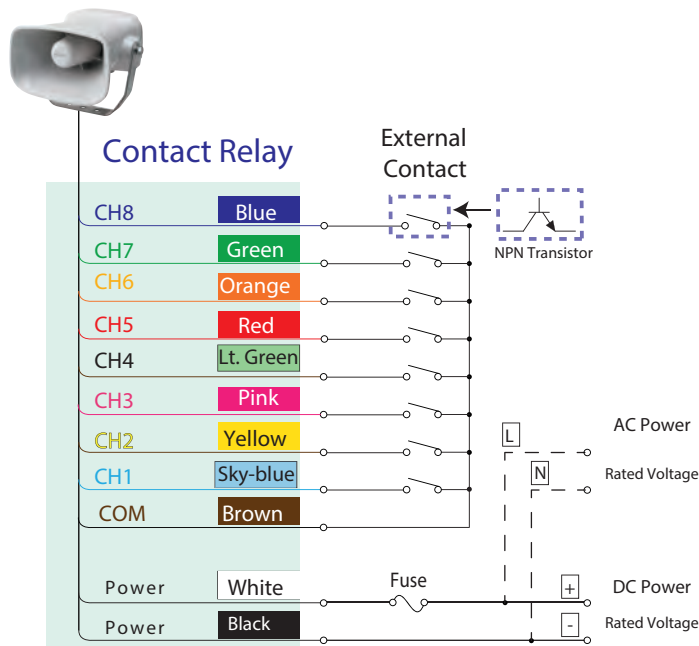


Underside View

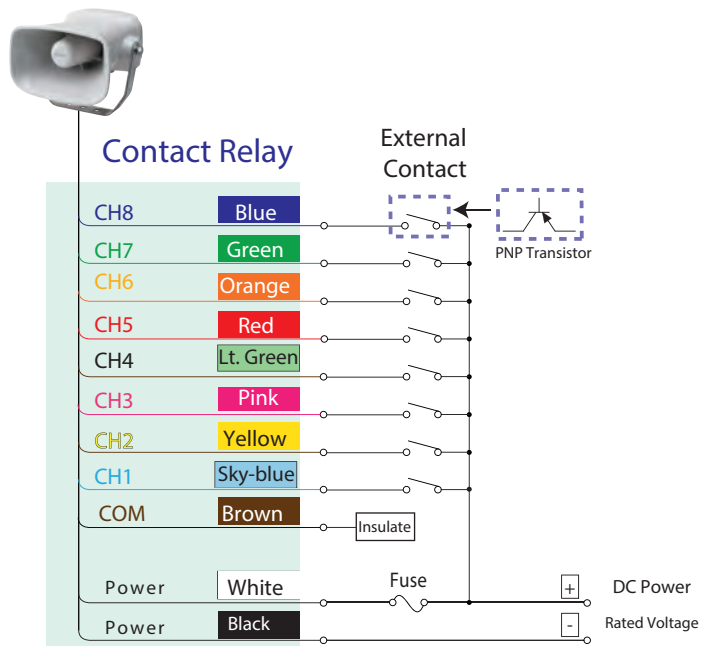


Wiring

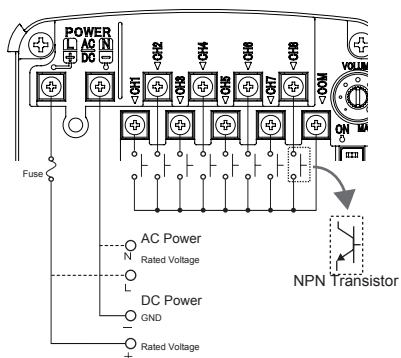
Non-voltage (NPN) Wiring



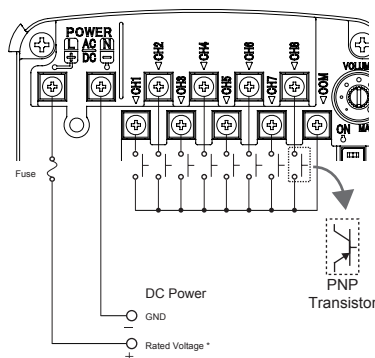
PNP Wiring



Terminal (NPN)



Terminal (PNP)



Transistor Capacity (NPN & PNP)	
Current Capacity	$I_c \geq 15\text{mA}$
Current Leakage	$I_l \leq 0.1\text{mA}$
Withstand Voltage	$V_c \geq 35\text{V}$
ON Voltage (V_{sat})	Less than 1V

Recommended Fuse	
Rated Voltage	250V
Rated Current	1A
Fuse Type	Standard

Maximum Inrush Current	
EH□-M1	12.5A
EH□-M2	23.0A
EH□-M3	45.0A

Specifications

EHV

Model	Rated Voltage	Voltage Range	Power Consumption	Sound Pressure	Operating Temperature Range	No. of Playback Messages	Protection Rating	Wiring Type	Mass	
EHV- M1H	DC 12 - 24V	DC 10.8V to 26.4V	4.0W (DC24V NPN, Non-voltage Contact)	Alarm: Max. 110dB (at 1m)	-20°C to +50°C (85% RH or less)	Bit Input: 8 Binary Input: 63	IP65	Cable	1.25kg	
EHV- M1T			5.0W (DC24V PNP, Voltage Contact)					Terminal		
EHV- M3H	DC 12 - 48V	DC 10V to 60V	5.6W (DC48V NPN, Non-voltage Contact)					MP3: Max. 105dB (at 1m)	Cable	1.15kg
EHV- M2H			AC 100 - 240V						AC 90V to 264V	5.3W (AC240V NPN, Non-voltage Contact)
EHV- M2T	Terminal									

Notes:

- The sound pressure level is based on measurements under controlled conditions (voice-synthesized 1 kHz sine wave played back from a distance of 1 meter), therefore the surrounding environmental conditions and message content will result in different values for the sound pressure level.
- Even when starting two or more units simultaneously, a lag will occur during message playback.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

Get the Playlist Editor 2 (free from PATLITE)

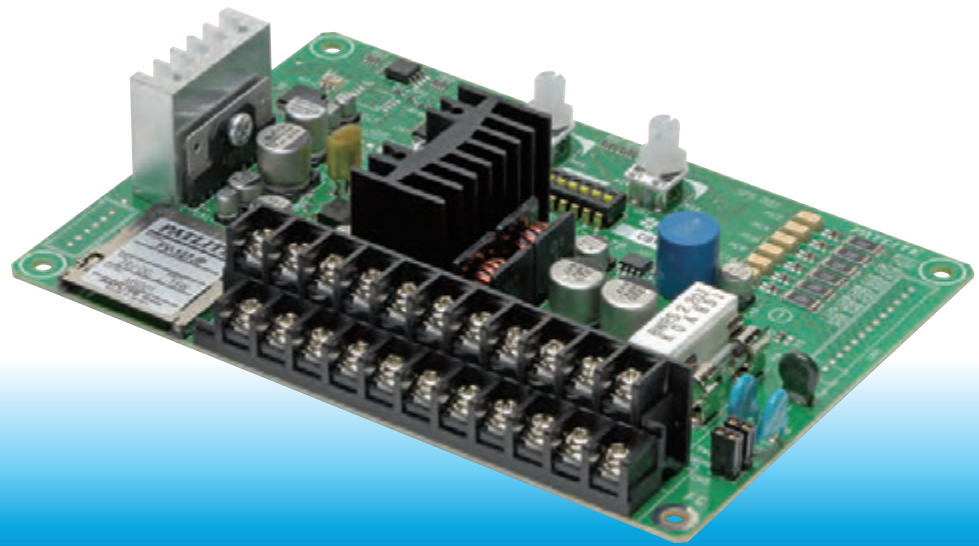
- Contact us by E-mail located on the back of this catalog.
- Convert any message into MP3 data and save it onto an SD Card (with the use of the Playlist Editor 2).
- Insert the SD Card into a PATLITE MP3 product for easy programming.

Application Software	Usable	Outline
PATLITE Playlist Editor 2	Yes	This is a newer version of the PATLITE Playlist Editor. A playlist package can be created and the MP3 data and channel function assignment for the product can be rewritten.
FV-Win	No	This product is not compatible with the playlist created by FV-Win or the PATLITE Playlist Editor. However, the playlist can be changed into a playlist package using the PATLITE Playlist Editor 2.
PATLITE Playlist Editor	No	

FV-127JP



MP3 File Playback Circuit Board



127 Channels (Binary)

8 Minutes

24VDC

**NPN
Open-collector**

Audio messages can be registered up to 127 channels, ideal for various equipment or facility purpose where the audio message assistance is required.

FEATURES

- High quality sound and long playback time.
- MP3 compressed audio file format enables long playback time and high quality sound.
- Approximately eight minutes worth of audio messages can be stored in the onboard memory.
- Capable of 240 minutes of message playback when using an SD card as external memory. (MP3 data at standard 64kbit/s rate and 128Mb SD Card)
- Audio messages can be overwritten and reprogrammed with the Playlist Editor 2 (free download) and optional SD Card.
- Data stored in the onboard memory can be extracted to the SD Card.
- 3 sound reduction levels of -10dB, -20dB and -30dB (at 1m) can be controlled by an external signal.
- Five different playback modes are available

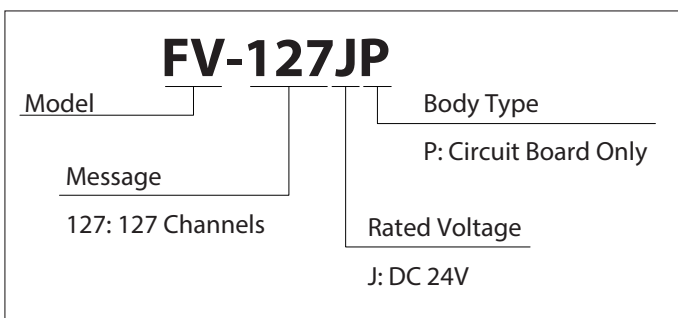
NOISE REDUCTION FEATURES

- Input delay can be selected (10ms or 50ms) to reduce noise
- Extending the delay to input a signal reduces noise
- Another noise countermeasure can include setting jumper pins

OTHER FEATURES

- Terminal block to provide safe and secure wire connections.
- Selectable speaker output (2W or 4W), AUX and BUSY Output terminals.
- Operating voltage range is from 19V to 29V DC (Rated Voltage: 24V DC)
- This product is compliant with the RoHS directive (DIRECTIVE 2002/95/EC)

How to Order



Options

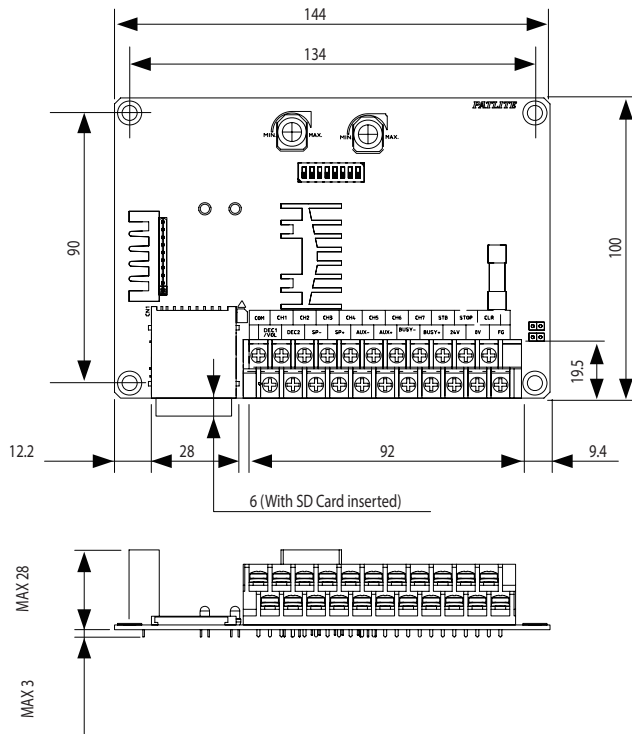
PATLITE Playlist Editor 2
(Free Download)

SD Card
(2 GB)
SDV-2GP

(OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)

- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.





Normal Playback

Designated audio message is played back by distinctive signal input. Audio message is played back once in case of one shot input, and audio message is repeated when the signal is input continuously.

Memory Playback

Up to 23 audio message inputs can be memorized in order of input. After one playback is finished, the next memorized audio message will be played back. The inputs exceeding the limit will not be memorized.

Latest Input and Greater Channel Priority Playback

When the signal for a greater channel number is input during the message playback, the audio message being played back will be stopped, and previous audio message input will be played back. When the signal for the same or smaller channel number is input, the signal will not be accepted.

Momentary Playback

Audio message is played back only while the signal input is maintained. Playback will be stopped when the signal input is stopped.

Latest Input Priority Playback

When the signal is input during the message playback, the audio message being played back will be stopped, and the previous audio message input will be played back.

Specifications

General Specifications

Model Name	FV-127JP
Rated Voltage	DC 24V
Operating Voltage Range	DC 19 to 29V
Wiring Method	M3 Terminal Bus
Power Consumption	Maximum 15W (1*)
Operating Temperature Range	-10 to 50°C
Storage Temperature	-40 to 80°C
Relative Humidity	85% RH or less
Operating Environment	Built-in Type Only
Installation Method	4 Screw Tie-down
Vibration Resistance	45m/s ² (30Hz forward and back/Left and right for 2hrs., up and down for 4hrs.)
Mass	160g ±10%
Outer Dimensions	144×100×28 [mm] (Lead Wires and Mounting Posts not included)

Audible Specifications

Replay Message Number	For Binary: 127 For Bit Input: 7
Audio File Format	MPEG1-Audio Layer: (MP3)
Bit Rate	32kbit/s; 64kbit/s(Standard); 128kbit/s Fs=44.1kHz
Maximum PlaybackTime	On-board Memory (4MB): About 8 min (Recorded with standard bit rate) External Memory (SD Card): With 128MB about 240 min. (Standard Bit Rate Recording)
On-board Memory Size	4,360,191 byte
Audio Start-up Time	About 260ms (When sound mute not added at beginning and end of messages)
Audio Pause Time	Unless specified, 100ms sound mute added at beginning and end of messages
Compatible Memory Card	SD Card Recommended Part No.: SDV-2GP (Sold Separate)
Card Format	FAT16
Audio Rewrite Capability	Use with Patlite Playlist Editor 2 (Free Download) and an SD Card
Audio Rewrite Time	About 180 sec. (When changing the 4MB on-board memory)

Input / Output Specifications

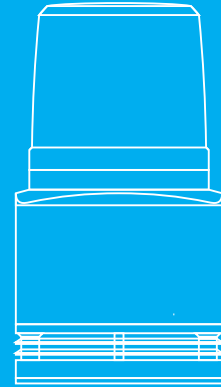
Signal Input Section	CH1, CH2, CH3, CH4, CH5, CH6, CH7, STB, CLR, STOP, DEC1/VOL, DEC2
Signal Input Priority	CLR Input > STOP Input > CH Input (Larger Channel takes Priority)
Sound Reduction Input	Speaker/AUX Output: Three Sound Reduction Levels of -10dB, -20dB, -30dB (1*)
Input Hold Time	More than 10ms or 50ms (Changeable Settings)
Signal Input Type	Non-voltage contact or NPN Open Collector
Speaker Output	8Ω compatible speaker of 4W or more, or 8Ω compatible speaker of 2W or more (Switchable Setting)
Maximum SoundPressure	Speaker Output at 4W: 105 dB; at 2W: 102dB (2*)
AUX Output	0dBV 600Ω (Adjustable with Volume Control or Sound Reduction Input)
BUSY Output	Maximum DC40V, 500mA

(1*) 1kHz Sine Wave Data Playback at -6dB

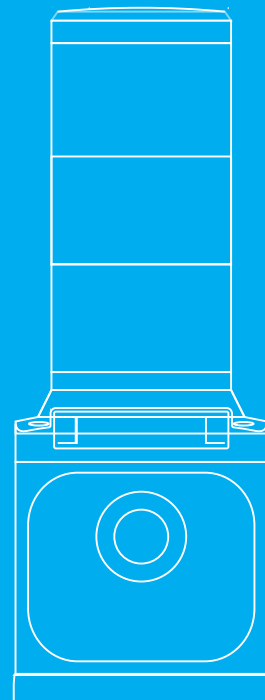
(2*) At 1m with 1kHz Sine Wave Data Playback and SPW-5E Speaker (Sold Separate)

Notes:

- This product complies with the RoHS directive (DIRECTIVE 2002/95/EC)
- Actual sound level will depend on sound type and surrounding operating conditions.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing



Hybrid Products



LKEH



MP3 Voice Annunciator & LED Signal Tower



LED



32 Alarm Sounds

105dB at 1m

IP53

(LED) Ø100

NPN
Open-collector



Get the attention you need with the PATLITE field-programmable LKEH Series Hybrid Signal Tower with audible alarm.

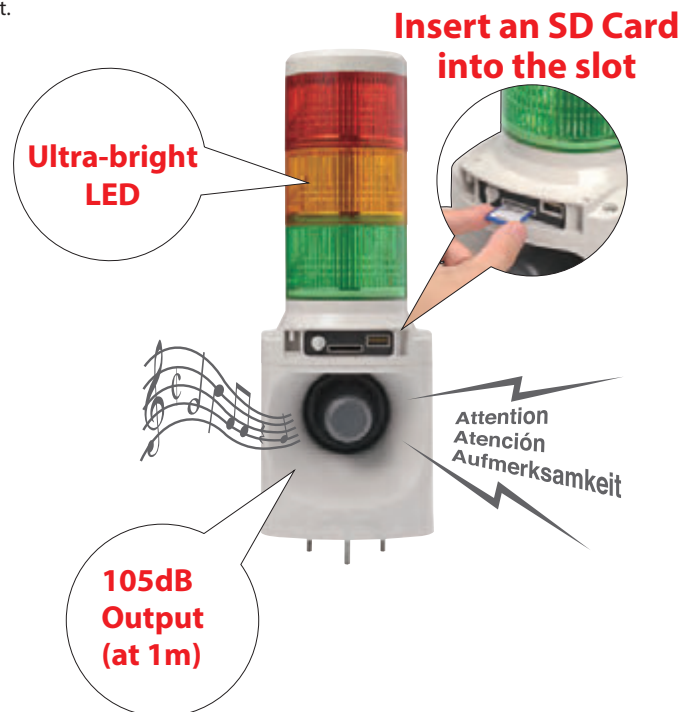
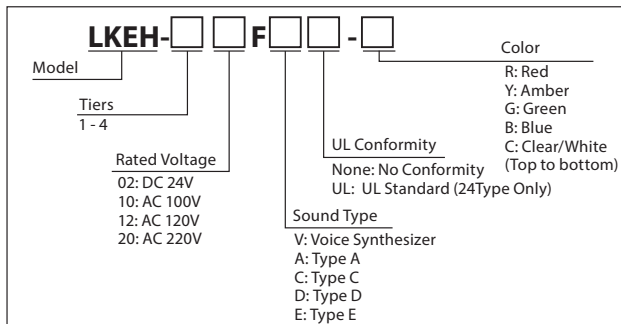
FEATURES

- The pre-recorded type offers 32 sounds in one unit with 8 bit input and 32 binary input channel capability.
- The message capacity for the LKEH-FV is 63 seconds (64kbit/s) with 5 bit input and 31 binary input channel capability.
- The LKEH-FV is field-programmable with an SD Card (sold separately).
- Visible from great distance with ultra-bright LEDs and 100 diameter lens.
- A 2G vibration resistant design allows safe use in a high-vibration environment.
- One common wire makes it easy to control both the audio and LED inputs.
- Volume is adjustable from 0 to 105dB (at 1m) to fit various environments.
- Compliance with the RoHS Directives makes it environmentally friendly.
- Complies with EU directives and includes the CE mark (for 24V type).

AVAILABLE BY SPECIAL ORDER

- PNP open collector transistor type.
- AC 120V type
- UL Listed (File No. E215660, for 24V type only).

How to Order



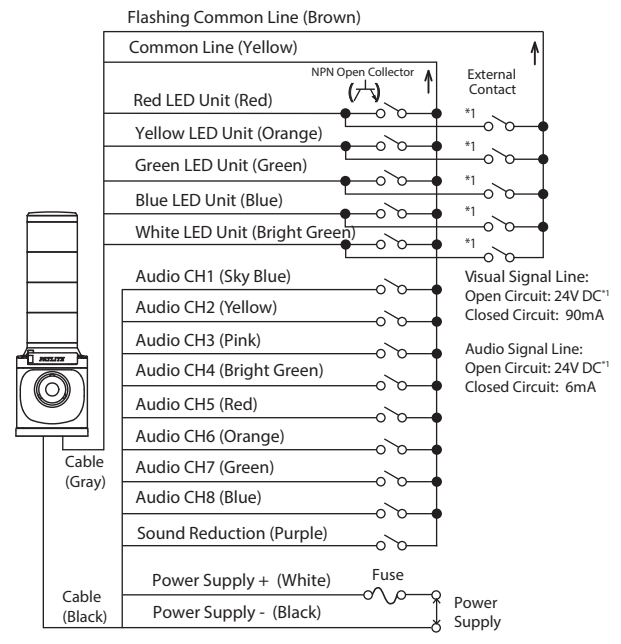
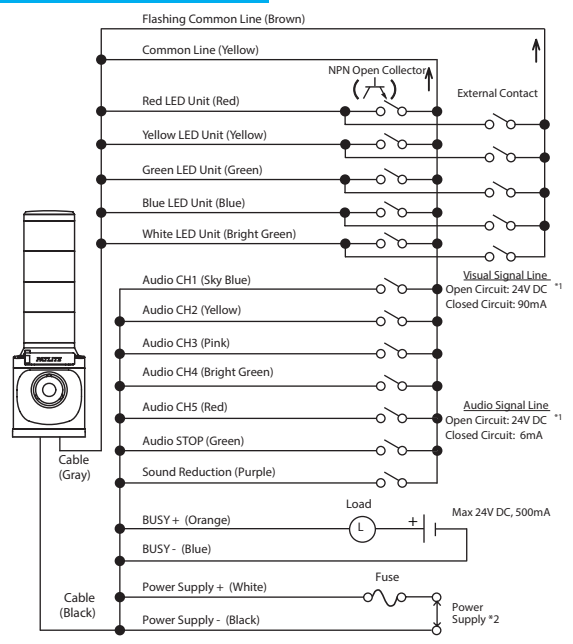
Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

Sound Charts

Refer to Page 201 for "Melody Charts".

Wiring



Options

Wall-mount Bracket SZ-023
 Bracket Material: Steel
 Cover Material: ABS Resin



Options

PATLITE Playlist Editor 2 (Free Download)

(OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)

- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.

SD Card (2 GB) SDV-2GP

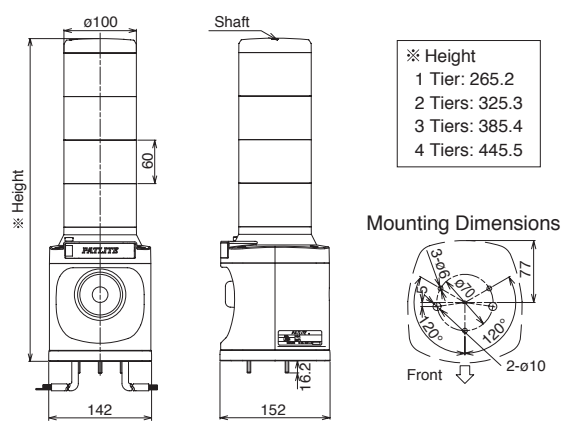
Specifications

Model	Rated Voltage	Operating Voltage Range	Number of Tiers	Power Consumption	Mass
LKEH- 102F	DC 24V	DC 24V ±10%	1	10.6W	1.4kg
LKEH- 202F			2	12.4W	1.6kg
LKEH- 302F			3	14.2W	1.8kg
LKEH- 402F			4	16.0W	2.0kg
LKEH- 110F	AC 100V	AC 100V ±10%	1	17.0W	2.1kg
LKEH- 210F			2	20.0W	2.3kg
LKEH- 310F			3	23.0W	2.5kg
LKEH- 410F			4	26.0W	2.7kg
LKEH- 112F	AC 120V	AC 120V ±10%	1	17.0W	2.1kg
LKEH- 212F			2	20.0W	2.3kg
LKEH- 312F			3	23.0W	2.5kg
LKEH- 412F			4	26.0W	2.7kg
LKEH- 120F	AC 220V	AC 220V ±10%	1	17.0W	2.1kg
LKEH- 220F			2	20.0W	2.3kg
LKEH- 320F			3	23.0W	2.5kg
LKEH- 420F			4	26.0W	2.7kg

Notes:

- The sound pressure level is based on measurements under controlled conditions (voice-synthesized 1 kHz sine wave played back from a distance of 1 meter), therefore the surrounding environmental conditions and message content will result in different values for the sound pressure level.
- Even when starting two or more units simultaneously, a lag will occur during message playback.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

Dimensions (Unit: mm)



RFT



Audible Alarm & LED Tower


LED

90dB at 1m
32 Alarm Sounds
IP54
115
**NPN
Open-collector**


An LED Rotating Light with built-in alarm sounds controllable by binary or bit input for a maximum of 32 sounds!

FEATURES

- Sound reduction feature to drop the volume by about 10dB (at 1m) when an input signal is received (Binary Mode only).
- Using an SD Card can allow customization of one sound group to be re-arranged using any of the pre-installed sounds.
- Compliance with the RoHS Directives makes it environmentally friendly.
- Complies with EU directives and includes the CE mark (for 24V type).
- Can be controlled with NPN open-collector transistor inputs.
- A side panel access allows easier volume adjustment.
- Produces a loud sound of up to 90dB (at 1m)

How to Order

RFT-24A-□	
Rated Voltage	Globe Color
24: DC 24V	R: Red
100: AC 100V	Y: Amber
220: AC 220V	G: Green
Sound Type	B: Blue
A: A Type	
C: C Type	
D: D Type	
E: E Type	

Sound Chart

Type E			(Worldwide)
Beep (slow intermittent)	Stutter + Bell	Inverted Reveille	Annie Laurie
Stutter (rapid intermittent)	Synthesized Melody	Galactic Motor	London Bridge is falling down
Bell (clear high-pitch)	Chime	Ringin' Phone	Mary had a little Lamb
Yelp (rapid siren)	Call Sign	Two Tone	Camptown Races
Rapid Hi-Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Galloping Hi-Lo	Ringin' Hi-Lo	Mozart Symphony No. 40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Bach Minuet in Gmaj	Grandfather's Clock

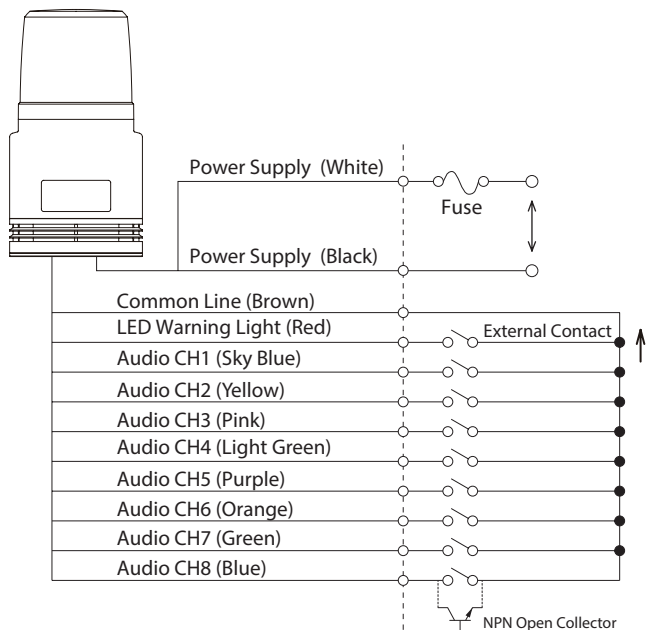
Specifications

Series	Model	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Level	Operating Temperature Range	Flashes per Minute	Protection Rating	Vibration Resistance	Mass
RFT	RFT-24	DC 24V	DC 24V ±10%	12 W	Max. 90dB (at 1m)	-10°C - +50°C (85%RH or less)	115 ±15	IP54 (When Flush-mounted)	19.6m/s ²	1.0kg
	RFT-100	AC 100V	AC 100V ±10%	13 W						1.2kg
	RFT-220	AC 220V	AC 220V ±10%	13 W						1.2kg

Notes:

- Actual sound level will depend on sound type and operating conditions.
- Even when starting two or more units simultaneously, a lag will occur during message playback.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

Wiring



Options

RF-001: Wall Mount Bracket



RF-002 Ceiling Mount Bracket



Options

PATLITE Playlist Editor 2
(Free Download)

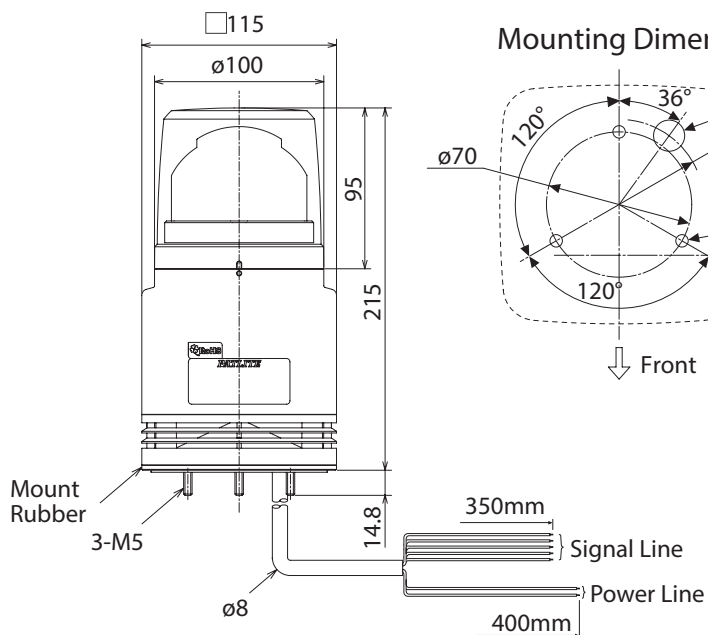
SD Card
(2 GB)
SDV-2GP



(OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)

- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.

Dimensions (Unit: mm)



Side access design enables easy post-installation maintenance



The sound reduction function reduces the volume by approx. -15dB (at 1m), a feature ideal for use at night time together with a timer or sensor.

Sound Reduction



RFV



MP3 Voice Annunciator & LED Signal Tower

LED

15 Channels (Binary)

95dB at 1m

IP54
115
NPN/PNP
Open-collector


The RFV series is a combination of LED rotating beacon light and MP3 programmable sound unit.

FEATURES

- Field-programmable with an SD Card (sold separately).
- Message capacity of 63 seconds (64kbit/s) with bit input of 4 channels and 15 channels by binary input.
- Volume is adjustable from 0 to 95dB (at 1m) to fit various environments.
- A 4.5G vibration resistant design allows safe use in a high-vibration environment.
- Other Unique Features:
 1. Maintenance reduced with long service ultra-bright LEDs that can last over 5 years with 24/7 continuous operation.
 2. Highly-visible with a special optical reflector design.
 3. Special gear-driven mechanism provides reliability, even after 10 years of no operation.
 4. Tight-locking dome stays on, even in high vibration environments.
 5. Designed for inverted installation.

AVAILABLE BY SPECIAL ORDER

- PNP open collector transistor type.

How to Order

RFV-24F-

Rated Voltage

Globe Color

 24: 24V DC
 100: 100V AC
 220: 220V AC

 R : Red
 Y : Amber
 G : Green
 B : Blue

Options

PATLITE Playlist Editor 2
(Free Download)

SD Card
(2 GB)
SDV-2GP


(OS: Windows® 2000/XP/Vista/Windows 7/Windows 8)

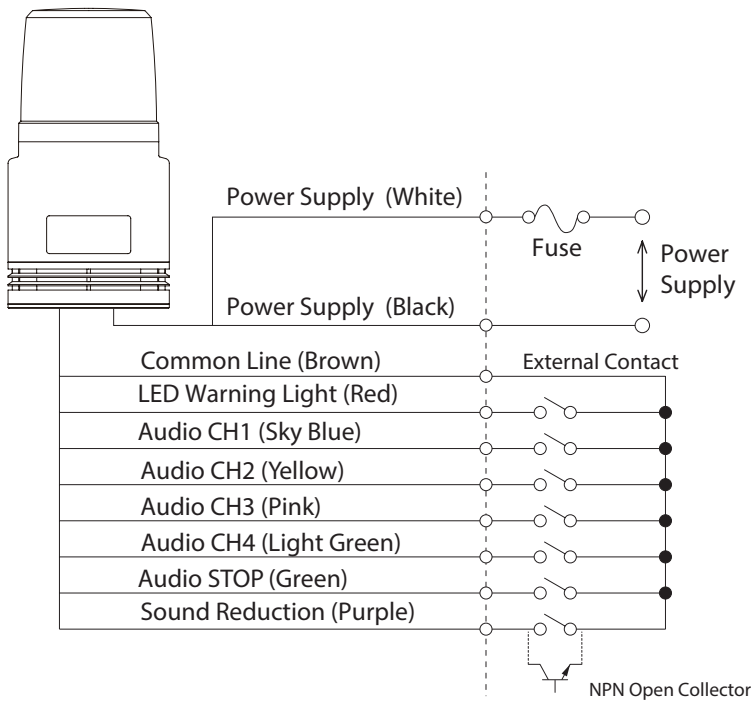
- > The new PATLITE Playlist Editor 2 is required to change the audio message data for this product.
- > The SD Card does not contain any data.

Specifications

Series	Model	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Level	Operating Temperature Range	Flashes per Minute	Protection Rating	Vibration Resistance	Mass
RFV	RFV-24	DC 24V	DC 24V ±10%	18 W	Max. 95dB (at 1m)	-10°C - +50°C (85%RH or less)	115 ±15	IP54 (When Flush-mounted)	19.6m/s ²	1.0kg
	RFV-100	AC 100V	AC 100V ±10%	16W						1.2kg
	RFV-220	AC 220V	AC 220V ±10%							1.2kg

- Notes:
- Actual sound level will depend on sound type and operating conditions.
 - Even when starting two or more units simultaneously, a lag will occur during message playback.
 - MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

Wiring



Options

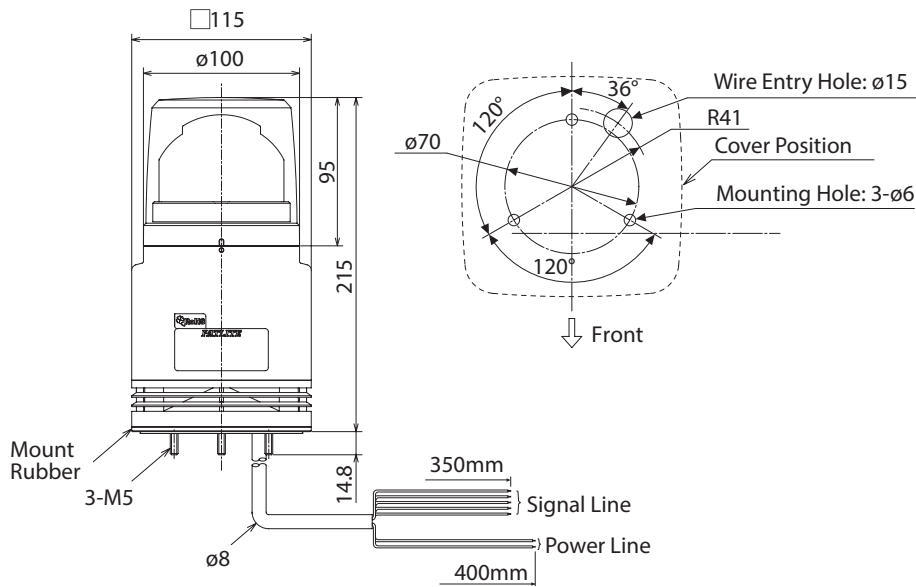
RF-001: Wall Mount Bracket



RF-002 Ceiling Mount Bracket



Dimensions (Unit: mm)



Voice message is field programmable with an SD card (sold separately), and the volume can be easily accessed from the side panel, even after installation.



The sound reduction function reduces the volume by approx. -15dB (at 1m), a feature ideal for use at night time together with a timer or sensor.



Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

RT

Hybrid MP3 & Revolving Light



CE (24V Only)

Bulb

32 Alarm Sounds

105 dB at 1m

63 Seconds

IP23

NPN
Open-collector



Large horn with revolving warning light featuring clear sound up to 105dB (at 1m).

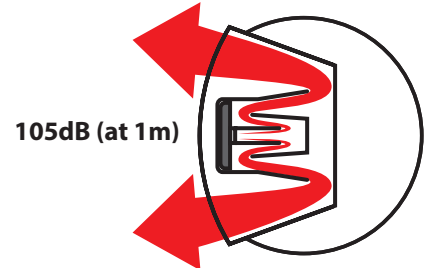
FEATURES

- Built-in Adjustable alarm with a sound of up to 105dB (at 1m).
- High sound quality with the MP3 voice synthesizer (RT-VF only).
- Installation is in the upright position only.
- Dome is made of superior weather-resistant and light-translucent acrylic resin.
- Available colors are Red, Amber, Green, and Blue.
- Complies with EU directives and includes the CE mark (for 24V type).

AVAILABLE BY SPECIAL ORDER

- Cable: Versatile and flexible 3m cable
- AC 120V type
- IP65 rating
- UL Conformity

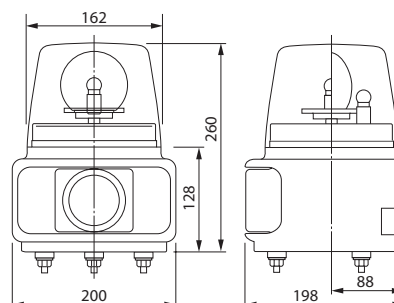
Horn Configuration Concept



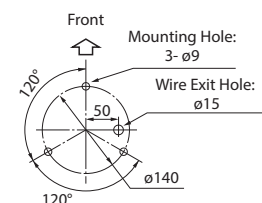
How to Order

RT-24 <input type="checkbox"/> - <input type="checkbox"/>		Color
Rated Voltage	Sound	R: Red
24 : DC 24V	VF: Voice Synthesizer	Y: Amber
100: AC 100V	A: Type A	G: Green
200: AC 200V	C: Type C	B: Blue
	D: Type D	
	E: Type E	

Dimensions (Unit: mm)

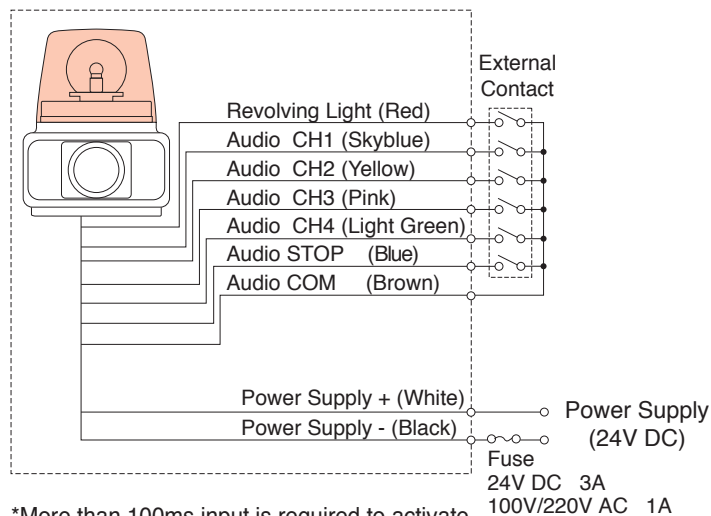


Mounting Dimensions



Wiring

RT-VF



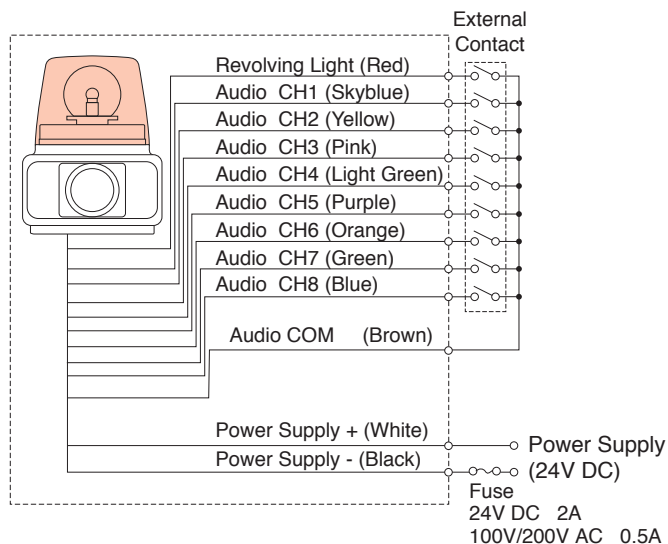
*More than 100ms input is required to activate.

Channel Priority:

4 (Light Green) -> 3 (Pink) -> 2 (Yellow) -> 1 (Skyblue)

The greater number has priority when any of the channels are activated simultaneously.

RT-A/C/D/E



Channel Priority:

8 (Blue) -> 7 (Green) -> 6 (Orange) -> 5 (Red) -> 4 (Light Green) -> 3 (Pink) -> 2 (Yellow) -> 1 (Skyblue)

The greater number has priority when any of the channels are activated simultaneously.

Specifications

Series	Model	Rated Voltage	Operating Voltage Range	Power Consumption	Bulb		Sound Level	Operating Temperature Range	Rotations per Minute	Sound Level	Channel Input	Mass
					Ratings	Repl. No.						
Voice	RT-24VF	DC 24V	DC 21 - 27V	24 W	24V 20W	55	Max. 90dB (at 1m)	-10°C - +50°C (85%RH or less)	115	Max. 105dB (at 1m)	Bit: 4 Binary: 15	2.0kg
	RT-100VF	AC 100V	AC 90 - 100V	32 W	12V 15W	54			105			2.4kg
	RT-220VF	AC 220V	AC180 - 240V	30 W					95			2.0kg
Sound	RT-24	DC 24V	DC 21 - 27V	24 W	24V 20W	55	Max. 95dB (at 1m)	-10°C - +50°C (85%RH or less)	115	Max. 105dB (at 1m)	Bit: 8 Binary: 32	2.0kg
	RT-100	AC 100V	AC 90 - 100V	32 W	12V 15W	54			105			2.5kg
	RT-220	AC 220V	AC180 - 240V	30 W					95			2.5kg

- Notes:
- Actual sound level will depend on sound type and operating conditions.
 - Even when starting two or more units simultaneously, a lag will occur during message playback.
 - MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing

Sound Chart

Type E (Worldwide)			
Beep (slow intermittent)	Stutter + Bell	Inverted Reveille	Annie Laurie
Stutter (rapid intermittent)	Synthesized Melody	Galactic Motor	London Bridge is falling down
Bell (clear high-pitch)	Chime	Ringing Phone	Mary had a little Lamb
Yelp (rapid siren)	Call Sign	Two Tone	Camptown Races
Rapid Hi-Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Galloping Hi-Lo	Ringing Hi-Lo	Mozart Symphony No. 40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Bach Minuet in Gmaj	Grandfather's Clock

Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

KJT



Melody/Alarm & LED Tower

- Bulb**
- 8 Channels** (Bit)
- 95dB** at 1m
- IP23**
- 116**
- NPN**
Open-collector



Multi-tiered Revolving Warning Light integrated with voice synthesizer or melody alarm for various applications.

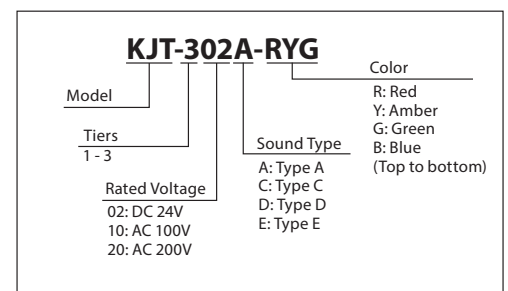
FEATURES

- Eight Channels for Bit Input. (Binary Input: 32)
- Lens is made of superior weather-resistant and light-translucent acrylic resin.
- Built-in adjustable sound of up to 95dB (at 1m) with volume control.
- Warning lights and alarms can be controlled together or separately.
- Available Colors are in Red, Amber, Green, and Blue.
- Installation is available in the upright position only.

Sound Chart

Type E			
Beep (slow intermittent)	Stutter + Bell	Inverted Reveille	Annie Laurie
Stutter (rapid intermittent)	Melody Chime	Galactic Motor	London Bridge is falling down
Bell (clear high-pitch)	Chime	Ringing Phone	Mary had a little Lamb
Yelp (rapid siren)	Call Sign	Two Tone	Camptown Races
Rapid Hi-Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Galloping Hi-Lo	Ringing Hi-Lo	Mozart Symphony No. 40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Bach Minuet in Gmaj	Grandfather's Clock

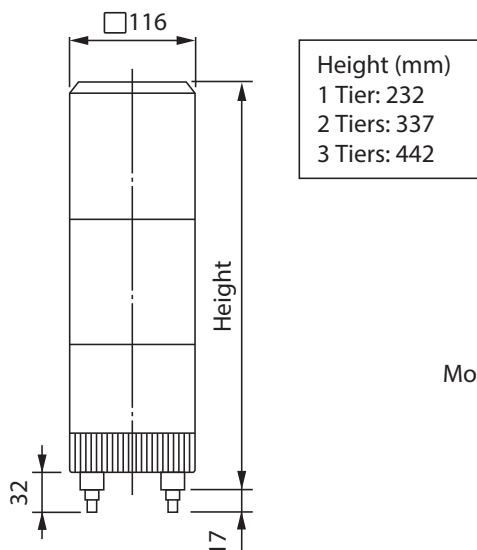
How to Order



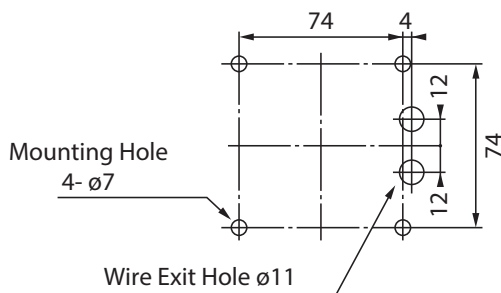
Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

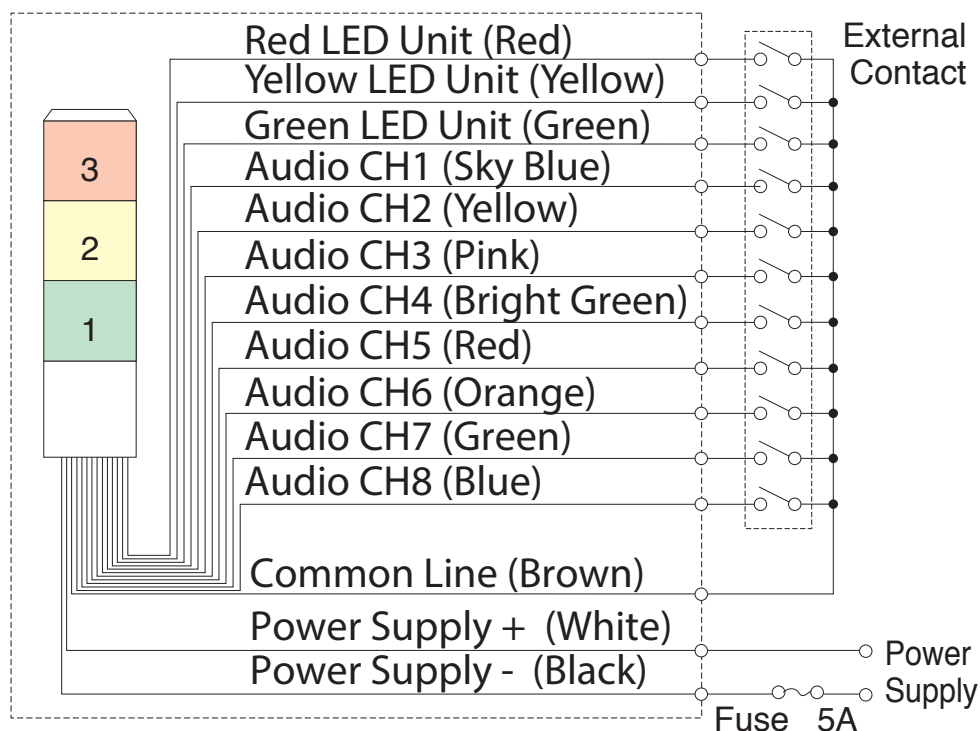
Dimensions (Unit: mm)



Mounting Dimensions



Wiring



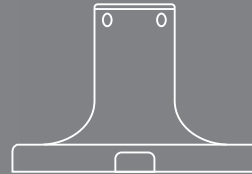
Channel Priority:
 8 (Blue) > 7 (Green) > 6 (Orange) > 5 (Red) > 4 (Light Green) > 3 (Pink) > 2 (Yellow) > 1 (Skyblue)
 The greater number has priority when any of the channels are activated simultaneously.

Specifications

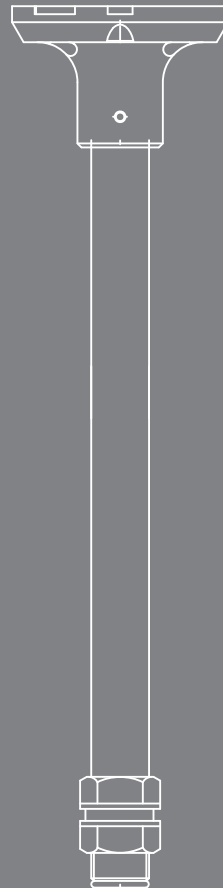
Model	Rated Voltage	Operating Voltage Range	Power Consumption	Bulb		Rotations per Minute	Sound Level	Operating Temperature Range	Channels	Mass							
				Ratings	Repl. No.												
1 Tier	KJT- 102	24V AC/DC	AC/DC 21 - 27V	25W/18W	24V 10W	10	95dB (at 1m)	-20°C - +50°C (85%RH or less)	8 Ch	1.4kg							
	KJT- 110	AC 100V	AC 90 - 110V	20W	12V 5W	12				120	1.7kg						
	KJT- 120	AC 200V	AC 180 - 240V								2.0kg						
2 Tier	KJT- 202	24V AC/DC	AC/DC 21 - 27V	36W/28W	24V 10W	10				95dB (at 1m)	-20°C - +50°C (85%RH or less)	8 Ch	2.0kg				
	KJT- 210	AC 100V	AC 90 - 110V	26W	12V 5W	12							120	2.4kg			
	KJT- 220	AC 200V	AC 180 - 240V											2.6kg			
3 Tier	KJT- 302	24V AC/DC	AC/DC 21 - 27V	47W/38W	24V 10W	10							95dB (at 1m)	-20°C - +50°C (85%RH or less)	8 Ch	2.6kg	
	KJT- 310	AC 100V	AC 90 - 110V	32W	12V 5W	12										120	3.0kg
	KJT- 320	AC 200V	AC 180 - 240V														3.0kg

Notes:

- Actual sound level will depend on sound type and operating conditions.
- Even when starting two or more units simultaneously, a lag will occur during message playback.
- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing



Optional Parts

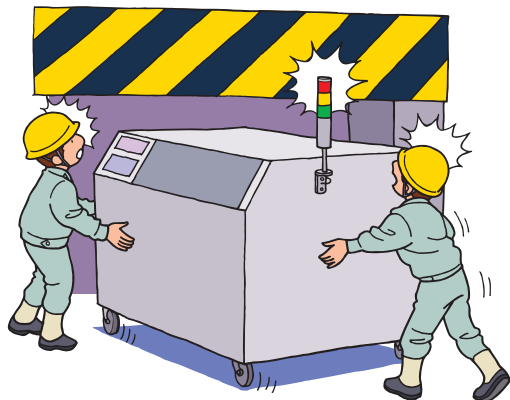


Optional Parts

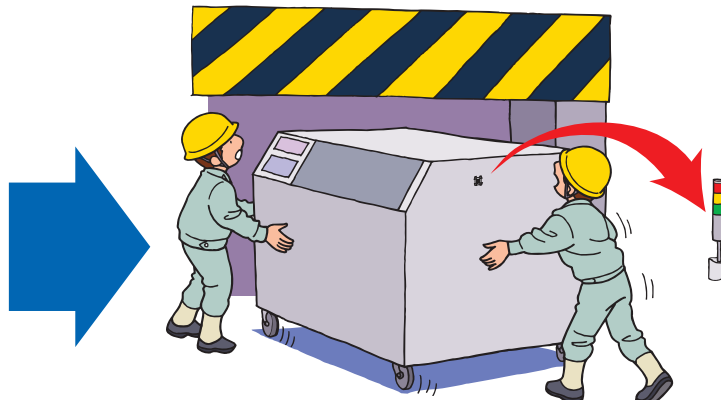
Wall Mount Bracket

- **Avoid Potential Trouble when moving machinery!**
- **Easily removable connection! (Wiring unplugs along with it!)**
- **Easy to disconnect when needing repair!**

BEFORE ...



AFTER ...



Easy steps to installing the bracket



Drill the holes on the machine to attach the mounting connector and bracket.



Fix the mounting parts onto the machine with the proper hardware.



Join the connectors together.



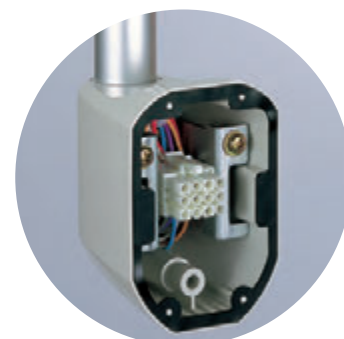
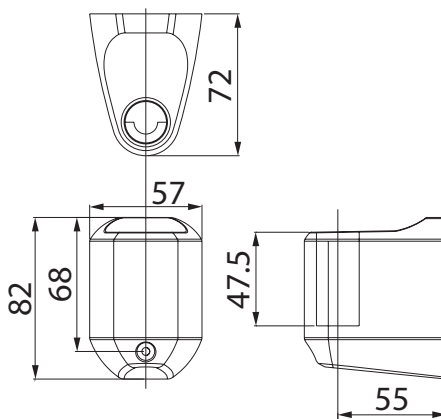
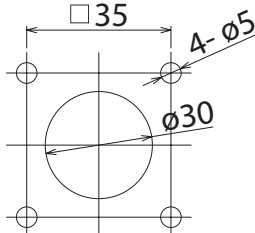
Hook the mounting bracket onto the metal tabs and attach it with the screws.

SZ-020 (For $\phi 21.7\text{mm}$ Pole)

SZ-021 (For $\phi 21.7\text{mm}$ Pole)



Mounting Dimensions



Wire connector SZ-020-001 (Sold Separately)

MP Options

MP-B

Signal Tower Option

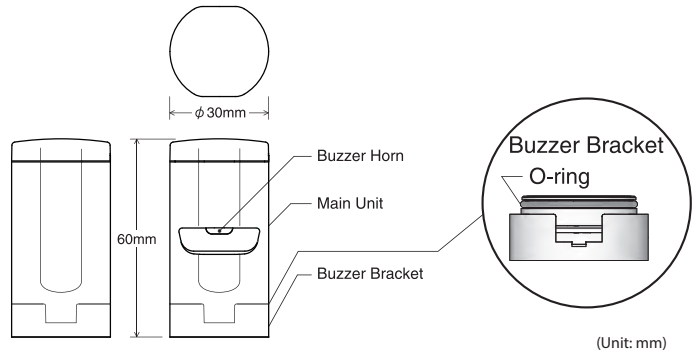


FEATURES

- Double-insulation for enhanced durability and safety
- Direct mount installation with just a single screw
- Main body made of heat resistant ABS resin for superior impact resistance
- Compatible with the MP and MPS Signal Tower (The Red module is required when using the optional MP-B)
- Operates in conjunction with the Red LED module (Alarm activation with other colors must be special ordered).

Model	Rated Voltage	Sound Level	Power Consumption
⊙ MP-B	AC/DC 24V	80dB (at 1m)	0.7W

⊙ Requires Red LED Module



CLA Options



Option
Rear Attachment
(Magnetic Mount)
Model SZ-310ARM



Option
Side Attachment
(Screw Mount)
Model SZ-310AS



Option
Side Attachment
(CLB-24N Compatible)
Model SZ-310ASB



Option
Rear Attachment
(Stainless Steel Screw Mount)
Model SZ-310EU

CLK Options

M12 Quick Disconnect



4-wire M12 Socket Cable, 5m
(No. 1536308)
4-wire M12 SUS Socket Cable, 5m
(No. 1552447)

Daisy Link at a maximum of five units



4-wire M12 Link Cable, 0.6m
(No. 1518892)
4-wire M12 SUS Link Cable, 0.6m
(No. 1552638)

CLK/CWK Options

One-touch Installation



CLK-001

Angle Adjustment Bracket



SZ-320KS

Surface Mounting Bracket



SZ-330KP

Wall Mount Bracket

SZ-018

Ivory White



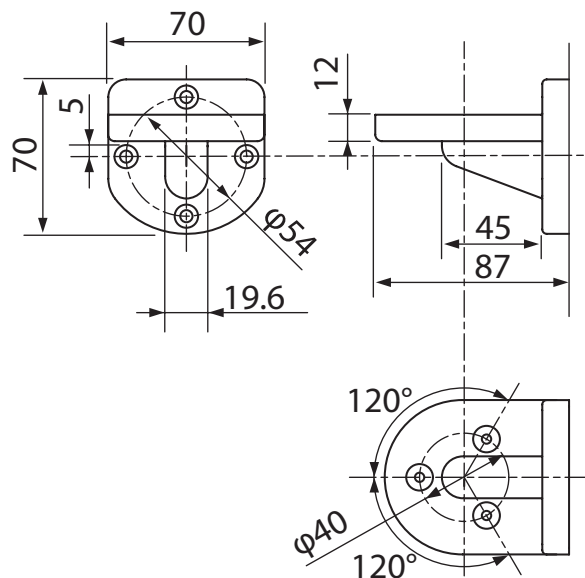
SZ-018U

Silver

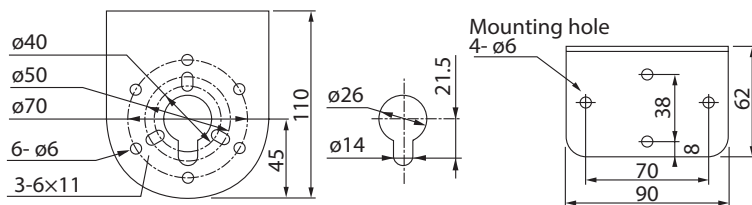
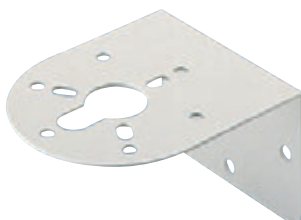


SZ-018K

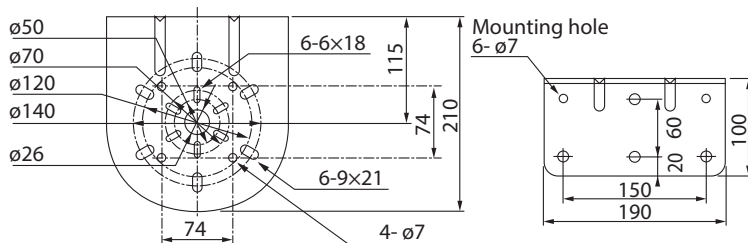
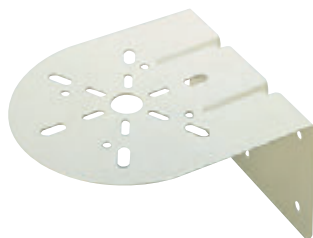
Black



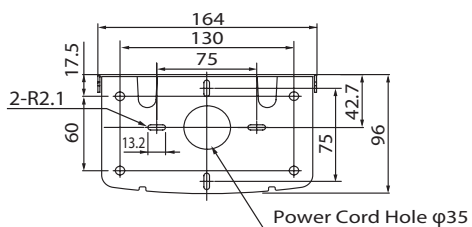
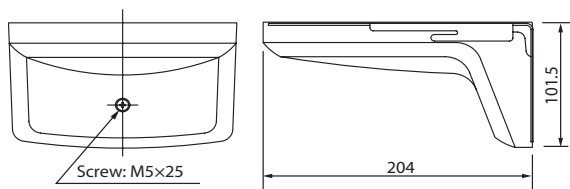
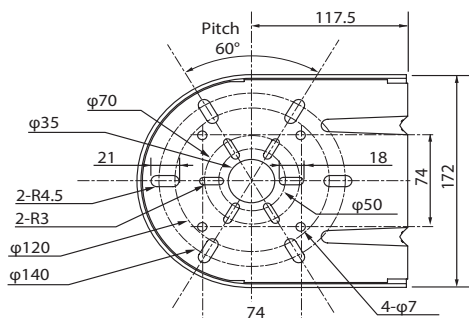
SZ-007



SZ-008



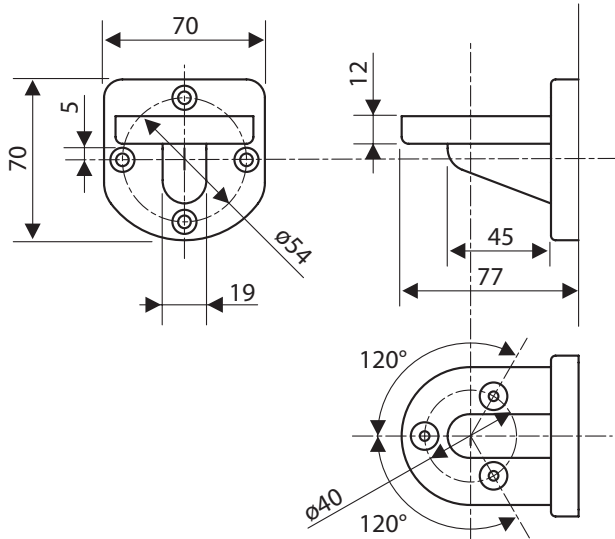
SZ-023



Model	Material	Compatible Models
SZ-017	ADC12	LME, RUP
SZ-018	PBT/ABS	LU7, LME, LHE
SZ-028		
SZ-020	ABS	LU5, LU7, LME, LMS, RUP, LC, LCS, LE, LES-A
SZ-021		
SZ-007	Electro Galvanized Steel	LU7, LHE-A, Pitch for $\phi 50$, $\phi 70$, $\phi 120$, $\phi 140$ and 74mm^2
SZ-008		
SZ-023	Bracket: Steel Bracket Cover: ABS	Pitch for $\phi 50$, $\phi 70$, $\phi 120$, $\phi 140$, and 74mm^2
SZ-012	SPHC	LCE, LCS, LE, LES, LME, ME, MP
SZ-013		

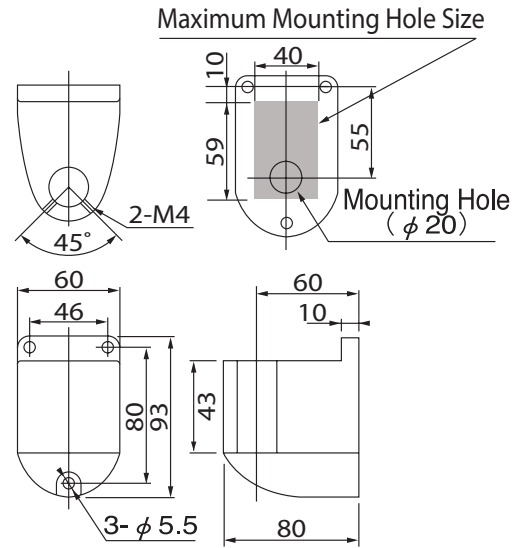
Wall Mount Bracket

SZ-028

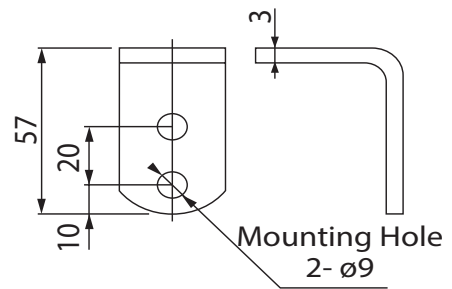
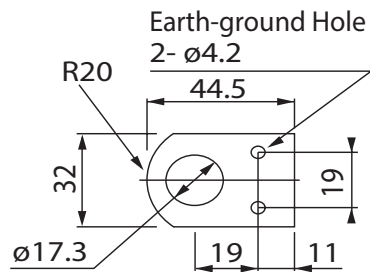


SZ-017

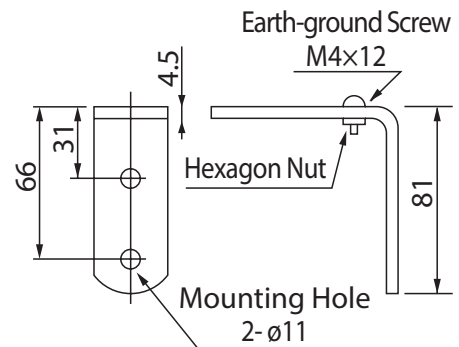
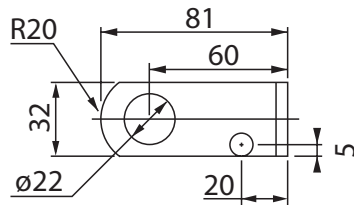
(For $\phi 21.7\text{mm}$ Pole)



SZ-012 (Pole not included)



SZ-013 (Pole not included)



Mounting Pole

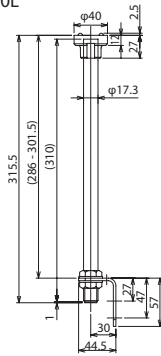
φ50 (φ40)

SZ-80L

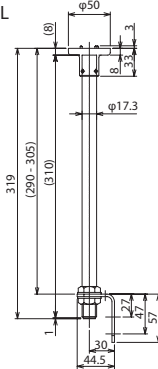


Includes SZ-012

SZ-80L



SZ-60L



SZ-60L

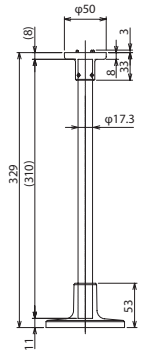


Includes SZ-012

SZ-60T



Includes SZ-011



Model	Material					
	Upper Bracket	Pole	'L' Bracket	Cord Bushing	Mounting Bracket	Compatible Models
SZ-80L	ABS	Carbon-steel Pipe	SPHC	6/6 Nylon	—	LCE-W
SZ-60L	ADC12		SPHC	6/6 Nylon	—	LE-W, LES-AW
SZ-60T	—	—	—	—	ADC12	—
SZ-70L	ABS	Carbon-steel Pipe	SPHC	EPT	—	LME-W
SZ-50L	ADC12		SPHC	EPT	—	LU7, LHE-A
SZ-50T	—	—	—	—	ADC12	—
SZ-40L	ADC12	Carbon-steel Pipe	SPHC	EPT	—	KUS
SZ-40T	—		—	—	—	ADC12
SZ-30L	ABS	Carbon-steel Pipe	SPHC	EPT	—	RL, RU, RH, PS, PES-A
SZ-30T			—	—	—	ADC12

ADC12: Aluminum Alloy Die-cast

EPT: Ethylene Propylene Rubber

PBT: Polybutylene Terphthalates

SPHC: Hot Rolled Milled (Sheet) Steel

CRMS: Cold-rolled Milled Steel

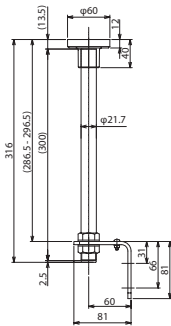
ABS: Acrylonitrile Butadiene Styrene

φ60

SZ-70L



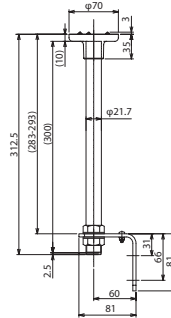
Includes SZ-013



SZ-50L



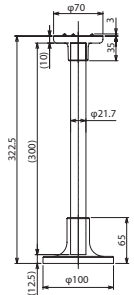
Includes SZ-013



SZ-50T



Includes SZ-010

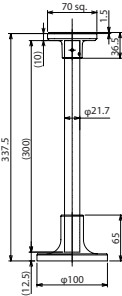


70 sq.

SZ-40T



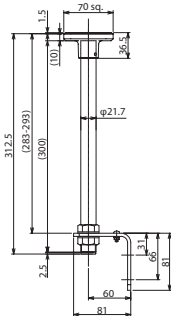
Includes SZ-013



SZ-40L



Includes SZ-010

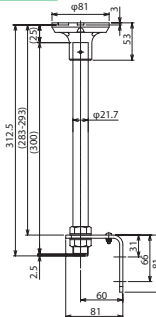


SZ-30L



Includes SZ-013

Cannot use with Rubber Gasket.

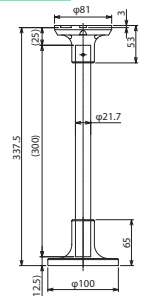


SZ-30T



Includes SZ-010

Cannot use with Rubber Gasket.

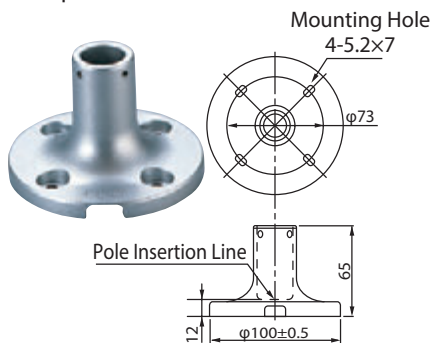


Mounting Bracket

SZ-010

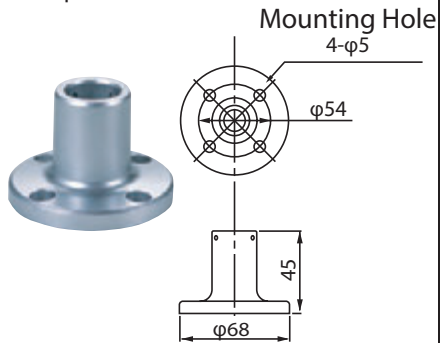


For $\phi 21.7\text{mm}$ Pole



SZ-016A

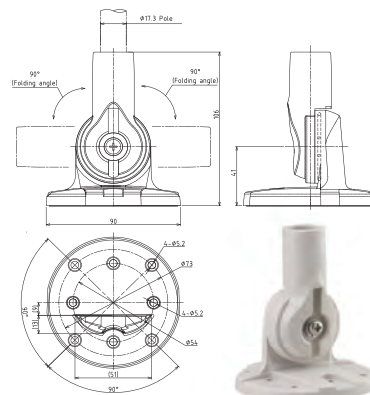
For $\phi 21.7\text{mm}$ Pole



SZ-17Q



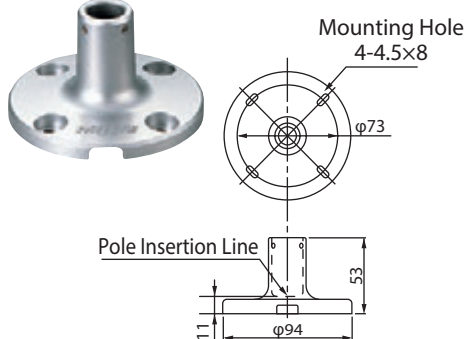
For $\phi 17.3\text{mm}$ Pole



SZ-011

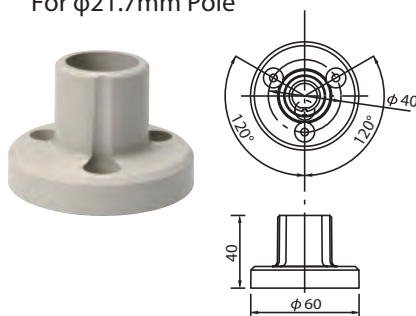


For $\phi 17.3\text{mm}$ Pole



SZ-70-B

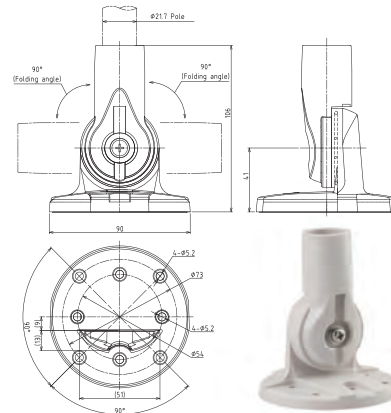
For $\phi 21.7\text{mm}$ Pole



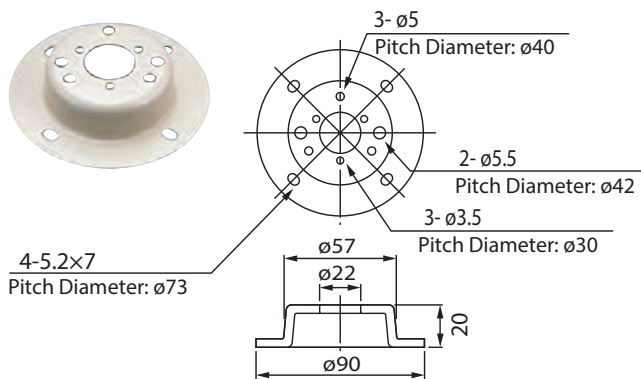
SZ-22Q



For $\phi 21.7\text{mm}$ Pole



SZ-014



Model	Material	Compatible Models
SZ-010	ADC12	RUP, LME, LMS, LHE
SZ-011		LCE, LCS, LE, LES-A
SZ-016A		LU5, LU7, RUP, LME, LMS, LHE
SZ-014	CRMS	LE, LES-A
SZ-70-B	ABS	$\phi 21.7\text{mm}$ Pole
SZ-17Q	ABS	$\phi 17.3\text{mm}$ Pole
SZ-22Q	ABS	$\phi 21.7\text{mm}$ Pole

LU7 Upper Bracket



SZ-50-U

Ivory White



SZ-50U-U

Silver

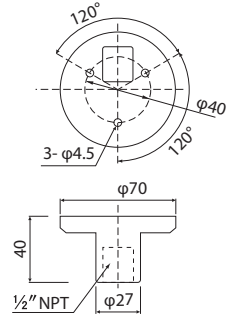
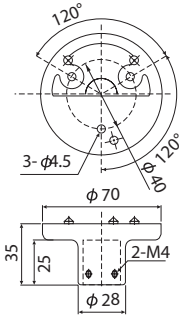


SZ-50NPT



SZ-50K-U

Black



LU5 Upper Bracket

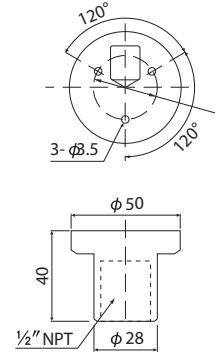
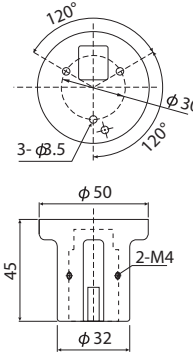
SZ-60-U

For φ21.7mm Pole



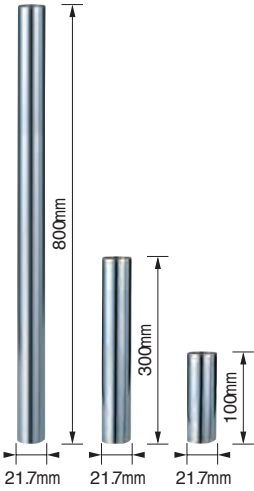
SZ-60NPT

For 1/2" NPT Pole



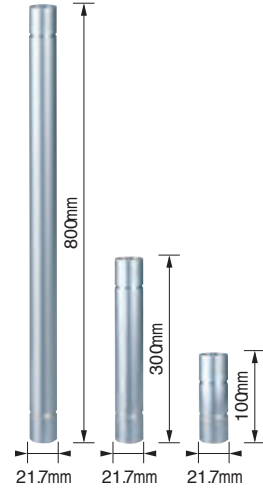
Pole

Steel Pole



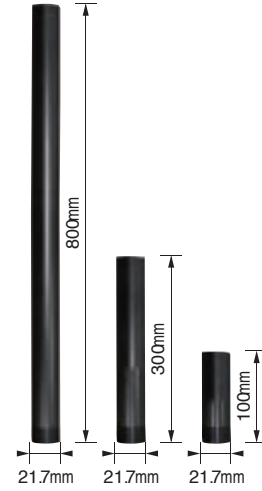
800mm	: POLE-800S21
300mm	: POLE-300S21
100mm	: POLE-100S21

Aluminum Pole



800mm	: POLE-800A21
300mm	: POLE-300A21
100mm	: POLE-100A21

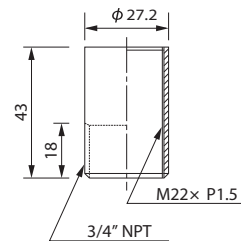
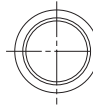
Black Aluminum Pole



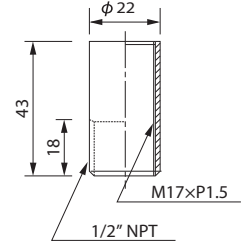
800mm	: POLE-800A21K
300mm	: POLE-300A21K
100mm	: POLE-100A21K

NPT Adaptor

SZ-904

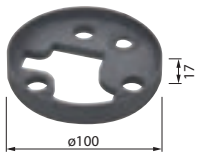


SZ-903

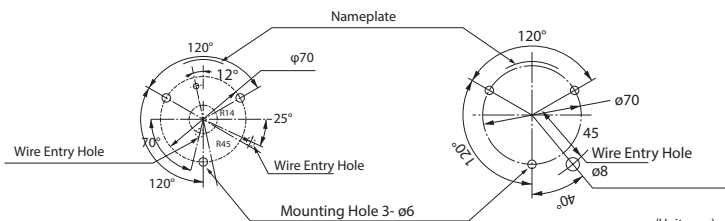


Rubber Gasket

SZ-200A



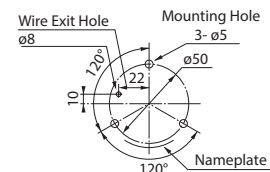
Mounting Dimensions



SZ-210



Mounting Dimension



(Unit: mm)

(Unit: mm)

LS7 Options

Wall Mounting Bracket SZ-110



SZ-110



SZ-110S



SZ-110D

Replacement Parts



O-Ring for LS7
Part No.: Z35721039-F1



Mount Cover for LS7
(Accessory)
Part No.: B81910001-F1

Platform Bracket SZ-100



SZ-100



SZ-100S



SZ-100D



Outer Cover for LS7*
Part No.: B45110011-F1
*Only for connecting to the LS7.



M12 Connector & Cable
Manufactured by the OMRON Corp.)
SZ-120-02 Cable Length 2 m (XS2F-D821-DH0-R)
SZ-120-05 Cable Length 5 m (XS2F-D821-GH0-R)
SZ-120-10 Cable Length 10m (XS2F-D821-JH0-R)
*Only for connecting to the LS7.

Multi-mount Bracket SZ-130



SZ-130

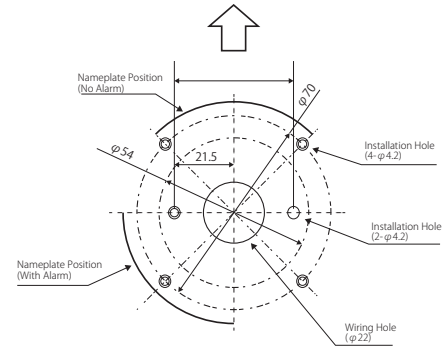


SZ-130S



SZ-130D

Front (Audible Alarm Opening)



LA6 Options



• Waterproof O-ring
B25110047-F1



• Waterproof Ring 'B'
B25110042-F1



• USB Port Cover
(Off-white) B22100071-7F1
(Silver) B22100071-9F1



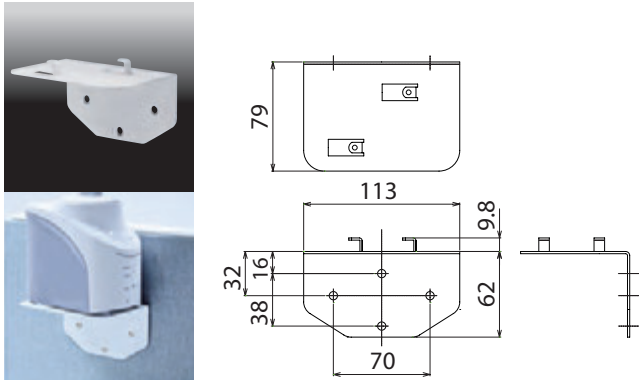
• Pole Bracket
(Off-white) B22210134-7F1



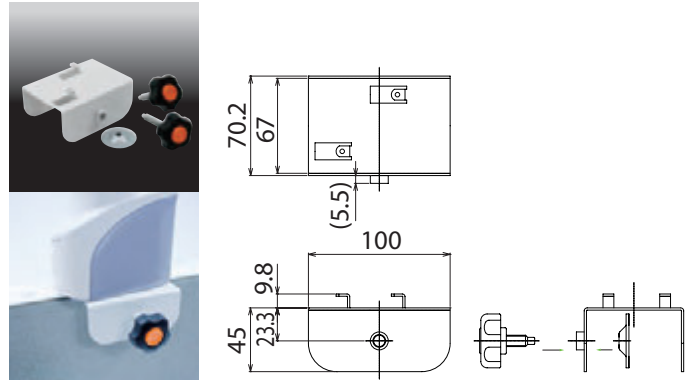
• Headcover
(Off-white) B31310001-7F1
(Silver) B31310001-9F1

NHL Options

Wall Mount Bracket NH-WST



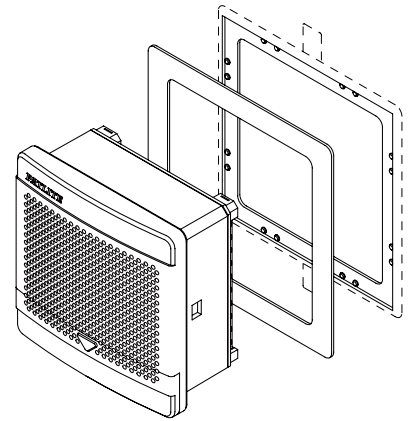
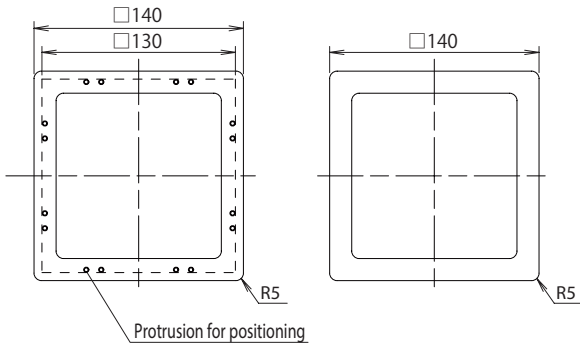
Partition Bracket NH-PST



BKV Options

BK-001 Size Adjustment Bracket

This bracket is used to install the annunciator in a place where holes have already been drilled for legacy PATLITE Products (φ133mm² Type)



RFT/RFV Options

Wall Mount Bracket

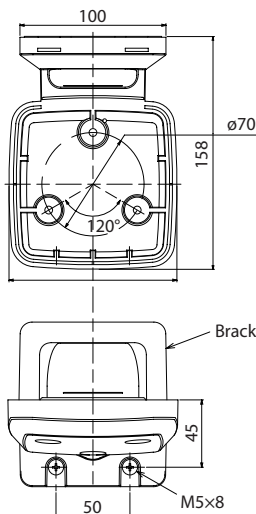


Ceiling Mount Bracket



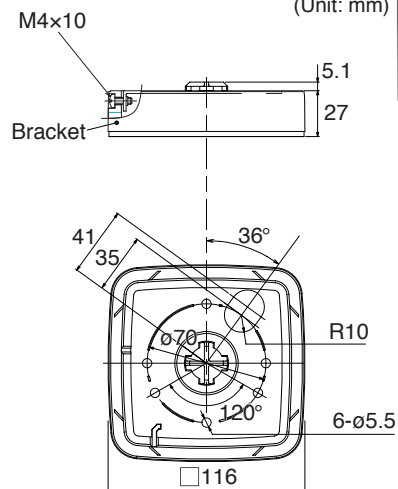
RF-001 Wall Mount Bracket

(Unit: mm)



RF-002 Ceiling Mount Bracket

(Unit: mm)



Melody Charts

Type A (Japan Only)			
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter + Bell	Synthesized Melody Chime	Chime	Call Sign
Fur Elise	Maiden's Prayer	Bach Minuet in Gmaj	Annie Laurie
London Bridge is falling down	Hol-di-ri-Dia	Mary had a little Lamb	Camptown Races
Cuckoo Song	Village Blacksmith	On the Bridge of Avignon	Daydream Believer
Amaryllis	Mozart Symphony No. 40	Quiet Lakeside	Ich bin ein Musikante
Spanish Romance	Katyusha	Grandfather's Clock	Ave Maria

Type D (Japan Only)			
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Runner	Mamotte Agetai	Chime	Call Sign
Iribiao Kikinagara	September	Doyoubino Koibito	Akino Kehai
Saafu Tengoku Sukii Tengoku	Iro White-blend	Happy Birthday	Hi Ho
I've been working on the Railroad	The Bear Song	Toys Go "Cha-cha-cha"	Konnako Irukana
Schubert's Lullaby	Rudolph the red-nosed Reindeer	She Wore a Yellow Ribbon	My Darling, Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Air

Type C (Japan Only)			
Beep (slow intermittent)	Stutter (rapid intermittent)	Bell (clear high-pitch)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter + Bell	Synthesized Melody Chime	Chime	Call Sign
Can't take my eyes off of you	Top of the World	The Entertainer	Amazing Grace
Amairono Kamino Otome	Les Champs-Elysees	Canon	Rara Sunshine
Uchuusenkan Yamamoto	Oshiete	Makenaide	Gonna Fly Now (Theme from "Rocky")
I don't Wanna Miss a Thing	Yozorano Mukou	Aiwa Katsu	Haruyo Koi
Gattsudaze	Odorou Ponpokorin	Imasugu Kisu Mi	Truth

Type E (Worldwide)			
Beep (slow intermittent)	Stutter + Bell	Inverted Reveille	Annie Laurie
Stutter (rapid intermittent)	Melody Chime	Galactic Motor	London Bridge is falling down
Bell (clear high-pitch)	Chime	Ringin Phone	Mary had a little Lamb
Yelp (rapid siren)	Call Sign	Two Tone	Camptown Races
Rapid Hi-Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Gallop Hi-Lo	Ringin Hi-Lo	Mozart Symphony No. 40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Bach Minuet in Gmaj	Grandfather's Clock





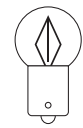
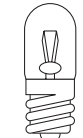

Type-F (Japan Only)				
Beep (slow intermittent)	Spring Melody	A Maiden's Prayer	Quiet Lakeside	BANZAI SUKIDE YOKATTA
Stutter (rapid intermittent)	Game Intermission	Bach Minuet in Gmaj	The Music Man	NAMONAKI UTA
Bell (clear high-pitch)	Jalopy Horn	Annie Laurie	Spanish Romance	SOUSEINO AKUERION
Yelp (rapid siren)	ET Doorbell	London Bridge is falling down	Katyusha	MAMBO NO 5
Rapid Hi-Lo	RR-crossing	Holdiridia	Ave Maria	The Parade of the Tin Soldiers
Melody Chime	Digital Train Whistle	Mary had a little Lamb	Grandfather's Clock	Turkey in the Straw
Synthesized Piano	Train Ride	The Camptown Races	RHYTHM AND POLICE	Aka tomo
Synthesized Bell	Starting Notice Chime1	Cuckoo Song	ZANKOKUNA TENSINO TEEZE	Funiculi, Funicula
Stutter + Bell	Starting Notice Chime2	Village Blacksmith	MAJINGAA ZETTO	Furusato
Melody Chime	Starting Notice Chime3	On the Bridge of Avignon	HATARAKU KURUMA	Beautiful Dreamer
Chime	Ending Notice Chime1	Daydream Believer	NINGENTE IINA	JOLLY HOLIDAY
Call Sign	Ending Notice Chime2	Amaryllis	ROBINSON	
Galactic Hovercraft	Fur Elise	Mozart Symphony No. 40	WORLD FOOTBALL ANTHEM	


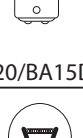
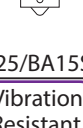
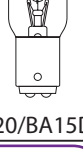
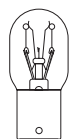



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Type-G (Worldwide)				
Beep (slow intermittent)	Gallop Hi-Lo	ET Doorbell	Mozart Symphony No. 40	Polka Trablanka
Stutter (rapid intermittent)	Alien Chatter	RR-crossing	Ave Maria	O Vreneli
Bell (clear high-pitch)	Falling Crystals	Starting Notice Chime1	Grandfather's Clock	KAERUNO GASSHOU
Yelp (rapid siren)	Inverted Reveille	Starting Notice Chime2	The Parade of the Tin Soldiers	El Condor Pasa (If I Could)
Rapid Hi-Lo	Galactic Motor	Ending Notice Chime1	If You're Happy and You Know It	Hungarian Dance No.5
Melody Chime	Ringin Phone	Ending Notice Chime2	Flea Waltz	William Tell Overture
Synthesized Piano	Two Tone	Fur Elise	Turkey in the Straw	Pomp and Circumstance
Synthesized Bell	Alarm Clock	Bach Minuet in Gmaj	The Battle Hymn of the Republic	Comedians' Galop
Stutter + Bell	Ringin Hi-Lo	Annie Laurie	J'ai perdu le do de ma clarinette	Nedelka
Melody Chime	Galactic Hovercraft	London Bridge is falling down	Can-can	Moonlight Serenade
Chime	Spring Melody	Mary had a little Lamb	Radetzky March	WAREWA UMINO KO
Call Sign	Game Intermission	The Camptown Races	Funiculi, Funicula	
Train Ride	Jalopy Horn	Amaryllis	Csikos Post	

Replacement Bulbs

Model	Bulb No.	Ratings	Part No.
 RP35/BA15S	1	12V 35W	D01203501-F1
	2	24V 35W	D02403501-F1
 RP35/BA15D	5	48V 35W	D04803502-F1
 G18/BA15S	8	6V 3W	D00600303-F1
	9	12V 10W	D01201003A-F1
	10	24V 10W	D02401003A-F1
	11	48V 10W	D04801003-F1
	12	12V 5W	D01200503A-F1
 T20/E12	13	30V 10W	D03001006A-F1
	14	110V 10W	D11001006A-F1
	15	220V 10W	D22001006A-F1
	16	110V 15W	D11001506A-F1
	17	220V 15W	D22001506A-F1
 G14/BA9S	18	12V 6W	D01200604-F1
	19	24V 6W	D02400604-F1
 T10/E10	22	110V 3W	D11000307-F1
	27	12V 0.11A	D012/1107-F1
	28	24V 0.11A	D024/1107-F1
 RP35/BA15D	36	120V 40W (Vibration Resistant)	D12004024-F1
	37	220V 30W	D22003024-F1

Model	Bulb No.	Ratings	Part No.
 Vibration Resistant	39	28V 11W	D02801111-F1
 T20/BA15D	40	110V 12W	D11001211-F1
	41	250V 11W	D25001111-F1
 S25/BA15S	42	12V 23W	D01202305-F1
	43	24V 25W	D02402505-F1
 Vibration Resistant	50	28V 20W	D02802011-F1
 T20/BA15D			
 Vibration Resistant	51	110V 20W	D11002011-F1
 T20/BA15D	53	250V 20W	D25002011-F1
	 G18/BA15S	54	12V 15W
55		24V 20W	D02402003-F1

* Some bulbs may not be available due to part or product discontinuation without prior notice.

MEMO

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