

PATLITE

PATLITE

New Frontiers in Safety, Security and Comfort.

PATLITE

New Frontiers in Safety, Security and Comfort.

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To ensure correct use of these products, read the Instruction Manual prior to use.  
Failure to follow all safeguards can result in fire, electric shock, or other accidents.  
Specifications are subject to change without notice.

ISO14001/ISO9001Certified



Headquarters/Sanda Plant/Techno Center



PT. PATLITE INDONESIA

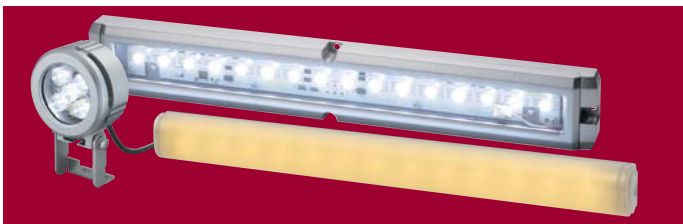


For the benefit of mankind  
and the earth, PATLITE is  
committed to developing  
environmentally friendly  
products.



Sanda Plant	
Headquarters	PATLITE (U.S.A.)
PATLITE Europe GmbH	
PATLITE (SINGAPORE)	PATLITE KOREA

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Product Index

B	BD	131	M	ME-A	41
	BDV	141		MES-A	41
	BK	133		MP	43
	BKV	143		MPS	43
	BM	129	N	NE	85
C	BSV	17		NHL	21
	CLA	19	P	PES	87
	CLE	125		PEW	87
	CLF	123		PHC	34
	CLM	126		PHE	33
	CLT	124		PS	89
				PSF	89
E	EDLM	37		PVW	147
	EDWM	37	R	RES-A	39
	EWB	135		RFT	153
	EWHS	135		RFV	155
F				RH-A	102
	FV-127JP	145		RHE	96
H	HKFM	114		RHEM	97
	HP	110		RK-A	102
	HSST	82		RKE	96
				RKEM	97
K	KG	111		RLE	98
	KHE	86		RLR	99
	KJ	119		RT	159
	KJB	119		RU	101
	KJPV	161		RS	101
	KJS	117	S	SKC-A	112
	KJSB	117		SKH-A	105
	KP-A	107		SKHB-1006D	108
	KPE	92		SKHE	95
	KUS	115		SKH-EA	103
	KX	90		SKL-A	109
				SKP-A	106
				SKV-A	113
			W	WD	25
L	LAS	127		WE	75
	LCE	45		WEP	75
	LCE-U	45		WEP-C3	31
	LCS	47		WEP-D3	27
	LE	49		WEP-K3	29
	LE-C3	31		WG	157
	LE-D3	27		WH-A	104
	LE-K3	29		WK-A	104
	LEL	51		WME-A	77
	LES	49		WSST	81
	LGE	79	X	XP	91
	LHE	65			
	LHE-C3	31		Optional Parts	163
	LHE-D3	27		Replacement Bulbs	167
	LKEH	151		Wiring Diagrams	168
	LMC	61			
	LME	57			
	LME-U	57			
	LME-S	59			
	LME-Q	59			
	LMS	63			
	LS7	15			
	LU5	53			
	LU7	67			
	LU7-V1	73			
	LU7-XE	74			

PATLITE is Number 1 for Signaling Technology.

Combining innovative LED technology and advanced optical design, PATLITE’s signaling products deliver the highest level of illumination and reliability with protection up to IP-65\*. Featuring a broad selection of models, sizes, designs and optional accessories, you can find the best solution for specific requirements. PATLITE’s quality standard guarantees long-term customer satisfaction in diversified applications. There is no better choice for signaling products than PATLITE for now and the future. PATLITE is number one in the world for signaling solutions.

Note: \*Some models are not IP 65-rated.

Outstanding IlluminationPatented Reflection System

PATLITE’s high-intensity LEDs and innovative lens design ensures outstanding illumination and exceptional brightness from any direction and distance.

PATLITE’s patented reflection system is optimized for full illumination over the entire lens.

Low Power Consumption

PATLITE’s high-intensity LEDs are eight times more efficient than conventional incandescent bulbs.

<b>PATLITE</b> LED	15kW/year
Incandescent bulb	130kW/year

Note: For one LED module and one bulb with continuous operation

Long Service Life and Reliability

PATLITE’s high-intensity LEDs guarantees an extended service life of 100,000 hours. That is more than 11 years of continuous operation!

<b>PATLITE</b> LED	over 11 years
Incandescent bulb	less than 1 year

Note: Both with continuous operation

Reduced Maintenance and Labor

PATLITE’s high-intensity LEDs drastically reduces costly maintenance requirements for replacing bulbs. The life of PATLITE’s high intensity LEDs is over 16 times longer than conventional incandescent bulbs.

<b>PATLITE</b> LED	Incandescent bulbs replacement
--------------------	--------------------------------

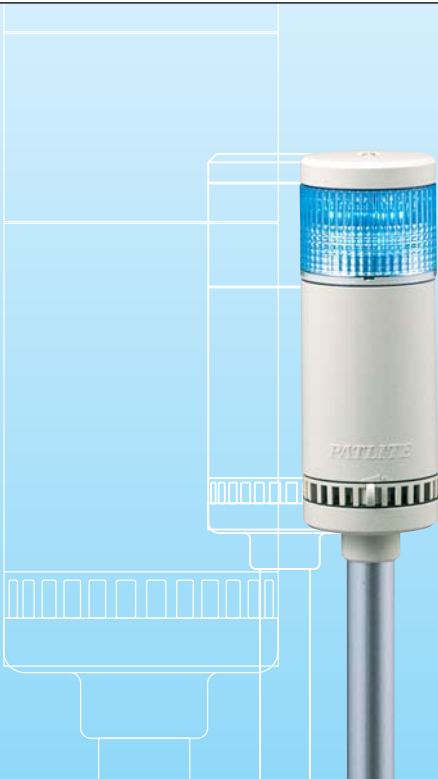
Environmentally Responsible

Many PATLITE products use lead-free technology, and are RoHS compliant. In addition, long-life LEDs reduce waste compared to conventional incandescent bulbs.



Rugged and Robust Design

PATLITE’s design with a center shaft in its signal tower ensures the structural integrity of the modules, promising protection against vibration and mishandling. Yet, it offers modularity and flexibility for changing the LED modules. The smooth-finished body surface prevents collection and adhesion of dust, making our products easy to clean. PATLITE’s signaling products are constructed using world-class quality materials to withstand harsh production environments.



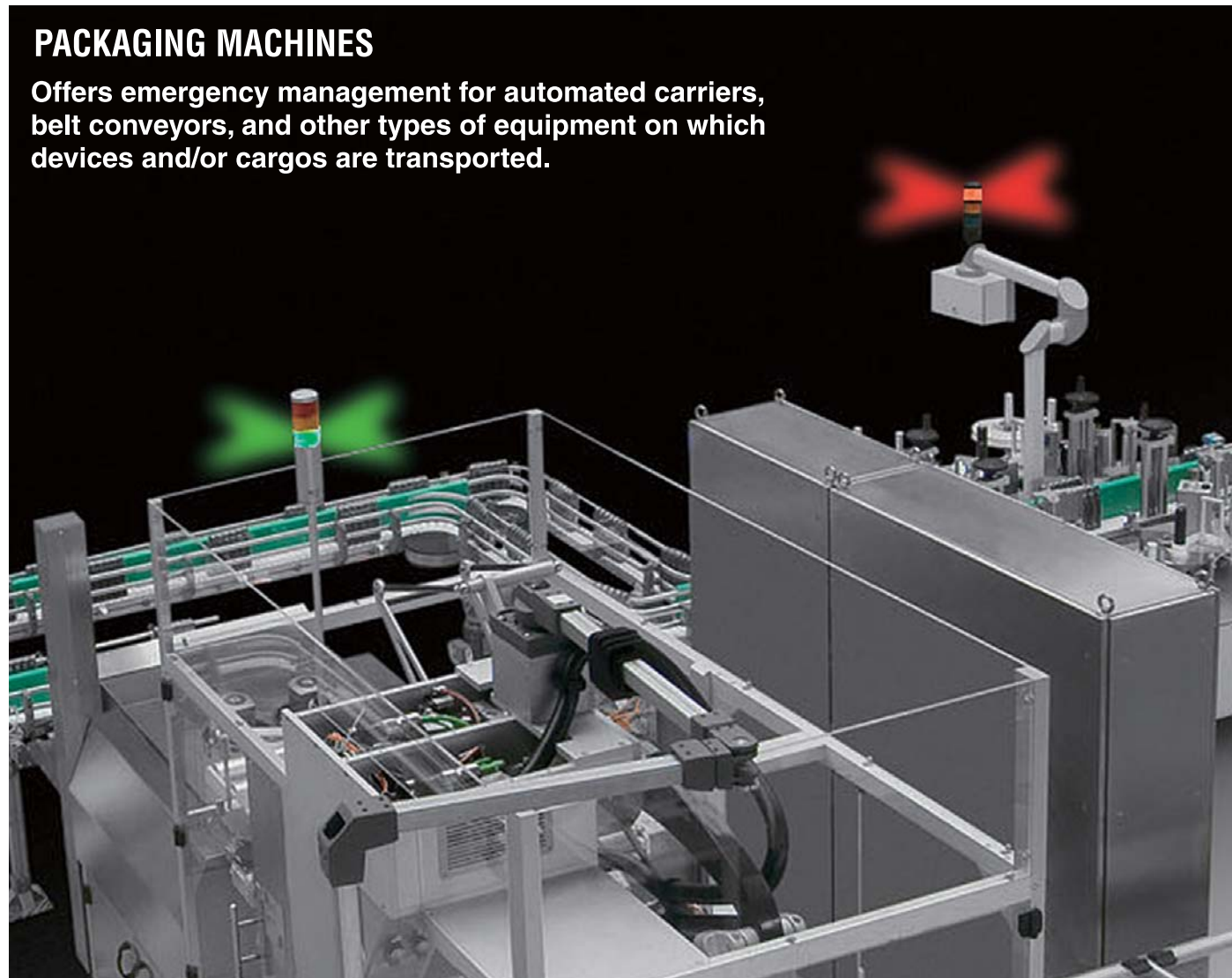


# INTRODUCTION TO VISUAL & AUDIBLE SIGNAL APPLICATIONS

Since 1947, PATLITE has been at the forefront in developing and innovating a variety of signaling products. PATLITE's extensive product range covers highly advanced LED signal towers, beacons, audible alarms, annunciators, and work lights for industrial automation and security applications. As a top brand manufacturer, we aspire to become the global standard for signaling products.

## PACKAGING MACHINES

Offers emergency management for automated carriers, belt conveyors, and other types of equipment on which devices and/or cargos are transported.

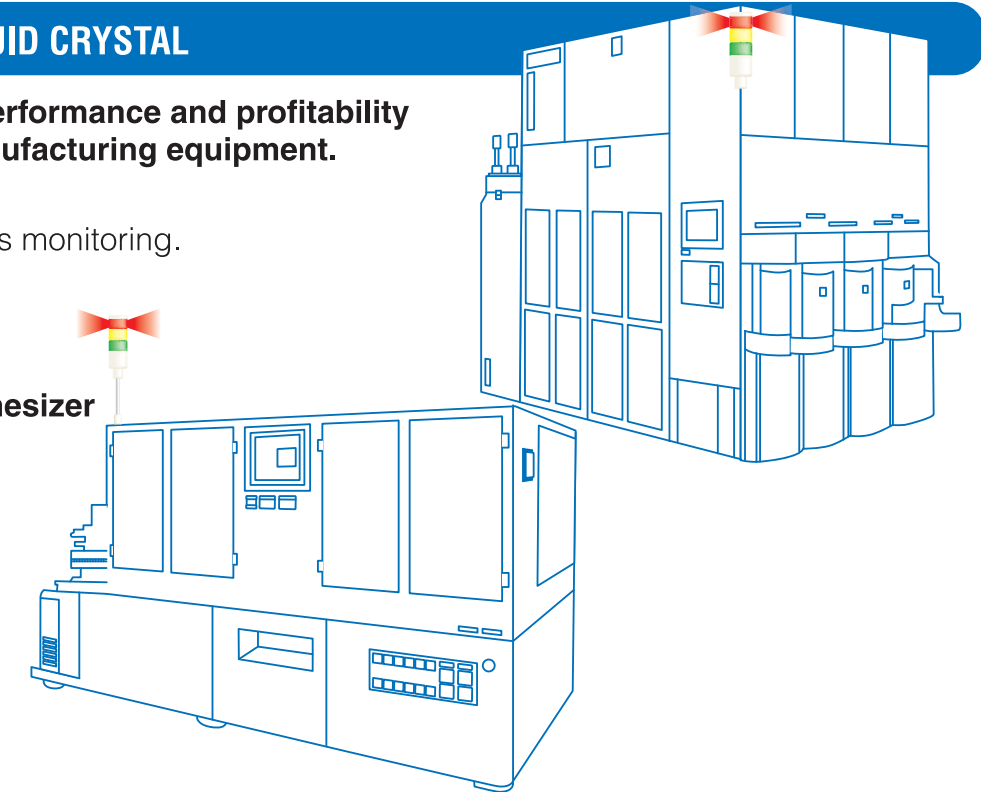


## SEMICONDUCTOR / LIQUID CRYSTAL

Achieve high levels of performance and profitability with semiconductor manufacturing equipment.

Real-time machinery status monitoring.

- Signal Tower
- Signal Horn
- Recordable Voice Synthesizer
- Voice Synthesizer

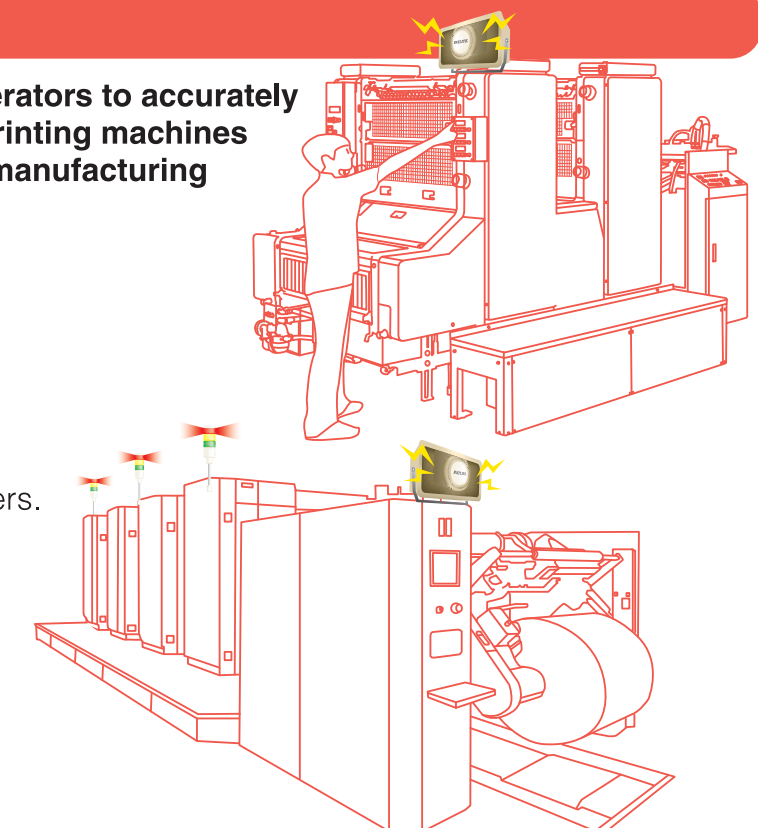


## PRINTING

Ensures safe operation by allowing operators to accurately ascertain the operating conditions of printing machines and sounding an alarm in the event of manufacturing losses or machine failure.

Enables operators of printing machines running at a high speed to quickly recognize manufacturing losses and equipment malfunctions by providing them with guidance on resolving paper-feed failures, replenishing ink at suitable times, and other such matters.

- Signal Tower
- Signal Horn
- Recordable Voice Synthesizer
- Voice Synthesizer

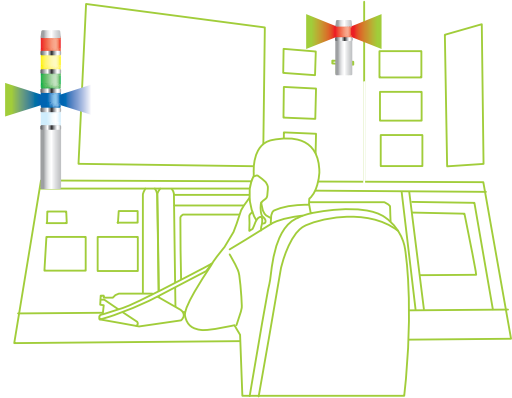
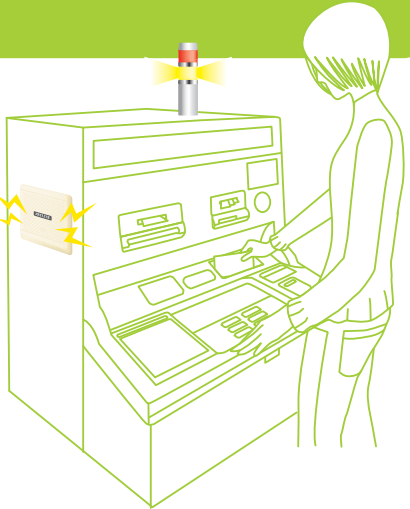


INFORMATION COMMUNICATION

Enables appropriate actions to be taken at call centers, control rooms, and other information control centers.

Indicates the existence of incoming calls, system errors, etc, at call centers and other facilities. Also enables malfunctions at remote locations to be quickly recognized and resolved by displaying such information on the displays for systems installed in control rooms at transport facilities and other sites.

- Signal Tower
- Signal Horn
- Recordable Voice Synthesizer
- Voice Synthesizer
- Network Monitoring System

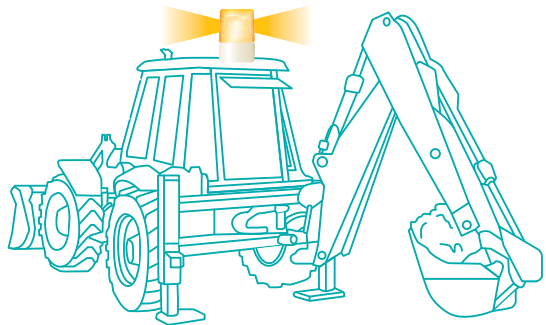
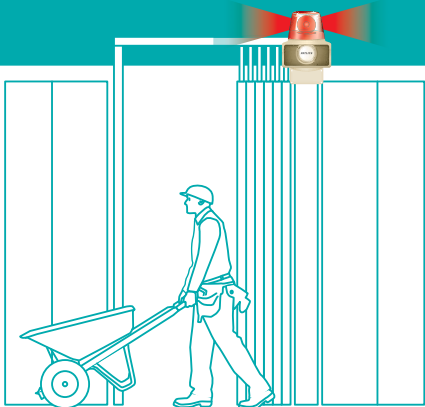


CONSTRUCTION MACHINES

Prevents accidents involving construction machinery and other accidents occurring at dangerous locations such as construction sites.

Helps to mitigate the effects of blind spots on large construction vehicles and machines with the use of LED beacons and other alarm devices. Our broad lineup of products, such as loud-voice synthesizers, ensures that workers are aware of alarms even on noisy construction sites.

- Signal Tower
- Signal Horn
- Recordable Voice Synthesizer
- Voice Synthesizer



Index of ingress protection defined by CEI / IEC 529

IP

First digit: Protection level against human body and solid foreign objects

Code No.

Second digit: Protection level against water intrusion

No protection.	0	No protection.
Protection against solid objects larger than ø50mm.	1	Protection against vertical falling drops of water.
Protection against solid objects larger than ø12mm.	2	Protection against dripping water when tilted up to 15°
Protection against solid objects larger than ø2.5mm.	3	Protection against spraying water.
Protection against solid objects larger than ø1mm.	4	Protection against splashing water.
Protection against dust-limited ingress (dust-protected).	5	Protection against water jets.
Total protection against dust (dust-tight).	6	Protection against heavy seas.
	7	Protection against the effects of immersion.
	8	Protection against submersion.

IP69K  
(P20)

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 to150 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 100,000 hours service life and low power consumption.

Xenon

Xenon bulb provides high visibility.

Halogen

Small, bright, and long-life halogen bulb.

Bulb

Economical. Readily available from PATLITE.

Sound

Electronic Sound 1

Alarm sound: Easy to recognize and gentle on the ears.

85dB at 1m

Max. sound pressure level will change based on the recorded contents such as melodies, alarms or messages.

4 Channels

The total recording time can be divided by the number of channels for making several different messages.

VOICE

Messages conveyed audibly.

MUSIC

Easy to hear alarms, chimes and melodies, but gentle on the ears.

ALARM

PATLITE's audible alarm products may contain copyrighted music or songs. Patlite has not applied for permission to use the music or songs outside Japan, so please contact your local copyright association before using certain audible 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.

Types of Protection

Drip-proof

Sealed housing protects against water, including rain. Suitable for outdoor use.

Water-proof

Provides imperviousness even to direct water jet.

Dust-proof

Highly sealed design keeps dust and dirt out. Suitable for outdoor use.

Explosion-proof

Meets the explosion- proof standard.

Specifications

IP65

Classification of dust-proof, water-jet flow-proof. Refer to the IP list above for details.

NPN/PNP Open collector

Open collector allows direct connection to a PLC without using contacts.

Dual-face reflector

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

RoHS


EU directive RoHS compliant products.

CAUTION

To ensure correct use of these products, read the Instruction Manual prior to use. Failure to follow all safeguards can result in fire, electric shock or other accidents. Specifications are subject to change without notice.

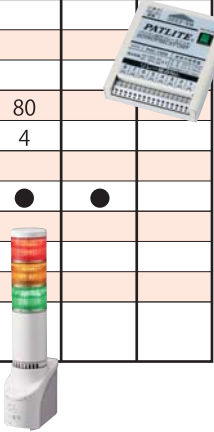


Signal Tower



																																			
Size(Diameter)		25mm		30mm		40mm			50mm				60mm		60mm				70mm										100mm						
Model		MES	ME	MPS	MP	LCE	LCE-U	LCS	LCS-U	LU5	LU5-U	LE	LEL	LES	LME	LME-U		LME-N	LME-S	LME-Q	LMS	LS7-H	LS7-C	LU7-02S	LU7-02SU	LU7-02SK	LU7-02	LU7-02U	LU7-02K	LU7-M2	LU7-M2U	LU7-M2K	LHE	LGE	
Look at page		41-42		43-44		45-46		47-48		53-56		49-50		51-52	49-50	57-58			57-58	59-60		63-64	15-16		LU7-02S	LU7-02SU	LU7-02SK	LU7-02	LU7-02U	LU7-02K	LU7-M2	LU7-M2U	LU7-M2K	LHE	LGE
Voltage	12V AC/DC											●	●																						
	24V DC	●	●							●	●		●	●					●	●	●		●	●	●	●	●	●	●						
	24V AC/DC			●	●	●	●	●	●			●	●	●	●	●		●			●											●	●		
	90-250V AC					⊙	⊙																						⊙	⊙	⊙				
	100V AC											●			●	●			●	●												●	●		
	120V AC											●	●		●	●		●		●												●	●		
	220V AC											●			●	●			●	●												●	●		
230V AC												●			●	●		●														●	●		
Body Color	Ivory White					●		●		●		●	●	●	●				●	●	●	Offwhite	Offwhite	●				●			●			●	●
	Silver	●	●	●	●		●		●		●					●			●	●		●	●		●		●			●					
	Black																	●				●	●			●		●			●				
Flashing Function						●	●			●	●	●	●		●	●		●	●	●		●		●	●	●	●	●	●	●	●	●	●	●	●
Alarm Function	dB					85	85			85	85	85	85		90	90		90	90	90				90	90	90	90	90	90	90	90	90	90	90	85
	Tones					2	2			2	2	2	2		2	2		2	2	2		2	1	2	2	2	2	2	2	2	2	2	2	2	2
Open Collector	PNP																		▲	▲															
	NPN	●	●									●							●	●															
PNP & NPN				●	●	●	●	●	●	●	●	●		●	●		●				●	●	●	●	●	●	●	●	●	●	●	●	●	●	
IP Protection		42	42 (65)	65	65	65	65	54	54	65	65	54	54	54	65	65		65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	54

Network



Model		LE-D3	LHE-D3	WEP-D3	LE-K3	WEP-K3	LE-C3	LHE-C3	WEP-C3	NHL	PHE-3FBE1	PHC-100A
Look at page		27-28		29-30		31-32		21-22		33	34	
Voltage	24V DC	●	●	●	●	●	●	●	●			
Network	DeviceNet	●	●	●								
	CompoNet				●	●						
	CC-Link						●	●	●			
Connect	Ethernet									●	●	●
	USB											
	RS-232C										●	●
Body Color	Ivory White	●	●	●	●	●	●	●	●	●	●	●
	Silver											
	Black											
Mount	Pole	●			●							
	Direct		●				●					
	Wall			●		●		●				
Alarm Function	dB	85	90	90	85	90	85	90	90	80		
	Tones	2	2	1	2	1	2	2	1	4		
Light	Bulb											
	LED	●	●	●	●	●	●	●	●	●	●	
Open Collector	PNP											
	NPN											
	PNP & NPN											
IP Protection		23	65	23	23	23	23	65	23			
















Explosion-proof Signal Tower

				
Model		EDLM	EDWM	RES-A
Look at page		37-38		39
Voltage	24V AC/DC	●	●(DC Only)	●(DC Only)
	48V DC			●
	100V AC	●		●
	120V AC	●		●
	90-250V AC		⊙	
	Other	220V AC,230V AC		12V DC,220V AC, 230V AC,240V AC
Body Color	Silver	●	●	●
Dome Lens				Red,Yellow,Green,Blue
Flashing Function		●	●	●
Open Collector	PNP & NPN	●	●	
IP Protection		66	66	65

Wall Mount Signal Tower



			
Model		WE/WEP	WME
Look at page		75-76	77-78
Voltage	24V AC/DC	●	●
	90-250V AC		⊙
Body Color	Ivory White	●	●
	Silver	●	
Flashing Function		●	●
Alarm Function	dB	90	90
	Tones	2	2
Open Collector	PNP & NPN	●	●
IP Protection		65	54


Revolving Warning Light

					   										 				 				 					
Size(Diameter)		82mm			100mm										118mm	138mm			162mm				182mm	186mm	187mm	204mm		
Model		RLE	RU	RS	RHE	RHEM	RKE	RKEM	RH-A	RK-A	SKH-EA	SKHE	WH-A	WK-A	SKH-A	SKP-A			KP-A	SKHB-1006D	SKL-A	RLR	HP	KG	SKC-A	SKV-A	HKFM	
Look at page		98	101		96	97	96	97	102		103	95	104	104	105	106			107	108	109	99	110	111	112	113	114	
Voltage	12V DC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					●	●	●	●	●	●	●	
	24V DC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●		●	●	●	●	●	●	●	
	24V AC		●	●											●						●	●						
	48V DC				●		●									●					●	●						
	100V AC	●	●	●	●		●		●	●	●	●	●	●	●	●			●		●		●	●	●			
	120V AC								●	●									●									
	200V AC				●		●		●	●	●	●	●	●	●	●			●		●			●	●			
	220V AC	●	●	●																								
	230V AC																											
	240V AC		●	●					●	●																		
100~200V AC					●		●														●							
Body Color	Ivory White	●	●	●	●	●	●	●	●	●			●	●					●	●						●		
	Silver		●	●									●	●							●							
	Black																				●	●	●					
	Same as Dome Lens										●	●			●	●					●			●				
Dome Lens	Red	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●	
	Yellow	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●	
	Green	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●		●	●			●		●	
	Blue		●	●	●	●	●	●	●	●	●	●	●	●	●	●			●		●	●	●		●		●	
	Purple														●													
Alarm Function	dB				88	88	88	88	90	90		88	90	90	90					75								
	Tones				1	1	1	1	1	1		1	1	1	1					1								
Light	Bulb		●	●					●	●	●		●	●	●	●			●	●	●			●	●	●		
	LED	●			●	●	●	●				●										●						
	Halogen																					●				●		
	Xenon																						●					
IP Protection		23	23	23	23	23	23	23	23	23	23	23	54	54	23	23			23	23	23	66			23	23	66	
with Gasket		55	55	55	55	55	55	55	55	55			●	●														



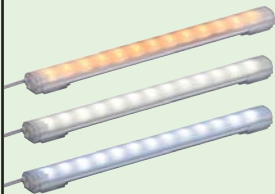
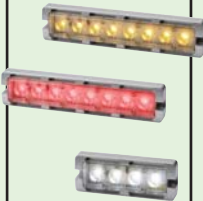



Signal Light

						
Size(Diameter)		57mm		82mm		
Model		NE	PS	PSF	PEW	PES
Look at page		85	89		87-88	
Voltage	12V DC		●	●		
	24V DC	●	●	●	●	●
	24V AC		●	●	●	●
	48V DC					
	100V AC				●	●
	120V AC				●	●
	200V AC				●	●
	230V AC				●	●
Body color	Ivory White	●	●	●	●	●
	Silver				●	
Alarm Function	dB				85	
	Tones				1	
Light	Bulb		●	●		
	LED	●			●	●
	Xenon					
IP Protection		67	23	23	54	23
	With Gasket		55	55		55


					
Size(Diameter)		100mm		162mm	
Model		KHE	KX	XP	KPE
Look at page		86	90	91	92
Voltage	12V DC		●	●	
	24V DC	●	●	●	
	24V AC				
	48V DC		●		
	100V AC		●	●	●
	220V AC		●	●	●
Body color	Ivory White	●	●	●	●
	Silver	●	●		
Alarm Function	dB				
	Tones				
Light	Bulb				
	LED	●			●
	Xenon		●	●	
IP Protection		23	23	23	23
	With Gasket	55	55		











LED Lights


											
		100,200,300,600,900,1200,1500mm	100mm	200mm	300mm			Φ 71		Φ 85	
Model		CLA	CLF		CLT			CLE		CLM	LAS
			CLF10	CLF20	CLT30-24S	CLT30-24L	CLT30-24T	CLE-24	CLE-24N	CLM-24	LAS-M1VK
Look at page		19-20	123		124			125		126	127
Voltage	24V DC	●	●	●	●	●	●	●	●	●	
	12/24V DC										●
Light color	Daylight color	●	●	●	●	●	●	●	●	●	
	Yellow	●	●	●							●
	Red		●	●							●
	Warm White	●									
Housing Material	Aluminum		●	●	●	●	●	●	●	●	
	Polycarbonate	●									●
Cover	Glass				●	●	●	●	●	●	
	Polycarbonate	●	●	●							●
IP Protection		66/67/69K	67	67	66G/67G	66G/67G	66G/67G	65F	65F	67F	
Proof	Water	●	●	●	●	●	●				
	Oil				●	●	●				
	Dust	●	●	●	●	●	●				

Cube Tower

					
Size		70×70mm	82×82mm	116×116mm	
Model		KUS	KJS	KJ	
Look at page		115	117	119	
Voltage	12V DC		●		
	24V DC		●	●	
	24V AC/DC	●			
	48V DC				
	100V AC	●	●	●	
	120V AC	●	●	●	
	220V AC	●	●	●	
Body Color	Ivory White	●	●	●	
	Silver				
Alarm Function	dB	80	85	85	
	Tones	1	1	1	
Open Collector	NPN		●		
IP Protection		54	23	23	

Audible Alarms & Annunciators

										
dB		90	90	90	105		87	87	95	
Model		BM	BD	BK	EWB	EWBS	BSV	BDV	BKV	FV-127JP
Look at page		129	131	133	135		17	141	143	145
Voltage	12V DC		●	●	●	●		●	●	
	24V DC		●	●	●	●	●	●	●	●
	24V AC/DC	●								
	48V DC				●	●				
	100V AC	●	●	●	●	●		●	●	
	120V AC	▲			●	●				
	200V AC				●	●				
Body Color	220V AC	●	●	●	●	●		●	●	
	Ivory White		●	●	●	●	●	●	●	
	Black	●	●	●	Red/Yellow	Red/Yellow	●	●	●	
Sound	Silver						●			
	Patterns	2	4	8	8	4				
	Melodies		32	32	32	32				
	Chimes	2								
Voice	Recordable									●
	Channel						15	15	31	127
	Duration						63sec.	63sec.	63sec.	8min.
Open Collector	PNP	●	●	●	●		●			
	NPN	●	●	●	●		●	●	●	●
	PNP & NPN									
IP Protection		34	54	54	53(65)	53(65)	54	54	54	

									
dB		105	105	90		90	105	95	
Model		PVW	LKEH-F□	LKEH-FV	RFT	RFV	WG	RT	KJPV
Look at page		147	151		153	155	157	159	161
Voltage	12V DC	●		●	●	●		●	●
	24V DC	●	●	●				●	●
	24V AC/DC								
	48V DC	●							
	100V AC	●	●	●	●	●	●	●	●
	120V AC							●	
	200V AC								●
Body Color	220V AC	●	●	●	●	●		●	
	Ivory White	●	●	●	●	●	●	●	●
Sound	Black								
	Patterns		8		8			8	
	Melodies								
Voice	Chimes		32		32			32	
	Recordable			●		●	●		
Open Collector	Channel	15		31		15	3		4
	Duration	60sec.		63sec.		63sec.	32sec.		16sec.
	PNP		●	●					
Open Collector	NPN	●	●	●	●	●	●	●	●
IP Protection		53	53	53	54	54		23(65)	23

# New Products





LS7

Signal Tower

Coming Soon

LED



90dB at 1m  
(FB type)

Electronic Sound 2  
(FB type)

ø70

NPN/PNP  
Open collector



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

### M12 connector specification Lineup

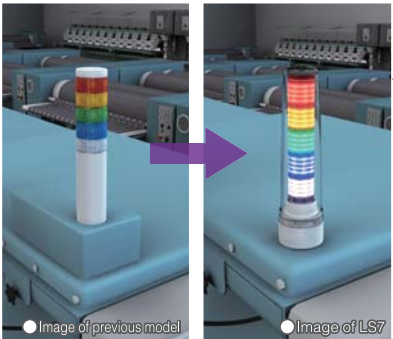
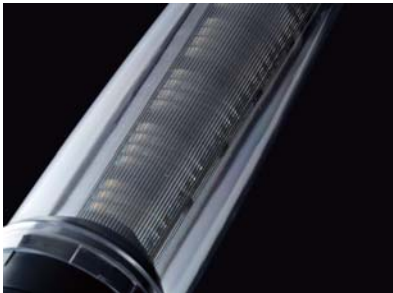
In addition to the existing lead wire, M12 connector quick disconnect is also available. Moreover, when moving to carry and to go out of the device, it is possible to detach it easily with the M12 connector.



●With smooth surface body together with the outer lens structure, neither dust nor grim pile up easily.

●Support open collector and possible to drive directly through PLC.

●Conforms to CE requirements.



### A smooth-surfaced body which does not expose any metal

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.

### M12 Connector Wiring & Stackable 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.

## 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 tampering can be put to rest in the food process lines.

### Option

Platform Bracket SZ-100



SZ-100 (Off-white) SZ-100-D (Dark Gray) SZ-100-S (Silver)

Wall Mounting Bracket SZ-110



M12 Connector & Cable  
(Manufactured by the OMRON Corp.)

SZ-120-02 Cable Length 2m  
(XS2F-D821-DH0-R)

SZ-120-05 Cable Length 5m  
(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



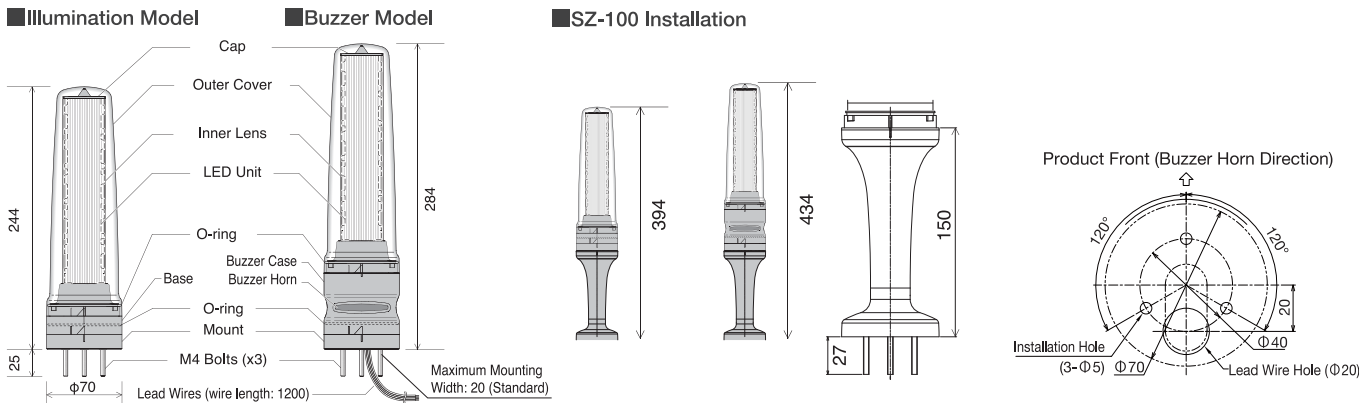
O-ring for LS7  
Material: Silicon



Mount Cover for LS7 (Accessory)  
Material: Silicon

※ When changing the outer cover, change the O-ring as well.

## Dimensions



## How to Order

## Wiring Diagram

Note: See page 168 for wiring diagram

### Specifications

Model	Number of Lighting Units	Body Color	Rated Voltage	Mounting	Rated Current Consumption	Maximum Rated Current	Maximum Sound Pressure	Operating Temperature Range	Protection Rating	Mass: Lead Wire Type (H)		Mass: M12 Connector Type (C)	
										Illumination (No Mark)	Illumination + Flash + 2 Buzzer Alarms (FB)	Illumination (No Mark)	1 Buzzer Alarm (B)
LS7-302	3 Tiers	Off-white (No Mark) Dark Gray (D) Silver (S)	DC 24V (±10%)	Direct (Indoors Only)	Red: 20mA Yellow, Green, Blue, White: 30mA Buzzer: 40mA	Red: 35mA Yellow, Green, Blue, White: 40mA Buzzer: 55mA	Buzzer1 ab, 82dB Lead Wire Type (Intermittent beep) M12 Connector Type (Continuous Beep) Buzzer2 ab, 85dB Lead Wire Type (Intermittent Beep2) M12 Connector Type (None)	-30°C ~ 60°C	Illumination Type IP65 Buzzer Type IP54	0.28kg	0.37kg	0.26kg	0.32kg
LS7-502	5 Tiers												

LED Signal Tower **LS7-** ① 02 ② ③ ④ W ⑤ — ⑥  
Ex.: LS7-302WC-RYGNNG  
① Body Color...Off-white ② Lighting...Illumination  
③ Buzzer...None ④ Wiring...M12 Connector  
⑤ LED Colors:Red, Yellow, Green, (Blank), (Blank)

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 G:Green C:White Y:Yellow B:Blue N:Blank  
※ 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.

# BSV

## Voice Annunciator



87 dB at 1m

63 Second

IP54

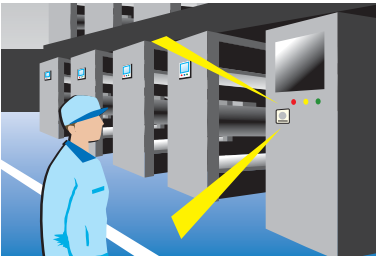
Upright direction only.

NPN  
Open Collector

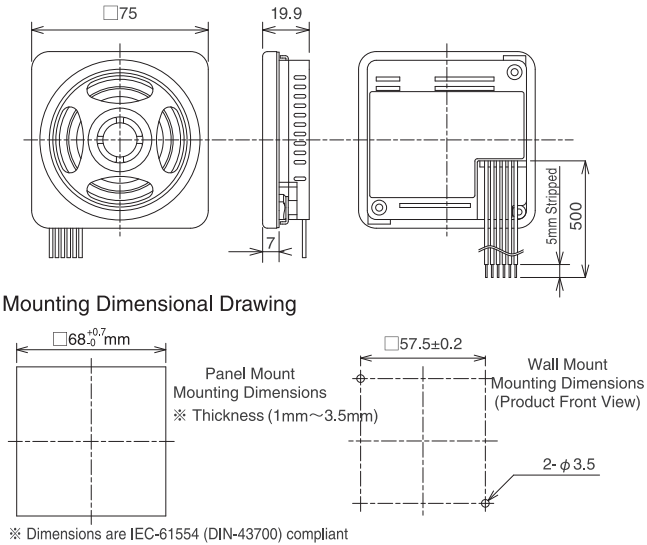


### The unbelievably thin design adds space-saving for equipment.

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



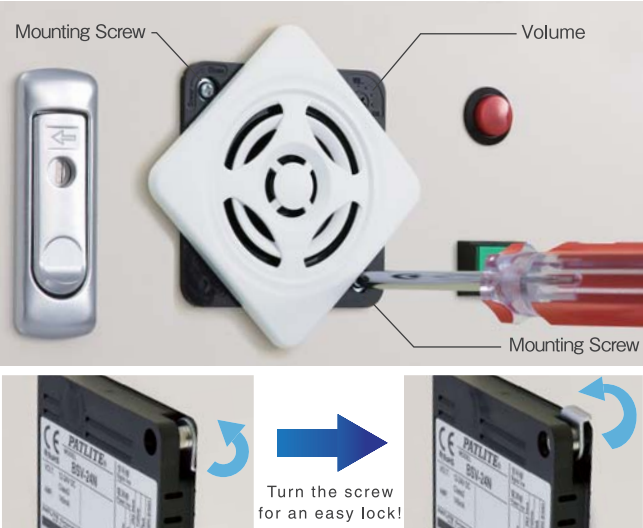
### Dimensions



Note: See page 177 for wiring diagram

### From the front, easy installation

With only the need to access it from the front, the front cover is easily removable for installation and volume adjustment, which can reduce labor time for maintenance, etc.



### How to Order

#### BSV-24NM-W

Transistor Type N : NPN P : PNP	Front Cover Color W: Off-white D: Dark Gray S: Silver	Pre-recorded Message No Code : None (15 Built-in Alarms) M : Pre-recorded Messages
---------------------------------------	--	---

-M: If the pre-recorded voice message data is overwritten, all of it will be erased. Also, message data cannot be exported.



Actual Size

Panel Mount



Wall Mount



SD card slot is built-in. MP3 data rewriting can be done with an SD card. In addition to the option of message rewriting using the exclusive application software, MP3 data file name change or rewriting is possible, even when dedicated software is not used.

### BSV Type

Model	Transistor Type	Rated Voltage	Voltage Range	Power Consumption	Volume	Relative Humidity	Maximum Playback	Number of Playback Messages	Protection Rating	Mass	Front Cover Color	Pre-recorded Data
BSV-24NM-W/D	NPN Transistor	DC 12-24V	10.8V DC to 26.4V DC	3.5W	Max 87dB (at 1m)	-10℃ to +50℃ (Less than 85%RH)	63 sec.	4 (Bit Input) 15 (Binary Input)  ※ When using the Sound Reduction Function: 3 (Bit Input) 7 (Binary Input)	IP54  Upright Position Panel Mount Only	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										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)	

(Note) The sound pressure level is based on measurements under controlled conditions (voice-synthesized 1 kHz sine wave playback 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. This product is not designed for use in motor vehicles.



# CLA

## LED Light Bar



LED



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.

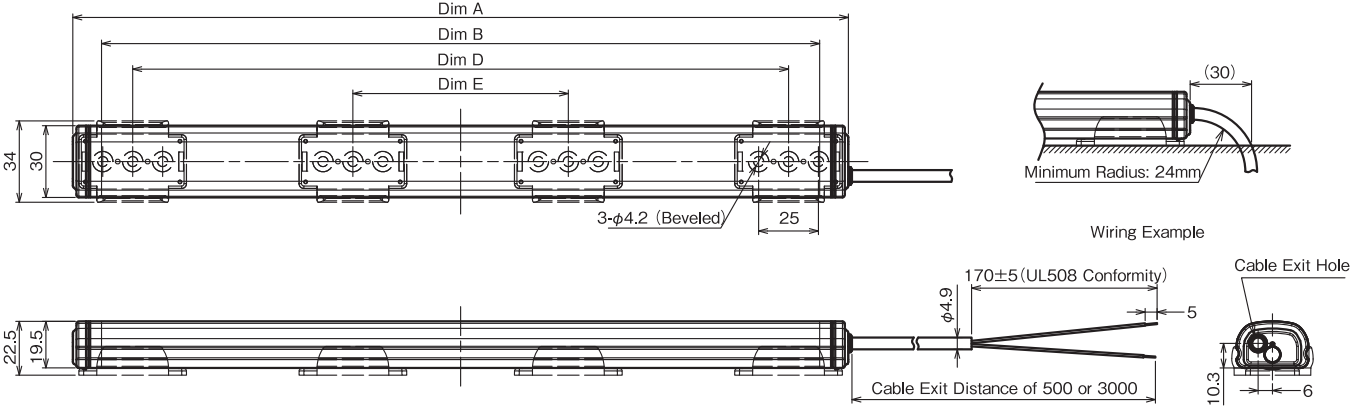
- It is 30% brighter than the previous model. (Model CLB-N 300lx -> 400 lx/0.5 m. CLA3S Model Comparison)
- Attained the IP69K standard, which is a demand for industries which requires 80 °C of hot-water jet-stream washing, such as for meat / food processing, beverages and medicine manufacturing to handle the waterproofing performance. (The industry's first based on corporate investigation) It also corresponds to IP66/67 standards.
- The product also suppresses heat radiation temperature to 40 degrees or less (34% reduction in comparison to a 20W fluorescent light), and eases the burden for environmental installation.
- The product lineup includes seven sizes (100-1500mm), three colors (Daylight, Natural White, Amber), and four types of attachments, including a magnet attachment. It can adapt to various scenes.
- The operating temperature limit of -40 to +60 °C allows the possibility for installation in a sub-freezing temperature environment, such as a cold storage warehouse.
- Constructed with strong polycarbonate resin, which is resistant to shock.
- The use of the SD card can allow changing messages while out in the field.
- Corresponds to Europe's RoHS Directive. And obtained ECOLAB certification.
- Conforms to the CE requirements.
- UL Listed (File No. E306141).

### Luminous Color

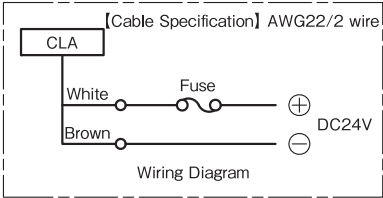
A 6800K daylightlight light bar at a distance of 50 cm from the center of irradiation has measured a maximum brightness of 400lx.



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.



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	—	2 pcs.
CLA3S-	324	300	274	—	2 pcs.
CLA6S-	624	600	574	—	2 pcs.
CLA9S-	924	900	874	290	4 pcs.
CLA12S-	1224	1200	1174	390	4 pcs.
CLA15S-	1524	1500	1474	490	4 pcs.



### Options



### How to order

Light Bar Length	CLA1S-24-CD-30	Cable Length
1 : 100mm		No Code : 0.5m
2 : 200mm		30 : 3.0m
3 : 300mm		
6 : 600mm		
9 : 900mm		
12 : 1,200mm		
15 : 1,500mm		
		Luminous Color
		-CD (Daylight)
		-CN (Natural White)
		-Y (Amber)

※ -Y is only available in 100mm and 300mm lengths.

### CLA Type

Model	Luminous Color	Rated Voltage	Operating Voltage Range	Rated Current Consumption	Center Radiation (lx/50cm)	Main Body Material	Operating Temperature Range	Mounting Direction	Protection Rating	Vibration Resistance	Mass
CLA1S-24-CD	Daylight	DC 24V (Polarized)	DC24V±10%	104mA	140	Body: Polycarbonate	-40℃ to +60℃ (RH 90% or less No Condensation)	Any Direction (Indoor Use)	IP66/ 67/69K	19.6m/s²	80 g
CLA1S-24-CN	Natural White				78						130 g
CLA1S-24-Y	Amber				270						180 g
CLA2S-24-CD	Daylight			208mA	400						340 g
CLA2S-24-CN	Natural White				220						500 g
CLA3S-24-CD	Daylight			240mA	810						660 g
CLA3S-24-CN	Natural White				890						820 g
CLA3S-24-Y	Amber				945						
CLA6S-24-CD	Daylight			480mA	810						
CLA6S-24-CN	Natural White				890						
CLA9S-24-CD	Daylight				945						
CLA9S-24-CN	Natural White										
CLA12S-24-CD	Daylight	960mA	890								
CLA12S-24-CN	Natural White										
CLA15S-24-CD	Daylight										
CLA15S-24-CN	Natural White	1,200mA	945								

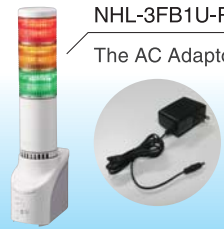
# NHL

## Network Monitor Signal Tower



Network Monitoring  
With a New Look

2 Model Selections Available



NHL-3FB1U-RYG (Adaptor Included)  
The AC Adaptor is included when ordering.



NHL-3FB1N-RYG (Adaptor not Included)  
The AC Adaptor is not included when ordering.  
The AC Adaptor is to be purchased separately.  
DC Secondary Output  
Voltage : 24V DC plus or minus 5%  
Current : 0.75A or more  
Plug Connector Outer Diameter : 5.5mm dia  
Plug Connector Inner Diameter : 2.1mm dia

setting by WEB  
SNMP V1.2  
E-mail  
RSH  
PING 24  
Ethernet

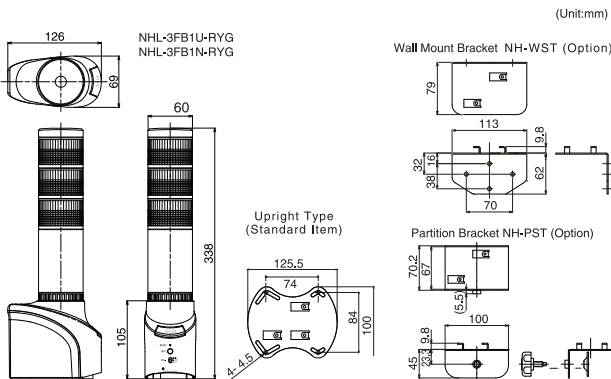
Function of SNMP V1 is limited.



ø60

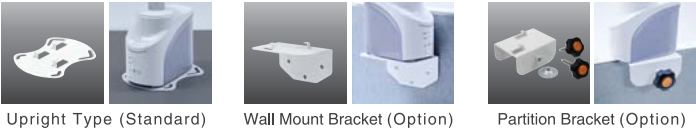
- Supports such protocols like HTTP, SMTP, RSH, and SNMP.
- It easily works with NMS (network management/integration / monitoring) software, etc.
- It's not dependent upon the OS and the RSH Commands are easily controllable.
- It's also easily controllable by the SNMP SET command.
- It contains the ICMP protocol so PING monitoring for a maximum of 24 nodes can be setup.
- Detailed setup functions can be accessed via a web browser to the Main Unit because it contains an IP address.
- Four kind of buzzer sounds in correlation to the prioritized monitoring level can be used.
- Conforms to the CE requirements. (AC Adaptor does not carry the CE mark.)

### Dimensions



### Useful in Various Environments

It can be used in various environments with the various brackets.



### Specifications

Model	NHL-3FB1U-RYG	NHL-3FB1N-RYG
Rated Voltage (Body)	DC24V	
AC Adaptor Rated Voltage	AC 100V to 240V	
AC Adaptor Operating Voltage Range	AC 90V to 264V	
Power Consumption	Body 2.0W, Red 1.5W, Amber 1.5W, Green 0.8W, Blue 0.8W, White 0.8W, Buzzer 2.0W	
Operating Temperature Range	0°C to 40°C (No Condensation)	
Storage Temperature Range	-10°C to 60°C (No Condensation)	
Relative Humidity	from 20 to 80% RH (No Condensation)	
Insulation Resistance	More than 1M $\Omega$ at DC500V between the terminals and the chassis	
Withstanding Voltage	AC1000V and less than 10mA applied for 1 minute between the terminals and chassis without breaking insulation	
EMI Noise Characteristics	AC1000Vp-p Pulse Width: 1 $\mu$ sec	
Vibration Resistance	19.6m/s <sup>2</sup>	
Sound Level	HIGH: 80dB or more / LOW: 70dB or less (Distance from buzzer diaphragm (Upright Position) of 1m and "A" balance)	
Buzzer Sound	Three-position adjustable switch for "HIGH", "LOW" and "OFF"	
Signal Tower	NHL: 60 Type Clear Globe	
"CLEAR" Switch	Pushbutton Switch	
"TEST" Switch	Pushbutton Switch	
"RESET" Switch	Pushbutton Switch	
"BUZZER" Switch	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 $\cdot$ ARP $\cdot$ ICMP	
Transport Layer	TCP $\cdot$ UDP	
Application Layer	HTTP $\cdot$ RSH $\cdot$ SMTP $\cdot$ SNMP	
POP $\cdot$ DNS $\cdot$ Socket $\cdot$ NTP $\cdot$ DHCP		
Mounting Location	Indoors Only	
Direction	Desktop or wall-mount in the upright position	
Mass (AC Adaptor not included)	800g	
Protection Rating	IP20 (Not Waterproof)	
Accessories	AC Adaptor, Rubber Feet, Adhesive Seal, Support Base	Rubber Feet, Adhesive Seal, Support Base

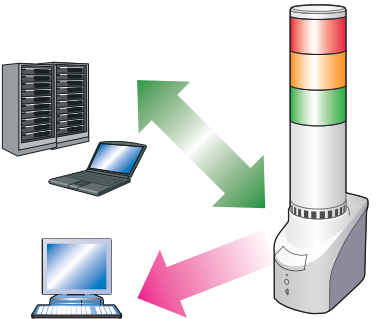
Easy to integrate for a broad range of applications

#### PING Device Monitor

##### Monitors Device Existence on the Network

Each NH Tower initiates PING interaction for up to 24 network devices. When a PING response fails, light/sound signaling occurs to warn administrators.

Among the 24 nodes (21st to 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

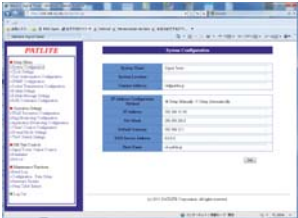
##### Monitor networking equipment at a low cost

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

It can distinguish the variable bindings. Registration of 16 groups (4 nodes per group) is possible.

#### Easy setup from a web browser

The detailed setup for the Body can be accessed over a web browser to its IP address. Firmware can also be upgraded remotely.

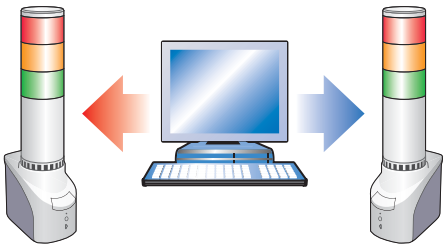


Web Setup Screen

It offers ample amounts of communication commands

#### RSH

It is easily controllable by RSH commands, which is a flexible protocol. Network integrated management software and event information, including various monitor tools etc., are turned into a trigger to cause lighting, flashing, and the buzzer to sound in synchronicity with the light of the Signal Tower.



#### SOCKET Transmission

##### PHN Command Compatibility

It is controllable with 2 byte commands. Compatible with NHE-3FB, NHC-3FB, NHM-3FB, and PHN-3FBE1. Some functions are limited.

Event Occurrence:  
Command (Lighting Tier, Sounding Buzzer)  
PHN Example Code: 0x57,0x17

##### New PNS Command Compatibility

By using the PNS command, control of all pattern information is attainable.

The PNS command is a unique command from PATLITE.

Event Occurrence: Command (Lighting Tier, Sounding Buzzer)  
PNS Example Code: 0x58,0x58,0x53,0x00,0x00,0x06,0x01,0x01,0x01,0x00,0x00,0x01

Event Occurrence: Command (Lighting Tier, Sounding Buzzer)  
RSH Example Code: rsh 192.168.10.1 -l root alert 111001

Has Diagnostic / Reporting set function

#### E-mail Transmission

##### Send e-mail with a maximum of eight events (selectable)

The subject name and text corresponding to a diverse event can be created. It exceeds in the complete e-mail authentication function securely.

#### SNMP v2c

SNMP TRAP Transmission  
Can transmit from a maximum of eight locations.

#### Self-diagnosis



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



# Network





WD

Wireless Data Acquisition System

Wireless LED Signal Towers  
for Data Acquisition  
and Remote Monitoring



IEEE802.15.4  
2.4GHz



AirGRID

Data Acquisition and Remote Monitoring via  
Wireless Network of PATLITE Signal Towers

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’s unique wireless add-on modules and receivers are a practical and economical solution for data acquisition, machine status remote monitoring, and supervisory control of industrial processes. The AirGRID is an effective solution for lean manufacturing and the visual factory. PATLITE wireless add-on modules comply with IEEE802.15.4, operating in the 2.4 GHz band.

1)Simply add 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.

2)Wireless technology eliminates tedious wire installation

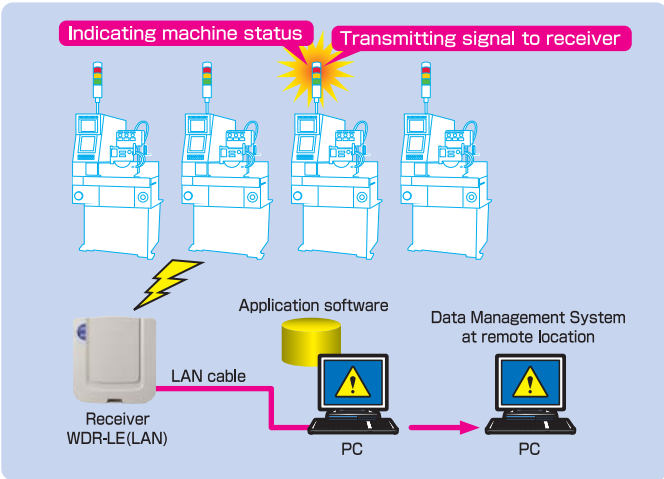
Wireless add-on modules source power from PATLITE signal towers and transmit electrical signals to the data center. Therefore wiring, component installation and related costs are minimal.

3)Multi-hopping topology and high transmitting reliability

With wireless multi-hopping topology, which can minimize potential transmitting failures or errors, a high level of stable operation and transmitting reliability are expected.

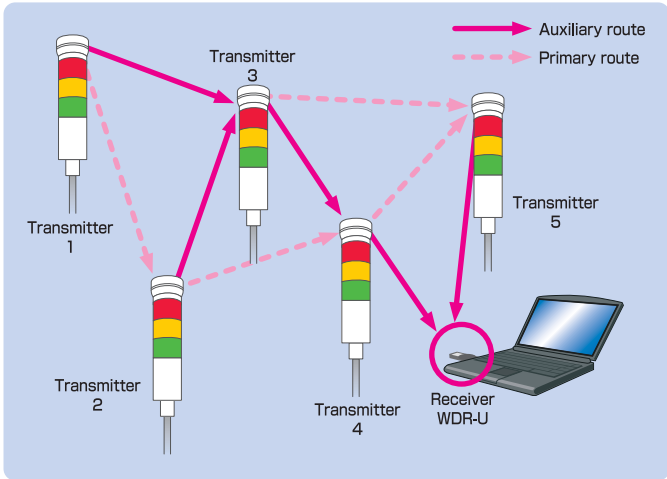
Typical Application

Multiple stand-alone machines can be networked by the AirGrid 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 AirGRID is stored in a file format CSV which any off-the-shelf data management software e.g, SCADA can handle.



Specifications

Transmitters

	WDT-6M	WDT-5E
Model		
Applicable Signal Tower	LME series	LE series (24VDC only)
Rated Voltage	24VDC no polarity	
Voltage Range	20.4VDC - 26.4VDC	
Current Consumption	35mA	
Operating Temperature	-10°C~60°C (No condensation)	
Environment Humidity	85% RH or less	
Environment Temperature	-20°C~70°C (No freezing)	
Installation	Upright position (indoor use only)	
IP Protection	Determined by PATLITE signal towers	
Dimension	φ 65×height 36.9mm	φ 65×height 38.5mm
Mass	55 g	

(\*)Ask PATLITE sales representatives for specific models of PATLITE signal towers which are compatible with the WDT-6M and WDT-5E.

Features

Wireless Standard	IEEE 802. 15. 4
Frequency Band	2400MHz-2483.5MHz (16 channels by 5MHz step from 2405MHz)
Installation	up to 20 units (*1)
Wireless Output	Max. 1mW
Compliance	FCC, R&TTE, CE(*2), RoHS

(\*1) Numbers of units to install are determined by wireless environment and installation location.  
(\*2) Conforms to the CE requirements.

Receivers

	WDR-LE (LAN)	WDR-U (USB)
Model		
Rated Voltage	24VDC (Power supply not included)	5VDC(with USB bus power)
Voltage Range	20.4VDC-26.4VDC	4.5VDC-5.5VDC
Current Consumption	150mA	80mA
Operating Temperature	-10°C~60°C (No condensation)	5°C~40°C (No condensation)
Environment Humidity	85% RH or less	85% RH or less
Environment Temperature	-20°C~70°C (No freezing)	-5°C~50°C (No condensation)
Installation	horizontal , wall mount (indoor use only)	USB port of PC (no USB hub) (indoor use only)
IP Protection	IP20	—
Dimension	height 131mm×width 125mm×deep 38.5mm	height 11mm×width 28.5mm×deep 66.5mm
Mass	165g	15g



**Application software(supplied free) WDS-AE**  
The software WDS-AE stores datas which the WDR-LE/U receives from WDT-6M/5E in the file format of CSV.

**\*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 ordanance.**

# DeviceNet Supported

LHE-D3 / LE-D3 / WEP-D3

DeviceNet™

LED



90dB at 1m  
(LE type: 85dB at 1m)

Electronic Sound 2  
(WEP type: 1 sound)

IP23



## DeviceNet Supported Signal Tower for Open-field Network

- Single Cable: Uses DeviceNet cable only, which transfers power and signals for control.
- Easy Connection: Directly connect up to 64 linked DeviceNet units with DeviceNet cable, without I/O terminals.
- Required Device: DeviceNet-type controller (i.e. DeviceNet Master).
- Data Storage: Addresses set by dip switch.
- Light Pattern: Continuous only, no flashing.
- B type: Built-in alarm; LHE: 90dB at 1m (adjustable), LE: 85dB at 1m (adjustable), WEP: 90dB at 1m.
- Sound Pattern: LHE / LE: Intermittent tone, Alarm 1: short beep, Alarm 2: long beep. WEP: 1 alarm, continuous tone only.
- Interchangeable modules\*: No re-wiring even after installation, except for WEP type.

\*Refer to the standard non-field bus model for details.

ø70 IP23

LHE-D3  
LHE-D3B

- Sound Pattern: Short beep or long beep up to 90dB at 1m.
- Installation: Upright and indoors only.

ø50 IP23

Direct Mount  
LE-D3  
LE-D3B

Pole Mount

LE-D3P  
LE-D3BP

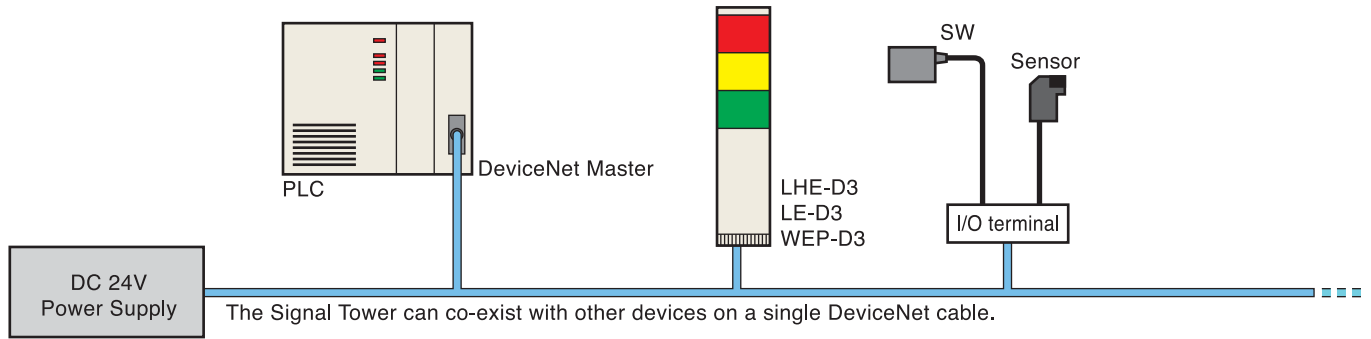
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- LE-D3B: Intermittent tone, up to 85dB at 1m.  
2 Selections: 1) fast beep; 2) slow beep
- Installation: Indoors and upright only.
- Options Available: Direct or pole mount.

Profile  
37.5mm

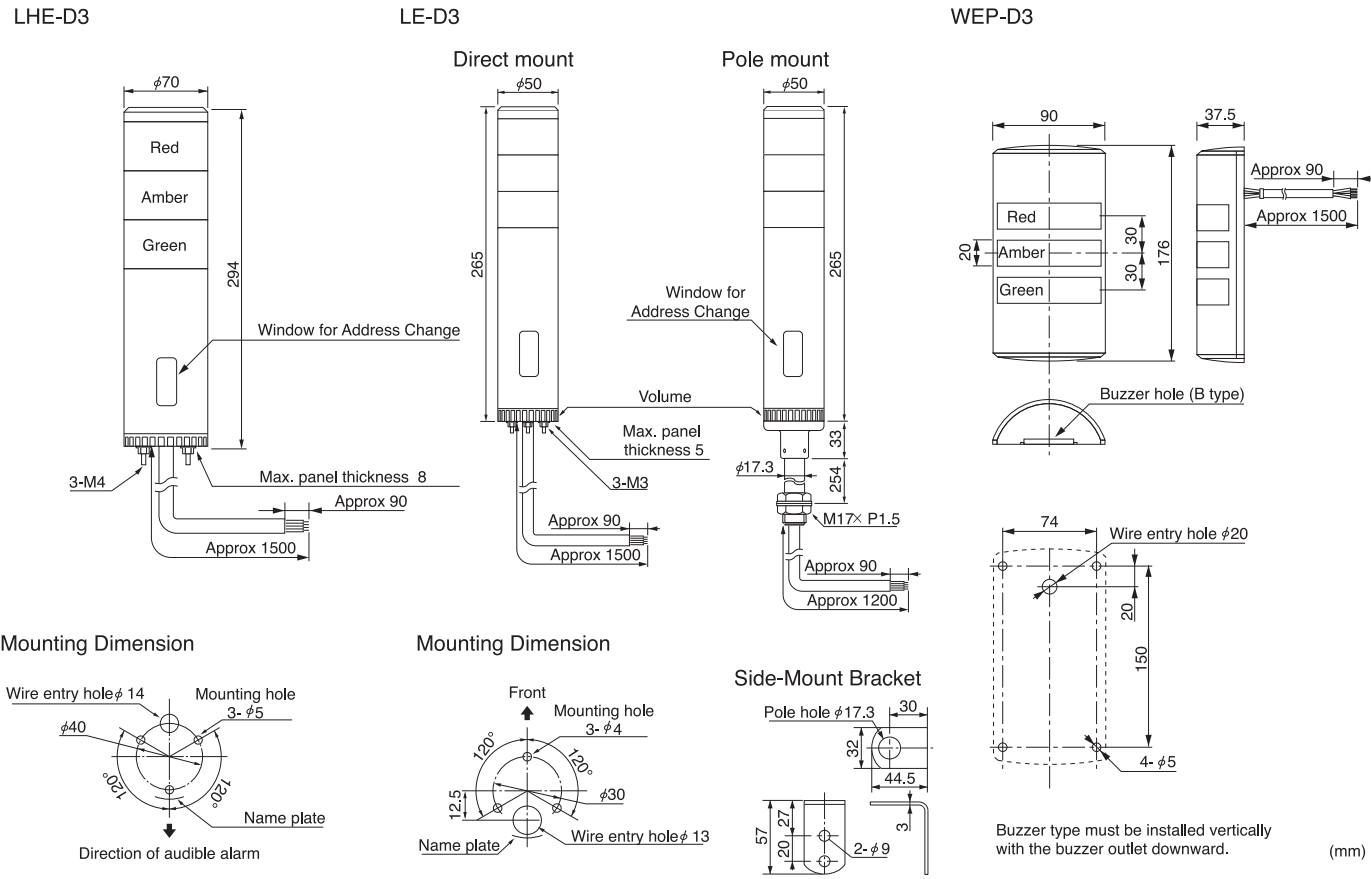
WEP-D3  
WEP-D3B

- Clear Vertical Cut Lens: For enhanced illumination over a wide perspective.
- Sound Pattern: Continuous tone up to 90dB at 1m.
- Installation: Indoors only, vertical or horizontal, either direction except for alarm (B) type: alarm exit must face downward.

## Application Example



## Dimensions



Wire Color	Signal
RED	V+ (24V DC)
WHITE	CAN - H
(NONE)	DRAIN
BLUE	CAN - L
BLACK	V- (0V)

## LHE-D3 / LE-D3 / WEP-D3 Type

Light Style	Model	Audible Alarm	Signal Line	Current Consumption		
				DeviceNet PCB (Max.)	LED Unit (Max.)	Audible Alarm (Max.)
3 Lights (Red, Amber, Green)	LHE-D3	N/A	V+ (24V DC), CAN - H, DRAIN, CAN - L, V- (0V)	60mA	50mA (Red, Amber) 40mA (Green)	—
	LHE-D3B	available			—	40mA
	LE-D3W/LE-D3P	N/A			25mA (Red, Amber) 20mA (Green)	—
	LE-D3BW/LE-D3BP	available			—	40mA
	WEP-D3	N/A			30mA (Red, Amber) 25mA (Green)	—
	WEP-D3B	available			—	40mA

Electric power is supplied by DeviceNet cable. Patlite's standard signal tower for field bus application is the 3-light style.



# CompoNet Supported

LE-K3 / WEP-K3



LED



90dB at 1m  
(LE type: 85dB at 1m)

Electronic Sound 2  
(WEP type: 1 sound)

IP23



LE-K3 type

WEP-K3 type

## DeviceNet Supported Signal Tower for Open-field Network

- Single Cable: Uses DeviceNet cable only, which transfers power and signals for control.
- Easy Connection: Directly connect up to 64 linked DeviceNet units with DeviceNet cable, without I/O terminals.
- Required Device: CompoNet-type controller (i.e. CompoNet Master).
- Data Storage: Addresses set by dip switch.
- Light Pattern: Continuous only, no flashing.
- B type: Built-in alarm; LHE: 90dB at 1m (adjustable), LE: 85dB at 1m (adjustable), WEP: 90dB at 1m.
- Sound Pattern: LHE / LE: Intermittent tone, Alarm 1: short beep, Alarm 2: long beep. WEP: 1 alarm, continuous tone only.
- Interchangeable modules\*: No re-wiring even after installation, except for WEP type.

\*Refer to the standard non-field bus model for details.

ø50 IP23

Direct Mount

LE-K3  
LE-K3B

Pole Mount

LE-K3P  
LE-K3BP

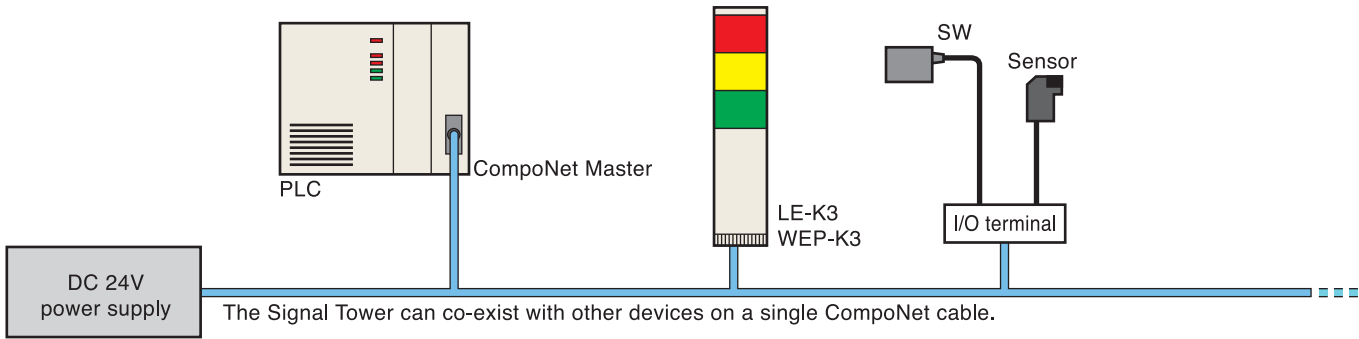
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- LE-D3B: Intermittent tone, up to 85dB at 1m.
- 2 Selections: 1) fast beep; 2) slow beep
- Installation: Indoors and upright only.
- Options Available: Direct or pole mount.

Profile  
37.5mm

WEP-K3  
WEP-K3B

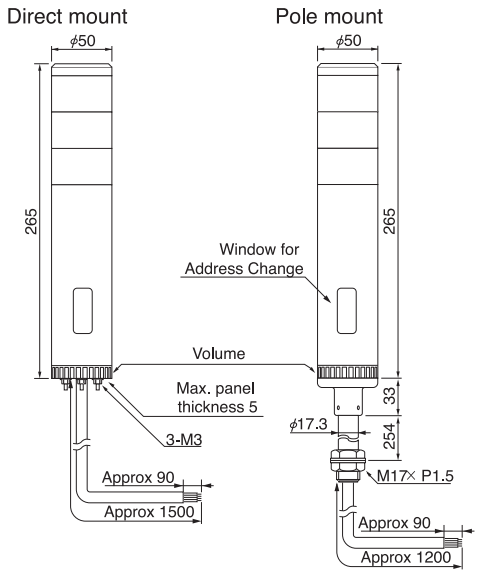
- Clear Vertical Cut Lens: For enhanced illumination over a wide perspective.
- Sound Pattern: Continuous tone up to 90dB at 1m.
- Installation: Indoors only, vertical or horizontal, either direction except for alarm (B) type: alarm exit must face downward.

## Application Example

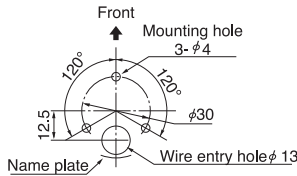


## Dimensions

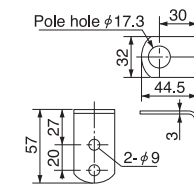
LE-K3



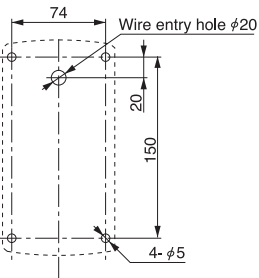
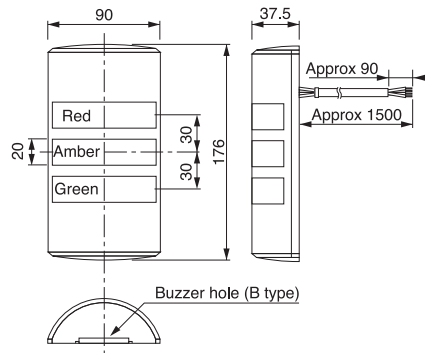
Mounting Dimension



Side-Mount Bracket



WEP-K3



Buzzer type must be installed vertically with the buzzer outlet downward. (mm)

Wire Color	Signal
BROWN	BS+ (24V DC)
BLACK	BS- (0V)
WHITE	BDH (H) Line
BLUE	BDL (L) Line

## LE-K3 / WEP-K3 Type

Light Style	Model	Audible Alarm	Signal Line	Power Line	Current Consumption		
					CompoNet PCB (Max.)	LED Unit (Max.)	Audible Alarm (Max.)
3 Lights (Red, Amber, Green)	LE-K3W/LE-K3P	N/A	BDH BDL	BS+ (24V DC) BS- (0V)	60mA	25mA (Red, Amber) 20mA (Green)	—
	LE-K3BW/LE-K3BP	available				—	40mA
	WEP-K3	N/A				30mA (Red, Amber) 25mA (Green)	—
	WEP-K3B	available				—	40mA

Electric power is supplied by CompoNet cable. Patlite's standard signal tower for field bus application is the 3-light style.

# CC-Link Supported

LHE-C3 / LE-C3 / WEP-C3

CC-Link

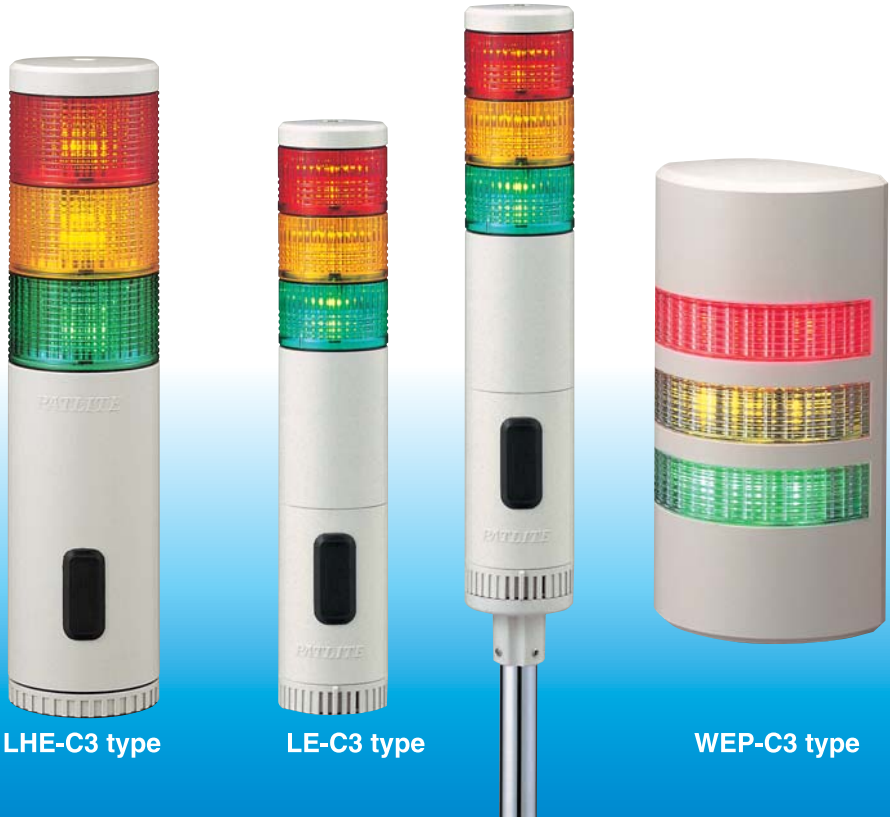
LED



90dB at 1m  
(LE type: 85dB at 1m)

Electronic Sound 2  
(WEP type: 1 sound)

IP23



LHE-C3 type

LE-C3 type

WEP-C3 type

## CC-Link supported Signal Tower for Open-field Network

- Single Cable: Regulates electrical power and control signals.
- Easy Connection: Direct connection to a linked CC-Link interface with CC-Link cable, without I/O terminals, up to 64 units.
- Required Device: CC-Link-type controller (i.e. CC-Link master).
- Data Storage: Addresses set by dip switch.
- Lighting Pattern: Continuous only, no flashing.
- B type: Built-in alarm; LHE: 90dB at 1m (adjustable), LE: 85dB at 1m (adjustable), WEP: 90dB at 1m.
- Interchangeable modules\*: No re-wiring even after installation, except for WEP type.

\*Refer to the standard non-field bus model for details.

ø70 IP23

LHE-C3  
LHE-C3B

- Sound Pattern: Intermittent tone, up to 90dB at 1m.
- 2 Selections: 1) fast beep; 2) slow beep
- Installation: Upright and indoors only.

ø50 IP23

Direct Mount  
LE-C3W  
LE-C3BW

Pole Mount  
LE-C3P  
LE-C3BP

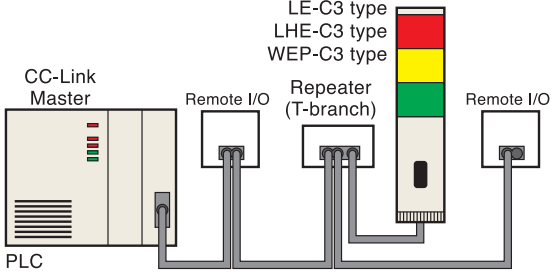
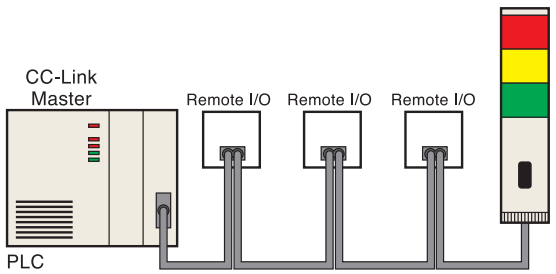
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- Sound Pattern: Intermittent tone, up to 85dB at 1m.
- 2 Selections: 1) fast beep; 2) slow beep
- Installation: Indoors and upright only.
- Options Available: Direct or pole mount.

Profile  
37.5mm

WEP-C3  
WEP-C3B

- Clear Vertical Cut Lens: For enhanced illumination over a wide perspective.
- Sound Pattern: Continuous up to 90dB at 1m.
- Installation: Indoors only, vertical or horizontal, either direction except for alarm (B) type: alarm exit must face downward.

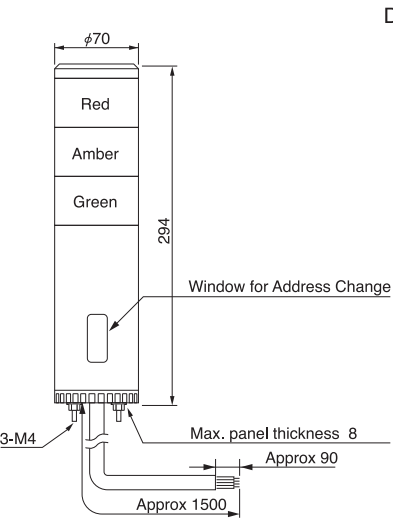
## Application Example



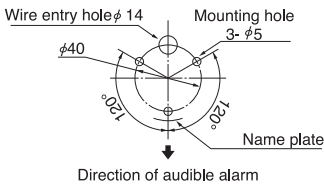
CC-Link stack light without terminating resistor can be branched using a terminal block in case a repeater is not used.

## Dimensions

LHE-C3  
LHE-CT3



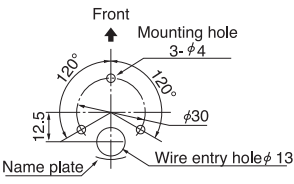
Mounting Dimension



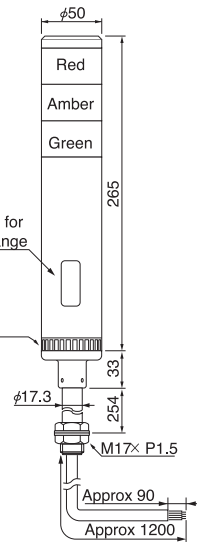
LE-C3  
LE-CT3



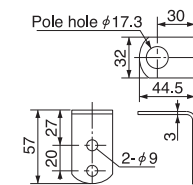
Mounting Dimension



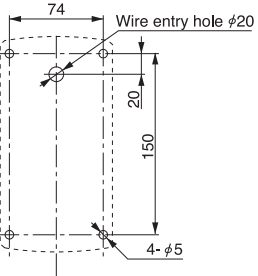
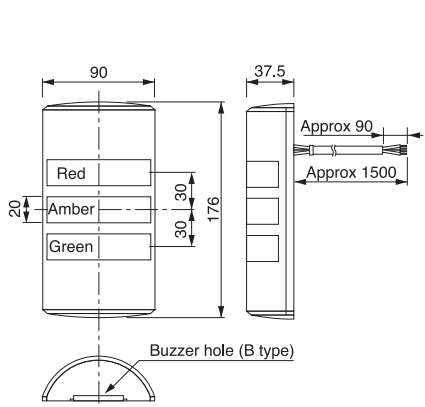
Pole mount



Side-Mount Bracket



WEP-C3  
WEP-CT3



Buzzer type required to be installed vertically with the buzzer outlet downward. (mm)

Wire Color	Signal
BLUE	DA
WHITE	DB
YELLOW	DG
(NONE)	SLD

C3: Without terminal resistor  
CT3: Built-in terminal resistor

## LHE-C3 / LE-C3 / WEP-C3 Type

Light Style	Model	Audible Alarm	Signal Line	Current Consumption		
				CC-Link PCB (Max.)	LED Unit (Max.)	Audible alarm (Max.)
3 Lights Red Amber Green	LHE-C(T)3	N/A	DA, DB, DG, SLD	50mA	50mA (Red, Amber) 40mA (Green)	—
	LHE-C(T)3B	available			50mA (Red, Amber) 40mA (Green)	40mA
	LE-C(T)3W/LE-C(T)3P	N/A			50mA (Red, Amber) 40mA (Green)	—
	LE-C(T)3BW/LE-C(T)3BP	available			50mA (Red, Amber) 40mA (Green)	40mA
	WEP-C(T)3	N/A			30mA (Red, Amber) 25mA (Green)	—
	WEP-C(T)3B	available				40mA

Patlite's standard signal tower for field bus application is the 3-light style.



# PHE-3FBE1/PHN-3FBE1

RS-232C / PC Controlled Signal Tower



RS232C

85dB at 1m

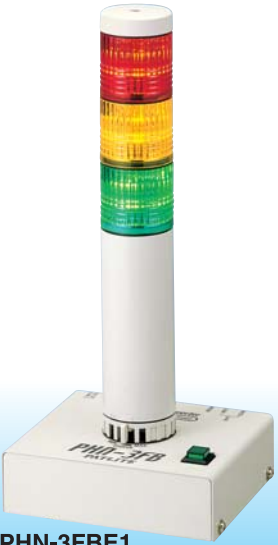
2 Sound Patterns

ø40



PHE-3FBE1

This product requires the knowledge to program the ASCII command to output through RS-232C port.



PHN-3FBE1

\*Please contact your local PATLITE representative for further information.

# PHC-100A

Interface Converter

Contact  
Output  
8

RS232C



This product requires the knowledge to program the ASCII command to output through RS-232C port.

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

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

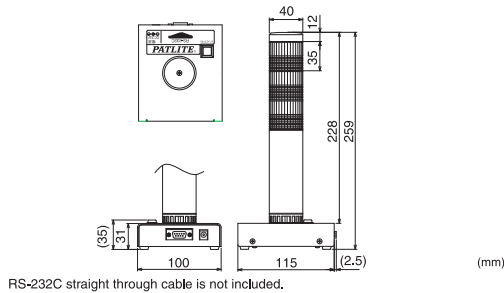
- PATLITE's original double reflection system with its exclusive hybrid prism-cut lens and 3 color LED modules create distinctive illumination that is bright and even.

Light and alarm functions can be turned off by pressing the reset switch on the base.

## Specifications

	Model	PHE-3FBE1
	Communication Interface	RS-232C (Based on EIA)
	Communication Method	Half Duplex, Start-Stop, Asynchronous
	Communication Speed	9,600bps
Communication Settings	Data Bit	8bit
	Stop Bit	1bit
	Parity Bit	None
	Flow Control	None
	I/O Port	D-Sub9P Male Connector
Signal Tower Section	Flashing Rate	60 times per minute
	Sound Level	Adjustable from 70 to 85dB (at 1m)
	Sound Alarm	2 alarms (Slow intermittent tone, fast intermittent tone)
Base Section	Dimensions	100x259x115mm
	Supply Power Source	AC Adaptor (Sold separately)
	Power Consumption	6.5W
	Operating Temperature Range	0~40°C
	Humidity	20~80%RH (w/o dew condensation)

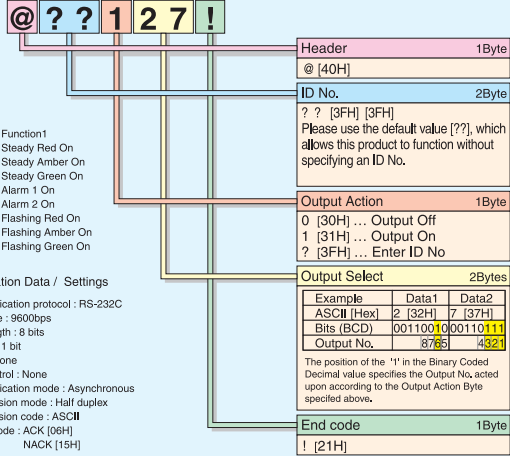
## Dimensions



RS-232C straight through cable is not included.

### Control of PHE-3FBE1 / PHC-100A

#### ■ASCII Command String

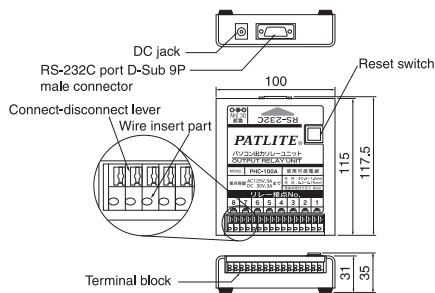


• The above example shows how to turn on the following output numbers : 6, 3, 2, 1

## 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.

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

## Dimensions



## Specifications

	Model	PHC-100A
	Communication Interface	RS-232C (Based on EIA)
	Communication Method	Half Duplex, Start-Stop, Asynchronous
	Communication Speed	9,600bps
Communication Settings	Data Bit	8bit
	Stop Bit	1bit
	Parity Bit	none
	Flow Control	none
	I/O Port	D-Sub9P Male connector
Base Section Contacts	Contact Style	Non Voltage Contact
	Number of Contacts	8
	Output Contact Capacity	AC125V 3A/DC30V 3A
	Connector	Screwless terminal
	Applicable Wire	Solid Wire 0.4~1.2mm (AWG26~18) Stranded Wire 0.3~0.75mm (AWG22~20)
Base Section	Dimensions	100(W)x31(H)x115(D)mm
	Supply Power Source	AC adaptor (Sold separately)
	Power Consumption	4W
	Operating Temperature Range	0~40°C
	Humidity	85%RH or less (w/o dew condensation)

# Explosion proof Products





# EDLM / EDWM

## Explosion-proof Signal Tower

ATEX & FM  
CENELEC Standards



Testing Authority  
NEC Article 505

LED



IP66

NPN/PNP  
Open collector\*

\*AC 120/230/90-250V types are NPN compatible only



Terminal block

- Standards : Compliance to ATEX and NEC standards.
- Connection : Easy wiring for parallel connection to another interlocking device through 2 lead-in ports.
- Terminal Block : Easy connection to the signal tower by opening the bottom cover.
- Body : Made of aluminum alloy.
- Light Source : Long life, maintenance-free LED.
- Mounting : Wall mount, Direct mount and horizontal mount.
- Conforms to the CE requirements (for FE type only).

### Specifications (ATEX)

Type	EDLM-302FE	EDLM-312FE	EDLM-323FE	EDWM-502FE	EDWM-5M2FE
Rated Voltage	AC/DC 24V	AC 120V	AC 230V	AC/DC 24V	AC 90~250V
Signal Line Current (Per LED Module)		Red/Amber: 52.5mA Green: 20.0mA		Red: 22.6mA, Amber: 26.6mA, Green: 17.5mA Blue/White: 38.9mA	
Explosion Protection Ratings	ExII2G Ex d IIC T6 (Zone1,2) ExII2D Ex tD A21 IP66 T80°C (Zone21, 22)				
Operating Temperature	-20°C~+50°C (no ice)				
Operating Humidity	45%~85%RH (Keep from dew condensation)				
Ambient Pressure	80~110kpa				
Lighting Pattern	Flashing (60±12 flashes per minute) / Continuous light				
IP	IP66				
Vibration Resistance	9.8m/s²				
Mounting	Outdoor & Indoor Upright			Outdoor & Indoor	Upright & Sideways
Luminosity	Red: 350mcd, Amber: 580mcd Green: 1300mcd			Red/Green/White: 1000mcd Amber: 700mcd, Blue: 300mcd	
Mass (Main body)	4.3kg			4.7kg	
Material	Upper & Lower Case : Aluminum alloy(Housing finish: Melamine baking finish) Glass Case : Borosilicate glass Fitting Bracket : Stainless steel (SUS 316) Cable Gland : Brass				

### Specifications (NEC)

Type	EDLM-302FA	EDLM-312FA	EDLM-323FA	EDWM-502FA	EDWM-5M2FA
Rated Voltage	AC/DC 24V	AC 120V	AC 230V	AC/DC 24V	AC 90~250V
Signal Line Current (Per LED Module)		Red/Amber: 52.5mA Green: 20.0mA		Red: 22.6mA, Amber: 26.6mA, Green: 17.5mA Blue/White: 38.9mA	
Explosion Protection Ratings	Class I , Zone 1    AEx d IIC T6				
Operating Temperature	-25°C~~+50°C (no ice)				
Operating Humidity	45%~85%RH (Keep from dew condensation)				
Ambient Pressure	80~110kpa				
Lighting Pattern	Flashing (60±12 flashes per minute) / Continuous light				
IP	IP66				
Vibration Resistance	9.8m/s²				
Mounting	Outdoor & Indoor Upright			Outdoor & Indoor Upright & Sideways	
Luminosity	Red: 350mcd, Amber: 580mcd Green: 1300mcd			Red/Green/White: 1000mcd Amber: 700mcd, Blue: 300mcd	
Mass (Main body)	4.3kg			4.7kg	
Material	Upper & Lower Case : Aluminum alloy(Housing finish: Melamine baking finish) Glass Case : Borosilicate glass Fitting Bracket : Stainless steel (SUS 316)				

Common in Europe

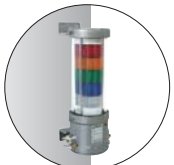
• ATEX directive is CENELEC standard.

Classification	Standard	PATLITE Models	Present Continuously	Present Intermittently	Present Abnormally
ATEX, IEC/EU Directive 94/9/EC	IEC 60079-10 EN 60079-10	EDLM, EDWM	Zone 0	Zone 1	Zone 2

Common in the USA

• NEC standard is National Electrical Code.

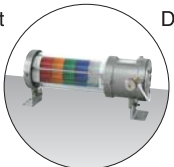
Classification	Standard	PATLITE Models	Present Continuously	Present Intermittently	Present Abnormally
NEC Article 505	ANSI/NFPA 71	EDLM, EDWM	Zone 0	Zone 1	Zone 2
NEC Article 500	ANSI/NFPA 70	—	Division 1		Division 2



Wall Mount

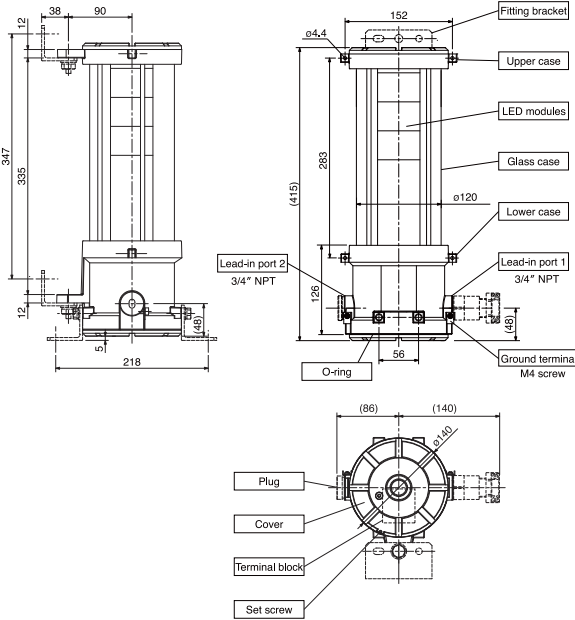


Direct Mount

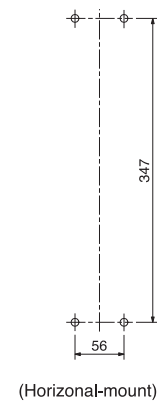


Horizontal Mount

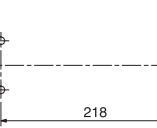
### Dimensions (EDLM, EDWM)



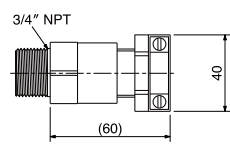
■ Installation (Wall-mount)



(Horizontal-mount)

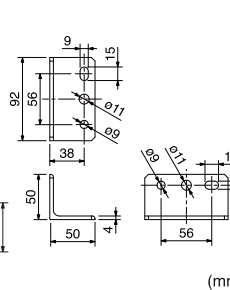


■ Cable gland\*



\*ATEX model ... Included  
\*NEC model ... Sold separately

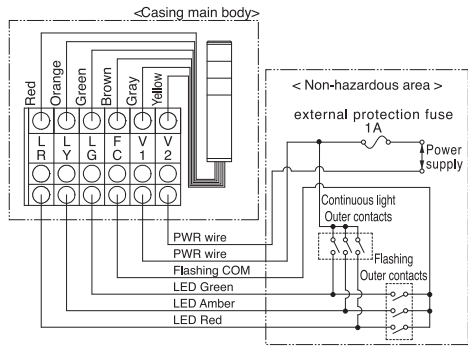
■ Bracket for flush mount



rear view: EDWM (5 color LED)

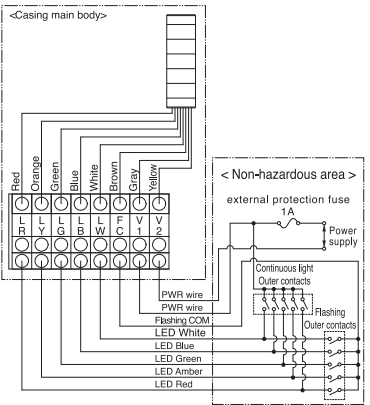
### Wiring Diagram (EDLM ( 3 color LED ))

■ EDLM-302FE/FA

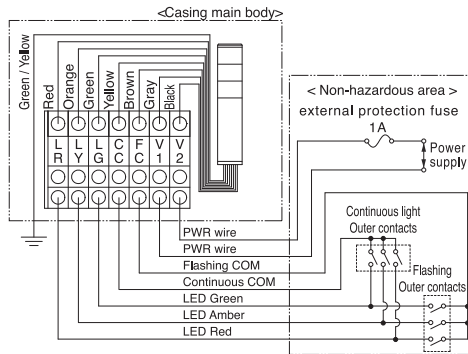


### Wiring Diagram (EDLM ( 5 color LED ))

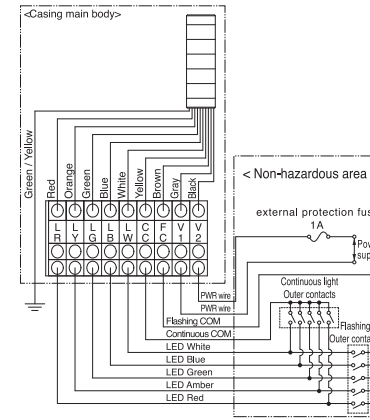
■ EDWM-502FE/FA



■ EDLM-312FE/FA  
EDLM-323FE/FA



■ EDWM-5M2FE/FA



RES-A

# RES-A

Explosion-Proof  
Revolving Warning Light



Bulb



Ø224

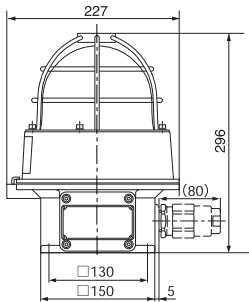
IP65

Explosion-proof

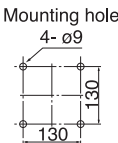
## Compact explosion-proof revolving warning light with parabolic reflector.

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Aluminum alloy die-cast with silver color baked finish.
- Dome: Acrylic resin covered with clear hard-glass, and metal guard.
- Product Standards: IEC Standards (IEC ExdIIB + H<sub>2</sub>T6) Zone1, 2 compliant.
- Approved by: TIIS.
- Available Colors: Red, Amber, Green, Blue.

### Dimensions



Mounting Dimension



(mm)

### RES-A Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
◎RES-12A	12V DC	0.9A	170	12V10W	9	6.5kg
◎RES-24A	24V DC	0.5A		24V10W	10	
◎RES-48A	48V DC	0.3A	150	48V10W	11	
RES-100A	100~110V AC	0.1A				
◎RES-120A	115~120V AC	0.05A	170	12V5W	12	6.5kg
RES-220A	200~220V AC					
◎RES-240A	230~240V AC					

Bulb: G18 BA15S

◎: Special order

# Signal Tower





# ME-A / MES-A

## Signal Tower



LED



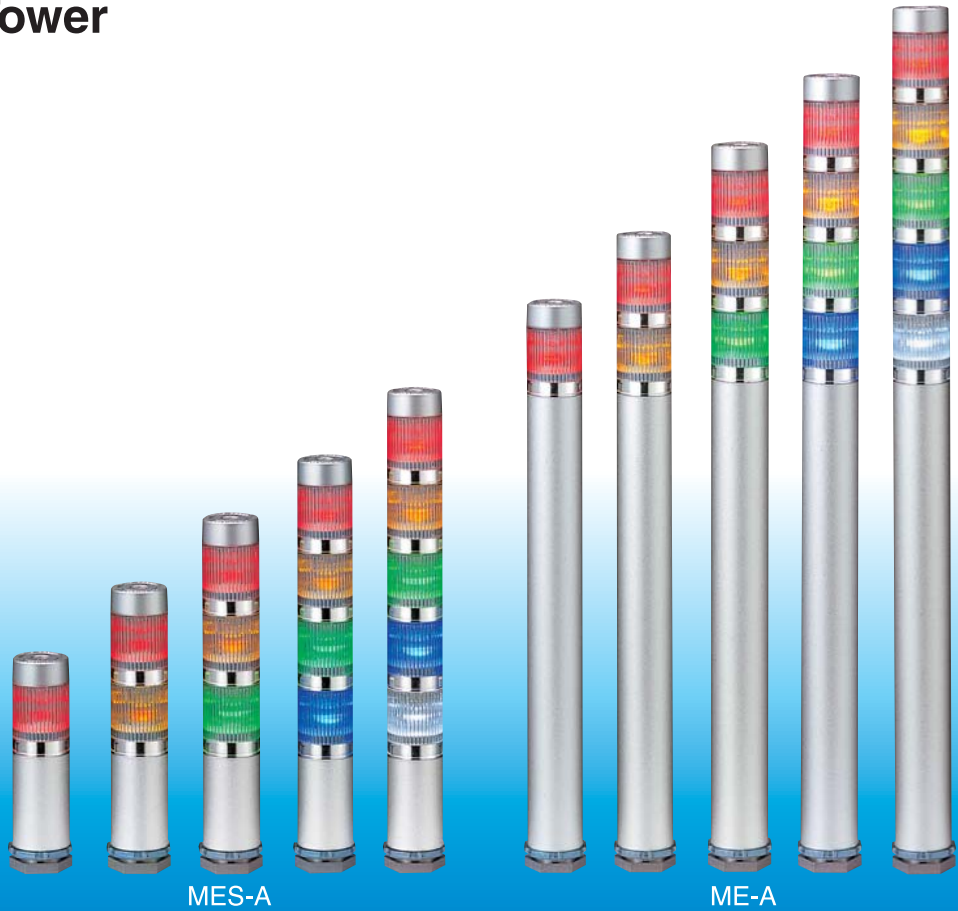
Cabtyre  
(Special order)



ø25

IP42

NPN  
Open collector



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

- PATLITE's Exclusive Hybrid Prism-Cut Lens: For enhanced visibility from any direction and distance.
- Enhanced Illumination: Special high intensity illumination design.
- Installation: Direct mount with a single hole.
- Interchangeable Modules: No re-wiring even after installation.
- Main Body: Corrosion resistant anodized aluminum for retaining its external beauty.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Body Length: MES 40mm, ME 200mm.
- Conforms to the CE requirements.
- UL Recognized Component (File No. E215660)

### Available by Special Order

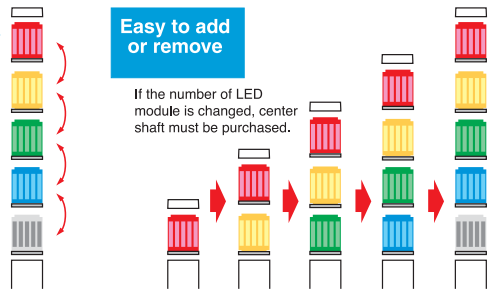
- Cabtyre Cable: Versatile and flexible 3m cable.
- Body Length: MEL 500mm.
- IP54 (for MES / ME / MEL).
- PNP compatible: ME 24V type.

#### 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 will light up simultaneously.

#### The wiring remains the same.

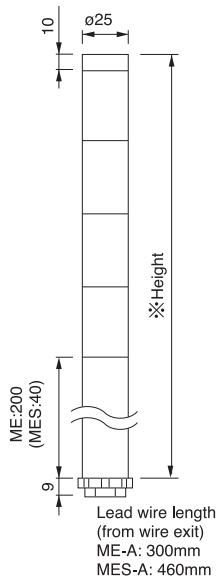
Each color of LED module corresponds to the lead wire color.



#### Easy to add or remove

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

## Dimensions

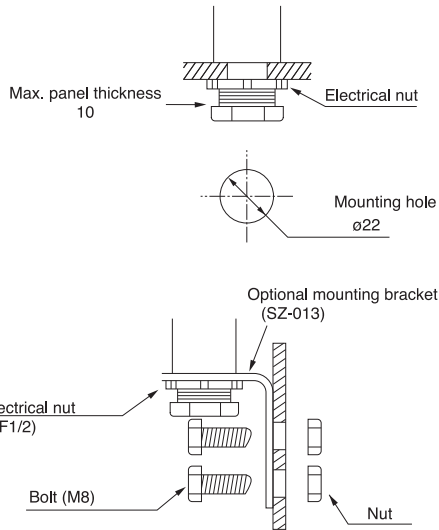


#### ME-A type

- ※ Height (mm)  
1 Light: 240  
2 Lights: 270  
3 Lights: 300  
4 Lights: 330  
5 Lights: 360

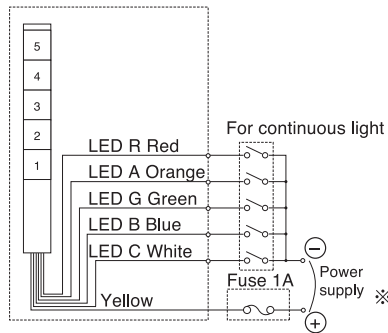
#### MES-A type

- ※ Height (mm)  
1 Light: 80  
2 Lights: 110  
3 Lights: 140  
4 Lights: 170  
5 Lights: 200



(mm)

## Wiring Diagram



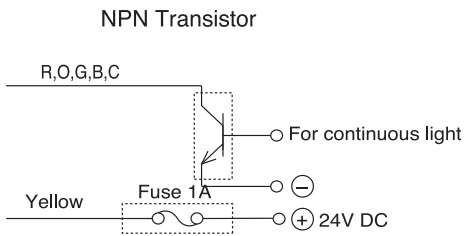
### Signal line voltage and current per LED module

Rated Voltage	Signal Line Voltage	ME-A/MES-A Signal Line Current
24V DC	24V DC	R, A: 25mA G, B, C: 20mA

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

Note: See page 169 for wiring diagram

### 24V DC: NPN Transistor



### Transistor Capacity

Model	ME/MES Transistor (NPN)
Current Capacity	Ic≥0.1A
Withstand Voltage	Vc≥35V
Current Leakage	I<0.1mA

## ME-A / MES-A Type

Light Style	Model	Rated Voltage	Power Consumption
1 Light	ME/MES-102A-R	24V DC	0.6W
	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 Lights	ME/MES-202A-RY	24V DC	1.2W
	ME/MES-202A-RG		1.1W
	ME/MES-202A-RB		1.1W
	ME/MES-202A-RC		1.1W
	ME/MES-302A-RYG		1.7W
3 Lights	ME/MES-302A-RYB	24V DC	1.7W
	ME/MES-302A-RYC		1.7W
	ME/MES-402A-RYGB		2.3W
4 Lights	ME/MES-402A-RYGC	24V DC	2.3W
	ME/MES-502A-RYGBGC		2.8W

## How to Order

ME-502A-RYGBGC	
ME: Standard Body MES: Short Body	Color R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom
Stack 1~5	
Rated Voltage 02: 24V DC	

# MP / MPS

## Signal Tower



LED



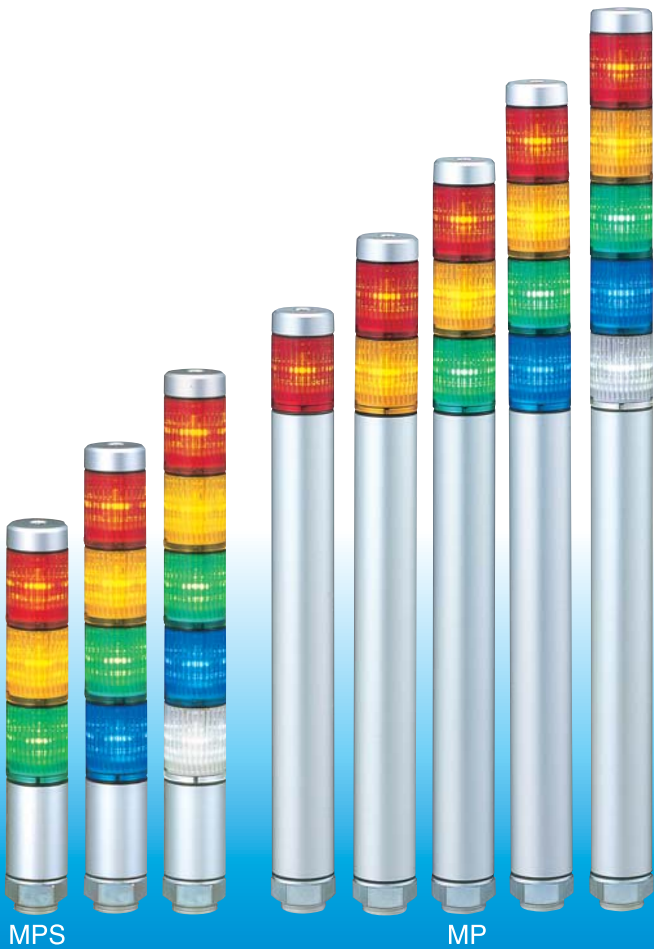
Cabtyre  
(Special order)



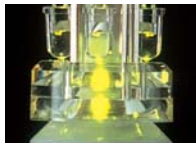
ø30

IP65

NPN/PNP  
Open collector



Patented reflection  
system increases  
visibility.



High intensity  
LED



Good visibility  
from any direction

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

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Double Insulation: For enhanced durability and safety in the work environment.
- Installation: Direct mount with a single hole.
- Interchangeable LED module: No re-wiring even after installation.
- Main Body: Superior impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements.
- UL Recognized Component (File No. E215660)

### Available by Special Order

- Cabtyre Cable: Versatile and flexible 3m cable.
- All Clear Lens: Distinctive color recognition when operated (B0738 type).

- Available Colors: Red, Amber, Green, Blue, Clear/White.

### 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 will light up simultaneously.

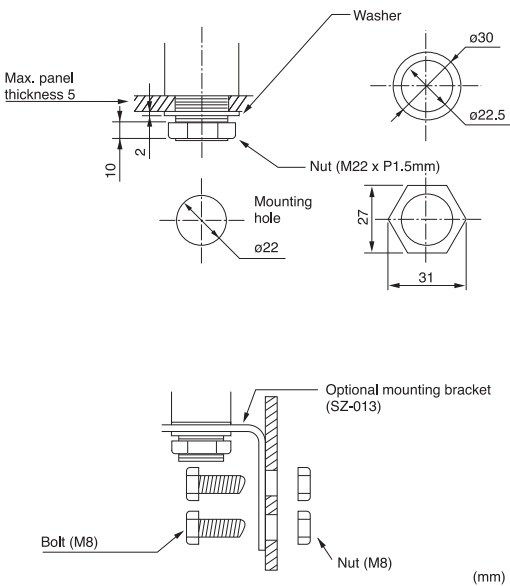
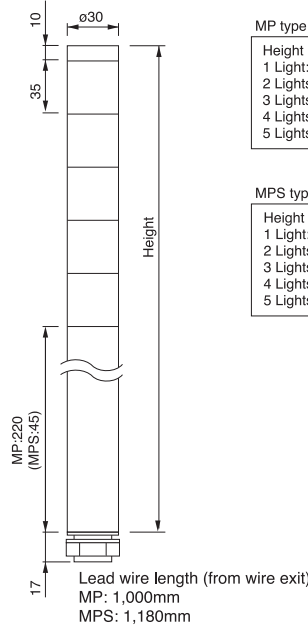
### The wiring remains the same.

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

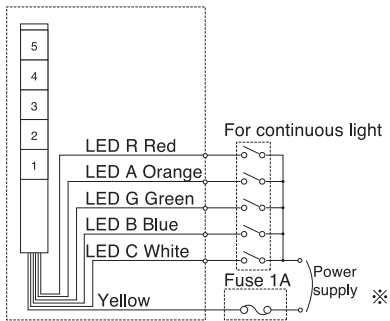
### Easy to add or remove

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

## Dimensions



## Wiring Diagram

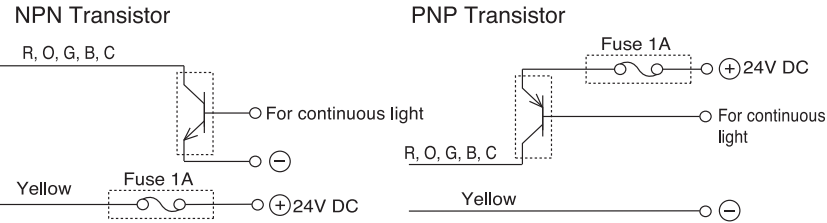


### Signal line voltage and current per LED module

Rated Voltage	Signal Line Voltage	MP/MPS Signal Line Current	Color of LED Unit	Color of Lead Wire
24V AC/DC	24V DC	R,A: 30mA G,B,C: 25mA	Red	Red
			Amber	Orange
			Green	Green
			Blue	Blue
			Clear	White

Note: See page 169 for wiring diagram

### 24V DC: NPN / PNP Transistor



### Transistor Capacity

Model	MP/MPS Transistor (NPN/PNP)
Current Capacity	Ic≥50mA
Withstanding Voltage	Vc≥35V
Current Leakage	I<0.1mA

## MP / MPS Type

Light Style	Model	Rated Voltage	Power Consumption
1 Light	MP/MPS-102	24V AC/DC	0.7W
2 Lights	MP/MPS-202	24V AC/DC	1.4W
3 Lights	MP/MPS-302	24V AC/DC	2.0W
4 Lights	MP/MPS-402	24V AC/DC	2.6W
5 Lights	MP/MPS-502	24V AC/DC	3.2W

## How to Order

### MP-502-RYGBG

MP: Standard Body MPS: Short Body Stack 1~5 Rated Voltage 02: 24V AC/DC	Color R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom Clear lens type: model no. with B0438
--	--



# LCE / LCE-U

## Signal Tower



LED



Cabtyre



85dB at 1m

(FB type)

Electronic Sound 2

(FB type)

ø40

IP65

(LCE-FB type IP54)

NPN/PNP  
Open collector



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

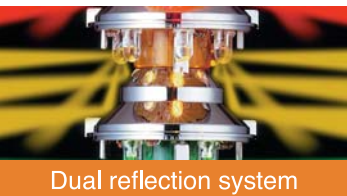
- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright, distinctive illumination while saving energy (Patent Pending).
- Built-in Alarms (FB Type): 2 selectable sound patterns with adjustable volume up to 85dB at 1m.
- Installation: Direct or pole mount.
- Color-coordinated Wiring: Corresponds to the lens colors for quick wiring verification.
- Interchangeable LED Modules: No re-wiring even after installation.
- Main Body: ABS resin with superior resistance to impact and heat (U type has silver color and 3m cabtyre cable).
- Lens: Superior impact resistant and light translucent AS resin.
- NPN/PNP Compatible: For 24V DC type; M2 type compatible with NPN only.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- High visibility from any angle.
- Adjustable volume Max. 85dB at 1m
- Conforms to the CE requirements (for 24V type).
- UL Recognized Component (File No. E215660).



Reflection system

High visibility from any angle

Adjustable volume Max. 85dB/m



Dual reflection system

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

### 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 will light up simultaneously.

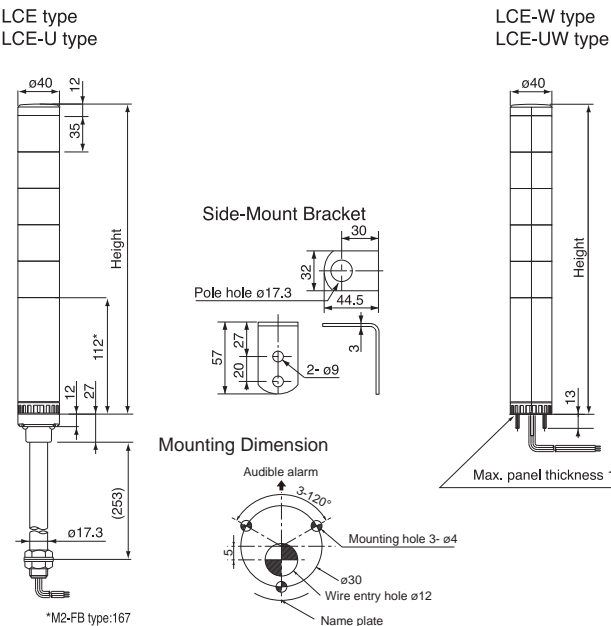
### Easy to add and remove

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

### The wiring remains the same

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

## Dimensions



### LCE type LCE-U type

Height (mm)
1 Light: 158
2 Lights: 193
3 Lights: 228
4 Lights: 263
5 Lights: 298

### LCE-M2FB type

Height (mm)
1 Light: 213
2 Lights: 248
3 Lights: 283
4 Lights: 318
5 Lights: 353

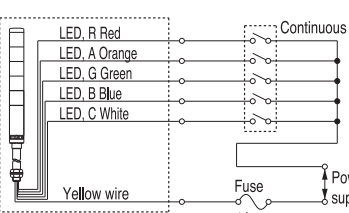


(mm)

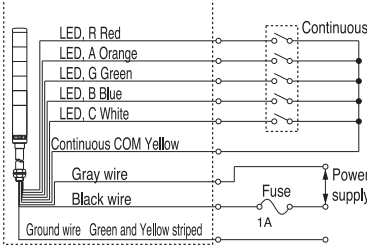
## Wiring Diagram

### Continuous Only

AC/DC 24V



AC 90~250V



### Signal line voltage and current per LED module

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

### Lead wire color correspondence table

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

Alarm	Color of Lead Wire
Alarm1	Purple
Alarm2	Skyblue

### Fuse for outer contact protection

Voltage	Fuse
All voltage types	1A

Note: See page 170 for wiring diagram

## LCE / LCE-U Type

Light Style	Model	Rated Voltage	Power Consumption
1 Light	LCE-102(U)	24V AC/DC	1.7W
	LCE-1M2	90~250V AC	1.9W
2 Lights	LCE-202(U)	24V AC/DC	2.4W
	LCE-2M2	90~250V AC	2.6W
3 Lights	LCE-302(U)	24V AC/DC	3.0W
	LCE-3M2	90~250V AC	3.2W
4 Lights	LCE-402(U)	24V AC/DC	3.6W
	LCE-4M2	90~250V AC	3.8W
5 Lights	LCE-502(U)	24V AC/DC	4.2W
	LCE-5M2	90~250V AC	4.4W

FB type: approx. 60 flashes per minute.

## How to Order (LCE Type)

### LCE-502UFBW-RYGBC-Z

Stacks 1~5	Rated Voltage 02: 24V AC/DC M2: 90~250V AC	Body Color Blank: Ivory white U: Silver Color	Type Blank: Continuous light FB: Continuous or flashing light with audible alarm
Color of LED R: Red Y: Amber G: Green B: Blue C: Clear/White	Color of Lens Blank: Colored lens Z: Clear lens	Mount Blank: Pole Mount (with SZ-012) K: Pole Mount (with SZ-021) W: Direct Mount	

# LCS / LCS-U

## Signal Tower



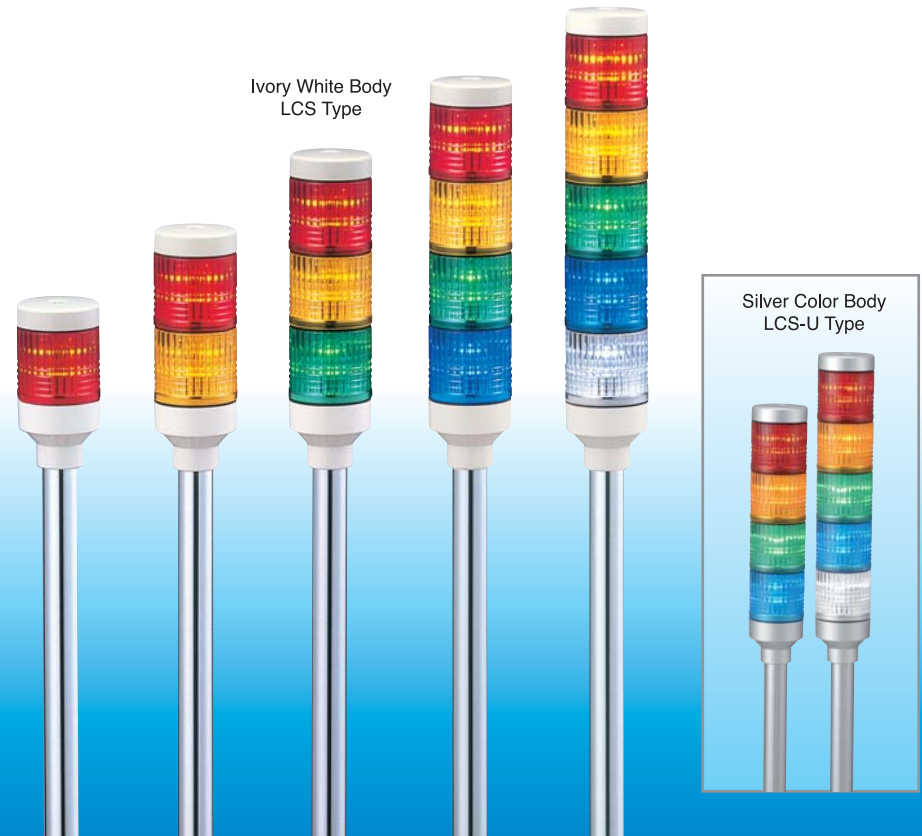
LED



ø40

IP54

NPN/PNP  
Open collector



Reflection  
system



High visibility  
from any angle

### Versatile LED Signal Tower featuring high quality and low price.

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright, distinctive illumination while saving energy (Patent Pending).
- Installation: Pole mount only.
- Color coordinated Wiring: Corresponds to the lens colors for quick wiring verification.
- Interchangeable LED Modules: No re-wiring even after installation.
- Main Body: ABS resin with superior resistance to impact and heat.
- Lens: Superior impact resistant and light translucent AS resin.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements.
- UL Recognized Component (File No. E215660).

#### Available by Special Order

- Silver Color Body Type (LCS-U).
- Cabtyre Cable: Versatile and flexible 3m cable.
- Clear Lens Module: Distinctive color recognition when operated (B0738 type).

#### Interchangeable LED modules

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

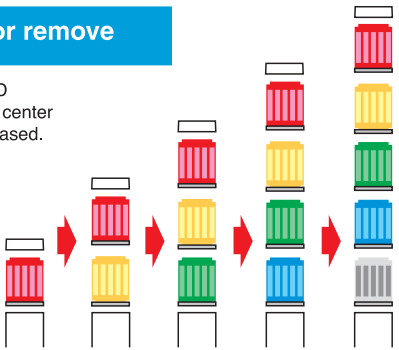
#### The wiring remains the same.

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



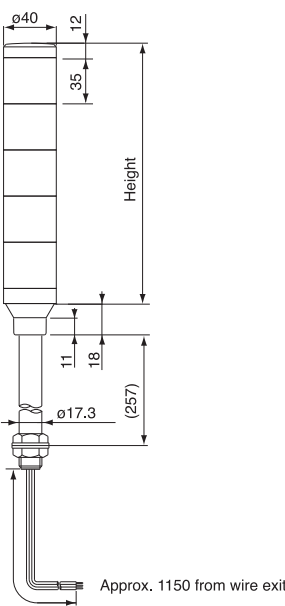
#### Easy to add or remove

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

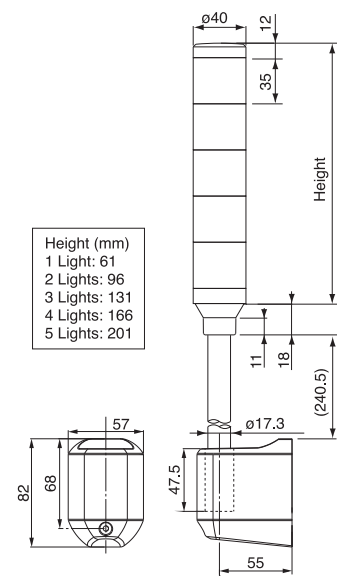


### Dimensions

LCS Type

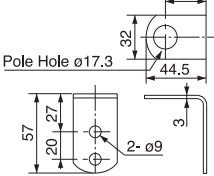


LCS-K Type



Height (mm)
1 Light: 61
2 Lights: 96
3 Lights: 131
4 Lights: 166
5 Lights: 201

Side-Mount Bracket



Clear lens style tower is also available.



Please add -Z at the end of the part number when ordering the clear lens type tower.



### Wiring Diagram

Note: See page 170 for wiring diagram

### LCS Type

Light Style	Model	Rated Voltage	Power Consumption	Mass	
				LCS	LCS-K
1 Light	LCS-102	24V AC/DC	0.7W	0.42kg	0.54kg
2 Lights	LCS-202	24V AC/DC	1.4W	0.45kg	0.57kg
3 Lights	LCS-302	24V AC/DC	2.0W	0.48kg	0.60kg
4 Lights	LCS-402	24V AC/DC	2.6W	0.51kg	—
5 Lights	LCS-502	24V AC/DC	3.2W	0.54kg	—

### How to Order (LCS Type)

#### LCS-502K-RYGB-C-Z

Stacks 1~5	Color of LED R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom	Color of Lens Blank: Colored lens Z: Clear lens
Rated Voltage 02: 24V AC/DC	Mount Blank: Pole Mount (with SZ-012) K: Pole Mount (with SZ-021)	



Dimensions

LE/LES

Signal Tower



LED



85dB at 1m  
(LE-FB type)

Ø50

IP54

(Pole-mount type IP23)

NPN/PNP  
Open collector



Reflection  
system



High visibility  
from any direction

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

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- Built-in Alarms (FB Type): 2 selectable sound patterns with adjustable volume up to 85dB at 1m.
- Installation: Direct or pole mount
- Color-coordinated Wiring: Corresponds to the lens colors for quick wiring verification.
- Interchangeable LED Modules: No re-wiring even after installation for LE model. The LED module of LES-A cannot be added, removed or interchanged.
- Main Body: ABS resin with superior resistance to impact and heat.
- Lens: Superior impact resistant and light translucent AS resin.
- NPN/PNP Compatible: Except LE 100/220V AC, compatible with NPN only.
- Available Colors: Red, Amber, Green, Blue, Clear.
- Conforms to the CE requirements (for 12V, 24V type only).
- UL Recognized Component (File No. E215660) (for 12V,24V type only).

Available by Special Order

- LES 24V: IP65 for direct mount and IP54 for pole mount types.

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 will light up simultaneously.

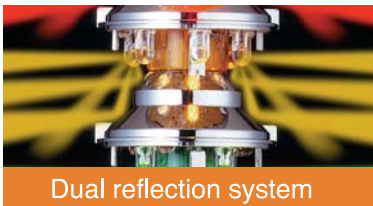
The wiring remains the same

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



Easy to add and remove

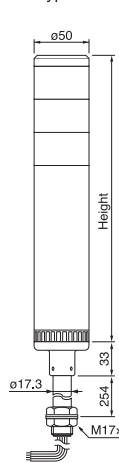
- If the number of LED module is changed, center shaft must be purchased.
- Note: The LED module of LES-A cannot be added, removed or interchanged.



Dual reflection system

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

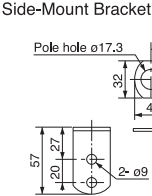
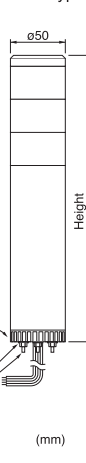
LE type



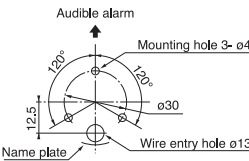
100/220V AC type  
Height (mm)  
1 Light: 204,0  
2 Lights: 235,0  
3 Lights: 265,2  
4 Lights: 295,4  
5 Lights: 325,6

12/24V AC/DC type  
Height (mm)  
1 Light: 135,0  
2 Lights: 165,2  
3 Lights: 195,4  
4 Lights: 225,6  
5 Lights: 255,8

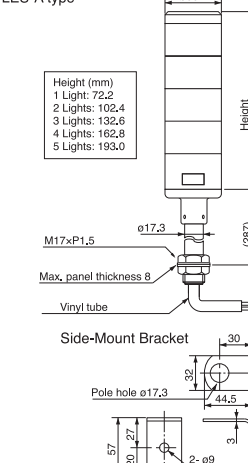
LE-FB type



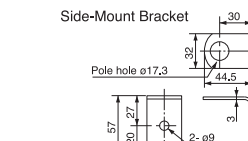
Mounting Dimension



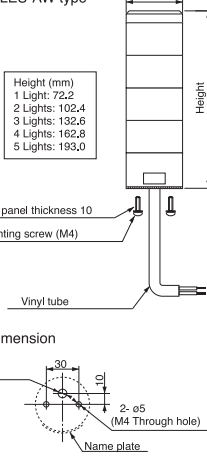
LES-A type



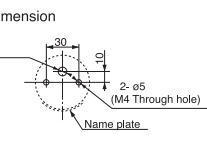
Height (mm)  
1 Light: 72,2  
2 Lights: 102,4  
3 Lights: 132,6  
4 Lights: 162,8  
5 Lights: 193,0



LES-AW type

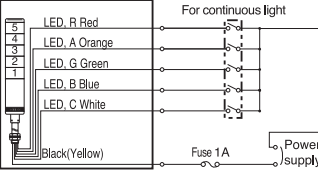


Height (mm)  
1 Light: 72,2  
2 Lights: 102,4  
3 Lights: 132,6  
4 Lights: 162,8  
5 Lights: 193,0

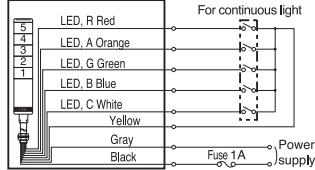


Wiring Diagram

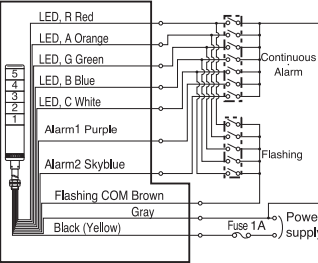
LE 12/24V AC/DC (LES: 24V type only)



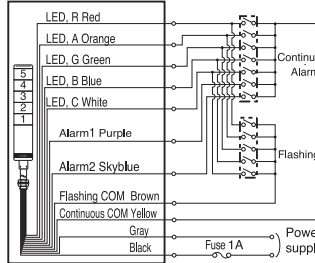
LE 100/220V AC



LE-FB 12/24V AC/DC



LE-FB 100/220V AC



Signal line voltage and current per LED module

Model	Rated Voltage	Signal Line Voltage	LED Signal Line Current	Alarm
LE	12V AC/DC	12V AC/DC	R, A: 50mA G, C: 40mA B: 44mA	Signal Line Current 40mA
LES/LE	24V AC/DC	24V AC/DC	R, A: 25mA G, C: 20mA B: 22mA	
LE	100V,220V AC	24V DC	R, A: 25mA G, C: 20mA B: 22mA	Inrush Current 150mA

Color Designator Chart \*

Color of LED unit	Color of Lead wire
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

\*LE type: All 5 light wires are supplied even if all colors are not used.

Alarm	Color of Lead wire
Alarm1	Purple
Alarm2	Skyblue

\*Alarm wires do not exist for continuous only models.

Fuse for customer-supplied contact protection

Voltage	Fuse
All voltage types	1A

Note: See page 171 for wiring diagram

LE Type

Light Style	Model	Rated Voltage	Power Consumption
1 Light	LE-101	12V AC/DC	1,1W
	LE-102	24V AC/DC	1,6W
	LE-110	100V AC	
2 Lights	LE-120	220V AC	5,7W
	LE-201	12V AC/DC	1,7W
	LE-202	24V AC/DC	2,2W
3 Lights	LE-210	100V AC	6,7W
	LE-220	220V AC	
	LE-301	12V AC/DC	2,2W
4 Lights	LE-302	24V AC/DC	2,7W
	LE-310	100V AC	7,5W
	LE-320	220V AC	
5 Lights	LE-401	12V AC/DC	2,7W
	LE-402	24V AC/DC	3,2W
	LE-410	100V AC	8,3W
5 Lights	LE-501	12V AC/DC	3,2W
	LE-502	24V AC/DC	3,7W
	LE-510	100V AC	9,1W
	LE-520	220V AC	

FB type: approx. 60 flashes per minute.

LES Type

Light Style	Model	Rated Voltage	Power Consumption
1 Light	LES-102A	24V AC/DC	0,6W
2 Lights	LES-202A	24V AC/DC	1,2W
3 Lights	LES-302A	24V AC/DC	1,7W
4 Lights	LES-402A	24V AC/DC	2,2W
5 Lights	LES-502A	24V AC/DC	2,7W

How to Order

LE-502FBW-RYGB

Stacks 1~5	Color R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom
Rated Voltage 01: 12V AC/DC 02: 24V AC/DC 10: 100V AC 20: 220V AC	Mount P: Pole Mount (with SZ-012) W: Direct Mount
Type Blank: Continuous light FB: Continuous or flashing light with audible alarm	

LES-502AW-RYGB

Stacks 1~5	Color R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom
Rated Voltage 02: 24V AC/DC	Mount Blank: Pole Mount (with SZ-012) W: Direct Mount

LEL

Signal Tower



LED



85dB at 1m  
(LEL-FB type)

Ø50

IP54

(Pole-mount type IP23)

NPN/PNP  
Open collector



Reflection system



High visibility from any direction

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

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- Built-in Alarms (FB Type): 2 selectable sound patterns with adjustable volume up to 85dB at 1m.
- Installation: Direct or pole mount
- Color-coordinated Wiring: Corresponds to the lens colors for quick wiring verification.
- Interchangeable LED Modules: No re-wiring even after installation.
- Main Body: ABS resin with superior resistance to impact and heat.
- Lens: Superior impact resistant and light translucent AS resin.
- NPN/PNP Compatible: Except 120/220V AC, compatible with NPN only.
- Available Colors: Red, Amber, Green, Blue, Clear.
- Conforms to the CE requirements (for 12V, 24V type).
- UL Recognized Component (File No. E215660)

### Interchangeable LED modules

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

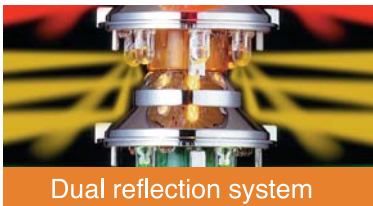
### The wiring remains the same

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



### Easy to add and remove

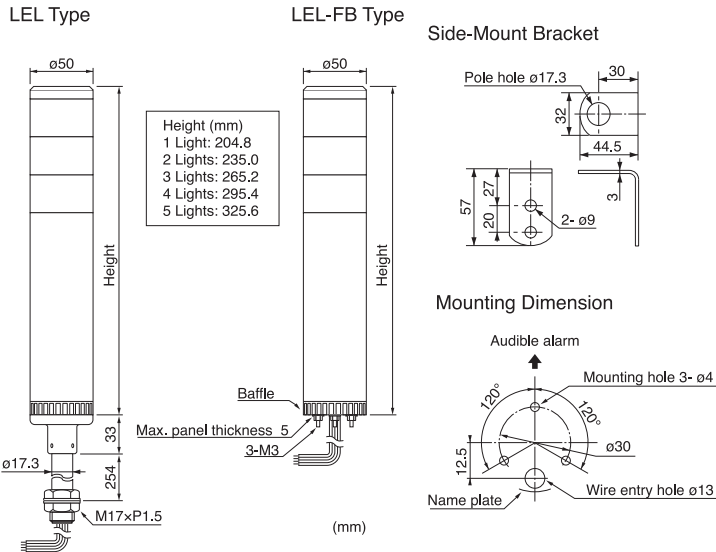
If the number of LED module is changed, center shaft must be purchased.



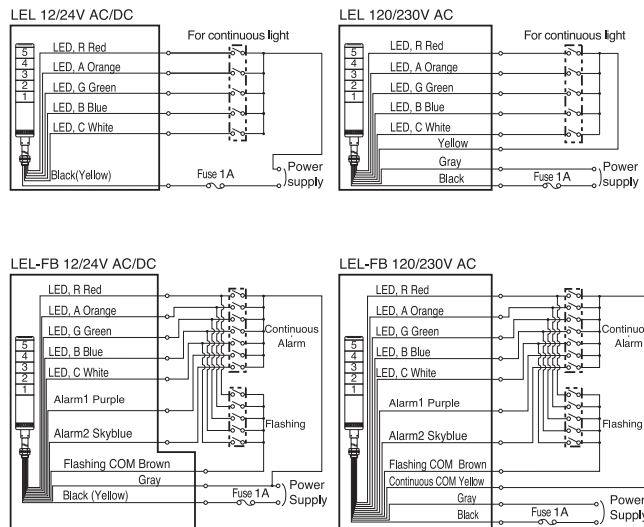
Dual reflection system

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

## Dimensions



## Wiring Diagram



### Signal line voltage and current per LED module

Rated Voltage	Signal Line Voltage	LED			Alarm
		Signal Line Current			
12V AC/DC	12V AC/DC	R, A: 50mA	G, C: 40mA	B: 44mA	Signal Line Current 40mA
24V AC/DC	24V AC/DC	R, A: 25mA	G, C: 20mA	B: 22mA	
10V,230V AC	24V DC	R, A: 25mA	G, C: 20mA	B: 22mA	Inrush Current 250mA

### Color Designator Chart \*

Color of LED unit	Color of Lead wire
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear/White	White

Alarm	Color of Lead wire
Alarm1	Purple
Alarm2	Skyblue

\*Alarm wires do not exist for continuous only models.

Fuse for customer-supplied contact protection	
Voltage	Fuse
All voltage types	1A

Note: See page 171 for wiring diagram

## LEL Type

Light Style	Model	Rated Voltage	Power Consumption
1 Light	LEL-101	12V AC/DC	1.1W
	LEL-102	24V AC/DC	1.6W
	LEL-112	120V AC	5.7W
	LEL-123	230V AC	
2 Lights	LEL-201	12V AC/DC	1.7W
	LEL-202	24V AC/DC	2.2W
	LEL-212	120V AC	6.7W
	LEL-223	230V AC	
3 Lights	LEL-301	12V AC/DC	2.2W
	LEL-302	24V AC/DC	2.7W
	LEL-312	120V AC	7.5W
	LEL-323	230V AC	
4 Lights	LEL-401	12V AC/DC	2.7W
	LEL-402	24V AC/DC	3.2W
	LEL-412	120V AC	8.3W
	LEL-423	230V AC	
5 Lights	LEL-501	12V AC/DC	3.2W
	LEL-502	24V AC/DC	3.7W
	LEL-512	120V AC	9.1W
	LEL-523	230V AC	

FB type: approx. 60 flashes per minute.

## How to Order

### LEL-502FBW-RYGB

Stacks	Color
1~5	R: Red
	Y: Amber
	G: Green
	B: Blue
	C: Clear/White
	Top to bottom
Rated Voltage	Mount
01: 12V AC/DC	P: Pole Mount (with SZ-012)
02: 24V AC/DC	W: Direct Mount
12: 120V AC	
23: 230V AC	
Type	
Blank: Continuous light	
FB: Continuous or flashing light with audible alarm	



# LU5

## Signal Tower



LED



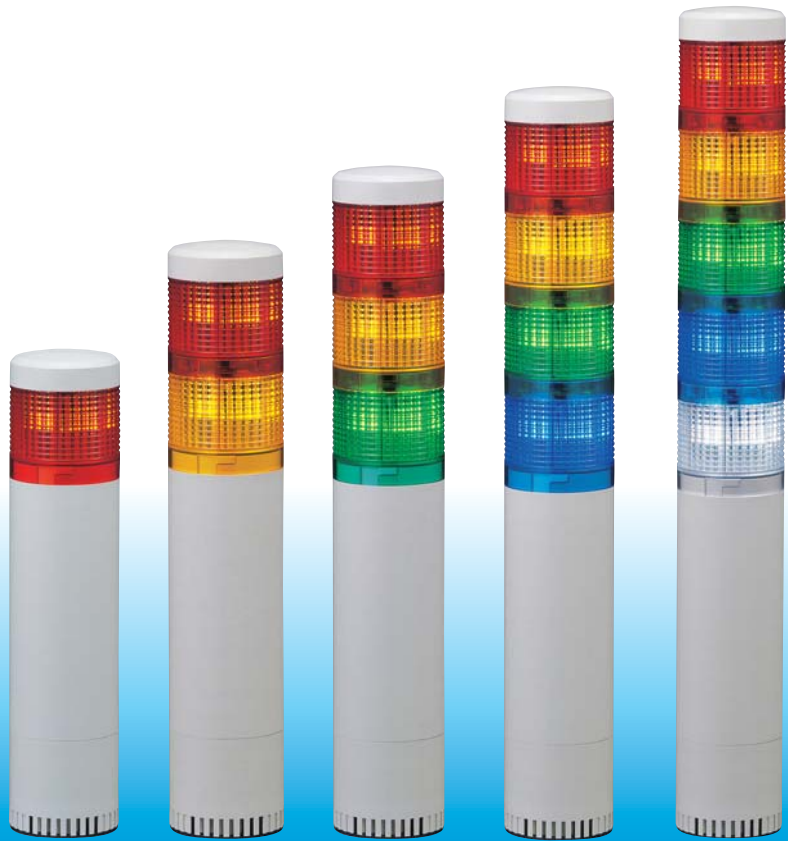
85dB at 1m  
(FB type)

Electronic Sound 2  
(FB type)

ø50

IP65

NPN/PNP  
Open collector



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

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Built-in Alarms (FB Type): 2 selectable sound patterns up to 85dB at 1m.
- Installation: Direct or pole\* mount.
- Color-coordinated Wiring: Terminal block color corresponds to the lens colors for quick wiring verification.
- Interchangeable LED Modules: No re-wiring even after installation.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements.
- UL Listed (File No. E215660).

### Available By Special Order

- RoHS Compliance.
- Silver Color Body.
- Modules of the same color can be modified to operate from different terminals.

\* Optional part sold separately.

### LED Module



Module Color	Model	Rated Voltage	Operating Voltage	Current/Power	Operating Temperature Range	Mass
RED	LU5-E-R	24V DC	Rated voltage ± 10% (21.6~26.4V)	52mA/1.25W	-30°C~+60°C	44g ±10%
AMBER	LU5-E-Y					
GREEN	LU5-E-G					
BLUE	LU5-E-B			42mA/1.0W		
CLEAR	LU5-E-C					

### How to Order

LED Module		Base Module	
LU5-E-R		LU5-02UFB	
LED unit	Color	Rated Voltage	Type
	R: Red	02: 24V DC	Blank: Continuous light
	Y: Amber		FB: Continuous or flashing light with audible alarm
	G: Green	Unit color	
	B: Blue	Blank: Ivory White	
	C: Clear/White	U: Silver color	

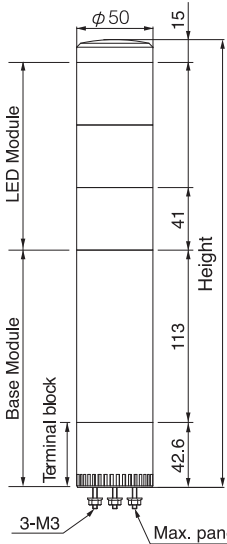
### Base Module



Model	Options	Rated Voltage	Operating Voltage	Operating Temperature Range	Mass	Open Collector
LU5-02	Continuous Only	24V DC	Rated Voltage ± 10% (21.6~26.4V)	-30°C~+60°C	182g ±10%	PNP/NPN
LU5-02FB	2 Sounds / Flash				200g ±10%	

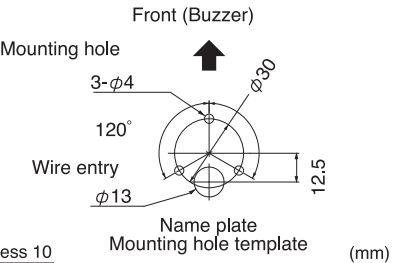
FB type: approx. 60±12 flashes per minute

### Dimensions



LU5 type	
Height (mm)	
1 Light:	211
2 Lights:	252
3 Lights:	293
4 Lights:	334
5 Lights:	375

#### Mounting Dimension

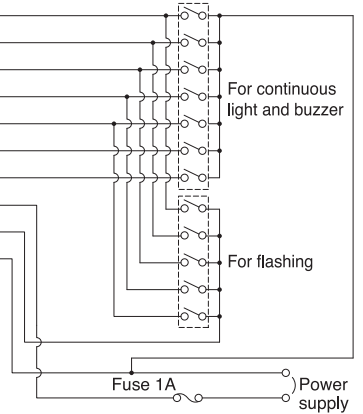


LU5-02FB  
24V DC



No.1	Red	LED unit Red
No.2	Orange	LED unit Amber
No.3	Green	LED unit Green
No.4	Blue	LED unit Blue
No.5	White	LED unit Clear/White
No.6	Gray	Alarm 1
No.7	Black	Alarm 2
No.8	Yellow	COM
No.9	Gray	Flashing COM
No.10	Black	Power supply for flashing

<Recommended electric wire>  
Solid wire :  $\phi 0.8-\phi 1.2\text{mm}$   
Stranded wire :  $0.3-1.25\text{mm}^2$  (AWG 22-18)



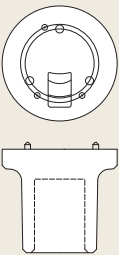
### Optional Parts

#### Upper Bracket

SZ-60-U



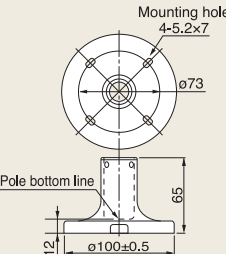
Required for pole mounting



#### Mounting Bracket

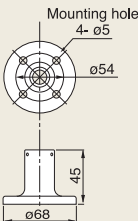
SZ-010

(For ø21.7mm pole)

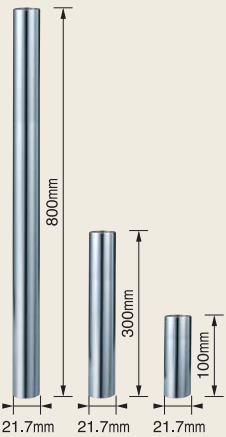


SZ-016A

(For ø21.7mm pole)

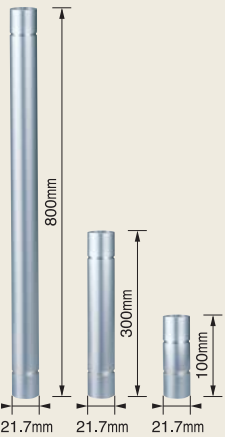


#### Steel Pole



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

#### Aluminum Pole

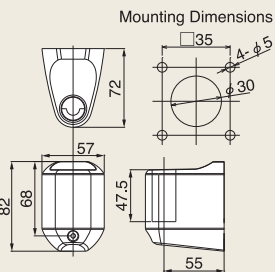


800mm : **POLE-800A21**  
300mm : **POLE-300A21**  
100mm : **POLE-100A21**

#### Wall Mount Bracket

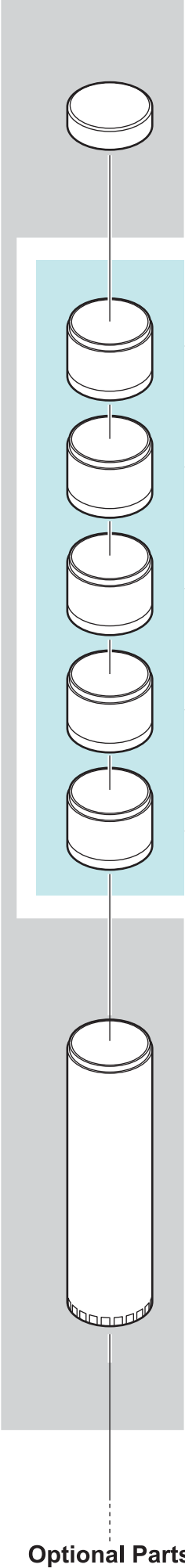
SZ-020

(For ø21.7mm pole)



Modules	
Model	Material
POLE-□□S21	Steel
POLE-□□A21	Aluminum
SZ-010	ADC12
SZ-016A	ADC12
SZ-70-B	ABS resin
SZ-020	ABS resin

※ADC12...Aluminum alloy die-cast



### 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 $\pm 10\%$ (21.6~26.4V)				
Current/Power Consumption	52mA/1.25W		42mA/1.0W		
Operating Temperature Range	$-30^{\circ}\text{C} \sim +60^{\circ}\text{C}$				
Mass	44g $\pm 10\%$				

RED AMBER GREEN BLUE CLEAR/WHITE

### BASE Units

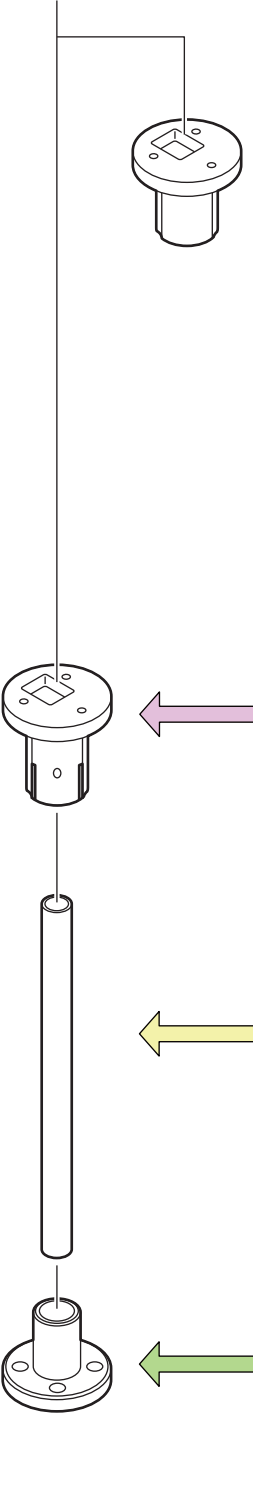
Model	LU5-02	LU5-02FB
Color		
Standard Body/Short Body	Standard	
Rated Voltage	24V DC	
Operating Voltage Range	Rated voltage $\pm 10\%$ (21.6~26.4V)	
Buzzer		<div>*Buzzer 1    *Buzzer 2</div>
Current Consumption		<div>50 <math>\pm</math> 10mA    24 <math>\pm</math> 10mA</div>
Power Cunsumption		<div>1.2 <math>\pm</math> 0.25W    0.58 <math>\pm</math> 0.25W</div>
Sound Level	Max: 85 $\pm$ 5dB (at 1m)	
Flashing Cycle	60 $\pm$ 12 flashes per minutes	
Operating Temperature	$-30^{\circ}\text{C} \sim +60^{\circ}\text{C}$	
Range	Upright, indoor only	
Mounting Direction	IP65	
Protection Rating	182g $\pm 10\%$	200g $\pm 10\%$
Mass	PNP/NPN	

**Open Collector**  
\* Buzzer 1 : Continuous Sound    \*\*Buzzer 2 : Intermittent Sound

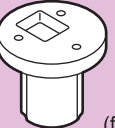
Ivory White    Silver Color (U)

Optional Parts

Optional Parts

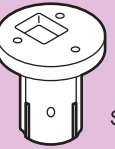


### Upper Bracket




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

### Upper Bracket



SZ-60-U

### Pole



21.7mm

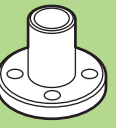
#### Steel Pole

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

#### Aluminum Pole

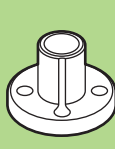
Model	POLE-800A21	POLE-300A21	POLE-100A21
Height	800mm	300mm	100mm

### Mounting Bracket




SZ-016A  
(For  $\phi 21.7\text{mm}$  Pole)


### Wall Mount Bracket



SZ-70-B  
(For  $\phi 21.7\text{mm}$  Aluminum Pole Only)



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



SZ-017  
(For  $\phi 21.7\text{mm}$  Pole)



# LME / LME-U/LME-N

## Signal Tower



LED



Cabtyre (LME-U)



90dB at 1m  
(FB type)

Electronic Sound 2  
(FB type)

Ø60

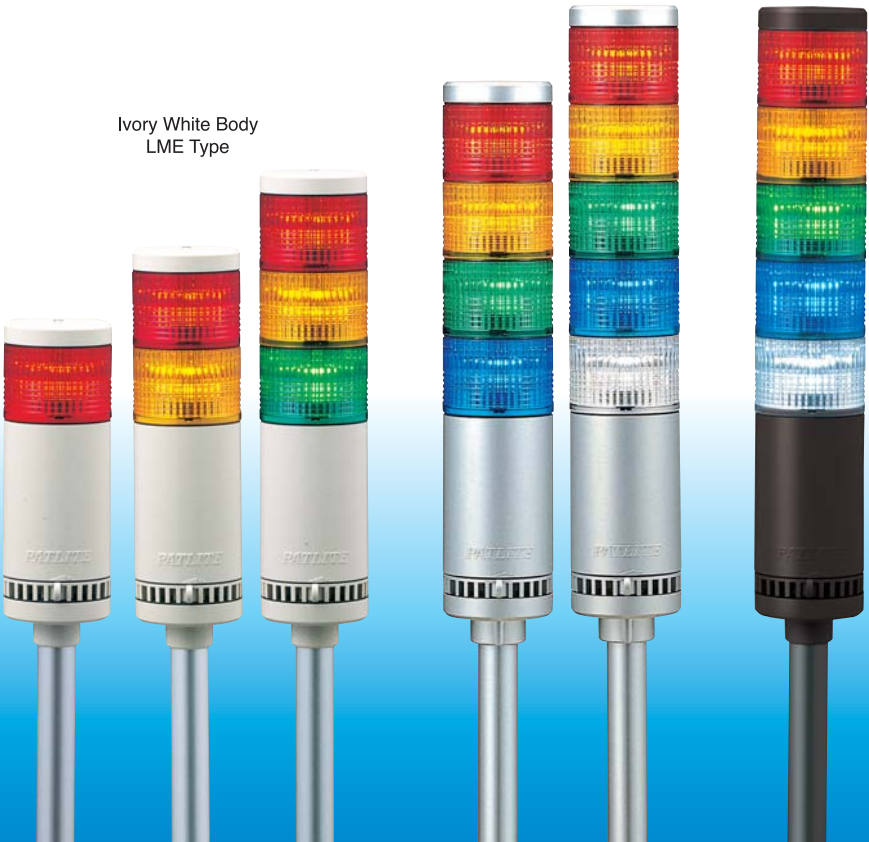
IP65  
(FB, L, K type: IP54)

NPN/PNP  
Open collector

Ivory White Body  
LME Type

Silver Color Body  
LME-U Type

Black Color Body  
LME-N Type



Reflection  
system



High visibility  
from any direction



Adjustable volume  
Max. 90dB at 1m

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

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- FB type: 2 selectable built-in alarms with adjustable volume up to 90dB at 1m.
- Installation: Direct or pole mount.
- Interchangeable LED module: No re-wiring even after installation.
- Main Body: Superior impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- NPN/PNP Compatible: Except 100/220V AC LME-U type, compatible with NPN only.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements (for 24V type).
- UL Recognized Component (File No. E215660) (for 24V, 120V, 230V type only).

### LME-U type

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

### Interchangeable LED modules

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

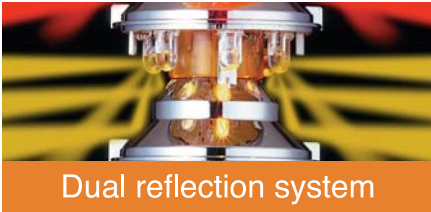
### The wiring remains the same

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



### Easy to add and remove

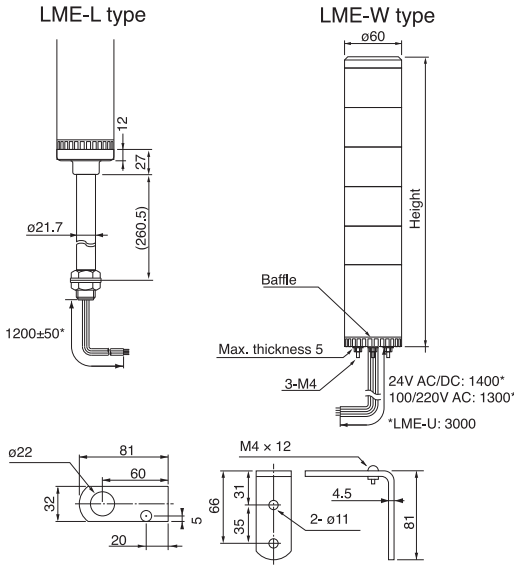
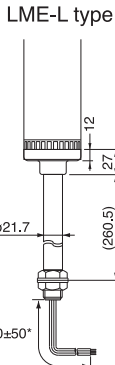
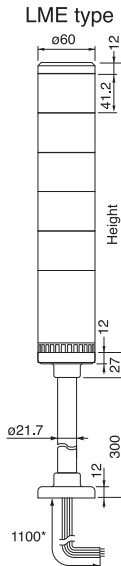
If the number of LED module is changed, center shaft must be purchased.



### Dual reflection system

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

## Dimensions



100/220V AC type  
Height (mm)  
1 Light: 206.0  
2 Lights: 247.2  
3 Lights: 288.4  
4 Lights: 329.6  
5 Lights: 370.8

24V AC/DC type  
Height (mm)  
1 Light: 150.0  
2 Lights: 191.2  
3 Lights: 232.4  
4 Lights: 273.6  
5 Lights: 314.8



## Wiring Diagram

Note: See page 172 for wiring diagram

## LME Type

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

FB type: approx. 60 flashes per minute.

## How to Order

### LME-502UFBW-RYGB-C-Z

Stack  
1~5

Rated Voltage  
02: 24V AC/DC  
10: 100V AC  
12: 120V AC  
20: 220V AC  
23: 230V AC

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

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

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

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

Color of Lens  
Blank: Colored lens  
Z: Clear lens

# LME-S / LME-Q

## Signal Tower



LED



Cabtyre



90dB at 1m  
(FB type)

Electronic Sound 2  
(FB type)

ø60

IP65

NPN  
Open collector



Reflection system



High visibility from any angle



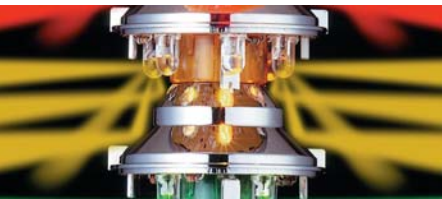
Adjustable volume  
Max. 90dB at 1m

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

- PATLITE's Exclusive Hybrid Prism-Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright, distinctive illumination while saving energy (Patent Pending).
- FB type: 2 selectable built-in alarms with adjustable volume up to 90dB at 1m.
- Installation: Direct or pole mount.
- Interchangeable Modules: No re-wiring even after installation.
- Patlite's new single tier, triple or quadruple color unit: For multi color display applications with limited vertical space.
- Pole-mount type: Includes circular mounting base as standard equipment.
- Available Colors: Refer to color combination table.
- Conforms to the CE requirements (for 24V type).
- UL Recognized Component (File No. E215660) (for 24V, 120V, 230V type only).

### Available by Special Order

- PNP compatible.
- Silver color body.



Dual reflection system

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

## Patlite's new single tier, triple color or quadruple color unit

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

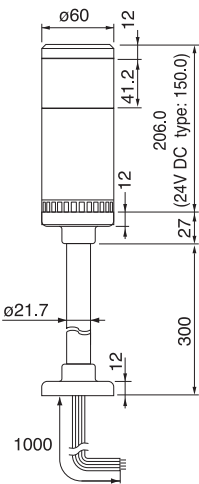


### Clear lens

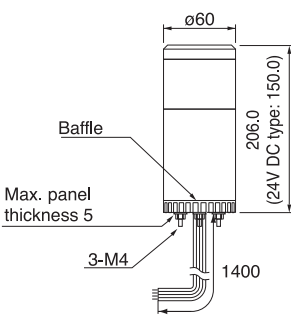
Patlite's new single-tier, multi-color unit is ideally suited for installations requiring a multiple color display but have limited vertical space. Clear lenses distinguish between lit and unlit lamps, and the unit set integrates visually with the equipment to which it is attached.

## Dimensions

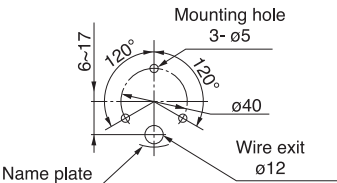
LME type



LME-W type



Mounting Dimension (LME-W)



(mm)



## Wiring Diagram

Note: See page 172 for wiring diagram

## LME-S / LME-Q Type

LME-S type

Light System	Model	Rated Voltage	Power Consumption	Mass	
				LME	LME-W
1 Light	LME-102S	24V DC	2.2W	0.43kg	0.27kg
	LME-110S	100V AC	5.1W	0.86kg	0.52kg
	LME-112S	120V AC			
	LME-120S	220V AC			
	LME-123S	230V AC			

FB type: approx. 60 flashes per minute.

LME-Q type

Light System	Model	Rated Voltage	Power Consumption	Mass	
				LME	LME-W
1 Light	LME-102Q	24V DC	2.2W	0.43kg	0.27kg
	LME-110Q	100V AC	5.1W	0.68kg	0.52kg
	LME-112Q	120V AC			
	LME-120Q	220V AC			
	LME-123Q	230V AC			

FB type: approx. 60 flashes per minute.

## How to Order

### LME-102UFBW-S1

Rated Voltage  
02: 24V DC  
10: 100V AC  
12: 120V AC  
20: 220V AC  
23: 230V AC

Body color  
Blank: Ivory white  
U: Silver color

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

Mount  
Blank: Pole Mount (with circular mounting bracket)  
W: Direct Mount

Color  
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



LMC

Signal Tower

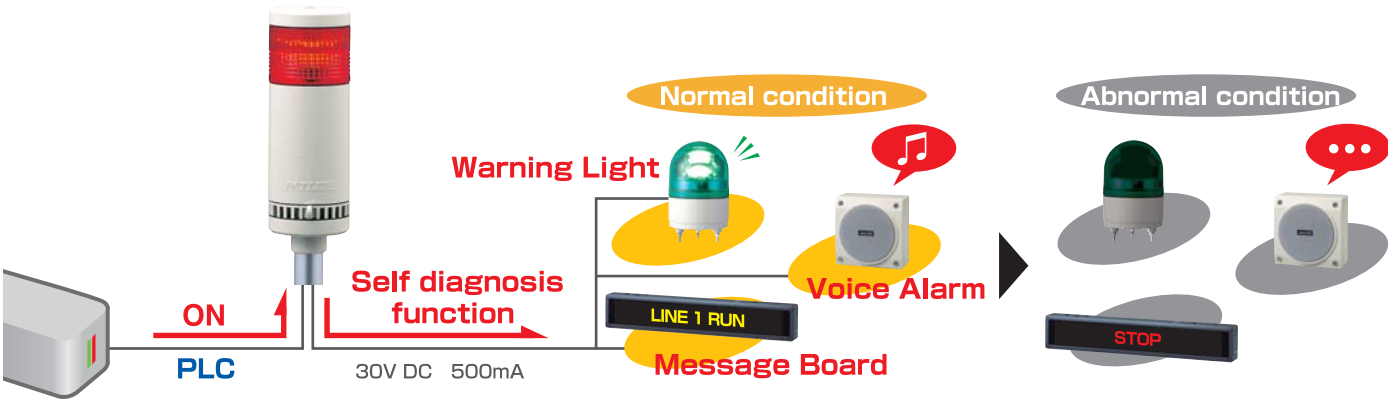


LED



ø60

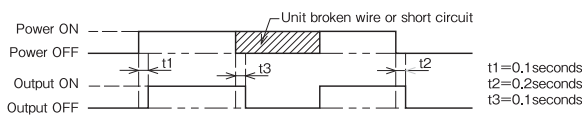
IP54



24V DC

	Power Source (Signal Wire) OFF			Power Source (Signal Wire) ON		
LED Unit	Normal	Short-circuit	Contact Disconnected	Normal	Short-circuit	Contact Disconnected
LED	Turned off	Turned off	Turned off	continuous light	Turned off	Turned off
Output	OFF	OFF	OFF	ON	OFF	OFF

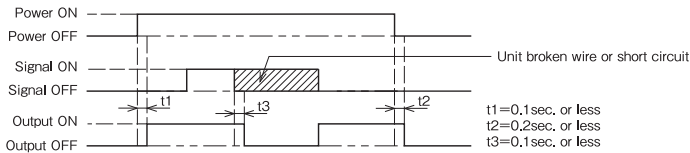
Timing chart



100/120/220V AC

	Power Source OFF						Power Source ON					
	Signal Wire OFF			Signal Wire ON			Signal Wire OFF			Signal Wire ON		
LED Unit	Normal	Short-circuit	Contact Disconnected	Normal	Short-circuit	Contact Disconnected	Normal	Short-circuit	Contact Disconnected	Normal	Short-circuit	Contact Disconnected
LED	Turned off	Turned off	Turned off	Turned off	Turned off	Turned off	Turned off	Turned off	Turned off	continuous light	Turned off	Turned off
Output	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF

Timing chart

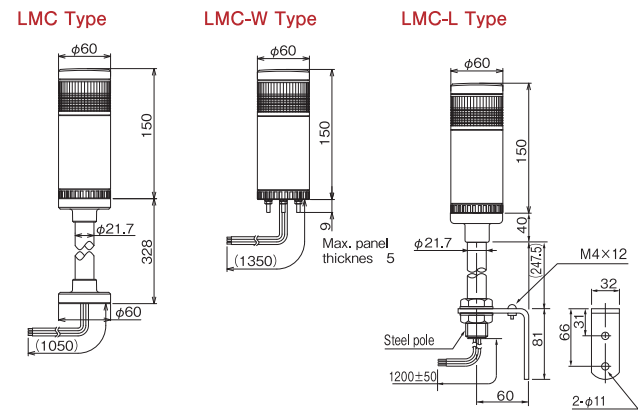


- Conforms to the CE requirements (for 24V type).
- UL Recognized Component (File No. E215660) (for 24V, 120V, 230V type only).

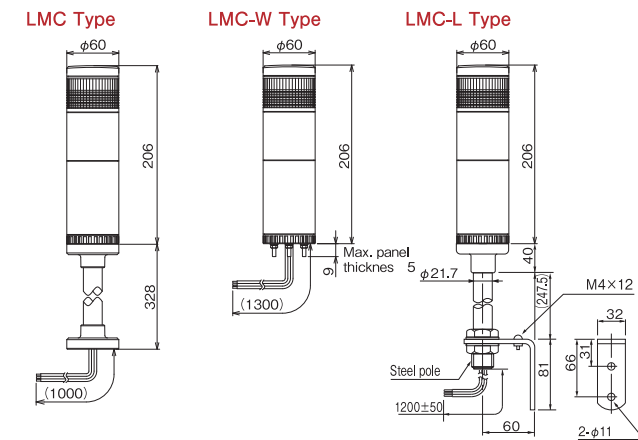


Dimensions

24V DC

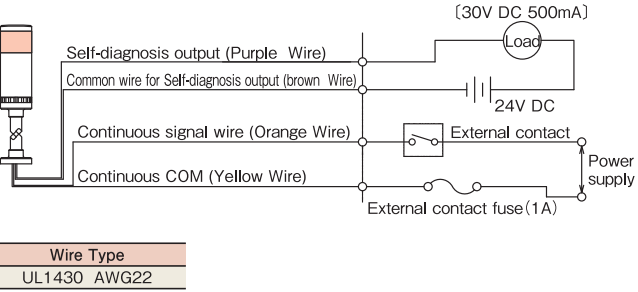


100/120/220V AC



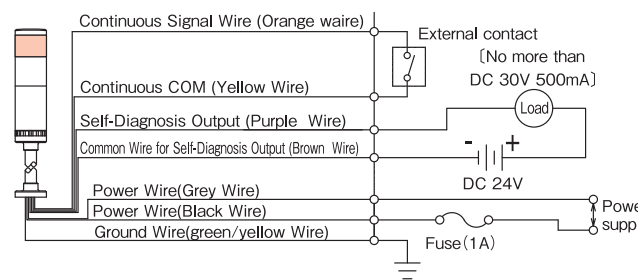
Wiring Diagram

24V DC



Wire Type
UL1430 AWG22

100/120/220V AC

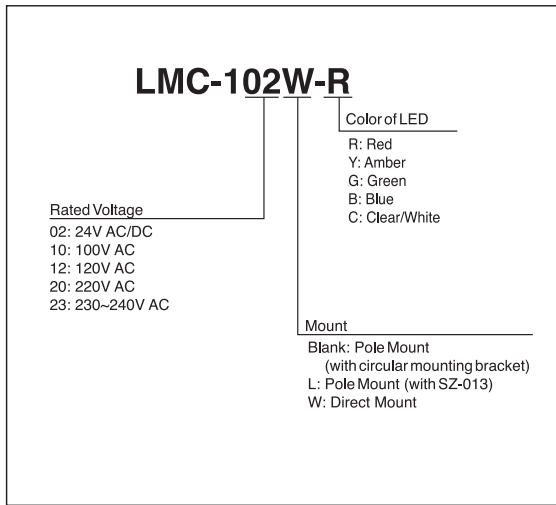


	Wire Type			
	Power Wire	Signal Wire	Ground Wire	
100/220V	UL1007 0.5mm <sup>2</sup>	UL1430 0.3mm <sup>2</sup>	UL1015 0.75mm <sup>2</sup>	
120/230V	UL1015 0.75mm <sup>2</sup>	UL1430 0.3mm <sup>2</sup>	UL1015 0.75mm <sup>2</sup>	

LMC Type

Model	Rated Voltage	Power Consumption	Mass
LMC-102-□	24V AC/DC	1.5W	0.46kg
LMC-102L-□			0.76kg
LMC-102W-□			0.30kg
LMC-110-□	100V AC	4.0W	0.71kg
LMC-110L-□			1.01kg
LMC-110W-□			0.55kg
LMC-112-□	120V AC	4.0W	0.71kg
LMC-112L-□			1.01kg
LMC-112W-□			0.55kg
LMC-120-□	220V AC	5.0W	0.71kg
LMC-120L-□			1.01kg
LMC-120W-□			0.55kg
LMC-123-□	230~240V AC	5.5W	0.71kg
LMC-123L-□			1.01kg
LMC-123W-□			0.55kg

How to Order



# LMS

## Signal Tower



LED



ø60

IP65

NPN/PNP  
Open collector



Reflection system



High visibility from any direction

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

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- Original Dual Reflection System: For enhanced light diffusion, creating bright distinctive illumination while saving energy (Patent Pending).
- Installation: Pole mount.
- Interchangeable Modules: No re-wiring even after installation.
- Main Body: Superior impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements.
- UL Recognized Component (File No. E215660).

### Available by Special Order

- Cabtyre Cable: Versatile and flexible 3m cable.

### Interchangeable LED modules

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

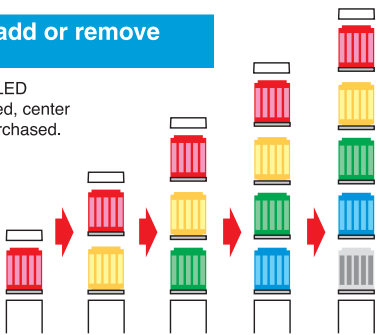
### The wiring remains the same.

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



### Easy to add or remove

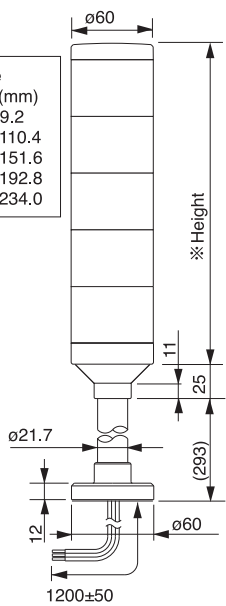
If the number of LED module is changed, center shaft must be purchased.



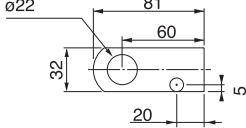
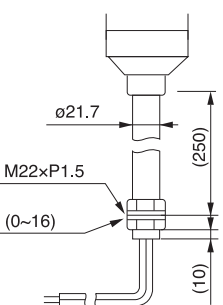
## Dimensions

LMS

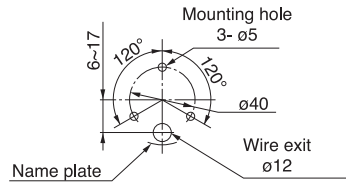
LMS type  
※Height (mm)  
1 Light: 69.2  
2 Lights: 110.4  
3 Lights: 151.6  
4 Lights: 192.8  
5 Lights: 234.0



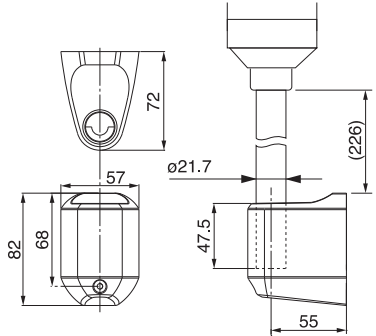
LMS-L



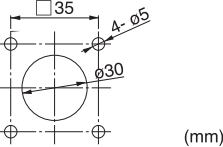
Mounting Dimension (LMS)



LMS-K



Mounting Dimension (LMS-K)



Standard Mounting Bracket

LMS-K type Mounting Bracket SZ-020

LMS-L type Mounting Bracket SZ-013

All clear lens type is also available.



Please add - Z after the part number when you place the order for all clear lens type.

## Wiring Diagram

Note: See page 172 for wiring diagram

## LMS Type

Light System	Model	Rated Voltage	Power Consumption	Mass		
				LMS	LMS-L	LMS-K
1 Light	LMS-102	24V AC/DC	1.2W	0.29kg	0.29kg	0.42kg
2 Lights	LMS-202	24V AC/DC	2.4W	0.34kg	0.67kg	0.48kg
3 Lights	LMS-302	24V AC/DC	2.8W	0.39kg	0.72kg	0.54kg
4 Lights	LMS-402	24V AC/DC	3.2W	0.44kg	0.77kg	0.60kg
5 Lights	LMS-502	24V AC/DC	3.6W	0.49kg	0.82kg	0.66kg

## How to Order

### LMS-502L-RYGBC-Z

Stack 1~5

Rated Voltage 02: 24V AC/DC

Color of LED

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

Color of Lens

Blank: Colored lens  
Z: Clear lens

Mount

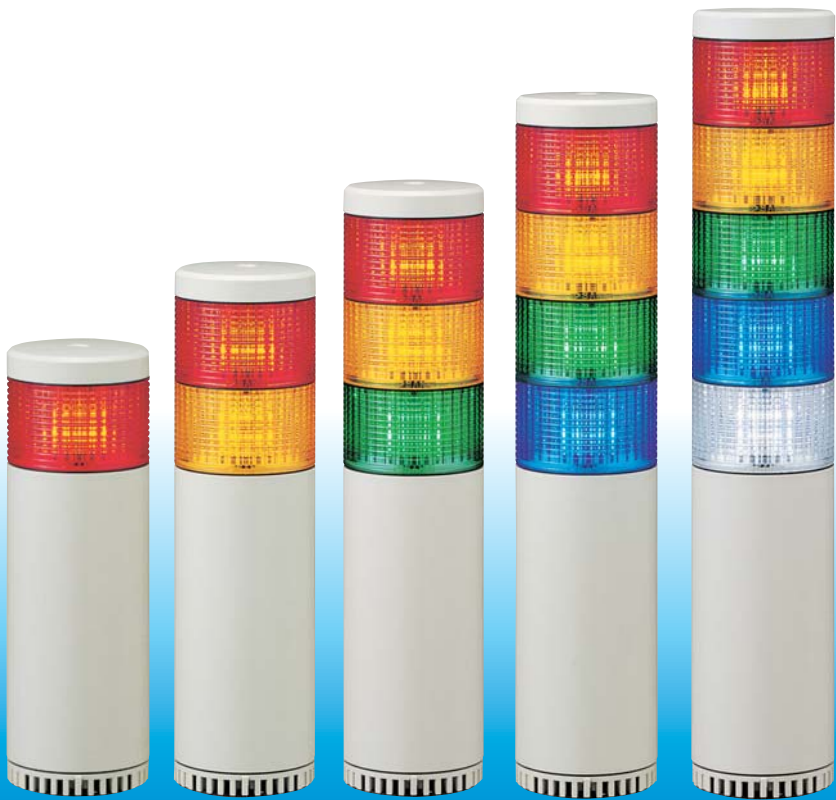
Blank: Pole Mount (with circular mounting bracket)  
K: Pole Mount (with SZ-020)  
L: Pole Mount (with SZ-013)



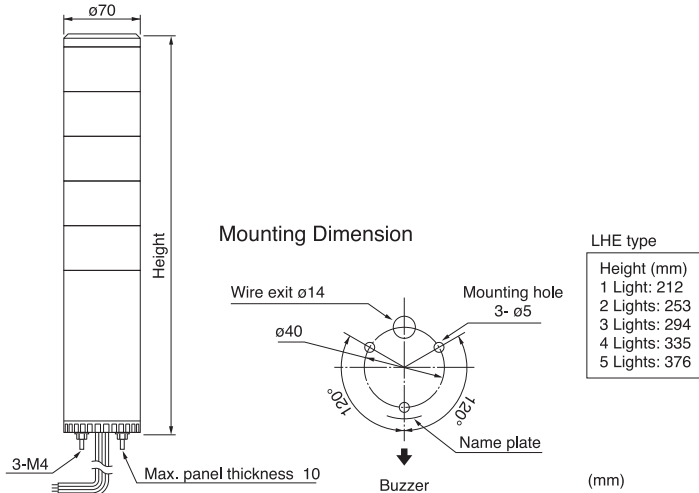
# LHE

## Signal Tower

- LED
- 90dB at 1m (FB type)
- Electronic Sound 2 (FB type)
- Ø70
- IP65 (FB type IP54)
- NPN/PNP Open collector



### Dimensions



### Optional parts



"Super Bright" LED provides highest level of visibility.



### Wiring Diagram

Note: See page 171 for wiring diagram

### Signal Tower with waterproof design for wet environments.

- Original LED reflection system: Improves brightness and provides maintenance free operation.
- FB type: 2 built-in alarms with adjustable volume up to 90dB at 1m.
- Installation: Direct mount; pole mount is available with optional mounting pole.
- Interchangeable Modules: No re-wiring even after installation.
- Lens: Superior impact and heat resistant AS resin for superior durability and light transmission.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements (for 24V type).
- UL Recognized Component (File No. E215660) (for 24V, 120V, 230V type only).



Reflection system



Adjustable volume  
Max. 90dB at 1m

#### 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.

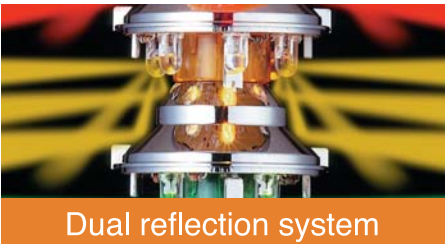


#### Easy to add and remove

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

#### The wiring remains the same

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



Dual reflection system

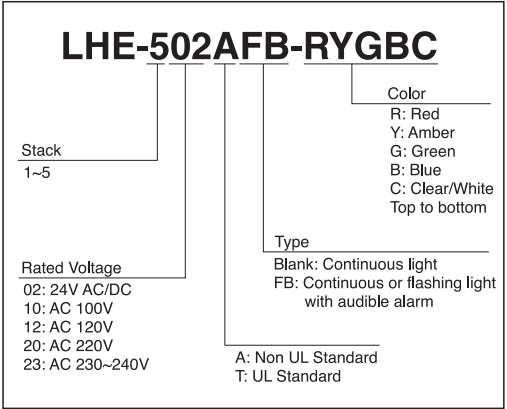
PATLITE's original dual reflection system with its exclusive hybrid prism-cut lens and 5 color LED modules create bright, distinctive, even illumination.

### LHE Type

Light System	Model	Rated Voltage	Power Consumption
1 Light	LHE-102A/AFB	24V AC/DC	2.2W
	LHE-110A/AFB	100V AC	4.7W
	LHE-112T/TFB	120V AC	4.7W
	LHE-120A/AFB	220V AC	4.7W
	LHE-123A/AFB	230~240V AC	4.7W
2 Lights	LHE-202A/AFB	24V AC/DC	3.4W
	LHE-210A/AFB	100V AC	6.4W
	LHE-212T/TFB	120V AC	6.4W
	LHE-220A/AFB	220V AC	6.4W
	LHE-223A/AFB	230~240V AC	6.4W
3 Lights	LHE-302A/AFB	24V AC/DC	4.4W
	LHE-310A/AFB	100V AC	7.9W
	LHE-312T/TFB	120V AC	7.9W
	LHE-320A/AFB	220V AC	7.9W
	LHE-323A/AFB	230~240V AC	7.9W
4 Lights	LHE-402A/AFB	24V AC/DC	5.4W
	LHE-410A/AFB	100V AC	9.4W
	LHE-412T/TFB	120V AC	9.4W
	LHE-420A/AFB	220V AC	9.4W
5 Lights	LHE-423A/AFB	230~240V AC	9.4W
	LHE-502A/AFB	24V AC/DC	6.4W
	LHE-510A/AFB	100V AC	10.9W
	LHE-512T/TFB	120V AC	10.9W
	LHE-520A/AFB	220V AC	10.9W
	LHE-523A/AFB	230~240V AC	10.9W

FB type approx. 60 flashes per minute.

### How to Order



# LU7

## Signal Tower



LED



90dB at 1m  
(FB type)

Electronic Sound 2  
(FB type)

ø70

IP65

NPN/PNP  
Open collector



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

- PATLITE's Exclusive Hybrid Prism Cut Lens: For enhanced visibility from any direction and distance.
- FB type: 2 selectable built-in alarms with adjustable volume up to 90dB at 1m.
- Installation: Direct mount (Pole mount with optional parts).
- Color-coordinated Terminal Block: Corresponds to the lens colors for quick wiring verification in the base unit.
- Interchangeable LED module: No re-wiring even after installation.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements (for 24V type).
- UL Listed (File No. E215660).

#### Available by Special Order

- Silver Color Body.

### LED Module

Model	Color
LU7-E-R	Red
LU7-E-Y	Amber
LU7-E-G	Green
LU7-E-B	Blue
LU7-E-C	Clear/White



### Base Module

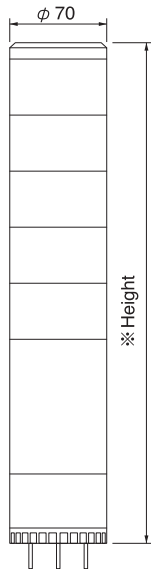
Model	Rated Voltage	Alarm / Flash
LU7-02	24V DC	-
LU7-02FB	24V DC	2 sounds / Flash
LU7-M2	90~250V AC	-
LU7-M2FB	90~250V AC	2 sounds / Flash

FB type: approx. 60 flashes per minute.



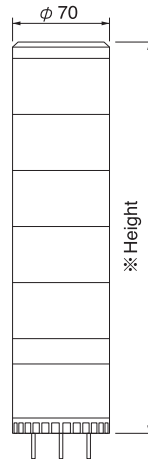
### Dimensions

LU7  
Standard Body



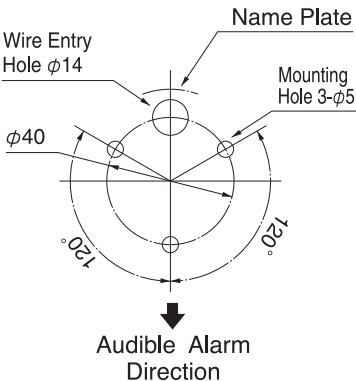
※Height(mm)
1Light : 211
2Lights : 252
3Lights : 293
4Lights : 334
5Lights : 375

LU7-02S  
Short Body



※Height(mm)
1Light : 118
2Lights : 159
3Lights : 200
4Lights : 241
5Lights : 282

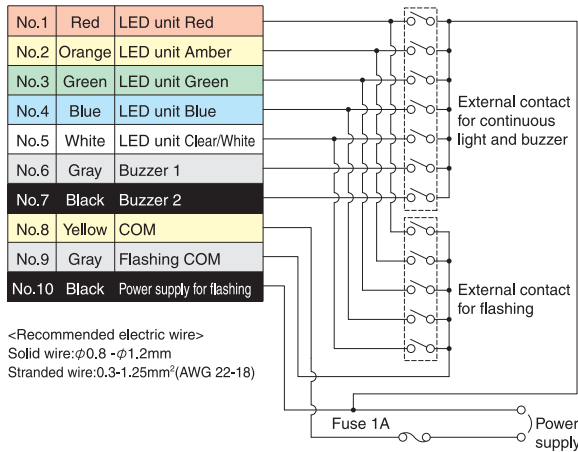
Mounting Dimensions



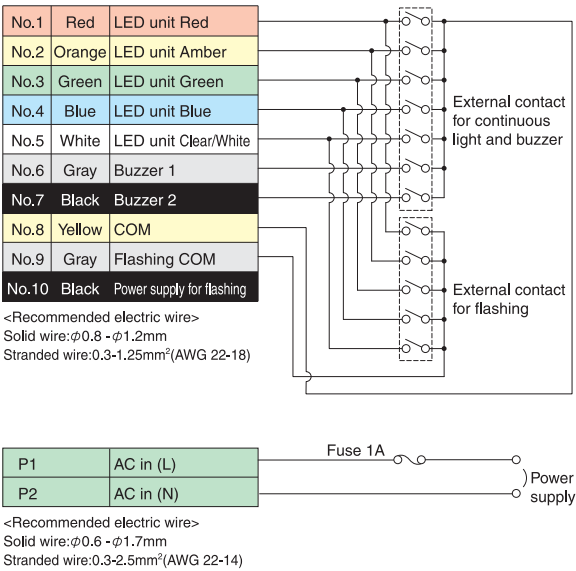
### Wiring Diagram

#### Base Unit Wiring example

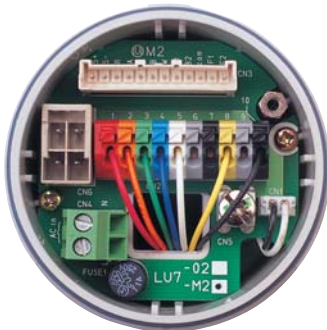
LU7-02FB 24V DC



LU7-M2FB 90-250V AC



LU7-02FB








LU7-M2FB











LED Units

				
LU7-E-R	LU7-E-Y	LU7-E-G	LU7-E-B	LU7-E-C
LED Unit RED	LED Unit AMBER	LED Unit GREEN	LED Unit BLUE	LED Unit CLEAR/WHITE
24V DC				
Rated Voltage $\pm 10\%$ (21.6~26.4V)				
52mA/1.25W		42mA/1.0W		
$-30^{\circ}\text{C}\sim+60^{\circ}\text{C}$				
$60\text{g}\pm 10\%$				

※ Operates with all voltage base units LU7-02, LU7-02FB, LU7-M2 and LU7-M2FB listed below.

Base Units

Model	LU7-02S	LU7-02	LU7-02FB	LU7-M2	LU7-M2FB	Unit Color Variation
Rated Voltage	24V DC			90~250V AC (50/60Hz)		<div>Short Body</div> <div></div>
Operating Voltage Range	Rated voltage $\pm 10\%$ (21.6~26.4V)			90~250V AC (50/60Hz)		
Buzzer	—		*Buzzer 1 **Buzzer 2	—	*Buzzer 1 **Buzzer 2	<div>Standard Body</div> <div></div>
Current Consumption	—		50 $\pm$ 10mA ; 24 $\pm$ 10mA	—	50 $\pm$ 10mA ; 24 $\pm$ 10mA	
Power Consumption	—		1.2 $\pm$ 0.25W ; 0.58 $\pm$ 0.25W	—	1.8 $\pm$ 0.25W ; 1.3 $\pm$ 0.25W	<div>Ivory White</div> <div>Silver Color</div> <div>Black</div>
Sound Level	—		Max: 90 $\pm$ 5dB (at 1m) Min: 70dB or Less (at 1m)	—	Max: 90 $\pm$ 5dB (at 1m) Min: 70dB or less (at 1m)	
Flashing Cycle	—		60 $\pm$ 12 flashes per minute	—	60 $\pm$ 12 flashes per minute	
Operating Temperature Range	-30℃~+60℃			-25℃~+55℃		
Mounting Direction	Upright, indoor only			Upright, indoor only		
Protection Rating	IP65			IP65		
Mass	150g $\pm$ 10%	250g $\pm$ 10%	280g $\pm$ 10%	310g $\pm$ 10%	340g $\pm$ 10%	
Open Collector	PNP/NPN			NPN		

※ \*Buzzer 1:Continuous sound      \*\*Buzzer 2:Intermittent sound

【External Contact Capacity】

Voltage Specifications		24V DC	90 ~ 250V AC
LED Unit [1-Light]	Current Consumption	Red・Amber : 52mA    Green・Blue・Clear/White : 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	40mA (250V) ~ 110mA (90V)
	Contact Capacity	Is ≥ 500mA Vs ≥ 35V AC	9A (90V) ~ 25A (250V) Vs ≥ 250V AC

※ Is : Current Capacity      Vs : Withstanding voltage

【External Contact Fuse】

Voltage	Fuse Rating
All models	250V 1A

※ Use a fuse conforming to the rated current of the machine of the installed product.  
(Example: UL class J type fuse)

Optional Parts

### Upper Bracket

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

**SZ-50-U**  
Ivory White

**SZ-50U-U**  
Silver Color

**SZ-50K-U**  
Black

for U.S.A.

(For φ21.7mm Pole)

### Pole

#### Steel Pole

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

#### Aluminum Pole

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

### Adaptor

**SZ-904**

for U.S.A.

### Wall Mount Bracket

**SZ-018**  
Ivory White

**SZ-018U**  
Silver Color

**SZ-018K**  
Black

**SZ-020**  
(For φ21.7mm Pole)

**SZ-017**  
(For φ21.7mm Pole)

### Mounting Bracket

**SZ-016A**  
(For φ21.7mm Pole)

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

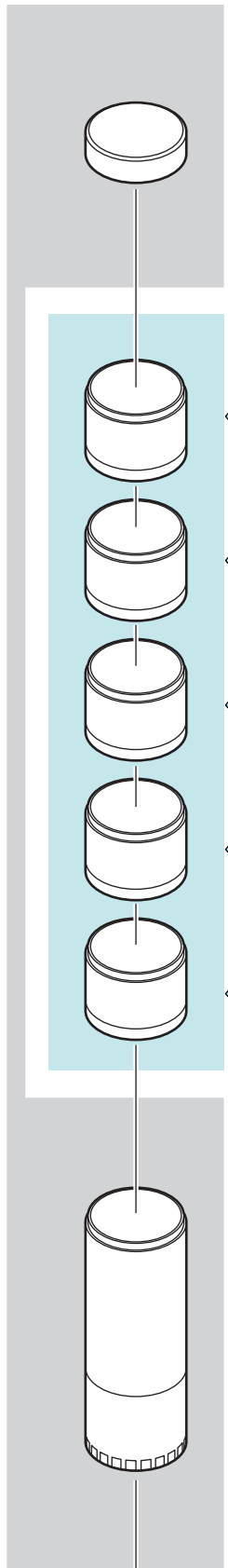
### Pre-assembled

**SZ-50T**

**SZ-50L**

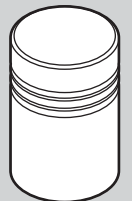
Model	Material
SZ-50-U	ADC12
SZ-50U-U	ADC12
SZ-50K-U	ADC12
SZ-50-NPT	Aluminum
POLE-□□S21	Steel
POLE-□□A21	Aluminum
SZ-016A	ADC12
SZ-904	Aluminum
SZ-70-B	ABS resin
SZ-017	ADC12
SZ-020	ABS resin

※ ADC12 : Aluminum alloy die-cast    SPHC : Hot rolled mild (sheet) steel    EPT : Ethylene propylen rubber



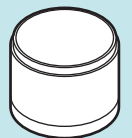
Optional Parts

### Voice and Sound Module



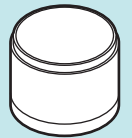
Model	LU7-V1
Type	Voice Synthesizer
Rated Voltage	DC24V
Power Consumption	3.5W
Weight	0.17kg

### LED Units



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

### LED Strobe Module



Model	LU7-XE-R	LU7-XE-Y	LU7-XE-G	LU7-XE-B	LU7-XE-C
Unit Color	Red	Amber	Green	Blue	Clear/White
Rated Voltage	24V DC				
Power Consumption	290mA	290mA	140mA	270mA	280mA
Mass	0.07kg				

Red

 RED 

Amber

 AMBER 

Green

 GREEN 

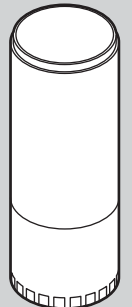
Blue

 BLUE 

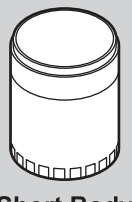
Clear/White

 CLEAR/WHITE

### BASE Units



Standard Body



Short Body

Model	LU7-02S	LU7-02	LU7-02FB	LU7-M2	LU7-M2FB
Color			White, Silver, Black		
Standard Body/Short Body	Short	Standard		Standard	
Rated Voltage	24V DC			90~250V (50/60Hz)	
Operating Voltage Range	Rated voltage $\pm 10\%$ (21.6~26.4V)			90~250V (50/60Hz)	
Buzzer	—		*Buzzer 1: *Buzzer 2	—	
Current Consumption	—		50 $\pm$ 10mA; 24 $\pm$ 10mA	50 $\pm$ 10mA; 24 $\pm$ 10mA	
Power Consumption	—		1.2 $\pm$ 0.25W; 0.58 $\pm$ 0.25W	1.8 $\pm$ 0.25W; 1.3 $\pm$ 0.25W	
Sound Level	—		Max: 90 $\pm$ 5dB (at 1m) Min: 70dB or Less (at 1m)	Max: 90 $\pm$ 5dB (at 1m) Min: 70dB or Less (at 1m)	
Flashing Cycle	—		60 $\pm$ 12 flashes per minute	60 $\pm$ 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	150g $\pm 10\%$	250g $\pm 10\%$	280g $\pm 10\%$	310g $\pm 10\%$	340g $\pm 10\%$
Open Collector	PNP/NPN			NPN	

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

White

 Ivory White 

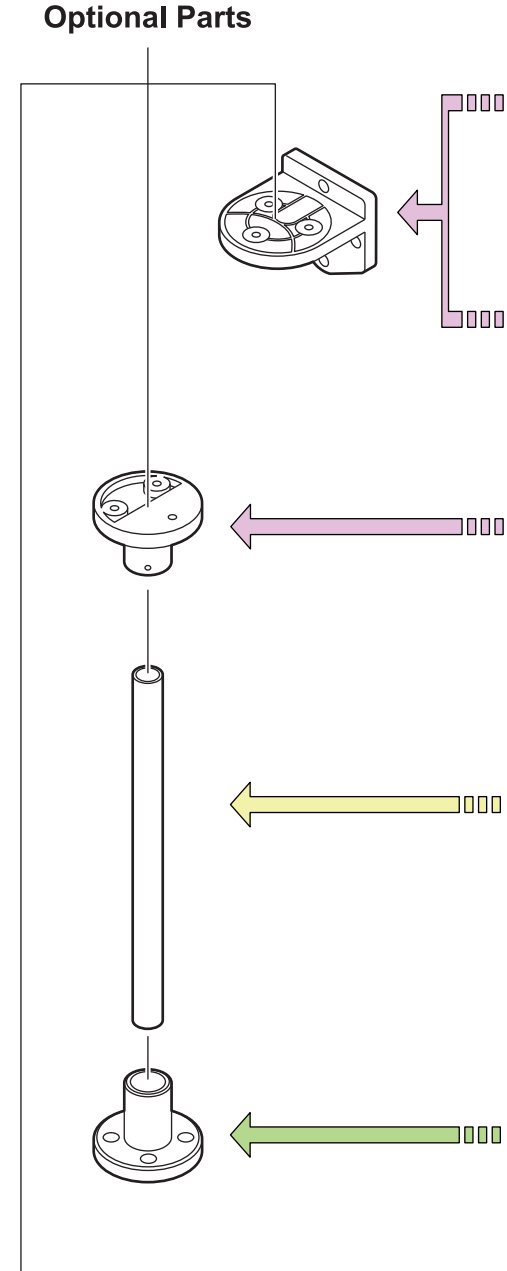
Silver

 Silver Color (U) 

Black

 Black (K)

### Optional Parts



Wall Mount Bracket

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

Pole

Steel Pole

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

Aluminum Pole

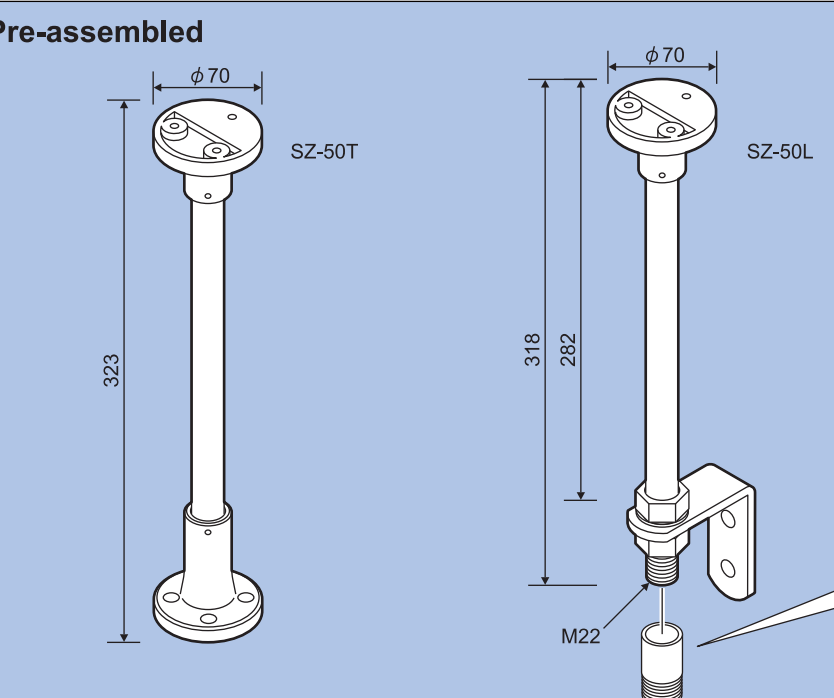
Model	POLE-800A21	POLE-300A21	POLE-100A21
Height	800mm	300mm	100mm

Mounting Bracket

Wall Mount Bracket

SZ-016A (For  $\phi 21.7$ mm Pole)    SZ-70-B (For  $\phi 21.7$ mm Aluminium Pole Only)    SZ-020 (For  $\phi 21.7$ mm Pole)    SZ-017 (For  $\phi 21.7$ mm Pole)

### Pre-assembled



SZ-50T

SZ-50L

Adaptor

SZ-904 (For 3/4" NPT)



# LU7-V1

## Sound Module



80dB at 1m

MP3 (4 Messages)

ø70

IP65

NPN/PNP  
Open collector



### Stackable sound module with high volume in all directions.

- Volume<sup>(1)</sup>: Adjustable with internal control, high level of 80dB at 1m in all direction.
- Playback System<sup>(2)</sup>: High quality MP3, alarms, melodies or up to 4 messages in 32 seconds.
- Operating Terminal / Playback Sound: Selected by internal jumper placement.
- Conforms to the CE requirements.
- UL Listed (File No. E215660) for use with LU7-02 and LU7-02FB.

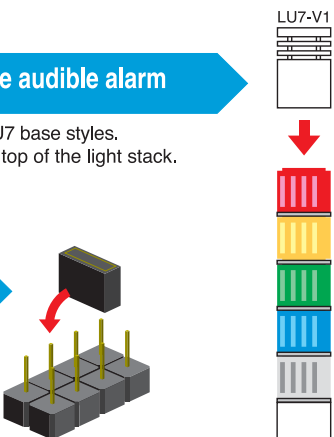
(1) Sound level may vary depending on type of sound.  
(2) Sound data is pre-recorded per order at the factory.

#### Stackable audible alarm

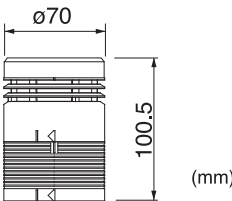
- Available for all LU7 base styles.
- Easily mounts on top of the light stack.

#### Selectable playback sound

- The jumper position determines the sound.



### Dimensions



Head cover is supplied with the base unit.

### LU7-V1 Type

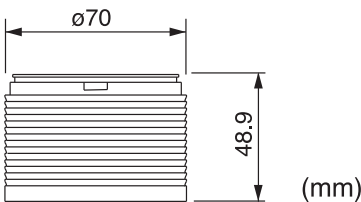
Model	Rated Voltage	Power Consumption	Mass
LU7-V1	24V DC	3.5W	0.17kg

### Stackable LED strobe module saves energy and requires low maintenance.

- Application<sup>(1)</sup>: For use with the LU7 series signal tower.
- Lighting Pattern: Double-flash for a visually stunning display.
- LED: Super bright for enhanced visibility.
- Assembly: Stackable and interchangeable before or after installation.
- Conforms to the CE requirements.
- UL Listed (File No. E215660) for use with LU7-02 and LU7-02FB.

(1) For use with the LU7-02 and LU7-02FB bases only.

### Dimensions



### LU7-XE Type

Color	Model	Rated Voltage	Power Consumption	Mass
Red	LU7-XE-R	24V DC	290mA	0.07kg
Amber	LU7-XE-Y	24V DC	290mA	0.07kg
Green	LU7-XE-G	24V DC	140mA	0.07kg
Blue	LU7-XE-B	24V DC	270mA	0.07kg
Clear/White	LU7-XE-C	24V DC	280mA	0.07kg

# LU7-XE

## LED Strobe Module



LED

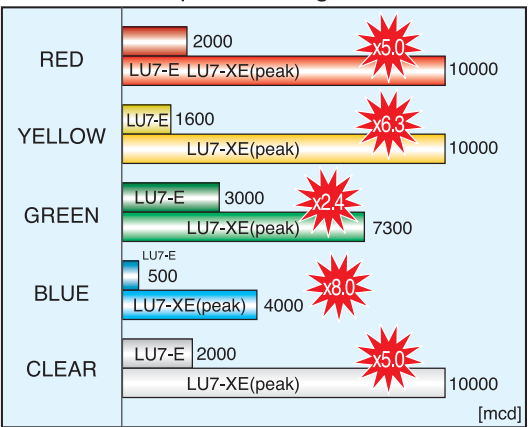
ø70

IP65

NPN/PNP  
Open collector



#### Comparative Brightness



# WE / WEP

## Slim Wall-Mount Signal Tower



LED

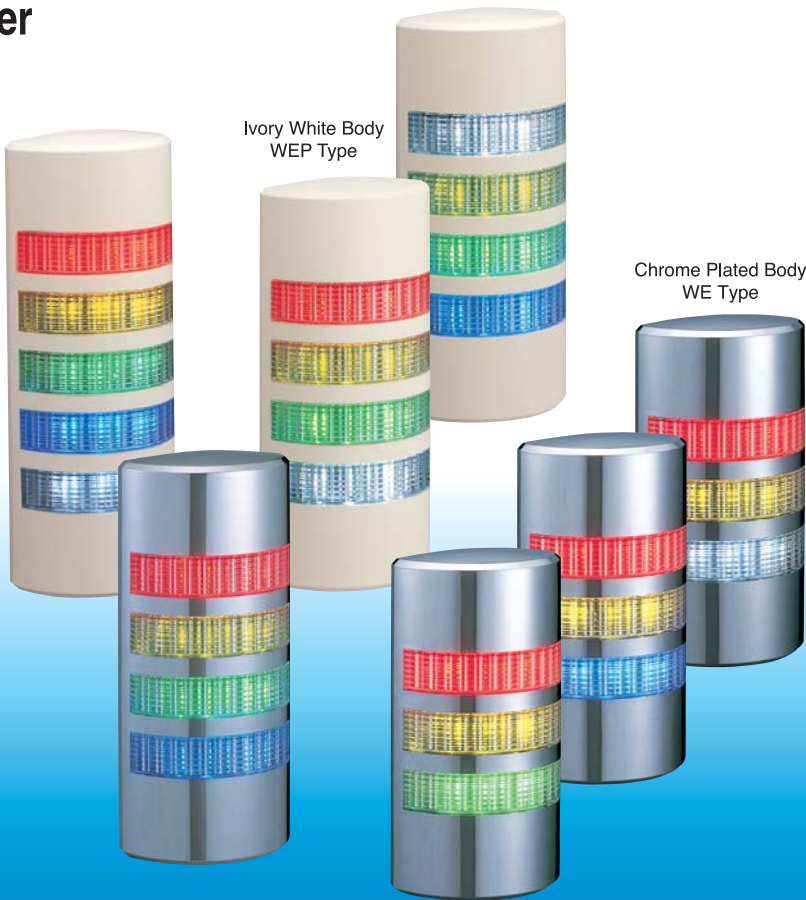


90dB at 1m (FB type)

Electronic Sound 2 (FB type)

IP65 (FB type: IP54)

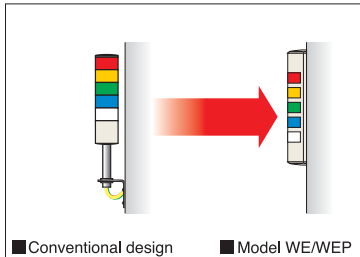
NPN/PNP  
Open collector



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

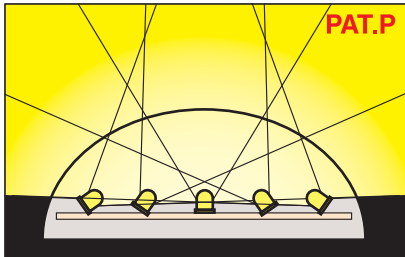
- Clear Vertical Cut Lens: For enhanced illumination over a wide perspective.
- FB type: Built-in audible alarm with 90dB at 1m.
- Installation: Vertical and horizontal.
- Body Color: Chrome plated or ivory white.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and enhanced illumination.
- NPN/PNP Compatible: Direct connection to PLC (24V DC ONLY)
- Lighting Pattern: Flashing and Continuous.
- Dust-proof and waterproof IP65 (except for FB type: IP54).
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements.
- UL Recognized Component (File No. E215660).

37.5 mm  
Super-thin design !



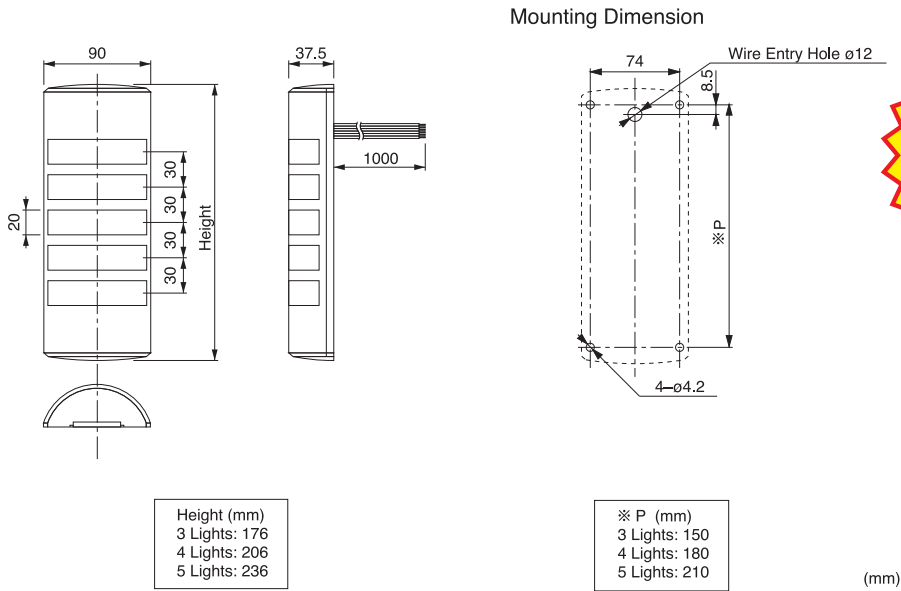
Patlite has perfected a 37.5mm-thin design that significantly enhances integration with the equipment as a built-in signal system.

New and exclusive LED lighting design



Patlite has created a revolutionary lighting design (patent pending) 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.

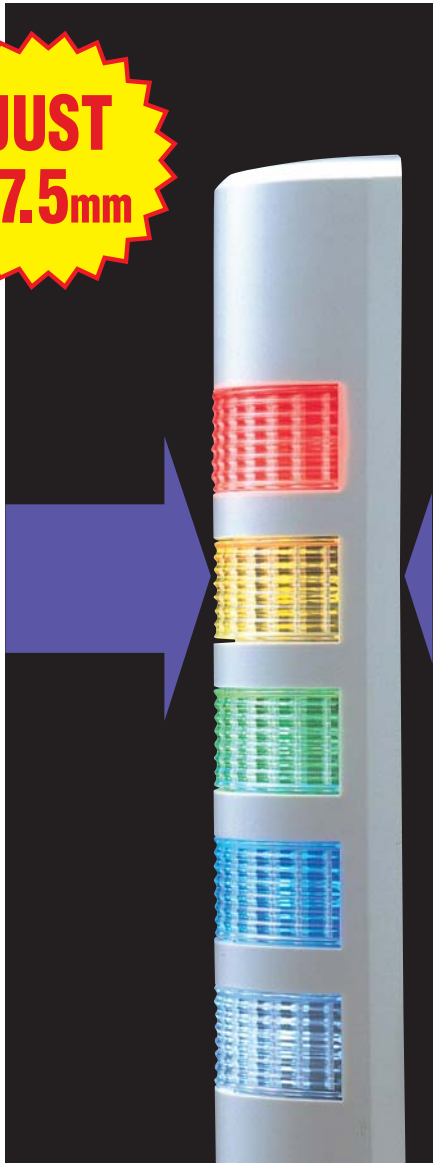
## Dimensions



JUST  
37.5mm



IP65 construction is safe for installation in damp locations, dusty factories and outdoor environments.



## Wiring Diagram

Note: See page 174 for wiring diagram

## WE / WEP Type

Light System	Model	Rated Voltage	Power Consumption	Mass
3 Lights	WE(P)-302	24V AC/DC	1.7W	0.26kg
	WE(P)-302FB	24V AC/DC	2.7W	0.30kg
4 Lights	WE(P)-402	24V AC/DC	2.0W	0.31kg
	WE(P)-402FB	24V AC/DC	3.2W	0.35kg
5 Lights	WE(P)-502	24V AC/DC	2.7W	0.31kg
	WE(P)-502FB	24V AC/DC	3.7W	0.35kg

FB type: approx 60 flashes per minute

## How to Order

### WEP-302FB-RYG

Body color WE: Chrome plated WEP: Ivory white	Color R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom
Stacks 3~5	Type Blank: Continuous light FB: Continuous or flashing light with audible alarm
Rated Voltage 02: 24V AC/DC	



# WME-A

## Signal Tower



LED



90dB at 1m

Electronic Sound 2

W70 D80

IP65  
(FB type: IP54)

NPN/PNP  
Open collector



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

- FB type: Built-in audible alarm up to 90dB at 1m .
- Installation: Easy vertical and horizontal installation with mounting bracket.
- Interchangeable Modules: No re-wiring even after installation.
- Mount option: Compatible with household switch box (JISC 8336 with 82.5m pitch).
- Main body: Made of ABS resin.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and illumination.
- NPN/PNP Compatible: 24V DC type ONLY.
- Available Colors: Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements.
- UL Recognized Component (File No. E215660).

### Available by Special Order

- 1stack type.

### Interchangeable Modules

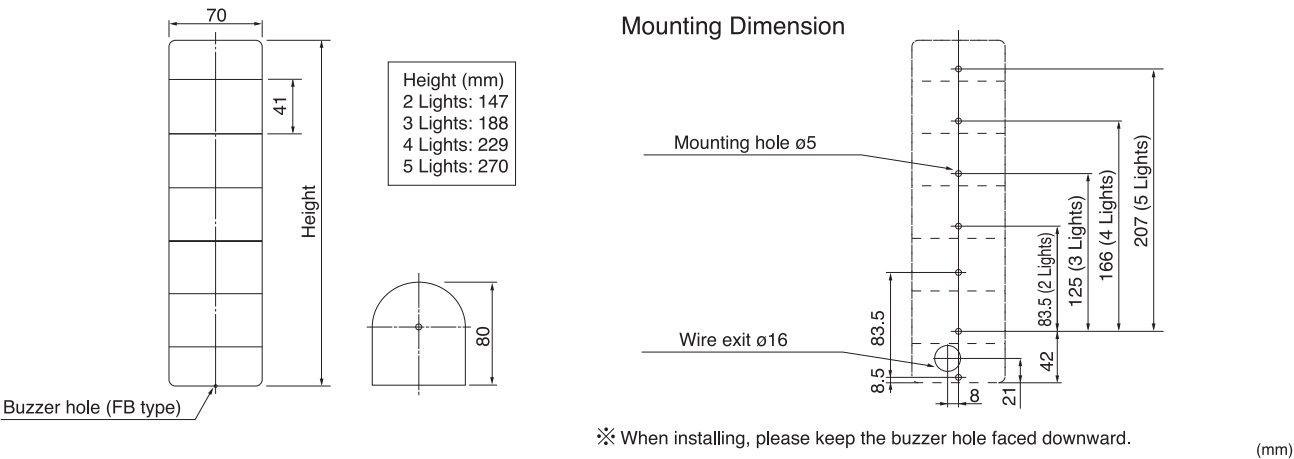
If the number of LED modules are changed, center shaft and mounting bracket must also be purchased.



Note: When the same colored modules are in one light tower, they will light simultaneously.

Individual module control for Single color is possible by special order.

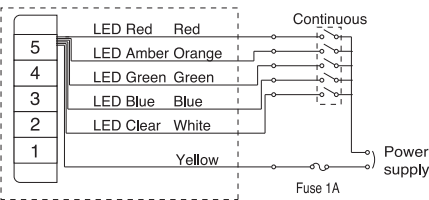
## Dimensions



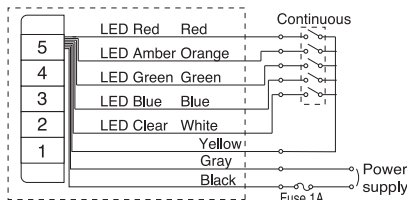
## Wiring Diagram

### WME-A

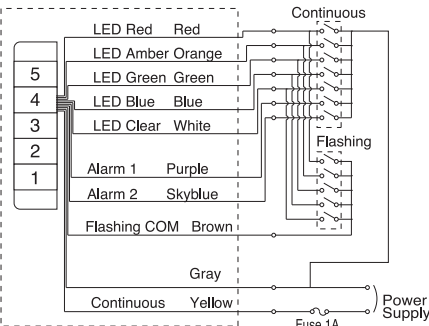
Continuous Lighting  
24V AC/DC



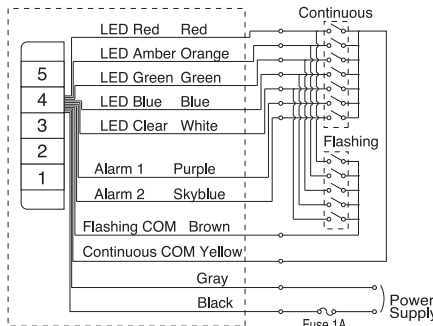
90~250V AC



Continuous or flashing light with audible alarm  
24V AC/DC



90~250V AC



### Signal line voltage and current per LED module

Model	Voltage Type	Signal Line Voltage	LED					Alarm	
			Signal Line Current					Signal Line Current	Inrush Current
WME-A	24V AC/DC	24V AC/DC	35mA					40mA	250mA
	90~250V AC	24V DC							

Note: See page 175 for wiring diagram

## WME-A Type

Light System	Model	Rated Voltage	Power Consumption
2 Lights	WME-202A	24V AC/DC	2.3W
	WME-2M2A	90~250V AC	5.2W(at 200V)
3 Lights	WME-302A	24V AC/DC	2.8W
	WME-3M2A	90~250V AC	6.6W(at 200V)
4 Lights	WME-402A	24V AC/DC	3.8W
	WME-4M2A	90~250V AC	8.6W(at 200V)
5 Lights	WME-502A	24V AC/DC	4.8W
	WME-5M2A	90~250V AC	10.6W(at 200V)

WM type: Bulb-T20 BA15D

FB type approx. 60 flashes per minute. Ⓞ: Custom order

## How to Order

### WME-402AFB-RYGB

Stack 2~5	Color R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom
Rated Voltage 02: 24V AC/DC M2: 90~250V AC	Type Blank: Continuous light FB: Continuous or flashing light with audible alarm

# LGE

## Signal Tower

LED



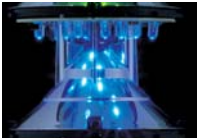
85dB at 1m  
(FB type)

Electronic Sound 1  
(FB type)

ø100

IP54

NPN/PNP  
Open collector



Triple Reflection system

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

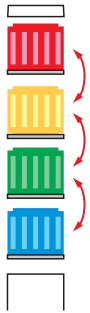
- PATLITE's large prism cut lens: For enhanced downward illumination (cut lens: Φ100mm x 60mm high).
- Newly developed triple-reflection system: For enhanced visibility and low power consumption.
- Lighting Pattern: Flashing and continuous.
- FB type: Built-in buzzer with volume up to 85dB at 1m.
- Installation: Direct mount.
- Interchangeable Modules: No re-wiring even after installation.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and illumination.
- NPN/PNP compatible: 24V DC type; 100/220V AC compatible with NPN only.
- Available Colors: Red, Amber, Green, Blue and Clear/White.
- Conforms to the CE requirements (for 24V type).

#### Interchangeable LED modules

- Changeable color sequence: Easy to add / remove up to 4 colored modules even after installation.
- Note: LED modules of the same color within a signal tower will light up simultaneously.

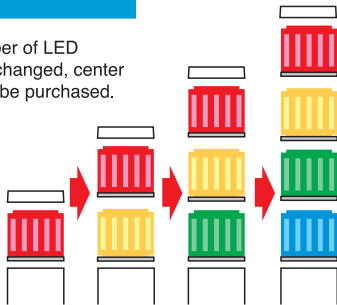
#### The wiring remains the same

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

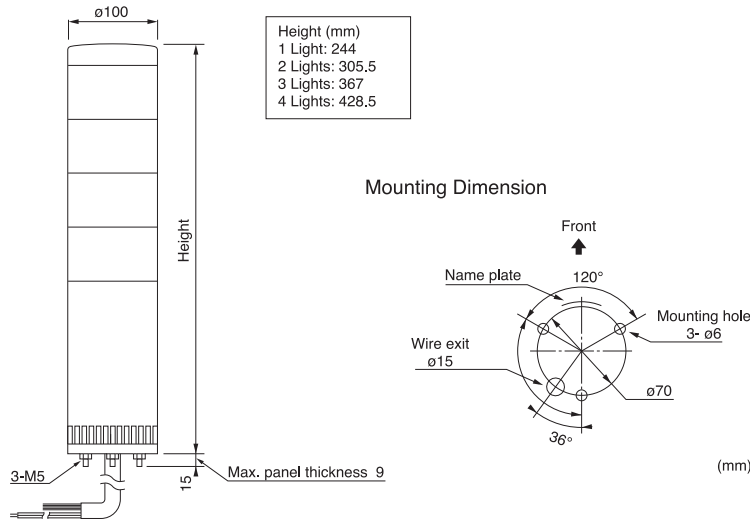


#### Easy to add and remove

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



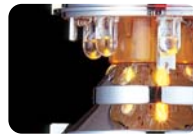
### Dimensions



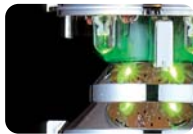
"Super Bright" LED provides highest level of visibility.



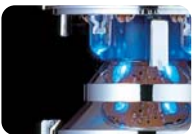
RED



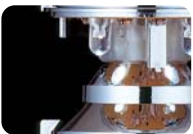
AMBER



GREEN



BLUE



CLEAR/WHITE

### Wiring Diagram

Note: See page 173 for wiring diagram

### LGE Type

Light System	Model	Rated Voltage	LGE Power Consumption
1 Light	LGE-102 / 102FB	24V AC/DC	2.5W
	LGE-110 / 110FB	100V AC	5.7W
	LGE-120 / 120FB	220V AC	
2 Lights	LGE-202 / 202FB	24V AC/DC	4.5W
	LGE-210 / 210FB	100V AC	8.2W
	LGE-220 / 220FB	220V AC	
3 Lights	LGE-302 / 302FB	24V AC/DC	6.5W
	LGE-310 / 310FB	100V AC	10.7W
	LGE-320 / 320FB	220V AC	
4 Lights	LGE-402 / 402FB	24V AC/DC	8.5W
	LGE-410 / 410FB	100V AC	13.2W
	LGE-420 / 420FB	220V AC	

FB type: approx. 60 flashes per minute.

### How to Order (Product)

#### LGE-402FB-RYGB

Stack 1~4	Color R: Red Y: Amber G: Green B: Blue C: Clear/White Top to bottom
Rated Voltage 02: 24V AC/DC 10: 100V AC 20: 220V AC	Type Blank: Continuous light FB: Continuous or flashing light with audible alarm

### How to Order (Individual Units)

#### Light-Module

Light Unit	Color	Rated Voltage	Wattage
LGEM24-R	Red	24V AC/DC	2W
LGEM24-Y	Yellow		
LGEM24-G	Green		
LGEM24-B	Blue		
LGEM24-C	Clear		

#### Power Unit

Power Unit	Rated Voltage	Type Operation
LGEBEC-120	120V AC	Continuous
LGEBEC-24	24V AC/DC	
LGEBEC-120FB	120V AC	Continuous/Flashing with Audible Alarm option
LGEBEC-24FB	24V AC/DC	

#### Shaft Assembly

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

#### How to order (Example)

Three LED lights (Red, Yellow, Green) with flashing at input voltage of 120V AC

- 1.Power Unit: LGEBEC-120FB × 1pce
- 2.Light Module:LGEM-24-R × 1pce  
LGEM-24-Y × 1pce  
LGEM-24-G × 1pce

Note:LGEBEC contains a transformer that steps down the input voltage to 24V DC.



# WSST

## Manual Control Box



LED



### Applications

- Lean manufacturing workstations
- Remote visual indication of line status for managers and line supervisors
- Safety and security applications
- Manual assembly operations
- Retail check stands
- Call centers



Tower lights, cables and poles are sold separately.

**PATLITE's new WSST Control Box is the latest exciting product that offers all-in-one functionality as well as remote operation capability to meet the growing needs of the manufacturing sector and beyond.**

### FEATURES

- Universal manual control box for PATLITE visual alert LED light towers.
- Accommodate up to 5 LEDs (Red, Amber, Green, Blue and Clear).
- Optional sound alarm available (must purchase FB type).
- Each light module can be manually configured for "steady on" or "flashing" (must purchase FB type).
- Sturdy metal construction with 6 color coordinated push buttons.
- Various configurations available including all in-one and remote mounting capabilities.
- Very easy setup and operation. All necessary components are included in the package.

\*Available soon



Complete HSST-312 Kit



Control box

### OPTIONAL

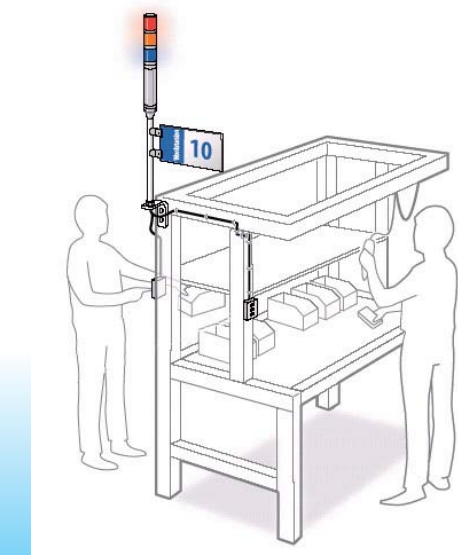
Extension cable available in 10 ft. segments (DT-HSST-10).

12inch mounting pole & bracket



# HSST

## Manual Indicating Light



LED

### Applications

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



**The HSST kit is a low cost complete turn-key solution for manually controlling a pre-assembled, pre-wired 3 stack light tower. The kit includes a 3 stack LED tower, pole, control box, brackets and AC adapter. Ideal for use in manual assembly operations where lean manufacturing practices are critical to the overall efficiency of the operation.**

### FEATURES

- HSST standard colors: red, yellow, and green.
- LED illuminating light offers maintenance-free operation.
- AC power adapter makes set-up easy in any location (UL Listed)
- Complete kit includes 3 LED, 50 mm diameter, signal tower in red/yellow/green with 4-foot cable, mounting brackets that fit standard cubicle partitions, and AC power adaptor.
- 120V AC power supply with 6 ft. cord length.
- 3 button switchbox with mounting screws.

# Signal Light





# NE-24

Signal Light

# KHE

LED Multi Signal Light



LED



ø57

IP65

NPN/PNP  
Open collector



LED

ø100

IP65 With SZ-200A



Optional  
Rubber Gasket  
SZ-200A



## NE series LED Dome Indicator Light

The dome shape provides increased visibility  
and the LEDs provide years of maintenance-free operation.

- Enhanced Illumination : Use of long-life, super bright LED.
- Energy Efficient : Low power consumption.
- Maintenance-Free : High vibration resistant and no bulb replacement needed.
- Terminal Block : For easy wiring.
- Applications : Suitable for small machine tools, control panel, etc.
- Available colors : Red, Amber, Green, Blue, Clear/White.
- Conforms to the CE requirements.

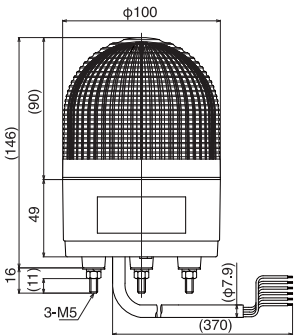
## LED Multi Signal Light

featuring three flashing patterns for diverse use.

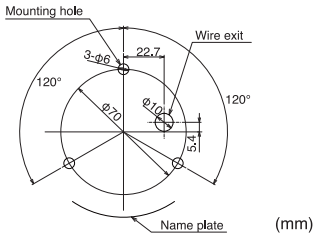
- Flashing Pattern: 3 Patterns...Simulated Rotation, Strobe, Blinking.
- Enhanced Illumination: Use of long-life, super bright LED.
- Maintenance-free: No bulb replacement needed.
- Energy Efficient: Low power consumption.
- Extended Product Life: Longer life without the use of a motor.
- Installation: Indoor: upright, inverted and sideways; Outdoors: upright only.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements.
- UL Listed (File No. E215660).

Available by Special Order  
· Silver Color Body.

### Dimensions



Mounting Dimension

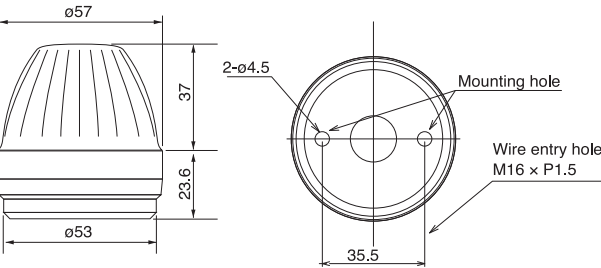


### KHE Type

Model	Rated Voltage	Color	Power Consumption	Current	Luminosity
KHE-24	24V DC (no polarity)	Red	8.2W	340mA	10cd
		Amber	8.2W	340mA	15cd
		Green	10.1W	420mA	15cd
		Blue	21.6W	900mA	3cd

### Dimensions

### NE-24 Type



Model	NE-24				
Rated Voltage	24V DC (No polarity) NPN/PNP open collector				
Operating Voltage Range	21.6V ~26.4V DC				
Power Consumption	Red 0.63W	Amber 0.63W	Green 0.56W	Blue 0.53W	Clear/White 0.45W
Operating Temperature Range (Relative humidity)	-30°C~+ 50°C (Less than 90%)				
Mounting Place	Indoor & Outdoor				
Mounting Direction	Upright, Upside down & Horizontal				
Protection Rating	IP65				
Vibration Proof	19.6m/s <sup>2</sup>				
Luminosity Intensity	Red 100mcd	Amber 400mcd	Green 340mcd	Blue 100mcd	Clear/White 460mcd
Mass	55g				

# PEW / PES

## Signal Light



LED



85dB at 1m  
(PEW-B only)

Electronic Sound 1  
(PEW-B only)

Ø82

IP55\*

NPN  
Open collector

\*PES: IP55 with rubber gasket SZ-210 (IP23 without SZ-210)

\*PEW: IP54 (IP23 : Using the side wire exit)

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

- Newly Developed Triple-reflection System: For enhanced visibility and low power consumption.
- Flashing Cycles: 3 patterns —60/120/180 fpm, selectable by a switch.
- PEW-B type: Built-in audible alarm with adjustable volume up to 85dB at 1m.
- Maintenance-free: LED's power consumption is approx. half of incandescent bulb type (100V/200V AC).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Dome: Superior weather resistant and light translucent acrylic resin.
- PEW: IP54 (IP23 : Using the side wire exit); PES: IP55 (with optional rubber gasket SZ-210, IP23 without SZ-210).
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 24V type).
- UL Recognized Component (File No. E215660) (for 24V, 120V, 230V type only).

### Available by Special Order

- Silver Color Body.
- IP65: PEW type only.



Max. 85dB at 1m

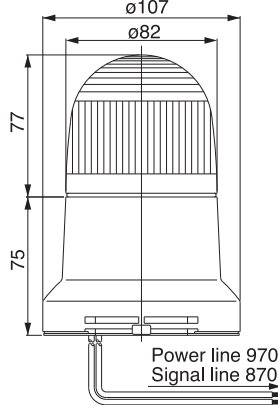
PEW type

PES type

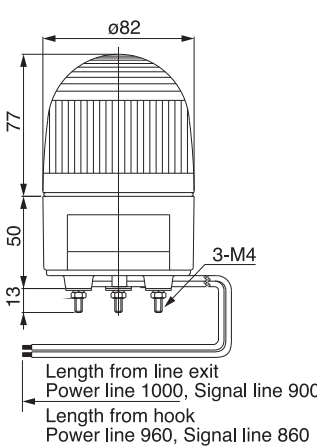
Optional  
Rubber Gasket  
SZ-210

## Dimensions (PEW, PES)

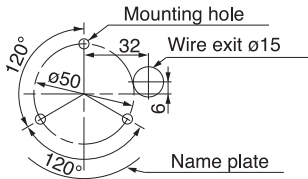
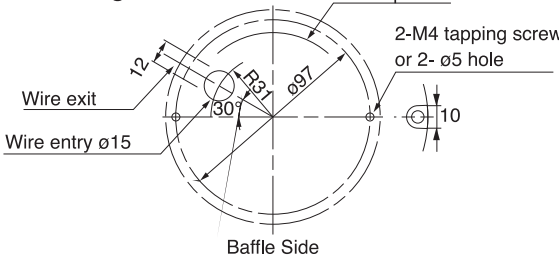
PEW



PES



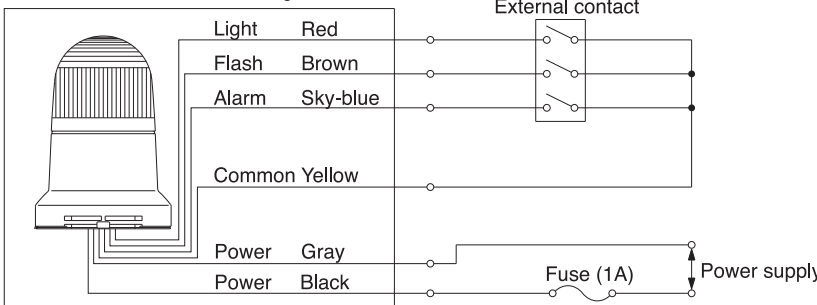
Mounting Dimension



(Unit: mm)

## Wiring Diagram

All models have the same wiring.



\* Skyblue line exists on buzzer type only.

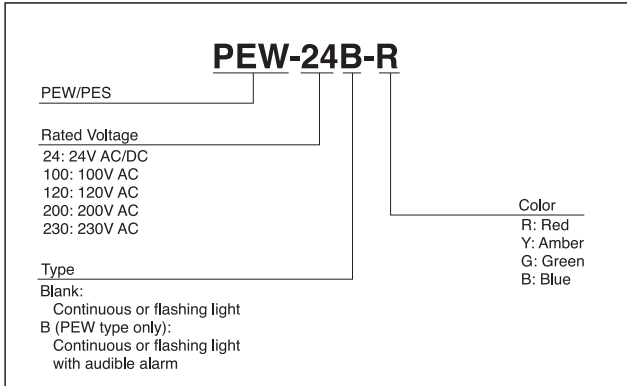
Transistor Operation Example

Transistor	NPN	Voltage proof	$V_c \geq 35V$
Current capacity	$I_c \geq 100mA$	Current leak	$I_L \leq 1mA$

## PEW/PES Type

Model	Rated Voltage	Power Consumption	Flashes per minute	Mass
PEW-24	24V AC/DC	2.5W	Approx. 180 times/minute	0.32kg
PES-24		1.5W		0.24kg
PEW-24B		2.5W		0.34kg
PEW-100	100V AC	5.8W	Approx. 120 times/minute	0.52kg
PES-100		4.7W		0.43kg
PEW-100B		5.8W		0.54kg
PEW-120	120V AC	4.9W	Approx. 60 times/minute	0.52kg
PES-120		4.7W		0.43kg
PEW-120B		4.9W		0.54kg
PEW-200	200V AC	5.6W		0.52kg
PES-200		4.7W		0.43kg
PEW-200B		5.6W		0.54kg
PEW-230	230V AC	5.3W		0.52kg
PES-230		4.7W		0.43kg
PEW-230B		5.3W		0.54kg

## How to Order





PS / PSF  
Signal Light

KX  
Signal Light



Bulb



ø82

IP55 With SZ-210



Optional  
Rubber Gasket  
SZ-210



Xenon

ø100

IP55 With SZ-200A



Optional  
Rubber Gasket  
SZ-200A

Compact Signal Light featuring  
simple functionality suitable for small devices.

- Original Prism Cut Lens: For enhanced visibility and high illumination in every direction.
- Flashing Cycle: 60 flashes/min. for PSF type.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Superior impact and heat resistant ABS resin.
- Dome: Superior impact and heat resistant polycarbonate resin.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 24V type).

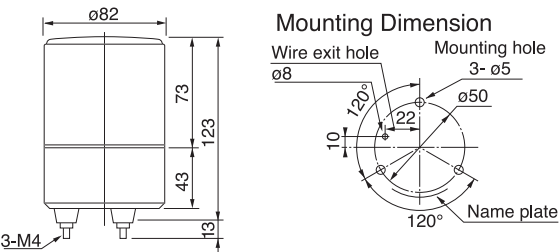
Xenon Signal Light featuring superior night-time visibility and  
adjustable flashing cycle.

- Newly Developed Prism Cut Lens: For bright illumination and improved visibility from all directions.
- Extended Bulb Life: Shock resistant xenon, even under severe vibration.
- Installation: Upright, inverted and sideways for indoors only.
- Main Body: Impact and heat resistant ABS resin.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Superior Visibility: Intensive flashing using a xenon lamp (night-time visibility: 1,000m or more).
- Flashing Cycle: Adjustable between 30~90 times/minute.
- IP55 with the optional Rubber gasket SZ-200A (IP23 without SZ-200A).
- Available Colors: Red, Amber, Green, Blue.
- UL Recognized Component (File No. E215660) (for 24V, 120V, 230V type only).

Available by Special Order  
· Silver Color Body.

Dimensions

PS / PSF Type



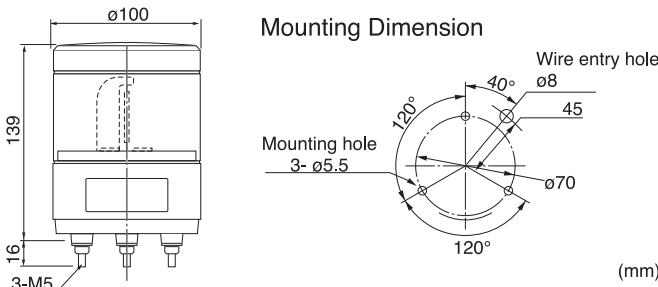
(mm)

Model	Rated Voltage	Flashes per Minute	Bulb	No.	Mass
PS-12/PSF-12	12V AC/DC	60 times/minute (PSF type)	12V 10W	9	0.3kg
PS-24/PSF-24	24V AC/DC		24V 10W	10	

Bulb...12V/24V-G18 BA15S

Dimensions

KX Type



(mm)

Model	Rated Voltage	Power Consumption	Rush Current	Flashes per Minute
KX-12	12V DC	8W	—	30~90
KX-24	24V DC		—	
KX-100	100V AC	4W	10A	
KX-120	120V AC		21A	
KX-220	220V AC			
KX-230	230~240V AC			

Inrush current of this product is very high. Please check the outer contact capacity.

XP

Signal Light

KPE

Signal Light

Xenon



ø162

IP23



LED

ø162

IP23

Drip-proof

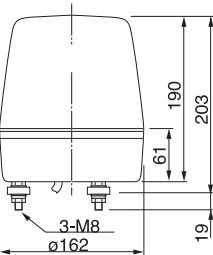
Corrosion-proof plastic Signal Light with triple flashing.

- Newly Developed Prism Cut Lens: For bright illumination and improved visibility from all directions.
- Superior Visibility: Intensive flashing using a xenon lamp (night-time visibility: 1,000m or more).
- Extended Bulb Life: Shock resistant xenon, even under severe vibration.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- Available Colors: Red, Amber, Blue.

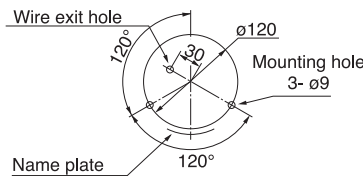
Revolving Warning Light featuring Corrosion-proof plastic, LED, adjustable flashing cycles, and maintenance-free design.

- Enhanced Illumination: Special high intensity illumination design for improved light diffusion, ensuring sufficient brightness, even outdoors.
- Flashing Cycle: Adjustable flashes between 50~200 times/minute with internal adjustment.
- Extended Bulb life: No bulb replacement needed with long-life LED, perfect for "hard-to-service" locations.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- No Motor: No more worn-out motor within electronic rotating light system.
- Main Body: Weather resistant special resin.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Stainless Mounting Bolts: Corrosion-proof screws, even in marine environment.
- Available Colors: Red, Amber.

Dimensions



Mounting Dimension

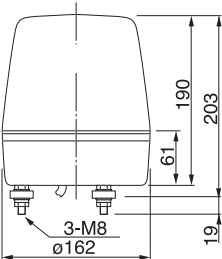


XP Type

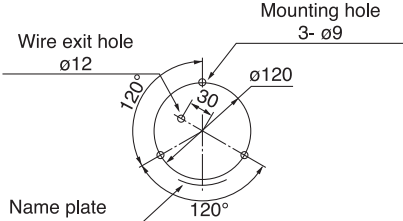
Model	Rated Voltage	Current	Flashes per Minute	Mass
XP-12	12V DC	1.4A	110	1.3kg
XP-24	24V DC	0.7A		1.2kg
XP-100	100V AC	0.4A		
XP-220	220V AC	0.2A		

Inrush current of this product is very high. Please check the external contact capacity.

Dimensions



Mounting Dimension



Mounting hole 3-ø9 (mm)

KPE Type

Model	Rated Voltage	Current	Flashes per Minute	Mass
KPE-100	100V AC	50mA/100mA	50~200 (revolution) 60 (flashes)	1.5kg
KPE-220	220V AC	30mA/50mA		

Operating Temperature Range: -30°C ~ +60°C



# Revolving Warning Light



# SKHE / SKHEB

1 chip super bright LED Revolving Warning Light



90dB at 1m  
(SKHEB type)

LED



ø118

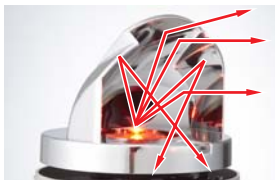
IP23



Compact LED revolving warning light featuring enhanced illumination with 1 chip super bright LED and new high dispersion reflection system.

- Colors available : Red, Amber, Green, Blue.
- SKHEB series has an internal alarm (hi-pitch tone 90dB at 1m ) that sounds with light operation.
- Compact Motor : High durability and energy-efficient.
- Energy-Efficient : Maintenance-free 1 chip super bright LED.
- Dome lens : Made of acrylic resin with superior weather resistance and light translucence.
- Installation : Indoors-Upright, inverted, sideways; Outdoors-upright only.
- Conforms to the CE requirements (for 12V, 24V type only).

Newly developed reflector for LED revolving warning light.

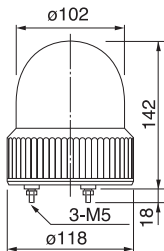


PATLITE LED revolving warning light uses a unique (patented) reflecting system solely designed for these models. Even though the dispersion effect of the LED unit is less than an incandescent bulb, PATLITE LED revolving warning light creates the equivalent dispersion effect with the light reflector.

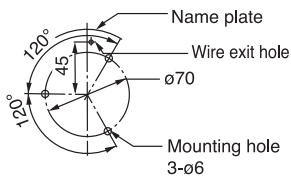


The newly designed reflector enables not only upward and sideways light reflections, but also downward light reflection that is not achieved by incandescent bulb type revolving warning lights. PATLITE LED revolving warning light is suitable for applications where high visibility from below is required.

## Dimensions



Mounting Dimensions



(unit: mm)

## SKHE Type

Size (mm)	Model	Rated Voltage	Current Consumption	Rotations per Minute	Mass
ø118	SKHE/SKHEB-12	12V DC	0.25A	120	0.4kg
	SKHE/SKHEB-24	24V DC	0.16A	120	0.4kg
	SKHE/SKHEB-100	100V AC	0.04A	120	0.6kg
	SKHE/SKHEB-200	200V AC	0.02A	120	0.6kg



# RKE / RKEB / RHE / RHEB

1 chip super bright LED Revolving Warning Light



LED

ø100

IP55 With SZ-200A  
(RKEB/RHEB type)

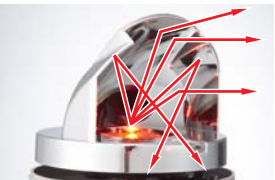


Optional  
Rubber Gasket  
SZ-200A

Compact LED revolving warning light featuring enhanced illumination with 1 chip super bright LED and new dispersion reflection system.

- Colors available: Red, Amber, Green, Blue.
- RHEB/RKEB series has an internal alarm (hi-pitch tone 90dB at 1m) that sounds with light operation.
- Compact Motor: High durability and energy-efficient.
- Energy-Efficient: Maintenance-free 1 chip super bright LED.
- Dome lens: Impact and heat resistant polycarbonate resin.
- Main Body: Impact and heat resistant ABS resin.
- Terminal Block: For easy wiring.
- Conforms to the CE requirements (for 12V, 24V type only).

Newly developed reflector for LED revolving warning light.

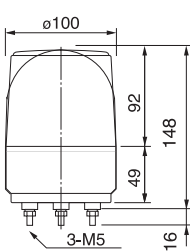


PATLITE LED revolving warning light uses a unique (patented) reflecting system solely designed for these models. Even though the dispersion effect of the LED unit is less than an incandescent bulb, PATLITE LED revolving warning light creates the equivalent dispersion effect with the light reflector.

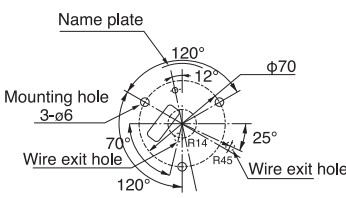


The newly designed reflector enables not only upward and sideways light reflections, but also downward light reflection that is not achieved by incandescent bulb type revolving warning lights. PATLITE LED revolving warning light is suitable for applications where high visibility from below is required.

## Dimensions



Mounting Dimensions



(unit: mm)

## RKE/RHE Type

Size (mm)	Model	Rated Voltage	Current Consumption	Rotations per Minute	Mass
ø100	RKE/RKEB-12 RHE/RHEB-12	12V DC	0.25A	120	0.4kg
	RKE/RKEB-24 RHE/RHEB-24	24V DC	0.16A	120	0.4kg
	RKE/RKEB-100 RHE/RHEB-100	100V AC	0.04A	120	0.6kg
	RKE/RKEB-200 RHE/RHEB-200	200V AC	0.02A	120	0.6kg



# RHEM/RKEM

1 chip super bright LED Revolving Warning Light

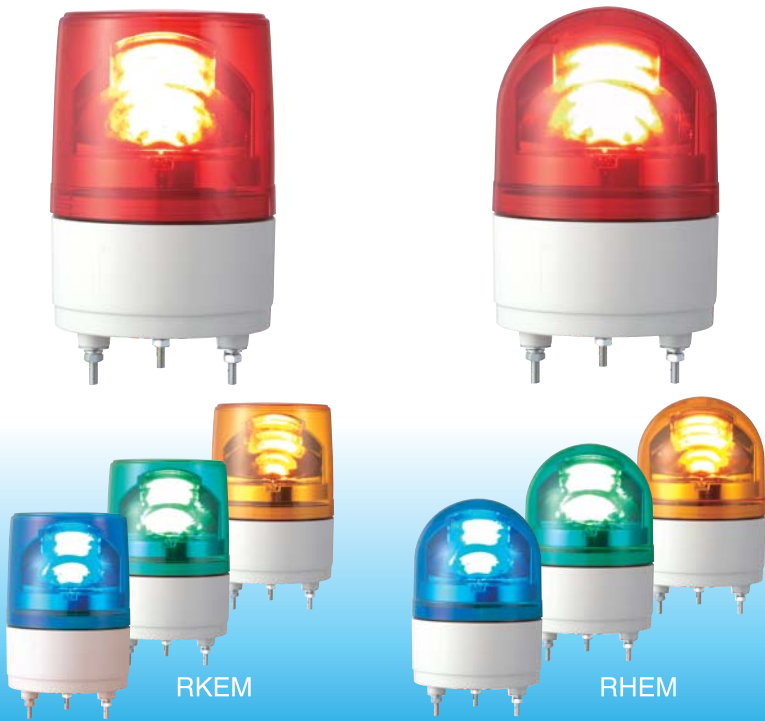


LED



Ø100

IP55 With SZ-200A



Optional  
Rubber Gasket  
SZ-200A

# RLE

Revolving Warning Light



LED

Ø82

IP55 With SZ-210

Drip-proof



Optional  
Rubber Gasket  
SZ-210

## Compact LED revolving warning light featuring enhanced illumination with 1 chip super bright LED and new dispersion reflection system.

- Colors available: Red, Amber, Green, Blue.
- Compact Motor: High durability and energy-efficient.
- Energy-Efficient: Maintenance-free 1 chip super bright LED.
- Dome lens: Impact and heat resistant polycarbonate resin.
- Main Body: Impact and heat resistant ABS resin.
- Terminal Block: Added for or easy wiring.
- Conforms to the CE requirements (for 12V, 24V type only).

Newly developed reflector for LED revolving warning light.



PATLITE LED revolving warning light uses a unique (patented) reflecting system solely designed for these models. Even though the dispersion effect of the LED unit is less than an incandescent bulb, PATLITE LED revolving warning light creates the equivalent dispersion effect with the light reflector.

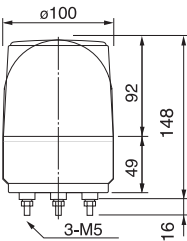


The newly designed reflector enables not only upward and sideways light reflections, but also downward light reflection that is not achieved by incandescent bulb type revolving warning lights. PATLITE LED revolving warning light is suitable for applications where high visibility from below is required.

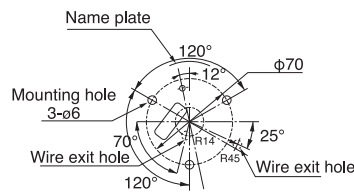
## LED Signal Light featuring energy-saving and enhanced illumination with LED integrated reflection system.

- LED Integrated Reflection System: For enhanced illumination.
- Compact Motor: High durability and energy-efficient.
- Energy-Efficient: Maintenance-free LED.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Impact and heat resistant ABS resin.
- Dome: Superior impact and heat resistant polycarbonate resin.
- Available Colors: Red, Amber, Green.

### Dimensions



#### Mounting Dimensions

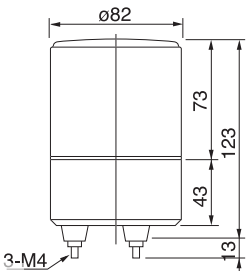


(unit: mm)

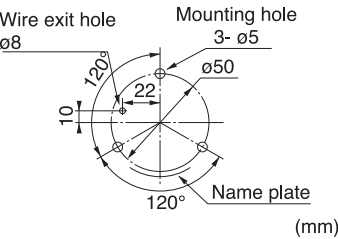
### RKE/RHE Type

Size (mm)	Model	Rated Voltage	Current Consumption	Rotations per Minute	Mass
Ø100	RKEM-12/24 RHEM-12/24	12V DC 24V DC	0.2A(12V DC) 0.14A(24V DC)	120	0.4kg
	RKEM-M2 RHEM-M2	100V AC~ 200V AC	0.02A~0.06A	120	0.4kg

### Dimensions



#### Mounting Dimension



### RLE Type

Model	Rated Voltage	Power Consumption	Rotations per Minute	Mass
ØRLE-12	12V DC	1.7W MAX	120	0.4kg
RLE-24	24V DC	3.9W MAX		0.6kg
RLE-100	100V AC	2W MAX		
RLE-220	220V AC	2W MAX		

©: Special Order

# RLR

## Revolving Warning Light

RoHS

LED



ø162

IP66



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

- RLR complies with the RoHS Directive.
- Color : Red Amber Green Blue
- Conforms to the CE requirements (for 12V, 24V, 48V type)

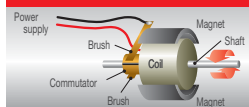
LED + Brushless Motor + Bearing Mechanism



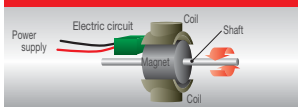
### Long Life

The RLR has many advantages compared to a rotating beacon with incandescent bulb and standard motor. The LEDs last approximately 20 times to 40 times longer than an incandescent bulb. The combination of the brushless motor and bearing mechanism allows the RLR to operate from 8,000 hrs to 10,000 hrs, compared to 5,000 hrs for other rotating beacons.

Structure of conventional motor



Structure of Brushless motor



**Vibration Resistance**

※Except RLR-M2



**High Visibility**



**High Protection**

#### IP66 TEST PROCEDURE

- ① **IPX6**=Water is sprayed for at least 3 minutes, at a flow rate of 100 L/min, from a distance of 2.5 m to 3.0 m, from a 12.5mm diameter jet hose nozzle, and from all directions - 360°
- ② **IP6X**=Unit is tested under-pressure in a dust chamber for 8 hours.

nModel Code

**Rated Voltage**  
O4 : 48V DC  
M1 : 12/24V DC  
M2 : 90V AC~250V AC

**RLR-04-P-R**

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

**Mounting Dimensions**  
Blank : φ140  
P : φ120



### Typical Vibration Values

2G (19.6m/s<sup>2</sup>)



Passenger Car

4.5G (44.1m/s<sup>2</sup>)



Construction Machinery

7G (68.6m/s<sup>2</sup>)



Emergency Vehicle

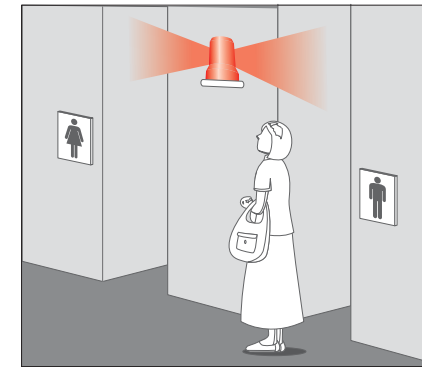
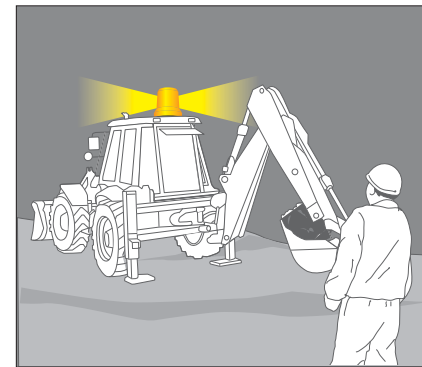
11G (107.8m/s<sup>2</sup>)



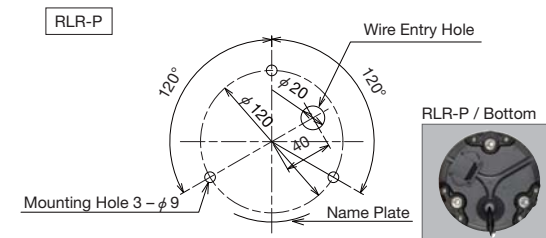
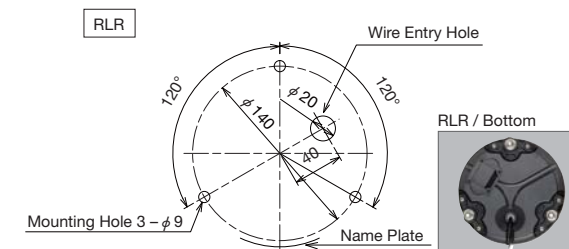
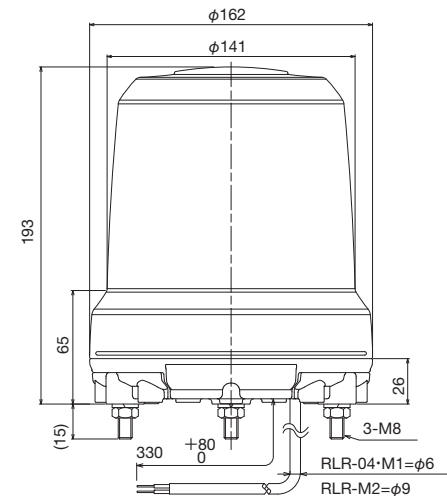
Dump Truck

### Application Examples

Construction Equipment, Forklift, Signboard, Public Facility, etc



### Dimensions



mm

### RLR Type

Model	Rated Voltage	Operating Voltage Range	Vibration Resistance	Operating Temperature Range	Dome	Mass
RLR-M1	12/24V DC	9.5~15V DC	110m/s <sup>2</sup> (11G)	-30°C~+70°C	-R (Red) -Y (Amber) -G (Green) -B (Blue)	1.0kg
RLR-04	48V DC	20~30V DC				
RLR-M2	90~250V AC	90~250V AC	45m/s <sup>2</sup> (4.5G)	-10°C~+50°C		1.06kg





# SKH-EA

Revolving Warning Light

# WH-A/WK-A

Revolving Warning Light

Bulb

ø100

IP23



Bulb

90dB at 1m  
(WHB-A type)

Electronic Sound 1  
(WHB-A type)

ø100

IP54  
(WHB: IP23)

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

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Extended Bulb Life: Vibration-resistant automobile bulb.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 12V, 24V type only).

Easy to attach to an electrical box and the terminal block allows easy wiring.



Installation in various directions is available for indoor use.



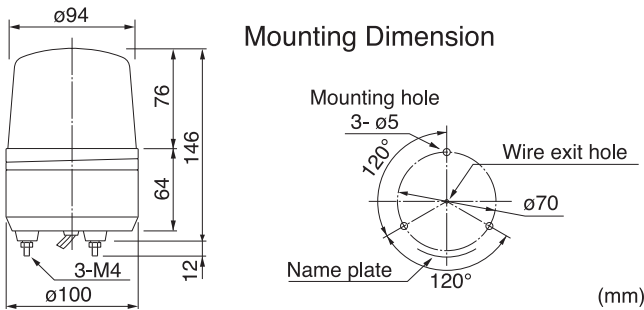
When installing the WHB, please keep it's buzzer outlet faced downward.

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

- Built-in Alarm: Audible sound volume up to 90dB at 1m, synchronized with light.
- Extended Bulb Life: Vibration-resistant automobile bulb.
- Installation\*: Indoors, Outdoors—upright, inverted, sideways.
- Terminal Block: For easy wiring.
- Main Body: Impact and heat resistant ABS resin.
- Dome: Superior impact and heat resistant polycarbonate resin.
- Compact Motor: Higher durability and energy-efficient.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 12V, 24V type only).

\* WHB type: upright only (outdoors).

### Dimensions



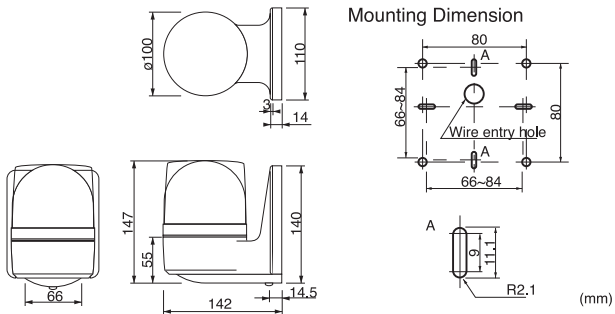
### SKH-EA Type (Beige Body)

USA Version						
Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
SKH-12EA	12V DC	0.8A	170	12V10W	9	0.4kg
SKH-24EA	24V DC	0.5A		24V10W	10	
SKH-120EA	120V AC	0.07A		12V5W	12	0.6kg
Bulb...G18 BA15S						

### SKH-EA Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
SKH-12EA	12V DC	0.8A	170	12V10W	9	0.4kg
SKH-24EA	24V DC	0.5A		24V10W	10	
SKH-100EA	100V AC	0.065A		12V5W	12	
SKH-200EA	200V AC	0.03A				
Bulb...G18 BA15S						

### Dimensions



### WH-A/WK-A Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
WH-12A/WK-12A	12V DC	1A	170	12V10W	9	0.55kg
WH-24A/WK-24A	24V DC	0.5A		24V10W	10	0.55kg
WH-100A/WK-100A	100V AC	0.07A		12V5W	12	0.75kg
WH-120A/WK-120A	120V AC	0.08A				
WH-200A/WK-200A	200V AC	0.04A				
WH-240A/WK-240A	240V AC	0.04A				
WHB-24A/WKB-24A	24V DC	0.5A		24V10W	10	0.55kg
WHB-100A/WKB-100A	100V AC	0.07A		12V5W	12	0.75kg
WHB-120A/WKB-120A	120V AC	0.07A				
WHB-200A/WKB-200A	200V AC	0.04A				
Bulb...G18 BA15S						



# SKH-A

## Revolving Warning Light

Bulb



90dB at 1m  
(SKHB type)

Electronic Sound 1  
(SKHB type)

ø118

IP56 (SKH-SA type)  
(others: IP23)



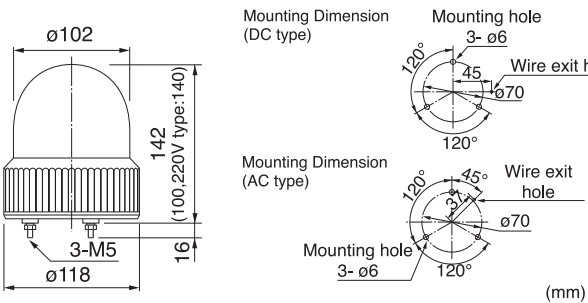
### Corrosion-proof plastic Revolving Warning Light for wide range of applications.

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Extended Bulb Life: Vibration-resistant automobile bulb.
- Built-in Alarm: Audible sound up to 90dB at 1m, synchronized with light function.
- Installation: Indoors—upright, inverted; Outdoors—upright only.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue, Purple.
- Conforms to the CE requirements (for 12V, 24V type only).

SKH-SA

- Installation: Indoors—upright, inverted.

#### Dimensions

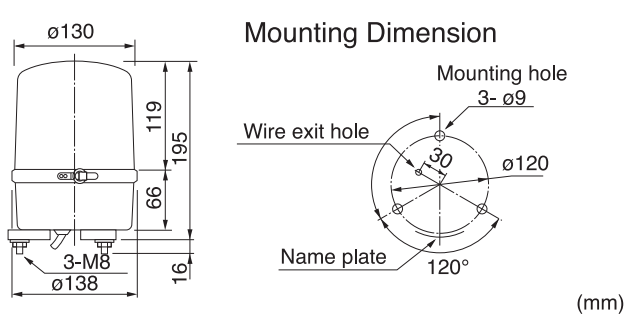


#### SKH-A Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
SKH-101A/SKHB-12A	12V DC	0.8A	170	12V10W	9	0.4kg
SKH-102A/SKHB-24A	24V DC	0.5A		24V10W	10	
SKH-110A/SKHB-100A	100V AC	0.065A				0.6kg
SKH-112A/SKHB-120A	120V AC	0.07A		12V5W	12	
SKH-120A/SKHB-200A	200V AC	0.03A				0.4kg
SKH-102SA	24V DC	0.5A		24V10W	10	
SKH-110SA	100V AC	0.1A		12V5W	12	0.6kg

Blub...G18 BA15S

#### Dimensions



#### SKP-A Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
SKP-101A	12V DC	2.6A	140	12V35W	1	0.8kg
SKP-102A	24V DC	1.2A		24V35W	2	
SKP-104A	48V DC	0.8A		48V35W	5	0.9kg
SKP-110ADC	100V DC	0.35A		120V40W	36	
SKP-110A	100V AC	0.3A	120	120V40W	6	1.0kg
SKP-120A	200V AC	0.13A		220V30W	37	

Bulb...12V/24V · RP35 BA15S 48V/120V/220V · RP35 BA15D ©: Special order

### Environment resistant and corrosion-proof Revolving Warning Light featuring silent and stable rotation.

- Rotary Mechanism: Gear-driven, for stable rotation under vibration.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Melamine baked finish with corrosion-proof stainless steel (SUS 304) lens mounting fixture.
- Dome: Superior impact and heat resistant polycarbonate resin.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 12V DC, 24V DC, 48V DC type)

# KP-A

## Revolving Warning Light



Bulb



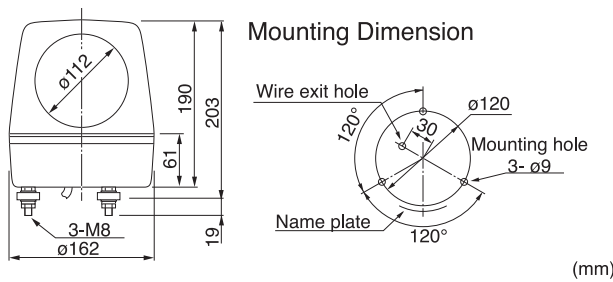
ø162

IP23

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

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Extended Product Life: Vibration resistant and reliable operation even under severe cold environment (-30°C).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Special UV and water-resistant resin.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Mounting Bolts: Drip-proof and rust-free stainless steel bolts.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 24V type).

### Dimensions



### KP-A Type

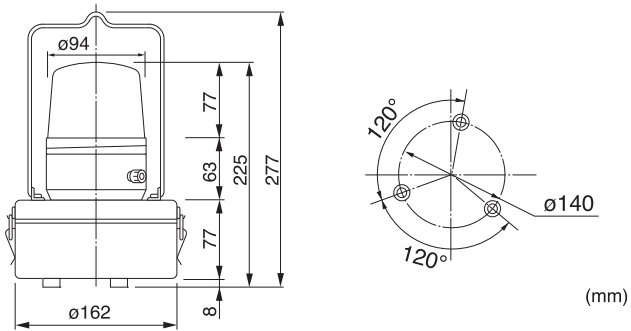
Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
KP-24A	24V DC	1.2A	140	24V35W	2	1.0kg
KP-100A	100V AC	0.3A		120V40W	6	1.2kg
KP-120A	120V AC	0.4A	120	220V30W	37	1.2kg
KP-200A	200V AC	0.13A				

Bulb: 24V · RP35 BA15S 120V/220V · RP35 BA15D

### Portable Revolving Warning Light with dry cell battery.

- Built-in Alarm: Operation selectable with external switch for light rotation with buzzer or light rotation only (solenoid buzzer sound).
- Battery Life: SUM-1 × 5: about 4 hours; LR20 × 5: about 15 hours.
- Installation: Upright only.
- Dome: Superior weather resistant and light translucent acrylic resin.
- 1006MA type: includes a powerful magnet for secure placement.
- Available Colors: Red, Amber.

### Dimensions



### SKHB-1006A Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
SKHB-1006D	SUM-1x5	0.6A	170	6V3W	8	1.8kg
SKHB-1006MD						1.9kg

Bulb: G18 BA15S



# SKL-A

Revolving Warning Light



Melamine Coated  
Finish Steel Body  
SKL-CA Type



Stainless Steel Body  
SKL-SA Type

Bulb



ø162

IP23

# HP

Revolving Warning Light



Halogen

ø182

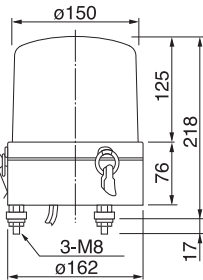
## Large Basic Revolving Warning Light with highly durable housing.

- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: SKL-CA - Scratch-free melamine baked finish;  
SKL-SA - Corrosion-proof stainless steel body (SUS304).
- Dome: Superior impact and heat resistant polycarbonate resin.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 12V DC, 24V DC, 48V DC type)

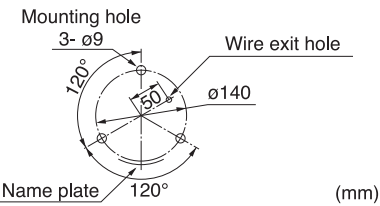
## Large Revolving Warning Light with solid design.

- Main Body: Impact and heat resistant ABS resin.
- Dome: Superior weather-resistant and light translucent acrylic resin.
- Voltage Range: 12V/24V DC.
- Available Colors: Red, Amber, Blue.
- Bulb: Halogen type (Sold separately).

### Dimensions



#### Mounting Dimension



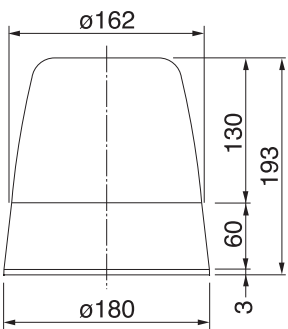
### SKL-A Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass	
SKL-101CA/101SA	12V DC	2.6A	140	12V35W	1	1.3kg	
SKL-102CA/102SA	24V DC	1.2A		24V35W	2		
◎SKL-102ACSA	24V AC			48V35W	5	1.4kg	
SKL-104CA	48V DC	0.8A		120V40W	6		
SKL-110CA/110SA	100V AC	0.3A		120	220V30W	37	1.5kg
SKL-112SA	120V AC	0.4A					
SKL-120CA/120SA	200V AC	0.13A					
Bulb:~12V/24V · RP35 BA15S 48V/120V/220V · RP35 BA15D				◎: Special Order			

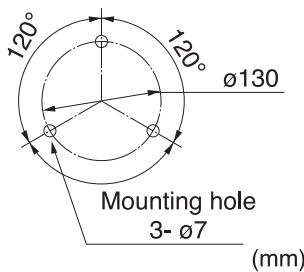
Bulb: 12V/24V · RP35 BA15S · 48V/120V/220V · RP35 BA15D

©: Special Order

### Dimensions



#### Mounting Dimension



### HP Type

Model	Rated Voltage	Halogen Bulb (Bulb is sold separately)	Rotations Per Minute	Mass
©HP-12/24	12V/24V DC	12V55W or 24V70W	160	1.0kg

Bulb: 12V 55W H1, 24V 70W H1

©: Special order

KG

Revolving Warning Light



Bulb



ø186

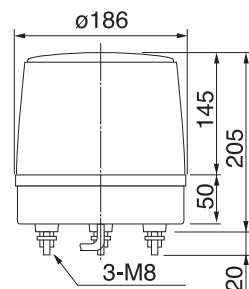
IP23

Dual-face Reflector

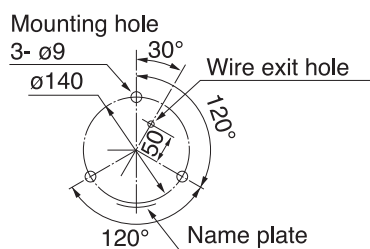
Light and large Revolving Warning Light with dual-face reflector.

- Dual-face reflector: For powerful rotary flash.
- Compact Motor: High durability and energy-efficient.
- Installation: Indoors: Upright, inverted, sideways. Outdoors: Upright only.
- Main Body: Black body for resistance to harsh weather and UV rays.
- Dome: Red: AS resin; Amber: PS resin.
- Available Colors: Red, Amber.

Dimensions



Mounting Dimension



(mm)

KG Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	Mass
KG-12	12V DC	2.7A	180	12V35W	0.7kg
KG-24	24V DC	1.2A		24V35W	
KG-100	100V AC	0.32A		120V40W	0.9kg

Bulb: RP35 BA15D

\*Please contact your local PATLITE representative for another rated voltage.

SKC-A

Revolving Warning Light



Bulb

ø187

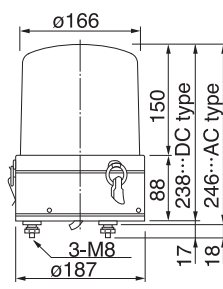
IP23

Dual-face Reflector

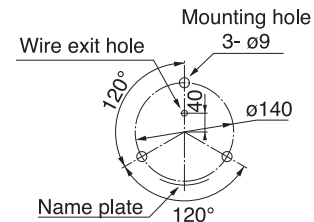
Large Revolving Warning Light featuring powerful flash using dual-face reflector.

- Dual-face reflector: For powerful rotary flash.
- Rotary Mechanism: Belt-drive, for extremely quiet and stable rotation.
- Compact Motor: High durability and energy-efficient.
- Extended Product Life: Vibration resistant and reliable operation even under severe cold environment (-30°C).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Melamine baked finish with corrosion-proof stainless steel (SUS 304) lens mounting fixture.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 12V, 24V type only).

Dimensions



Mounting Dimension



(mm)

SKC-A Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
SKC-201A	12V DC	2.6A	200	12V35W	1	1.6kg
SKC-202A	24V DC	1.2A		24V35W	2	
SKC-210A	100V AC	0.3A		120V40W	6	1.8kg
SKC-212A	120V AC	0.4A	160	220V30W	37	
SKC-220A	200V AC	0.13A				

Bulb: 12V/24V · RP35 BA15S 120V/220V · RP35 BA15D



# SKV-A

## Revolving Warning Light



Bulb



Ø204

IP66

# HKFM

## Revolving Warning Light



HKFM-101 type

HKFM-102 type



Bulb

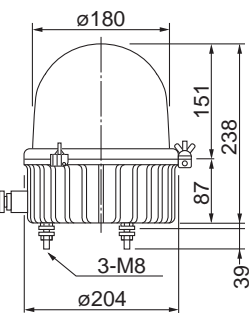
### Corrosion-resistant Revolving Warning Light.

- Installation: Upright, inverted, sideways.
- Main Body: Corrosion-resistant aluminum alloy die-cast with metal cable gland.
- Dome: Superior impact and heat resistant polycarbonate resin.
- Operating Temperature Range: -30 ~80 .
- Available Colors: Red, Amber.

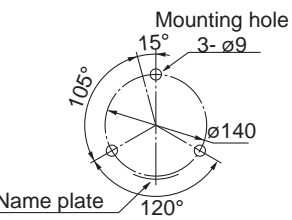
### Compact explosion-proof revolving warning light with parabolic reflector.

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Aluminum alloy die-cast with silver color baked finish.
- Dome: Acrylic resin covered with clear hard-glass, and metal guard.
- Product Standards: IEC Standards (IEC ExdIIB + H<sub>2</sub>T6) Zone1, 2 compliant.
- Approved by: TIIS.
- Available Colors: Red, Amber, Green, Blue.

### Dimensions



#### Mounting Dimension

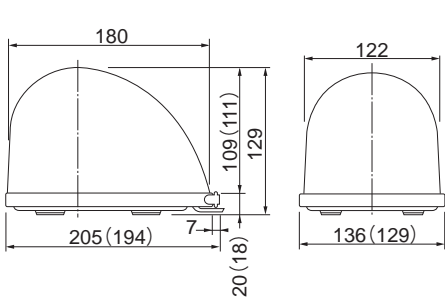


### SKV-A Type

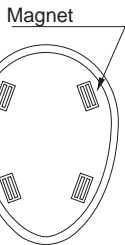
Model	Rated Voltage	Current	Rotations per Minute	Bulb	No.	Mass
SKV-101A	12V DC	2.6A	140	12V35W	1	2.6kg
SKV-102A	24V DC	1.2A		24V35W	2	
SKV-110A	100V AC	0.3A		120V40W	6	
SKV-120A	200V AC	0.13A	120	220V30W	37	2.8kg

Bulb: 12V/24V · RP35 BA15S 120V/220V · RP35 BA15D ©: Special order

### Dimensions



( ) HKFM-102 type



Cord length 4m  
With cigar lighter plug

(mm)

### HKFM Type

Model	Rated Voltage	Current	Rotations per Minute	Bulb	Mass
HKFM-101	12V DC	2.9A	230	12V35W	0.8kg
HKFM-102	24V DC	1.9A		24V55W	

Blub: BA15S

Secure this revolving light while driving to prevent it from falling.  
For lure to comply will result in danger to the vehicle behind.  
(Some local laws apply to use with moving vehicles.)

# KUS

## Cube Tower

LED



Bulb



80dB at 1m  
(KUS-B type)

Electronic Sound 1  
(KUS-B type)

70

IP54  
(except the KUS-B)



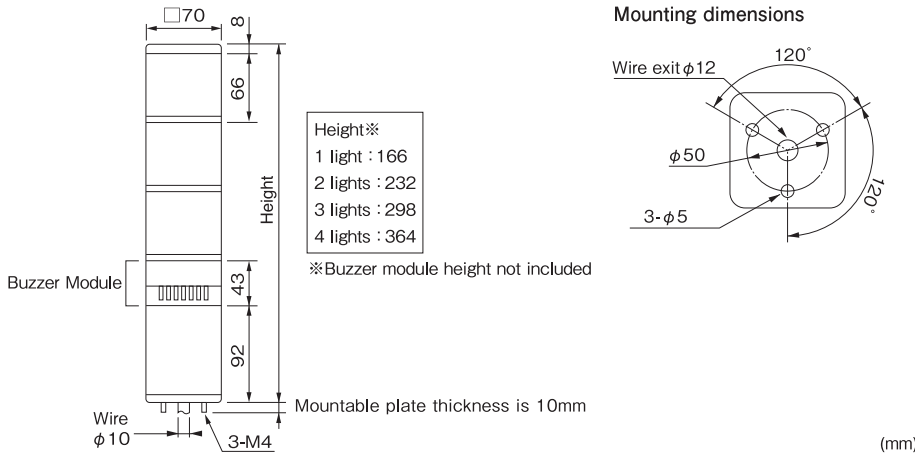
The KUS Series cube tower, with advanced technology, combines two different lights on one unit and has a modular design.

- IP Rating:IP-54(except the KUS-B).
- Lenses:Made of heat & shock resistant polycarbonate resin.
- Light modules can be stacked up to 4 tiers in any color combination.
- Each light module has a built-in dip switch to control the light on or off.
- Light units and base unit sold separately.
- Maximum operating capacity of base unit is 21 watts.
- KUS-F flashes 60 times a minute.

### Available by Special Order

- Conforms to the CE requirements.

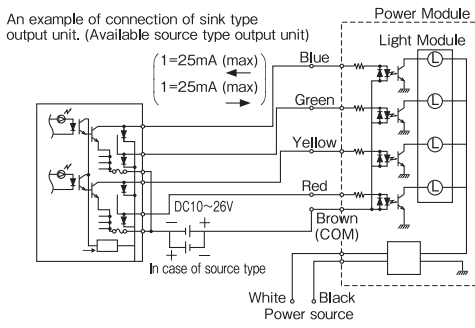
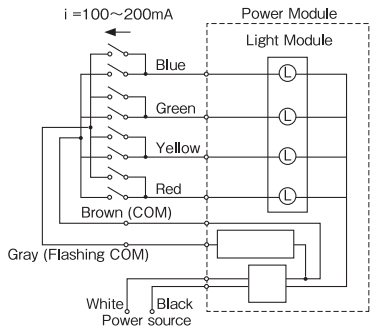
## Dimensions



## Wiring Diagram

Contact Input Type  
(KUS,KUS-F)

Open-collector Type  
(KUS-FC,C)



Transistor(NPN/PNP)

Model	NPN	PNP
Current Capacity	Ic>50mA	
Withstanding Voltage	Vc>45V	

Power source wire 0.75mm<sup>2</sup>: UL1007 : 400mm  
Signal wire 0.3mm<sup>2</sup>: UL1007 : 350mm

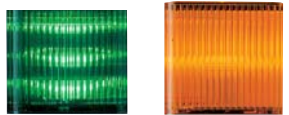
## KUS Type

### Power Module

Module Type	Model	Rated Voltage	Power Consumption
Continuous Lighting	KUS-24	AC/DC24V	Max.21W
	KUS-100	AC100V	
	KUS-120	AC120V	
	KUS-220	AC220V	
Continuous Lighting or Flashing	KUS-24F	AC/DC24V	
	KUS-100F	AC100V	
	KUS-120F	AC120V	
	KUS-220F	AC220V	
Continuous Lighting with Open-collector Wiring	KUS-24C	AC/DC24V	
	KUS-100C	AC100V	
	KUS-120C	AC120V	
	KUS-220C	AC220V	
Continuous Lighting or Flashing with Open-collector Wiring	KUS-24FC	AC/DC24V	
	KUS-100FC	AC100V	
	KUS-120FC	AC120V	
	KUS-220FC	AC220V	

Model	Rated Voltage	Power Consumption	Bulb	No.
KUS-S(Bulb)	DC24V	6W	24V 6W	19
KUS-EA (LED)	DC24V	R,Y : 1.2W/G,B,C : 0.9W		

Bulb : G14 BA9S



Model	Rated Voltage	Power Consumption	Volume
KUS-B	DC24V	0.5W	80dB (at 1m)*

\*Buzzer pressure 0~70db (at 1m) (24V type)





# KJS / KJSB

## Cube Tower

Bulb



85dB at 1m

Electronic Sound 1  
(KJSB type)

82

IP23

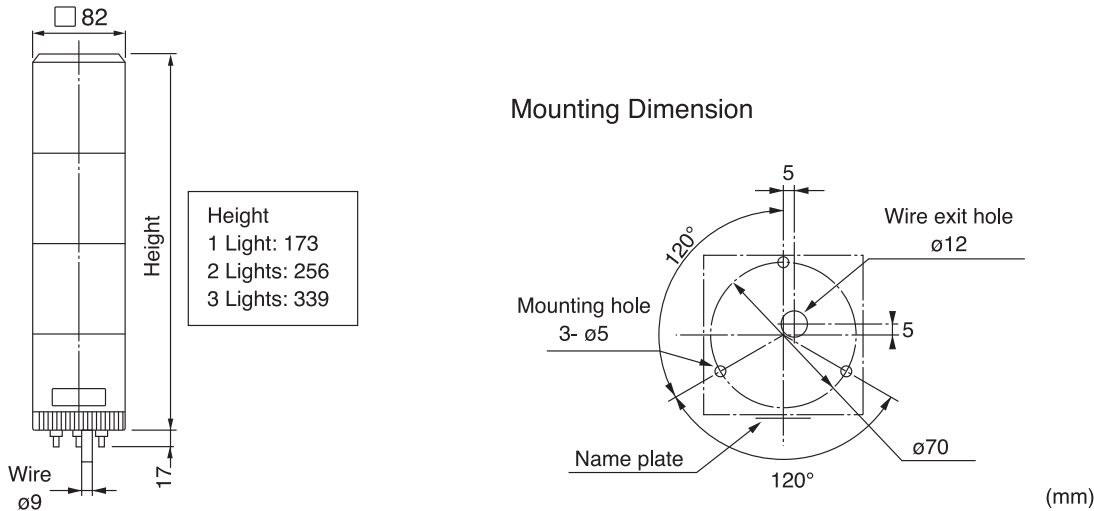
NPN  
Open collector



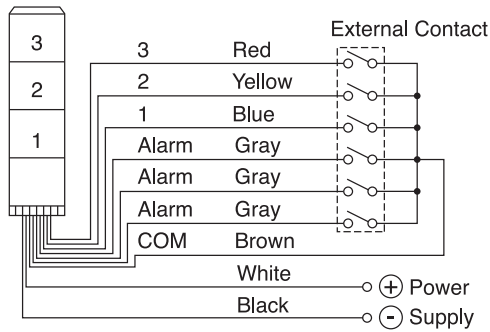
## Compact Cube Tower featuring built-in buzzer designed for applications with small equipment.

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Flashing Cycle: 160 times/min.
- Built-in Alarm: Intermittent buzzer volume up to 85dB at 1m.
- Installation: Upright only.
- Main Body: Impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- Spare Bulb: Included.
- Available Colors: Red, Amber, Green, Blue.

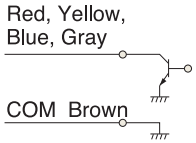
## Dimensions



## Wiring Diagram



NPN open collector transistor



Transistor Capacity (NPN)

Model	KJS (KJSB)
Current Capacity	Ic ≥ 50mA (Ic ≥ 300mA)
Withstanding Voltage	Vc ≥ 45V

- ※ KJS does not have gray wires.
- ※ Mind the polarity in case of DC power supply.

## Current consumption and contact capacity per module

Rated Voltage	Lamp Wire Current	Alarm Wire Current	Lamp Wire Contact Capacity	Alarm Wire Contact Capacity
12V DC	34mA	100mA	50mA or more	300mA or more
24V DC				
100V AC				
120V AC				
220V AC				

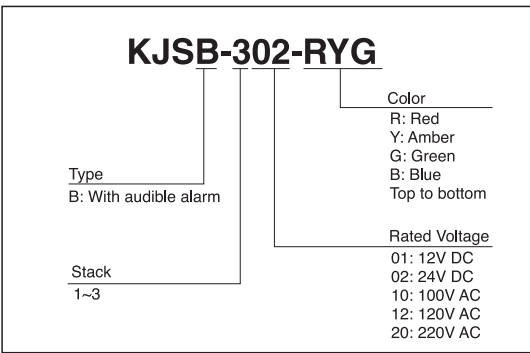
## KJS / KJSB Type

Number of Stacks	Model	Rated Voltage	Power Consumption	Bulb	No.
1 Light	KJS/KJSB-101	12V DC	6W	12V 5W	12
	KJS/KJSB-102	24V DC	12W	24V 10W	10
	KJS/KJSB-110	100V AC	8W	12V 5W	12
	KJS/KJSB-112	120V AC			
	KJS/KJSB-120	220V AC			
2 Lights	KJS/KJSB-201	12V DC	11W	12V 5W	12
	KJS/KJSB-202	24V DC	24W	24V 10W	10
	KJS/KJSB-210	100V AC	16W	12V 5W	12
	KJS/KJSB-212	120V AC			
	KJS/KJSB-220	220V AC			
3 Lights	KJS/KJSB-301	12V DC	16W	12V 5W	12
	KJS/KJSB-302	24V DC	35W	24V 10W	10
	KJS/KJSB-310	100V AC	23W	12V 5W	12
	KJS/KJSB-312	120V AC			
	KJS/KJSB-320	220V AC			

Bulb...G18 BA15S

KJSB type approx. 160 flashes per minute.

## How to Order



# KJ / KJB

## Cube Tower

Bulb



85dB at 1m  
(KJB type)

Electronic Sound 1

116

IP23

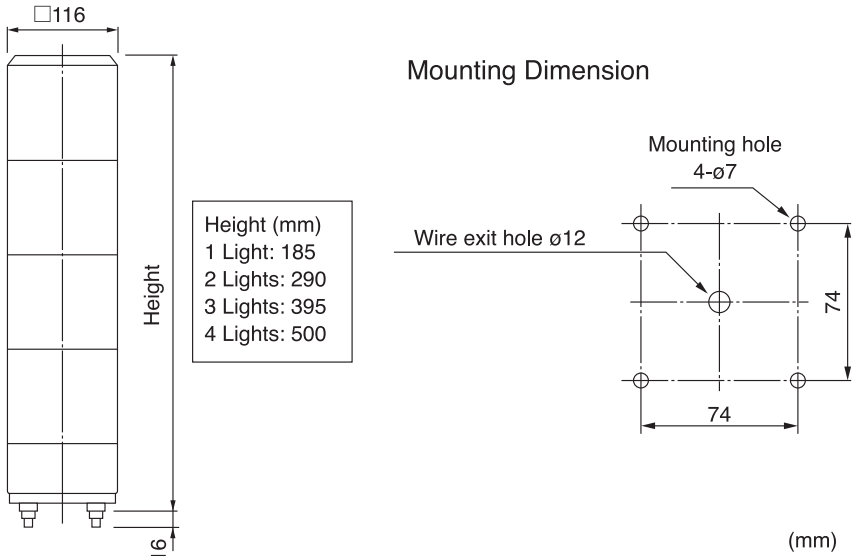


### Light-weight Cube Tower featuring built-in buzzer suitable for various indoor applications.

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Flashing Cycle: 130 times/min.
- Built-in Alarm: Adjustable intermittent buzzer volume up to 85dB at 1m.
- Installation: Upright only.
- Main Body: Impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- Spare Bulb: Included.
- Available Colors: Red, Amber, Green, Blue.

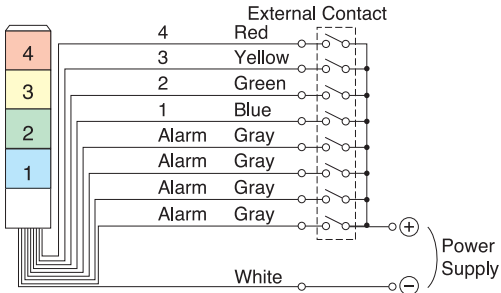
**Available by Special Order**  
• CE Compliance.

### Dimensions

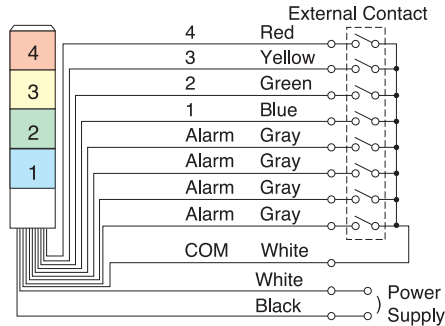


### Wiring Diagram

KJ/KJB (24V DC)



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



※ KJ-110/112/120 are voltage contact type (there are no alarm signal wires).  
※ KJ does not have gray wires.

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
100V AC/120V AC/220V AC					

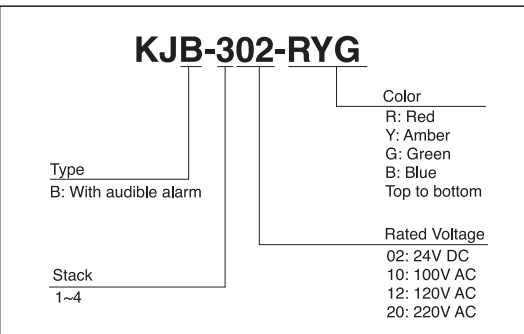
### KJ Type

Number of Stacks	Model	Rated Voltage	Power Consumption	Bulb	No.
1 Light	KJ/KJB-102	24V DC	13.5W	24V 10W	10
	KJ/KJB-110	100V AC	6W	12V 5W	12
	KJ/KJB-112	120V AC	7W		
	KJ/KJB-120	220V AC	5.5W		
2 Lights	KJ/KJB-202	24V DC	25.5W	24V 10W	10
	KJ/KJB-210	100V AC	11W	12V 5W	12
	KJ/KJB-212	120V AC	13W		
	KJ/KJB-220	220V AC	9.9W		
3 Lights	KJ/KJB-302	24V DC	37.5W	24V 10W	10
	KJ/KJB-310	100V AC	16W	12V 5W	12
	KJ/KJB-312	120V AC	18W		
	KJ/KJB-320	220V AC	14.3W		
4 Lights	KJ/KJB-402	24V DC	49.5W	24V 10W	10
	KJ/KJB-410	100V AC	21W	12V 5W	12
	KJ/KJB-412	120V AC	26W		
	KJ/KJB-420	220V AC	18.7W		

Bulb: G18 BA15S

KJB type approx. 130 flashes per minute.

### How to Order





# L.E.D. Light



# CLF

## LED Light Bar



CLF20-24-C

CLF10-24-C



CLF20-24-R

CLF10-24-R



CLF20-24-Y

CLF10-24-Y



LED



IP67

- Conforms to the CE requirements.
- UL Recognized Component (File No. E320434)



Vertical mounting

- High power 1,700lx illumination\* for precise work operation.
- Water and dustproof IP67 construction.
- Steady Light Source.
- The light emitted from the unit does not contain infrared or UV rays, which radiate heat and damage materials.
- Stable operation from -30°C to +60°C.

\* Luminous intensity at 50cm (CLF20-24-C)

Specifications of red color type and amber color type may be different from those of white color type



Clear/White

Machine tool,  
control panel applications

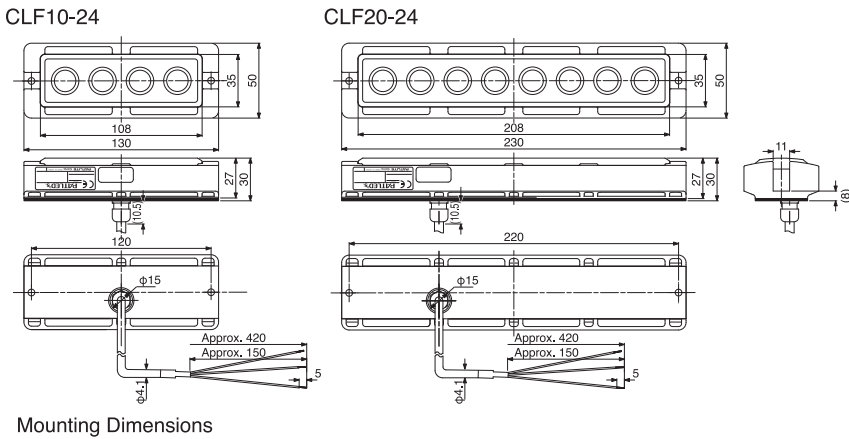
Red

Semiconductor  
manufacturing machinery,  
tester, etc.

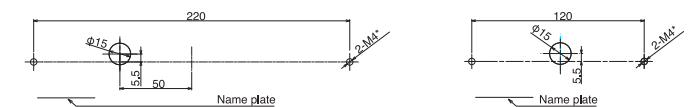
Amber

Semiconductor  
manufacturing machinery,  
cleanroom environment, etc.

## Dimensions



Mounting Dimensions



\* When mounting with supplied nuts :  $\phi 4.5$

(Unit : mm)

## CLF Type

Model	CLF10-24			CLF20-24		
LED Color	C	R	Y	C	R	Y
Rated Voltage	24V DC (No polarity)					
Operating Voltage Range	Rated voltage $\pm 10\%$					
Power Consumption	2.5W			5W		
Light Source	High intensity LEDx4			High intensity LEDx8		
Luminous Intensity at Optical Center (lx at 50cm)	850	240	320	1,700	470	630
Main Body	Housing: Aluminum			Cover: Polycarbonate		
Operating Temperature Range	-30°C ~ +60°C (No condensation 90% RH or less)					
Installation	Indoor, Forward Direction					
Protection Rating	IP67					
Vibration Resistance	19.6m/s <sup>2</sup>					
Mass	205g±10g			345g±10g		

## Oil resistant high power LED light bar with even and diffused light distribution.

- Oil, water and dustproof IP67F construction is ideal for harsh environments.
- Operation free from flicker and stroboscopic effects.
- 3 cable outlet versions are available for diversified mounting requirements.
- LED colors available in daylight color. Long service life and maintenance-free LED light bar is ideal for a machining center vision system, as well as food showcase food processing and packaging machine.

## CLT Type

Model	CLT30-24S-CD	CLT30-24L-CD	CLT30-24T-CD
LED Color	Day light Color		
Rated Voltage	24V DC		
Operating Voltage Range	Rated Voltage $\pm 10\%$		
Current Consumption	416mA $\pm$ 40mA		
Light Source	High intensity LED x 16 elements		
Luminous Intensity at Optical Center (lx at 50cm)	500		
Main Body	Housing: Aluminum, Cover: Tempered glass		
Operating Temperature Range	-30°C ~ +60°C (No condensation 90%RH or less)		
Mounting Direction	Any Direction (for indoor use only)		
Protection Rating	IP66G/IP67G JIS C 0920: 2003/Aqueous oil resistant (Company Standards)		
Vibration Resistance	19.6m/s <sup>2</sup>		
Mass	700g	750g	650g

# CLT

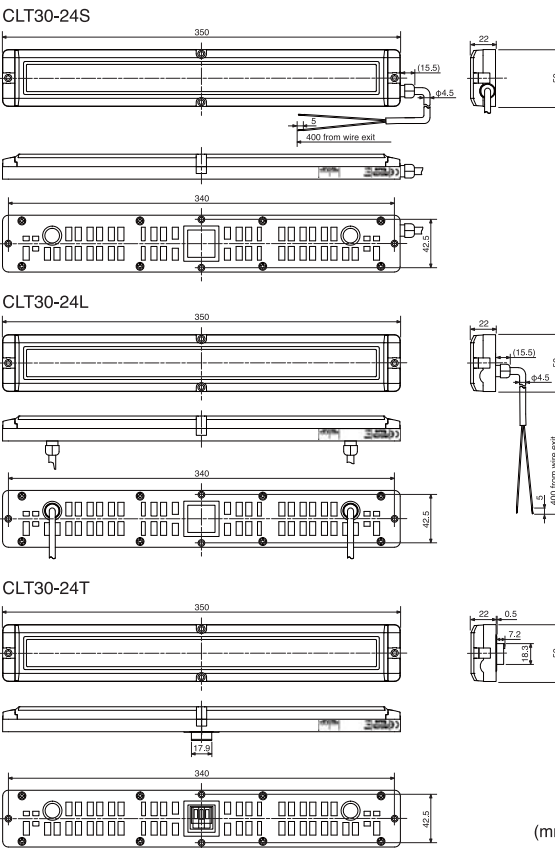
## LED Light Bar



IP67F

- Conforms to the CE requirements.
- UL Listed (File No. E306141)

## Dimensions



(mm)



# CLE

## LED Work Light



LED



ø71

IP65f



LED

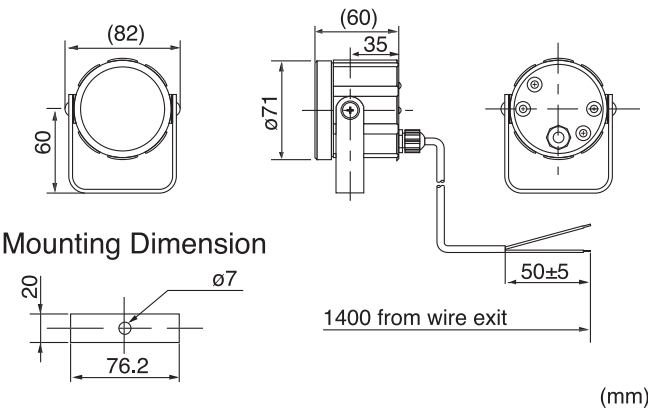
ø85

IP67f

### LED Work Light designed for applications for machine tool, inspection and processing industries.

- Enhanced Illumination: Uses ultra-bright LEDs.
- Extended product life, even in harsh environments.
- Energy-Efficient: Low power consumption and less heat build-up.
- Installation: Upright, inverted, sideways.
- Conforms to the CE requirements.

#### Dimensions

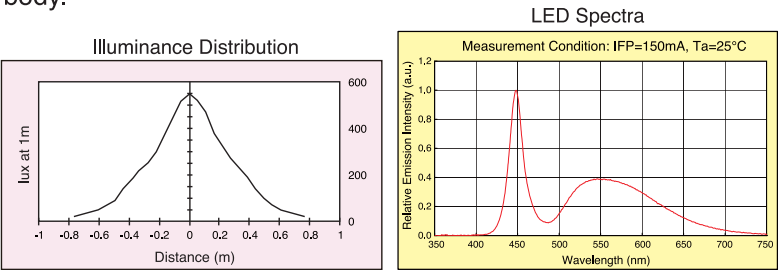


#### CLE Type

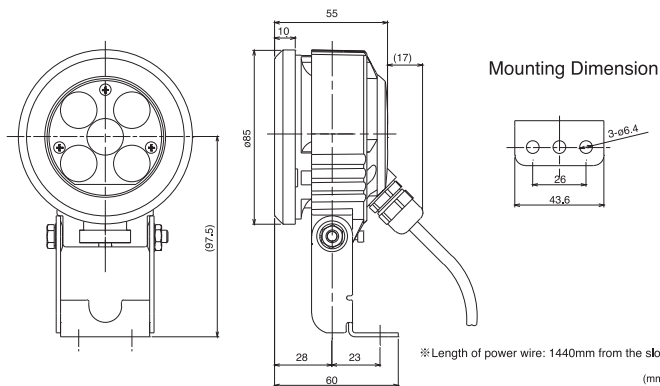
Model	Rated Voltage	Power Consumption	Luminosity	Mass
CLE-24	24V DC	3W	20cd	0.3kg
CLE-24N	24V DC	3W	130cd	0.3kg

### Super bright LED work light with resistance to weather, dust, oil and water.

- Enhanced Illumination: 5 super-bright white LEDs.
- Installation: Direct mount with 1 screw, 1 or 2 point angle-mount.
- Mounting Parts: Corrosion resistant stainless steel bracket and mounting screws.
- Main Body: Impact resistant robust aluminum alloy body.
- Glass: Impact-resistant tempered glass.
- Conforms to the CE requirements.
- UL Listed (File No. E306141)



#### Dimensions



#### CLM Type

Model	Rated Voltage	Power Consumption	Intensity Level	Temperature Range
CLM-24	24V DC (no polarity)	3.0W	500cd (center)	-25°C to +60°C

# LAS

## Warning Light



LED



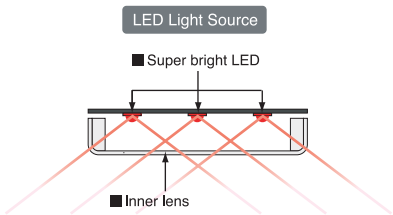
Water-  
Vibration- proof

12V  
24V Compatible

※Water-proof: JIS D 0203S1-1995  
Vibration-proof: 70m/s JIS D 1601-1995

### Super bright, compact energy-saving LED auxiliary warning light designed for emergency vehicles to ensure safety.

- Enhanced Illumination: Use of super bright LED with optimized special lens design for highest illumination and wide emission.
- Improved Visibility: Visible from the sides and front.
- Lighting Pattern: 10 built-in patterns and multiple units can be flashed synchronously.
- Installation: Direct mount with L-angle bracket.
- Available Colors: Red, Amber, Blue.



### LAS Type

Model	Rated Voltage	Operating Voltage Range	Flashing Pattern	Current Consumption				Operating Temperature Range	Mass
				Red / Amber		Blue			
LAS-M1KV	12V / 24V DC	9.5 ~ 30.0V DC	10 Patterns	560 ± 190mA (at 12V DC)	390 ± 110mA (at 24V DC)	830 ± 350mA (at 12V DC)	370 ± 150mA (at 24V DC)	-30°C ~ +80°C <sup>※</sup>	0.3kg

※Operating temperature range is -30°C~+40°C when all lit-up

# Alarm Products





BM

Signal Horn



90dB at 1m (BM-H type)  
(BM type: 85dB at 1m, BM-D type: 80dB at 1m)

2 channels

ø30

IP34  
(BM-D Type:Front only)

NPN/PNP  
Open collector



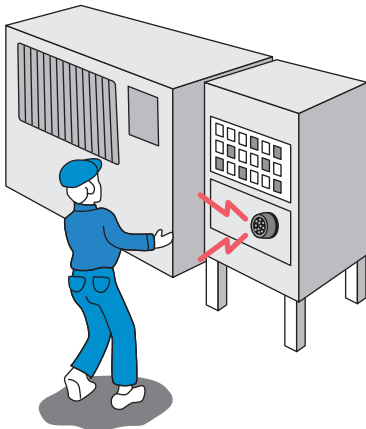
BM-D

Compact Signal Horn designed for integrated applications with control panels, switchboards and production equipment.

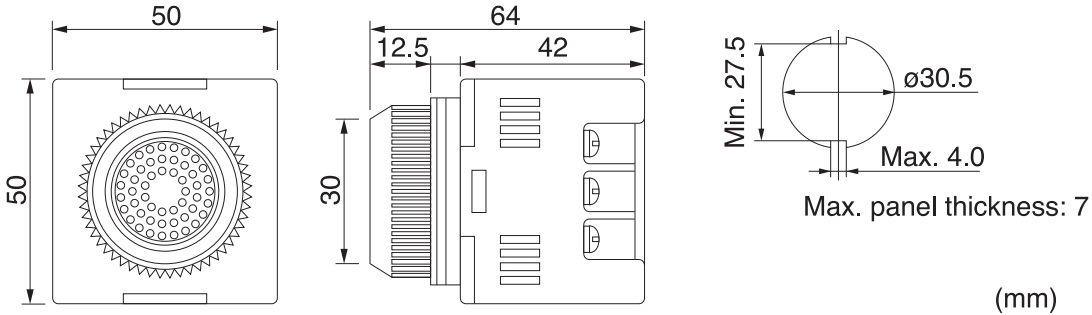
- Built-in Alarm: Audible sound up to 90dB at 1m<sup>\*1</sup>.
- Sound Pattern: Selectable 2 patterns of alarm sound.
- Body: Compact and lightweight (100g).
- NPN/PNP Compatible: 24V type only.
- CE Compliant: For 24V AC/DC only.

<sup>\*1</sup> BM-H type only

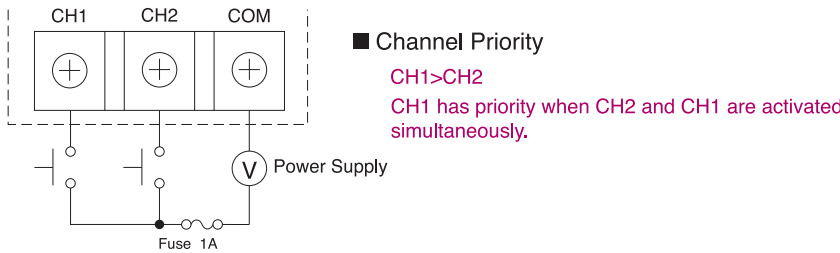
Application Examples



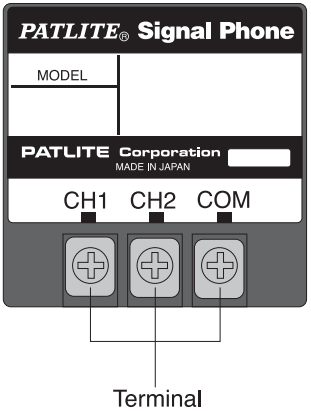
Dimensions



Wiring Diagram



Rear View



BM Type

Model	Rated Voltage	Voltage Range	Power Consumption	Volume	External Contact Capacity	Operating Temperature Range	Auxiliary Input	Channel	Protection	Mass
Standard Type	BM-202	24V AC/DC	AC/DC 22V~26V	0.4W	Max. 80dB at 1m	More than 100mA	-10°C~+60°C Humidity 85% or less.	Voltage contact	2	—
	BM-210	100V AC	90V~110V AC	2.5W	Max. 85dB at 1m					
	BM-220	220V AC	200V~240V AC	3.5W	Max. 85dB at 1m					
High Volume Type	BM-202H	24V AC/DC	22V~26V AC/DC	0.4W	Max. 85dB at 1m					
	BM-210H	100V AC	90V~110V AC	2.5W	Max. 90dB at 1m					
	BM-212H	120V AC	108V~132V AC	2.5W	Max. 90dB at 1m					
	BM-220H	220V AC	200V~240V AC	3.5W	Max. 90dB at 1m					
Drip-proof Type	BM-202D	24V AC/DC	22V~26V AC/DC	0.4W	Max. 75dB at 1m	Max. 80dB at 1m			IP34	0.1kg
	BM-210D	100V AC	90V~110V AC	2.5W	Max. 80dB at 1m					
	BM-220D	220V AC	200V~240V AC	3.5W	Max. 80dB at 1m					

BD

Audible Alarm



90dB at 1m

32 Sounds

80

IP54

NPN  
Open Collector

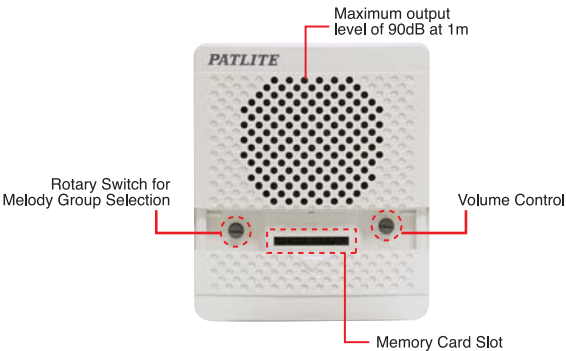


The BD series has a melody, chime and alarm capability, variable audible control, and a compact but loud speaker.

- Maximum output level of 90dB at 1m is suitable for use in a noisy factory.
- 32 sounds are pre-recorded in one unit which can 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).
- RoHS compliant.
- Conforms to the CE requirements (for 12V/24V type).
- UL Recognized Component (File No. E24210)

Available by Special Order

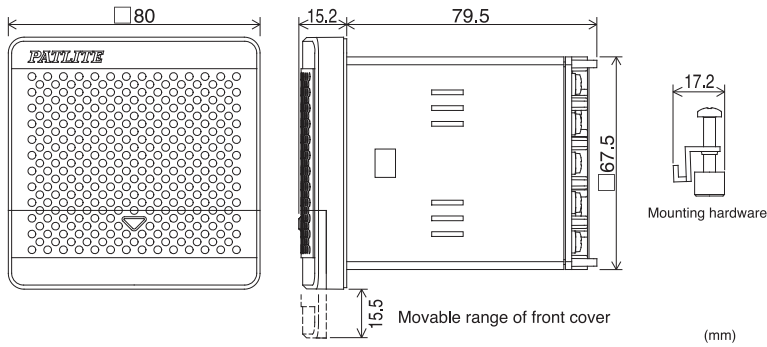
- Binary input controlled 15 sound playback type.
- PNP open collector transistor type.



BD Type

Model	BD-24□	BD-100□
Rated Voltage	12V/24V DC	100V / 220V AC 50/60Hz
Operating Voltage Range	10.8 ~ 26.4V DC	100V±10% AC / 220V±10% AC
Power Consumption	Max. 4W	Max. 6W
Volume	Max. 90dB at 1m (when flush mount), volume level adjustable Volume may be less, depending on sound type and operating conditions	
Input System	1bit input	
Input Signal Time	Continuous	
Boot up Time	For input voltage: 1s or less For channel signal: 170ms or less	
Channel	4 channels	
Recorded Sound	32 alarms and melodies	
Sound Group	16 patterns (A to P)	
Operating Temperature Range	-20°C ~ 50°C	
Relative Humidity	85% RH or less (No condensation)	
Protection Rating	IP54 (when flush mount, front direction only)	
Vibration Resistance	19.6m/s <sup>2</sup>	
Mass	205g±10%	325g±10%

Dimensions



Note: See page 177 for wiring diagram

Sound Selection Charts

BD-A type

GROUP	CH1	CH2	CH3	CH4
A <sub>#1</sub>	Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
B	Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
C	Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime	Chime	Call sign
D	Fur Elise	Maiden's Prayer	Chime	Call sign
E	Minuet	Annie Laurie	Chime	Call sign
F	London Bridge is Falling Down	Holdiridia	Chime	Call sign
G	Mary Had a Little Lamb	Camptown Races	Chime	Call sign
H	Kuck kuck	Der Schmied im Walde	Chime	Call sign
I	On the Bridge of Avignon	Daydream Believer	Chime	Call sign
J	Amaryllis	Mozart Symphony No. 40	Chime	Call sign
K	Itsy Bitsy Spider	Ich bin ein Musikante	Chime	Call sign
L	Jeux Interdits	Katuscha	Chime	Call sign
M	Grandfather's Clock	Ave Maria	Chime	Call sign
N	Holdiridia	Ich bin ein Musikante	Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime
O	Mary Had a Little Lamb	Jeux Interdits	Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime
P <sub>#2</sub>	Camptown Races	Kuck kuck	Katuscha	Grandfather's Clock

BD-D type

GROUP	CH1	CH2	CH3	CH4
A <sub>#1</sub>	Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
B	Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
C	Runner	Marmotte Agetai	Chime	Call sign
D	Oribiao Kikinagara	A September	Chime	Call sign
E	Doyoubino Koibito	Akino Kehai	Chime	Call sign
F	Saafu Tengoku Sukii Tengoku	Iro Howaitoburendo	Chime	Call sign
G	Hi Ho	Bear Song	Chime	Call sign
H	Konnako Irukana	Rudolph the Red-nosed Reindeer	Chime	Call sign
I	Oh My Darling Clementine	Yankee Doodle	Chime	Call sign
J	Runner	Marmotte Agetai	Oribiao Kikinagara	A September
K	Doyoubino Koibito	Hi Ho	Saafu Tengoku Sukii Tengoku	Iro Howaitoburendo
L	Happy Birthday	OKonnako Irukana	I've been working on the Railroad	Bear Song
M	Toys Go Cha Cha Cha	Konnako Irukana	Wiegenlied	Rudolph the Red-nosed Reindeer
N	She Wore a Yellow Ribbon	Oh My Darling Clementine	Yellow Rose of Texas	Yankee Doodle
O	When the Saints Go Marching In	Londonderry Air	Runner	Marmotte Agetai
P <sub>#2</sub>	Hi Ho	I've been working on the Railroad	Yankee Doodle	When the Saints Go Marching In

BD-C type

GROUP	CH1	CH2	CH3	CH4
A <sub>#1</sub>	Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
B	Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
C	Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime	Chime	Call sign
D	Can't Take My Eyes off of You	Top of the World	Chime	Call sign
E	The Entertainer	Amazing Grace	Chime	Call sign
F	Amairono Kamino Otome	Les Champs-Elysees	Chime	Call sign
G	Canon	Rara Sanshain	Chime	Call sign
H	Uchuusenkan Yamato	Oshiete	Chime	Call sign
I	Makenaide	Gonna Fly Now (Theme for "Rocky")	Chime	Call sign
J	I Don't Want to Miss a Thing	Yozorano Mukou	Chime	Call sign
K	Aiwa Katsu	Truth	Chime	Call sign
L	Gattsudaze	Odoru Ponpokorin	Chime	Call sign
M	Imasugu Kisu Mi	Haruyo Koi	Chime	Call sign
N	Les Champs-Elysees	Truth	Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime
O	Canon	Gattsudaze	Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime
P <sub>#2</sub>	Rara Sanshain	Uchuusenkan Yamato	Odoru Ponpokorin	Imasugu Kisu Mi

BD-E type

GROUP	CH1	CH2	CH3	CH4
A <sub>#1</sub>	Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
B	Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
C	Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime	Chime	Call sign
D	Oribiao Kikinagara	A September	Chime	Call sign
E	Doyoubino Koibito	Akino Kehai	Chime	Call sign
F	Saafu Tengoku Sukii Tengoku	Iro Howaitoburendo	Chime	Call sign
G	Hi Ho	Bear Song	Chime	Call sign
H	Konnako Irukana	Rudolph the Red-nosed Reindeer	Chime	Call sign
I	Fur Elise	Minuet	Chime	Call sign
J	Annie Laurie	Ave Maria	Chime	Call sign
K	Mary Had a Little Lamb	Camptown Races	Chime	Call sign
L	Amaryllis	Mozart Symphony No. 40	Chime	Call sign
M	Ave Maria	Grandfather's Clock	Chime	Call sign
N	Fur Elise	London Bridge is Falling Down	Chime	Call sign
O	Annie Laurie	Minuet	Chime	Call sign
P <sub>#2</sub>	Hi Ho	I've been working on the Railroad	Mozart Symphony No. 40	Ave Maria

\*1 Factory default setting \*2 Can be programmed with optional SD Card (SDV-128P/sold separately)

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded in BD-A, C and D types 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. BD-E type is recommended for use outside of Japan as this model does not include copyrighted music or songs, and permission is not required.





BK

Audible Alarm



95dB at 1m

(Actual sound level may vary depending on sound type.)

32 Sounds

IP54

NPN  
Open Collector

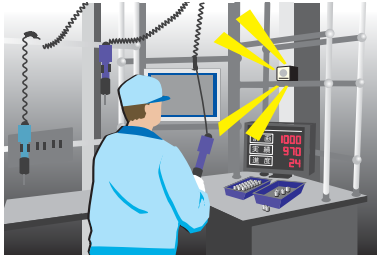
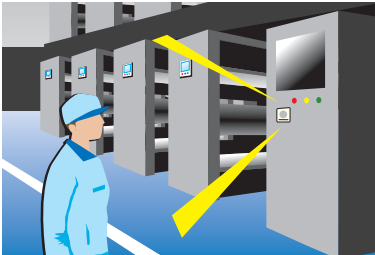


The BK series has melody, chime and alarm capability, variable audible control, and a compact but loud speaker.

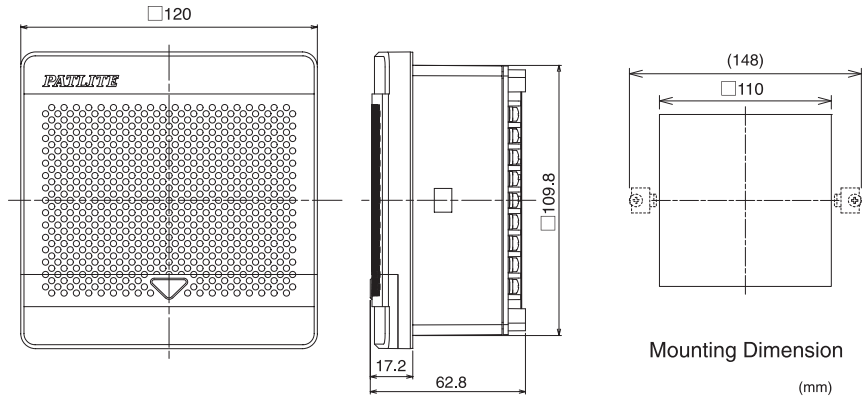
- 32 sounds are pre-recorded in one unit which can be used for various applications.
- Maximum output level of 95dB at 1m is suitable for use in a noisy factory.
- Volume output and sound groups can be changed easily by rotary switches stored inside of the front panel, even after installation.
- Select a sound group to playback 8 pre-recorded sounds (When controlled by bit input).
- A new sound group can be created from the 32 sounds with an optional SD card (Sold separately).
- RoHS compliant.
- Set the sound selection switch to test the function or volume level.
- Sound can be played back by a bit (8 channels) or binary (32 channels) input.
- Conforms to the CE requirements (for 12V/24V type).

Available by Special Order

- PNP open collector transistor type.



Dimensions



Note: See page 177 for wiring diagram

How to Order

BK-24A-J			
Model	Color		Sound Type
	J: Light Gray K: Dark Gray		
Rated Voltage			
24: 12-24V DC		A: Type A	
100: 100V AC		C: Type C	
220: 220V AC		D: Type D	
		E: Type E	

BK Type

Model	Rated Voltage	Voltage Range	Power Consumption	Volume	Operating Temperature Range	Channels	Protection Rating	Mass
BK-24	12-24V DC	10.8V~26.4V DC	12W	Max. 95dB at 1m*	-20°C~+50°C (Humidity 85% or less)		IP54 (when flush mount, front direction only)	350g±10%
BK-100	100V AC	100V AC±10%	10W					530g±10%
BK-220	220V AC	220V AC±10%	11W					530g±10%

\*Actual sound level will depend on sound type and operating conditions.

Sound Selection Chart

32 sounds are pre-recorded in one unit. 4 sound types are available.



BK-A

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter (rapid intermittent horn)	Synthesized Melody Chime	Chime	Call sign
Bel (clear high pitched bell)			
Fur Elise	Maiden's Prayer	Minuet	Annie Laurie
London Bridge is Falling Down	Holdiridia	Mary Had a Little Lamb	Camptown Races
Kuck kuck	Der Schmied im Walde	On the Bridge of Avignon	Daydream Believer
Amaryllis	Mozart Symphony No. 40	Itsy Bitsy Spider	Ich bin ein Musikante
Jeux Interdits	Katuscha	Grandfather's Clock	Ave Maria

BK-C

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter (rapid intermittent horn)	Synthesized Melody Chime	Chime	Call sign
Bel (clear high pitched bell)			
Can't Take My Eyes off of You	Top of the World	The Entertainer	Amazing Grace
Amairono Kamino Otome	Les Champs-Elysees	Canon	Rara Sanshain
Uchuusenkan Yamato	Oshiete	Makenaide	Gonna Fly Now (Theme for "Rocky")
I Don't Want to Miss a Thing	Yozorano Mukou	Aiwa Katsu	Haruyo Koi
Gattsudaze	Odoru Ponpokorin	Imasugu Kisu Mi	Truth

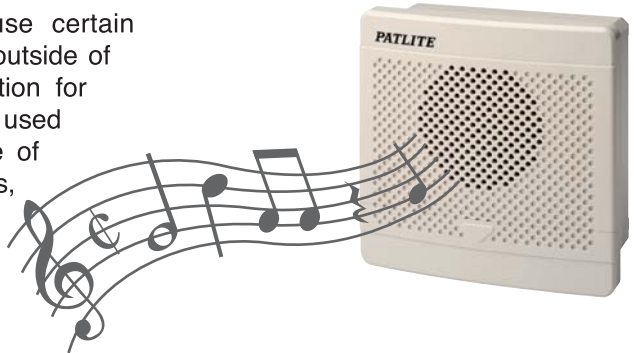
BK-D

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Runner	Marmotte Agetai	Chime	Call sign
Oribiao Kikinagara	A September	Doyoubino Koibito	Akino Kehai
Saafu Tengoku Sukii Tengoku	Iro Howaitoburendo	Happy Birthday	Hi Ho
I've been working on the Railroad	Bear Song	Toys Go Cha Cha Cha	Konnako Irukana
Wiegenlied	Rudolph the Red-nosed Reindeer	She Wore a Yellow Ribbon	Oh My Darling Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Air

BK-E

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Inverted Recelle	Annie Laurie
Stutter (rapid intermittent horn)	Synthesized Melody Chime	Galactic Motor	London Bridge is Falling Down
Bell (clear high pitched bell)	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	Gallopig Hi-Lo	Ringling Hi-Lo	Mozart Symphony No.40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Minuet in G	Grandfather's Clock

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded in BK-A, C and D types 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. BK-E type is recommended for use outside of Japan as this model does not include copyrighted music or songs, and permission is not required.



# EWH / EWHS

## Signal Horn



105dB at 1m

32 sounds

IP65

(IP65 available by special order)

NPN  
Open collector

Original wide horn featuring clear and high volume up to 105dB at 1m, designed for use in noisy environments.

- 32 sounds are pre-recorded in one unit.
- For enhanced durability and safety in the work environment.
- Built-in Alarm: Adjustable audible sound up to 105dB at 1m with volume control.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only. (Do not install the horn facing upward).
- Easy Installation: With anti-corrosive stainless steel mounting bracket.
- NPN Compatible: 24V type only (EWH series only).
- Conforms to the CE requirements (for 12V, 24V type).

Available by Special Order

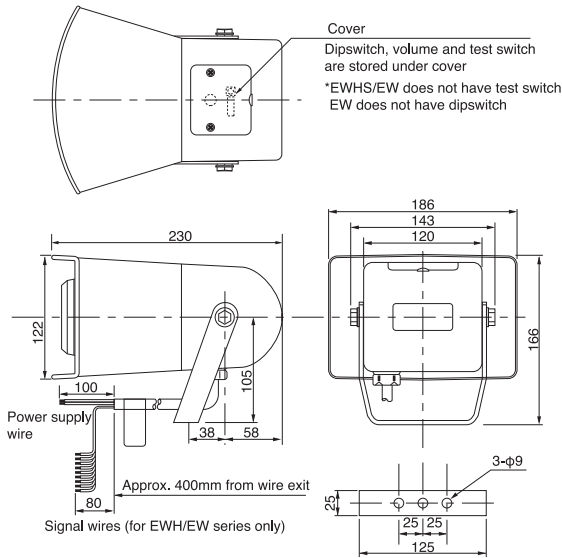
- PNP open collector type.

### EWH / EWHS Type

	Model	Rated Voltage	Voltage Range	Power Consumption	Volume	Outer Contact Capacity	Operating Temperature Range	Auxiliary Input	Channel	Protection	Mass
EWH	EWH-24	12/24V AC/DC	8V~28V AC/9V~35V DC	8W	Max. 105dB at 1m	EW: More than 10mA	-20°C~+60°C Humidity 85% or less.	EWH: Voltage free contact 8/1bit 32/binary	8/1bit or 32/binary	IP53 IP65*	1.2kg
	EWH-48	48V DC	35V~60V DC	10W							
	EWH-100	100V AC	90V~132V AC	12W							
	EWH-200	200V AC	180V~260V AC	13W							1.4kg
EWHS	EWHS-24	12/24V AC/DC	8V~28V AC/9V~35V DC	8W		EWH/EWHS: More than 5A		EWHS: Voltage contact	1		1.2kg
	EWHS-48	48V DC	35V~60V DC	10W							
	EWHS-100	100V AC	90V~132V AC	12W							
	EWHS-200	200V AC	180V~260V AC	13W							1.4kg

\* By special order

### Dimensions



### Nhà Phân Phối Đèn Báo Hiệu Patlite - Nhật Bản tại Việt Nam

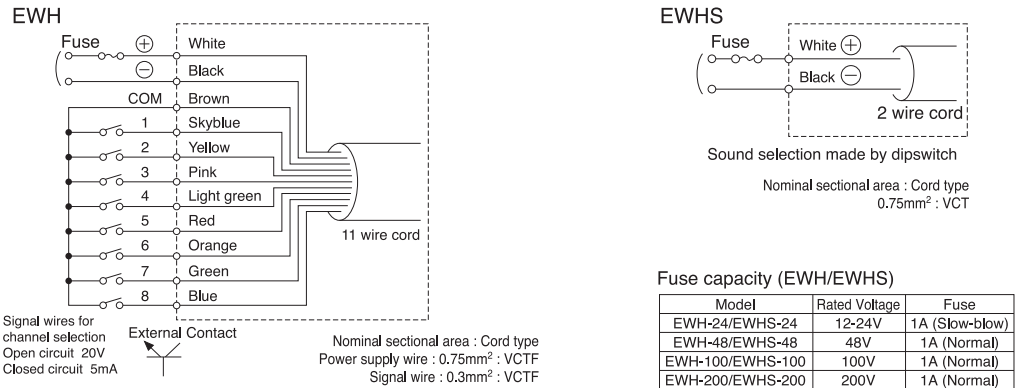
### How to Order

#### EWH-24A-J

Model	Body Color
EWH: 8 channels/bit input 32 channels/binary input EWHS: 1 channel	J: Ivory Y: Yellow R: Red
Rated Voltage	Sound type
24: 12/24V AC/DC 48: 48V DC 100: 100V AC 200: 200V AC	A: Type A C: Type C D: Type D E: Type E

**Test switch** (for EWH series only)  
Test switch is stored under cover. Switch can be used to check the operation or adjust sound volume.

### Wiring Diagram



**Channel priority (for EWH series)**  
8 (Blue) > 7 (Green) > 6 (Orange) > 5 (Red) > 4 (Lightgreen) > 3 (Pink) > 2 (Yellow) > 1 (Skyblue)  
The greater number has priority when any of the channels are activated simultaneously.  
Polarity symbol of power source is for EWH and EWHS series, in 12/24V DC and 48V DC types.

### Sound Selection Charts

32 sounds are pre-recorded in one unit. 4 sound types are available.

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter (rapid intermittent horn) Bell (clear high pitched bell)	Synthesized Melody Chime	Chime	Call sign
Fur Elise	Maiden's Prayer	Minuet	Annie Laurie
London Bridge is Falling Down	Holdiridia	Mary Had a Little Lamb	Camptown Races
Kuck kuck	Der Schmied im Walde	On the Bridge of Avignon	Daydream Believer
Amaryllis	Mozart Symphony No. 40	Itsy Bitsy Spider	Ich bin ein Musikante
Jeux Interdits	Katuscha	Grandfather's Clock	Ave Maria

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Runner	Mamotte Agetai	Chime	Call sign
Oribiao Kikinagara	A September	Doyoubino Koibito	Akino Kehai
Saafu Tengoku Sukii Tengoku	Iro Howaitoburendo	Happy Birthday	Hi Ho
I've been working on the Railroad	Bear Song	Toys Go Cha Cha Cha	Konnako Irukana
Wiegenlied	Rudolph the Red-nosed Reindeer	She Wore a Yellow Ribbon	Oh My Darling Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Air

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Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter (rapid intermittent horn) Bell (clear high pitched 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 Sanshain
Uchuusenkan Yamato	Oshiete	Makenaide	Gonna Fly Now (Theme for 'Rocky')
I Don't Want to Miss a Thing	Yozorano Mukou	Aiwa Katsu	Haruyo Koi
Gattsudaze	Odoru Ponpokorin	Imasugu Kisu Mi	Truth

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Inverted Receille	Annie Laurie
Stutter (rapid intermittent horn)	Synthesized Melody Chime	Galactic Motor	London Bridge is Falling Down
Bell (clear high pitched bell)	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	Minuet in G	Grandfather's Clock



# Voice & Sound





## STEP 1

### Get the Playlist Editor

The playlist Editor is free software from Patlite.  
Please contact us by e-mail at [www.patlite.com](mailto:www.patlite.com).

## STEP 2

### Get the model SDV-128P

The model SDV-128P is an SD card from PATLITE.  
The PATLITE corporation is a member of the SD card Association.

## STEP 3

### Create the MP3 messages

Convert the voice message data into MP3 data.  
\*Remove the "ID3" tags for the model WG only.

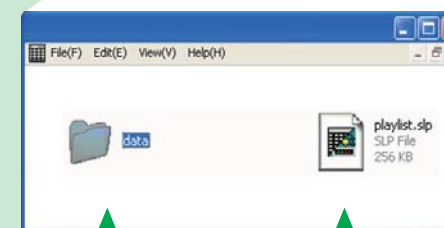
## STEP 4

### Save the MP3 data onto the SD card

## STEP 5

### Load the MP3 data into the product

#### Preparing the SD Card



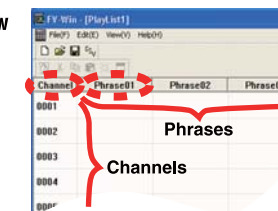
#### Playlist Editor (FV-Win)

With Windows XP/Windows Vista\*,  
and PATLITE software,  
You can download from the Web.

#### Creating Play List Using Playlist Editor

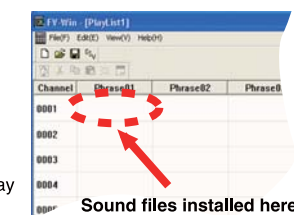
##### Playlist Editor Overview

1. Divided into Channel & Phrases
2. Start software



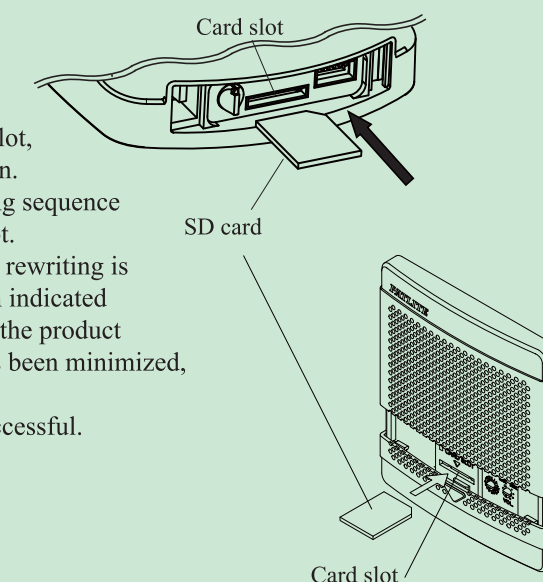
##### Step2

1. Insert Sound files in appropriate channel & phrase
2. After all files are installed, save file as "playlist.slp"
3. This completes the play list creation.



### Example (BKV, LKEH)

- (1) Open the front cover.  
(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)



#### Please

- It is recommended to use Model SDV-128 (sold separately). Using other SD Cards is not guaranteed for proper operation.
- Use "FAT16" when formatting the SD Card.
- 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



87dB at 1m

63 Second

IP54  
Upright direction only.

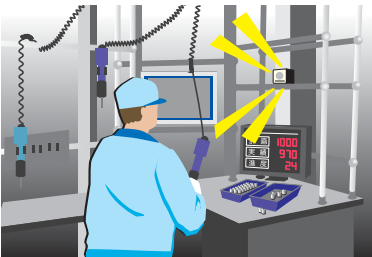
NPN  
Open Collector



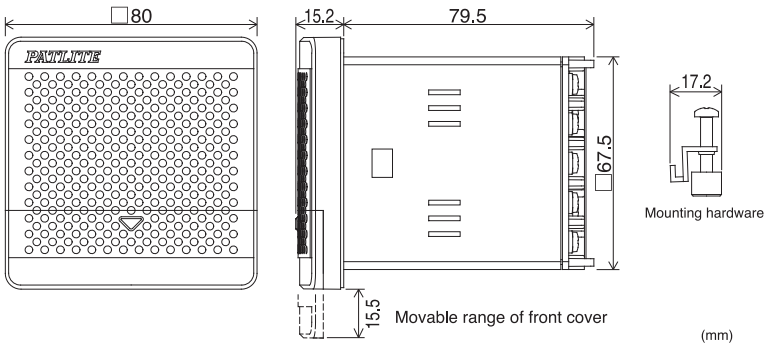
Excellent sound quality with MP3 playback! This panel-mounted MP3 voice annunciator uses SD cards,\* allowing messages to be changed easily.

\* SD card not included.

- 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 dis-mounting 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)



### Dimensions



Note: See page 177 for wiring diagram

### How to Order

**BDV-15JF-J**

Rated Voltage  
J: 12-24V DC  
K: 100V/220V AC

Color  
J: Ivory White  
K: Dark Gray

### BDV Type

Model	Rated Voltage	Voltage Range	Power Consumption	Volume	Voice File	Relative Humidity	Maximum Playing Time	Number of playing messages	Protection Rating	Mass
BDV-15JF	12-24V DC	10.8V~26.4V DC	4W	Max 87dB (at 1m)	MPEG1-Audio Layer (mp3) Standard bit rate : 64kbit/s, Fs=44.1kHz	-10 ~ +50 (Less than 85%RH)	63sec.	4 (Bit input) 15 (Binary input)	IP54 When flush mounted	0.22kg
BDV-15KF	100/220V AC	100V AC±10% 220V AC±10%	5W							0.34kg

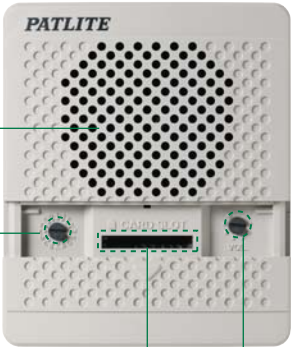
\* Actual sound level will depend on sound type and operating conditions.

### Sound Selection Charts

Mode Selector Switch

Several playback modes are available for various 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 10 dB.
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 10 dB.
E Bit input/ prioritized-message playback mode	Plays back up to 4 messages using Channels 1 to 4 If an audio message is input while another audio message is being played back, the current playback is stopped and the most recently input message is played back.
F Binary input/ prioritized-message playback mode	Plays back up to 15 messages using Channels 1 to 4 If an audio message is input while another audio message is being played back, the current playback is stopped and the most recently input message is played back.
G Bit input/ held-message playback mode	Plays back up to 4 messages using Channels 1 to 4 An audio message can be played back only while the input is held. The playback is stopped when the input ends.
H Binary input/ held-message playback mode	Plays back up to 15 messages using Channels 1 to 4 An audio message can be played back only while the input is held. The playback is stopped when the input ends.
I P Test playback	Plays back message No. 1



- Up to 87dB at 1 m  
Able to produce a loud sound of 87 dB (at 1 m) despite being a slim, embedded-type annunciator.
- Volume control  
Volume can be adjusted from the front.
- Memory card slot  
Using an SD card allows for changing messages while leaving the unit mounted.

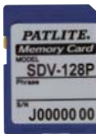
#### Options

**PATLITE Playlist Editor (Free version)**

(OS:Windows® 2000/XP/Vista)

- > PATLITE Playlist Editor software is required to change the audio message data.
- > The SD card does not contain the Playlist Editor or any audio messages.

**SD card (128 MB)**  
SDV-128P



# BKV

## Voice Annunciator



95dB at 1m  
(Actual sound level may vary depending on sound type.)

63 Second

IP54  
Upright direction only.

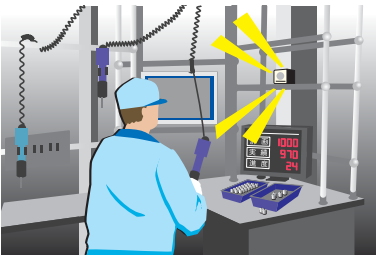
NPN  
Open Collector



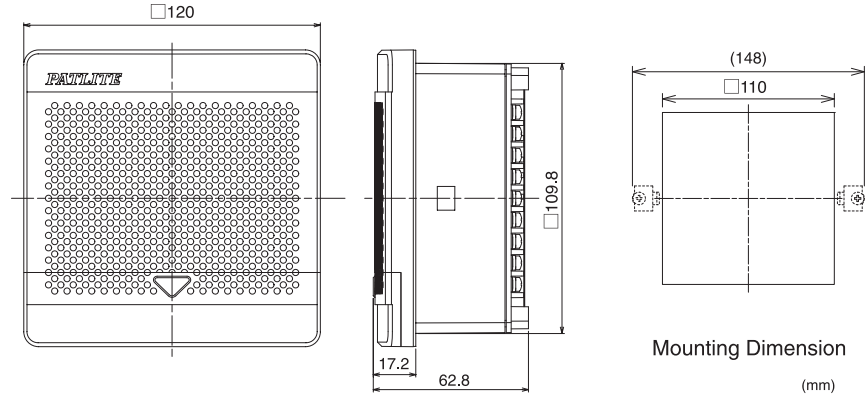
### Excellent sound quality with MP3 playback! This panel-mounted MP3 voice annunciator uses SD cards,\* allowing messages to be changed easily.

- Only embedded mounting style available.
- Able to produce a loud sound of up to 95 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 dis-mounting 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 31 messages.
- Supports input selection using NPN open-collector transistor.
- The unit complies with EU Directives and includes the CE mark (BKV-31JF only)
- Two colors are available for selecting the best color match for the installation.
- Protection rating: IP54 (only the front when flush mounted)

\* SD card not included.



## Dimensions



Note: See page 177 for wiring diagram

## How to Order

**BKV-31JF-J**

Model:  Color:

Rated Voltage:  
J: 12-24V DC  
K: 100V AC  
Q: 220V AC

J: Light Gray  
K: Dark Gray

## BKV Type

Model	Rated Voltage	Voltage Range	Power Consumption	Volume	Voice File	Relative Humidity	Maximum Playing Time	Number of Playing Messages	Protection Rating	Mass
BKV-31JF	12-24V DC	DC 10.8V~26.4V	9W	Max. 95dB (at 1m)	MPEG1-Audio Layer (mp3) Standard Bit Rate : 64kbit/s, Fs=44.1kHz	-10 ~ +50 (Less than 85%RH)	63sec	5 (Bit input) 31 (Binary input)	IP54 When flush mounted	0.35kg
BKV-31KF	100V AC	100V AC±10%	10W							0.53kg
BKV-31QF	220V AC	220V AC±10%	10W							0.53kg

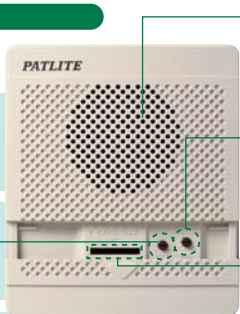
\* Actual sound level will depend on sound type and operating conditions.

## Slim High-volume Voice Annunciator

● Mode Selector Switch

Several playback modes are available for various 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 15 dB.
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 15 dB.
E Bit input/prioritized-message playback mode	Plays back up to 5 messages using Channels 1 to 5 If an audio message is input while another audio message is being played back, the current playback is stopped and the most recently input message is played back.
F Binary input/prioritized-message playback mode	Plays back up to 31 messages using Channels 1 to 5 If an audio message is input while another audio message is being played back, the current playback is stopped and the most recently input message is played back.
G Bit input/held-message playback mode	Plays back up to 5 messages using Channels 1 to 5 An audio message can be played back only while the input is held. The playback is stopped when the input ends.
H Binary input/held-message playback mode	Plays back up to 31 messages using Channels 1 to 5 An audio message can be played back only while the input is held. The playback is stopped when the input ends.
I Test playback	Plays back message No. 1



● Up to 95 dB at 1 m

Able to produce a loud sound of 95 dB (at 1m) despite being a slim, embedded-type annunciator.

● Volume control

Volume can be adjusted from the front.

● Memory card slot

Using an SD card allows for changing messages while leaving the unit mounted.

Options

**PATLITE Playlist Editor (Free version)**

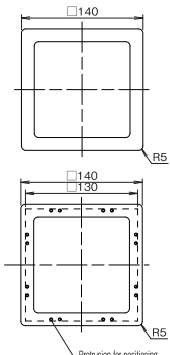
(OS: Windows® 2000/XP/Vista)  
> PATLITE Playlist Editor software is required to change the audio message data.  
> The SD card does not contain the Playlist Editor or any audio messages.

**SD card (128 MB) SDV-128P**

● Optional bracket

This is used to install the annunciator in a place where holes have been drilled for a conventional PATLITE product (φ133 mm-type).

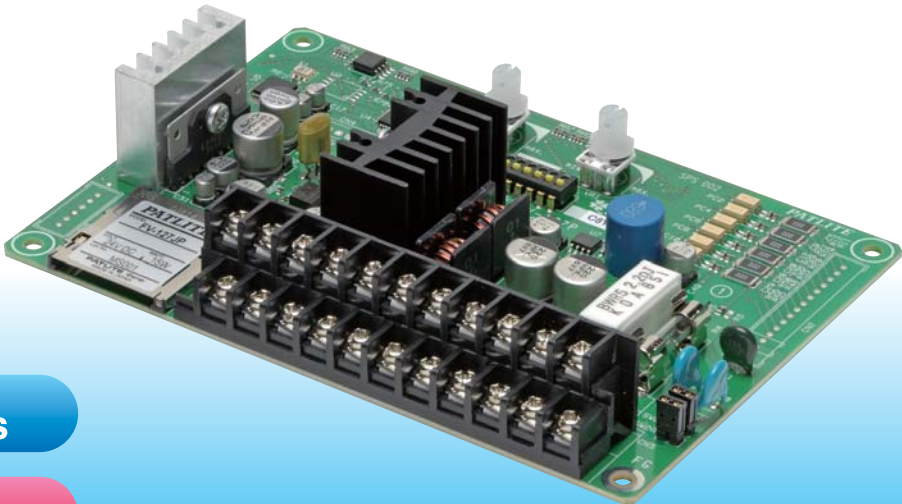
Mounting bracket BK-001  
Temporary fixing tape (2 pieces): included





# FV-127JP

## MP3 File Playback Circuit Board



127 Channels

24V DC

NPN  
Open Collector

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

### High quality sound and long playback time

- MP3 compressed audio file format enables long playback time and high quality sound.
- Approx. 8 minute long audio message data can be stored in an internal memory.
- 240 minute long playback is possible when SD card is used as an external memory. (MP3 data at 64kbits/s with 128MB SD card)

### Extraction and overwriting the audio messages

- Audio messages can be reprogrammed and overwritten easily with the playlist editor (included) and optional SD card. Also, the audio message data stored in the device can be extracted to SD card.

### 3 level volume reduction function

- Volume can be reduced at 3 levels by external signal input. (-10dB, -20dB, -30dB at 1m)

### Various playback modes

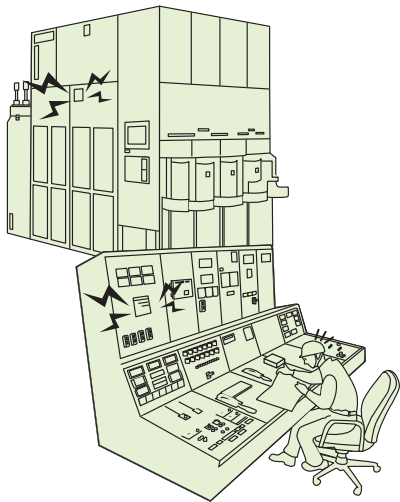
- 5 playback modes are available.

### Highly reliable operation

- Duration of input loading can be selected. (10 or 50msec)
- Extending the duration of input loading enhances the noise resistance.
- Countermeasure against noise can be taken according to usage environment by noise countermeasure pin setting.

### Other features

- Terminal block provides safe and secure wire connections.
- Speaker output (2W or 4W selectable), AUX output and BUSY output equipped.
- Rated voltage: 24V DC (Operating voltage range: 19 to 29V DC)
- This product is compliant with the RoHS directive (DIRECTIVE 2002/95/EC)

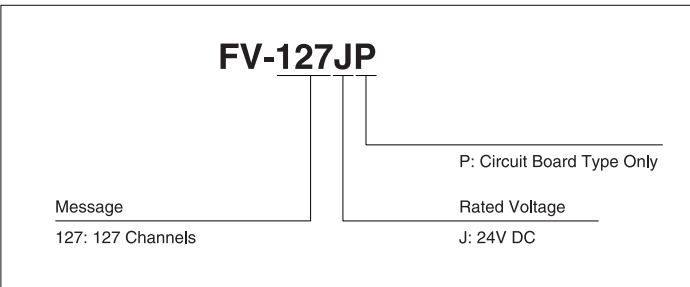


## Playback Modes

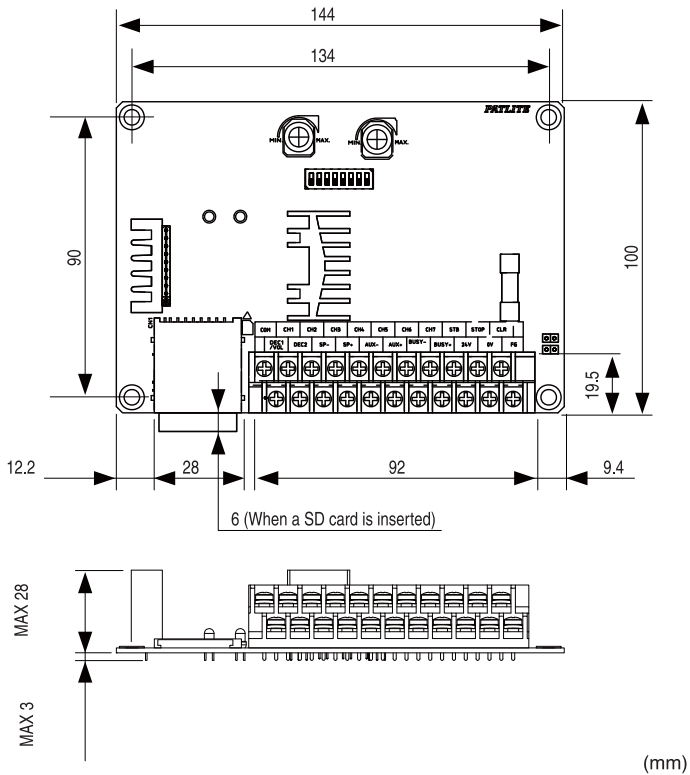
<b>Normal Playback</b>	Designated audio message is played back by distinctive signal input. Audio message is played back once in case of one shot input, and audio message is repeated when the signal is input continuously.
<b>Memory Playback</b>	Up to 23 audio message inputs can be memorized in order 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.
<b>Latest Input Priority Playback</b>	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.
<b>Latest Input and Greater Channel Priority Playback</b>	When the signal for 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.
<b>Momentary Playback</b>	Audio message is played back only while the signal input is maintained. Playback will be stopped when the signal input is stopped.

\* Refer to the instruction manual or specifications for the details of playback mode.

## How to Order



## Dimensions



## FV-127JP Type

General Specifications	
Model Name	FV-127JP
Rated Voltage	24V DC
Operating Voltage Range	19 to 29V DC
Wiring Method	M3 terminal block
Max. Power Consumption	15W (during -6dB 1kHz sine wave data playback)
Operating Temperature Range	-10 to 50
Storage Temperature	-40 to 80
Relative Humidity	85% RH or less
Usage Environment	Built-in only
Installation Method	4 screws
Vibration Resistance	45m/s <sup>2</sup>
Mass	160g ± 10%
External Dimensions	144 x 100 x 28 [mm] (excluding lead dimensions)

Audio Specifications	
Number of Playback Messages	Binary input: 127 Bit input: 7
Audio File Format	MPEG1-Audio Layer (MP3)
Bit Rate	32kbit/s, 64kbit/s (standard), 128kbit/s: Fs = 44.1kHz
Max. Playback Time	When using an internal memory (3968KB): Approx. 8 minutes (when recording with a bit rate of 64kbit/s) When using external memory (SD card): Approx. 240 minutes with 128MB (when recording with a bit rate of 64kbit/s)
Unit Memory Size	3968KB
Audio Startup Time	Approx. 260ms
Audio Silence	If no user specification is defined, silence of 100ms or less is inserted before and after each item of audio data
Audio Rewriting	Possible with SD card + special software (PATLITE Playlist Editor)
Card Format	FAT16
Supported Memory Card	SDV-128P (sold separately)
Audio Rewriting Time	Approx. 180 seconds (when changing the 3968KB internal memory)

Input and Output Specifications	
Signal Input Area	CH1, CH2, CH3, CH4, CH5, CH6, CH7, STB, CLR, STOP, DEC1, DEC2
Signal Input Priority	CLR input > STOP input > CH input (priority from the highest channel number)
Sound Reduction Input	Speaker output, AUX output 3-level sound reduction: -10dB, -20dB, -30dB (during -6dB 1kHz sine wave data playback)
Input Loading Time	10ms or more, or 50 ms or more (setting can be selected)
Signal Input Area Circuit Characteristics	Non-voltage contact point or NPN open collector (Vce > 24V, Ice > 10mA)
Signal Input Area	4W (compliant speaker with rating of 4W or more and 8Ω or 2W (compliant speaker with rating of 2W or more and 8Ω Can be switched Output can be adjusted with the volume
Max. Sound Pressure	4W speaker output: 105dB During 2W: 102dB (during 1m -6dB 1kHz sine wave data playback using SPW-5E (optional speaker))
AUX Output	0dBV 600Ω (output can be adjusted with the volume or sound reduction input)
BUSY Output	Max. 40V DC 500mA

# PVW

## Voice Synthesizer

VOICE ADPCM64 kbit/s



105dB at 1m

64 sec

15 channels

IP53

### Horn-type Voice Synthesizer featuring 4 recordable messages up to 60 sec.\*

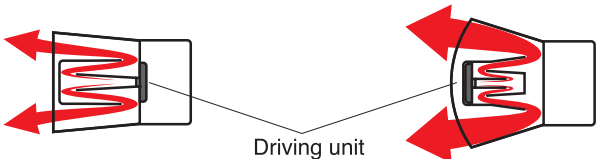
\* PVW-04/-15 type: 4 or 15 selectable pre-installed messages up to 64 sec.

- Built-in Alarm: Adjustable audible sound volume up to 105dB at 1m with volume control.
- ADPCM 64kbit/s: Clear sound quality from LSI digital voice synthesizer for PVW type.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Easy Installation: With anti-corrosive stainless steel mounting bracket.
- Conforms to the CE requirements (for 12/24V type only).

#### Concept of Horn Configuration.

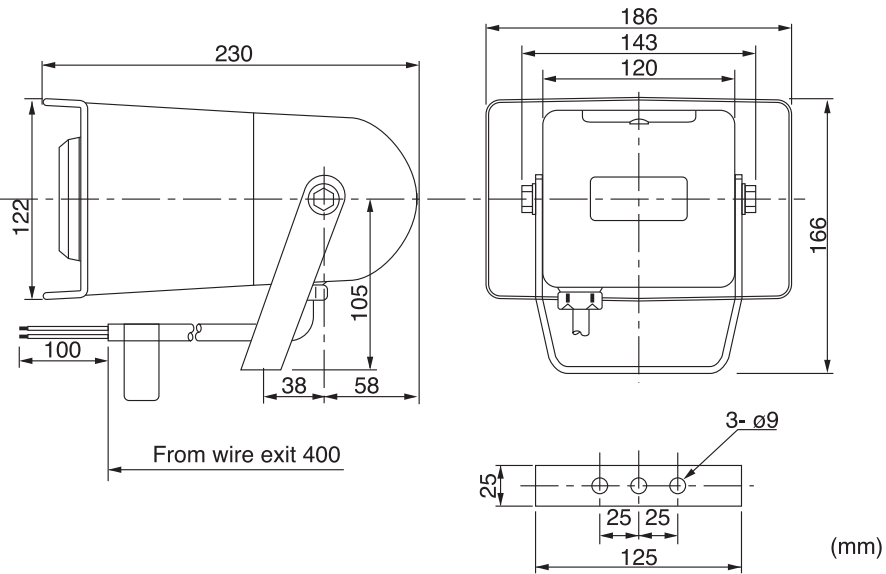
■ Conventional type

■ New wide Horn Type

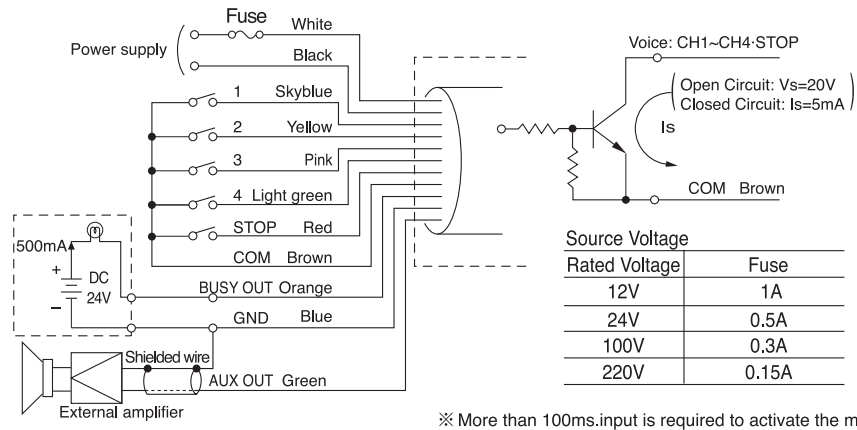


New design increases volume output by changing the location of the driving unit from the back to the front.

### Dimensions



### Wiring Diagram



#### Channel Priority

STOP (Red) > CH4 (Light green) > CH3 (Pink) > CH2 (Yellow) > CH1 (Skyblue)  
Note: The greater number has priority when any of the channels are activated simultaneously.

### PVW Type

Model	Rated Voltage	Voltage Range	Power Consumption	Volume	Outer Contact Capacity	Operating Temperature Range	Auxiliary Input	Channel	AUX Output	BUSY Output	Max Message Time	Protection	Mass
PVW-04JF	12/24V AC/DC	8~28V AC 9~35V DC	12W	Max. 105dB at 1m	More than 10mA	-10°C~+55°C Humidity 85% or less.	Voltage free contact 4/1bit	4	-10dBv 600Ω	Max. load 24V DC 500mA	63 sec.	IP53	1.3kg
PVW-04DF	48V DC	35V~60V DC	10W										1.3kg
PVW-04KF	100V AC	90V~132V AC	18W										1.4kg
PVW-04QF	220V AC	180V~260V AC	18W										1.4kg
PVW-15JF	12/24V AC/DC	8~28V AC 9~35V DC	12W	Max. 105dB at 1m	More than 10mA	-10°C~+55°C Humidity 85% or less.	Voltage free contact 15/binary	15	-10dBv 600Ω	Max. load 24V DC 500mA	63 sec.	IP53	1.3kg
PVW-15DF	48V DC	35V~60V DC	10W										1.3kg
PVW-15KF	100V AC	90V~132V AC	18W										1.4kg
PVW-15QF	220V AC	180V~260V AC	18W										1.4kg



# Hybrid Products



# LKEH

## MP3 compatible annunciator with LED Signal Tower



105dB at 1m\*

MP3 (LKEH-FV)

32 Sounds (LKEH-F□)

IP53

NPN Open Collector

\*Actual sound level may vary depending on sound type.



## Get the attention you need with PATLITE's Field Programmable LKEH series signal tower with audible alarm hybrid unit.

- Visible from great distance with ultra bright LEDs and 100mm diameter lens.
- Safe for use at high vibration environment with robust 2G vibration resistant design.
- Easy to control with only one common wire for both LEDs and audible signals.
- Field programmable with SD card. (Sold separately) (LKEH-FV)  
Message capacity is up to 63 seconds (64kbit/s) with 5 channels by a bit input and 31 channels by binary input.
- Volume is adjustable from 0 to 105dB (at 1m) to fit various environments.
- Smooth LED lens surface.
- Conforms to the CE requirements (for 24V type).
- UL Listed (File No. E215660) (for 24V type only)

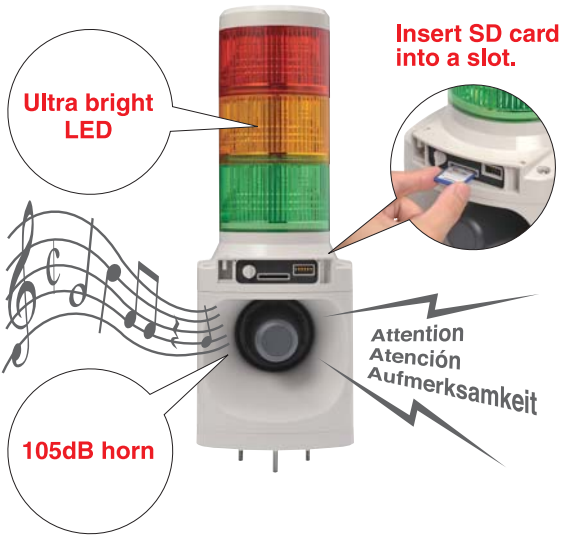
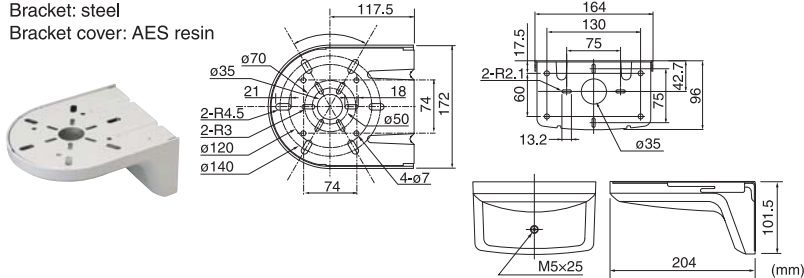
### Available by Special Order

- PNP open collector transistor type.

### Optional Parts

#### Wall mount bracket SZ-023

Bracket: steel  
Bracket cover: AES resin



## Voice Synthesizer (LKEH-FV)

- Total recording time of up to 63 seconds (64kbit/s) can be divided up to 5 channels with a bit input, or 31 channels with binary input.

## 32 sounds are pre-recorded in one unit (LKEH-FA/FC/FD/FE)

- 32 sounds are pre-recorded in one unit. 4 sound types are available.
- 8 sounds can be played back by a bit input, and 32 sounds by binary input.

### Type A

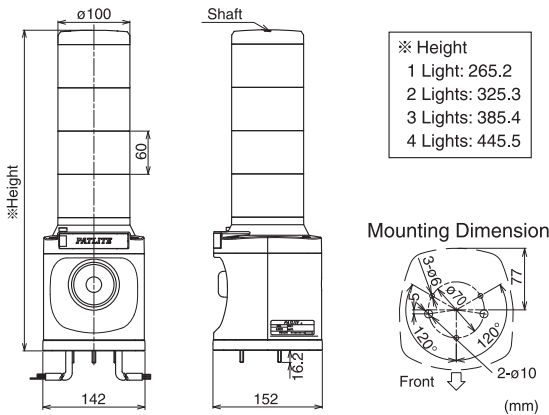
Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter (rapid intermittent horn)	Synthesized Melody Chime	Chime	Call sign
Fur Elise	Maiden's Prayer	Minuet	Annie Laurie
London Bridge is Falling Down	Holdiridia	Mary Had a Little Lamb	Camptown Races
Kuck kuck	Der Schmied im Walde	On the Bridge of Avignon	Daydream Believer
Amaryllis	Mozart Symphony No. 40	Itsy Bitsy Spider	Ich bin ein Musikante
Jeux Interdits	Katuscha	Grandfather's Clock	Ave Maria

### Type D

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Bell (clear high pitched bell)	Yelp (rapid siren)
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Runner	Mamotte Agetai	Chime	Call sign
Oribiao Kikinagara	A September	Doyoubino Koibito	Akino Kehai
Saafu Tengoku Sukii Tengoku	Iro Howaitoburendo	Happy Birthday	Hi Ho
I've been working on the Railroad	Bear Song	Toys Go Cha Cha Cha	Konnako Irukana
Wiegenlied	Rudolph the Red-nosed Reindeer	She Wore a Yellow Ribbon	Oh My Darling Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Air

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded in LKEH-FA, FC and FD types 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. LKEH-FE type is recommended for use outside of Japan as this model does not include copyrighted music or songs, and the permission is not require.

## Dimensions



## How to Order

<b>LKEH-402FVUL-RYGB</b>	
Model	Color
Stack	R: Red Y: Amber G: Green B: Blue C: Clear/White
Rated Voltage	Standard conformity UL: UL Standard
02: 24V DC 10: 100V AC 20: 220V AC	Type FV: Voice Synthesizer FA, FC, FD, FE: 32 sounds

Note: See page 176 for wiring diagram

## LKEH-FV Type

	Model	60 flashes per minute				
		Rated Voltage	Voltage Range	Number of stacks	Power Consumption	Mass
Voice Type	LKEH-102FV	24V DC	24V DC±10%	1	10.6W	1.4kg
	LKEH-202FV			2	12.4W	1.6kg
	LKEH-302FV			3	14.2W	1.8kg
	LKEH-402FV			4	16W	2.0kg
	LKEH-110FV	100V AC	100V AC±10%	1	17W	2.1kg
	LKEH-210FV			2	20W	2.3kg
	LKEH-310FV			3	23W	2.5kg
	LKEH-410FV			4	26W	2.7kg
	LKEH-120FV	220V AC	220V AC±10%	1	17W	2.1kg
	LKEH-220FV			2	20W	2.3kg
	LKEH-320FV			3	23W	2.5kg
	LKEH-420FV			4	26W	2.7kg

## LKEH-F□ Type

	Model	60 flashes per minute				
		Rated Voltage	Voltage Range	Number of stacks	Power Consumption	Mass
Sound Type	LKEH-102FA/FC/FD/FE	24V DC	24V DC±10%	1	10.6W	1.4kg
	LKEH-202FA/FC/FD/FE			2	12.4W	1.6kg
	LKEH-302FA/FC/FD/FE			3	14.2W	1.8kg
	LKEH-402FA/FC/FD/FE			4	16W	2.0kg
	LKEH-110FA/FC/FD/FE	100V AC	100V AC±10%	1	17W	2.1kg
	LKEH-210FA/FC/FD/FE			2	20W	2.3kg
	LKEH-310FA/FC/FD/FE			3	23W	2.5kg
	LKEH-410FA/FC/FD/FE			4	26W	2.7kg
	LKEH-120FA/FC/FD/FE	220V AC	220V AC±10%	1	17W	2.1kg
	LKEH-220FA/FC/FD/FE			2	20W	2.3kg
	LKEH-320FA/FC/FD/FE			3	23W	2.5kg
	LKEH-420FA/FC/FD/FE			4	26W	2.7kg



RFT

Audible Alarm  
with LED Revolving Warning Light



90dB at 1m

(Actual sound level may vary depending on sound type.)

IP54

(front direction only)

NPN  
Open Collector



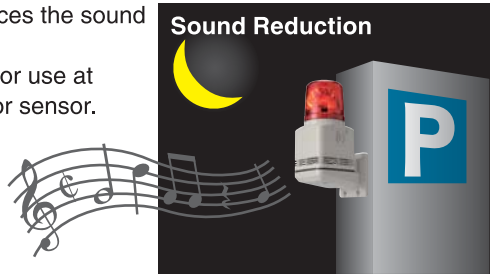
Total of 32 pre-stored alarm sounds! This LED rotating light with built-in electronic alarm sounds can be controlled by both binary and bit input signals.

- Produces a loud sound up to 90dB (at 1 m)
- The volume can be reduced by about 10dB (at 1 m) when an input signal is received (Binary Mode only).
- A volume control on the side panel provides an easy way to adjust the sound volume.
- The use of an SD card allows one sound group to be re-arranged by the user using any of the pre-installed sounds.
- Environmentally friendly since the unit complies with the EU RoHS Directives.
- Supports input selection using NPN open-collector transistor.
- Conforms to the CE requirements (for 24V type).

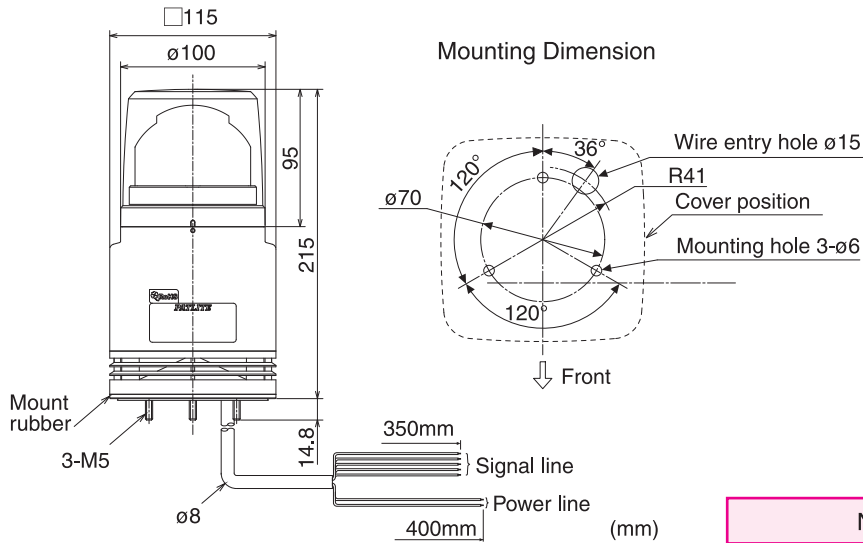
Side access design enables  
easy post-installation maintenance



Sound reduction function reduces the sound volume by approx. 10dB (at 1m). This function is ideal for use at night time together with timer or sensor.



Dimensions



RFT-24A-R

Rated Voltage	Color of revolving light
24: 24V DC	R: Red
100: 100V AC	Y: Yellow
220: 220V AC	G: Green
	B: Blue
Sound Type	
A: A type	
C: C type	
D: D type	
E: E type	

Note: See page 179 for wiring diagram

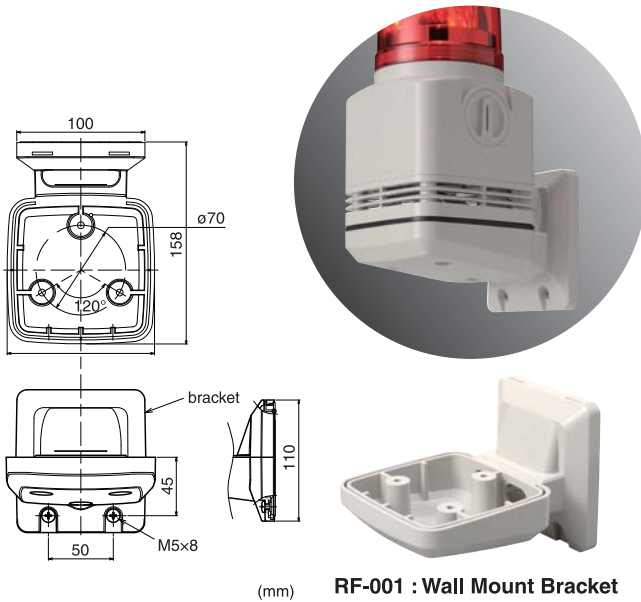
RFT Type

Model	Rated Voltage	Voltage Range	Power Consumption	Volume	Number of Playback Sounds	Operating Temperature Range	Flashes per Minute	Mass	Protection Rating
RFT-24	24V DC	24V DC±10%	12W	Max. 90dB (at 1m)	Bit input mode: 8 sounds Binary input mode: 32 sounds	-10 ~ +50 (Less than 85%RH)	115±15回/分	1.0kg	IP54 (when flush mount, front direction only)
RFT-100	100V AC	100V AC±10%	13W					1.2kg	
RFT-220	220V AC	220V AC±10%	13W					1.2kg	

\* Sound pressure level may be lower depending on the sound and usage environment. It is very difficult to synchronize the play back of the same sound from different units.

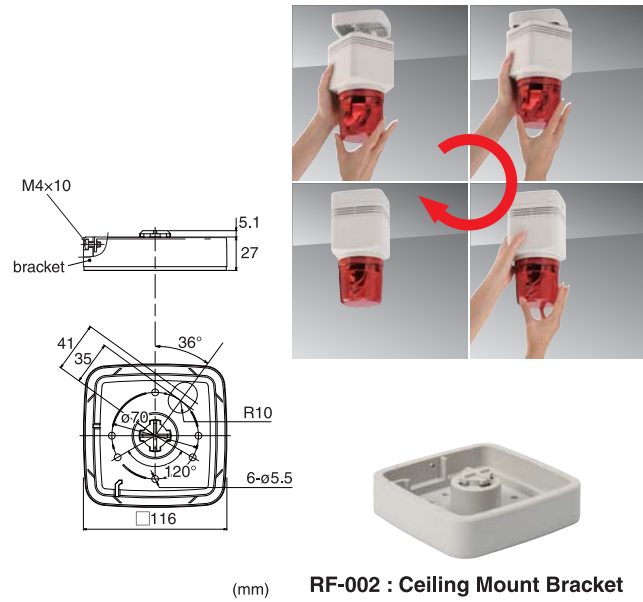
Optional Bracket

Wall Mount Style



RF-001 : Wall Mount Bracket

Ceiling Mount Style



RF-002 : Ceiling Mount Bracket

# RFV

## MP3 compatible annunciator with LED Revolving Warning Light



**95dB at 1m**

(Actual sound level may vary depending on sound type.)

# IP54

(front direction only)

## NPN Open Collector



RFV

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

- Field programmable with SD card. (Sold separately)  
Message capacity of up to 64 seconds (64kbit/s) can be played back by a bit input (4 channels) or binary input (15 channels).
- Volume is adjustable from 0 to 95dB (at 1m) to fit various environments.
- Safe for use at high vibration environments with a robust 4.5G vibration resistant design.
- Unique Features :
  1. Reduced maintenance with long service-life power LED that lasts over 5 years with 24/7 continuous operation.
  2. High visibility with Special Optical Reflector.
  3. Special gear driven mechanism provides reliable operation even after 10 years of no operation.
  4. Tight Locking Dome will stay on even in high vibration situations.
  5. Inverted Installation.
- Conforms to the CE requirements (for 24V type).

**Available by Special Order**

- PNP open collector transistor type.

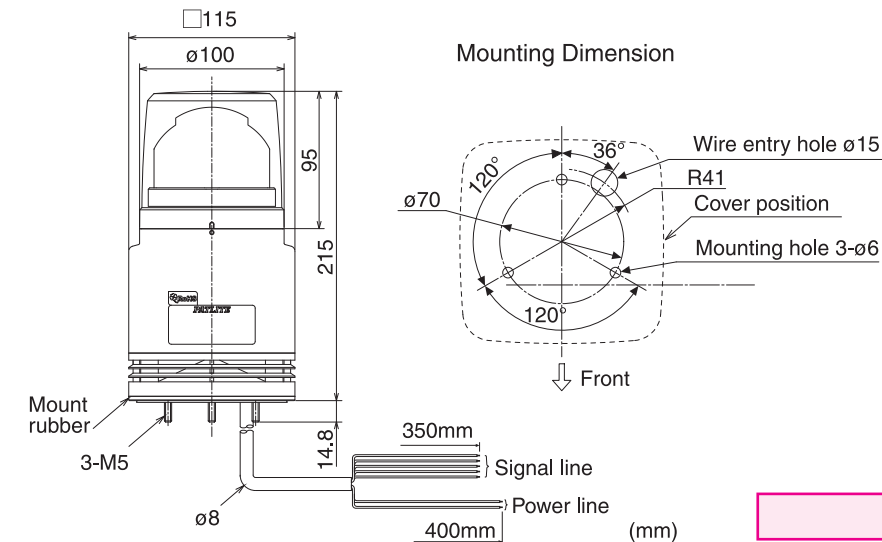
Voice message is field recordable with SD card (sold separately), and sound volume also can be changed easily from side panel even after installation.



Sound reduction function reduces the sound volume by approx. 15dB (at 1m). This function is ideal for use at night time together with timer or sensor.



## Dimensions



Note: See page 179 for wiring diagram

## How to Order

**RFV-100F-R**

**Rated Voltage**

---

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

Color

---

R: Red  
Y: Amber

### RFV Type

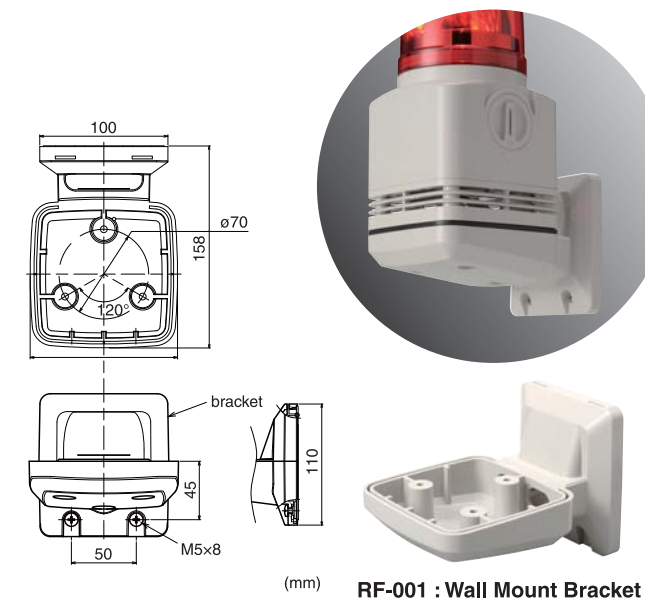
Model	Rated Voltage	Voltage Range	Power Consumption	Flashes per Minute	Volume	Audio File Type	Operating Temperature Range	Message Time	Channel	Protection Rating	Mass
RFV-240F	24V DC	24V DC±10%	Max. 18W	115±15	Max. 95dB at 1m <sup>①</sup>	MPEG1-Audio Layer III (mp3) bit Rate: 64kbit/s, Fs=44.1kHz	-10°C~+50°C (Humidity 85% or less)	Max. 63 seconds	4 (bit input) or 15 (binary input)	IP54 (when flush mount, front direction only)	1.0kg
RFV-100F	100V AC	100V AC±10%	Max. 16W								1.2kg
RFV-220F	220V AC	220V AC±10%									

Actual sound level will depend on sound type and operating conditions.

※ The play back sound may not be synchronized in case the multiple units are activated simultaneously.

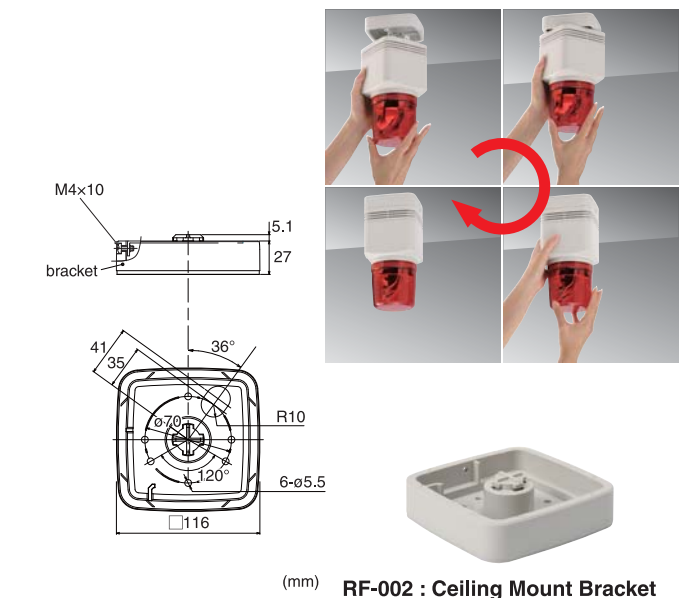
## Optional Bracket

### Wall Mount Style



**RF-001 : Wall Mount Bracket**

### Ceiling Mount Style



(mm) **RF-002 : Ceiling Mount Bracket**



WG

MP3 compatible annunciator  
with LED Signaling Light



90dB at 1m

(Actual sound level may vary depending on sound type.)

32 Second

3 messages

NPN  
Open Collector

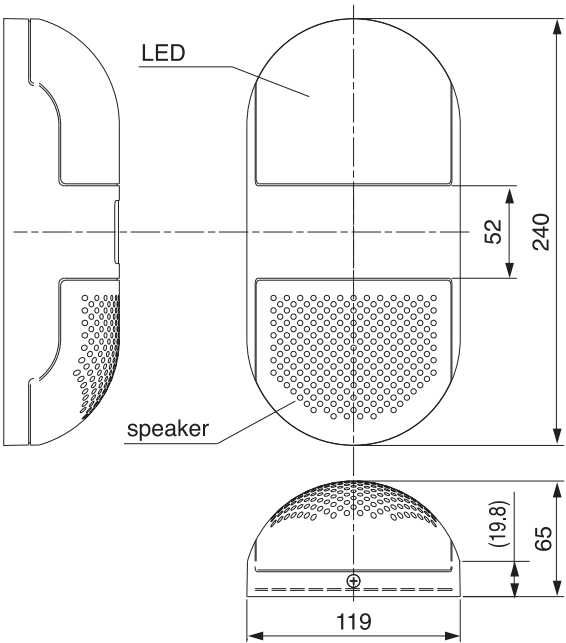


The WG series is wall mountable and will easily blend into any environment such as hospitals, airports and office buildings, providing audible messages and visual signal with LED.

- Colors available: red, yellow, green, blue and clear/white.
- Alert operators or the public with voice messages or chimes or any other sound and flashing LED light.
- Effective for audio/visual guidance at public facilities such as train platforms, bathrooms, etc.
- Record your own messages using Patlite's Playlist Editor, and MP3 sound files or use Patlite's custom recording services.
- High quality sound with a max. output of 90dB (at 1m) provide clear messages, even in a crowd.
- 3 message channels for various applications.  
One channel has priority for emergency/security purposes.
- Has 3 messages for a total of 32 seconds.
- NPN open collector transistor compatible
- 12V DC or 90-250V AC



Dimensions



How to Order

WG-03 B T-R		
Model		Color
Message Channels	03=3	R: Red Y: Amber G: Green B: Blue C: Clear/White
Rated Voltage	B: 12V AC M2: 90-250V AC	Memory T: 2Mbit

WG Type

Model	WG-03BT	WG-03M2T
Rated Voltage	12V DC (No Polarity)	90-250V AC
Power Consumption: Standby	1Watt	1Watt
Power Consumption: Operation	6Watt Max	6Watt Max
Lens Colors Available	None, Red, Amber, Green, Blue	None, Red, Amber, Green, Blue
Operating Temperature Range	-10°C~+60°C	-10°C~+60°C
Volume	90dB at 1m (Adj.from zero)	90dB at 1m (Adj.from zero)
Message Memory Capacity	32 seconds @ 64kbts/sec	32 seconds @ 64kbts/sec
No. of Messages (Inputs)	3	3
Protection Rating	IP20	IP20
Illuminance	300lx at 50cm	300lx at 50cm
Mounting Direction	Horizontal, Vertical (Up or Down)	Horizontal, Vertical (Up or Down)
Vibration Resistance	19.6m/s <sup>2</sup>	19.6m/s <sup>2</sup>
Mass	600g	600g

# RT

## Voice Synthesizer



Bulb



105dB at 1m

IP23

NPN  
Open collector

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

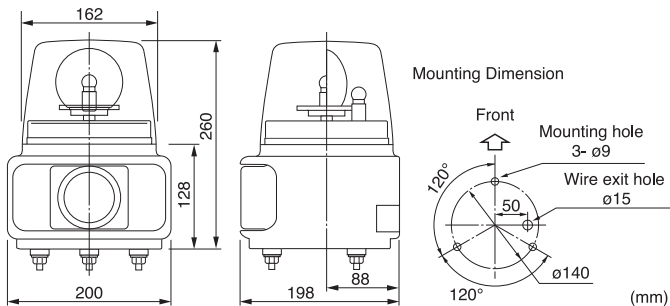
- Built-in Alarm: Adjustable audible sound up to 105dB at 1m with volume control.
- MP3: High sound quality from digital voice synthesizer (RT-VF only)\*.
- Installation: Upright only.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.
- Conforms to the CE requirements (for 24V type).

\* RT-VF uses the MP3 format.

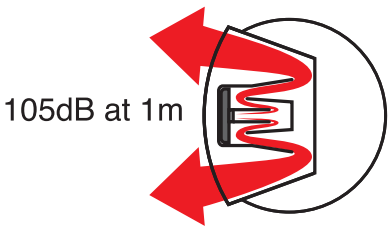
### Available by Special Order

- Cabtyre Cable: Versatile and flexible 3m cable.
- IP65.
- 120V AC.

## Dimensions

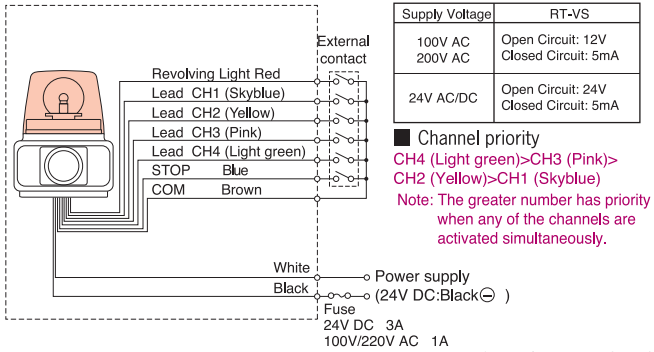


Concept of  
Horn Configuration.

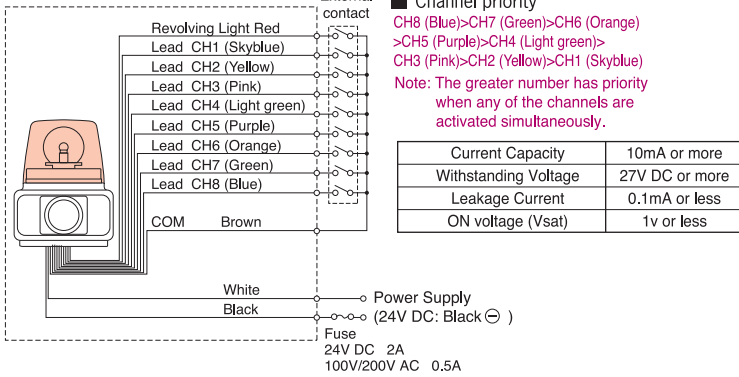


## Wiring Diagram

### RT-VF



### RT-A/C/D/E



## RT-24VF-R

Rated Voltage  
24: 24V DC  
100: 100V AC  
200: 200V AC

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

Sound  
VF: Voice Synthesizer  
A: Type A  
C: Type C  
D: Type D  
E: Type E

## RT Type

Model		Rated Voltage	Voltage Range	Power Consumption	Bulb	No.	Rotations per Minute	Volume	External Contact Capacity	Operating Temperature Range	Auxiliary Input	Channel	Max Message Time	Mass
Voice type	RT-24VF	24V DC	21V~27V DC	24W	24V 20W	55	115	Max. 105dB at 1m	More than 10mA	-10°C~-50°C Humidity 85% or less.	Voltage free contact 6/1bit	4(Bit input) 15(Binary input)	63 sec.	2.0kg
	RT-100VF	100V AC	90V~110V AC	32W	12V 15W	54	105							2.4kg
	RT-200VF	220V AC	180V~240V AC	30W			95							
Sound type	RT-24A/C/D/E	24V DC	21V~27V DC	24W	24V 20W	55	115	Max. 105dB at 1m	More than 10mA	-20°C~-55°C Humidity 85% or less.	Voltage free contact 9/1bit	8/1 impulsion 32/binaire	——	2.0kg
	RT-100A/C/D/E	100V AC	90V~110V AC	32W	12V 15W	54	105							2.5kg
	RT-200A/C/D/E	200V AC	180V~240V AC	30W			95							

## Sounds Selection Chart

32 sounds are pre-recorded in one unit. 4 sound types are available.

### RT-E type

Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Inverted Receille	Annie Laurie
Stutter (rapid intermittent horn)	Synthesized Melody Chime	Galactic Motor	London Bridge is Falling Down
Bell (clear high pitched bell)	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	Minuet in G	Grandfather's Clock

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# KJPV / KJT

## Voice Synthesizer / Melody Alarm



### Bulb

KJPV 95dB at 1m  
KJT 95dB at 1m

116

IP23

NPN  
Open collector



## Multi-layer Revolving Warning Lights combined with integrated voice synthesizer or melody alarm for various applications.

- Built-in Alarm: Adjustable audible sound up to 95dB at 1m\* with volume control.
- ADPCM 64kbit/s: High sound quality from LSI digital voice synthesizer (KJPV).
- Sound Pattern: 4 messages in 16 sec. for KJPV, 8 sounds for KJT (KJT-L: 6 melodies & 2 chimes, KJT-K: 8 alarms).
- Alarm and light signal units can be replayed together or separately.
- Installation: Upright only.
- Lens: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.



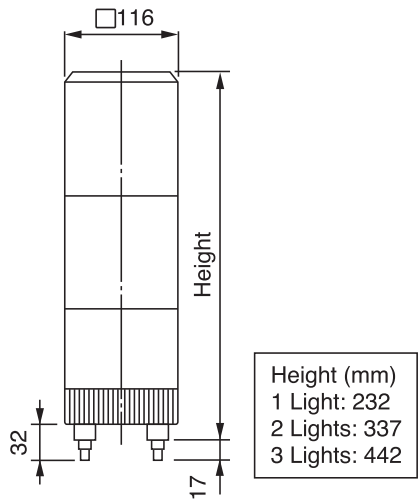
\* KJT type: 90dB at 1m

### KJT-E type

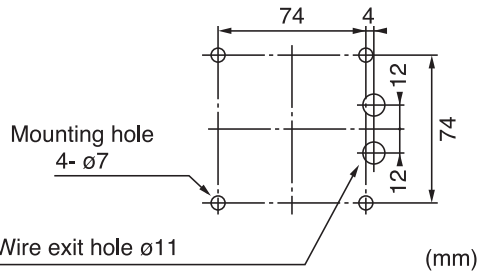
Beep (slow intermittent horn)	Stutter (rapid intermittent horn)	Inverted Receille	Annie Laurie
Stutter (rapid intermittent horn)	Synthesized Melody Chime	Galactic Motor	London Bridge is Falling Down
Bell (clear high pitched bell)	Chime	Ringin Phone	Mary Had a Little Lamb
Yelp (rapid siren)	Call Sign	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	Minuet in G	Grandfather's Clock

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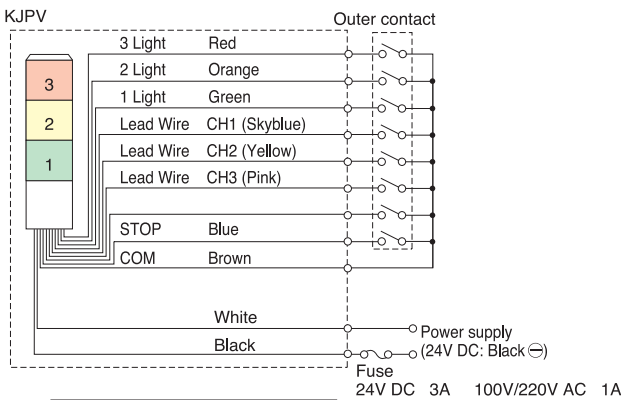
## Dimensions



### Mounting Dimension

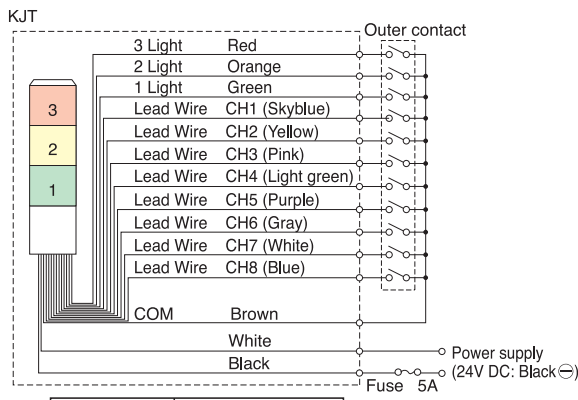


## Wiring Diagram



Supply Voltage	KJPV
100V AC 200V AC	Open Circuit: 12V Closed Circuit: 5mA
24V AC/DC	Open Circuit: 24V Closed Circuit: 5mA

■ Channel priority  
CH4 (Light green)>CH3 (Pink)>  
CH2 (Yellow)>CH3 (Skyblue)  
Note: The greater number has priority  
when any of the channels are  
activated simultaneously.



Supply Voltage	KJT
100V AC 200V AC	Open Circuit: 12V Closed Circuit: 5mA
24V AC/DC	Open Circuit: 24V Closed Circuit: 5mA

■ Channel priority  
CH8 (Blue)>CH7 (White)>CH6 (Gray)  
>CH5 (Purple)>CH4 (Light green)>  
CH3 (Pink)>CH2 (Yellow)>CH1 (Skyblue)  
Note: The greater number has priority  
when any of the channels are  
activated simultaneously.

## KJPV / KJT Type

Model			Rated Voltage	Voltage Range	Power Consumption	Bulb		Rotations per Minute	Volume	External Contact Capacity	Operating Temperature Range	Auxiliary Input	Channel	Mass							
Voice	1 stack	◎KJPV-102S	24V DC	20V~27V DC	20W	24V 10W	10	130	Max. 95dB at 1m	More than 10mA	-10°C~+55°C Humidity 85% or less.	Voltage free contact 5/1bit	4 (Up to 16 sec.)	1.4kg							
		◎KJPV-110S	100V AC	90V~110V AC	20W	12V 5W	12							Voltage free contact 6/1bit	1.7kg						
		◎KJPV-120S	220V AC	180V~240V AC											2.0kg						
	2 stacks	◎KJPV-202S	24V DC	20V~27V DC	30W	24V 10W	10							Voltage free contact 6/1bit	2.4kg						
		◎KJPV-210S	100V AC	90V~110V AC	26W	12V 5W	12								Voltage free contact 7/1bit	2.6kg					
		◎KJPV-220S	220V AC	180V~240V AC	40W	24V 10W	10									Voltage free contact 7/1bit	3.0kg				
	3 stacks	◎KJPV-302S	24V DC	20V~27V DC	31W	12V 5W	12							Voltage free contact 7/1bit			2.6kg				
		◎KJPV-310S	100V AC	90V~110V AC											31W		12V 5W	12	Voltage free contact 7/1bit	3.0kg	
		◎KJPV-320S	220V AC	180V~240V AC												3.0kg					
-K: Alarm	1 stack	KJT-102	24V AC/DC	21V~27V AC/DC	25W/18W	24V 10W	10	135	Max. 90dB at 1m	More than 10mA	-20°C~+50°C Humidity 85% or less.	Voltage free contact 9/1bit	8	1.4kg							
		KJT-110	100V AC	90V~110V AC	20W	12V 5W	12	120						2.0kg							
		KJT-120	200V AC	180V~240V AC											26W	12V 5W	12	120	2.4kg		
-L: Chime	2 stacks	KJT-202	24V AC/DC	21V~27V AC/DC	36W/28W	24V 10W	10	135						Voltage free contact 10/1bit						2.6kg	
		KJT-210	100V AC	90V~110V AC	26W	12V 5W	12	120							3.0kg						
		KJT-220	200V AC	180V~240V AC												47W/38W	24V 10W	10	135		Voltage free contact 11/1bit
Melody	3 stacks	KJT-302	24V AC/DC	21V~27V AC/DC	47W/38W	24V 10W	10	135						Voltage free contact 11/1bit	3.0kg						
		KJT-310	100V AC	90V~110V AC	32W	12V 5W	12	120												3.0kg	
		KJT-320	200V AC	180V~240V AC																	

© Special order

Mounting Pole

**φ50 (φ40)**

SZ-60L  
SZ-80L

**RoHS**

SZ-60L

SZ-80L

Includes SZ-012

**φ60**

SZ-60T

**RoHS**

SZ-70L

**RoHS**

Includes SZ-011

Includes SZ-013

**φ70**

SZ-50L

**RoHS**

SZ-50T

**RoHS**

Includes SZ-013

Includes SZ-010

**φ70**

SZ-40L

**RoHS**

SZ-40T

**RoHS**

Includes SZ-013

Includes SZ-010

**φ81**

SZ-30L

**RoHS**

SZ-30T

**RoHS**

Includes SZ-013

Can not use Rubber Gasket.

Includes SZ-010

Can not use Rubber Gasket.

Model	Material					
	Upper bracket	Pole	L Bracket	Cord bushing	Mounting Bracket	Compatible Model
SZ-80L	ABS resin	Carbon steel pipe	SPHC	6/6 nylon	—	LCE-W
SZ-60L	ADC12		SPHC	6/6 nylon	—	LE-W LES-AW
SZ-60T	—	—	—	—	ADC12	LME-W
SZ-70L	ABS resin	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	—	Carbon steel pipe	SPHC	EPT	—	RLE,RU RH,PS PES
SZ-30T	ABS resin		—	—	—	ADC12

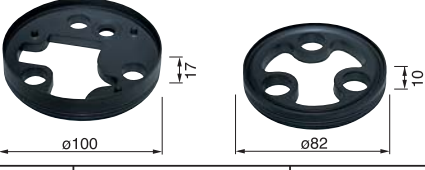
ADC12 ··· Aluminum alloy die-cast  
EPT ··· Ethylene propylene rubber

SPHC ··· Hot rolled mild (sheet) steel

Rubber Gasket

SZ-200A

SZ-210



Model


Material

Compatible Model

SZ-200A	Ethylene Propylene Rubber	KX, RH(B)
SZ-210		RU, RLE, PS(F), PSX, PES

Tripod stand

SZ-009



Model

Size φ

Height

SZ-009	Pitch diameter φ120~φ140	1,285~2,285mm
--------	--------------------------	---------------

Upper Bracket For LU7

SZ-50-U

Ivory White

SZ-50NPT

(For 1/2" NPT Pole)

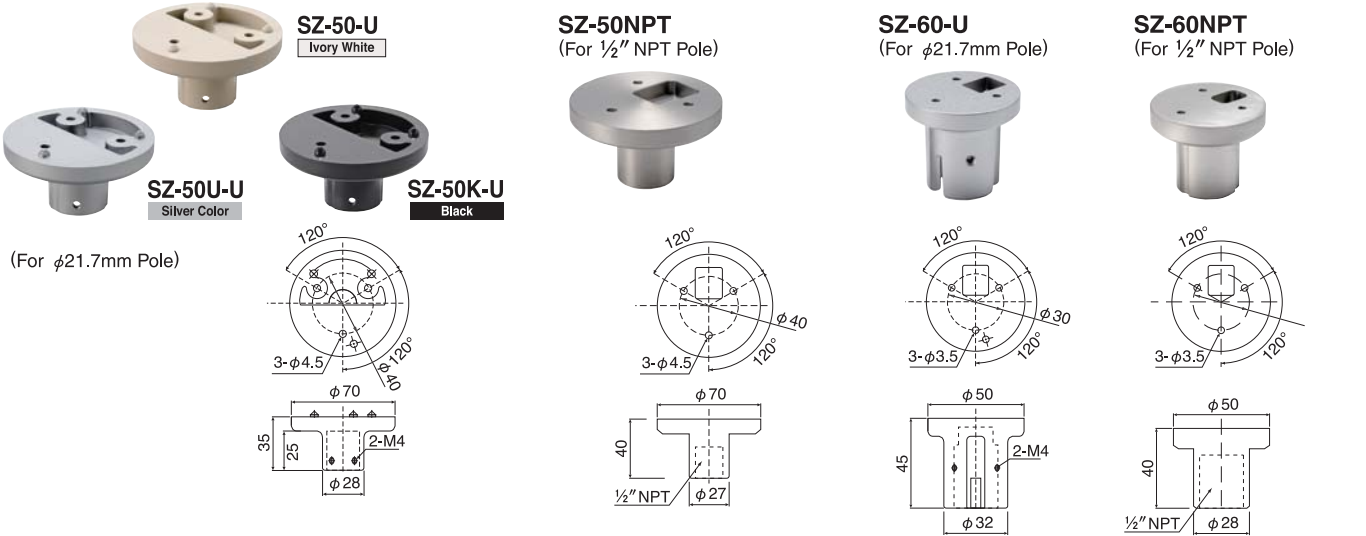
SZ-50U-U

Silver Color

SZ-50K-U

Black

(For φ21.7mm Pole)



120°

3-φ4.5

φ70

35

25

φ28

2-M4

φ70

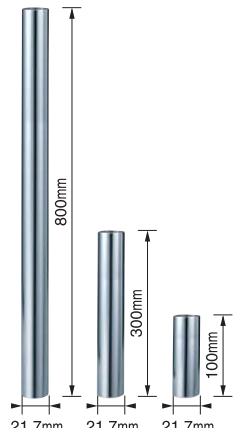
40

1/2" NPT

φ27

Pole

Steel Pole



800mm

300mm

100mm

21.7mm

21.7mm

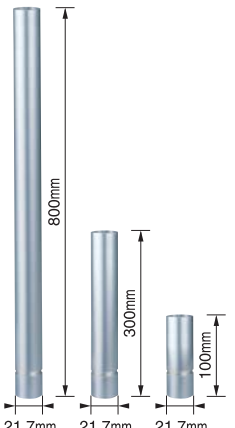
21.7mm

800mm : **POLE-800S21**

300mm : **POLE-300S21**

100mm : **POLE-100S21**

Aluminum Pole



800mm

300mm

100mm

21.7mm

21.7mm

21.7mm

800mm : **POLE-800A21**

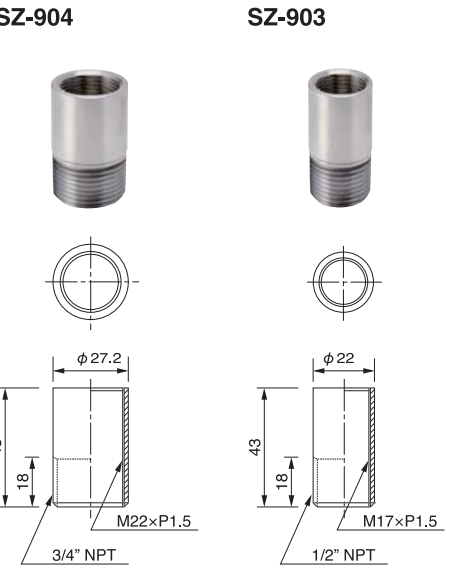
300mm : **POLE-300A21**

100mm : **POLE-100A21**

NPT Adapter

SZ-904

SZ-903



φ27.2

43

18

M22×P1.5

3/4" NPT

φ22

43

18

M17×P1.5

1/2" NPT

Mounting Bracket

SZ-010

(For ø21.7mm pole)

**RoHS**

Mounting hole 4-5.2x7

φ73

Pole bottom line

65

21

φ100±0.5

SZ-011

(For ø17.3mm pole)

**RoHS**

Mounting hole 4-4.5x8

φ73

Pole bottom line

52

11

φ94

SZ-016A

(For ø21.7mm pole)

Mounting hole 4-φ5

φ54

45

φ68

SZ-70-B

(For ø21.7mm Aluminum Pole Only)

φ60

45

φ60

SZ-014

**RoHS**

3-ø5

Pitch diameter ø40

2-ø5.5

Pitch diameter ø42

3-ø3.5

Pitch diameter ø30

4-5.2x7

Pitch diameter ø73

ø57

ø22

ø90

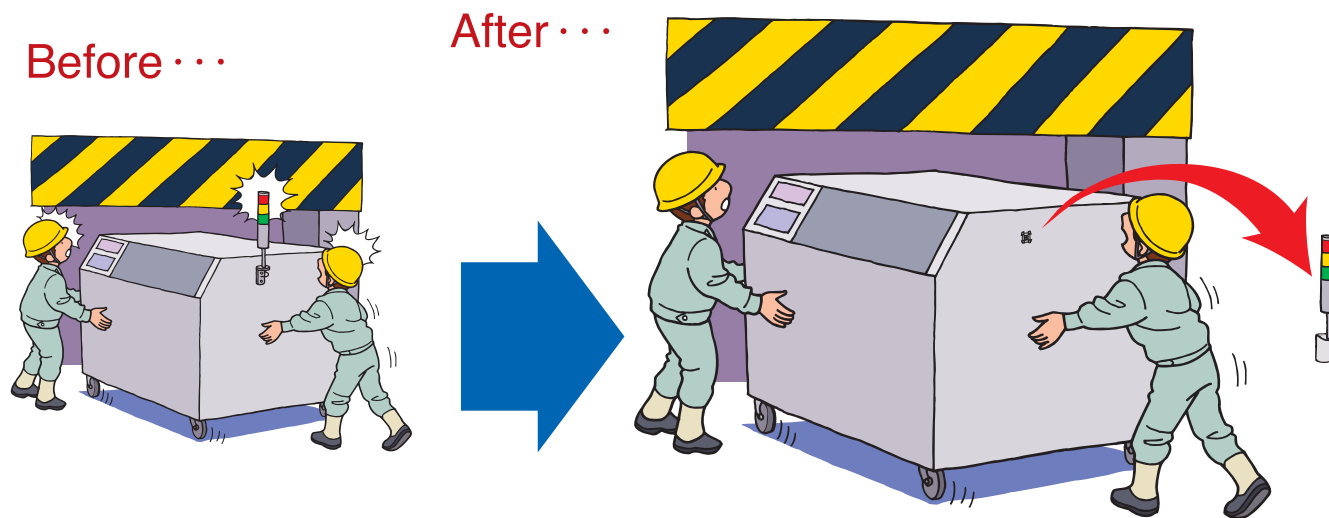
Model	Material	Compatible Model
SZ-010	Aluminum alloy die-cast	STD, RUP, LME, LMS, LHE
SZ-011		LCE, LCS, LE, LES-A
SZ-016A		LU5, LU7, STD, RUP, LME, LMS, LHE
SZ-70-B		—
SZ-014	Cold rolled milled steel	LE, LES-A



# Optional Parts

## Wall Mount Bracket

- **Bracket is detachable from machinery by loosening a screw and taking off the connectors.**
- **Bracket can be removed or installed upside-down during transportation.**
- **Wiring should not be exposed.**
- **Silver color type: available as a special order.**



## How to install



Drill a hole on the mounting surface of machinery.

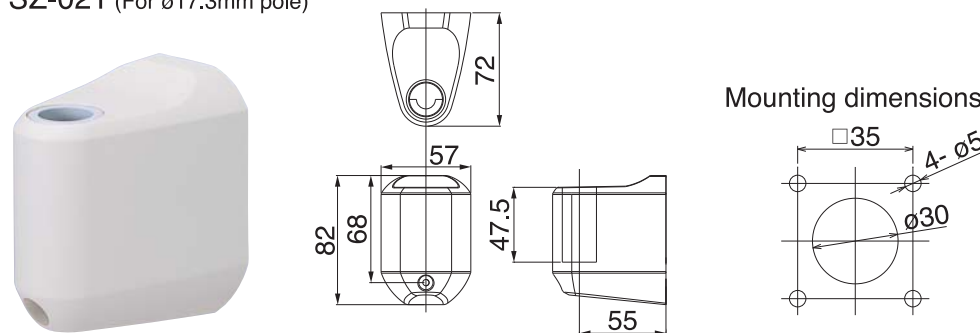
Fix a mounting part  
and connector on the  
hole.

Join the connectors.

Hook the mounting bracket to the metal part by tightening with a screw.

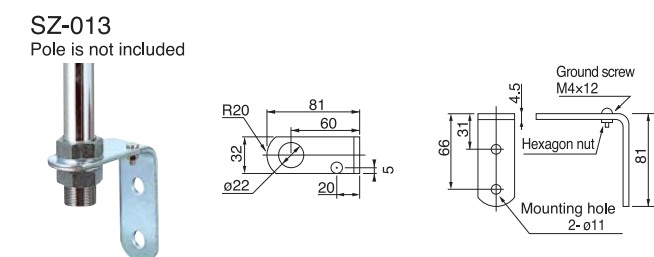
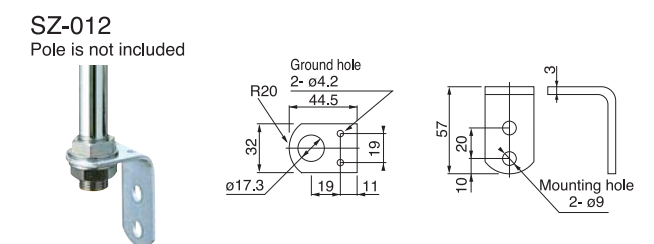
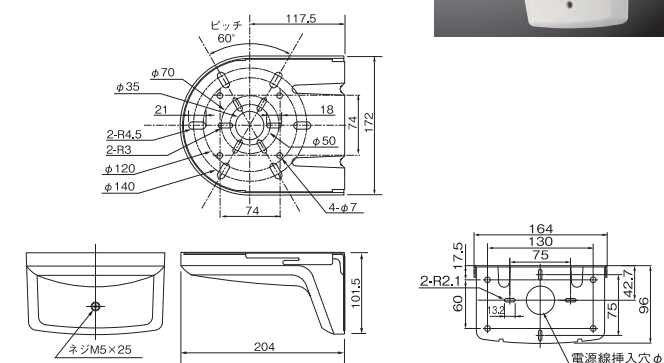
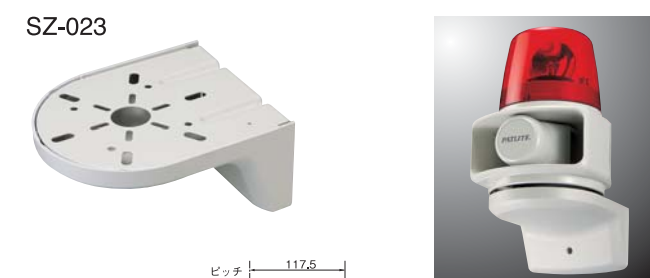
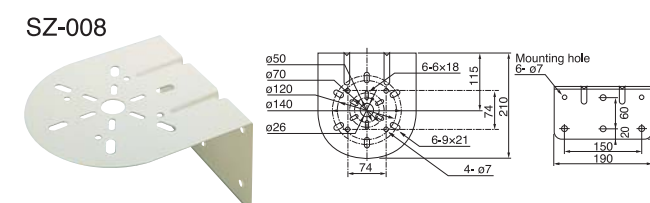
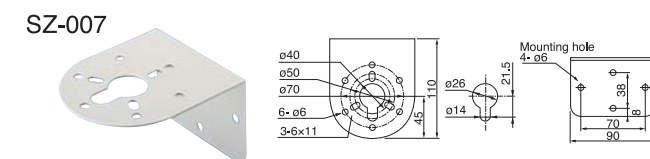
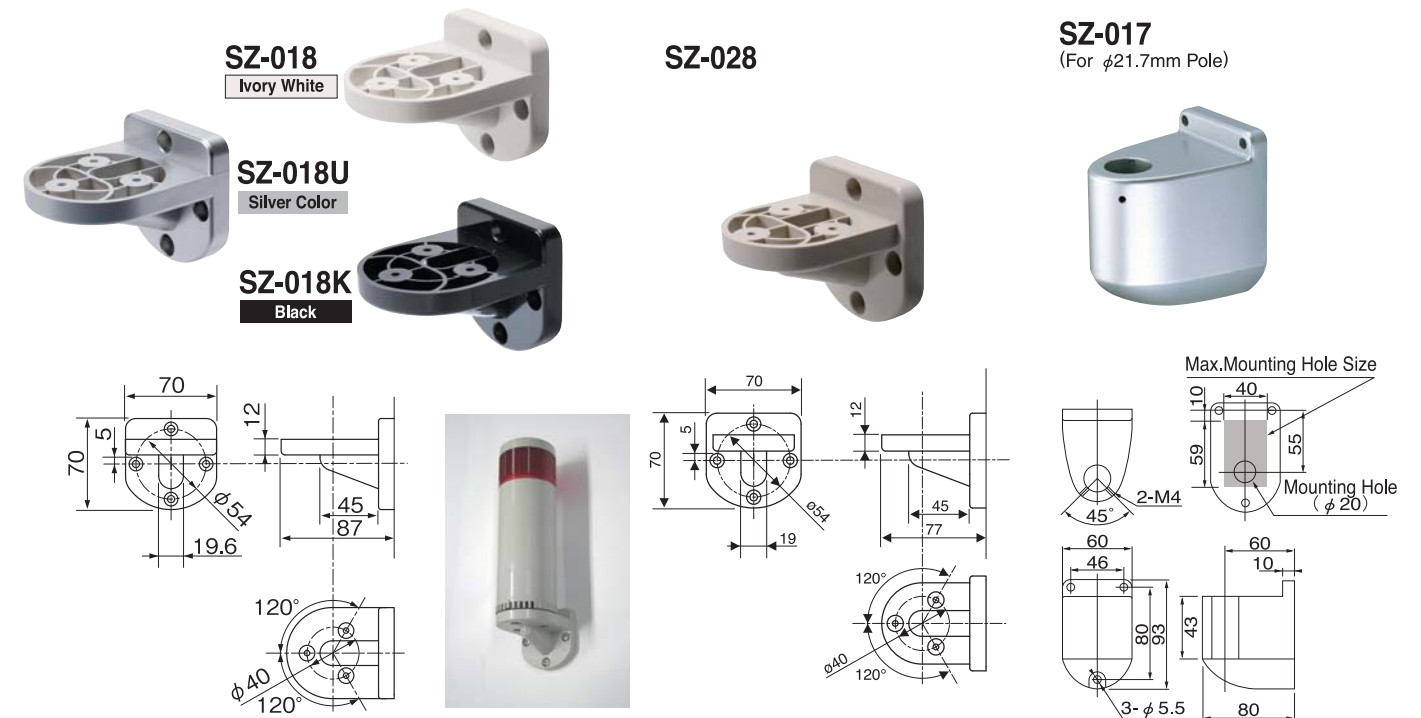
SZ-020 (For ø21.7mm pole)

SZ-021 (For ø17.3mm pole)






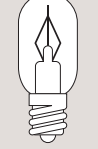

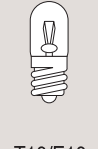
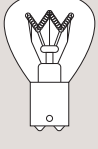
Wire connector  
(SZ-020-001)  
sold separately


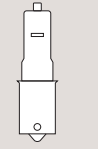
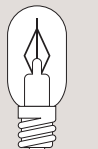

## Wall Mount Bracket



Model	Material	Compatible Model
SZ-017	Aluminum alloy die-cast	LME, STD, RUP
SZ-018	PBT/ABS resin	LU7, LHE
SZ-028		LME
SZ-020	ABS resin	LU5, LU7, LME, LMS, RUP, STD
SZ-021		LC, LCS, LE, LES-A
SZ-007	Electro-galvanized steel	LU7, LHE-A Pitch diameterø50, 70
SZ-008		Pitch diameter ø50,70,120,140 and □74
SZ-023	Bracket:Steel Bracket cover:ABS resin	Pitch diameter ø50,70,120,140 and □74
SZ-012	Hot rolled mild steel	LCE, LCS, LE, LES
SZ-013		LME, STP, ME, MP

# Replacement Bulbs

Model	Bulb No.	Wattage	Part No.
 RP35/BA15S	1	12V35W	D01203501-F1
	2	24V35W	D02403501-F1
 RP35/BA15D	5	48V35W	D04803502-F1
 G18/BA15S	8	6V3W	D00600303-F1
	9	12V10W	D01201003A-F1
	10	24V10W	D02401003A-F1
	11	48V10W	D04801003-F1
	12	12V5W	D01200503A-F1
 T20/E12	13	30V10W	D03001006A-F1
	14	110V10W	D11001006A-F1
	15	220V10W	D22001006A-F1
	16	110V15W	D11001506A-F1
	17	220V15W	D22001506A-F1
 G14/BA9S	18	12V6W	D01200604-F1
	19	24V6W	D02400604-F1
 T10/E10	22	110V3W	D11000307-F1
	23	110V5W	D11000507-F1
	24	220V3W	D22000307-F1
	27	12V0.11A	D012/1107-F1
	28	24V0.11A	D024/1107-F1
 RP35/BA15D	36	120V40W	D12004024-F1
	37	220V30W	D22003024-F1

Model	Bulb No.	Wattage	Part No.
 S25/BA15S	42	12V23W	D01202305-F1
	43	24V25W	D02402505-F1
 T10/BA15S	44	12V55W	D01205515-02-F1
	45	24V70W	D02407015-02-F1
 T20/E12	46	140V10W	D14001006-F1
	54	12V15W	D01201503-F1
 G18/BA15S	55	24V20W	D02402003-F1

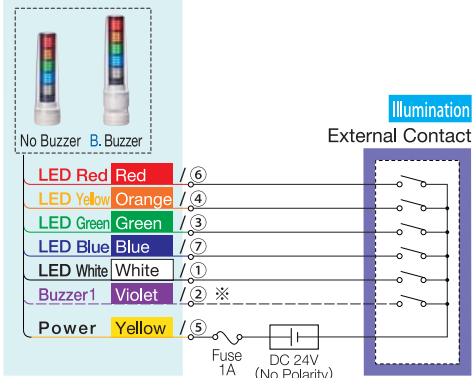
## LS7 Wiring Diagram

[LS7 Model]

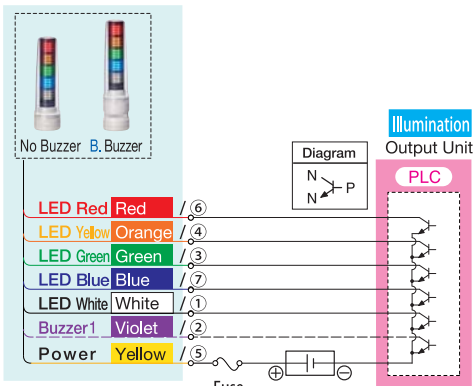
Model:LS7-502□(B)W□

■Illumination No Buzzer/B. Buzzer

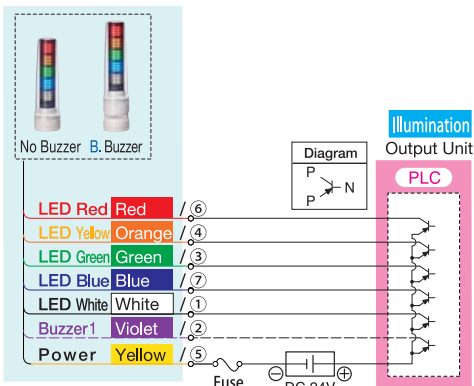
Contact Relay



PLC (NPN Transistor)

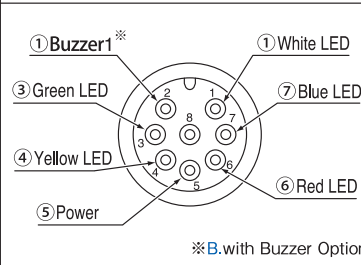


PLC (PNP Transistor)



※ With Buzzer Option

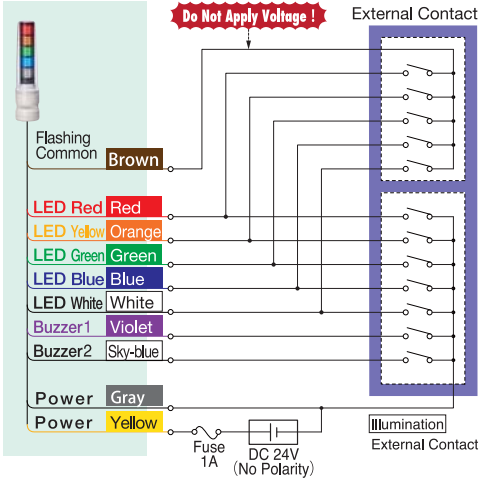
M12 Connector PIN Wiring Diagram



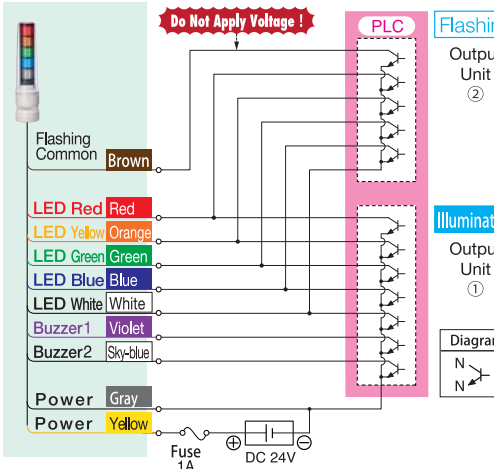
Model:LS7-502□FBWH

■F.Illumination · Flashing B. Buzzer

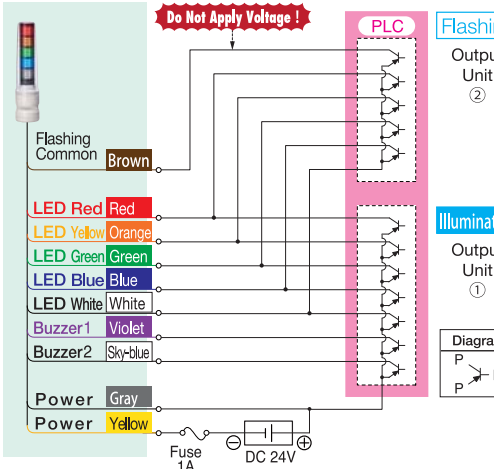
Contact Relay



PLC (NPN Transistor)



PLC (PNP Transistor)

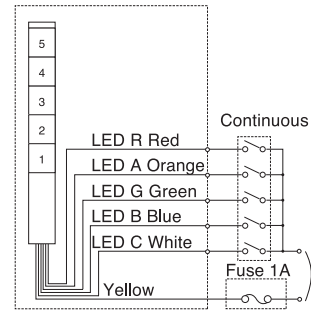


(Note) When connecting the PLC outputs for illumination and flashing functions, the wiring (Common Wires) has to be separate between the flashing and non-flashing circuits.



# ME/MES/MP/MPS/STD Wiring Diagram

[ME/MES/MP/MPS Model]



ME/MES/MP/MPS Signal line voltage and current per LED module

Rated Voltage	Signal Line Voltage	ME-A/MES-A	MP/MPS	Color of LED unit	Color of Lead wire
		Signal Line Current	Signal Line Current		
24V DC	24V DC	R,Y: 25mA G,B,C: 20mA	R,Y: 30mA G,B,C: 25mA	Red	Red
24V AC (MP/MPS only)	24V AC (MP/MPS only)	—	—	Amber	Orange
				Green	Green
				Blue	Blue
				Clear	White

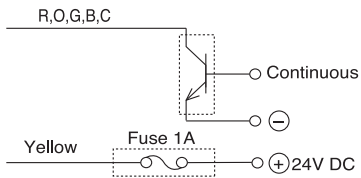
※ MP/MPS has no polarity.  
(ME/MES: positive(+) on yellow)



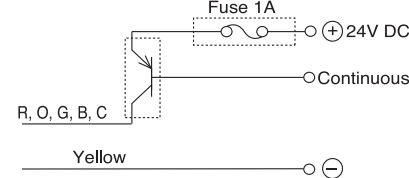
ME/MES MP/MPS

## DC 24V: NPN(PNP)Transistor

(NPN Transistor)



(PNP Transistor)※MP/MPS only



Transistor Capacity

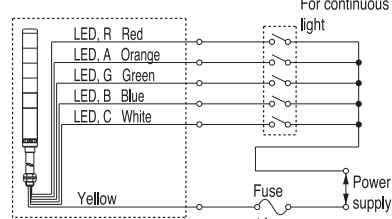
Model	ME/MES	MP/MPS
	Transistor (NPN)	Transistor (NPN/PNP)
Current Capacity	Ic ≥ 0.1A	Ic ≥ 50mA
Withstanding Voltage	Vc ≥ 35V	Vc ≥ 35V
Current Leakage	Ii < 0.1mA	Ii < 0.1mA

# LCE/LCS Wiring Diagram

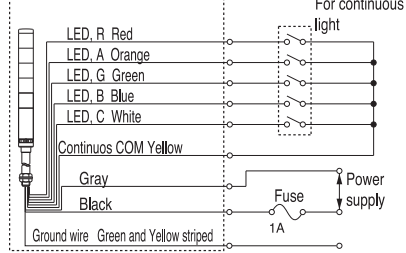
(LCE/LCS-□□□(FB)(W)(K) Model)

LCE/LCS [Continuous only]

24V AC/DC

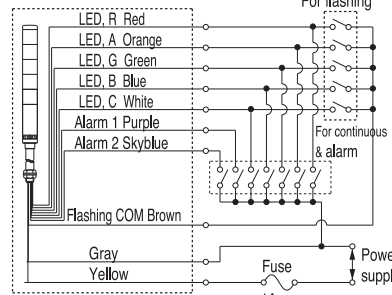


90~250V AC

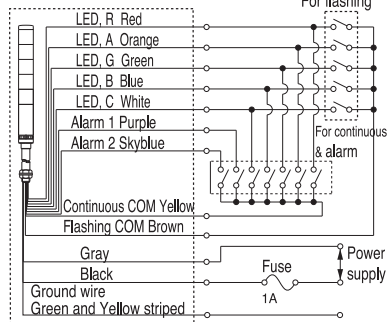


LCE [Continuous and Flashing with Alarm]

24V AC/DC



90~250V AC



Signal line voltage and current per LED module

Model	Rated Voltage	Signal Line Voltage	LED		Alarm	
			Signal Line Current	Signal Line Current	Inrush Current	Inrush Current
LCE/LCS	24V AC/DC	AC/DC 24V	30mA	25mA	40mA	250mA
LCE-M2	90~250V AC	24V DC	30mA	25mA	40mA	250mA



LCS LCE

Lead wire color correspondence table

Color of LED unit	Color of Lead wire
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear	White

Alarm	Color of Lead wire
Alarm 1	Purple
Alarm 2	Skyblue

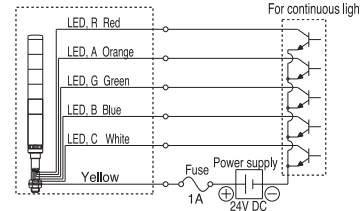
Fuse for outer contact protection

Voltage	Fuse
All voltage types	1A

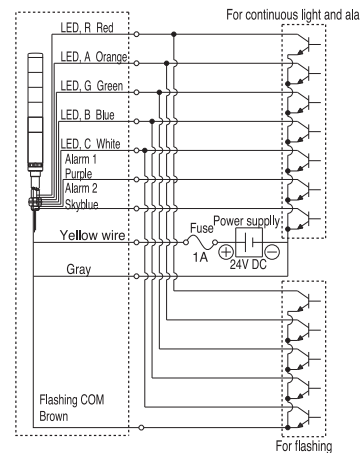
## NPN(PNP) Transistor

24V DC NPN Transistor

Continuous only

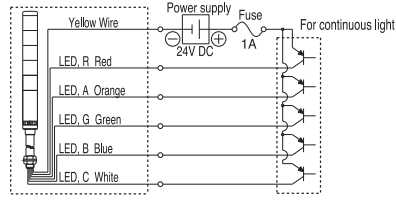


Continuous and Flashing with Alarm

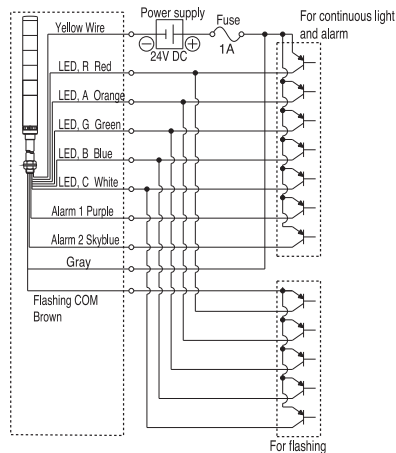


24V DC PNP Transistor

Continuous only

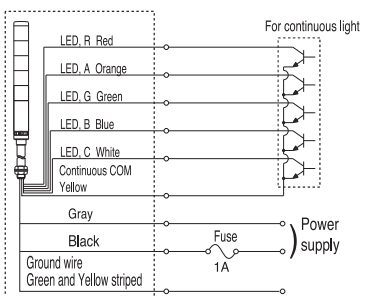


Continuous and Flashing with Alarm

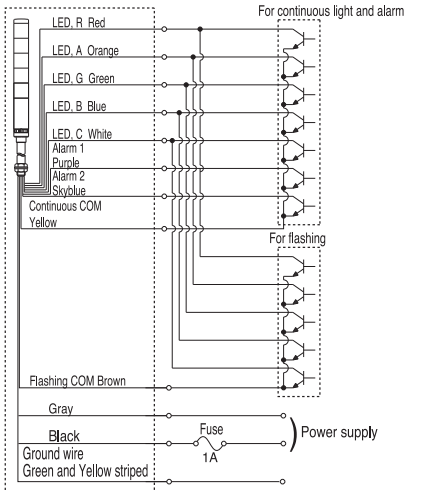


90~250V AC NPN Transistor

Continuous only



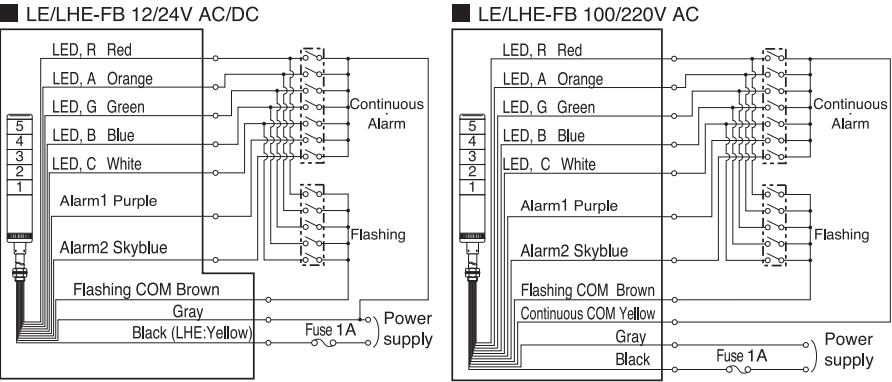
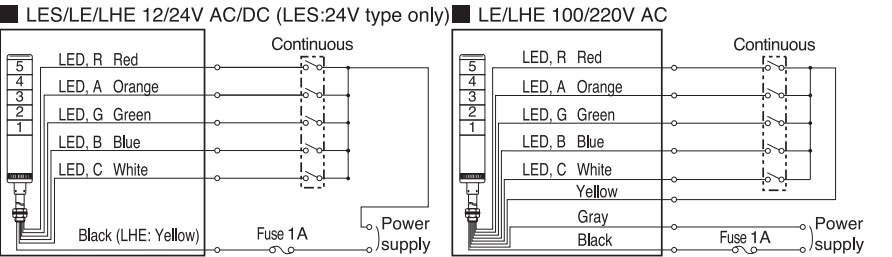
Continuous and Flashing with Alarm



Model	Transistor (NPN or PNP)	Withstanding Voltage	Vc ≥ 35V
Current Capacity	Ic ≥ 100mA (LED UNIT) Ic ≥ 300mA (Alarm)	Current Leakage	Ii ≤ 1mA

LES/LE/LHE Wiring Diagram

(LE-□□□(FB)(W)(P) Model)



Signal line voltage and current per LED module

Model	Rated Voltage	Signal Line Voltage	LED Signal Line Current	Alarm
LE	12V AC/DC	12V AC/DC	R, A: 50mA G, C: 40mA B: 44mA	Signal Line Current 40mA
LHE-A	24V AC/DC	24V AC/DC	R, A: 50mA G, C, B: 40mA	
LES/LE	24V AC/DC	24V AC/DC	R, A: 25mA G, C: 20mA B: 22mA	
LHE-A	100V,220V AC	24V DC	R, A: 50mA G, C, B: 40mA	Rush Current 150mA
LE			R, A: 25mA G, C: 20mA B: 22mA	

Lead wire color correspondence table

Color of LED unit	Color of Lead wire
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear	White

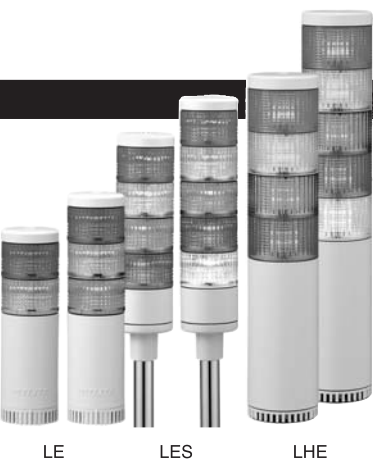
※LE type: All 5 light wires are supplied even if all colors are not used.

Alarm	Color of Lead wire
Alarm 1	Purple
Alarm 2	Skyblue

※Alarm wires do not exist for continuous only model.

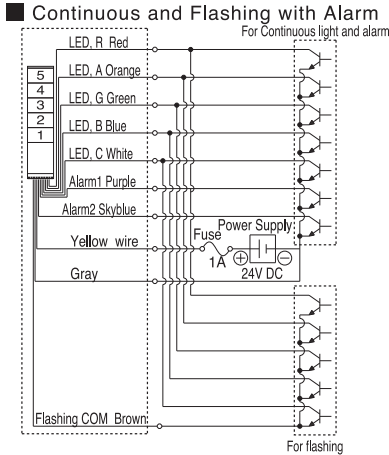
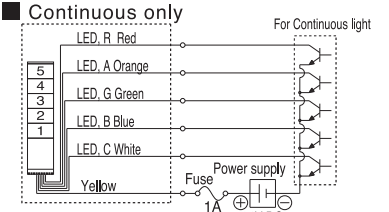
Fuse for outer contact protection

Voltage	Fuse
All voltage types	1A

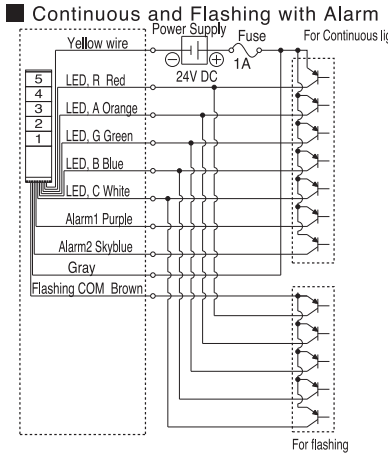
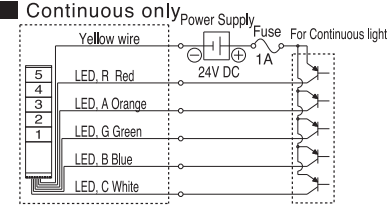


NPN(PNP) Transistor

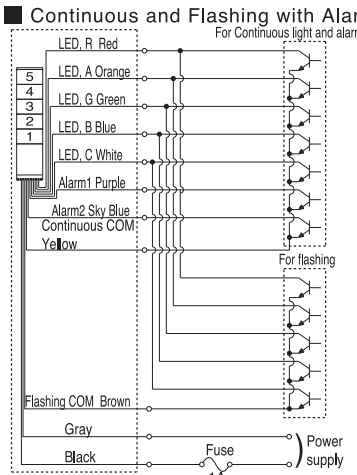
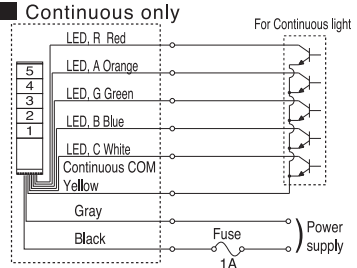
24V DC NPN Transistor



24V DC PNP Transistor



100/220V AC NPN Transistor

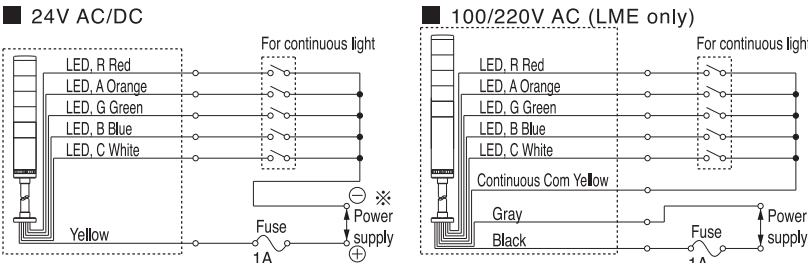


	Transistor	Current Capacity	Withstanding Voltage	Current Leakage
LES	NPN or PNP	Ic≥100mA (LED UNIT)	Vc≥35V	IL≤1mA
LE		Ic≥300mA (Alarm)	Vc≥50V	
LHE		Ic≥50mA (LED UNIT)		

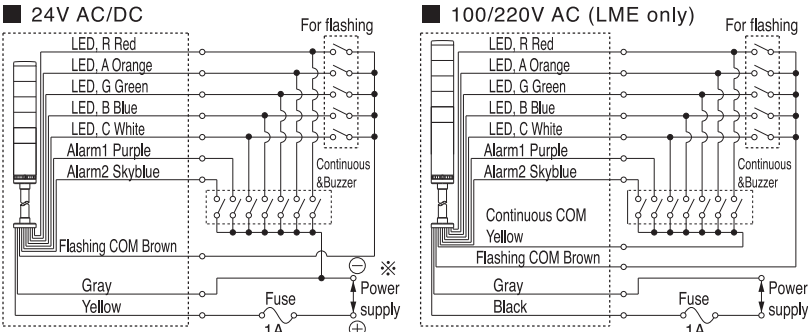
LME/LMS Wiring Diagram

[LME/LMS-□□□(FB)(W)(L)(K) Model]

LME(-W)/LME(-W)-S-Q/LMS [Continuous type]



LME-FB(W)/LME(-W)-S-Q [Continuous/Flashing/Alarm type]



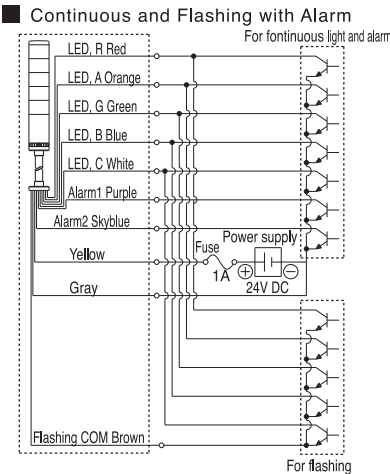
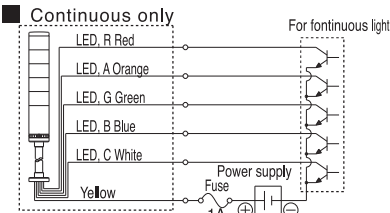
※LME-FB-S/Q Series: 24V model is DC only, with only one polarity: positive (+) on Yellow (NPN)

Signal line voltage and current per LED module

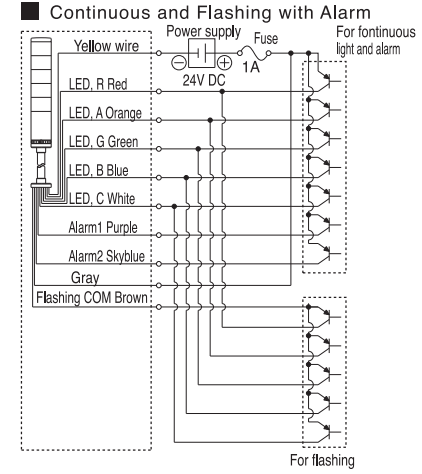
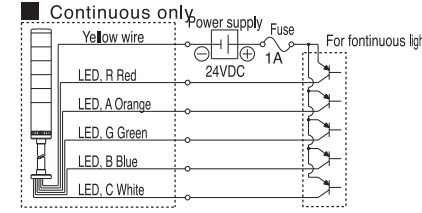
Model	Rated Voltage	Signal Line Voltage	LED		Buzzer	
			Signal Line Current R,A	Current G,B,C	Signal Line Current	Inrush Current
LME	24V AC/DC	24V AC/DC	50mA	20mA	40mA	250mA
	100V AC	24V DC				
	220V AC					
LME-S	24V DC	24V DC	50mA	40mA	40mA	250mA
	100V AC					
	220V AC					

NPN(PNP)Transistor

24V DC NPN Transistor



DC24V PNP Transistor(except for S/Q type)



Model	Transistor (NPN or PNP)	Voltage	Vc ≥ 35V
Current Capacity	Ic ≥ 100mA (LED UNIT) Ic ≥ 300mA (Buzzer)	Current Leakage	IL ≤ 1mA



Lead wire color correspondence table

Color of LED unit	Color of Lead wire
Red	Red
Amber	Orange
Green	Green
Blue	Blue
Clear	White

LME-S/Q

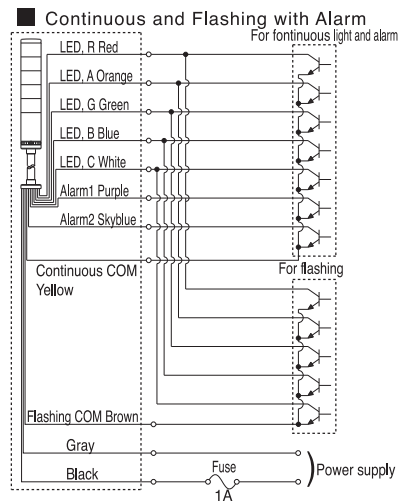
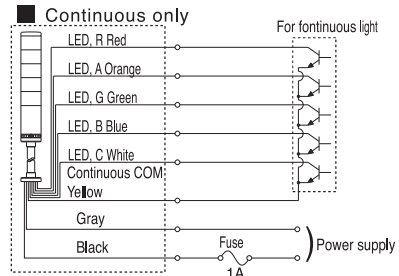
Color of LED unit	Color of Lead wire
S1 Red-Amber-Green	Red-Orange-Green
S4 Red-Green-Blue	Red-Green-Blue
S7 Amber-Green-Blue	Orange-Green-Blue
Q1 Red-Amber-Green-Blue	Red-Orange-Green-Blue
Q2 Red-Amber-Green-Clear	Red-Orange-Green-White
Q4 Amber-Green-Blue-Clear	Orange-Green-Blue-White

Alarm	Color of Lead wire
Alarm 1	Purple
Alarm 2	Skyblue

Fuse for outer contact protection

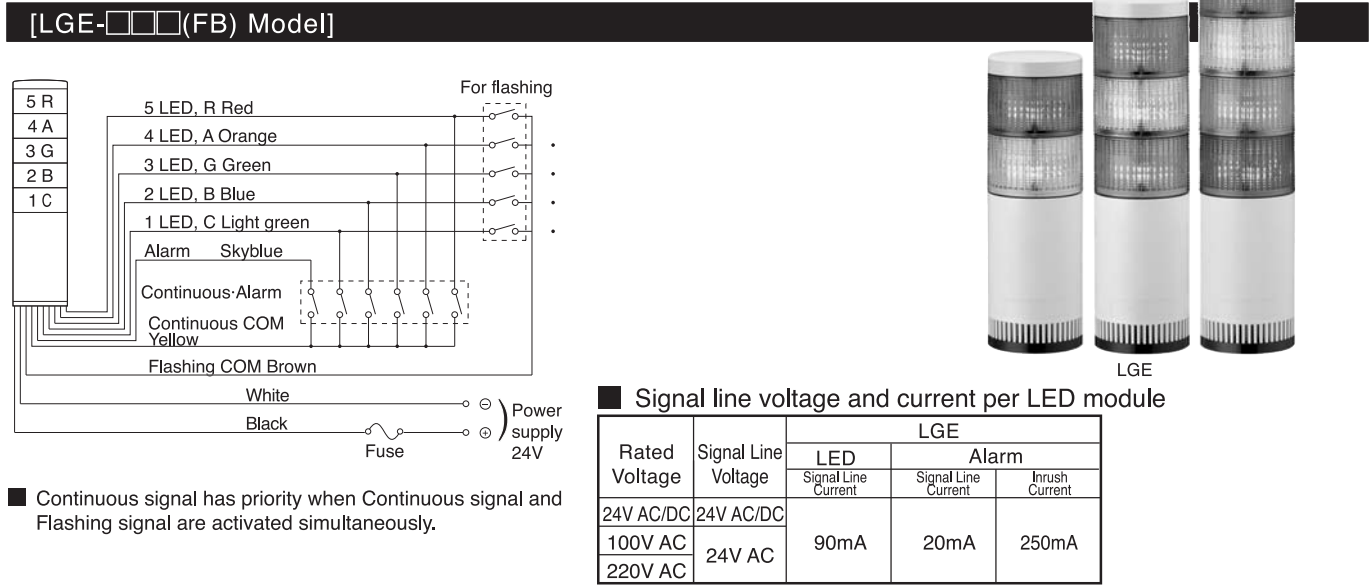
Voltage	Fuse
All voltage types	1A

AC100/220V NPN Transistor



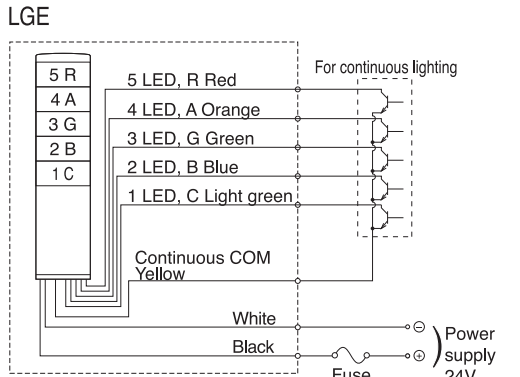


LGE Wiring Diagram

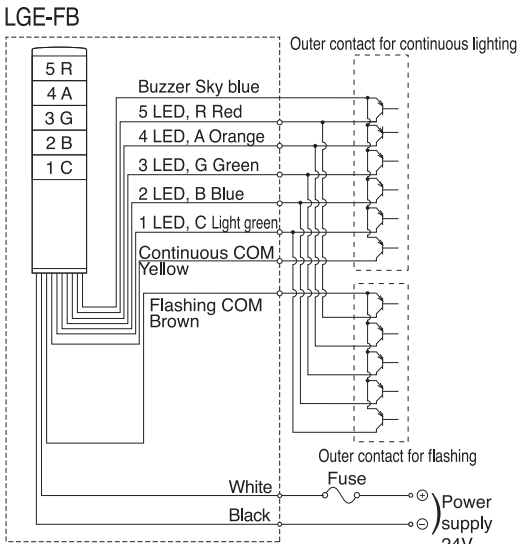
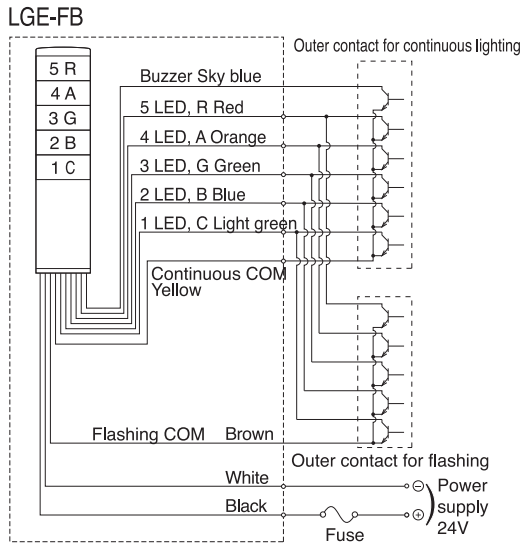
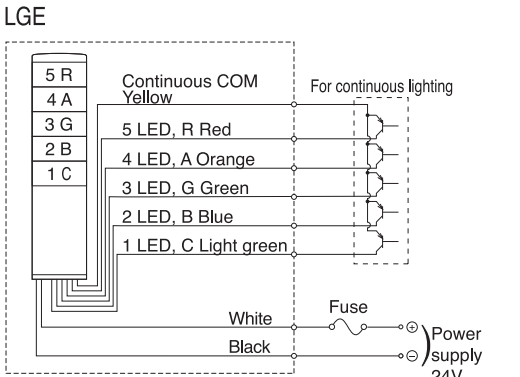


DC 24V: NPN(PNP)Transistor

■ NPN



■ PNP



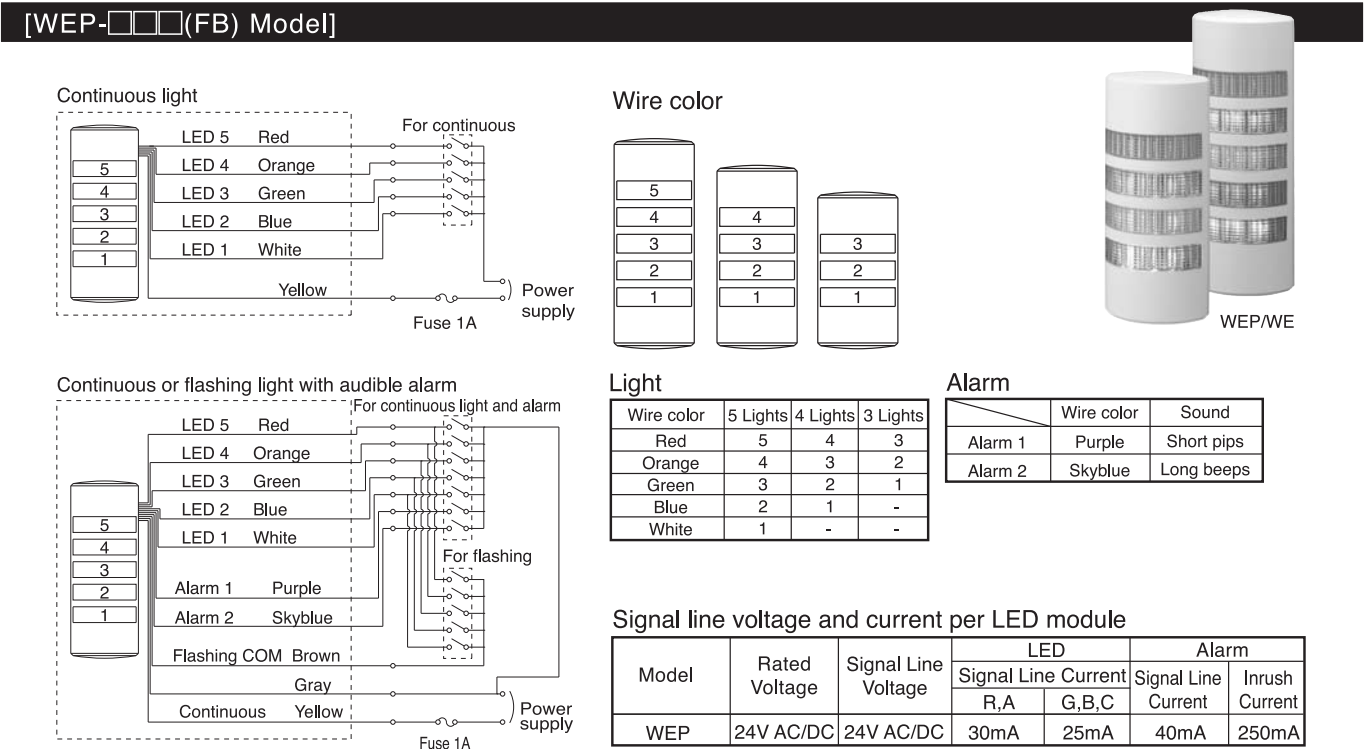
■ Fuse rate

Model	LGE
Voltage Type	All types
Fuse	Miniature glass tube fuse ø5×20mm
Rated Current	1A

■ Transistor Capacity (NPN/PNP)

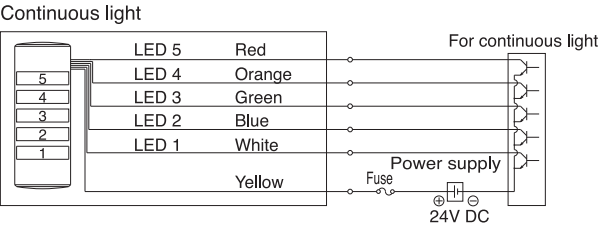
Model	LGE
Current Capacity	Ic≥0.1A (LED unit) Ic≥0.3A (Alarm)
Voltage	Vc≥35V

WEP Wiring Diagram

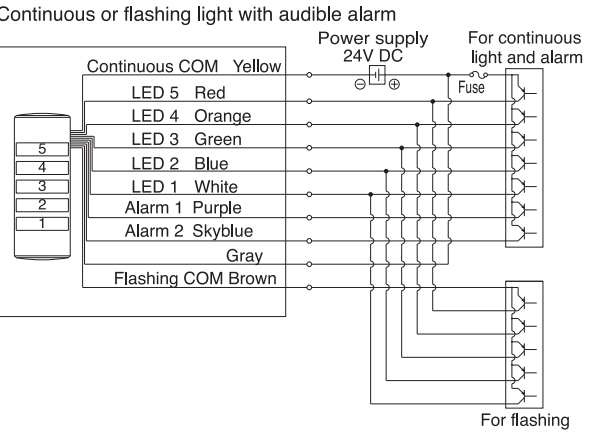
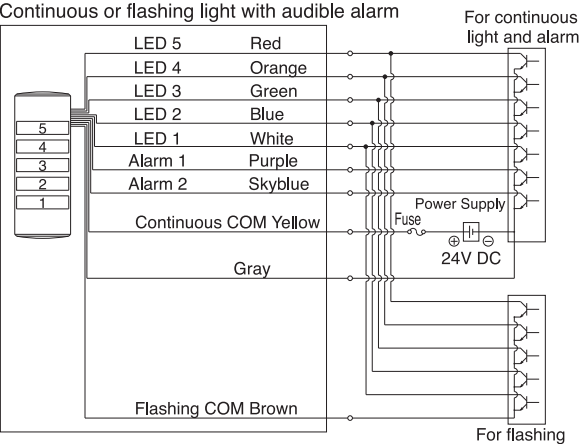
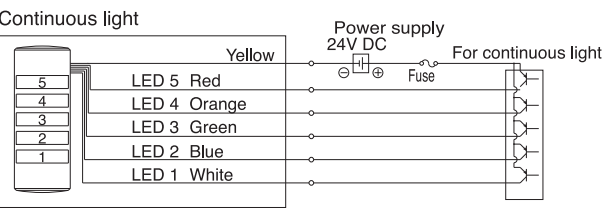


24V DC NPN(PNP) Transistor

NPN Transistor



PNP Transistor

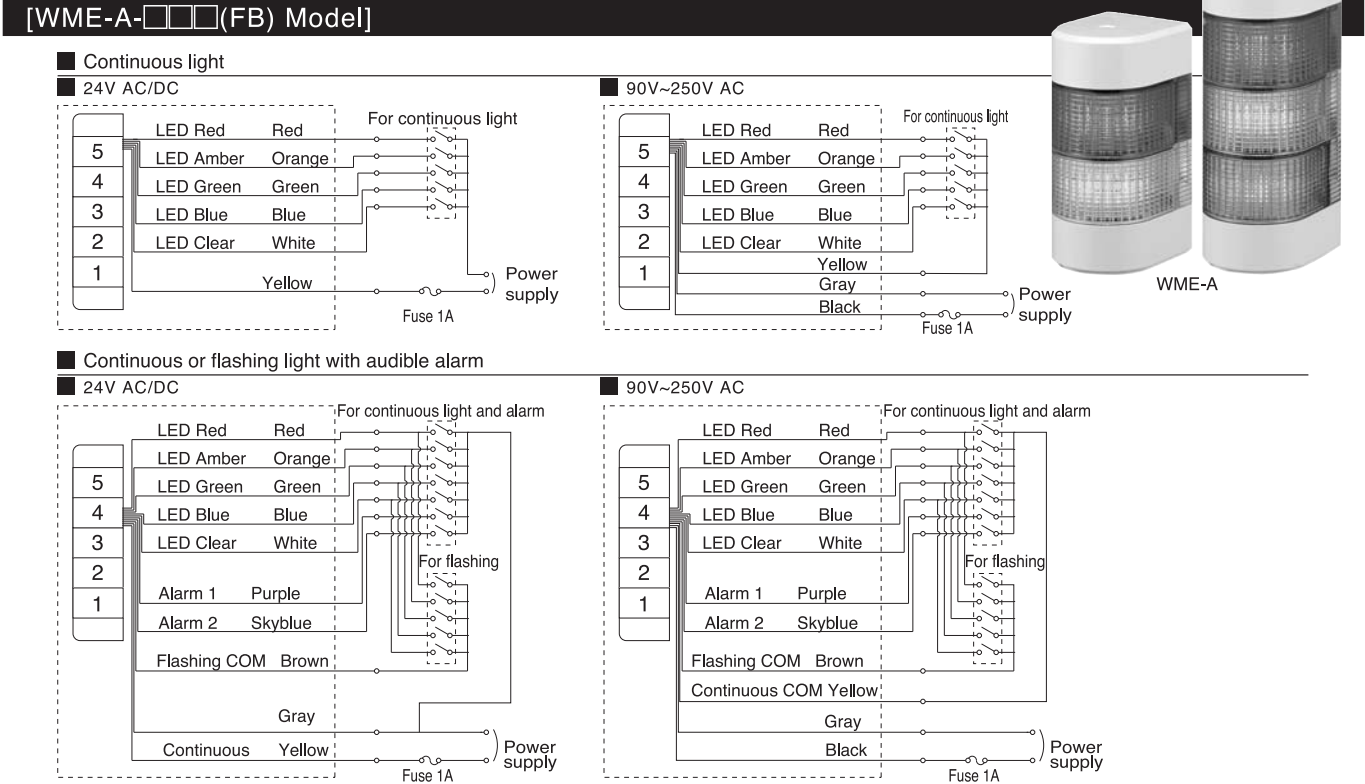


Type	Transistor (NPN or PNP)	Voltage	Vc≥35V
Current Capacity	Ic≥0.1A Buzzer 300mA	Current Leakage	IL≤0.1A

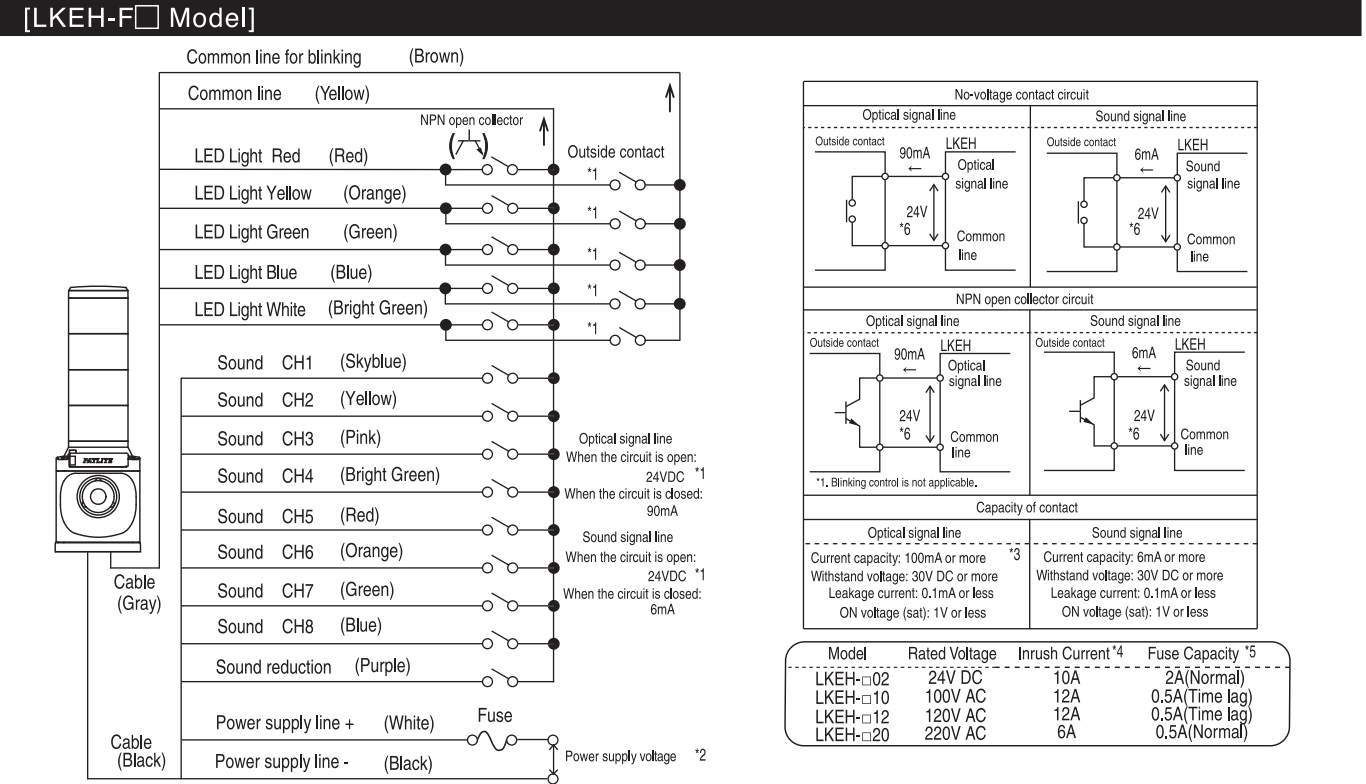
[Fuse Rating]

1A
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WME-A Wiring Diagram



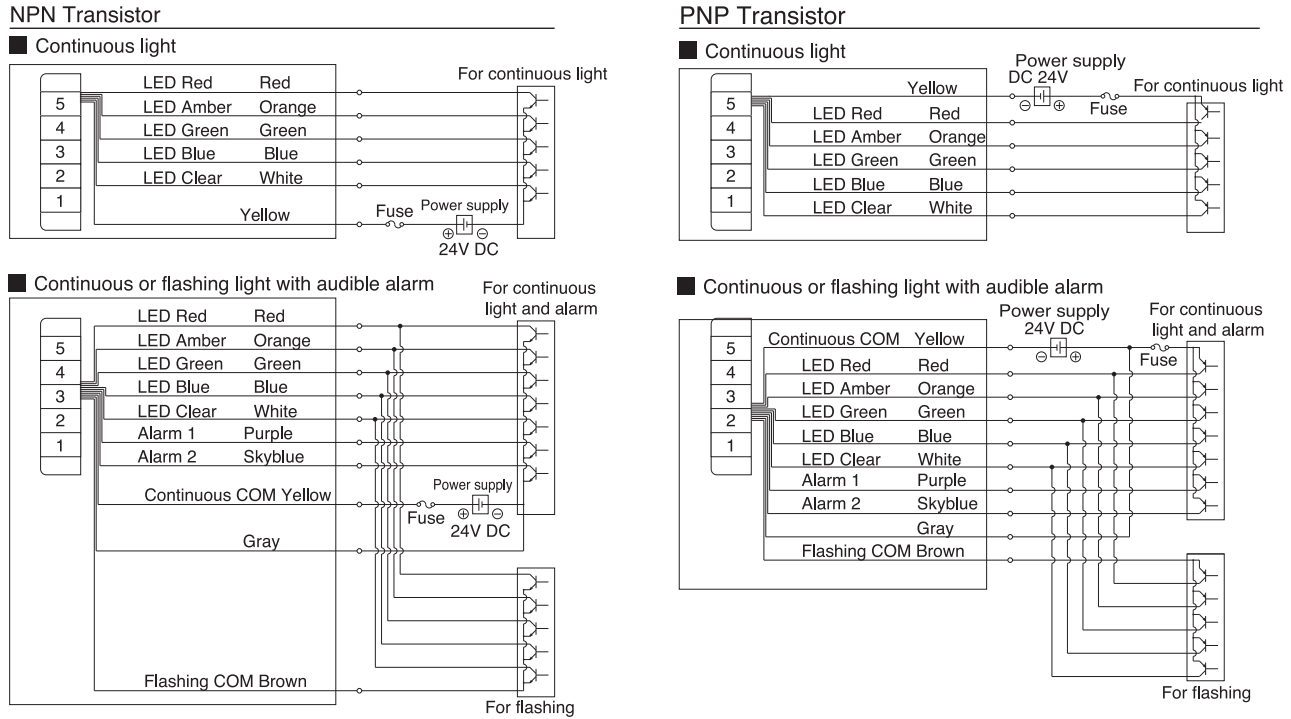
LKEH-F□/LKEH-FV Wiring Diagram



Signal line voltage and current per LED module

Model	Rated Voltage	Signal Line Voltage	LED					Alarm	
			R	A	G	B	C	Signal Line Current	Inrush Current
WME-A	24V AC/DC	24V AC/DC	35mA					50mA	40mA
	90V~250V AC	24V DC	35mA					50mA	250mA

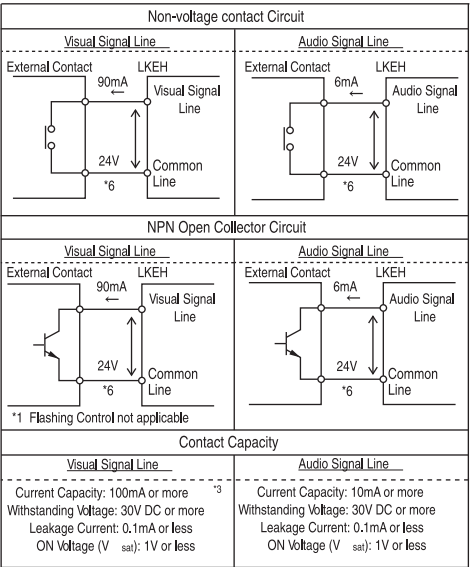
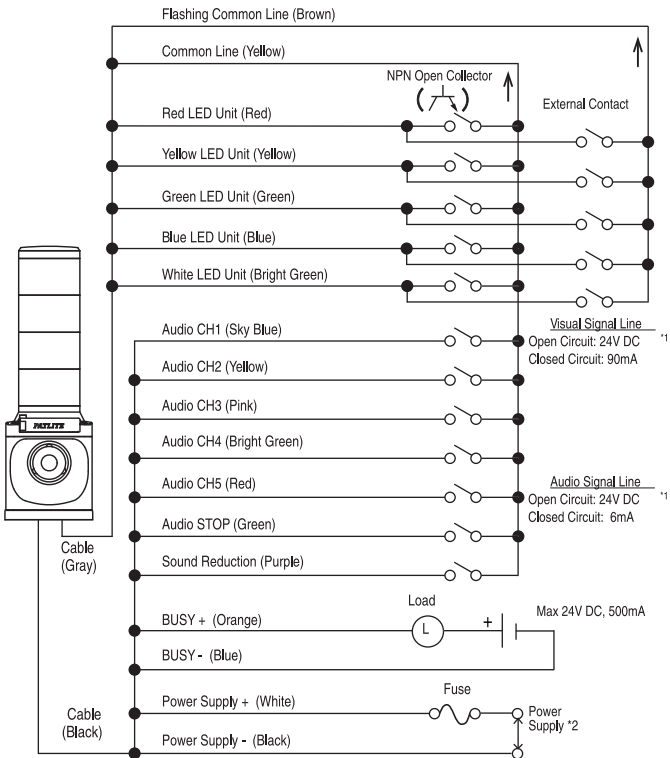
24V DC NPN(PNP) Transistor



Type	Transistor (NPN or PNP)	Voltage	Vc≥35V (48V: Vc≥63V)
Current Capacity	Ic≥0.1A Buzzer 300mA	Current Leakage	IL≤0.1A

[Fuse Rating]

1A
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Model	Rated Voltage	Inrush Current *4	Fuse Capacity *5
LKEH- □ 02	24V DC	10A	2.0A(Fast)
LKEH- □ 10	100V AC	12A	0.5A(Delay)
LKEH- □ 12	120V AC	12A	0.5A(Delay)
LKEH- □ 20	220V AC	6A	0.5A(Fast)

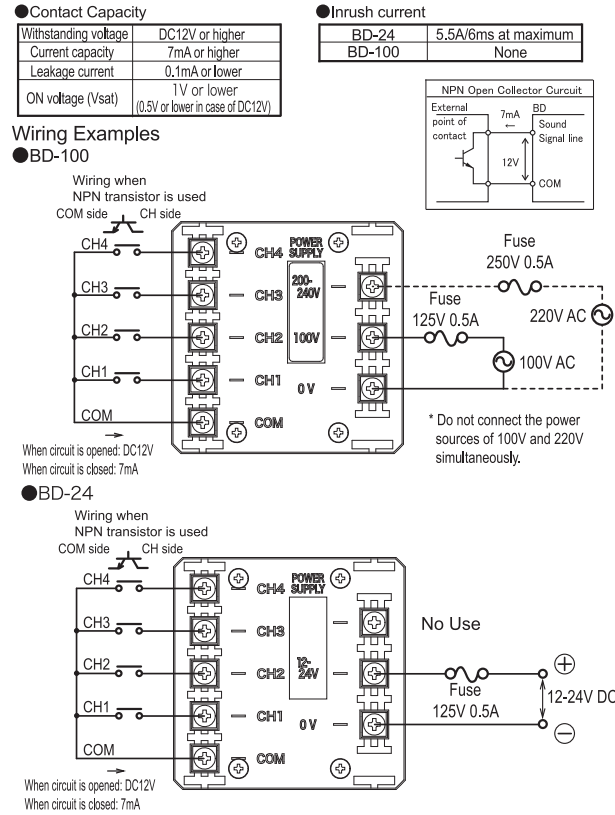
※ Do not supply power to the signal lines.  
Failure to comply will damage the product.

\*1. Flashing control is only for non-voltage contact circuit applications.  
\*2. For the LKEH-□02(P), connect the Power Supply (Black) to the negative terminal. For the LKEH-□0202UL (UL Standard), connect to a Class 2 power supply.  
\*3. Rated contact capacity per LED light unit. When using more than one LED light unit of the same color, refer to the LKEH Manual for proper current calculations.  
\*4. Rated at maximum operating voltage when power is first switched on.  
\*5. For the LKEH-□10/12, use a slow-blow fuse. If a fast-blow type is used, there is a risk of blowing the fuse from the inrush current.  
\*6. Indicates the supply voltage of the LKEH-□02(P).

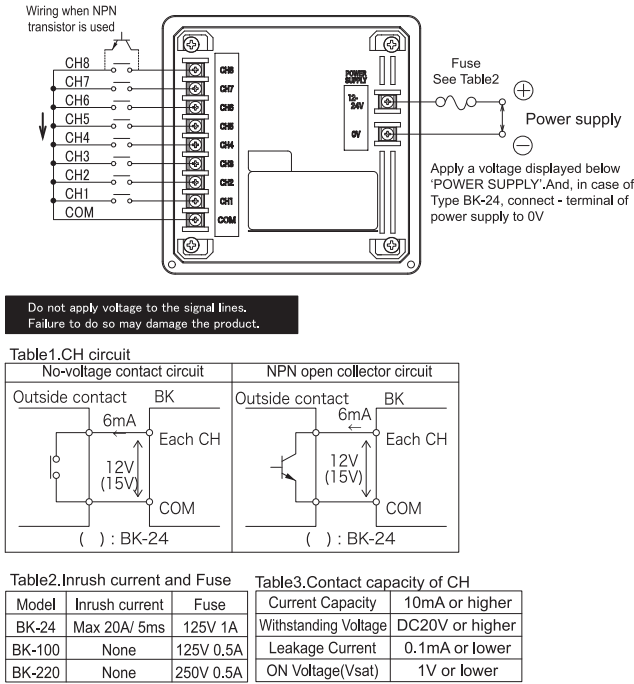


BD/BK BDV/BKV Wiring Diagram

[BD Model]

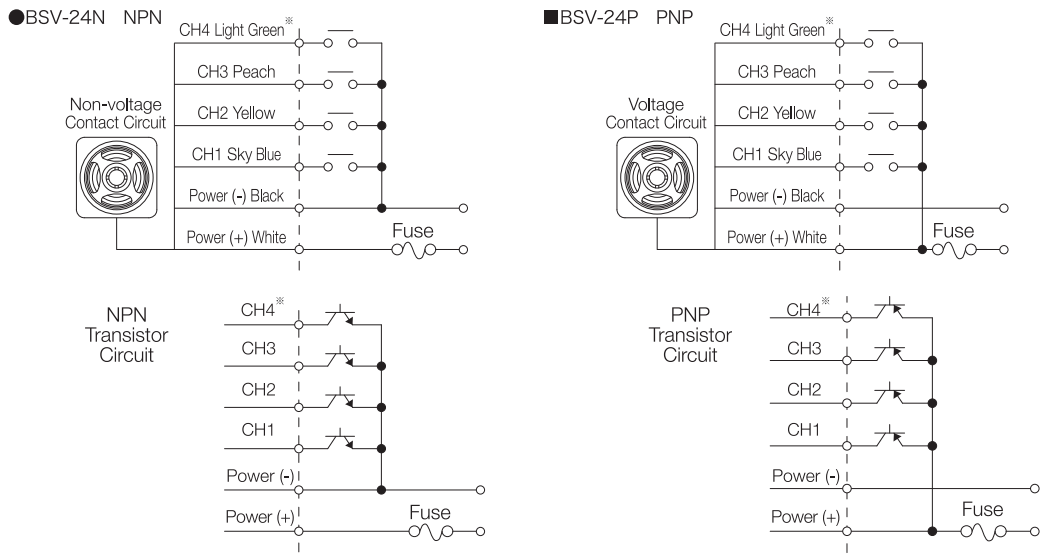


[BK Model]



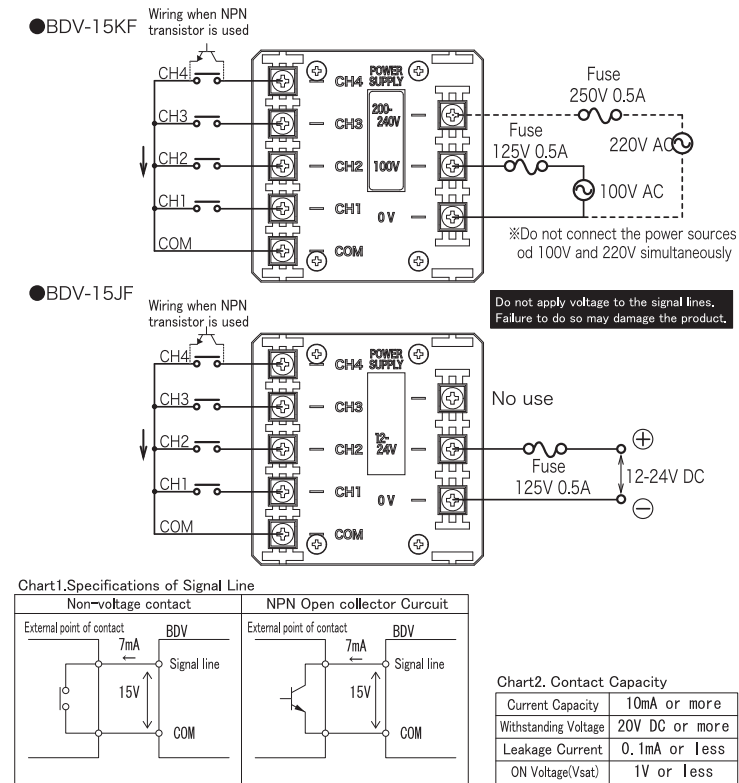
BSV/WG Wiring Diagram

[BSV Model]

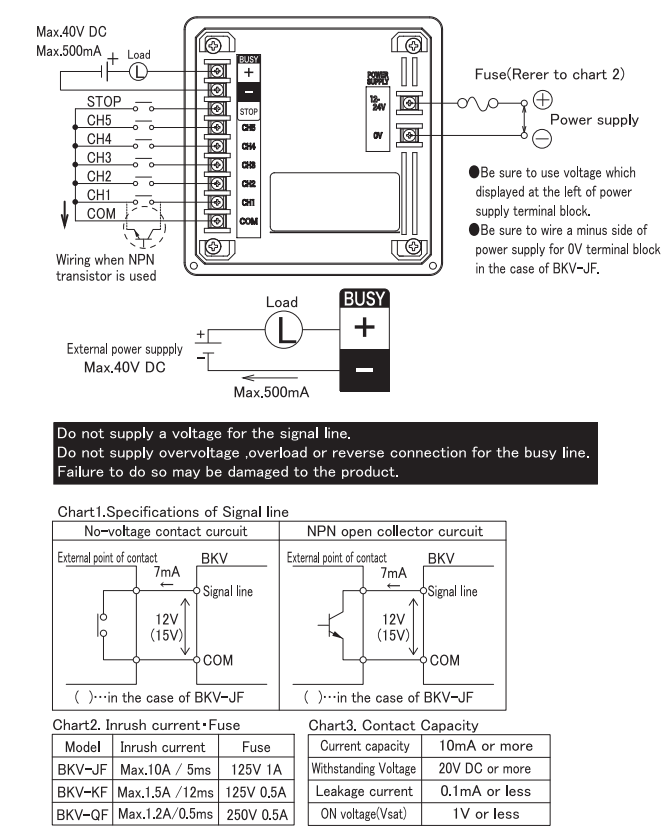


※The Sound Reduction Function is used on CH4 (Light Green Wire).  
When in use, playback messages can only be used for three Bit Input or seven Binary Input channels.

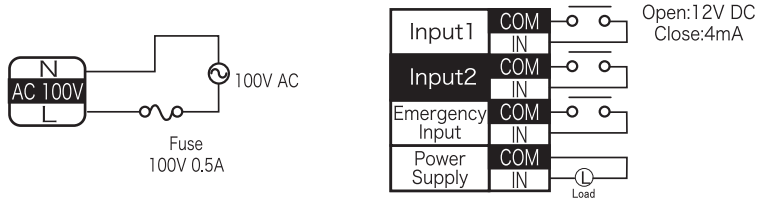
[BDV Model]



[BKV Model]

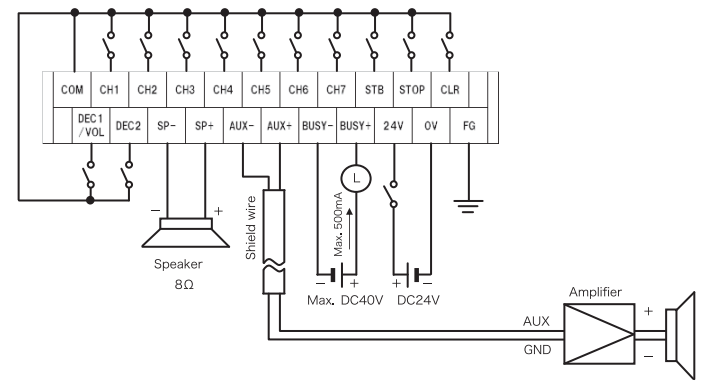


[WG Model]



# FV/RFT/RFV Wiring Diagram

## [FV-127JP Model]



## RFT Model]

Model	Inrush Current	Fuse
RFT-24	Max. 10A / 5ms	125V 1A
RFT-100	-	125V 1A
RFT-220	-	250V 1A

Power supply line (White) → Fuse → Power supply line (Black)

Common line (Brown)

LED Warning Light (Red)

CH1 (Skyblue)

CH2 (Yellow)

CH3 (Pink)

CH4 (Light Green)

CH5 (Purple)

CH6 (Orange)

CH7 (Green)

CH8 (Blue)

Outside contact

NPN open collector

Power supply

Do not apply voltage to the signal lines.  
Failure to do so may damage the product.

Non-voltage contact circuit

NPN open collector circuit

Current capacity: 10mA or more  
Withstanding voltage: 20V DC or more  
Leakage current: 0.1mA or less  
ON voltage (sat): 1V or less

## RFV Model]

Model	Inrush Current	Fuse
RFT-24	Max. 10A / 5ms	125V 1A
RFT-100	-	125V 1A
RFT-220	-	250V 1A

Power supply line (White) → Fuse → Power supply line (Black)

Common line (Brown)

LED Warning Light (Red)

CH1 (Light Blue)

CH2 (Yellow)

CH3 (Pink)

CH4 (Light Green)

STOP (Blue)

Muting (Purple)

Outside contact

NPN open collector

Power supply

RFV-24F  
Open:15V DC  
Close:6mA

RFV-100/220F  
Open:10V DC  
Close:6mA

Do not apply voltage to the signal lines.  
Failure to do so may damage the product.

No-voltage contact circuit

( ):RFV-24F

NPN open collector circuit

( ):RFV-24F

Current capacity: 10mA or more  
Withstand voltage: 20V DC or more  
Leakage current: 0.1mA or less  
ON voltage (sat): 1V or less



UL Certification Model  
Model Comparison Table

The "UL Registration Model" which has acquired the UL certification is printed in the model name label of our company product as it is.  
The "UL Registration Model" does not show the layer number of the actual model. Therefore, please refer to the following model comparison table when choose the model you need. When making order, please confirm detailed information such as product color etc. listed on each product page (As of June 30, 2011)

Model	UL Registration Model
ME-102A	ME-_02A
ME-202A	ME-_02A
ME-302A	ME-_02A
ME-402A	ME-_02A
ME-502A	ME-_02A
MES-102A	MES-_02A
MES-202A	MES-_02A
MES-302A	MES-_02A
MES-402A	MES-_02A
MES-502A	MES-_02A
MP-102	MP-_02
MP-202	MP-_02
MP-302	MP-_02
MP-402	MP-_02
MP-502	MP-_02
MPS-102	MPS-_02
MPS-202	MPS-_02
MPS-302	MPS-_02
MPS-402	MPS-_02
MPS-502	MPS-_02
LCE-102A	LCE-_02A
LCE-202A	LCE-_02A
LCE-302A	LCE-_02A
LCE-402A	LCE-_02A
LCE-502A	LCE-_02A
LCE-1M2A	LCE-_M2A
LCE-2M2A	LCE-_M2A
LCE-3M2A	LCE-_M2A
LCE-4M2A	LCE-_M2A
LCE-5M2A	LCE-_M2A
LCE-102AW	LCE-_02AW
LCE-202AW	LCE-_02AW
LCE-302AW	LCE-_02AW
LCE-402AW	LCE-_02AW
LCE-502AW	LCE-_02AW
LCE-1M2AW	LCE-_M2AW
LCE-2M2AW	LCE-_M2AW
LCE-3M2AW	LCE-_M2AW
LCE-4M2AW	LCE-_M2AW
LCE-5M2AW	LCE-_M2AW
LCE-102AFB	LCE-_02AFB
LCE-202AFB	LCE-_02AFB
LCE-302AFB	LCE-_02AFB
LCE-402AFB	LCE-_02AFB
LCE-502AFB	LCE-_02AFB
LCE-1M2AFB	LCE-_M2AFB
LCE-2M2AFB	LCE-_M2AFB
LCE-3M2AFB	LCE-_M2AFB
LCE-4M2AFB	LCE-_M2AFB
LCE-5M2AFB	LCE-_M2AFB
LCE-102AFBK	LCE-_02AFBK
LCE-202AFBK	LCE-_02AFBK
LCE-302AFBK	LCE-_02AFBK
LCE-402AFBK	LCE-_02AFBK
LCE-502AFBK	LCE-_02AFBK
LCE-102AFBW	LCE-_02AFBW
LCE-202AFBW	LCE-_02AFBW
LCE-302AFBW	LCE-_02AFBW
LCE-402AFBW	LCE-_02AFBW
LCE-502AFBW	LCE-_02AFBW
LCE-1M2AFBW	LCE-_M2AFBW

Model	UL Registration Model
LCE-2M2AFBW	LCE-_M2AFBW
LCE-3M2AFBW	LCE-_M2AFBW
LCE-4M2AFBW	LCE-_M2AFBW
LCE-5M2AFBW	LCE-_M2AFBW
LCS-102A	LCS-_02A
LCS-202A	LCS-_02A
LCS-302A	LCS-_02A
LCS-402A	LCS-_02A
LCS-502A	LCS-_02A
LCS-102AK	LCS-_02AK
LCS-202AK	LCS-_02AK
LCS-302AK	LCS-_02AK
LCS-402AK	LCS-_02AK
LCS-502AK	LCS-_02AK
LES-102A	LES-_02A
LES-202A	LES-_02A
LES-302A	LES-_02A
LES-402A	LES-_02A
LES-502A	LES-_02A
LES-102AW	LES-_02AW
LES-202AW	LES-_02AW
LES-302AW	LES-_02AW
LES-402AW	LES-_02AW
LES-502AW	LES-_02AW
LE-101P	LE-_01P
LE-201P	LE-_01P
LE-301P	LE-_01P
LE-401P	LE-_01P
LE-501P	LE-_01P
LE-102P	LE-_02P
LE-202P	LE-_02P
LE-302P	LE-_02P
LE-402P	LE-_02P
LE-502P	LE-_02P
LE-101W	LE-_01W
LE-201W	LE-_01W
LE-301W	LE-_01W
LE-401W	LE-_01W
LE-501W	LE-_01W
LE-102W	LE-_02W
LE-202W	LE-_02W
LE-302W	LE-_02W
LE-402W	LE-_02W
LE-502W	LE-_02W
LE-101FBP	LE-_01FBP
LE-201FBP	LE-_01FBP
LE-301FBP	LE-_01FBP
LE-401FBP	LE-_01FBP
LE-501FBP	LE-_01FBP
LE-102FBP	LE-_02FBP
LE-202FBP	LE-_02FBP
LE-302FBP	LE-_02FBP
LE-402FBP	LE-_02FBP
LE-502FBP	LE-_02FBP
LE-101FBW	LE-_01FBW
LE-201FBW	LE-_01FBW
LE-301FBW	LE-_01FBW
LE-401FBW	LE-_01FBW
LE-501FBW	LE-_01FBW
LE-102FBW	LE-_02FBW
LE-202FBW	LE-_02FBW

Model	UL Registration Model
LE-302FBW	LE-_02FBW
LE-402FBW	LE-_02FBW
LE-502FBW	LE-_02FBW
LEL-102	LEL-_02
LEL-202	LEL-_02
LEL-302	LEL-_02
LEL-402	LEL-_02
LEL-502	LEL-_02
LEL-102P	LEL-_02P
LEL-202P	LEL-_02P
LEL-302P	LEL-_02P
LEL-402P	LEL-_02P
LEL-502P	LEL-_02P
LEL-102W	LEL-_02W
LEL-202W	LEL-_02W
LEL-302W	LEL-_02W
LEL-402W	LEL-_02W
LEL-502W	LEL-_02W
LEL-102FB	LEL-_02FB
LEL-202FB	LEL-_02FB
LEL-302FB	LEL-_02FB
LEL-402FB	LEL-_02FB
LEL-502FB	LEL-_02FB
LEL-102FBP	LEL-_02FBP
LEL-202FBP	LEL-_02FBP
LEL-302FBP	LEL-_02FBP
LEL-402FBP	LEL-_02FBP
LEL-502FBP	LEL-_02FBP
LEL-102FBW	LEL-_02FBW
LEL-202FBW	LEL-_02FBW
LEL-302FBW	LEL-_02FBW
LEL-402FB	LEL-_02FB
LEL-502FB	LEL-_02FB
LEL-102FBP	LEL-_02FBP
LEL-202FBP	LEL-_02FBP
LEL-302FBP	LEL-_02FBP
LEL-402FBP	LEL-_02FBP
LEL-502FBP	LEL-_02FBP
LEL-112	LEL-_12
LEL-212	LEL-_12
LEL-312	LEL-_12
LEL-412	LEL-_12
LEL-512	LEL-_12
LEL-112P	LEL-_12P
LEL-212P	LEL-_02P
LEL-312P	LEL-_02P
LEL-412P	LEL-_02P
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LEL-212W	LEL-_12W
LEL-312W	LEL-_12W
LEL-412W	LEL-_12W
LEL-512W	LEL-_12W
LEL-112FB	LEL-_12FB
LEL-212FB	LEL-_12FB
LEL-312FB	LEL-_12FB
LEL-412FB	LEL-_12FB
LEL-512FB	LEL-_12FB
LEL-112FBP	LEL-_12FBP
LEL-212FBP	LEL-_12FBP
LEL-312FBP	LEL-_12FBP
LEL-412FBP	LEL-_12FBP
LEL-512FBP	LEL-_12FBP
LEL-112FBW	LEL-_12FBW
LEL-212FBW	LEL-_12FBW
LEL-312FBW	LEL-_12FBW

Model	UL Registration Model
LEL-412FBW	LEL-_12FBW
LEL-512FBW	LEL-_12FBW
LEL-123	LEL-_23
LEL-223	LEL-_23
LEL-323	LEL-_23
LEL-423	LEL-_23
LEL-523	LEL-_23
LEL-123P	LEL-_23P
LEL-223P	LEL-_23P
LEL-323P	LEL-_23P
LEL-423P	LEL-_23P
LEL-523P	LEL-_23P
LEL-123W	LEL-_23W
LEL-223W	LEL-_23W
LEL-323W	LEL-_23W
LEL-423W	LEL-_23W
LEL-523W	LEL-_23W
LEL-123FB	LEL-_23FB
LEL-223FB	LEL-_23FB
LEL-323FB	LEL-_23FB
LEL-423FB	LEL-_23FB
LEL-523FB	LEL-_23FB
LEL-123FBP	LEL-_23FBP
LEL-223FBP	LEL-_23FBP
LEL-323FBP	LEL-_23FBP
LEL-423FBP	LEL-_23FBP
LEL-523FBP	LEL-_23FBP
LEL-123FBW	LEL-_23FBW
LEL-223FBW	LEL-_23FBW
LEL-323FBW	LEL-_23FBW
LEL-423FBW	LEL-_23FBW
LEL-523FBW	LEL-_23FBW
LME-102	LME-_02
LME-202	LME-_02
LME-302	LME-_02
LME-402	LME-_02
LME-502	LME-_02
LME-102L	LME-_02L
LME-202L	LME-_02L
LME-302L	LME-_02L
LME-402L	LME-_02L
LME-502L	LME-_02L
LME-102W	LME-_02W
LME-202W	LME-_02W
LME-302W	LME-_02W
LME-402W	LME-_02W
LME-502W	LME-_02W
LME-102FB	LME-_02FB
LME-202FB	LME-_02FB
LME-302FB	LME-_02FB
LME-402FB	LME-_02FB
LME-502FB	LME-_02FB
LME-102FBL	LME-_02FBL
LME-202FBL	LME-_02FBL
LME-302FBL	LME-_02FBL
LME-402FBL	LME-_02FBL
LME-502FBL	LME-_02FBL
LME-102FBK	LME-_02FBK
LME-202FBK	LME-_02FBK
LME-302FBK	LME-_02FBK
LME-402FBK	LME-_02FBK
LME-502FBK	LME-_02FBK
LME-102FBW	LME-_02FBW
LME-202FBW	LME-_02FBW
LME-302FBW	LME-_02FBW
LME-402FBW	LME-_02FBW
LME-502FBW	LME-_02FBW
LME-112	LME-_12
LME-212	LME-_12

Model	UL Registration Model
LME-312	LME-_12
LME-412	LME-_12
LME-512	LME-_12
LME-112L	LME-_12L
LME-212L	LME-_12L
LME-312L	LME-_12L
LME-412L	LME-_12L
LME-512L	LME-_12L
LME-112W	LME-_12W
LME-212W	LME-_12W
LME-312W	LME-_12W
LME-412W	LME-_12W
LME-512W	LME-_12W
LME-112FB	LME-_12FB
LME-212FB	LME-_12FB
LME-312FB	LME-_12FB
LME-412FB	LME-_12FB
LME-512FB	LME-_12FB
LME-112FBL	LME-_12FBL
LME-212FBL	LME-_12FBL
LME-312FBL	LME-_12FBL
LME-412FBL	LME-_12FBL
LME-512FBL	LME-_12FBL
LME-112FBK	LME-_12FBK
LME-212FBK	LME-_12FBK
LME-312FBK	LME-_12FBK
LME-412FBK	LME-_12FBK
LME-512FBK	LME-_12FBK
LME-112FBW	LME-_12FBW
LME-212FBW	LME-_12FBW
LME-312FBW	LME-_12FBW
LME-412FBW	LME-_12FBW
LME-512FBW	LME-_12FBW
LME-123	LME-_23
LME-223	LME-_23
LME-323	LME-_23
LME-423	LME-_23
LME-523	LME-_23
LME-123L	LME-_23L
LME-223L	LME-_23L
LME-323L	LME-_23L
LME-423L	LME-_23L
LME-523L	LME-_23L
LME-123W	LME-_23W
LME-223W	LME-_23W
LME-323W	LME-_23W
LME-423W	LME-_23W
LME-523W	LME-_23W
LME-123FB	LME-_23FB
LME-223FB	LME-_23FB
LME-323FB	LME-_23FB
LME-423FB	LME-_23FB
LME-523FB	LME-_23FB
LME-123FBL	LME-_23FBL
LME-223FBL	LME-_23FBL
LME-323FBL	LME-_23FBL
LME-423FBL	LME-_23FBL
LME-523FBL	LME-_23FBL
LME-123FBK	LME-_23FBK
LME-223FBK	LME-_23FBK
LME-323FBK	LME-_23FBK
LME-423FBK	LME-_23FBK
LME-523FBK	LME-_23FBK
LME-123FBW	LME-_23FBW
LME-223FBW	LME-_23FBW
LME-323FBW	LME-_23FBW
LME-423FBW	LME-_23FBW
LME-523FBW	LME-_23FBW
LME-102U	LME-_02U

Model	UL Registration Model
LME-202U	LME-_02U
LME-302U	LME-_02U
LME-402U	LME-_02U
LME-502U	LME-_02U
LME-102UL	LME-_02UL
LME-202UL	LME-_02UL
LME-302UL	LME-_02UL
LME-402UL	LME-_02UL
LME-502UL	LME-_02UL
LME-102UW	LME-_02UW
LME-202UW	LME-_02UW
LME-302UW	LME-_02UW
LME-402UW	LME-_02UW
LME-502UW	LME-_02UW
LME-102UFB	LME-_02UFB
LME-202UFB	LME-_02UFB
LME-302UFB	LME-_02UFB
LME-402UFB	LME-_02UFB
LME-502UFB	LME-_02UFB
LME-102UFBL	LME-_02UFBL
LME-202UFBL	LME-_02UFBL
LME-302UFBL	LME-_02UFBL
LME-402UFBL	LME-_02UFBL
LME-502UFBL	LME-_02UFBL
LME-102UFBK	LME-_02UFBK
LME-202UFBK	LME-_02UFBK
LME-302UFBK	LME-_02UFBK
LME-402UFBK	LME-_02UFBK
LME-502UFBK	LME-_02UFBK
LME-102UFBW	LME-_02UFBW
LME-202UFBW	LME-_02UFBW
LME-302UFBW	LME-_02UFBW
LME-402UFBW	LME-_02UFBW
LME-502UFBW	LME-_02UFBW
LME-112U	LME-_12U
LME-212U	LME-_12U
LME-312U	LME-_12U
LME-412U	LME-_12U
LME-512U	LME-_12U
LME-112UL	LME-_12UL
LME-212UL	LME-_12UL
LME-312UL	LME-_12UL
LME-412UL	LME-_12UL
LME-512UL	LME-_12UL
LME-112UW	LME-_12UW
LME-212UW	LME-_12UW
LME-312UW	LME-_12UW
LME-412UW	LME-_12UW
LME-512UW	LME-_12UW
LME-112UFB	LME-_12UFB
LME-212UFB	LME-_12UFB
LME-312UFB	LME-_12UFB
LME-412UFB	LME-_12UFB
LME-512UFB	LME-_12UFB
LME-112UFBK	LME-_12UFBK
LME-212UFBK	LME-_12UFBK
LME-312UFBK	LME-_12UFBK
LME-412UFBK	LME-_12UFBK
LME-512UFBK	LME-_12UFBK
LME-112UFBW	LME-_12UFBW
LME-212UFBW	LME-_12UFBW
LME-312UFBW	LME-_12UFBW
LME-412UFBW	LME-_12UFBW
LME-512UFBW	LME-_12UFBW

UL Certification Model  
Model Comparison Table

The "UL Registration Model" which has acquired the UL certification is printed in the model name label of our company product as it is.  
The "UL Registration Model" does not show the layer number of the actual model. Therefore, please refer to the following model comparison table when choose the model you need. When making order, please confirm detailed information such as product color etc. listed on each product page (As of June 30, 2011)

Model	UL Registration Model	Model	UL Registration Model	Model	UL Registration Model	Model	UL Registration Model	Model	UL Registration Model	Model	UL Registration Model
LME-123U	LME-_23U	LME-202NFBK	LME-_02NFBK	LME-323NFB	LME-_23NFB	LMS-102K	LMS-_02K	LKEH-302FCUL	LKEH-_02FCUL		
LME-223U	LME-_23U	LME-302NFBK	LME-_02NFBK	LME-423NFB	LME-_23NFB	LMS-202K	LMS-_02K	LKEH-402FCUL	LKEH-_02FCUL		
LME-323U	LME-_23U	LME-402NFBK	LME-_02NFBK	LME-523NFB	LME-_23NFB	LMS-302K	LMS-_02K	LKEH-102FDUL	LKEH-_02FDUL		
LME-423U	LME-_23U	LME-502NFBK	LME-_02NFBK	LME-123NFB	LME-_23NFB	LMS-402K	LMS-_02K	LKEH-202FDUL	LKEH-_02FDUL		
LME-523U	LME-_23U	LME-102NFBW	LME-_02NFBW	LME-223NFB	LME-_23NFB	LMS-502K	LMS-_02K	LKEH-302FDUL	LKEH-_02FDUL		
LME-123UL	LME-_23UL	LME-202NFBW	LME-_02NFBW	LME-323NFB	LME-_23NFB	LHE-102A	LHE-_02A	LKEH-402FDUL	LKEH-_02FDUL		
LME-223UL	LME-_23UL	LME-302NFBW	LME-_02NFBW	LME-423NFB	LME-_23NFB	LHE-202A	LHE-_02A	LKEH-102FEUL	LKEH-_02FEUL		
LME-323UL	LME-_23UL	LME-402NFBW	LME-_02NFBW	LME-523NFB	LME-_23NFB	LHE-302A	LHE-_02A	LKEH-202FEUL	LKEH-_02FEUL		
LME-423UL	LME-_23UL	LME-502NFBW	LME-_02NFBW	LME-123NFBK	LME-_23NFBK	LHE-402A	LHE-_02A	LKEH-302FEUL	LKEH-_02FEUL		
LME-523UL	LME-_23UL	LME-112N	LME-_12N	LME-223NFBK	LME-_23NFBK	LHE-502A	LHE-_02A	LKEH-402FEUL	LKEH-_02FEUL		
LME-123UW	LME-_23UW	LME-212N	LME-_12N	LME-323NFBK	LME-_23NFBK	LHE-102AFB	LHE-_02AFB	LKEH-102FVUL	LKEH-_02FVUL		
LME-223UW	LME-_23UW	LME-312N	LME-_12N	LME-423NFBK	LME-_23NFBK	LHE-202AFB	LHE-_02AFB	LKEH-202FVUL	LKEH-_02FVUL		
LME-323UW	LME-_23UW	LME-412N	LME-_12N	LME-523NFBK	LME-_23NFBK	LHE-302AFB	LHE-_02AFB	LKEH-302FVUL	LKEH-_02FVUL		
LME-423UW	LME-_23UW	LME-512N	LME-_12N	LME-123NFBW	LME-_23NFBW	LHE-402AFB	LHE-_02AFB	LKEH-402FVUL	LKEH-_02FVUL		
LME-523UW	LME-_23UW	LME-112NL	LME-_12NL	LME-223NFBW	LME-_23NFBW	LHE-502AFB	LHE-_02AFB				
LME-123UFB	LME-_23UFB	LME-212NL	LME-_12NL	LME-323NFBW	LME-_23NFBW	LHE-112A	LHE-_12A				
LME-223UFB	LME-_23UFB	LME-312NL	LME-_12NL	LME-423NFBW	LME-_23NFBW	LHE-212A	LHE-_12A				
LME-323UFB	LME-_23UFB	LME-412NL	LME-_12NL	LME-523NFBW	LME-_23NFBW	LHE-312A	LHE-_12A				
LME-423UFB	LME-_23UFB	LME-512NL	LME-_12NL	LME-102-S□	LME-_02S	LHE-412A	LHE-_12A				
LME-523UFB	LME-_23UFB	LME-112NW	LME-_12NW	LME-102-Q□	LME-_02Q	LHE-512A	LHE-_12A				
LME-123UFB	LME-_23UFB	LME-212NW	LME-_12NW	LME-102W-S□	LME-_02WS	LHE-112AFB	LHE-_12AFB				
LME-223UFB	LME-_23UFB	LME-312NW	LME-_12NW	LME-102W-Q□	LME-_02WQ	LHE-212AFB	LHE-_12AFB				
LME-323UFB	LME-_23UFB	LME-412NW	LME-_12NW	LME-102FB-S□	LME-_02FBS	LHE-312AFB	LHE-_12AFB				
LME-423UFB	LME-_23UFB	LME-512NW	LME-_12NW	LME-102FB-Q□	LME-_02FBQ	LHE-412AFB	LHE-_12AFB				
LME-523UFB	LME-_23UFB	LME-112NFB	LME-_12NFB	LME-102FBW-S□	LME-_02FBWS	LHE-512AFB	LHE-_12AFB				
LME-123UFBK	LME-_23UFBK	LME-212NFB	LME-_12NFB	LME-102FBW-Q□	LME-_02FBWQ	LHE-123A	LHE-_23A				
LME-223UFBK	LME-_23UFBK	LME-312NFB	LME-_12NFB	LME-112-S□	LME-_12S	LHE-223A	LHE-_23A				
LME-323UFBK	LME-_23UFBK	LME-412NFB	LME-_12NFB	LME-112-Q□	LME-_12Q	LHE-323A	LHE-_23A				
LME-423UFBK	LME-_23UFBK	LME-512NFB	LME-_12NFB	LME-112W-S□	LME-_12WS	LHE-423A	LHE-_23A				
LME-523UFBK	LME-_23UFBK	LME-112NFB	LME-_12NFB	LME-112W-Q□	LME-_12WQ	LHE-523A	LHE-_23A				
LME-123UFBW	LME-_23UFBW	LME-212NFB	LME-_12NFB	LME-112FB-S□	LME-_12FBS	LHE-123AFB	LHE-_23AFB				
LME-223UFBW	LME-_23UFBW	LME-312NFB	LME-_12NFB	LME-112FB-Q□	LME-_12FBQ	LHE-223AFB	LHE-_23AFB				
LME-323UFBW	LME-_23UFBW	LME-412NFB	LME-_12NFB	LME-112FBW-S□	LME-_12FBWS	LHE-323AFB	LHE-_23AFB				
LME-423UFBW	LME-_23UFBW	LME-512NFB	LME-_12NFB	LME-112FBW-Q□	LME-_12FBWQ	LHE-423AFB	LHE-_23AFB				
LME-523UFBW	LME-_23UFBW	LME-112NFBK	LME-_12NFBK	LME-123-S□	LME-_23S	LHE-523AFB	LHE-_23AFB				
LME-102N	LME-_02N	LME-212NFBK	LME-_12NFBK	LME-123-Q□	LME-_23Q	WEP-302	WEP-_02				
LME-202N	LME-_02N	LME-312NFBK	LME-_12NFBK	LME-123W-S□	LME-_23WS	WEP-402	WEP-_02				
LME-302N	LME-_02N	LME-412NFBK	LME-_12NFBK	LME-123W-Q□	LME-_23WQ	WEP-502	WEP-_02				
LME-402N	LME-_02N	LME-512NFBK	LME-_12NFBK	LME-123FB-S□	LME-_23FBS	WE-302	WE-_02				
LME-502N	LME-_02N	LME-112NFBW	LME-_12NFBW	LME-123FB-Q□	LME-_23FBQ	WE-402	WE-_02				
LME-102NL	LME-_02NL	LME-212NFBW	LME-_12NFBW	LME-123FBW-S□	LME-_23FBWS	WE-502	WE-_02				
LME-202NL	LME-_02NL	LME-312NFBW	LME-_12NFBW	LME-123FBW-Q□	LME-_23FBWQ	WEP-302FB	WEP-_02FB				
LME-302NL	LME-_02NL	LME-412NFBW	LME-_12NFBW	LMC-102	LMC-_02	WEP-402FB	WEP-_02FB				
LME-402NL	LME-_02NL	LME-512NFBW	LME-_12NFBW	LMC-102L	LMC-_02L	WEP-502FB	WEP-_02FB				
LME-502NL	LME-_02NL	LME-123N	LME-_23N	LMC-102W	LMC-_02W	WE-302FB	WE-_02FB				
LME-102NW	LME-_02NW	LME-223N	LME-_23N	LMC-112	LMC-_12	WE-402FB	WE-_02FB				
LME-202NW	LME-_02NW	LME-323N	LME-_23N	LMC-112L	LMC-_12L	WME-202A	WME-_02A				
LME-302NW	LME-_02NW	LME-423N	LME-_23N	LMC-112W	LMC-_12W	WME-302A	WME-_02A				
LME-402NW	LME-_02NW	LME-523N	LME-_23N	LMC-123	LMC-_23	WME-402A	WME-_02A				
LME-502NW	LME-_02NW	LME-123NL	LME-_23NL	LMC-123L	LMC-_23L	WME-502A	WME-_02A				
LME-102NFB	LME-_02NFB	LME-223NL	LME-_23NL	LMC-123W	LMC-_23W	WME-2M2A	WME-_M2A				
LME-202NFB	LME-_02NFB	LME-323NL	LME-_23NL	LMS-102	LMS-_02	WME-3M2A	WME-_M2A				
LME-302NFB	LME-_02NFB	LME-423NL	LME-_23NL	LMS-202	LMS-_02	WME-4M2A	WME-_M2A				
LME-402NFB	LME-_02NFB	LME-523NL	LME-_23NL	LMS-302	LMS-_02	WME-5M2A	WME-_M2A				
LME-502NFB	LME-_02NFB	LME-123NW	LME-_23NW	LMS-402	LMS-_02	WME-202AFB	WME-_02AFB				
LME-102NFB	LME-_02NFB	LME-223NW	LME-_23NW	LMS-502	LMS-_02	WME-302AFB	WME-_02AFB				
LME-102NFB	LME-_02NFB	LME-323NW	LME-_23NW	LMS-102L	LMS-_02L	WME-402AFB	WME-_02AFB				
LME-102NFB	LME-_02NFB	LME-423NW	LME-_23NW	LMS-202L	LMS-_02L	WME-502AFB	WME-_02AFB				
LME-102NFB	LME-_02NFB	LME-523NW	LME-_23NW	LMS-302L	LMS-_02L	WME-2M2AFB	WME-_M2AFB				
LME-102NFB	LME-_02NFB	LME-123FNB	LME-_23NFB	LMS-402L	LMS-_02L	WME-3M2AFB	WME-_M2AFB				
LME-102NFB	LME-_02NFB	LME-223NFB	LME-_23NFB	LMS-502L	LMS-_02L	WME-4M2AFB	WME-_M2AFB				
						WME-5M2AFB	WME-_M2AFB				
						LKEH-102FAUL	LKEH-_02FAUL				
						LKEH-202FAUL	LKEH-_02FAUL				
						LKEH-302FAUL	LKEH-_02FAUL				
						LKEH-402FAUL	LKEH-_02FAUL				
						LKEH-102FCUL	LKEH-_02FCUL				
						LKEH-202FCUL	LKEH-_02FCUL				