

SIGNAL DEVICES

TOWER/STACK SIGNAL LIGHTS

BEACON SIGNAL LIGHTS

LED INDICATORS/PILOT LAMPS

BUZZERS/ALARMS



PLD Series

Ø25mm LED Tower Light



Ordering Information

PLD	S	F	-	5	01	-	RYGBC
	①	②		③	④		⑤
① Pole Length	S	65mm pole					
	L	200mm pole					
② Light Style	no mark	Steady					
	F	Steady & Flashing					
③ Number of Stacks	1	1 Light					
	2	2 Lights					
	3	3 Lights					
	4	4 Lights					
	5	5 Lights					
④ Power Supply	01	12VDC					
	02	24VDC					
⑤ Lens Colors (top to bottom)	R	Red					
	Y	Yellow					
	G	Green					
	B	Blue					
	C	Clear					

- Strong aluminum body
- Well suited for small device applications
- Long LED life and reliable operation
- Prism-cut lenses for even light distribution
- Direct mounting pole installed
- Lead wire connection

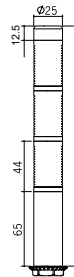
Specifications

Operation/Function	Steady/ Flashing		
Maximum tier	5		
Body Style	Aluminum, Silver body		
Lens Diameter	25 mm (1 inch)		
Flash Rate	Approx. 80 ± 5 flashes/min.		
Certificate/Compliance	CE, RoHS		
Vibration	0.75mm at 10~55Hz		
Ambient Temperature	-15°C~40°C		
Storage Temperature	-20°C ~ 70°C		
Ambient Humidity	45~85% RH		
Degree of Protection	IP52		
Recommended Wire Size	1007 UL / 22 AWG		
Power supply	12VDC	24VDC	
Current Consumption (RMS ±10%)	1stack	0.07A	0.03A
	2stack	0.14A	0.07A
	3stack	0.21A	0.10A
	4stack	0.28A	0.13A
	5stack	0.35A	0.16A

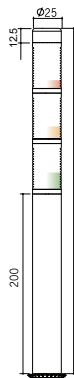


Dimensions (unit:mm)

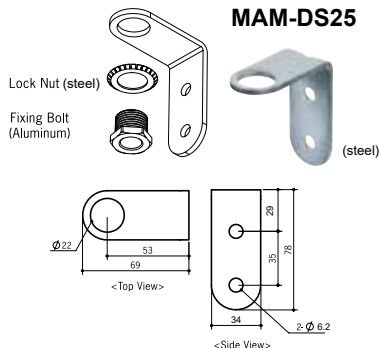
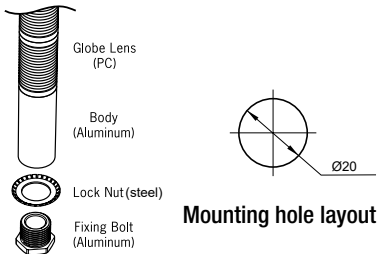
PLDS-000-00000
PLDSF-000-00000



PLDL-000-00000
PLDLF-000-00000

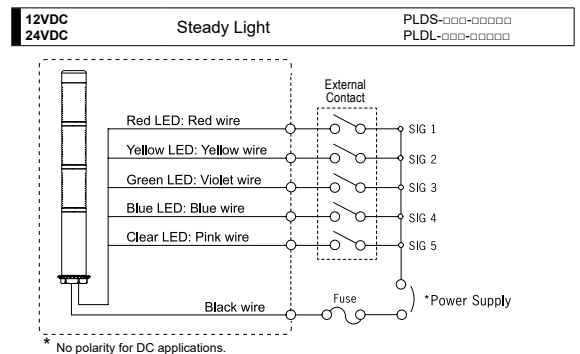
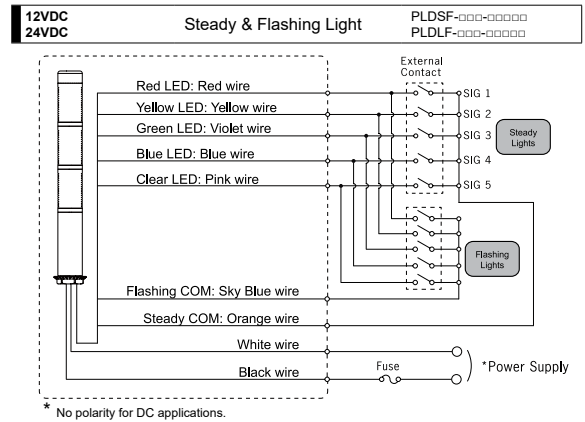


Built-in mounting method



Optional L-angle mounting bracket use

Wiring Diagram



MT4B/5B/8B Series

Ø45mm/Ø56mm/Ø85mm Bulb Type Tower Light

- Optional LED bulbs available
- Prism-cut lenses for even light distribution
- Direct, Pole or Wall Mount
- Wire leads connection



Specifications

Operation		Steady							
Maximum tier		5 stacks							
Power Supply		12V AC/DC		24V AC/DC		110V AC		220V AC	
		4B	5B/8B	4B	5B/8B	4B	5B/8B	4B	5B/8B
Current Consumption (RMS ±10%)	1 Stack	0.4A	0.8A	0.2A	0.4A	0.04A	0.8A	0.02A	0.04A
	2 Stack	0.8A	1.7A	0.4A	0.8A	0.09A	0.16A	0.04A	0.08A
	3 Stack	1.2A	2.5A	0.6A	1.2A	0.13A	0.24A	0.06A	0.12A
	4 Stack	1.6A	3.3A	0.8A	1.6A	0.16A	0.32A	0.08A	0.16A
	5 Stack	2.0A	4.2A	1.0A	2.0A	0.20A	0.40A	0.10A	0.20
Lens Material		PC Plastic							
Rating		IP 54							
Vibration		3mm at 10~55Hz							
Ambient Temp.		-15°C~40°C							
Ambient Humidity		45~85% RH							
Wire Size		1007 UL / 22 AWG							
Certificate		UL, CE, RoHS							



Ordering Information

MT ① ② ③ ④ ⑤ - RYGB ⑥

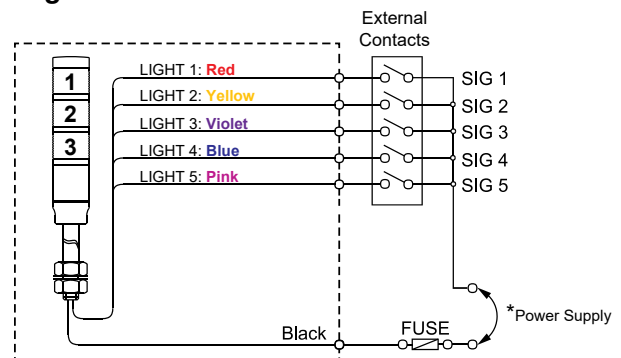
① Lens Diameter	4	Ø45mm
	5	Ø56mm
	8	Ø85mm
② Light Style	B	Steady
③ Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
	5	5 Lights
④ Power Supply	D	12V AC/DC
	A	24V AC/DC
	B	110V AC
	C	220V AC
⑤ Connection	L	Lead Wires
⑥ Lens Colors (top to bottom)	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Replacement Parts

		Part Number	Power Supply/Specification	
MT4B	LED	MAL-T09-S-12-①	12V DC	
		MAL-T09-S-24-①	24V DC	
	BULB	MAB-T09-S-012-05	12V, 5W AC/DC	
		MAB-T09-S-024-05	24V AC/DC, 5W	
		MAB-T09-S-130-05	110~120V AC, 5W	
Lens	—	MAB-T09-S-240-05	220~240V AC, 5W	
		MT4-(①)	Ø45mm	
MT5B MT8B	LED	MAL-T15-D-12-①	12V DC	
		MAL-T15-D-24-①	24V DC	
		MAL-T15-D-120-①	110~120V AC	
		MAL-T15-D-220-①	210~240V AC	
	BULB	MAB-T15-D-012-10	12V AC/DC, 10W	
		MAB-T15-D-024-10	24V AC/DC, 10W	
		MAB-T15-D-120-10	110~120V AC, 10W	
		MAB-T15-D-240-10	220~240V AC, 10W	
	Lens	—	MT5-(①)	Ø56mm
		—	MT8-(①)	Ø85mm

(①): Color of LED or Lens; R, Y, G, B or C

Wiring Diagram



* No polarity for DC applications.

Please See Our "Mounting and Accessories" Section for Mounting Options



PL4 Series

Ø45mm LED Steady & Flashing



- Pre-assembled 1 to 5 stack lights
- High visibility from every angle
- through prism-cut lens
- Built-in buzzer available (75±5dB)
- Various mounting options
- Cost effective type

Specifications

Current Draw	Power Supply	12~24VAC/DC		110~220VAC	
	Model	Standard type	with Buzzer type	Standard type	with Buzzer type
1 Stack		0.22A	0.25A	0.03A	0.03A
2 Stack		0.30A	0.32A	0.05A	0.06A
3 Stack		0.38A	0.38A	0.07A	0.07A
4 Stack		0.46A	0.46A	0.19A	0.09A
5 Stack		0.52A	0.52A	0.11A	0.11A
LED Function		Steady + Flashing			
Operation Voltages		12~24VAC/DC, 110~220VAC (AC 50/60Hz)			
Light Source		LED			
LED Colors		5 Colors – Red, Yellow, Green, Blue, White			
Dimensions / Tiers		D45mm / up to 5 Tiers			
Flashing rates		12VDC - 75±5times/minute			
		12VAC, 24VAC/DC - 80±5times/minute			
		90~240VAC - 80±5times/minute			
Alarm sound level		75±5dB- at 1M			
Lens Color		5 Colors – Red, Yellow, Green, Blue, Clear			
Mounting		Upward only			
Wiring Method		Lead wires			
Ambient Temperature		-20 ~ 40°C			
Storage Temperature		-20 ~ 70°C			
Ambient Humidity		45~85% RH			
Dielectric Strength		1000VAC 50/60Hz for 1min			
Insulation Resistance		100MΩ min. at 500VDC			
Vibration		0.75mm at 10~55Hz			
Recommended Wire Size		UL1007 / 22AWG			
Certificate/compliance		UL(excl. 220 VAC), CE(DC only), RoHS			
Degree of Protection		IP65 (Buzzer type : IP52)			

Ordering Information

PL4 - C B - 3 00 - RYG - W
 ① ② ③ ④ ⑤ ⑥

① Mounting Type	no mark	Pole/Surface Mounting
	C	Direct Mounting
② Light Function	no mark	Steady
	B	Steady + Buzzer
	F	Steady + Flashing
	Z	Steady + Flashing + Buzzer
③ Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
	5	5 Lights
④ Power Supply	00	12~24VAC/DC
	FF	110~220VAC
⑤ LED Color*	R	Red
	RY	Red +Yellow
	RYG	Red +Yellow + Green
	RYGB	Red +Yellow + Green + Blue
	RYGBC	Red +Yellow + Green + Blue + Clear
⑥ Lens Color	no mark	Color Lens
	W	All White Lens

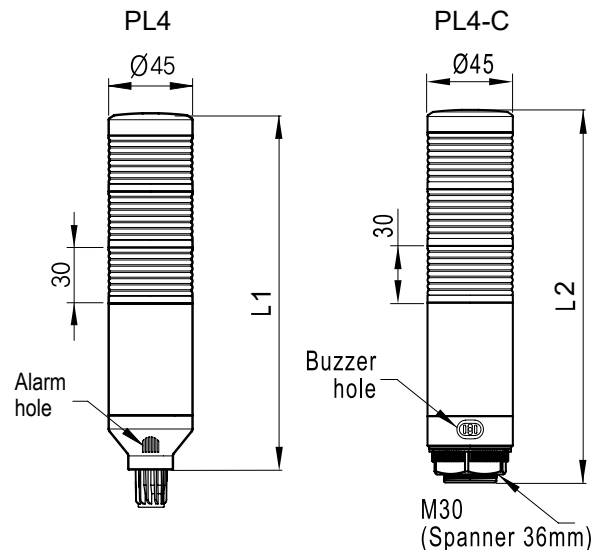
* Other color configurations are available with special order

unit: mm

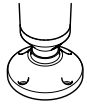
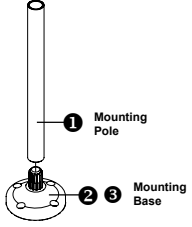
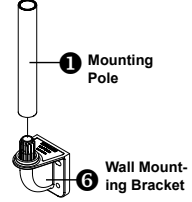
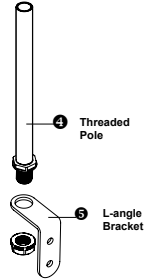
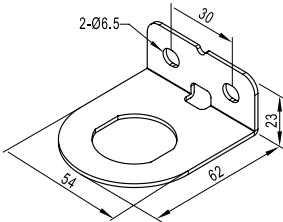
Stacks	L1	L2
1	132	137
2	162	167
3	192	27
4	222	227
5	252	257

Dimensions

unit: mm

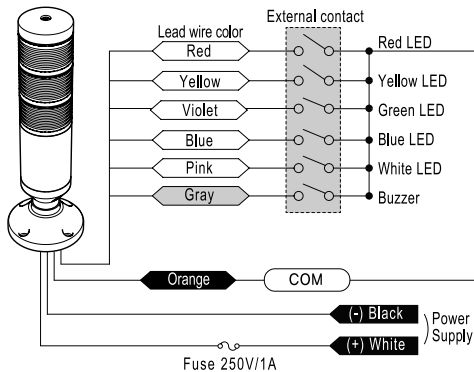


Mounting Options

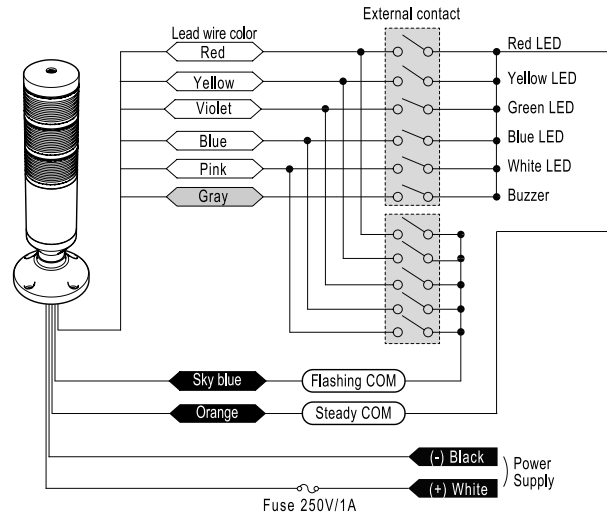
Light Series	Mounting Type	Mounting Parts		Mounting Example
PL4	Surface Mounting	Mounting Base		
		MAM-B070F		
	Pole Mounting	Mounting Pole	Mounting Base	
		MAP-0060 (L: 60mm) MAP-0240 (L: 240mm) MAP-0750 (L: 750mm) MAP-1000 (L: 1,000mm)	MAM-B090C (Plastic) MAM-DS32A (Aluminum) MAM-B070R (Plastic, Folding) MAM-470R-20 (Plastic, Folding) MAM-DS42R-20C (Aluminum, Folding)	
	"Pole Mounting + Wall Mounting"	Mounting Pole	Wall Mounting Bracket	
		MAP-0060 (L: 60mm) MAP-0240 (L: 240mm) MAP-0750 (L: 750mm) MAP-1000 (L: 1,000mm)	MAP-DS40 (Plastic)	
"Pole Mounting + Wall Mounting"	Mounting Pole	Wall Mounting Bracket		
	MAP-M043 (L: 43mm, M20 Nut) MAP-M240 (L: 240mm, M20 Nut) MAP-M750 (L: 750mm, M20 Nut) MAP-M1000 (L: 1,000mm, M20 Nut)	MAM-DS25 (L-angle, Metal)		
PL4-C	Wall Mounting	Wall Mounting Bracket		
		MAM-DS43		

Wiring Diagram

Steady , Steady + Buzzer



Steady + Flashing , Steady + Flashing + Buzzer





PL4-M12 Series

Ø45mm LED Steady with M12 Connector



- Pre-assembled 1 to 5 stack lights
- Easy connection with M12 Connector
- High visibility from every angle
- through prism-cut lens
- Built-in buzzer available (75±5dB)
- Various mounting options

Specifications

Current Draw	Power Supply	12VAC/DC		24VAC/DC	
	Model	Standard type	with Buzzer type	Standard type	with Buzzer type
1 Stack		0.05A	0.07A	0.03A	0.08A
2 Stack		0.10A	0.12A	0.06A	0.10A
3 Stack		0.15A	0.15A	0.09A	0.13A
4 Stack		0.20A	0.20A	0.12A	0.16A
5 Stack		0.25A	0.25A	0.15A	0.20A
Operation Voltages		12VAC/DC, 24VAC/DC			
Light Source		LED			
LED Colors		5 Colors – Red, Yellow, Green, Blue, White			
Dimensions / Tiers		D45mm / up to 5 Tiers			
Flashing rates		12VDC - 75±5times/minute 12VAC, 24VAC/DC - 80±5times/minute			
Alarm sound level		75±5dB- at 1M			
Lens Color		5 Colors – Red, Yellow, Green, Blue, Clear			
Mounting		Upward only			
Wiring Method		M12 Connector			
Ambient Temperature		-20 ~ 40°C			
Storage Temperature		-20 ~ 70°C			
Ambient Humidity		45~85% RH			
Dielectric Strength		1000VAC 50/60Hz for 1min			
Insulation Resistance		100 MΩ min. at 500VDC			
Vibration		0.75mm at 10~55Hz			
Recommended Wire Size		UL1007 / 22AWG			
Certificate/compliance		UL, CE(DC only), RoHS			
Degree of Protection		IP65 (Buzzer type : IP52)			

Ordering Information

PL4 - C B - 3 02 - RYG - M12C
 ① ② ③ ④ ⑤ ⑥

① Mounting Type	no mark	Pole/Surface Mounting
	C	Direct Mounting
② Light Function	no mark	Steady
	B	Steady + Buzzer
③ Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
	5	5 Lights
④ Power Supply	01	12VAC/DC
	02	24VAC/DC
⑤ LED Color**	R	Red
	RY	Red +Yellow
	RYG	Red +Yellow + Green
	RYGB	Red +Yellow + Green + Blue
	RYGBC	Red +Yellow + Green + Blue + Clear
⑥ Connection Type	M12C	M12 Connector Pigtail type
	M12F *	M12 Connector type

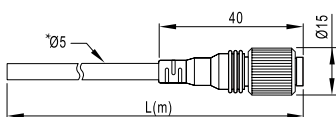
* Only available with Direct Mounting type

** Other color configurations are available with special order

Accessory

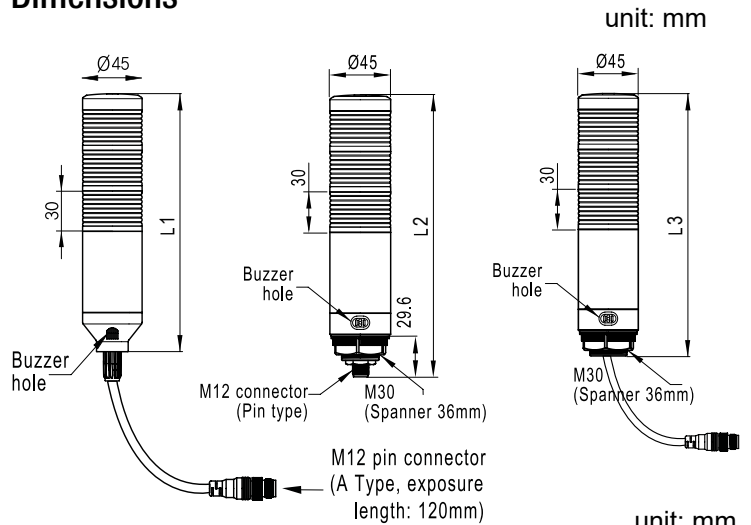
Straight M12 cable (A-code, socket type)	5-pin type Cable		8-pin type Cable	
	Model	Length	Model	Length
	CID5-2	2m	CID8-2	2m
	CID5-3	3m	CID8-3	3m
	CID5-5	5m	CID8-5	5m

* Product shipment standard cable length: 2M



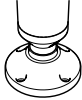
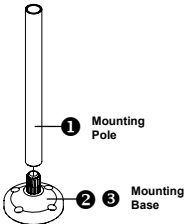
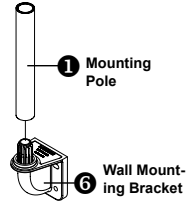
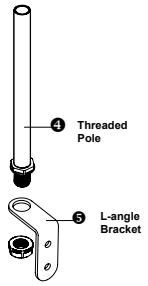
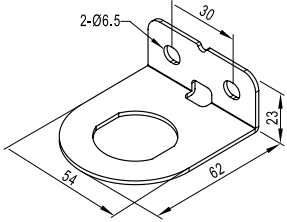
* 5 Pin cable diameter is Ø5.
8 Pin cable diameter is Ø6.

Dimensions



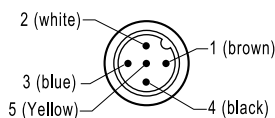
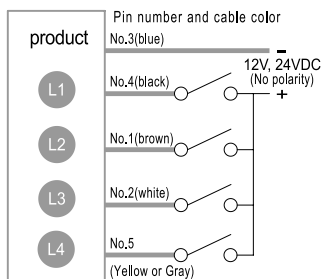
Stacks	L1	L2	L3
1	132	137	149
2	162	167	179
3	192	197	209
4	222	227	239
5	252	257	269

Mounting Options

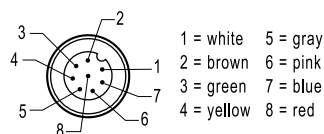
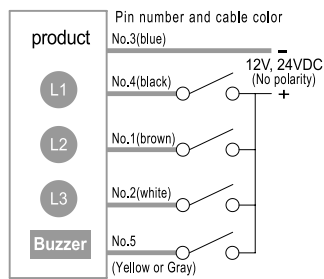
Light Series	Mounting Type	Mounting Parts		Mounting Example
PL4	Surface Mounting	Mounting Base		
		MAM-B070F		
	Pole Mounting	Mounting Pole	Mounting Base	
		MAP-0060 (L: 60mm) MAP-0240 (L: 240mm) MAP-0750 (L: 750mm) MAP-1000 (L: 1,000mm)	MAM-B090C (Plastic) MAM-DS32A (Aluminum) MAM-B070R (Plastic, Folding) MAM-470R-20 (Plastic, Folding) MAM-DS42R-20C (Aluminum, Folding)	
	"Pole Mounting + Wall Mounting"	Mounting Pole	Wall Mounting Bracket	
		MAP-0060 (L: 60mm) MAP-0240 (L: 240mm) MAP-0750 (L: 750mm) MAP-1000 (L: 1,000mm)	MAP-DS40 (Plastic)	
"Pole Mounting + Wall Mounting"	Mounting Pole	Wall Mounting Bracket		
	MAP-M043 (L: 43mm, M20 Nut) MAP-M240 (L: 240mm, M20 Nut) MAP-M750 (L: 750mm, M20 Nut) MAP-M1000 (L: 1,000mm, M20 Nut)	MAM-DS25 (L-angle, Metal)		
PL4-C	Wall Mounting	Wall Mounting Bracket		
		MAM-DS43		

Wiring Diagram (PNP input)

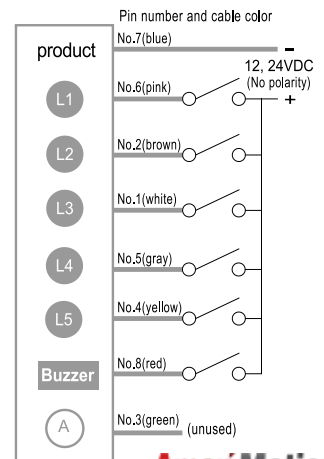
5 pin connector and 2 to 4 stage product wiring diagram (No Buzzer)



5 pin connector and 2 to 3 stage product wiring diagram (No Buzzer)



8 pin connector and 5 stage product wiring diagram



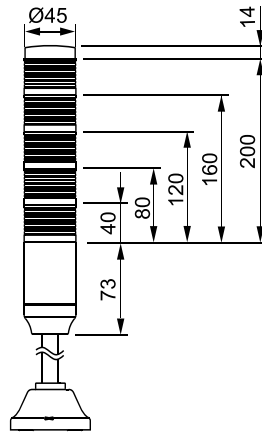


PME Series

Ø45mm LED Modular Tower Light Steady & Flashing



Dimensions (unit: mm)



- LED Modular type
- Pre wire type
- Surface, Pole or Wall Mount (Order poles & bases separately)
- Alarm sound type available for 12 ~ 24VAC/DC type

Ordering Information

PME F - 5 01 - RYGBC
 ① ② ③ ④

① Light Style		Steady
	F	Steady & Flashing
	B	Steady + Buzzer*
	Z	Steady, Flashing + Buzzer*
② Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
	5	5 Lights
③ Power Supply	01	12V AC/DC
	02	24V AC/DC
	FF	90~240V AC
④ Lens Colors (top to bottom)	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

* 12 & 24V only

Replacement parts

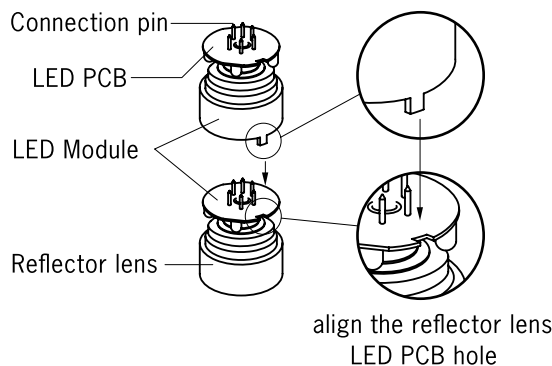
LED	PME-02-□	24V, 90~240V AC/DC
	PME-01-□	12V AC/DC
Lens	PME-□	—

(□): indicates color of LED or Lens; R, Y, G, B or C

Specifications

Power Supply		12V AC/DC		24V AC/DC		90-240V AC
Current consumption (RMS value ±10%)		LED	w/Alarm	LED	w/Alarm	LED
	1stack	0.06A	0.07A	0.03A	0.06A	0.02A
	2stack	0.10A	0.11A	0.07A	0.09A	0.05A
	3stack	0.17A	0.18A	0.11A	0.14A	0.07A
	4stack	0.20A	0.21A	0.15A	0.17A	0.10A
	5stack	0.24A	0.25A	0.18A	0.20A	0.12A
Alarm Sound Level		80±5dB at 1m				
Flashing rate		Approx. 80 ± 5 flashes/min.				
Rating		IP55(IP50 with Buzzer)				
Vibration		3mm at 10~55Hz				
Ambient Temp.		-15°C~40°C				
Ambient Humidity		45~85% RH				
Recommended Wire Size		1007 UL / 22 AWG				

How to assemble LED Module

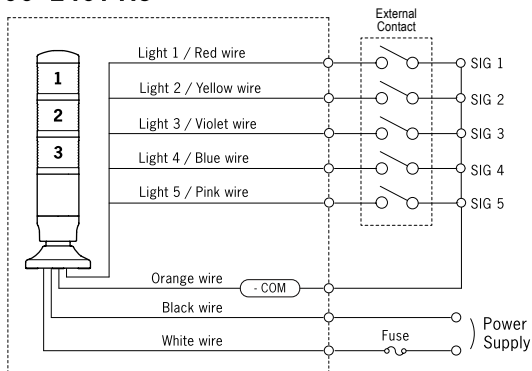


Please See Our "Mounting and Accessories" Section for Mounting Options

Wiring Diagram

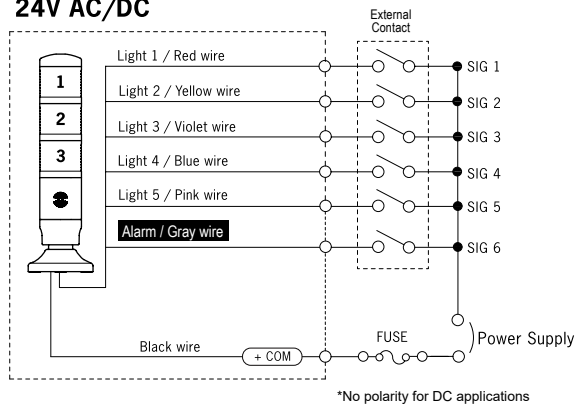
Steady

90~240V AC



Steady + Buzzer

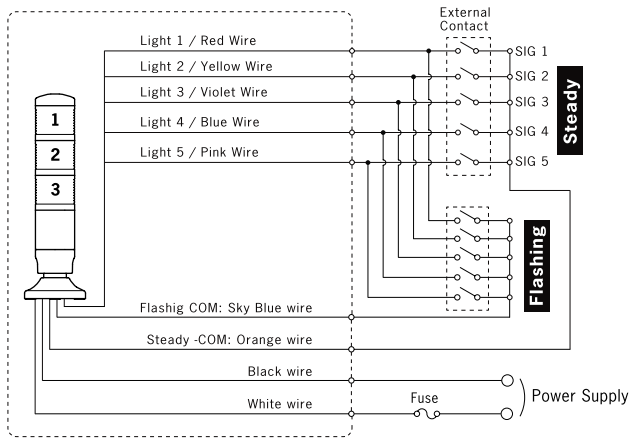
12V AC/DC 24V AC/DC



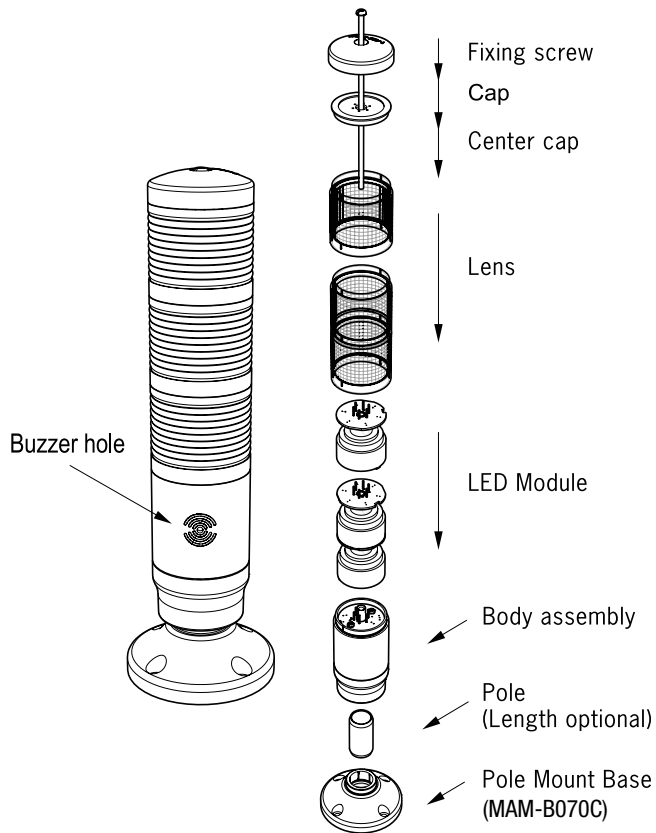
*No polarity for DC applications

Steady + Flashing

90~240V AC

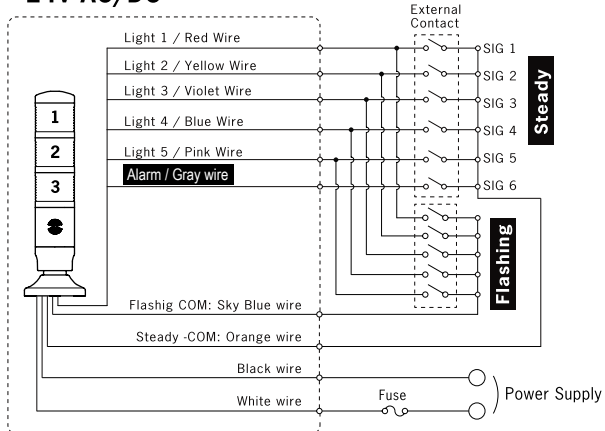


How to Assemble



Steady + Flashing + Buzzer

12V AC/DC 24V AC/DC



* No polarity for DC applications.

MT5C/8C Series

Ø56mm/Ø85mm Bulb Type Tower Light



- Optional LED bulbs available
- Selectable Steady or Flashing Modes
- Prism-cut lenses for even light distribution
- Various mounting options
- Optial buzzer (80 dB) kit available



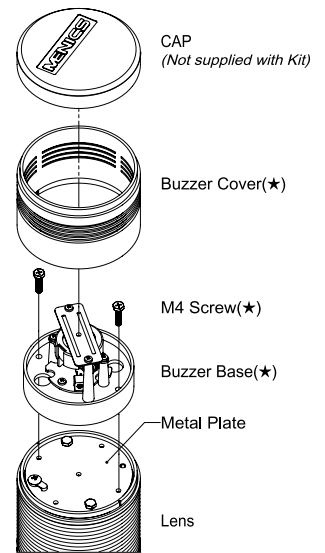
Ordering Information

MT	5	C	5	A	L	-	RYGBC
	①	②	③	④	⑤		⑥
Lens Diameter	5	Ø56mm					
	8	Ø85mm					
Light Style	C		Steady & Flashing				
Number of Stacks	1	1 Light					
	2	2 Lights					
	3	3 Lights					
	4	4 Lights					
	5	5 Lights					
Power Supply	A	24V AC/DC					
	B	110~120V AC					
	C	220~240V AC					
⑤ Connection	L		Lead Wires				
⑥ Lens Colors (top to bottom)	R	Red					
	Y	Yellow					
	G	Green					
	B	Blue					
	C	Clear					

Specifications

Power Supply		24VAC/DC (w/Buzzer)	110VAC (w/Buzzer)	220VAC (w/Buzzer)	
Current Consumption (RMS ±10%)	Bulb	1 Stack	0.4 A (0.43A)	0.09 A (0.12A)	0.04 A (0.07A)
	2 Stack	0.8 A (0.83A)	0.18 A (0.21A)	0.08 A (0.11A)	
	3 Stack	1.3 A (1.33A)	0.27 A (0.30A)	0.12 A (0.15A)	
	4 Stack	1.7 A (7.73A)	0.36 A (0.39A)	0.16 A (0.19A)	
	5 Stack	2.0 A (2.03A)	0.45 A (0.48A)	0.20 A (0.23A)	
LED Life-Span		10,000 hours (minimum)			
Degree of Protection		IP54 (IP50 with buzzer)			
Alarm Sound Level		80 ± 5dB at 1 meter			
Flashing rate		80 ± 10 times/minute			
Certificate/compliance		UL, CE, RoHS			
Vibration		3mm at 10~55Hz			
Ambient Temp.		-15°C~40°C			
Ambient Humidity		45~85% RH			
Recommended Wire Size		1007 UL / 22 AWG			
Operation		Steady/Flashing/Buzzer			

Optional Buzzer Kit



MPZ - 56 A
① ②

① Buzzer Size (Diameter)	
56	Ø56mm (for MT5C Series)
85	Ø85mm (for MT8C Series)

② Power Supply	
A	24V AC/DC, 80dB (30mA)
B	110~120V AC, 80dB (30mA)
C	220~240V AC, 80dB (30mA)

Replacement Parts

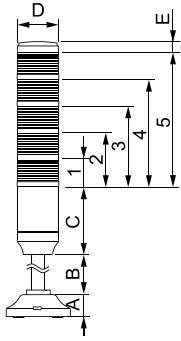
*Note: Max. number of tier including Buzzer is 5.

LED		MAL-T15-D-24-①	24V DC
		MAL-T15-D-120-①	110~120V AC
		MAL-T15-D-220-①	210~240V AC
BULB		MAB-T15-D-024-10	24V AC/DC, 10W
		MAB-T15-D-120-10	110~120V AC, 10W
		MAB-T15-D-240-10	220~240V AC, 10W
Lens	-	MT5-(①)	Ø56mm
		MT8-(①)	Ø85mm

(①): Color of LED or Lens; R, Y, G, B or C

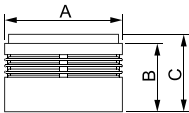
Dimensions

unit: mm



Symbol	Model		
	MT4B	MT5C MT5B	MT8C MT8B
A	29	29	29
B	185	185	185
C	73	95	95
D	45	56	85
E	10.5	15	15
1	46	68	68
2	92	136	136
3	138	204	204
4	184	272	272
5	230	340	340

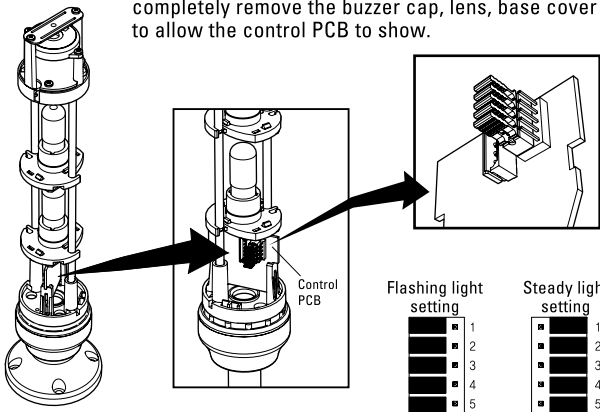
Optional Buzzer Kit MPZ-56 MPZ-85



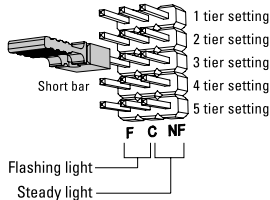
Symbol	MPZ-56	MPZ-85
A	56	86
B	48	50
C	54	56

Lighting feature setting

- ① Remove the bulb by turning the upper fixed cap, and completely remove the buzzer cap, lens, base cover to allow the control PCB to show.



- ② The shortcircuit bar setting position of control PCB for all the shipped products is set at flashing function. In case of changing a signal of desired tier steady light function, take out the shortcircuit bar of the desired tier of the control PCB, move and insert it sideways by one space.



Please See Our "Mounting and Accessories" Section for Mounting Options

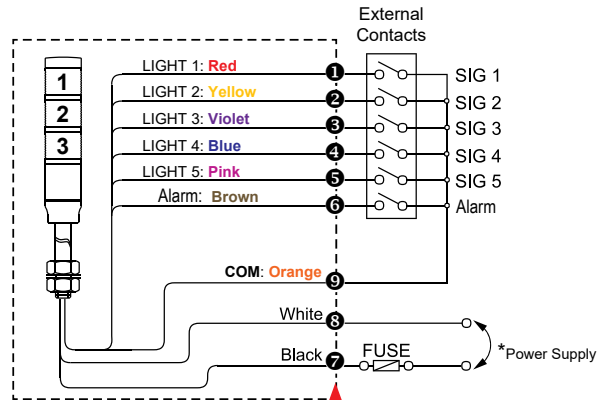
Wiring Diagram

MT5C/8C

24V AC/DC

MT5C□AL-□□□□ MT8C□AL-□□□□

Steady & Flashing (w/Alarm)



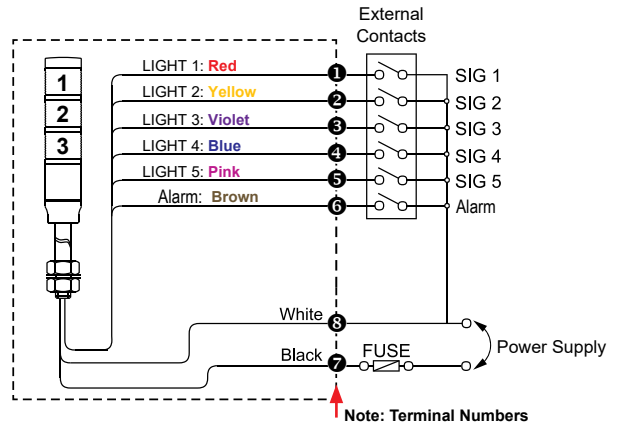
* No polarity for DC applications.

110~120V AC, 220~240V AC

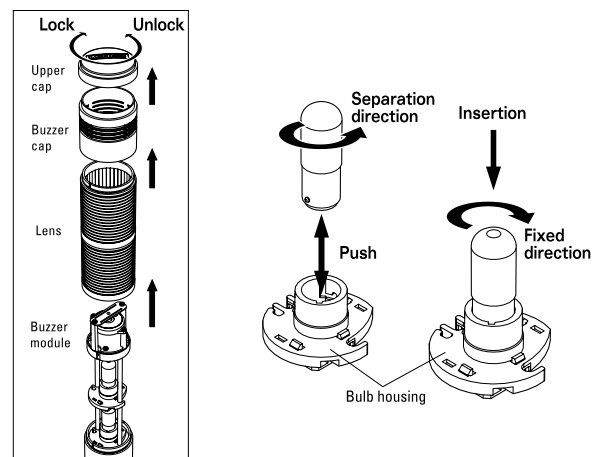
MT5C□BL-□□□□
MT8C□BL-□□□□

Steady & Flashing Lights (w/Alarm)

MT5C□CL-□□□□
MT8C□CL-□□□□



How to change bulbs



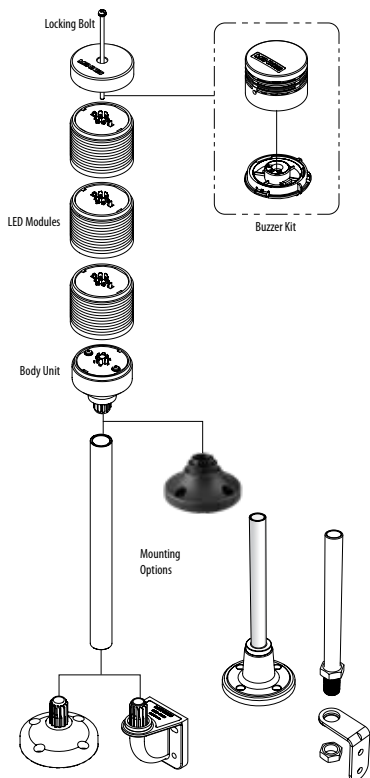


PTE Series

Ø56mm LED Modular Stack Light
Steady & Flashing lights with buzzer



- LED modular components
- Optional buzzer at 80 or 100dB (fixed or adjustable volume)
- Lead wire or terminal connection
- Pole mounting or direct mounting



Ordering Information

PTE - A F - 3 02 - RYG - B
① ② ③ ④ ⑤ ⑥

① Top Head Style	PTE	Standard
	PTD	Dome Head
② Body Unit Mounting / Connection	A	Pole Mounting/ Lead Wires
	SC	Direct Mounting / Lead Wires
	T	Pole Mounting/ Terminal Connection
	TC	Direct Mounting/ Terminal Connection
③ Light Style		Steady Light
	F	Steady & Flashing Light
④ Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
	5	5 Lights
⑤ Power Supply	02	24V AC/DC
	FF	90~240V AC
⑥ Lens Colors (top to bottom)	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Optional Parts

Body Units

Body Type		Voltage	Part Number	
			Steady	Steady & Flashing
Lead Wire Connection	Pole Mounting	90~240V AC	PTE-A-FF-B	PTE-AF-FF-B
		24V AC/DC	PTE-A-02-B	PTE-AF-02-B
	Direct Mounting	90~240V AC	PTE-SC-FF-B	PTE-SCF-FF-B
		24V AC/DC	PTE-SC-02-B	PTE-SCF-02-B
Terminal Connection	Pole Mounting	90~240V AC	PTE-T-FF-B	PTE-TF-FF-B
		24V AC/DC	PTE-T-02-B	PTE-TF-02-B
	Direct Mounting	90~240V AC	PTE-TC-FF-B	PTE-TCF-FF-B
		24V AC/DC	PTE-TC-02-B	PTE-TCF-02-B

LED Modules

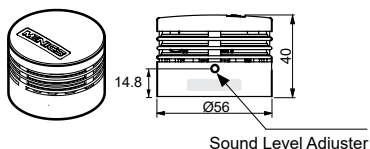
LED Color	Part Number	
	Standard Module	Dome Head Module
Red	PTE-02-R	PTD-02-R
Yellow	PTE-02-Y	PTD-02-Y
Green	PTE-02-G	PTD-02-G
Blue	PTE-02-B	PTD-02-B
*Clear	PTE-02-C	PTD-02-C

*Clear Module cannot be used with Buzzer.

Locking Bolts

	# Lights	Part Number	Size
PTE	1 Stack	B-PTE-1	M4, 65mm
	2 Stacks	B-PTE-2	M4, 105mm
	3 Stacks	B-PTE-3	M4, 145mm
	4 Stacks	B-PTE-4	M4, 185mm
	5 Stacks	B-PTE-5	M4, 225mm
PTD	1 Stack	B-PTD-1	M4, 83mm

*Note: Do NOT count Buzzer as a stack.



Buzzer Kits (Optional)

Alarm Style	Part Number
Fixed Sound Level	MPZ-56F-B
Adjustable up to 80±5dB	MPZ-56G-B
Adjustable up to 100±5 dB	MPZ-56H-B

*Note: Max. number of tier including Buzzer is 5.

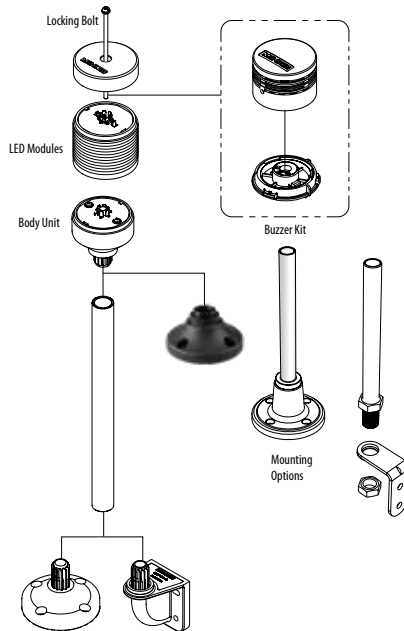
Please See Our "Mounting and Accessories" Section for Mounting Options

PTM/PTD Series

Ø56mm Multicolored LED Modular Light
Steady & Flashing lights with buzzer



- Multicolored LED modular components
- Lead wire or terminal connection
- Pole mounting or direct mounting
- Optional Buzzer at 80 or 100dB (fixed or adjustable volume)



Ordering Information

PTM - A F - 1 02 - RYG - B
① ② ③ ④ ⑤ ⑥

① Head Style	PTM	Standard
	PTD	Dome Head
② Body Unit Mounting / Connection	A	Pole Mounting/ Lead Wires
	SC	Direct Mounting / Lead Wires
	T	Pole Mounting/ Terminal Connection
	TC	Direct Mounting/ Terminal Connection
③ Light Style		Steady Light
	F	Steady & Flashing Light
④ Number of Stacks	1	1 stack
⑤ Power Supply	02	24V AC/DC
	FF	90~240V AC
⑥ Lens Colors (3 colors in 1 module)	RYG	Red, Yellow, Green
	RBG	Red, Blue, Green

Optional parts

Body Units

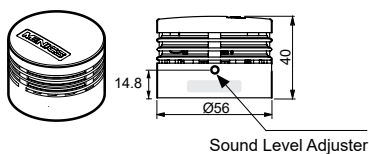
Body Type		Voltage	Part Number	
			Steady	Steady & Flashing
Lead Wire Connection	Pole Mounting	90~240V AC	PTE-A-FF-B	PTE-AF-FF-B
		24V AC/DC	PTE-A-02-B	PTE-AF-02-B
	Direct Mounting	90~240V AC	PTE-SC-FF-B	PTE-SCF-FF-B
		24V AC/DC	PTE-SC-02-B	PTE-SCF-02-B
Terminal Connection	Pole Mounting	90~240V AC	PTE-T-FF-B	PTE-TF-FF-B
		24V AC/DC	PTE-T-02-B	PTE-TF-02-B
	Direct Mounting	90~240V AC	PTE-TC-FF-B	PTE-TCF-FF-B
		24V AC/DC	PTE-TC-02-B	PTE-TCF-02-B

LED Modules

LED Color		Part Number	
		Standard Module	Dome Head Module
3 colors in 1	R/Y/G	PTM-02-RYG	PTD-02-RYG
	R/B/G	PTM-02-RBG	PTD-02-RBG

Locking Bolts

Part Number		Size
PTM	B-PTE-1	M4, 65mm
PTD	B-PTD-1	M4, 83mm



Buzzer Kits (Optional)

Alarm Style	Part Number
Fixed Sound Level	MPZ-56F-B
Adjustable up to 80±5 dB	MPZ-56G-B
Adjustable up to 100±5 dB	MPZ-56H-B

Please See Our "Mounting and Accessories" Section for Mounting Options

Specifications

Body Units

Operation/Function	Steady/ Flashing
Power Supply	24V AC/DC, 90~240V AC 50/60 Hz
Alarm Sound Level	Fixed: 80±5dB Adjustable: 10~80±5dB, 10~100±5dB
Lens Color	3 colors in 1 module: Red/Yellow/Green, Red/Blue/Green
Lens Diameter	56 mm (2.2 inch)
Maximum Tier	1
Flash Rate	80 ± 5 times/min
Vibration	0.75mm @10~55Hz: xyz/60min
Ambient Temperature	-15°C~40°C
Storage Temperature	-20°C ~ 70°C
Ambient Humidity	45~85% RH
Degree of Protection	IP65 / IP40 (with Buzzer)
Approvals	CE , UL, RoHS
Recommended Wire Size	1007 UL / 22 AWG

LED Modules

LED Color		Current consumption	
		24V	90~240V
3 colors in 1	RYG	35mA	16mA
	RGB		
Weight		Approx. 43g	

Buzzer Kits

Model	MPZ-56F-B	MPZ-56G-B	MPZ-56H-B
Style	Fixed Sound	Adjustable Sound	Adjustable Sound
Sound Level	85 dB	10~85 dB at 1M	10~100 dB at 1M
Current Consumption / Power	30mA / 0.72W	30mA / 0.72W	150mA / 3.6W
Weight	33g	33g	33g

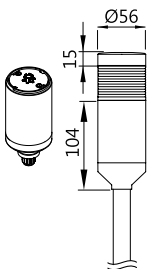
Dimensions

unit: mm

Lead Wire Connection

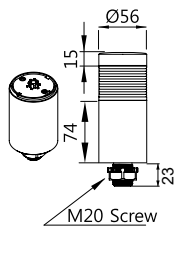
Pole Mounting

PTE-A-□□
PTE-AF-□□



Surface Mounting

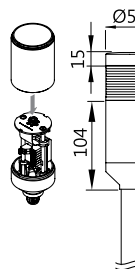
PTE-SC-□□
PTE-SCF-□□



Terminal Connection

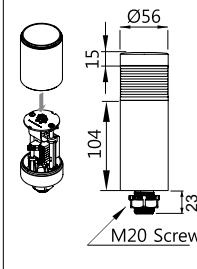
Pole Mounting

PTE-T-□□
PTE-TF-□□

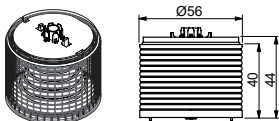


Surface Mounting

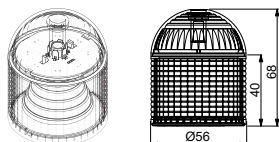
PTE-TC-□□
PTE-TCF-□□



Standard Modules



Dome Head Modules

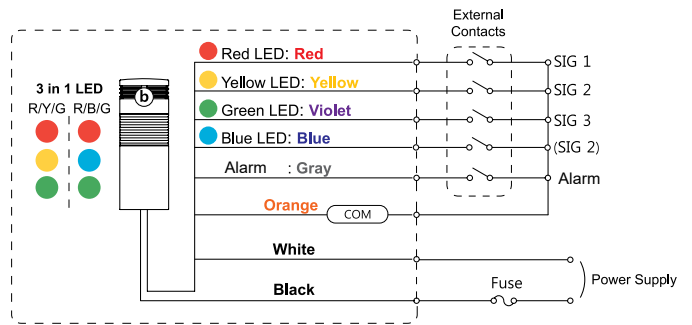


Wiring Diagram

90-240V AC

Steady Lights

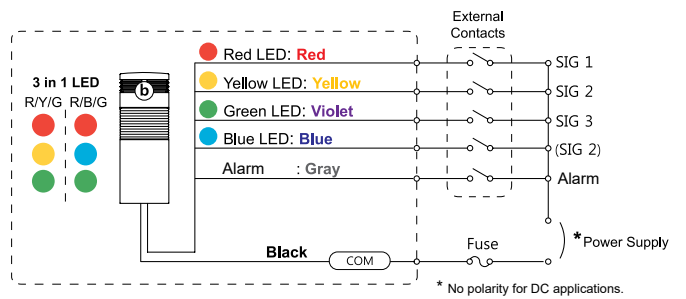
PTE-A-FF PTE-SC-FF



24V DC/AC

Steady Lights

PTE-A-02 PTE-SC-02

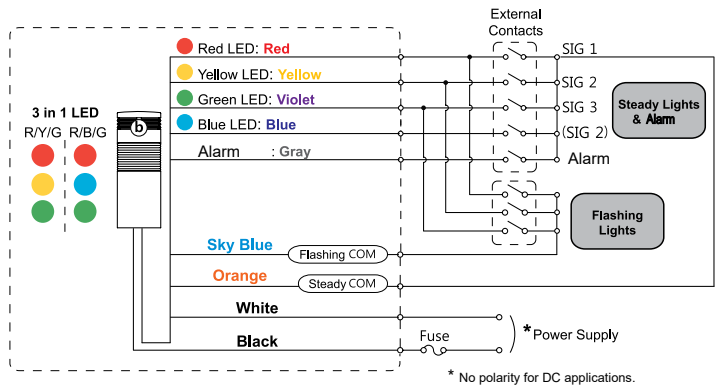


90-240V AC

24V DC/AC

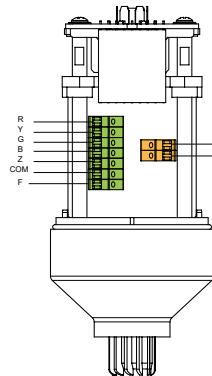
Steady & Flashing Lights

PTE-AF-02 PTE-AF-FF PTE-SCF-02
PTE-SCF-FF PTE-T□-02 PTE-T□-FF



Terminal Connections

PIN #	Description
R	Red LED
Y	Yellow LED
G	Green LED
B	Blue LED
Z	Alarm
COM	Steady COM
F	Flashing COM
A	Power Supply
B	No Polarity for DC Applications.



PY7 Series

Ø70mm LED Signal Tower Light

- Smooth surface of the lens minimize adhesion of dust & water
- Suitable for sanitary environment like food, pharmaceutical industries
- Low maintenance with replaceable durable polycarbonate outer lens
- Excellent visibility of LED light emitted from inner lens
- Variety of light styles and combinations



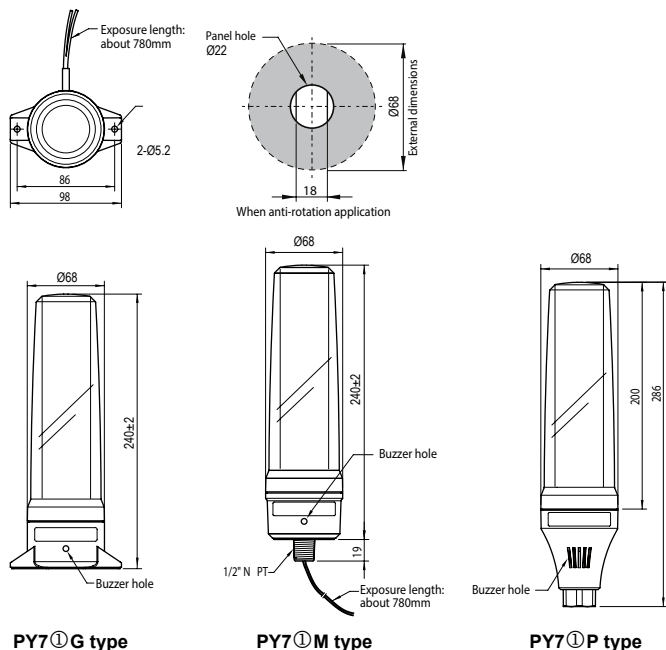
Ordering Information

PY7	<u>T</u>	<u>P</u>	-	<u>Z</u>	<u>3</u>	<u>02</u>	-	<u>RYG</u>	-	<u>B</u>
	①	②		③	④	⑤		⑥		⑦
① Model Type		L	Standard							
		T	Multi-Color, 2-Channel							
② Mounting Type		G	Surface Mounting							
		M	Direct Mounting							
		P	Pole Mounting							
③ Light Style		No mark	Steady							
		B	Steady + Buzzer							
		F	Steady + Flashing							
		Z	Steady + Flashing + Buzzer							
④ Number of Stack (L Type only)		3	3 LED Lights							
		4	4 LED Lights							
		5	5 Led Lights							
⑤ Power Supply		02	24VDC							
		FF	110~220VAC							
⑥ LED Color		L Type	RYG	Red + Yellow + Green						
			RGB	Red + Blue + Green						
			RYGB	Red + Yellow + Green + Blue						
			RYGBW	Red + Yellow + Green + Blue + White						
		T Type	RBG	Red / Blue / Green						
			RYG	Red / Yellow / Green						
⑦ Body Color		I	Ivory							
		B	Black							
		C	Silver Matte Coating							

Current consumption

	Stack	LED Color	24VDC		110~220VAC	
			General	Buzzer	General	Buzzer
L Type	3 Lights	R+Y+G	0.14A	0.16A	0.08A	0.09A
	3 Lights	R+B+G	0.20A	0.22A	0.10A	0.11A
	4 Lights	R+Y+G+B	0.23A	0.25A	0.11A	0.11A
	5 Lights	R+Y+G+B+W	0.25A	0.27A	0.11A	0.11A
T Type	Multi-color	R/B/G	0.22A	0.23A	0.05~0.10A	0.06~0.10A
		R/Y/G	0.22A	0.23A	0.05~0.10A	0.06~0.10A

Dimensions



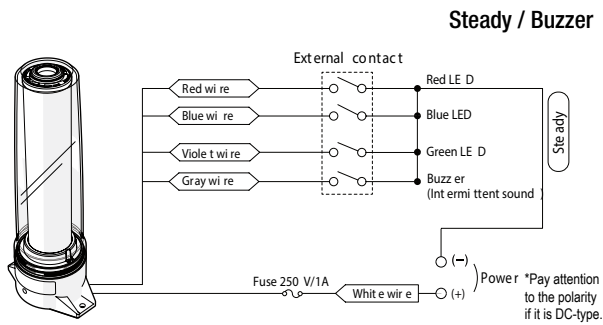
Specifications

Model Type	L	T
Function	Steady, Flashing, Buzzer	
Power Supply	24VDC, 110~220VAC (50~60Hz)	
Allowable Voltage Range	24VDC: 21.6~26.4VDC / 110~220VAC: 100~240VAC	
Flashing Rate	70±5/min	
Buzzer Volume*	Continuous sound: 80±5dB (at 1M) Intermittent sound: 80±5dB (at 1M)	Intermittent sound: 75±5dB (at 1M)
Lens Color	Transparent (inner and outer) - PC Resin	
Mounting Options	Pole/Surface/Direct/Wall Mounting	
Ambient Temperature	-20°C ~ 50°C	
Storage Temperature	-20°C ~ 70°C	
Ambient Humidity	45~85% RH	
Withstand Voltage	500VAC 50/60Hz for 1 minute	
Insulation Resistance	100MΩ or more (500VDC Megger basis)	
Vibration	10 ~ 55Hz (1 min.cycle) Double amplitude 0.75mm X, Y, Z	
Connection	UL1007/22AWG	
Protection Structure	IP65 (with Buzzer type: IP62)	
Approval	UL/CE(24V Only),RoHS	UL(24V Only), RoHS
Weight (DC, Buzzer Type)	PY7 ①P type: app. 350g PY7 ①G type: app. 320g PY7 ①M type: app. 310g	

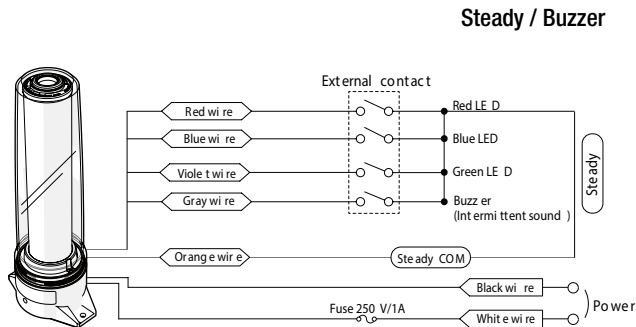
*You can select only one of two buzzer sounds to use.

T Type Connection diagram

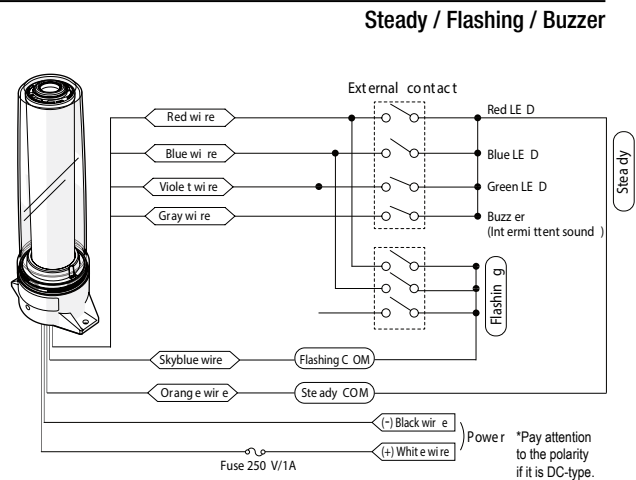
24VDC



110~220VAC

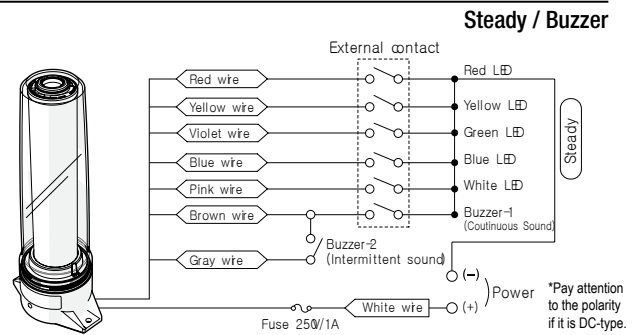


24VDC, 110~220VAC

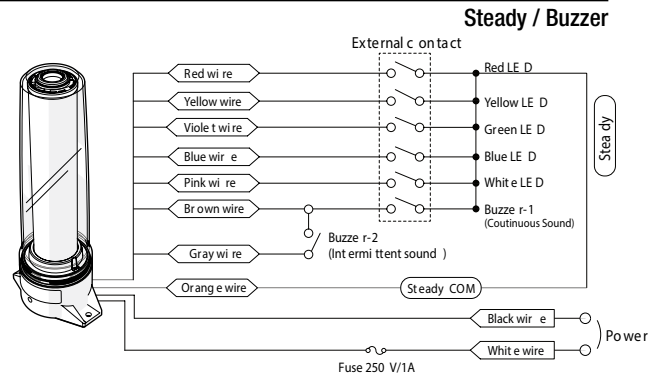


L Type Connection diagram

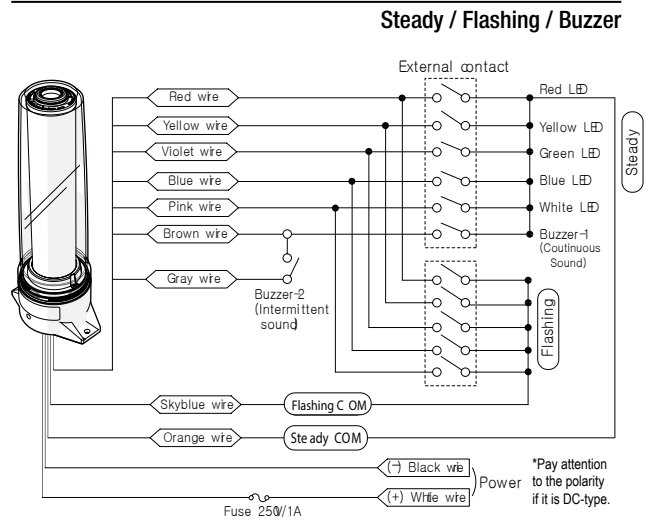
24VDC



110~220VAC



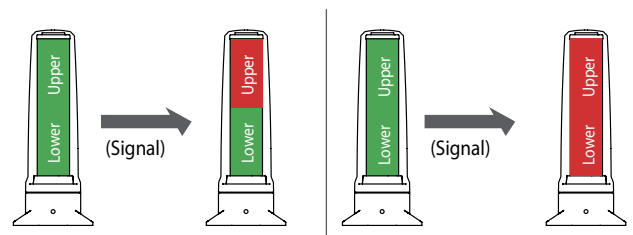
24VDC, 110~220VAC



T Type Operating Condition

Conditions	Input condition			LED Output color	
	Red LED (Red wire)	Blue LED (Blue wire)	Green LED (Violet wire)	Upper Display	Lower Display
Condition-1	0	1	1	Red	
Condition-2	1	0	1	Blue	
Condition-3	1	1	0	Green	
Condition-4	0	1	0	Red	Green
Condition-5	0	0	1	Blue	Red
Condition-6	1	0	0	Sky blue	
Condition-7	0	0	0	Blue	Sky blue
Condition-8	1	1	1	Off	
Remark	0: Orange wire (-) COM ----> Connection Status 1: Open condition				

T type's multi-color & multi-channel function



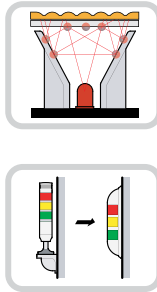
Please See Our "Mounting and Accessories" Section for Mounting Options



PWE Series

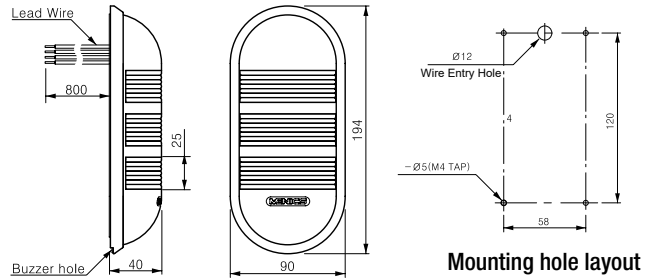
90mm Wall Mounting Semicircular LED Signal Light

- 1~3 colors
- Slim Profile Wall Mount
- Easy Mounted vertically and horizontally
- Steady and flashing lights
- Vibration and moisture resistant



Dimensions

unit: mm



Ordering Information

PWE C F - 3 02 - RYG
 ① ② ③ ④ ⑤

① Housing Color	no mark	Cream
	C	Chrome
② Light Style		Steady
	F	Steady & Flashing
	B	Steady with Audible Alarm
	Z	Steady & Flashing with Alarm
③ Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
④ Power Supply	01	12V AC/DC
	02	24V AC/DC
	FF	90~240V AC
⑤ Lens Colors (top to bottom)	R	Red
	Y	Yellow
	G	Green

Specifications

Alarm Sound Level	80 ± 5dB at 1m
Flashing rate	Approx. 80 ± 5 flashes/min.
Rating	IP65 (IP52 with buzzer)
Vibration	0.75mm at 10~55Hz
Ambient Temp.	-20°C~40°C
Ambient Humidity	45~85% RH
Recommended Wire Size	1007 UL / 22 AWG

Current Consumption

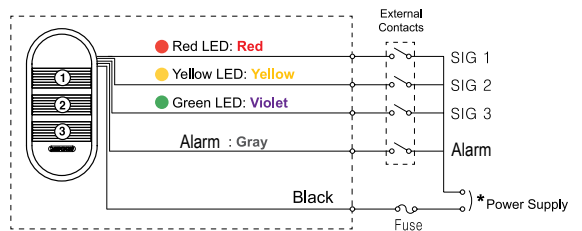
PowerSupply	12VAC/DC		24VAC/DC		90~240VAC	
	General	Buzzer	General	Buzzer	General	Buzzer
1stack-Red	0.06A	0.25A	0.07A	0.16A	0.02A	0.05A
2stacks-Red+Green	0.12A	0.30A	0.12A	0.20A	0.03A	0.13A
3stacks-R+Y+G	0.17A	0.37A	0.15A	0.27A	0.04A	0.18A

Wiring Diagram

12V & 24V AC/DC

PWE-□01-□□□ PWEB-□01-□□□
 PWE-□02-□□□ PWEB-□02-□□□

Steady Lights (with Audible Alarm)

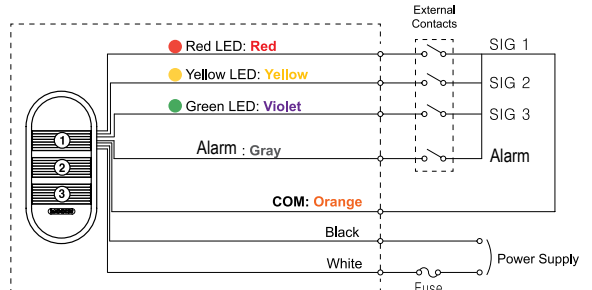


* No polarity for DC applications.

90-240V AC

PWE-□FF-□□□ PWEB-□FF-□□□

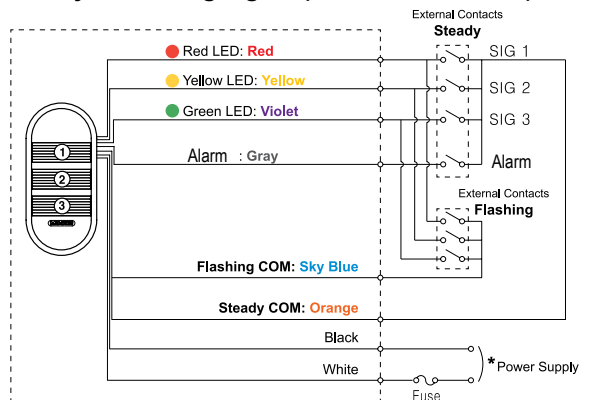
Steady Lights (with Audible Alarm)



90-240V AC, 24V AC/DC

PWEF-□01-□□□ PWEZ-□01-□□□
 PWEF-□02-□□□ PWEZ-□02-□□□
 PWEF-□FF-□□□ PWEZ-□FF-□□□

Steady & Flashing Lights (with Audible Alarm)



* No polarity for DC applications.



MWE Series

90mm Wall mounting Semicircular
Multicolored LED Signal Light

- 3 or 4 Colors (Red, Yellow, Green, Blue)
- Large LED Light-emitting Lens (93mm)
- Optional built-in Alarm
- IP65 (With Alarm: IP52)



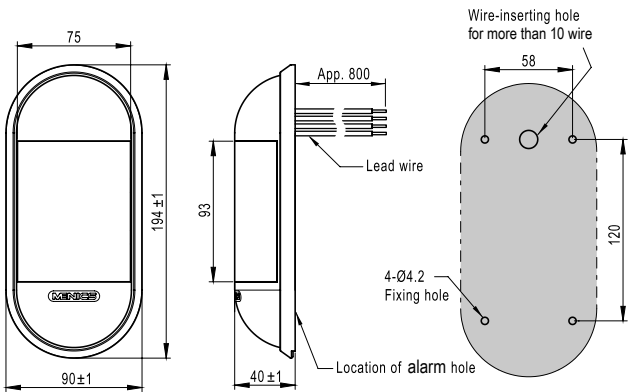
Ordering Information

MWE C F - 3 00 - RGB M
 ① ② ③ ④ ⑤ ⑥

① Housing Color	no mark	Cream
	C	Nickel-plated
② Light Style	F	Steady/Flashing
	B	Steady/Flashing/Alarm
③ LED Signals	3	3 Colors
	4	4 Colors
④ Power Supply	00	12~24VDC
	FF	110~220VAC
⑤ LED Colors	RGB	Red, Green, Blue
	RYG	Red, Yellow, Green
	RYGB	Red, Yellow, Green, Blue
⑥ Lens Color (Optional)	No Mark	Clear Lens
	M	Milky Lens

Dimensions

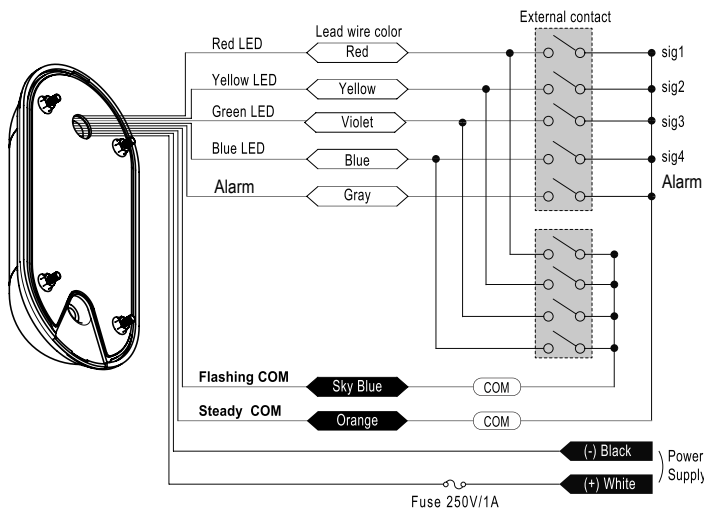
unit: mm



※ If you want to get IP52 grade, be sure to place the alarm side down. (For alarm type product)

Mounting hole layout

Wiring Diagram

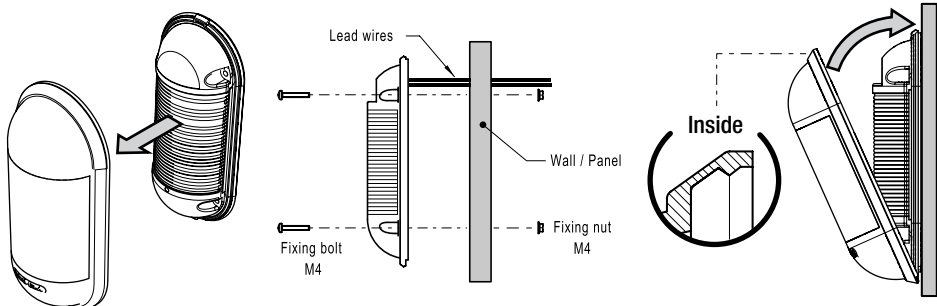


※ Pay attention to the polarity if it is DC-type.

Specifications

Power Supply	12~24VDC	110~220VAC
Current Consumption	0.50A/ 0.60A(w/Alarm)	0.07A/0.07A (w/Alarm)
Flash Rate	12VDC	80±5 times per minute
	24AC/DC	85±5 times per minute
	110~220VAC	85±5 times per minute
Color of Front Lens	Standard Color—Clear, Option – Milky white	
Alarm Sound Level	75±5dB (at 1M, Sound Level is maximum)	
Wiring Method	Lead wire connection	
Vibration Resistance	0.75mm at 10~55Hz	
Dielectric strength	1000VAC 50/60Hz for 1min	
Insulation Resistance	100 MΩ minimum (500VDC mega)	
Ambient Temperature	-20~40°C	
Storage Temperature	-20~70°C	
Ambient Humidity	45~85% RH	
Recommended Wire Size	UL1007/22AWG	
Weight	AC type – About 300g, DC type – About 293g	
Degree of Protection	IP65 (IP52-Buzzer type)	

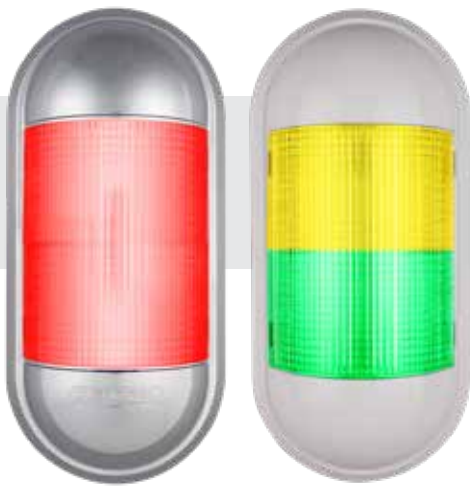
How to install



RGB LED Color Chart

Condition	Wiring	LED Color
1	Red wire	Red
2	Violet wire	Green
3	Blue wire	Blue
4	Red + Violet wire	Yellow
5	Red + Blue wire	Pink
6	Violet + Blue wire	Cyan
7	Red + Violet + Blue wire	White

* 12~24VDC only



MWET Series

90mm Wall mounting Semicircular Multi-channel LED Signal Light



- 3 Colors Signal Light
- Split lens can show different colors
- Large LED Light-emitting Lens (93mm)
- Optional built-in Alarm
- IP65 (With Alarm: IP52)

Ordering Information

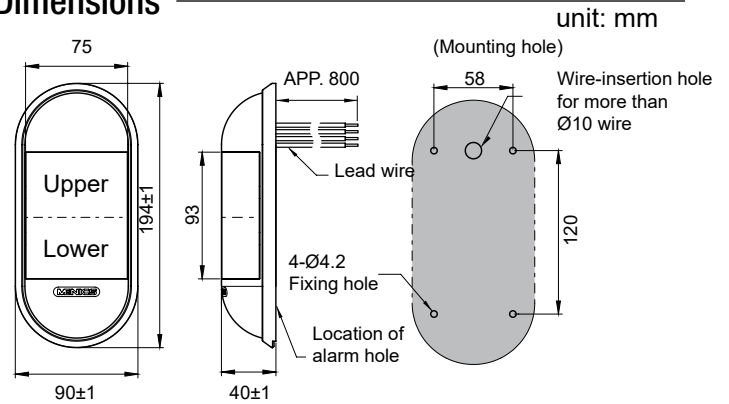
MWET C F - 3 00 - RYG M
 ① ② ③ ④ ⑤ ⑥

① Housing Color (Optional)	no mark	Cream
	C	Nickel-plated
② Light Style	F	Steady/Flashing
	B	Steady/Flashing/Alarm
③ LED Signals	3	3 Colors
④ Power Supply	00	12~24VDC
	FF	110~220VAC
⑤ LED Colors	RGB	Red, Green, Blue
	RYG	Red, Yellow, Green
⑥ Lens Color (Optional)	No Mark	Clear Lens
	M	Milky Lens

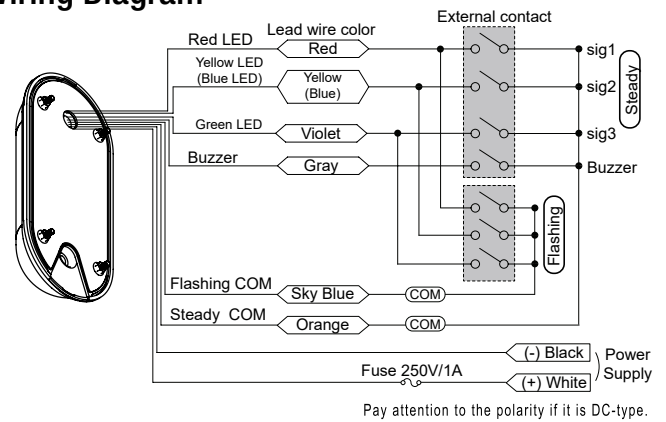
Specifications

Power Supply	12~24 DC	110~220 AC
Current Consumption	Max 0.22A ±10%	Max 0.08A ±10%
Flash Rate	12VDC	80±5 times per minute
	24VDC	85±5 times per minute
	110~220VAC	85±5 times per minute
Alarm Sound Level	75±5dB (at 1M, Sound Level is maximum)	
Wiring Method	Lead wire connection	
Vibration Resistance	0.75mm at 10~55Hz	
Dielectric strength	1000VAC 50/60Hz for 1min	
Insulation Resistance	100 MΩ minimum (500VDC mega)	
Ambient Temperature	-20~40°C	
Storage Temperature	-20~70°C	
Ambient Humidity	45~85% RH	
Degree of Protection	IP65 (IP52-Buzzer type)	
Recommended Wire Size	UL 1007/22AWG	
Weight	AC type – About 300g, DC type – About 293g	
Approvals	RoHs, UL, CE	

Dimensions



Wiring Diagram

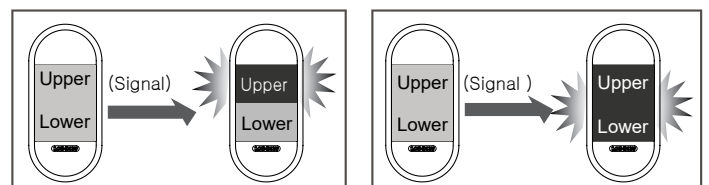


Product Operating Conditions

Combination chart of color display

Signal wire condition			Red/yellow/Green		Red/Blue/Green	
Red LED (Red wire)	Yellow/Blue LED (Yellow/blue wire)	Green LED (Violet wire)	Upper Display	Lower Display	Upper Display	Lower Display
0	1	1	Red		Red	
1	0	1	Yellow		Blue	
1	1	0	Green		Green	
0	1	0	Red	Green	Red	Green
0	0	1	Red	Yellow	Blue	Red
1	0	0	Yellow	Green	Blue	Green
0	0	0	Red	OFF	Blue	OFF
1	1	1	OFF		OFF	

0: Orange wire (-) COM ----> Connection status
 1: Open condition



Upper & lower lens can show different colors on a signal light.

MSGS Series

140mm Square Tower Warning Signal Light



- Incandescent type
- Outstanding visibility by magnified lens
- Large rotating reflector
- Selectable 5 signal sounds (100dB)
- Stud or Wall mount with optional bracket (see page B2)



Specifications

Lighting Type	Incandescent, Rotating	
Power Supply	12VDC, 24VDC, 110VAC, 220VAC	
Current Draw & Wattage	12VDC	2.4A, 25W
	24VDC	1.3A, 25W
	110VAC	0.4A, 25W
	220VAC	0.2A, 25W
Rotation Rate	150±10 rpm	
Alarm Sound Level	100±5dB @1m	
Bulb Type	BA 15D	
Vibration	0.75mm at 10~55Hz	
Ambient Temperature	-15~40°C	
Storage Temperature	-25~70°C	
Ambient Humidity	45 ~ 85% RH	
Degree of Protection	IP20	
Recommended Wire Size	VSF / 0.75mm ² (Power supply wire only)	
Certificate/Compliance	RoHS	

Ordering Information

MSGS - 5 01 - RYGBC

① ② ③

① Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
	5	5 Lights
② Power Supply	01	12VDC
	02	24VDC
	10	110VAC
	20	220VAC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

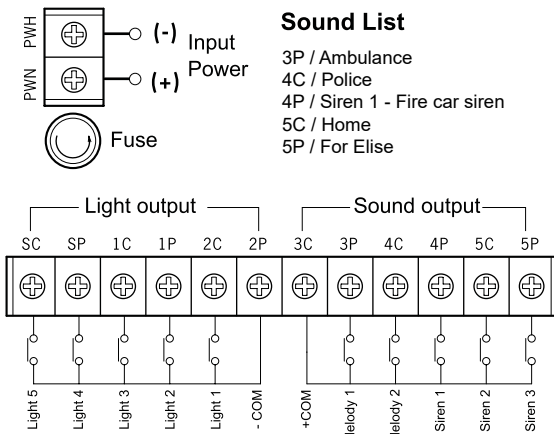
Replacement Parts

Power Supply	12V DC	110V AC	220V AC	24V DC
Bulb	MAB-T15-D-012-25 (12V DC, 25 Watt)		MAB-T15-D-024-25 (24V DC, 25 Watt)	
LED Bulb	MAL-T15-D-②-①			
Lens	LENS-MSGS-①			

①: Color of LED or Lens; R, Y, G, B or C

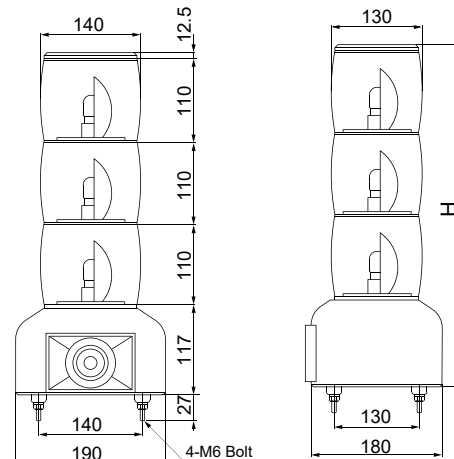
②: Voltage: 12 (12VAC/DC) 24(24VAC/DC) 120(120VAC) 220(220VAC)

Wiring Diagram



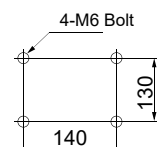
Dimensions

unit: mm

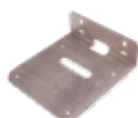


# of Stack	H
1	240
2	350
3	460
4	570
5	680

Mounting hole layout



Wall Mounting Option



MAM-DS33



MSGT Series

D140mm Square Tower Warning Signal Light

- Large 140mm lens, flashing & rotating LED light
- Outstanding visibility with dual reflection system
- 5 signal sounds up to 100dB
- Built-in LED mode change switch
- Stud or Wall mounting with optional bracket



Specifications

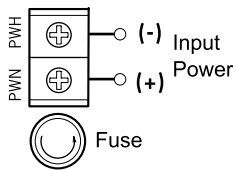
Lighting Type	Steady, Flashing, Rotation
Power Supply	12VDC $\pm 5\%$, 24VDC $\pm 5\%$ 110VAC $\pm 10\%$, 220VAC $\pm 10\%$ (AC: 50/60Hz)
Maximum stacked quantity	Fixed frame, 1~3 stack versions available (4 stack : option)
Flashing rate	Continuous flashing (emergency signal) 240 ± 10 times per minute
Rotating rate	250 ± 10 rpm (Clockwise Rotation)
Sound volume	Speaker 15W / App. 100 ± 5 dB at 1 meter
Ambient humidity	45 ~ 85% RH
Ambient temperature	-15 ~ 40°C
Storage ambient temperature	-20 ~ 70°C
Vibration	0.75mm at 10 ~ 55Hz
Withstand voltage	500VAC 50/60 Hz for 1 minute
Insulation resistance	More than 100M Ω (500VDC)
Protection structure	IP23 (Upright)
Weight	App. [1S: 2.7Kg] [2S: 3.3Kg] [3S: 4.0Kg]

Ordering Information

MSGT - 4 01 - RYGB
 ① ② ③

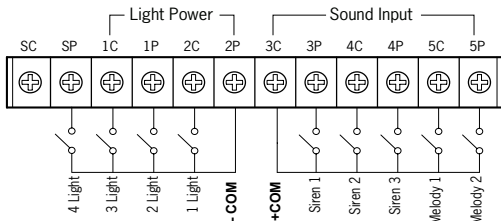
① Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
② Power Supply	01	12VDC
	02	24VDC
	10	110VAC
	20	220VAC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue

Wiring Diagram

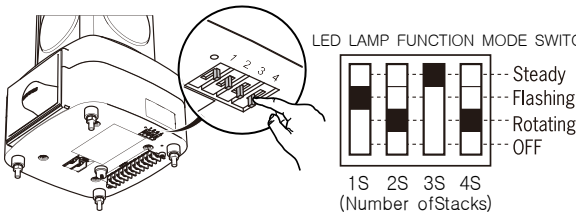


Sound List

- 3P / Siren 1 - An ambulance siren
- 4C / Siren 2 - Police car siren
- 4P / Siren 3 - Fire car siren
- 5C / Melody 1 - Home Sweet Home
- 5P / Melody 2 - For Elise



* Be careful of wiring Light COM and Sound Com. It may cause product damage.

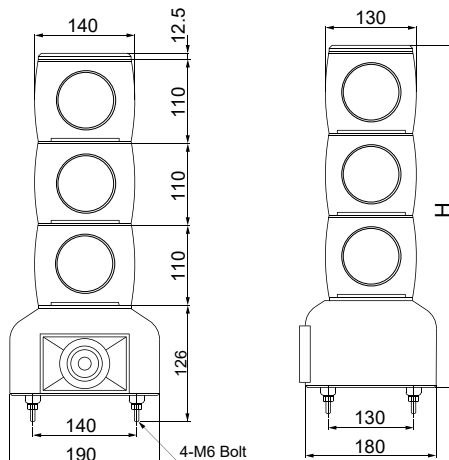


Current Consumption

# of Stacks	LED Color	12VDC		24VDC		110VAC		220VAC	
		Standard	Speaker	Standard	Speaker	Standard	Speaker	Standard	Speaker
1 Stack	Red	0.25A	0.47A	0.14A	0.36A	0.11A	0.15A	0.05A	0.07A
	Yellow	0.37A	0.49A	0.15A	0.37A	0.12A	0.15A	0.07A	0.09A
	Green	0.33A	0.53A	0.19A	0.4A	0.12A	0.16A	0.06A	0.08A
2 Stack	RG	0.52A	0.69A	0.3A	0.51A	0.15A	0.19A	0.07A	0.1A
	RY	0.47A	0.66A	0.26A	0.48A	0.14A	0.18A	0.07A	0.09A
3 Stack	RYG	0.68A	0.84A	0.42A	0.64A	0.19A	0.23A	0.09A	0.11A
	RBG	0.68A	0.84A	0.42A	0.64A	0.19A	0.23A	0.09A	0.11A
4 Stacks	RYGB	1.50A	1.50A	0.57A	1.50A	0.31A	0.38A	0.16A	0.2A

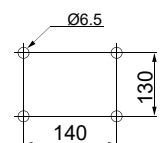
Dimensions

unit: mm



# of Stack	H (mm)
1	374
2	384
3	494
4	604

Mounting hole layout



Note

A series of horizontal dotted lines for writing notes.

MH115 Series

115mm LED Stack Lights
with Audiable Alarm

- Excellent visibility from all directions
- High-bright LED and internal reflectors
- Smooth outer lens for easy maintenance
- Built-in buzzer or horn speaker with 9 types of sounds
- Built-in volume control



Ordering Information

MH115 S - F 3 02 - RYG
 ① ② ③ ④ ⑤

① Sound/Buzzer Type	B	Built-in Buzzer (External wiring contact)
	S	Built-in Horn Speaker (Internal switch contact)*
	K	Built-in Horn Speaker (External wiring contact)**
② Light Style	L	Steady Light
	F	Steady & Flashing Light
③ Number of Stacks	1	1 Light
	2	2 Lights
	3	3 Lights
	4	4 Lights
	5	5 Lights
④ Power Supply	02	24VDC
	FF	100~240VAC
⑤ Lens Colors (top to bottom)	R	Red
	Y	Yellow
	G	Green
	B	Blue
	W	White

* Only 1 sound can be selected

** Different sounds can be selected for each LED color

Specifications

Operation/Function	Steady/ Flashing
Power Supply	24VDC, 100~240VAC 50/60 Hz
Allowable Voltage Range	21.6 ~ 26.4VDC, 100 ~ 240VAC
Withstand Voltage	24VDC - 500VAC 50/60Hz 1 Minute 100VAC - 1000VAC 50/60Hz 1 Minute 220VAC - 1500VAC 50/60Hz 1 Minute
Classification	MH115S/K : 15W Horn Speaker / MH115B : Buzzer
Volume(Built-in controller)	Horn Speaker: Max. 110±10dB / Buzzer: Max. 95±5dB
Built-in Sound	Speacker: 9 Tones (3 melodies, 6 beeps) Buzzer: Intermittent sound
Lens Color	Red, Yellow, Green, Blue & Clear(White LED)
Lens Diameter	115 mm (4.53 inch)
Material	Lens:PC, Body: ABS, Reflector:Heat-resistant ABS (Nickel Chrome Plating)
Flash Rate	75±5 times/ minute
Vibration	30Hz(1minute cycle) 1 Hours double amplitude 0.5mm in X,Y,Z respective direction
Ambient Temperature	-15°C~40°C
Storage Temperature	-20°C ~ 70°C
Ambient Humidity	45~85% RH
Degree of Protection	IP35
Mounting Method	Vertical direction only (Indoor and outdoor)
Approvals	RoHS, CE
Recommended Wire Size	UL1007, 22AWG, Exposure length - about 700±100mm

Product Weight

Stacks	MH115S		MH115K		MH115B	
	24VDC	AC	24VDC	AC	24VDC	AC
1	855g	897g	878g	920g	617g	648g
2	997g	1.0kg	1.0kg	1.0kg	762g	794g
3	1.2kg	1.2kg	1.2kg	1.2kg	913g	945g
4	1.3kg	1.4kg	1.3kg	1.4kg	1.1kg	1.1kg
5	1.5kg	1.5kg	1.5kg	1.5kg	1.2kg	1.3kg

Current Consumption

Stacks	LED Color	MH115S/K*		MH115B**	
		24VDC	AC	24VDC	AC
1	R/Y/G/B/W	0.50A	0.17A	0.08A	0.05A
2	RG/RB	0.54A	0.18A	0.13A	0.07A
3	RYG/RBG	0.60A	0.20A	0.19A	0.10A
4	RYGB	0.65A	0.22A	0.25A	0.11A
5	RYGBW	0.70A	0.25A	0.29A	0.12A

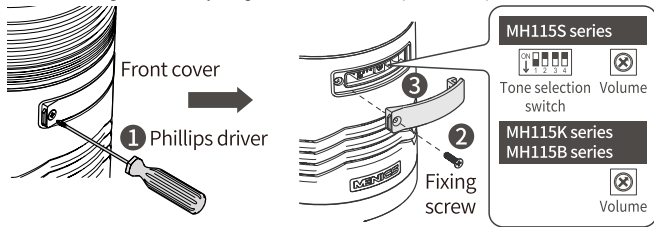
*When LED+Speaker is in operation

**When LED+Buzzer is in operation

Please See Our "Mounting and Accessories" Section for Mounting Options

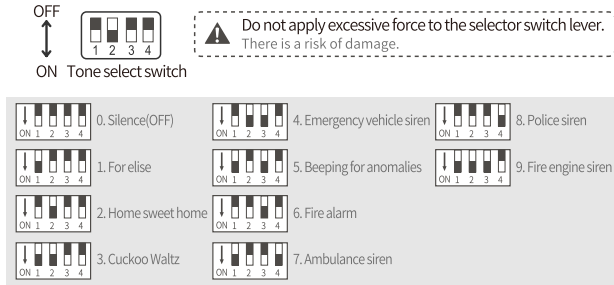
Tone Selection And Volume Control

✓ When selecting a tone and adjusting the volume, use a Phillips driver to open and close the front cover.



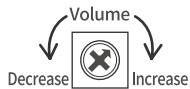
Tone Selection Switch (MH115S)

✓ When selecting a tone, use a small flat screwdriver (tweezers) to operate the selection switch.
 ✓ Sound works only when the selector switch lever is pushed down.



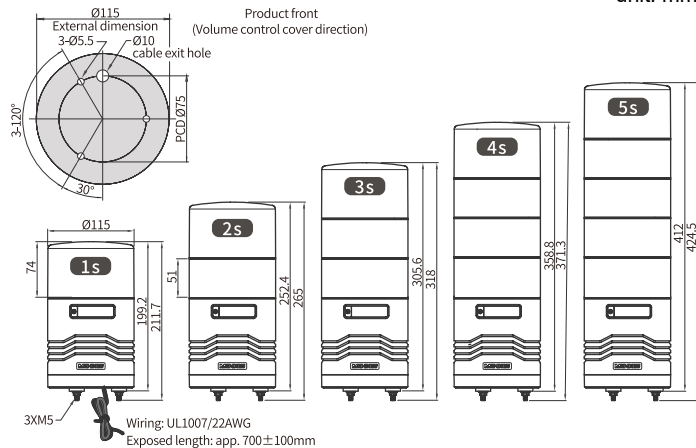
Sound Volume Control

✓ When adjusting the volume, turn the volume lightly using a small flat screwdriver.



Dimensions

unit: mm



MH115K Sound Setting

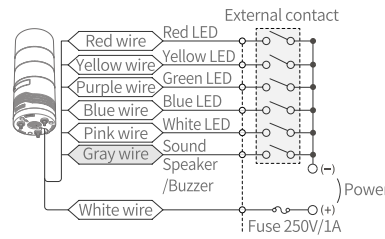
Connect with COM wire (Black wire)

1. Black+White wire	For Elise
2. Black+Red wire	Home sweet home
3. Black+Blue wire	Fire alarm
4. Black+Green wire	Police siren
5. Black+White+Red wire	Cuckoo waltz
6. Black+Red+Blue wire	Emergency vehicle siren
7. Black+White+Blue wire	Beeping for anomalies
8. Black+White+Green wire	Ambulance siren
9. Black+White+Red+Blue wire	Fire engine siren

Wiring Diagram for MH115S, MH115B

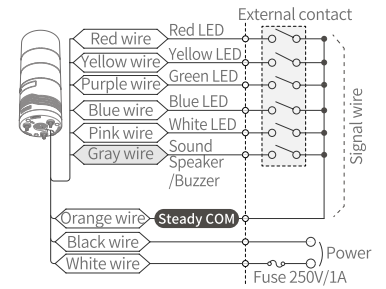
24VDC

Steady Lights



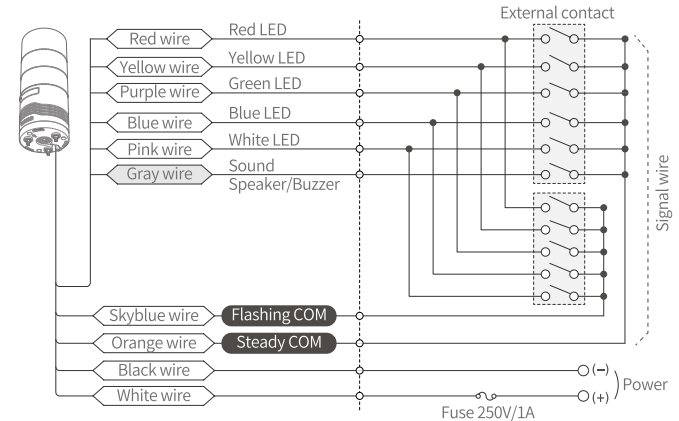
100~240VAC

Steady Lights



24VDC/ 100~240VAC

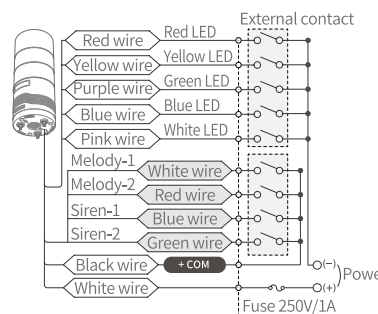
Steady/Flashing Lights



Wiring Diagram for MH115K

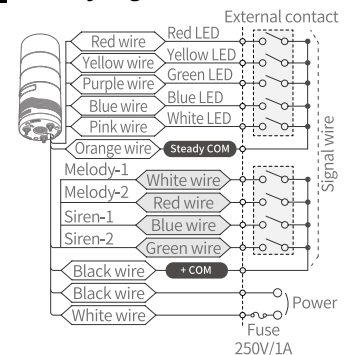
24VDC

Steady Lights



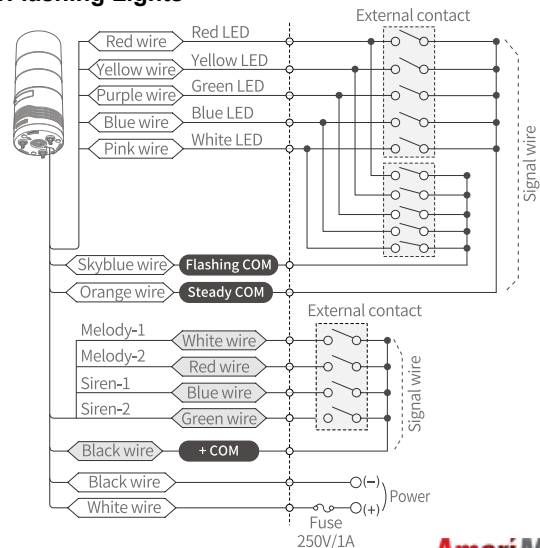
100~240VAC

Steady Lights



24VDC / 100~240VAC

Steady/Flashing Lights





ATEP/ATES Series

Ready to Use Andon Lights
With Pole Mounted Control Box

- 56mm diameter LED Andon lights
- Pre-wired suitable for multiple applications
- 1-5 stacks, or 1-4 stacks with buzzer
- 80dB buzzer or adjustable 10-100dB buzzer
- Wall mountable with L bracket
- 9.45" pole & 6ft power cord



Ordering Information

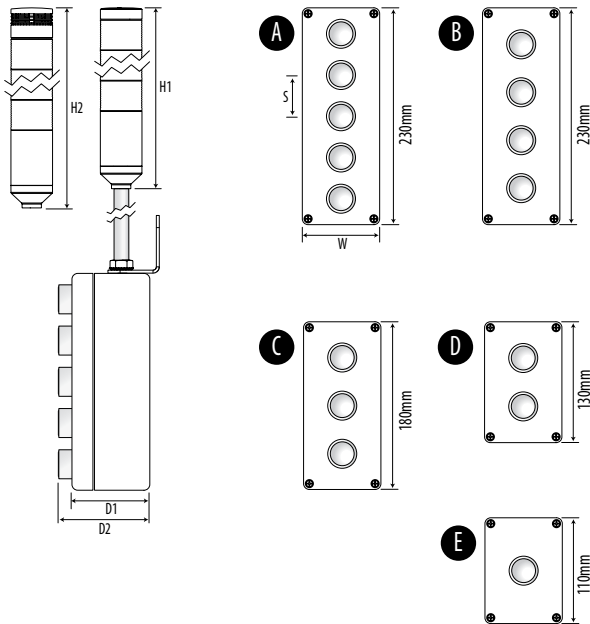
ATE P - R - B
① ② ③

① Switch Type	P	Pushbutton
	S	Selector Switch (2 Position)
② Lens Colors	R	Red
	Y	Yellow
	G	Green
	RY	Red, Yellow
	RG	Red, Green
	RYG	Red, Yellow, Green
	RYGB	Red, Yellow, Green, Blue
③ Buzzer Type (optional)	no mark	No Buzzer
	B	80dB Buzzer
	Z	10-100dB Buzzer

"*" marked type is not available for buzzer option

Dimensions

unit: mm



	W	D1	D2	D3	S	H1	H2
A	80	72	83	96	42	319	N/A
B	80	72	83	96	50	279	304
C	80	72	83	96	50	239	264
D	80	72	83	96	50	199	224
E	80	72	83	96	N/A	159	184

D2 is for pushbutton type
D3 is for selector switch type

Specifications

Operation/Function	Red Flashing, Other Lights Steady *
Power Supply	90~240V AC 50/60 Hz (±10%)
Lens Color	Red, Yellow, Green, Blue & Clear
Lens Diameter	56 mm (2.2 inch)
Switching Options	Pushbutton or Selector Switch
Flash Rate	80 times/ minute
Vibration	0.75mm at 10~55Hz
Ambient Temperature	-15°C~40°C
Storage Temperature	-20°C ~ 70°C
Ambient Humidity	45~85% RH
Pole length	9.45"(optional: 29.53", 39.37")
Power Cord	3 prong 6ft installed

* Steady or Flashing function for any light stack can be changed by custom order

LED Modules

Color	Red	Yellow	Green	Blue	Clear
Current Consumption	17mA	17mA	22mA	22mA	22mA

Buzzer Modules

Type	B	Z
Style	Fixed Sound	Adjustable
Sound Level	80±5dB	10 ~ 100±5dB
Current Consumption	30mA	150mA

ATEPR/ATESR Series

Ready to Use Andon Lights
With Remote Control Box

- 56mm diameter LED Andon lights
- Pre-wired suitable for multiple applications
- 1-5 stacks, or 1-4 stacks with buzzer
- 80dB buzzer or adjustable 10-100dB buzzer
- Wall mountable with L bracket
- 9.45" pole & 6ft power cord



Ordering Information

ATE PR - 10 - R - B
① ② ③ ④

① Switch Type	PR	Pushbutton
	SR	Selector Switch (2 Position)
② Remote Cable Length	10	10 feet
	15	15 feet
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	RY	Red, Yellow
	RG	Red, Green
	RYG	Red, Yellow, Green
	RYGB	Red, Yellow, Green, Blue
④ Buzzer Type (optional)	no mark	No Buzzer
	B	80dB Buzzer
	Z	10-100dB Buzzer

" * " marked type is not available for buzzer option

Specifications

Operation/Function	Red Flashing, Other Lights Steady *
Power Supply	90~240V AC 50/60 Hz (±10%)
Lens Color	Red, Yellow, Green, Blue & Clear
Lens Diameter	56 mm (2.2 inch)
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Flash Rate	80 times/ minute
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Ambient Humidity	45~85% RH
Pole length	9.45"(optional: 29.53", 39.37")
Power Cord	3 prong 6ft, installed

* Steady or Flashing function for any light stack can be changed by custom order

LED Modules

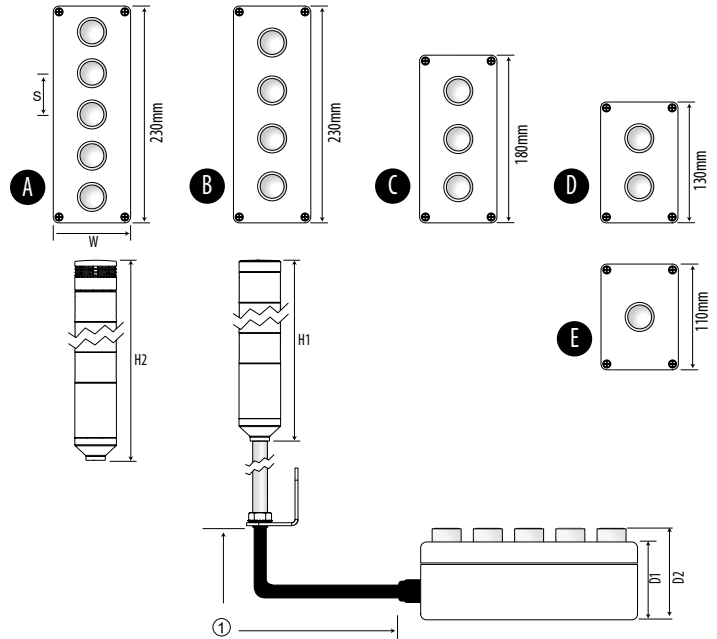
Color	Red	Yellow	Green	Blue	Clear
Current Consumption	17mA	17mA	22mA	22mA	22mA

Buzzer Modules

Type	B	Z
Style	Fixed Sound	Adjustable Sound
Sound Level	80±5dB	10 ~ 100±5dB
Current Consumption	30mA	150mA

Dimensions

unit: mm

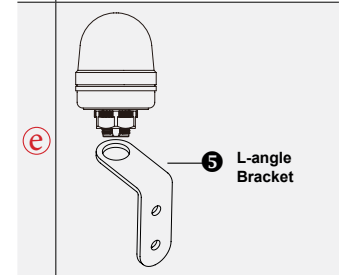
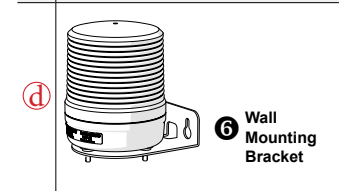
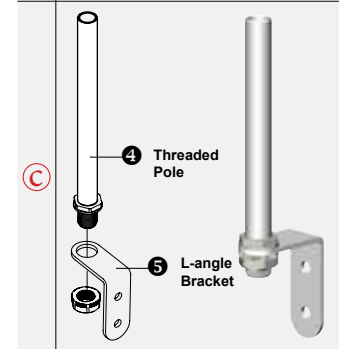
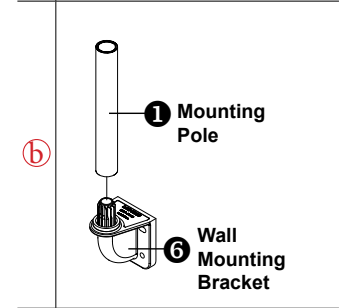
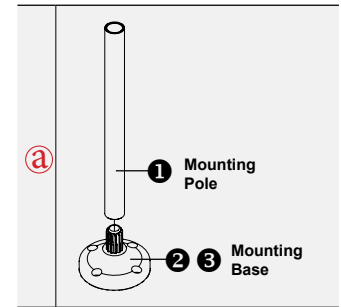


	W	D1	D2	D3	S	H1	H2
A	80	72	83	96	42	319	N/A
B	80	72	83	96	50	279	304
C	80	72	83	96	50	239	264
D	80	72	83	96	50	199	224
E	80	72	83	96	N/A	159	184

D2 is for pushbutton type
D3 is for selector switch type

Mounting Options

Series		Pole with Base Mounting ^a		Pole + Wall Mounting		Direct Wall Mounting (without Pole)
		Pole	Mounting Base	Pole	Wall Mount Bracket	
Stack Lights	PTE/PTM *	MAP-0022 MAP-0060 MAP-0240 MAP-0750 MAP-1000	MAM-B070C MAM-B070D MAM-DS32A MAM-470R-20 MAM-DS42R-20C	MAP-0022 MAP-0060 MAP-0240 MAP-0750 MAP-1000	MAP-DS40	Direct Mounting Type: MAM-DS25 ^e
	PME					
	MT4B/5B/5C					
	MT8B/8C **					
	PY7	MAP-225-22 (ø22mm)	MAM-DS32C MAM-470R-22 MAM-DS42R-22C	MAP-M240-22D (ø22mm)	MAM-DS25	M Type: MAM-DS25 ^e G Type: MAM-DS38 ^d
	PLD	N/A				MAM-DS25 ^e
	MSG5	Stud Mounting Type				MAM-DS33 ^d
Beacon Lights	MS66	MAP-0022 MAP-0060 MAP-0240 MAP-0750 MAP-1000	MAM-B070C MAM-B070D MAM-DS32A MAM-470R-20 MAM-DS42R-20C	MAP-0022 MAP-0060 MAP-0240 MAP-0750 MAP-1000	MAP-DS40	M Type: MAM-DS25 ^e G Type: MAP-DS30 ^d MAM-DS28
	ASG ***					
	MS86 ***					
	MS70	MAP-225-22 (ø22mm)	MAM-DS32C MAM-470R-22 MAM-DS42R-22C	MAP-M240-22D (ø22mm)	MAM-DS25	M Type: MAM-DS25 ^e G Type: MAM-DS38 ^d
	MS115	SAM-T115 (ø25mm Pole)		SAM-T115	MAM-DS38	MAM-DS29 ^d
	MS135	SAM-T135 (ø25mm Pole)		SAM-T135		MAM-DS37 ^d
	ML	Stud Mounting Type				MAP-DS30 ^d MAM-DS26
	MS56					MAM-DS25 ^e
	AVG					MAM-DS27 ^d



* MAP-0022 cannot be used with PTE/PTM series.

** Mounting base MAM-B090C is used for MT8B/8C.

*** ASG & MS86 needs pole adapter MAM-DS31 for pole mounting.

Mounting Pole ①



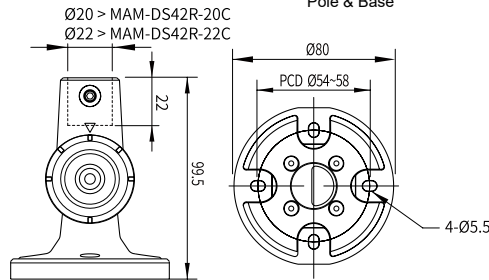
Part	Part #	Description
	MAP-0022*	Ø20mm, 0.87 in (22 mm) pole
	MAP-0060	Ø20mm, 2.36 in (60 mm) pole
	MAP-0240	Ø20mm, 9.45 in (240 mm) pole
	MAP-0750	Ø20mm, 29.53 in (750 mm) pole
	MAP-1000	Ø20mm, 39.37 in (1,000 mm) pole
	MAP-225-22	Ø22mm, 8.86 in (225 mm) pole 1/2 NPT Thread top

①

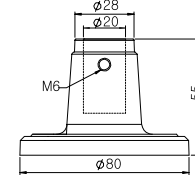
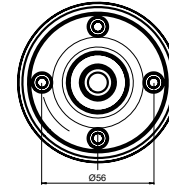
* MAP-0022 CANNOT be used with PTE & PTM Series.

③ Aluminum Mounting Bases

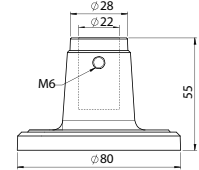
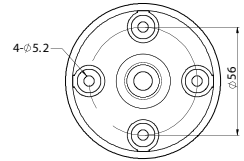
MAM-DS42R-20C
MAM-DS42R-22C



MAM-DS32A

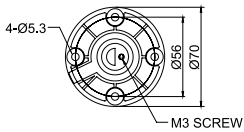
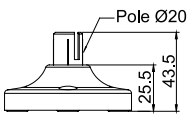


MAM-DS32C

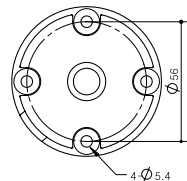
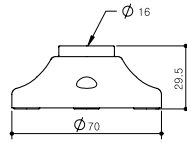


Plastic Mounting Bases ②

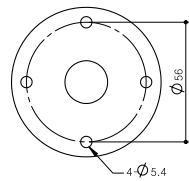
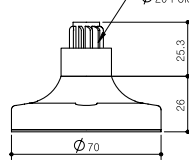
MAM-B070C



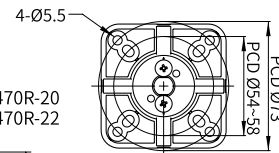
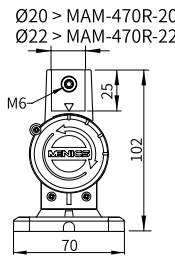
MAM-B070F



MAM-B070D

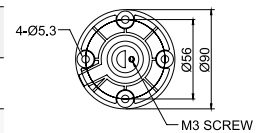
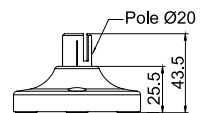


MAM-470R-20
MAM-470R-22



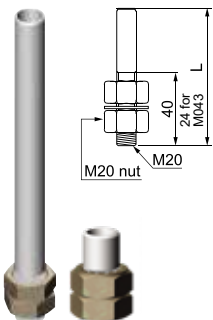
90° Angle Mounting with Pole & Base

MAM-B090C



Part	Part #	Description
	MAM-B070C	Ø70mm Plastic Base
	MAM-B070D	Ø70mm Plastic Base with Water-Proof Rubber Gasket
②	MAM-470R-20	Ø70mm Plastic Folding Base 90° angle, for 20mm pole
	MAM-470R-22	Ø70mm Plastic Folding Base 90° angle, for 22mm pole
	MAM-B090C	Ø90mm Plastic Base

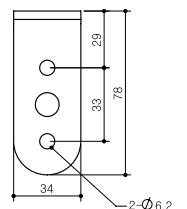
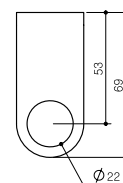
Threaded Poles ④



④	MAP-M043	Ø20mm, 1.69 in (43 mm) threaded pole with 2 nuts
	MAP-M240	Ø20mm, 9.45 in (240 mm) threaded pole with 2 nuts
	MAP-M750	Ø20mm, 29.53 in (750 mm) threaded pole with 2 nuts
	MAP-M1000	Ø20mm, 39.37 in (1,000 mm) threaded pole with 2 nuts
	MAP-M240-22D	Ø22mm, 9.45 in (240 mm), 1/2 NPT thread top & 2 x M20 Nuts bottom

⑤ L-angle Bracket

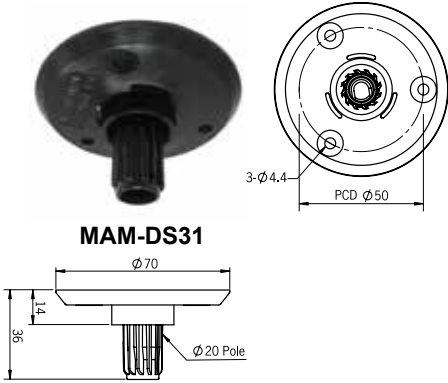
MAM-DS25



Pole Adaptor

Conduit Direct Mount Option

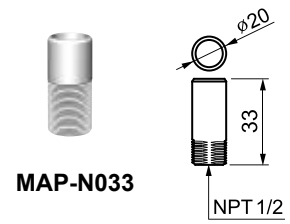
Pole Mounting Adaptor



Pole Extension Adaptor



1/2" NPT
Mounting Adaptor



Semi-assembled Pole Mounting Base

SAM-T115

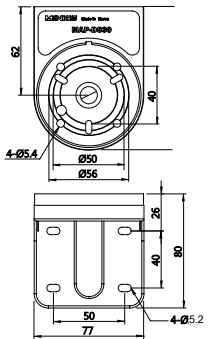


SAM-T135

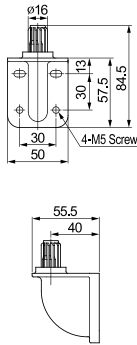


Wall Mounting Brackets ⑥

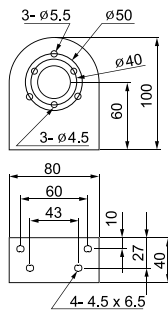
MAP-DS30



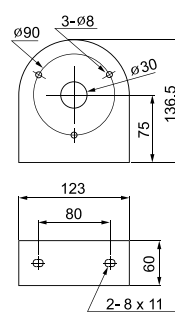
MAP-DS40



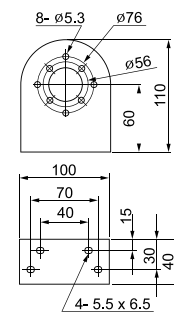
MAM-DS26



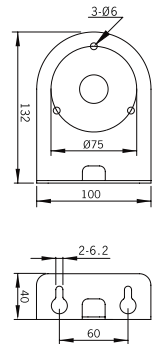
MAM-DS27



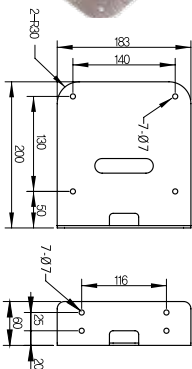
MAM-DS28



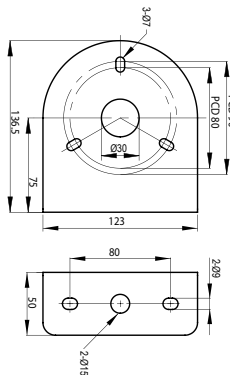
MAM-DS29



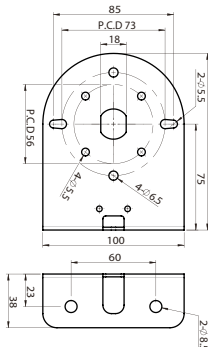
MAM-DS33



MAM-DS37





MAM-DS38



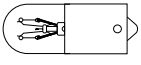
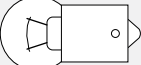
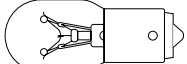
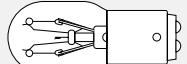
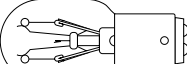
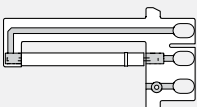
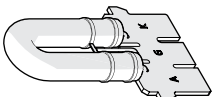
Part	Part #	Description
	MAP-DS30-BLK	Plastic Wall Mounting Bracket, Black
	MAP-DS30-BGE	Plastic Wall Mounting Bracket, Beige
	MAP-DS40-BLK	Plastic Wall Mounting Bracket, Black (Pole required)
	MAP-DS40-BGE	Plastic Wall Mounting Bracket, Beige (Pole required)
⑥	MAM-DS26	Metal Wall Mounting Bracket
	MAM-DS27	Metal Wall Mounting Bracket
	MAM-DS28	Metal Wall Mounting Bracket
	MAM-DS29	Metal Wall Mounting Bracket
	MAM-DS33	Metal Wall Mounting Bracket
	MAM-DS37	Metal Wall Mounting Bracket
	MAM-DS38	Metal Wall Mounting Bracket

Replacement bulb

LED Bulb

LED Bulb	Ordering Information		Applicable Products																		
 <p>Base 9mm Single contact</p>	MAL - T09 - S - <u>12</u> - R ① ②	Current consumption 12V: 30~50mA 24V: 20mA	Allowable voltage range 12V: 11~13V 24V: 22~26V	MT4B series																	
<table border="1"> <tr> <td rowspan="2">① Voltage</td> <td>12</td> <td>12VAC/DC</td> </tr> <tr> <td>24</td> <td>24VAC/DC</td> </tr> </table>	① Voltage	12	12VAC/DC		24	24VAC/DC	<table border="1"> <tr> <td rowspan="3">② Color</td> <td>R</td> <td>Red</td> <td>G</td> <td>Green</td> </tr> <tr> <td>Y</td> <td>Yellow</td> <td>B</td> <td>Blue</td> </tr> <tr> <td>C</td> <td>Clear</td> <td></td> <td></td> </tr> </table>	② Color	R	Red	G	Green	Y	Yellow	B	Blue	C	Clear			
① Voltage		12	12VAC/DC																		
	24	24VAC/DC																			
② Color	R	Red	G	Green																	
	Y	Yellow	B	Blue																	
	C	Clear																			
 <p>Base 15mm Double contact</p>	MAL - T15 - D - <u>24</u> - R ① ②	Current consumption 12V: 30~50mA 24V: 20~30mA	Allowable voltage range 12V: 11~13V 24V: 22~26V	MT5 series MT8 series AVG series MSGS series MS135B Series																	
	<table border="1"> <tr> <td rowspan="2">① Voltage</td> <td>12</td> <td>12VAC/DC</td> </tr> <tr> <td>24</td> <td>24VAC/DC</td> </tr> </table>	① Voltage	12		12VAC/DC	24	24VAC/DC	<table border="1"> <tr> <td rowspan="3">② Color</td> <td>R</td> <td>Red</td> <td>G</td> <td>Green</td> </tr> <tr> <td>Y</td> <td>Yellow</td> <td>B</td> <td>Blue</td> </tr> <tr> <td>C</td> <td>Clear</td> <td></td> <td></td> </tr> </table>	② Color	R	Red	G	Green	Y	Yellow	B	Blue	C	Clear		
① Voltage	12		12VAC/DC																		
	24	24VAC/DC																			
② Color	R	Red	G	Green																	
	Y	Yellow	B	Blue																	
	C	Clear																			
	MAL - T15 - D - <u>220</u> - R ① ②	Current consumption 120V: 15mA 220V: 20mA	Allowable voltage range 120V: 100~120V 220V: 210~240V																		
	<table border="1"> <tr> <td rowspan="2">① Voltage</td> <td>120</td> <td>120VAC</td> </tr> <tr> <td>220</td> <td>220VAC</td> </tr> </table>	① Voltage	120	120VAC	220	220VAC	<table border="1"> <tr> <td rowspan="3">② Color</td> <td>R</td> <td>Red</td> <td>G</td> <td>Green</td> </tr> <tr> <td>Y</td> <td>Yellow</td> <td>B</td> <td>Blue</td> </tr> <tr> <td>C</td> <td>Clear</td> <td></td> <td></td> </tr> </table>	② Color	R	Red	G	Green	Y	Yellow	B	Blue	C	Clear			
① Voltage	120		120VAC																		
	220	220VAC																			
② Color	R	Red	G	Green																	
	Y	Yellow	B	Blue																	
	C	Clear																			

Bulb

Bulb Type	Voltage & Power Consumption	Ordering information	Applicable Products
 <p>T10/BA9S</p>	12V 5W	MAB-T09-S-012-05	MT4B series
	24V 5W	MAB-T09-S-024-05	
	130V 5W	MAB-T09-S-130-05	
	240V 5W	MAB-T09-S-240-05	
 <p>G19/BA15S</p>	12V 5W	MAB-T15-S-012-05	ASG Series
 <p>T16/BA15S</p>	12V 8W	MAB-T15-S-012-08	ASG Series
	24V 8W	MAB-T15-S-024-08	
	130V 8W	MAB-T15-S-130-08	
	240V 8W	MAB-T15-S-240-08	
 <p>T16/BA15D</p>	12V 10W	MAB-T15-D-012-10	MT5B/5C series MT8B/8C series
	24V 10W	MAB-T15-D-024-10	
	120V 10W	MAB-T15-D-120-10	
	240V 10W	MAB-T15-D-240-10	
 <p>T22/BA15D</p>	12V 25W	MAB-T15-D-012-25	AVG series MSGS series MS135B series
	24V 25W	MAB-T15-D-024-25	
	130V 25W	MAB-T15-D-130-25	AVG series MS135B series
	240V 25W	MAB-T15-D-240-25	
	Xenon Lamp 3W AC/DC 12 ~ 24V I-Type	MS86S-LAMP-02	MS86S series MS115S series
		MS70S-LAMP-AL	MS70S series
	Xenon Lamp 6W AC 110V, 220V U-Type	MS86S-LAMP-10	MS86S series MS115S series



MS56L Series

Ø56mm LED Signal Lights



- Compact LED warning light
- Direct mount
- Lead wire connection
- Rotating speed is adjustable

Specifications

Functions	Steady, Steady+Flashing, Rotating				
Power Supply		12VAC/DC	24VAC/DC	110VAC	220VAC
Current Consumption	Steady	0.1A	0.12A	0.03A	
	Rotating	0.8A	0.07A	0.03A	0.04A
Flash Rate (±10 times/minute)		110/60	80/80	80	
Vibration	0.75mm at 10~55Hz				
Insulation Resistance	100 MΩ minimum (500VDC mega)				
Ambient Temperature	-15~40°C				
Storage Temperature	-25~70°C				
Ambient Humidity	45 ~ 85% RH				
Certificate/Compliance	CE, RoSH				
Recommended Wire Size	UL1007/22AWG				
Degree of protection	IP65				
Weight	Approx. 66g				

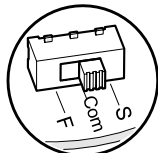
Ordering Information

MS56L - F 02 - R
 ① ② ③

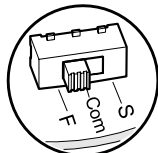
① Light Style	No mark	Steady
	F	Steady + Flashing
	R	Rotating
② Power Supply	01	12V AC/DC
	02	24V AC/DC
	10	110V AC
	20	220V AC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Function controls

MS56L Series

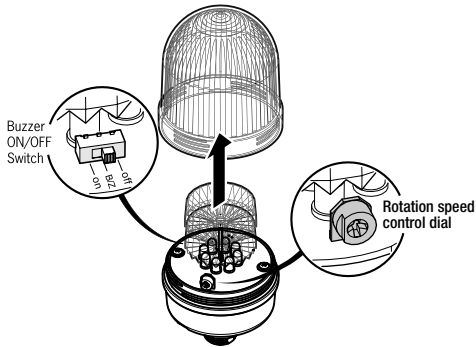


Steady

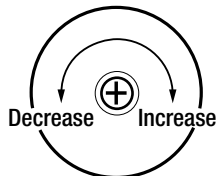


Flashing

MS66 Series



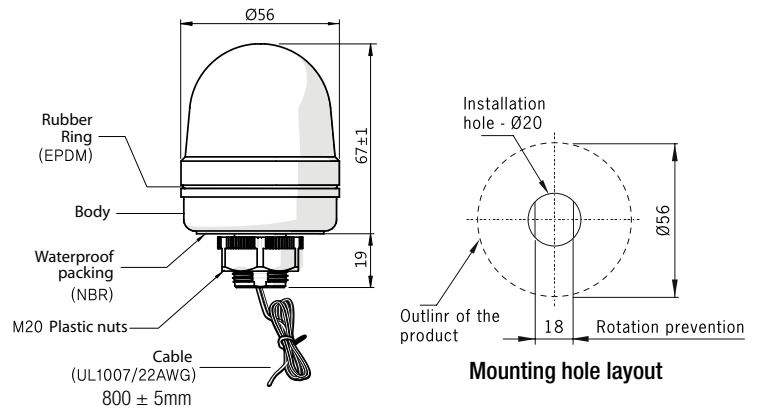
Rotation speed control



min40 to max300 RPM (±10%)
(Clockwise rotation)

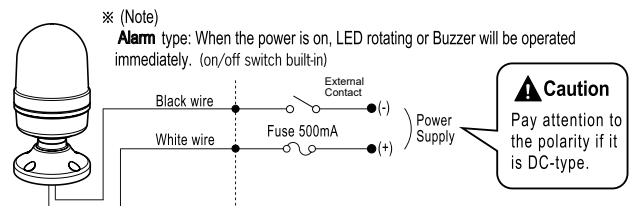
Dimensions

(unit: mm)



Wiring Diagram (MS56L & MS66)

12~24VAC/DC, 110~220VAC Rotating (Alarm)



Wall Mounting Option
(MS56L & MS66)

MAM-DS25



Please See Our "Mounting and Accessories" Section for Mounting Options



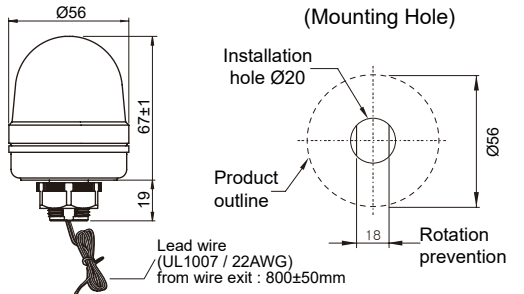
MS56M Series

Ø56mm Multi color LED Signal Light



- Steady, Flashing type
- Wire draw-out type and internal switch type
- Various power supply
- Plastic M20 nut panel mounting type

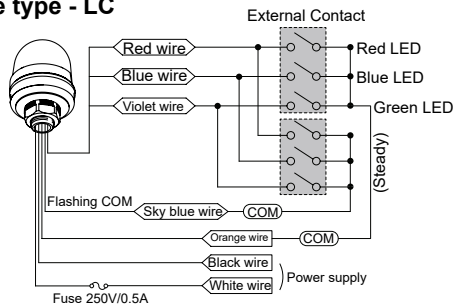
Dimensions



Wiring Diagram

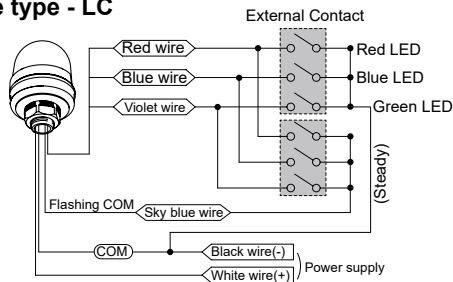
100~240VAC

Lead wire type - LC



12/24VDC

Lead wire type - LC



LED color wiring chart

Condition	Wiring Line color	Lens color
1	Red	Red
2	Violet	Green
3	Blue	Blue
4	Red+Violet	Yellow
5	Red+Blue	Pink
6	Violet+Blue	Cyan
7	Red+Violet+Blue	White

Ordering Information

MS56M - 02 - LC

① ②



① Power Supply	01	12VDC
	02	24VDC
	FF	100~240VAC
② Output Method	LC	External contact type Lead Wire type
	SW	Internal dip switch type -

Specifications

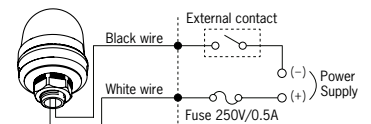
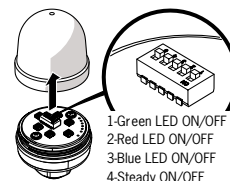
Function	Steady, Flashing
Power Supply	12VDC, 24VDC 100~240VAC (AC. 50/60Hz)
Dimension	56mm
LED color	Red, Yellow, Green, Cyan, Blue, Pink, White
Lens color	Milky white
Flashing rate	80±5times/minute
Connection	UL1007 / 22AWG
Material	Lens - PC resin, Body - ABS resin
Vibration	0.75mm at 10~55Hz
Ambient temperature	-15 ~ 40°C
Storage ambient temperature	-25 ~ 70°C
Ambient humidity	45 ~ 85% RH
Protection structure	IP65 (front)

Current Consumption

(RMS ±10%)

	12VDC	24VDC	100~240VAC
Steady Light	0.13A	0.08A	0.08A

Internal Switch Type



LED Colors	Steady	Flashing
No.1 Green	ON 1 2 3 4 5	ON 1 2 3 4 5
No.2 Red	ON 1 2 3 4 5	ON 1 2 3 4 5
No.3 Blue	ON 1 2 3 4 5	ON 1 2 3 4 5

LED Colors	Steady	Flashing
No.4 Yellow	ON 1 2 3 4 5	ON 1 2 3 4 5
No.5 Cyan	ON 1 2 3 4 5	ON 1 2 3 4 5
No.6 Pink	ON 1 2 3 4 5	ON 1 2 3 4 5
No.7 White	ON 1 2 3 4 5	ON 1 2 3 4 5

Optional Parts

Please See Our "Mounting and Accessories" Section for Mounting Options



Wall mounting bracket
MAM-DS25
Steel



MS66 Series

Ø66mm LED Multi Function Signal Lights

- Steady/Flashing type, Rotating type
- Rotating speed is adjustable
- Direct or Pole Mounting



Specifications

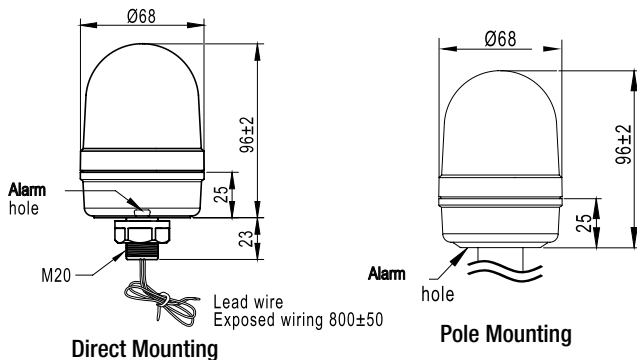
Functions		Steady + Flashing + Buzzer, Rotating + Buzzer	
Power Supply		12~24VAC	110~220VAC
Current Consumption	Steady & Flashing	General	0.30A
		w/buzzer	0.32A
	Rotating	General	0.20A
		w/buzzer	0.22A
Flashing Rate	General type	80 ±5 times/min	
	Optional (V) type	240 ±5 times/min	
Rotating Speed		60~300 RPM (Clockwise rotation)	
Alarm sound level		80±5dB (Alternating Buzzer: pi- pi- pi)	
Wiring method		Lead wire connection	
Ambient Temperature		-20~40°C	
Storage Temperature		-20~70°C	
Ambient Humidity		45~85% RH	
Insulation resistance		100MΩ min. at 500VDC	
Certificate/Compliance		CE, RoSH	
Vibration resistance		0.75mm at 10~55Hz	
Recommended Wire Size		UL1007 / 22AWG	
Degree of protection		IP65 (Audible alarm type: IP52)	
Weight (AC + Buzzer type)		MS66M - 168g, MS66G - 180g, MS66P - 168g	

Ordering Information

MS66 - M - B 00 - R (V)
 ① ② ③ ④ ⑤

① Mounting Option	M	Body direct mount - Plastic M20 Screw
	P	Pole Mounting
	G	Plastic mount base
② Light Style	F	LED Steady + Flashing
	B	LED Steady + Flashing + Audible Alarm
	R	LED Rotating
③ Power Supply	00	12 ~ 24VAC/DC
	FF	110 ~ 220VAC(50/60Hz)
④ Lens Color	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear
⑤ Optional	(V)	Flashing Emergency Signal (*Flashing rate: 240±5 times/min)

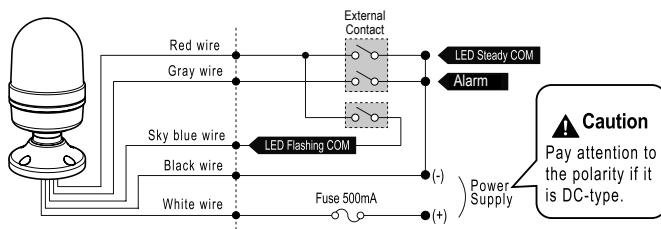
Dimensions



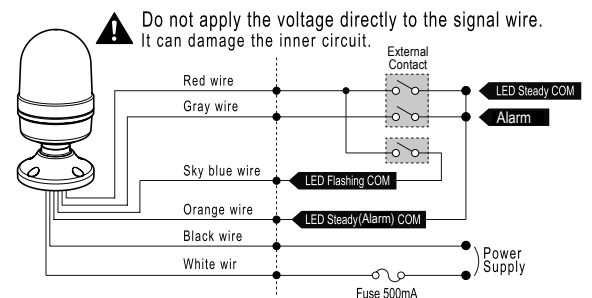
unit: mm

Please See Our "Mounting and Accessories" Section for Mounting Options

12~24VAC/DC Steady + Flashing (Alarm)



110~220VAC Steady + Flashing (Alarm)





ML Series

Ø66mm Warning Signal Lights

- Incandescent or Xenon type
- Smooth lens or Prism lens
- Stud mounted or Pole mounted
- Wide range of power supply



Specifications

Model	MLG	MLGF	MLGS
Bulb Type	Incandescent		Xenon
Power Supply	12V AC/DC, 24V AC/DC 110V AC, 220V AC		110VAC, 220VAC
Current Consumption & Wattage	12VDC	0.6A, 8W	—
	24VDC	0.3A, 8W	—
	110VAC	0.07A, 8W	0.22A, 6W
	220VAC	0.03A, 8W	0.11A, 6W
Rotation Rate	130 ±10 times/minute	—	
Flashing rate	—	80 ±10 times/minute	

Ordering Information

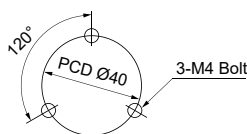
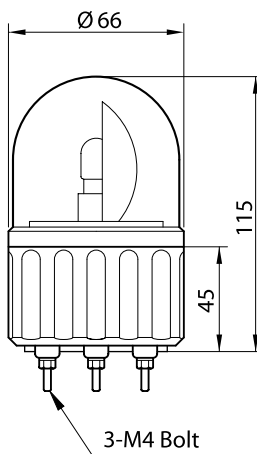
ML G F - 01 - R
 ① ② ③ ④

① Mounting	G	Stud mounting	
② Light Style	No mark	Rotating	
	F	Steady & Flashing	
	S	Strobe with Xenon Bulb	
③ Power Supply	Rotating/ Steady & Flashing Lights	01	12V AC/DC
		02	24V AC/DC
		10	110V AC
		20	220V AC
	Strobe Lights	10	110V AC
		20	220V AC
④ Lens Colors	R	Red	
	Y	Yellow	
	G	Green	
	B	Blue	

Replacement Parts

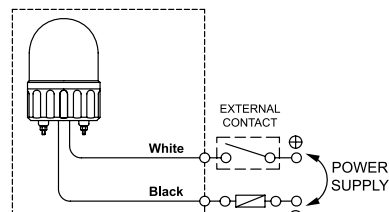
Lens	LENS-MLG-(□)	Smooth Lens for Rotating Lights
	LENS-MLGF/S-(□)	Prism Lens for Flashing/Strobe Lights
(□): indicates color of Lens; R, Y, G or B		
Bulb	MAB-T15-S-012-08	12V DC, 8 Watt
	MAB-T15-S-024-08	24V DC, 8 Watt
	MAB-T15-S-130-08	110V AC, 8 Watt
	MAB-T15-S-240-08	220V AC, 8 Watt
Xenon Bulb	MAB-STROBE-110-06	110/220V AC, 6 Watt

Dimensions (unit: mm)



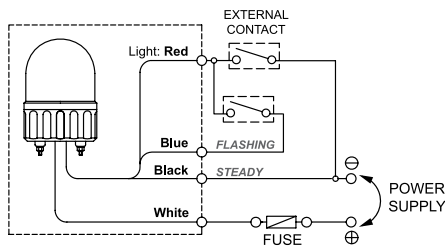
Mounting hole layout

Wiring Diagram



Rotating & Strobe Lights

MLG-□□□-□ MLGS-□□□-□



Flashing Lights

MLGF-□□□-□

Wall Mount Brackets



MAP-DS30-BLK (Black)
MAP-DS30-BGE (Beige)



MAM-DS26

Please See Our "Mounting and Accessories" Section for Mounting Options



MS70LT Series

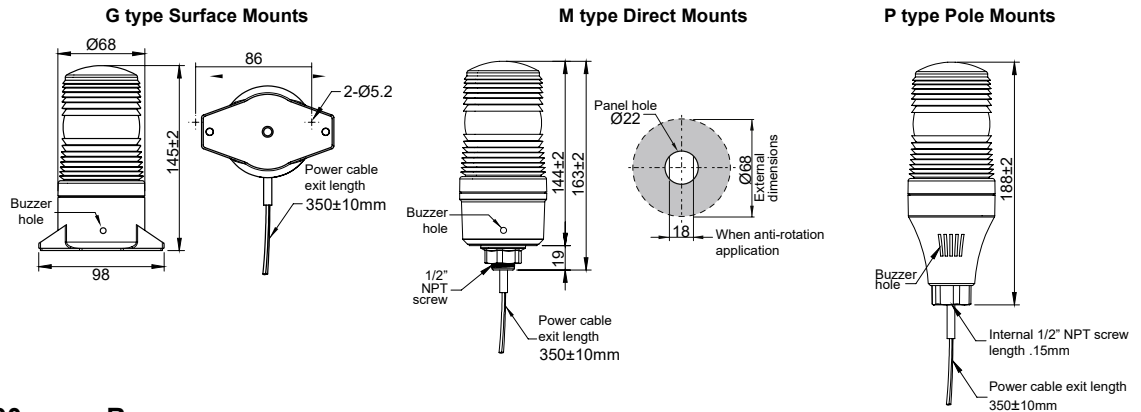
Ø70mm LED Signal Light

- High intensity LED flashing light
- Three mounting options
- Two flashing patterns (built-in slide switch)
- IP 65 (buzzer type- IP50)



Dimensions

unit: mm



Ordering Information

MS70LT - G B 00 - R
 ① ② ③ ④

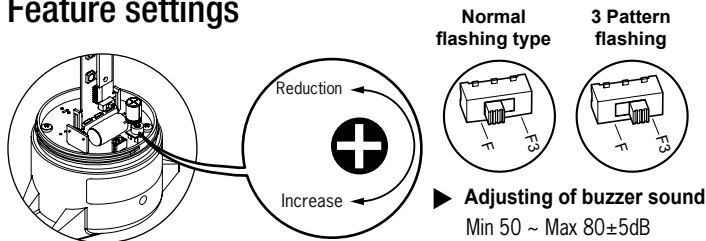
① Mounting Type	G	Surface Mounting
	M	Direct mounting
	P	Pole mounting
② Light Style	F	Flashing
	B	Flashing & Buzzer
③ Power Supply	00	12~24VDC
	FF	110~220VAC
④ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Specifications

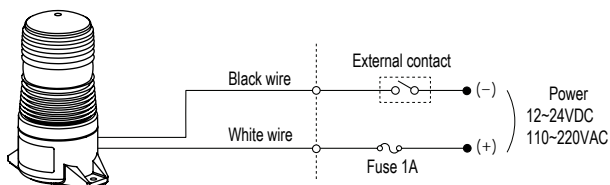
Function	Flashing, Buzzer	
Power Supply	12 ~ 24VDC, 110 ~ 220VAC(AC 50/60Hz)	
Buzzer Volume	min 50 ~ max 80±5dB	
Dimension	68mm	
Lens Color	Red, Yellow, Green, Blue, Clear	
Flashing rate (2 patterns)	- Normal flashing : 75±5 time/minute - 3 pattern flashing (Emergency signal) : 130±5 time/minute	
Current consumption	Flashing type 12~24VDC: 0.12~0.16A 110~220VAC:0.04~0.05A	Flashing + Buzzer type 12~24VDC:0.16~0.21A 110~220VAC: 0.05~0.06A
Connection	UL2464 / 18AWG, AWM, 2C, 300V	
Material	Body - ABS resin Lens - PC resin	
Ambient temperature	-20 to 50°C	
Storage ambient temperature	-20 to 70°C	
Ambient Humidity	45~85% RH	
Insulation resistance	500VAC 50 / 60Hz for 1 minute	
Vibration	10 to 55Hz (cycle 1 minute) Amplitude 0.75mm X, Y, Z 1 hour in each direction	
Approval	CE(DC products only), RoHS	
Protection structure	IP65 (IP50-Buzzer type)	
Weight (DC type)	G type: app.196g M type: app.195g P type: app.198g	

* Life of the LED varies according to operating conditions and environment.

Feature settings



Wiring Diagram



* buzzer type : When power is applied, LED flashing and buzzer operate simultaneously

Please See Our "Mounting and Accessories" Section for Mounting Options



MS70S Series

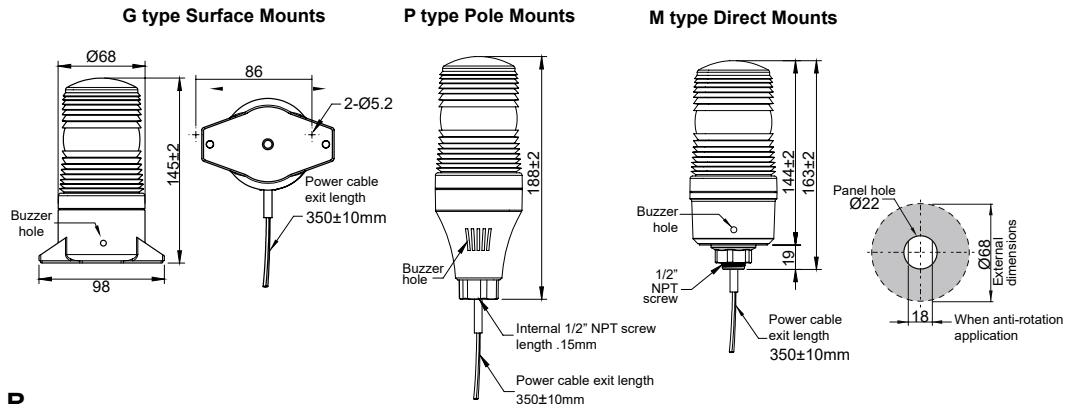
Ø70mm Xenon Lamp Strobe Light

- low intensity strobe ideal for industrial applications
- Field replaceable snap-fit flashing lamp
- Three mounting options
- IP65



Dimensions

unit: mm



Ordering Information

MS70S - G 00 - R
 ① ② ③

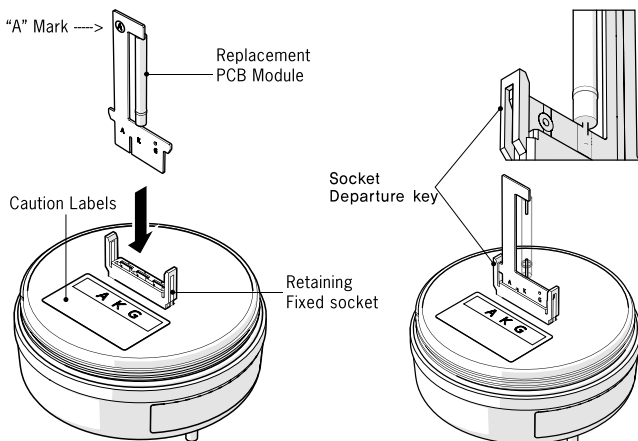
① Mounting Type	G	Surface Mounting
	M	Direct mounting
	P	Pole mounting
② Power Supply	00	12~48VDC
	10	110VAC
	20	220VAC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue

Specifications

Function	Flashing
Power Supply	12 ~ 48VDC, 110VAC, 220VAC(AC 50/60Hz)
Dimension	68 mm
Lens Color	Red, Yellow, Green, Blue
Flashing rate	12~48VDC : 80±5 times per minute 110VAC : 77±5 times per minute 220VAC : 60±5times per minute
Current consumption	12~48VDC : 0.08~0.2A 110VAC : 0.07A 220VAC : 0.04A
Connection	UL2464/18AWG, AWM, 2C, 300V
Material	Body - ABS resin Lens - PC resin
Ambient temperature	-20 to 50°C
Storage ambient temperature	-20 to 70°C
Ambient Humidity	45~85% RH
Insulation resistance	500VAC 50 / 60Hz for 1 minute
Vibration	10 to 55Hz (cycle 1 minute) Amplitude 0.75mm X, Y, Z 1 hour in each direction
Approval	RoHS
Protection structure	IP65
Weight (DC type)	G type: app.196g M type: app.195g P type: app.198g

*Lifetime of the lamp varies according to operating conditions and environment.

How to install Xenon bulb

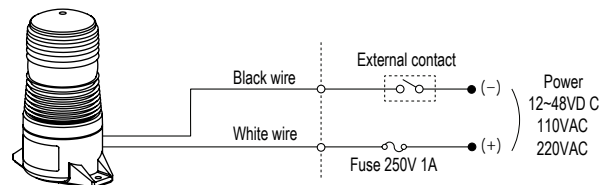


The new lamp should be inserted firmly to match the same signal A K G (or A G K) mark. Printed "A" in circuit and label.

- ⚠ - If you insert reverse direction, the lamp can not operate.
- Insert the lamp circuit board correctly. not to inclined.

Please See Our "Mounting and Accessories" Section for Mounting Options

Wiring Diagram



MS70S -LAMP-AL	
	Xenon lamp
	Type: 3W
	Lamp life:
	App 2,000 hours



MS70M Series

Ø70mm Multicolored LED Signal Light

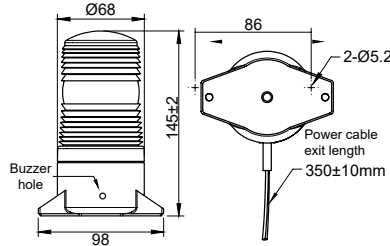
- Up to 7 color combinations available
- Three Mounting Options
- Two lens options for clear or softer view
- IP65 (buzzer type -IP50)



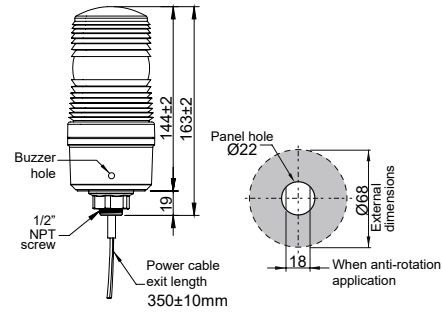
Dimensions

unit: mm

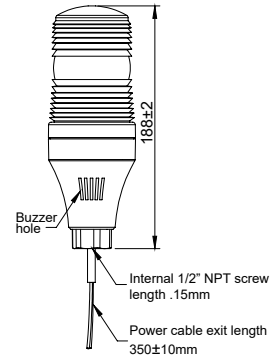
G type Surface Mounts



M type Direct Mounts



P type Pole Mounts



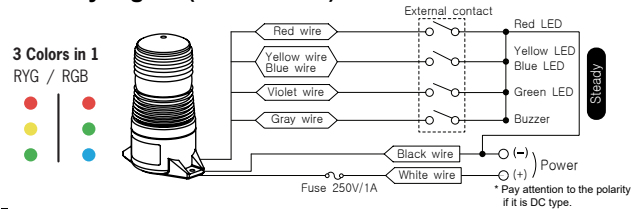
Specifications

Function	Steady, Flashing, Buzzer	
Power Supply	12 ~ 24VDC, 110 ~ 220VAC(AC 50/60Hz)	
Alarm Sound Level	min 50 ~ max 75±5dB	
Dimension	68mm	
Lens Color	Clear / Milky white	
Flashing rate	12VDC : 65±5 times per minute 24VDC : 60±5 times per minute 110~220VAC : 70±5times per minute	
Current consumption	LED Steady 12~24VDC: 0.22A 110~220VAC: 0.04~0.06A	LED Steady +Buzzer 12~24VDC: 0.26A 110~220VAC: 0.05~0.06A
Connection	UL1007/22AWG	
Material	Body - ABS resin Lens - PC resin	
Ambient temperature	-20 to 50°C	
Storage ambient temperature	-20 to 70°C	
Ambient Humidity	45~85% RH	
Insulation resistance	500VAC 50 / 60Hz for 1 minute	
Vibration	10 to 55Hz (cycle 1 minute) Amplitude 0.75mm X, Y, Z 1 hour in each direction	
Approval	RoHS	
Protection structure	IP65 (IP50-Buzzer type)	
Weight (DC type)	G type: app.196g M type: app.195g P type: app.198g	

Wiring Diagram

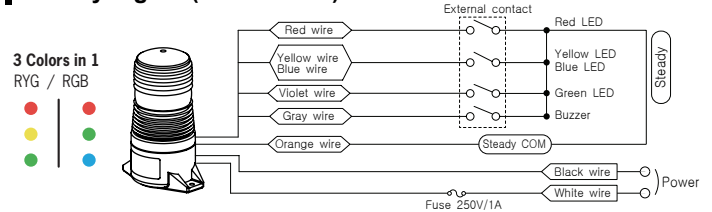
12~24VDC

Steady Lights (with Buzzer)



110~220VAC

Steady Lights (with Buzzer)



Ordering Information

MS70M - G Z 00 - RGB M

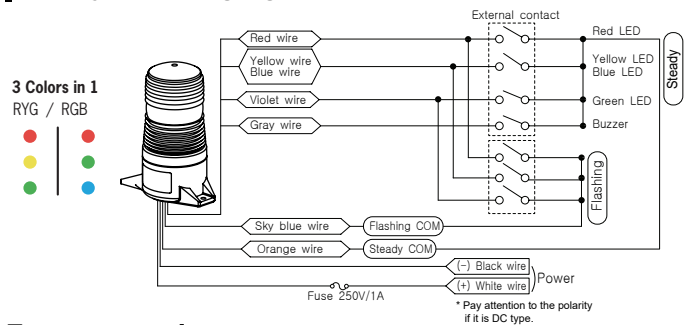
① ② ③ ④ ⑤

① Mounting Type	G	Surface Mounting
	M	Direct mounting
	P	Pole mounting
② Light Style	F	Steady & Flashing
	B	Steady & Buzzer
	Z	Steady & Flashing & Buzzer
③ Power Supply	00	12~24VDC
	FF	110~220VAC
④ LED Colors	RBG	Red & Blue & Green
	RYG	Red & Yellow & Green
⑤ Lens Colors	No Mark	Clear lens
	M	Milky lens

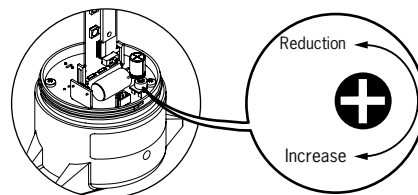
* Life of the LED varies according to operating conditions and environment.

12~24VDC , 110~220VAC

Steady & Flashing Lights (with Buzzer)



Feature settings



► Adjusting of buzzer sound
Min 50 ~ Max 75±5dB

Please See Our
"Mounting and
Accessories" Section
for Mounting Options



ASG Series

Ø86mm Warning Signal Lights

- Incandescent or Xenon type
- Smooth Lens for Rotating Lights and Prism Lens for Flashing/Strobe Lights
- Stud mount
- Optional Wall Mounting Brackets available



Ordering Information

ASG B - 01 - R
 ① ② ③

① Light Style	no mark	Rotating
	B	Rotating w/Alarm
	F	Steady & Flashing
	S	Strobe w/Xenon bulb

② Power Supply	Rotating	01	12V AC/DC
		02	24V AC/DC
		FF	110/220V AC
	Steady & Flashing	01	12V AC/DC
		02	24V AC/DC
		10	110V AC
		20	220V AC
	Strobe	10	110V AC
		20	220V AC

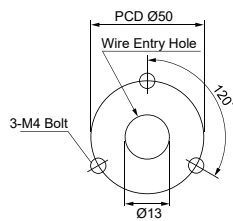
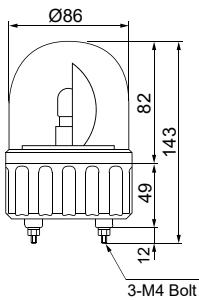
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue

Specifications

Model	ASG/ASGB	ASGF	ASGS	
Lighting type	Incandescent		Xenon	
Power Supply	12V AC/DC 24V AC/DC 110/220VAC	12V AC/DC 24V AC/DC 110VAC, 220VAC	110VAC 220VAC	
Current Draw & Wattage	12VDC	0.67A, 8W		
	24VDC	0.33A, 8W		
	110/220VAC	0.4A, 5W	N/A	N/A
	110VAC	N/A	0.07A, 8W	0.22A, 6W
	220VAC	N/A	0.03A, 8W	0.11A, 6W
Alarm Sound Level	80±5 dB	N/A		
Rotation Rate	130±10 RPM	N/A		
Flashing rate	N/A	80 ±10 flashes/min		
Ambient Temperature	-15~40°C			
Storage Temperature	-25~70°C			
Ambient Humidity	45 ~ 85% RH			
Degree of Protection	IP42			
Recommended Wire Size	AC 110/220V : VSF / 0.75mm ² (Power supply wire only)			
	AC/DC 12/24V : UL1007 22AWG	N/A		
Certificate/Compliance	RoHS, CE			

Dimensions

unit: mm



Mounting hole layout

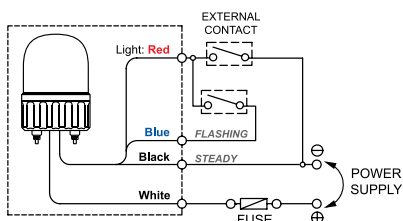
Replacement Parts

Lens	LENS-ASG-(□)	Smooth Lens for Rotating Lights
	LENS-ASGF-(□)	Prism Lens for Flashing/Strobe Lights

(□): indicates color of Lens; R, Y, G or B

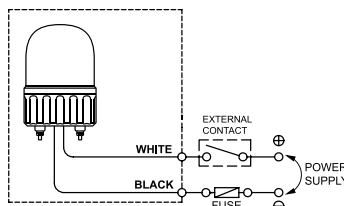
Bulb	Rotating only	Flashing only	Input voltage
	MAB-T15-S-012-08	MAB-T15-S-012-08	12V DC
	MAB-T15-S-024-08	MAB-T15-S-024-08	24V DC
	MAB-T15-S-012-05	MAB-T15-S-130-08	110V AC
	MAB-T15-S-012-05	MAB-T15-S-240-08	220V AC
MAB-T15-S-012-05	-	110/220V AC (free voltage)	

Wiring Diagram



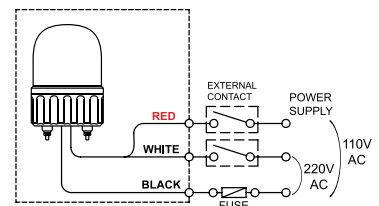
DC & AC Steady & Flashing Lights

ASGF-01-□ ASGF-10-□
 ASGF-02-□ ASGF-20-□



DC Rotating Lights

ASG-01-□ ASGB-01-□
 ASG-02-□ ASGB-02-□



AC Rotating & Strobe Lights

ASG-FF-□ ASGS-10-□
 ASGB-FF-□ ASGS-20-□



MS86L Series

Ø86mm LED Signal Lights

- Wide light distribution with prism-cut lens
- Selectable Steady/Flashing modes by jumper



Specifications

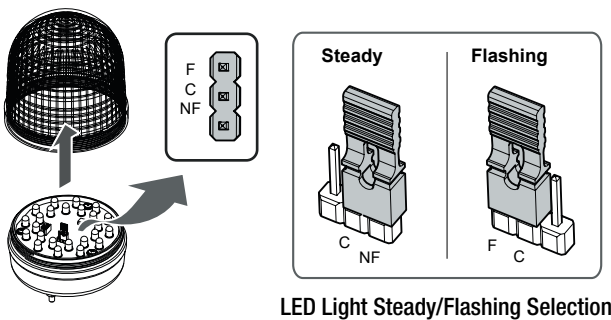
Functions		Steady/Flashing/Alarm	
Power Supply		24V AC/DC	90~240VAC
Current Consumption	R	0.33A(W/Alarm : 0.36A)	0.05A (W/Alarm : 0.08A)
	Y		
	G		
	B	0.49A (W/Alarm : 0.49A)	
	C		
Flash Rate		80 ±10 time/min	
Alarm Sound Level		80 ±5 dB	
Vibration		0.75mm at 10~55 Hz	
Insulation Resistance		100 MΩ minimum (500VDC mega)	
Ambient Temperature		-20~40°C	
Storage Temperature		-20~70°C	
Ambient Humidity		45~85% RH	
Degree of Protection		IP65	
Recommended Wire Size		UL 2464,22AWGx2C	
Weight		150g	
Certificate/Compliance		RoHS, UL	

Ordering Information

MS86L - F 02 - R
 ① ② ③

① Light Style	F	Steady & Flashing
	B	Steady & Flashing w/Audible Alarm
② Power Supply	02	24V AC/DC
	FF	90-240V AC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

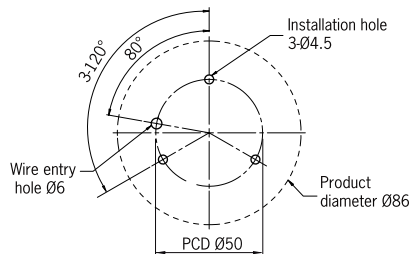
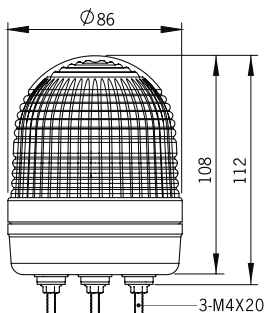
Jumper setting



LED Light Steady/Flashing Selection

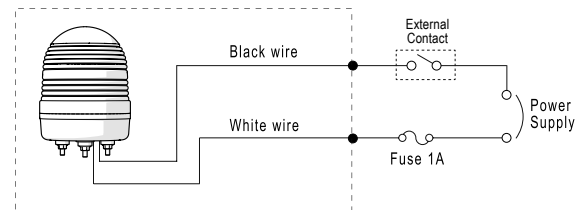
Dimensions

unit: mm

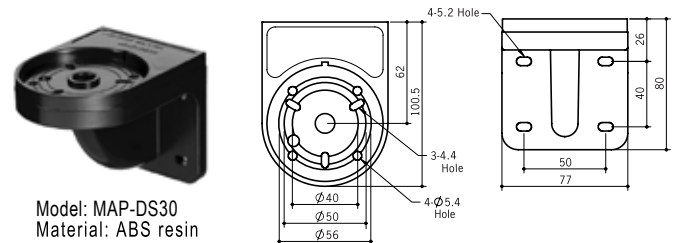


Mounting hole layout

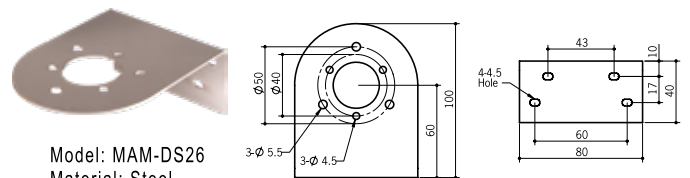
Wiring Diagram



Wall mounting options (for all MS86 Series)



Model: MAP-DS30
Material: ABS resin



Model: MAM-DS26
Material: Steel

Please See Our "Mounting and Accessories" Section for Mounting Options



MS86S Series

Ø86mm Xenon Strobe Lights

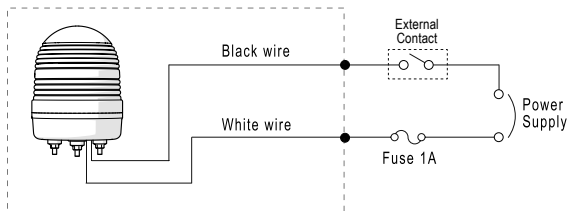


- Outstanding visibility from distance
- PCB module style Xenon lamp
- Fast and easy replacement of lamp

Specifications

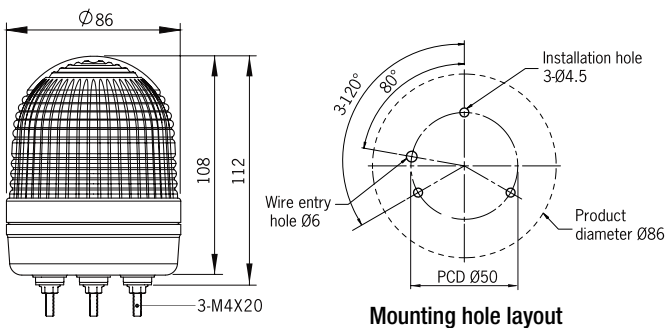
Lighting type	Xenon strobe		
Models	S00	N10	N20
Power Supply	12~24VAC/DC	110VAC	220VAC
Current Consumption	0.08~0.15A	0.07A	0.03A
Flash Rate	80 ± 10 times/minute		
Vibration	0.75mm at 10~55 Hz		
Insulation Resistance	100 MΩ minimum (500VDC mega)		
Ambient Temperature	-20~40°C		
Storage Temperature	-20~70°C		
Ambient Humidity	45~85% RH		
Degree of Protection	IP65		
Recommended Wire Size	UL 2464, 22 AWG X 2C		
Weight	300g	200g	
Certificate/Compliance	RoHS, UL		

Wiring Diagram



Dimensions

unit: mm



Mounting hole layout

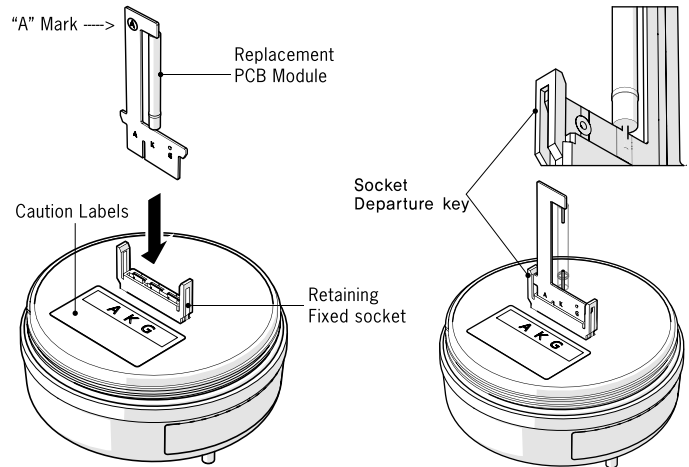
Please See Our "Mounting and Accessories" Section for Mounting Options

Ordering Information

MS86S - S00 - R
① ②

① Power Supply	S00	12-24V AC/DC
	N10	110V AC
	N20	220V AC
② Lens Colors	R	Red
	Y	Yellow
	G	Ground
	B	Blue
	C	Clear

How to install Xenon bulb



The new lamp should be inserted firmly to match the same signal **A K G** (or **A G K**) mark. Printed "A" in circuit and label.

- ⚠ - If you insert reverse direction, the lamp can not operate.
- ⚠ - Insert the lamp circuit board correctly. not to inclined.

Supplier No.	MS86S-LAMP-02	MS86S-LAMP-10
	Description. Xenon Lamp I - Type, 3W 12~24V Lamp life: 1,000,000 Frequency. (2,000 hours)	
		Description. Xenon Lamp U - Type, 6W AC110V / 220V Lamp life: 1,000,000 Frequency. (2,000 hours)



MS86W Series

Ø86mm LED Low-head
Multi-Function indicator light

- 2 flashing patterns(Selectable by DIP switch)
- Energy efficient: Low power consumption
- Main body: heat resistant ABS resin
- Good for both indoor or outdoor



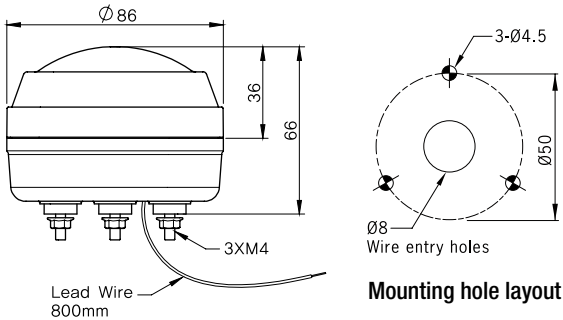
Ordering Information

MS86W - R 00 - R
① ② ③

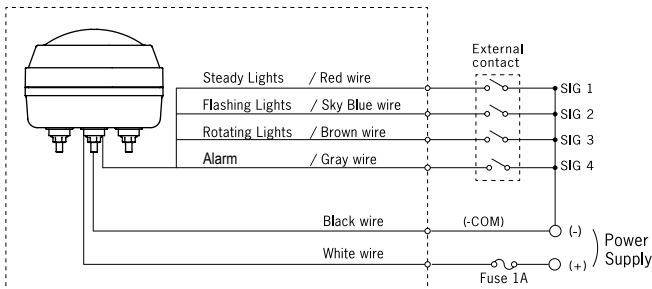
① Style	R	Steady + Flashing + Rotating
	B	Steady + Flashing + Rotating + Alarm (24V AC/DC only)
② Power	00	12-24V AC/DC (R-type only)
	02	24V AC/DC (B-type only)
	FF	100-220V AC (R-type only)
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Dimensions

unit: mm



Wiring Diagram



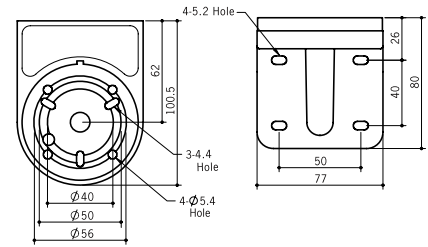
Specifications

Functions	Steady, Flashing, Rotating w/Audible Alarm		
Input Voltate Options	12~24V AC/DC		
Current Consumption (RMS value ±10%)		LED	w/Alarm
	R	0.50A	0.53A
	Y	0.50A	0.53A
	G	0.30A	0.34A
	B	0.35A	0.38A
	C	0.38A	0.40A
Flashing Rate	F1: 80 ±10 flashes/minute		
	F3: 240 ±10 flashes/minute(Emergency Signal)		
Rotating Rate	Approx. 130 ±20 rpm (clockwise rotation)		
Alarm Sound Level	80 ±5dB at 1m		
Vibration	Operating extremes:10~55 Hz, amplitude 0.75mm		
Insulation Resistance	100 MΩ minimum (500VDC mega)		
Ambient Temperature	-15~40°C		
Storage Temperature	-20~70°C		
Ambient Humidity	45~85% RH		
Degree of Protection	IP65		
Recommended Wire Size	UL1007/22AWG		
Weight	170g		
Certificate/Compliance	RoHS, UL		

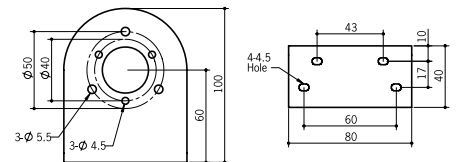
Wall mounting options (for all MS86 Series)



Model: MAM-DS30
Material: ABS resin



Model: MAM-DS26
Material: Steel



Please See Our "Mounting and Accessories" Section for Mounting Options

• **Note** •

A large rectangular area with a dotted border, containing 25 horizontal dotted lines for writing notes.



MS86T Series

Ø86mm High Intensity LED
Multi Function Signal Lights



- Extremely high light output using unique LED technology
- Outstanding visibility at distance
- Flashing Cycles : 2 patterns (Selectable by a switch)
- Adjustable flashing or rotating cycles
- Built-in audible alarm with adjustable volume

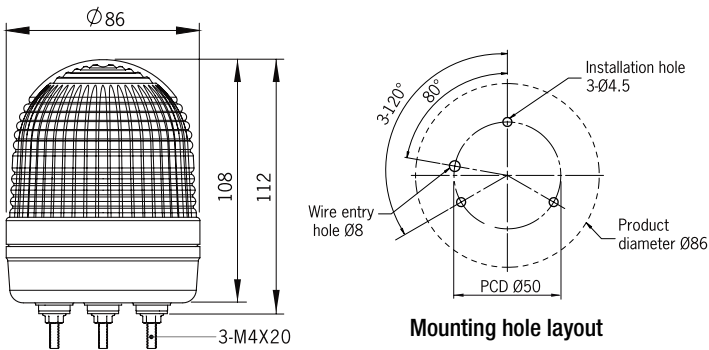
Ordering Information

MS86T - ① ② - ③

① Light Style	R	Steady, Flashing & Rotating
	B	Steady, Flashing & Rotating w/Alarm
② Power Supply	00	12-24V AC/DC
	FF	90-240V AC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

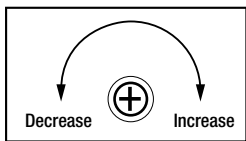
Dimensions

unit: mm

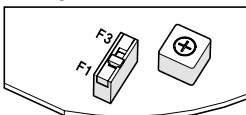


Feature settings

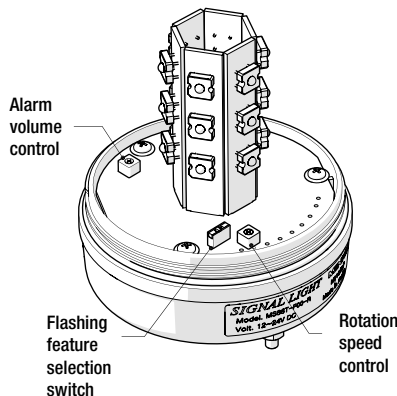
- Alarm volume control
- Rotation speed control



- Flashing feature selection



F1: 80±10 times per minute
F3: 240±10 times per minute
(emergency signal display light)

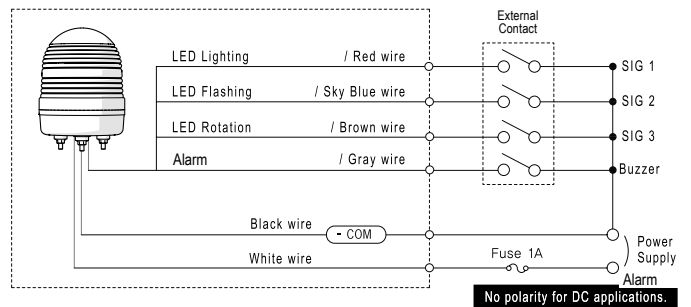


Specifications

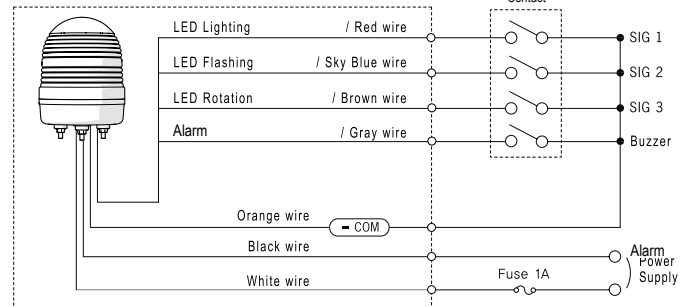
Lighting type	Steady/Flashing/Rotating/Alarm	
Power Supply	12~24VAC/DC	90~240VAC
Current Consumption	3 Sound type	Max. 0.52A±10%
	4 Sound type	Max. 0.65A±10%
	Alarm	150mA
Flash Rate	F1: 80 ±10 flashes/minute F3: 240 ±10 flashes/minute(emergency)	
Rotation Rate	Min 60 ~ Max 300rpm (clockwise)	
Alarm Sound Level	10-100 ±5dB at 1m	
Vibration	0.75mm at 10~55 Hz	
Insulation Resistance	100 MΩ minimum (500VDC mega)	
Ambient Temperature	-20~40°C	
Storage Temperature	-20~70°C	
Ambient Humidity	45~85% RH	
Degree of Protection	IP65	
Recommended Wire Size	UL1007/22AWG	
Weight	Approx. 230g	
Certificate/Compliance	RoHS, UL	

Wiring Diagram

12-24V AC/DC



90-240V AC



Please See Our "Mounting and Accessories" Section for Mounting Options



MS86M Series

Ø86mm Multi Colors & 1 High Intensity LED Signal Lights

- Multi colors ledlight
- High brightness led light
- Adjustable sound level 10 ~ 100db
- Flashing cycles : 2 patterns (selectable by a switch)



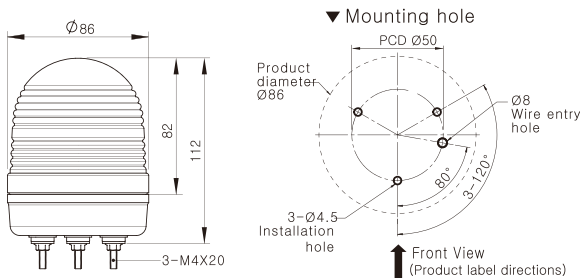
Ordering Information

MS86M F 00 - RYG
 ① ② ③

① Light Style	F	Steady & Flashing
	B	Steady & Falshing w/Audible Alarm
② Power Supply	00	12-24V AC/DC
	FF	90 ~240V AC
③ Colors	RYG	Red, Yellow and Green
	RGB	Red, Green and Blue

Dimensions

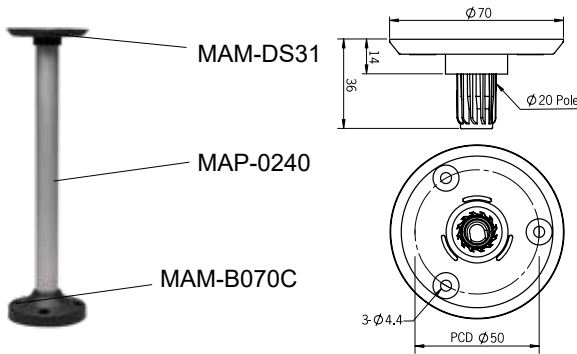
unit: mm



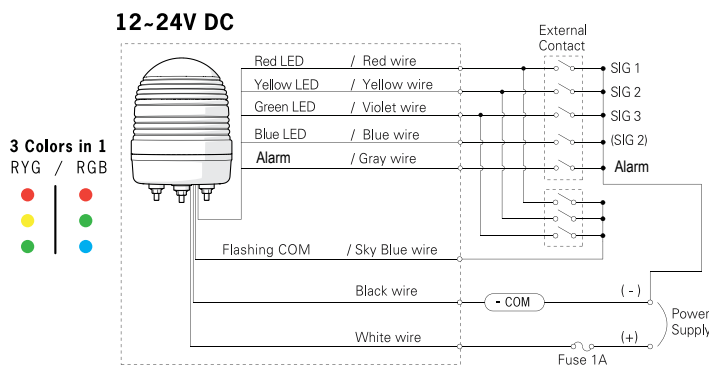
Specifications

Lighting type	Steady+Flashing w/Audible Alarm	
Power Supply	12~24VAC/DC	90~240VAC
Current Consumption	LED	0.6A
	w/Alarm	0.76A
Flash Rate	F1: 80 ±10 flashes/minute F3: 240 ±10 flashes/minute	
Alarm Sound Level	10-100 ±5dB at 1m: Volume adjustable	
Vibration	0.75mm at 10~55Hz	
Insulation Resistance	100 MΩ minimum (500VDC mega)	
Ambient Temperature	-20~40°C	
Storage Temperature	-40~70°C	
Ambient Humidity	45~85% RH	
Degree of Protection	IP65	
Recommended Wire Size	UL1007/22AWG	
Weight	270g	

MS86 Pole Mounting Option MAM-DS31 Dimensions

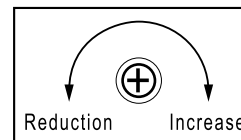


Wiring Diagram

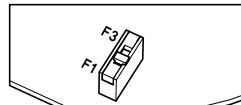


Feature settings

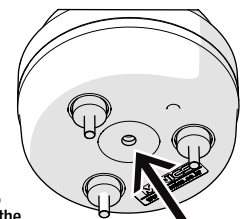
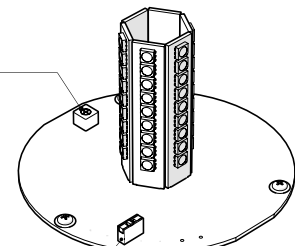
- Alarm volume control



-Flash settings



F1: 80 ±10 flashing per minute
F3: 240 ±10 flashing per minute



Alarm hole

*When installing a light with built in buzzer, please allow minimum of 5mm space from the surface to the base of unit.

Please See Our "Mounting and Accessories" Section for Mounting Options

MW86T/M Series

Ø86mm LED/Multi Function Signal Lights

- High intensity LED
- 2 flashing mode: Standard and Emergency Signaling
- Adjustable Sound volume and Rotating speed
- 3 Melody & 3 siren modes
- Removable horn included



Horn Type



Standard Type



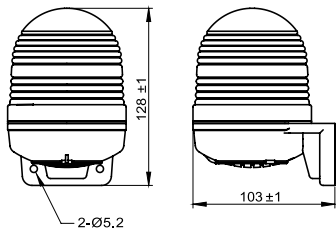
Ordering Information

MW86 - T - R - 00 - Y - M3 (B)
 ① ② ③ ④ ⑤

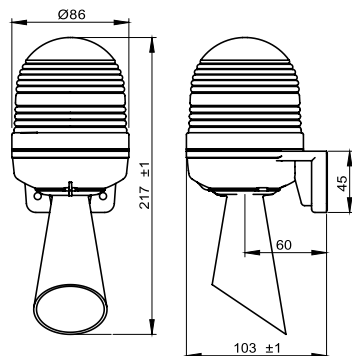
① Model	T - R	Steady/Flashing/Rotating	
	M - F	3 color in 1 Steady/Flashing	
② Power	00	12 ~ 24VDC	
	FF	90 ~ 240VAC	
③ Lens Colors	MW86T	R	Red
		Y	Yellow
		G	Green
		B	Blue
		C	Clear
	MW86M	RYG	Red, Yellow, Green
RGB		Red, Green, Blue	
④ Sound Type	M3 (melody)		Fur Elise
			Home, Sweet home
			The Cuckoo Waltz
	S3 (Siren)		Fire truck
			Police car
		Ambulance	
⑤ Body color	no mark	Ivory	
	B	Black	

Dimensions (Unit: mm)

Standard Type



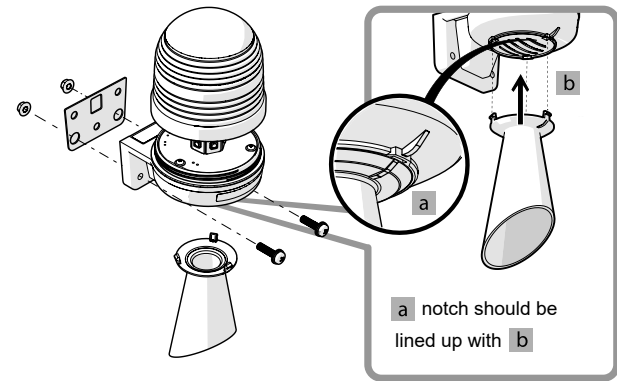
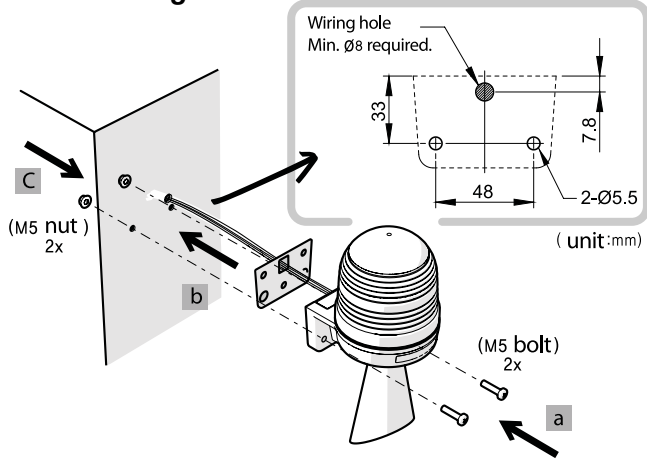
Horn Type



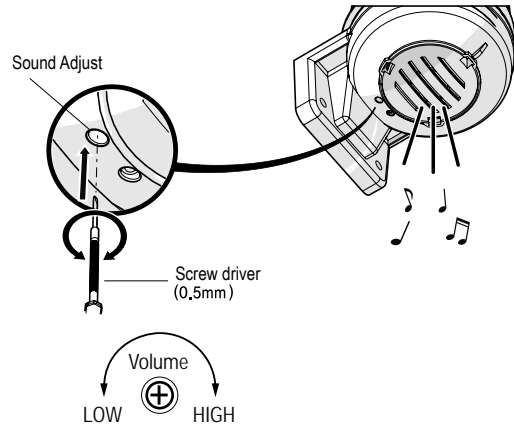
Specifications

Model	MW86T		MW86M	
Lighting type	Steady / Flashing / Rotating		Steady / Flashing	
Power Supply	12 ~ 24VDC	90 ~ 240VAC(50~60Hz)	12 ~ 24VDC	90 ~ 240VAC(50~60Hz)
Current Consumption	Light	Max 0.32A ±10%	Max 0.10A ±10%	Max 0.40A ±10%
	w/Sound	Max. 0.52A±10%	Max 0.16A ±10%	Max 0.20A ±10%
Flash Rate	80 times/min ± 5 (F1), 240 times /min ± 10 (F3)			
Rotation Rate	60 ~ 300 ± 10 RPM(clock wise)		N/A	
Alarm Sound Level	Standard Type	55 ~ 85±5dB	Standard Type	55 ~ 85±5dB
	Horn Type	55 ~ 90±5dB	Horn Type	55 ~ 90±5dB
Material	Body: ABS, Lens: PC			
Insulation Resistance	100 MΩ minimum (500VDC mega)			
Ambient Temperature	-20~40°C			
Storage Temperature	-20~70°C			
Ambient Humidity	45~85% RH			
Degree of Protection	Standard Type	IP43	Standard Type	IP43
	Horn Type	IP54	Horn Type	IP54
Recommended Wire Size	UL1007/22AWG			
Weight	Standard Type	Approx. 279g	Standard Type	Approx. 286g
	Horn Type	Approx. 306g	Horn Type	Approx. 313g
Certificate/Compliance	UL, RoHS			

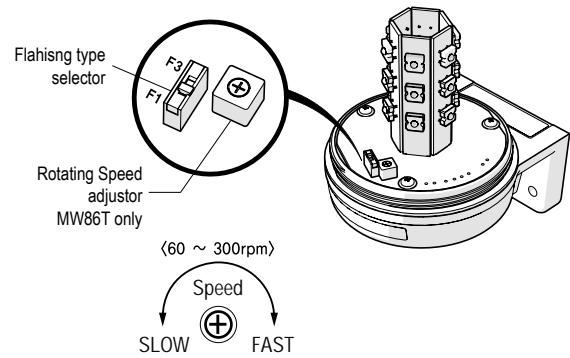
Installation guide



Volume Control



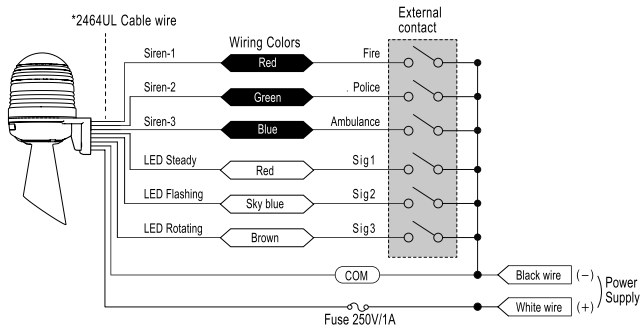
Flashing/Rotating setting



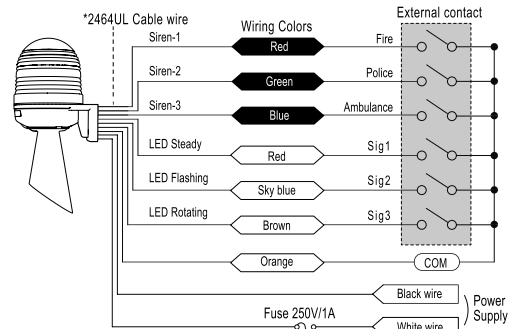
Wiring Diagram

MW86T

12 ~ 24V

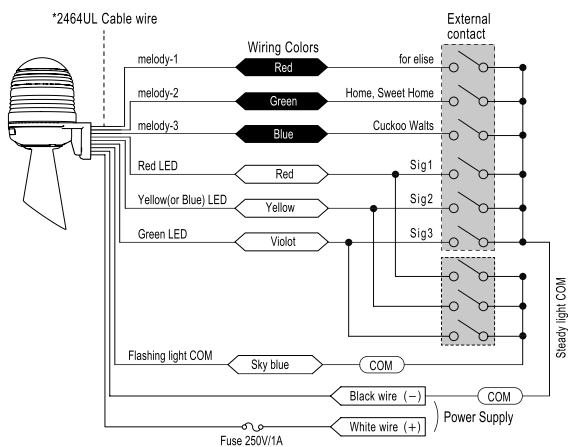


90 ~ 240V

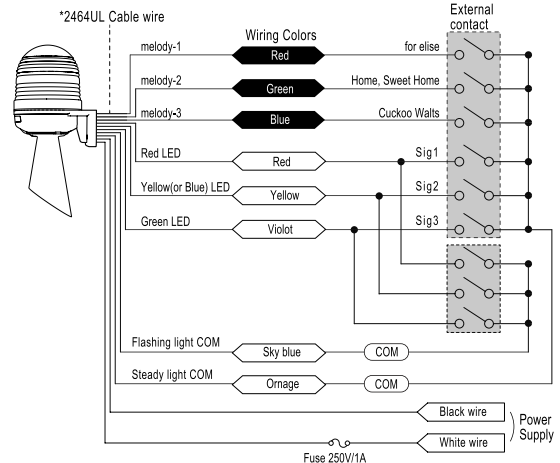


MW86M

12 ~ 24V



90 ~ 240V





MQV Series

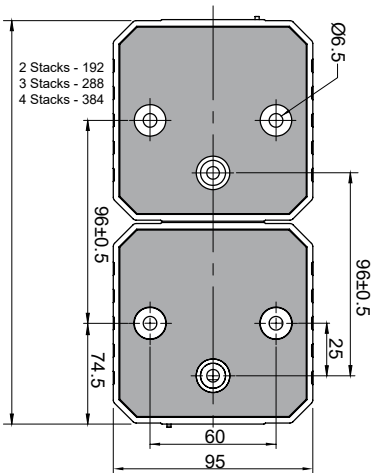
95mm Cube Signal Lights and Alarms

MQVL series
MQVM series
MQVX series

MQVH series
MQVS series

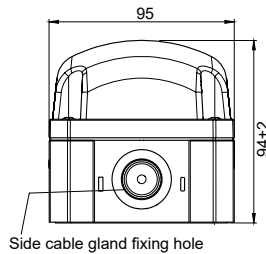
Combination of MQV Series

unit: mm



Combination with signal lights

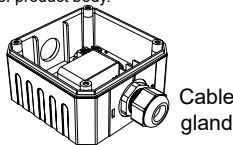
Speaker products and signal lights can be used in the form of traffic lights by connecting two or more products.



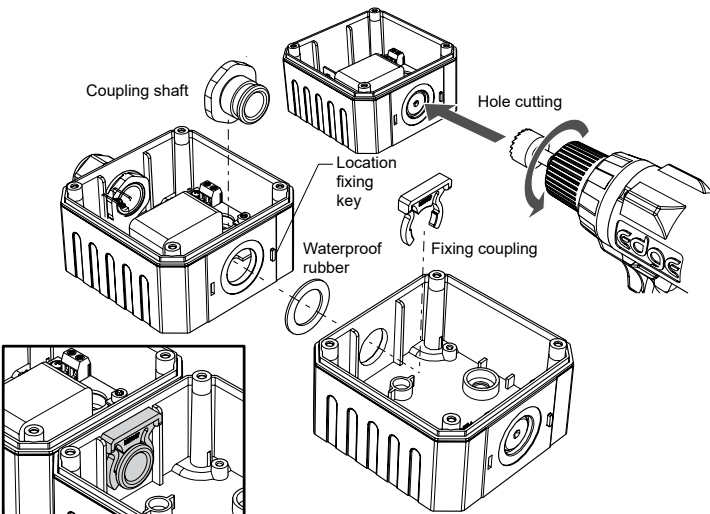
Mounting hole dimension by cable gland standard

Cable gland	Mounting hole	Cable Outer dia
M16X1.5	Ø16	Ø4.5~10
M20X1.5	Ø20	Ø7~12.5
PG9	Ø16	Ø3~8
PG13.5	Ø20	Ø5~12

Before inserting the cable gland accessory, cutting work is required using drill and hole cutter on the side of product body.



Body connection coupling assembly



MQVM Series

D95mm Cube Multi-color LED Signal Light



Ordering Information

MQVM - ① - ② - ③ (V) LED ROHS IP65

① Power Supply	00	12~24VDC
	FF	110~220VAC
② LED Color	RGB	Red & Green & Blue
	RYG	Red & Yellow & Green
③ Option	V	240 ±10 times/minute (Emergency signal)

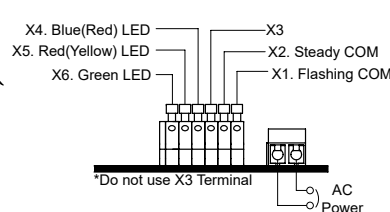
Specifications

Power supply	12 ~ 24VDC, 110 ~ 220VAC (50/60Hz)
Allowable voltage range	10.8V ~ 26.4VDC, 100 ~ 240VAC
Current consumption (±10%)	12~24VDC : 0.28A 110~220VAC : 0.07A
Function	Steady, Flashing
Dimension	95 x 95 x 94 (mm)
Flashing rate	Standard - 80±5 per minute Option (V) type - 240±10 times per minute
Mounting method	Body bottom mount base - Screw type (M6, 2EA)
Power cable insertion	Internal bottom of main body - Maximum cable diameter : Ø7mm External locations - Cable gland
Connection	UL1007/AWG22
Color	Milky white
Material	Body - PA6 Lens - PC
Insulation resistance	Over 100MΩ (500VDC mega between terminals and case)
Withstand voltage	500VAC 50/60Hz 1 min (between terminals and case before)
Vibration	0.75mm at 10~55Hz (cycle: 1minute)
Temperature	Ambient temperature : -20 ~ 50°C Storage ambient temperature: -20 ~ 70°C
Ambient humidity	45 ~ 85% RH
Protection structure	IP65
Weight	App. 300g (AC type standard)

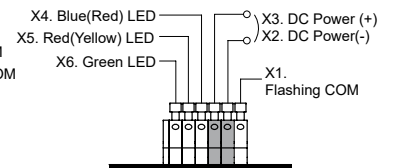
* Life of the LED varies according to operating conditions and environment

Connection Diagram

AC type (110~220VAC)

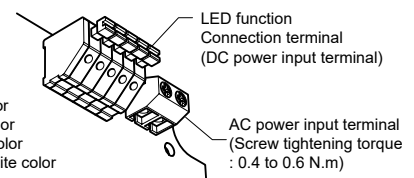


DC type (12~24VDC)



RGB Product Color Combination

- X2 + X4: Blue color
- X2 + X5: Red color
- X2 + X6: Green color
- X2 + X4 + X5: Pink color
- X2 + X4 + X6: Cyan color
- X2 + X5 + X6: Yellow color
- X2 + X4 + X5 + X6: White color





MQVL Series

95mm Cube LED Signal Light



Ordering Information

MQVL - FF - R (V)
 ① ② ③

① Power Supply	00	12~24VDC		
	FF	110~220VAC		
② Lens Color	R	Red	G	Green
	Y	Yellow	B	Blue
	C	Clear		
③ Option	V	240 ±10 times/minute (Emergency signal)		

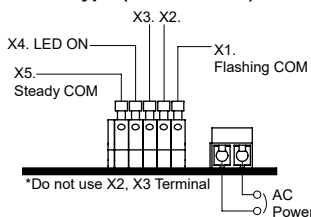
Specifications

Power supply	12 ~ 24VDC, 110 ~ 220VAC (50/60Hz)
Allowable voltage range	10.8V ~ 26.4VDC, 100 ~ 240VAC
Function	Steady, Flashing
Dimension	95 x 95 x 94 (mm)
Flashing rate	Standard - 80±5 per minute Option (V) type - 240±10 times per minute
Mounting method	Body bottom mount base - Screw type (M6, 2EA)
Power cable insertion	Internal bottom of main body - Maximum cable diameter : Ø7mm External locations - Cable gland
Connection	UL1007/AWG22
Color	Red, Yellow, Green, Blue, Clear
Material	Body - PA6 Lens - PC
Insulation resistance	Over 100MΩ (500VDC mega between terminals and case)
Withstand voltage	500VAC 50/60Hz 1 min (between terminals and case before)
Vibration	0.75mm at 10~55Hz (cycle: 1minute)
Temperature	Ambient temperature : -20 ~ 50°C Storage ambient temperature: -20 ~ 70°C
Ambient humidity	45 ~ 85% RH
Protection structure	IP65
Weight	App. 300g (AC type standard)

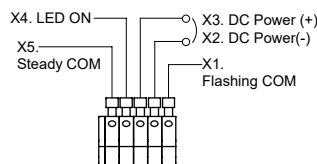
* Life of the LED varies according to operating conditions and environment

Connection Diagram

AC type (110~220VAC)



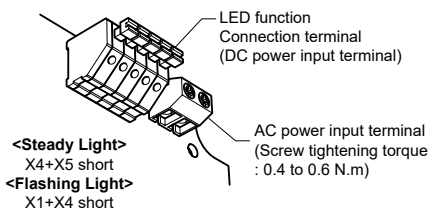
DC type (12~24VDC)



Current consumption

LED color	MQVL Series	
	12~24VDC	110~220VAC
Red	0.21A	0.06A
Yellow	0.21A	0.06A
Green	0.21A	0.06A
Blue	0.28A	0.19A
White	0.21A	0.06A

(RMS value current consumption when LED is on ± 10%)



MQVX Series

95mm Cube Strobe Light



Ordering Information

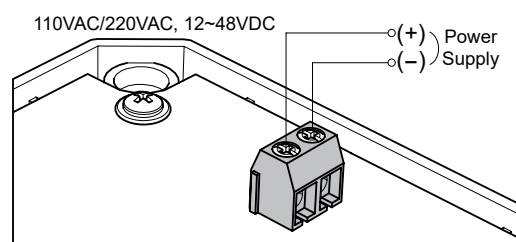
MQVX - 00 - R
 ① ②

① Power Supply	00	12~48VDC		
	10	110VAC		
	20	220VAC		
② Lens Color	R	Red	G	Green
	Y	Yellow	B	Blue
	C	Clear		

Specifications

Power supply	12 ~ 24VDC, 110 ~ 220VAC (50/60Hz)
Allowable voltage range	10.8V ~ 50VDC, 100~120VAC, 210~230VAC
Current consumption	12~28VDC : 0.2A 110VAC : 0.07A 220VAC : 0.04A
Function	Flashing
Dimension	95 x 95 x 94 (mm)
Flashing rate	12~18VDC : 80±5 times per min ute 110VAC : 77±5 times per minute 220VAC : 60±5 times per minute
Mounting method	Body bottom mount base - Screw type (M6, 2EA)
Power cable insertion	Internal bottom of main body - Maximum cable diameter : Ø7mm External locations - Cable gland
Connection	UL1007/18AWG
Color	Red, Yellow, Green, Blue, Clear
Material	Body - PA6 Lens - PC
Insulation resistance	Over 100MΩ (500VDC mega between terminals and case)
Withstand voltage	500VAC 50/60Hz 1 min (between terminals and case before)
Vibration	0.75mm at 10~55Hz (cycle: 1minute)
Temperature	Ambient temperature : -20 ~ 50°C Storage ambient temperature: -20 ~ 70°C
Ambient humidity	45 ~ 85% RH
Protection structure	IP65
Weight	App. 283g (DC type)

Connection Diagram





AVG Series

Ø135mm Rotating
Warning Signal Light

- Incandescent type
- Smooth lens
- Large rotating reflector
- Stud mount
- Audible Alarm (80dB) model available

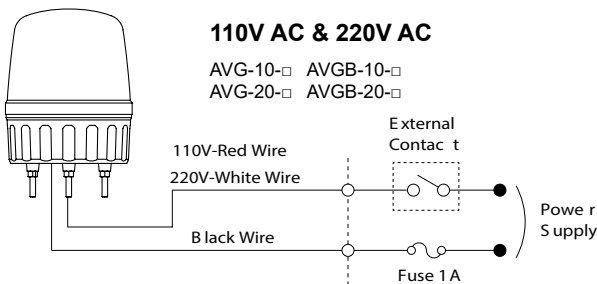
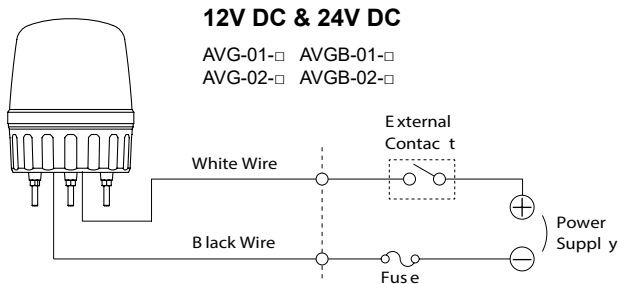


Ordering Information

AVG **B** - **01** - **R**
 ① ② ③

① Style	no mark	Rotating
	B	Rotating w/Buzzer
② Power Supply	01	12VDC
	02	24VDC
	10	110VAC
	20	220VAC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue

Wiring Diagram



Mounting option

Wall Mount
Brackets



MAM-DS27

Specifications

Model	AVG	AVGB
Lighting type	Incandescent	
Power Supply	12VDC, 24VDC, 110VAC, 220VAC	
Current consumption Wattage	12VDC	2.08A, 25W
	24VDC	1.04A, 25W
	110VAC	0.22A, 25W
	220VAC	0.11A, 25W
Sound Level	N/A	80 ±5dB @1m
Rotation Rate	150±10 times/minute	
Ambient Temperature	-15~40°C	
Storage Temperature	-20~70°C	
Ambient Humidity	45 ~ 85% RH	
Degree of Protection	IP42	
Recommended Wire Size	AC 110/220V : UL1007, 18AWG	
	AC/DC 12/24V : UL1007 22AWG	
Certificate/Compliance	RoHS, UL, CE	

Replacement Parts

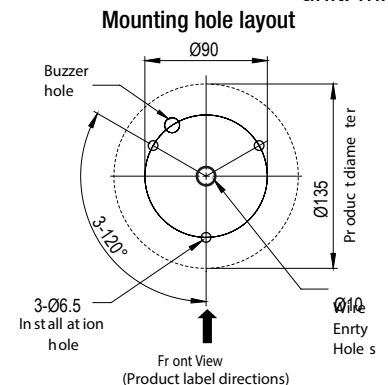
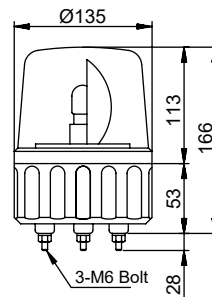
	Part Number	Power Supply
Bulb	MAB-T15-D-012-25	12V DC, 25 Watt
	MAB-T15-D-024-25	24V DC, 25 Watt
	MAB-T15-D-130-25	110V AC, 25 Watt
	MAB-T15-D-240-25	220V AC, 25 Watt
LED Bulb	MAL-T15-D-②-①	-
Lens	LENS-AVG-①	Smooth Lens for Rotating Lights

①: Color of LED or Lens; R, Y, G, B or C

②: Voltage of LED or Lens; 12 (12VAC/DC) 24(24VAC/DC) 120(120VAC) 220(220VAC)

Dimensions

unit: mm



Please See Our "Mounting and Accessories" Section for Mounting Options



MS115L Series

Ø115mm LED Signal Lights



- Triple-reflection system for enhanced visibility
- Enhanced Illumination : long-life, super bright LED
- Energy efficient : Low power consumption

Specifications

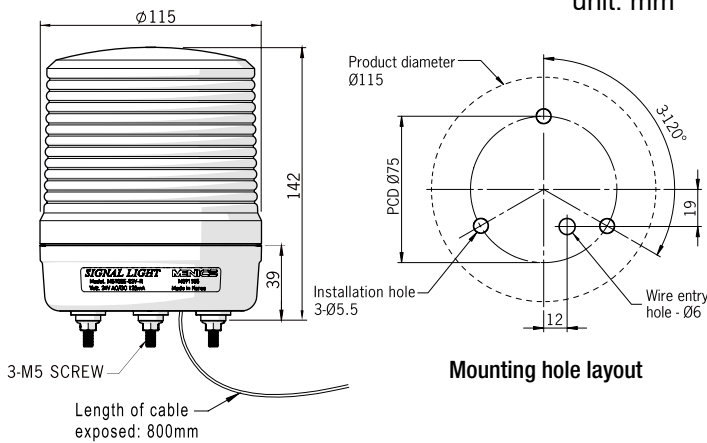
Style	LED Steady, Flashing + Buzzer				
Power Supply	24VAC/DC		90~240VAC		
Current Consumption (RMS value ±10%)		LED	w/Buzzer	LED	w/Buzzer
	R	0.13A	0.16A	0.07A	0.10A
	Y	0.11A	0.14A		
	G	0.25A	0.28A		
	B	0.25A	0.28A		
C	0.29A	0.32A			
Flash rate	80 ±10 flashes/min				
Alarm Sound Level	80 ±5 dB at 1m				
Vibration	0.75mm at 10~55Hz				
Ambient Temp.	-20~40°C				
Storage Temp.	-20~70°C				
Ambient Humidity	45~85% RH				
Degree of Protection	IP65				
Weight	Approx. 325g				
Connection	2464UL/22AWG				
Certificate/Compliance	RoHS, UL				

Ordering Information

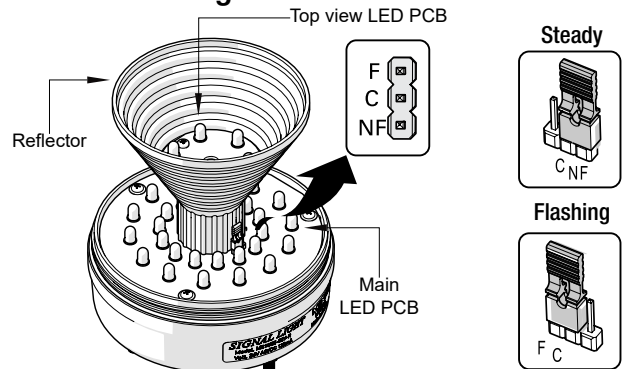
MS115L - F 02 - R
 ① ② ③

① Style	F	Steady & Flashing
	B	Steady & Flashing w/Alarm
② Power Supply	02	24V AC/DC
	FF	90-240V AC
③ Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Dimensions

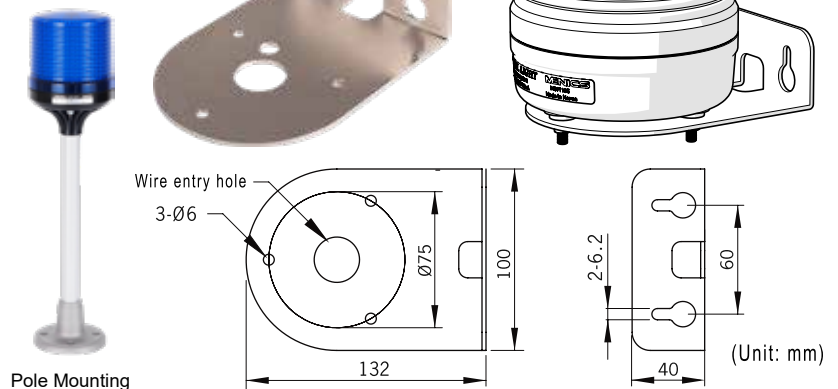


Feature settings

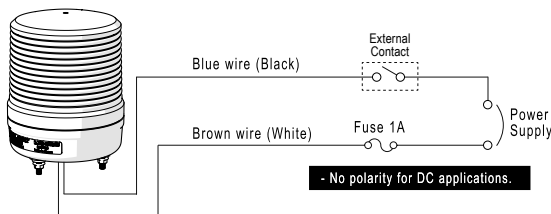


Wall mounting options (for all MS115 Series)

Model: MAM-DS29
Material: Steel



Wiring Diagram





MS115S Series

Ø115mm Xenon Lamp Signal Lights

- Xenon lights
- Outstanding visibility at distance
- PCB module style Xenon lamp
- IP65 rated

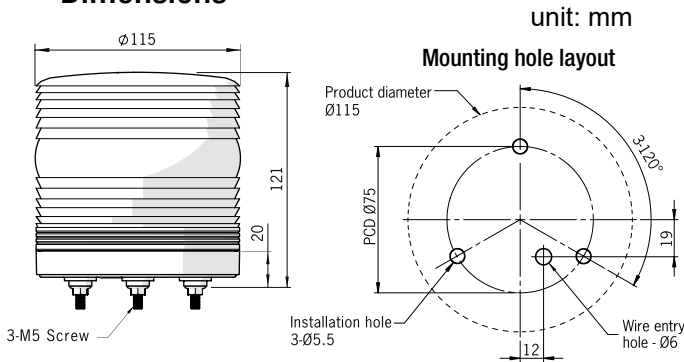


Ordering Information

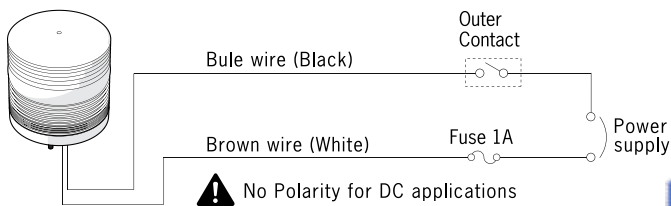
MS115S - S 20 - R
 ① ②

① Power Supply	00	12-24V AC/DC
	10	110V AC
	20	220V AC
② Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Dimensions



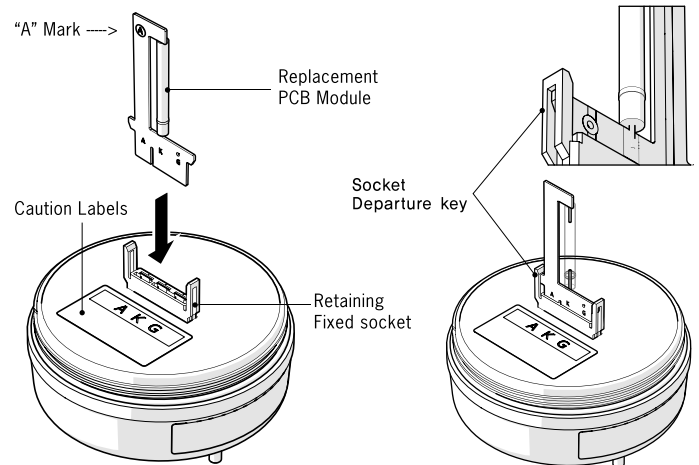
Wiring Diagram



Specifications

Lighting type	Xenon Strobe		
Power Supply	12~24V AC/DC	110V AC	220V AC
Current Consumption	0.08~0.15A	0.07A	0.03A
Flashing Rate	60±10 times/min		
Vibration	0.75mm at 10~55 Hz		
Lens Material	PC Plastic		
Ambient Temperature	-20~40°C		
Storage Temperature	-20~70°C		
Ambient Humidity	45~85% RH		
Degree of Protection	IP65		
Recommended Wire Size	UL 2464, 22 AWG X 2C, 300mm		
Weight	315g		
Certificate/Compliance	RoHS, UL		

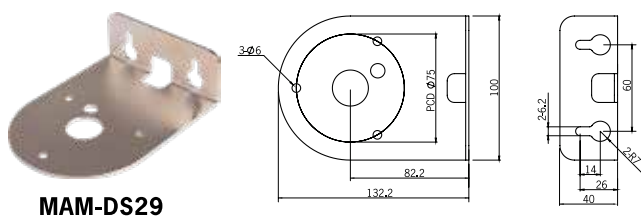
How to install Xenon bulb



The new lamp should be inserted firmly to match the same signal A K G (or A G K) mark. Printed "A" in circuit and label.

- ⚠ - If you insert reverse direction, the lamp can not operate.
- ⚠ - Insert the lamp circuit board correctly. not to inclined.

Wall mounting options (for all MS115 Series)



Supplier No.	MS86S-LAMP-02	MS86S-LAMP-10
Description.	Xenon Lamp I - Type, 3W 12~24V Lamp life: 1,000,000 Frequency. (2,000 hours)	Xenon Lamp U - Type, 6W AC110V / 220V Lamp life: 1,000,000 Frequency. (2,000 hours)



MS115T Series

Ø115mm Multi Function LED Signal Light

- Low body type (20mm)
- Wide light distribution with prism-cut lens
- Outstanding visibility at distance
- 2 flashing patterns (selectable by DIP Switch)
- IP65 rated



Specifications

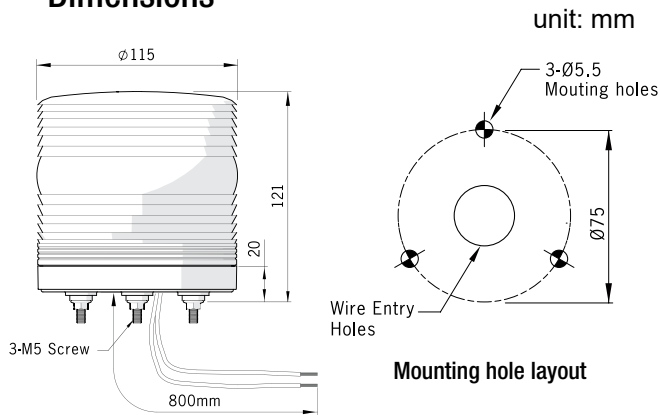
Lighting type	Steady/Flashing/Rotating w/Buzzer		
Power Supply	12-24V AC/DC	90-240V AC	
Current Consumption	Red	0.54A/ 0.69A(w/Buzzer)	0.08A/ 0.23A (w/Buzzer)
	Yellow	0.53A/ 0.69A (w/Buzzer)	0.07A/ 0.23A (w/Buzzer)
	Green	0.25A/ 0.39A (w/Buzzer)	0.04A/ 0.19A (w/Buzzer)
	Blue	0.54A/ 0.69A (w/Buzzer)	0.08A/ 0.23A (w/Buzzer)
	Clear	0.24A/ 0.39A (w/Buzzer)	0.04A/ 0.19A (w/Buzzer)
Flash Rate(adjustable)	F1: 80 ±10 flashes/minute F3: 240 ±10 flashes/minute(Emergency signal)		
Rotation Rate	60 ~ 300±10 rpm (Clockwise)		
Alarm Sound Level(Adjustable)	10 - 100dB±5 at 1m		
Vibration	0.75mm at 10~55 Hz		
Ambient Temperature	-20~40°C		
Storage Temperature	-20~70°C		
Ambient Humidity	45~85% RH		
Degree of Protection	IP65		
Recommended Wire Size	UL1007/22AWG		
Weight	360g		
Certificate/Compliance	RoHS, UL		

Ordering Information

MS115T - R 00 - R
 ① ② ③

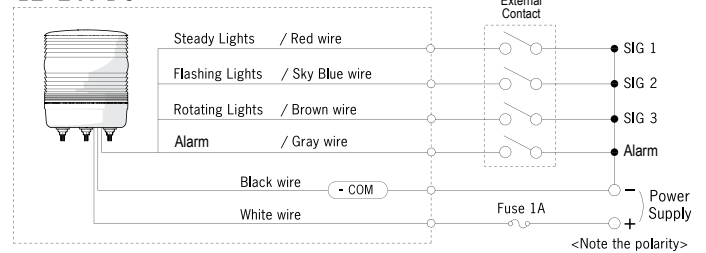
① Light Style	F	Steady/Flashing
	R	Steady/Flashing/Rotating
	B	Steady/Flashing/Rotating+Alarm
② Power	00	12 - 24V AC/DC
	FF	90 - 240V AC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Dimensions

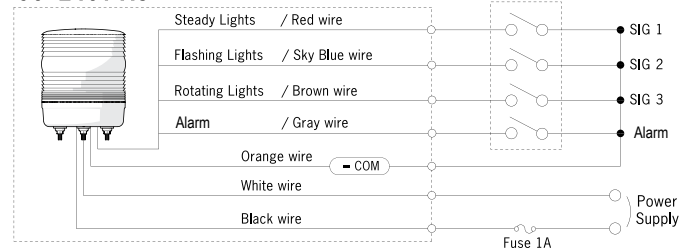


Wiring Diagram

12-24V DC

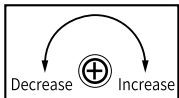


90-240V AC

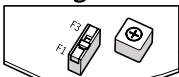


Function Setting

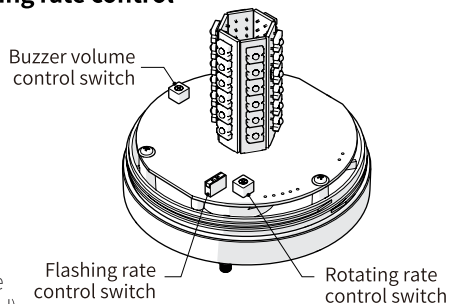
Buzzer volume / Rotating rate control



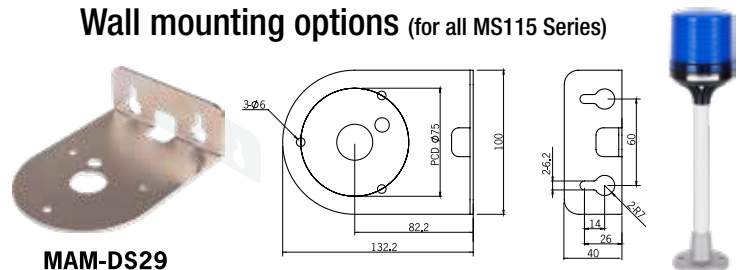
Flashing rate control



F1: 80 ±10 times per minute
 F3: 240 ±10 times per minute
 (when using emergency signal)



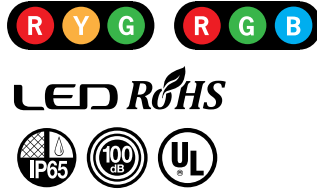
Wall mounting options (for all MS115 Series)





MS115M Series

Ø115mm 3 colors in 1 LED Signal Lights



- 3 Colors in 1 LED modular components
- Bright & even light distribution with prism-cut lenses
- Multi-functional LED signal light
- Flashing Cycles : 2 patterns (Selectable by a switch)
- Optional Audible Alarm upto 100dB (adjustable volume)

Ordering Information

MS115M - F 00 - RYG
 ① ② ③

① Style	F	Steady & Flashing
	B	Steady & Flashing w/Alarm
② Power Supply	00	12-24V AC/DC
	FF	90-240V AC
③ Colors	RYG	Red, Yellow and Green
	RGB	Red, Green and Blue

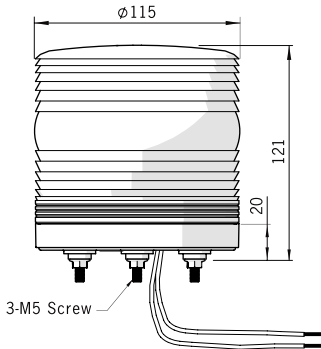
Specifications

Functions	Steady, Flashing + Alarm	
Power Supply	12~24VAC/DC	90~240VAC
Current Consumption	F Style	0.6A
	B Style	0.76A
Flash rate(Adjustable)	F1: 80 ±10 flashes/min., F3: 240±10times/minute(emergency signal)	
Alarm Sound Level	10~100 ±5 dB at 1m: Volume adjustable	
Vibration	0.75mm at 10~55Hz	
Ambient Temp.	-20~40°C	
Storage Temp.	-20~70°C	
Ambient Humidity	45~85% RH	
Degree of Protection	IP65	
Recommended Wire Size	UL1007/22AWG	
Weight	Approx. 360g	
Certificate/Compliance	RoHS, UL	

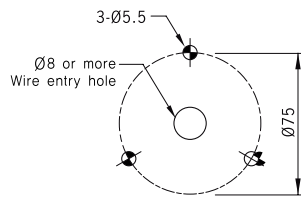
Dimensions

unit: mm

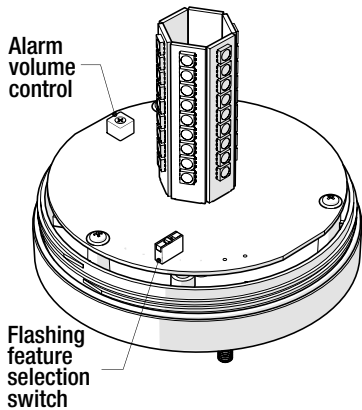
"20mm" Base body



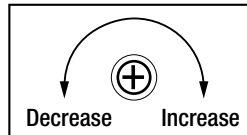
Mounting hole layout



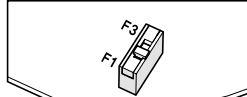
Feature settings



Alarm volume control

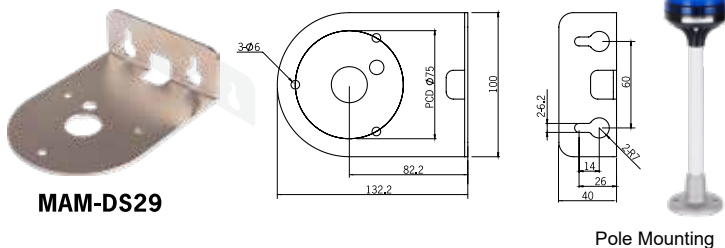


Flashing feature selection



F1: 80 ± 5 times per minute
 F3: 240 ± 5 times per minute
 (emergency signal display light)

Wall mounting options (for all MS115 Series)

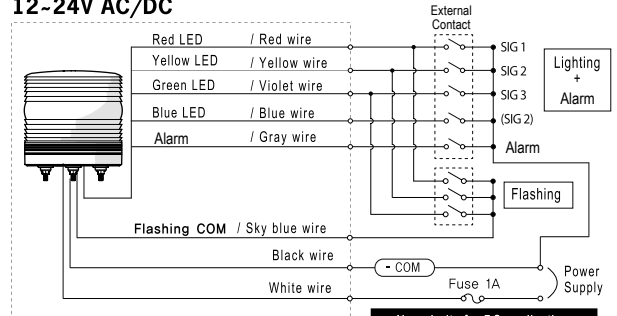


MAM-DS29

Pole Mounting

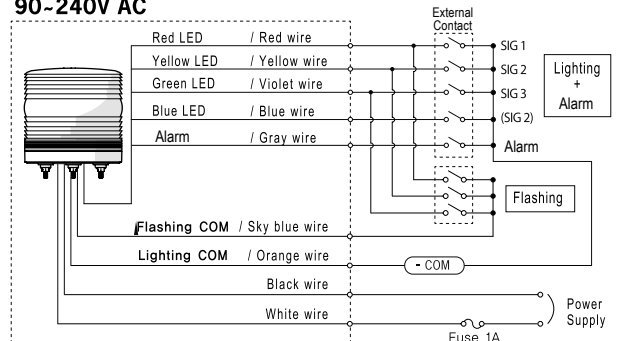
Wiring Diagram

12~24V AC/DC



- No polarity for DC applications.

90~240V AC



Note

A series of horizontal dotted lines for writing notes.



MP115 Series

115mm Battery-powered LED Warning Lights



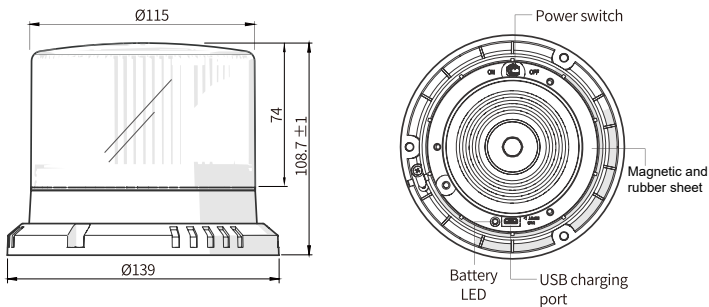
- Mountable on metal surface with strong magnetic base
- Excellent indoor and outdoor visibility
- Easy to recharge 18650 Li-ion battery with USB port
- Two flashing patterns or adjustable rotating light
- Can be used as a portable warning light in various situation

Ordering Information

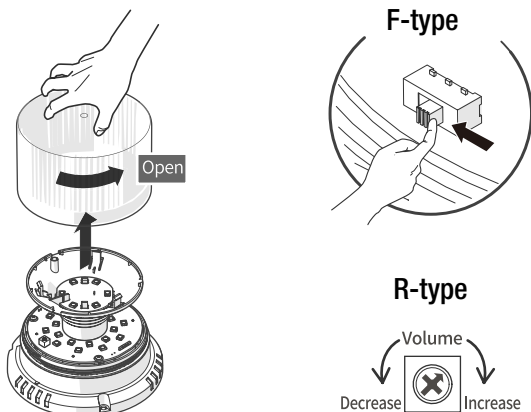
MP115 - M F 05 - R
 ① ② ③

① Mount Type	M	Magnet Mount
② LED Function	F	LED Flashing (normal+emergency flashing)
	R	LED Rotation
③ Colors	R	Red
	Y	Yellow
	G	Green

Dimensions



LED Rotation Speed Change



Specifications

Material	ABS, PC, Ferrite magnet, Rubber	
Output / Input	5W / DC 5V 2000mA(max)	
Full Charge Time	app. 4hr(based on 5V, 2A charger)	
Operation Time	Max. 12hr (Emergency flashing)	
Dimension	$\varnothing 139 \times 108.7$ mm	
Components	Product, Instruction Manual	
Magnetic force	app. 50kg(110 lbs)	
Lens Color	Red, Yellow, Green	
Battery	Lithium Ion Battery	
Battery Spec	18650, 3.7V, 2000mAh	
Charging Port	Micro B-type USB port	
Battery Status Display	Red LED ON status : Available state (battery 4.2V~2.8V) Red LED OFF status : Unstable use (battery 2.8V or less)	
Battery life	Can be used more than 300 times at normal temperature	
Operating Voltage	LED in normal operation: DC 4.2V ~ 3.5V or more	
LED Function	F type	R type
	Normal flashing+emergency flashing (selected by internal switch)	Rotation (built-in rotation speed control volume)
Flashing/Rotation Speed	Normal flashing: 80 ± 5 times per min, Emergency: 240 ± 5 times per min	Rotation mode: 60~300±rpm
Battery Usage Time*	app. 9 hours using flashing mode	app. 12 hours
Current Consumption	Standard flashing: 1170mA Emergency flashing: 620mA	Rotation mode: 200mA
Product mount	Directly fixing the magnetic mount base	
Ambient Temperature	-15°C~40°C	
Storage Temperature	-20°C ~ 70°C	
Ambient Humidity	45~85% RH	
Vibration	30Hz(1minute cycle) 1 Hours double amplitude 0.75mm in X,Y,Z respective direction	
Certification	CE, RoHS	
Degree of Protection	IP55	
Product Weight	app. 712g	

*When 2x2000mAh batteries inserted and full charged as 4.2V

LED Brightness

(±10 lm)		
Red LED	Yellow LED	Green LED
50 lm	55 lm	40 lm



ML115 Series

115mm Ultra-bright LED Warning Lights



- Car cigar jack type or lead wire type
- Strong magnet mounting or bolt mounting
- Excellent visibility with high-intensity LED and reflectors
- Emergency flashing and adjustable rotating light
- Can be used as vehicle emergency warning light

Ordering Information

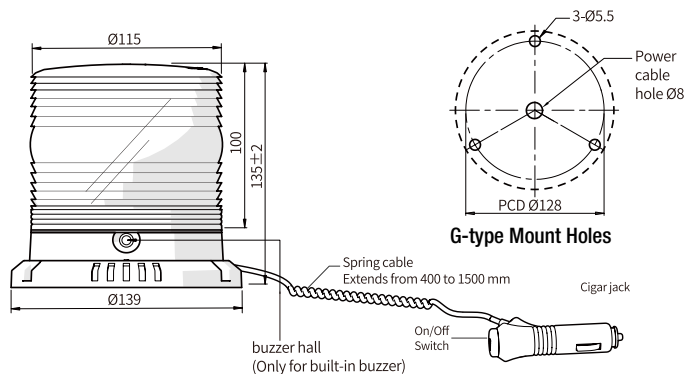
ML115 J - M B 02 - R
 ① ② ③ ④ ⑤

① Power Supply	J	Cigar Jack Type for Vehicle
	C	Power Line Exposed Type
② Body Fixing Option	M	Magnet Mount
	G	Body Mount with Bolts
③ Buzzer Option	No mark	Standard
	B	Built-in Buzzer
④ Voltage	01	12VDC
	02	24VDC
⑤ Lens Color	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Specifications

LED Function	Flashing(emergency signal), Rotation
Power Supply	12VDC±5%, 24VDC±5%
Light Source	LED (Lifespan: 100,000h)
Dimension	Diameter 139mm (Base size)
Flashing Speed	220±5 times per minute
Rotation Speed	60~200rpm (Built-in control switch)
Buzzer Volume	90±5dB (at 1M)
Product Mounting	ML115□-M type: Detachable Magnetic Mount ML115□-G type: Body direct mount (M5 bolt)
Wiring Method	ML115J type: Cigar jack charging type ML115C type: Exposed wiring connection type
Ambient Temperature	-15°C~40°C
Storage Temperature	-20°C ~ 70°C
Ambient Humidity	45 ~ 85% RH
Voltage Withstand Capability	1 minute at 1000VAC 50/60Hz
Insulation Resistance	More than 100MΩ (500VDC Mega standard)
Vibration	10~55Hz(1minute cycle) 1 Hours double amplitude 0.75mm in X,Y,Z respective direction
Wiring Standard	ML115J type: UL2464/22AWG, Ø3.5, spring type cable 400~1500mm ML115C type: UL2464/22AWG, Ø4 exposure length 500±100mm
Degree of Protection	Standard IP65 / Buzzer type IP52 (Front direction)
Product Weight	ML115J-M : app. 683g / ML115J-G : app. 380g ML115C-M : app. 680g / ML115C-G : app. 375g
Certification	CE, RoHS

Dimensions



LED Brightness

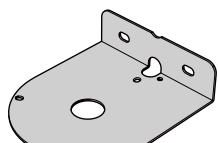
(±20 lm)

Red		Yellow		Green		Blue		White	
12V	24V	12V	24V	12V	24V	12V	24V	12V	24V
125	113	118	106	82	86	24	22	300	200

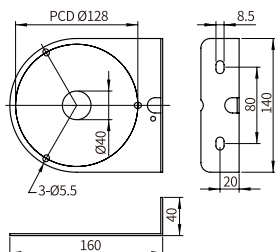
Current Consumption

LED Color	Red		Yellow		Green		Blue		White	
	12V	24V	12V	24V	12V	24V	12V	24V	12V	24V
Basic type	0.70A	0.30A	0.73A	0.33A	0.70A	0.25A	0.76A	0.25A	0.70A	0.20A
Buzzer type	0.72A	0.34A	0.75A	0.35A	0.72A	0.27A	0.78A	0.27A	0.72A	0.23A

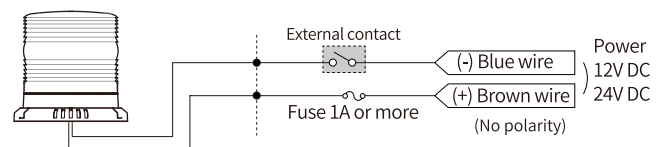
Wall Mount Bracket



Model : MAM-DS41
Material : Steel



Connection Diagram



In case of ML115C type, LED light and buzzer operate at the same time when power is supplied.



MF115 Series

115mm High-bright LED Warning Lights



- Excellent visibility with flashing or rotating light
- Buzzer (intermittent sound) or horn speaker (9 tones)
- Omnidirectional sound output up to 100 dB
- Built-in volume control
- Easy to adjust rotating speed

Ordering Information

MF115 B - 02 - R
 ① ② ③

① Style	B	Built-in Buzzer (External wiring contact)
	S	Built-in Horn Speaker (Internal switch contact)
	K	Built-in Horn Speaker (External wiring contact)
② Power Supply	01	12VDC
	02	24VDC
③ Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	W	White

Built-in Sound

Model	MF115S	MF115K	MF115B
Classification	15W Horn Speaker		Buzzer
Volume	70 ~ 110±10dB		70~90±5dB
Built-in Sound	9 tones (3 melodies, 6 beeps)		Intermittent sound (beep beep -) Connection with external contact
	Tone selection with internal switch	Tone selection with external cable	

Current Consumption

Model	Red LED	Yellow LED	Green LED	Blue LED	White LED
MF115B	12V	0.70A	0.70A	0.70A	0.50A
	24V	0.33A	0.35A	0.30A	0.30A
MF115S	12V	0.90A	1.18A	0.90A	1.18A
MF115K	24V	0.75A	0.75A	0.70A	0.65A

Specifications

Operation/Function	LED Flashing, Rotation
Power Supply	12VDC, 24VDC
Light Source	LED (Lifespan: about 30,000~50,000h)
Flash Rate	220±5 times/ minute
Rotational Speed	60~200 rpm (built-in adjustable switch)
Lens Color	Red, Yellow, Green, Blue & Clear
Material	Lens:PC, Body: ABS
Mounting Method	Body Direct Fixing Type (M5 bolt), Vertical direction only (Indoor and outdoor)
Ambient Temperature	-15°C~40°C
Storage Temperature	-20°C ~ 70°C
Ambient Humidity	45~85% RH
Insulation Resistance	More than 1MΩ(500VDC Mega standard)
Vibration	30Hz(1minute cycle) 1 Hours double amplitude 0.5mm in X,Y,Z respective direction
Withstand Voltage	1 Minute at 500VAC 50/60Hz
Recommended Wire Size	UL1007, 22AWG, Exposure length - about 700±100mm
Wiring Method	Exposed wiring connection
Degree of Protection	IP35
Certification	RoHS
Product Weight	MF115B:App. 645g ,MF115S:App. 864g, MF115K:App. 885g,

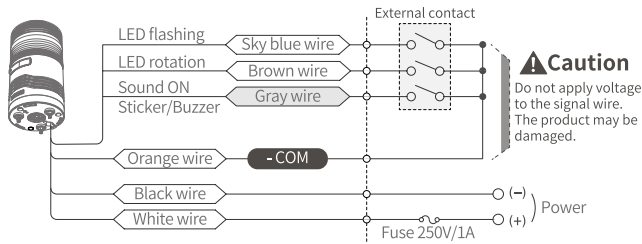
LED Brightness

Red LED	Yellow LED	Green LED	Blue LED	White LED
113 lm	106 lm	86 lm	22 lm	200 lm

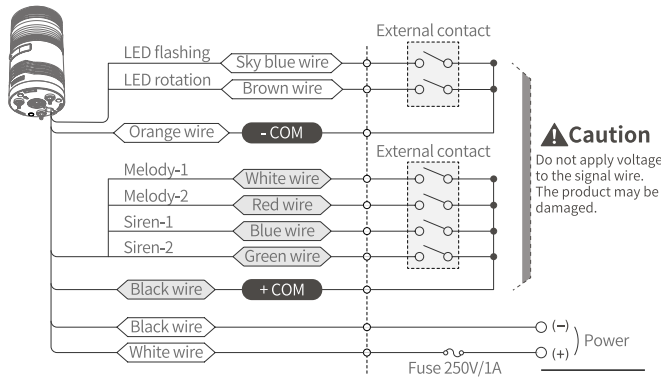
(±20 lm)

Connection Diagram

MF115B / MF115S



MF115K



* Sound cable specification: UL2464, 22AWG, PVC, 5C
* Be careful not to short circuit the black signal wire(+COM) and the LED orange signal wire (-COM) during the wiring process.

MF115S Series Tone Select Switch



ON 1 2 3 4	0. Silence(OFF)	ON 1 2 3 4	4. Emergency vehicle siren	ON 1 2 3 4	8. Police siren
ON 1 2 3 4	1. For elise	ON 1 2 3 4	5. Beeping for anomalies	ON 1 2 3 4	9. Fire engine siren
ON 1 2 3 4	2. Home sweet home	ON 1 2 3 4	6. Fire alarm		
ON 1 2 3 4	3. Cuckoo Waltz	ON 1 2 3 4	7. Ambulance siren		

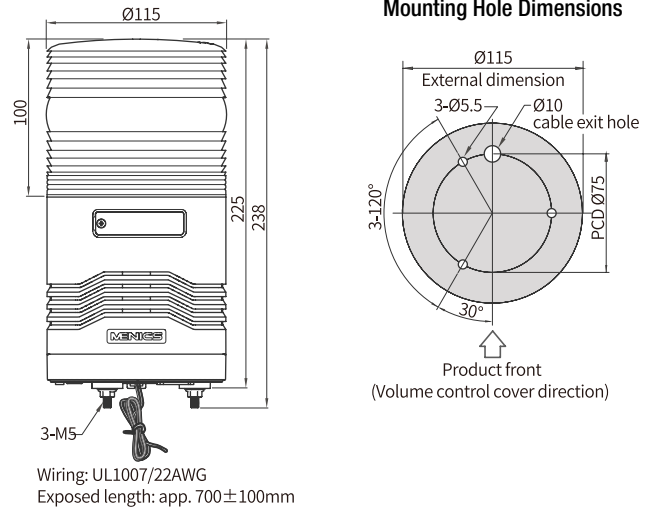
* When selecting a tone, use a small flat screwdriver (tweezers) to operate the selection switch.
* Sound works only when the selector switch lever is pushed down.
* Due to the nature of LED, brightness and color vary depending on each LED and product type.
* LED lifespan varies depending on operating conditions and environment.

MF115K Type Tone Setting

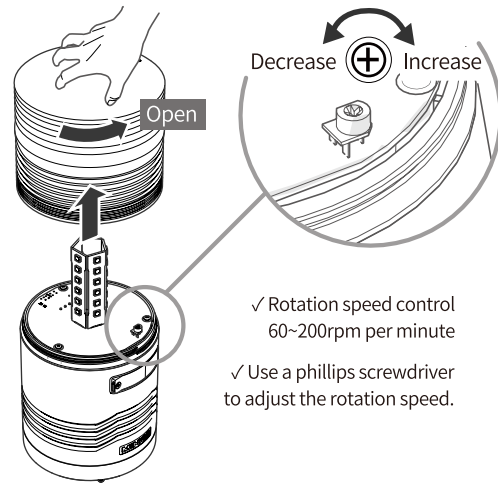
Sound List	White Wire	Red Wire	Blue Wire	Green Wire	Note
0 Silence(OFF)	1	1	1	1	-
1 For Elise	0	1	1	1	Black+White wire
2 Home sweet home	1	0	1	1	Black+Red wire
3 Fire alarm	1	1	0	1	Black+Blue wire
4 Police siren	1	1	1	0	Black+Green wire
5 Cuckoo waltz	0	0	1	1	Black+White+Red wire
6 Emergency vehicle siren	1	0	0	1	Black+Red+Blue wire
7 Beeping for anomalies	0	1	0	1	Black+White+Blue wire
8 Ambulance siren	0	1	1	0	Black+White+Green wire
9 Fire engine siren	0	0	0	1	Black+White+Red+Blue wire

* When connected to COM wire (Black wire): means 0 status.

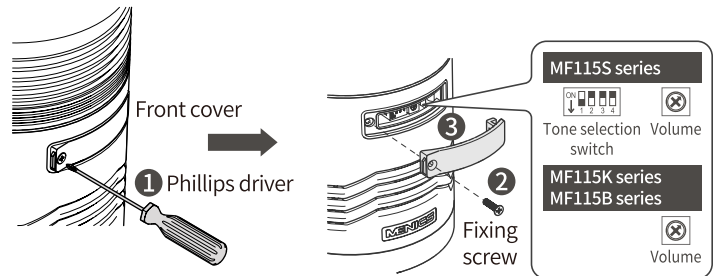
Dimensions



LED Rotation Speed Change



Open the Front Cover for Tone Selection and Volume Control



Sound Volume Control





MS135T Series

Ø135mm LED Warning Light

- Excellent visibility outdoor and long distance
- Multi-function with various sound options
- Adjustable rotating speed & sound volume
- IP65 rated



Specifications

Lighting type	Flashing(emergency signal flash pattern), rotating, Buzzer						
Power Supply	12-24V DC			100-240V AC			
Current Consumption	Color	Standard	Buzzer	Melody / Siren	Standard	Buzzer	Melody / Siren
	Red	0.75A	0.78A	0.90A	0.10A	0.13A	0.14A
	Yellow	0.75A	0.78A	0.90A	0.10A	0.13A	0.14A
	Green	0.72A	0.75A	0.90A	0.08A	0.10A	0.14A
	Blue	0.72A	0.75A	0.90A	0.08A	0.10A	0.14A
Clear	0.75A	0.78A	0.90A	0.10A	0.12A	0.14A	
Flash Rate	240±5 time/min						
Rotation Rate	60 ~ 300±10 rpm (Clockwise)						
volume	Buzzer volume (Built-in volume control)			Sound volume (built-in volume)			
	intermittent sound (Beep-Beep-Beep) : 75~100±5dB (1M)			55~80±5dB (1M) (Melody: for Elise, Home sweet home Cuckoo waltz) (Siren: Fire, Police, Ambulance)			
Vibration	10 ~ 55Hz (1 min.cycle) Double amplitude 0.75mm X, Y, Z						
Ambient Temperature	-15 ~ 50°C						
Storage Temperature	-20 ~ 70°C						
Ambient Humidity	45~85% RH						
Degree of Protection	IP65						
Mounting Option	Stud/Pole/Wall mounting						
Connection method	Exposed wiring connections						
Recommended Wire Size	UL2464/22AWG						
Weight	app.555g						
Certificate/Compliance	RoHS						

Ordering Information

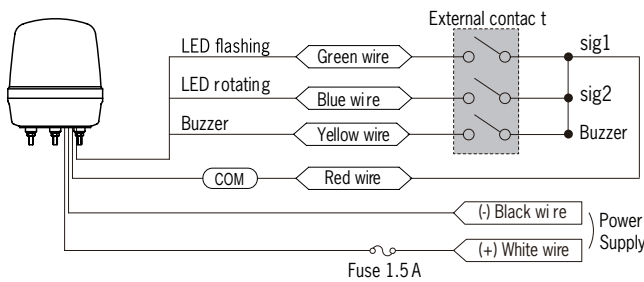
MS135T - B 00 - R
 ① ② ③

① Light Style	R	Flashing + Rotating
	B	Flashing + Rotating + Buzzer
	M*	Flashing + Rotating + Melody
	S*	Flashing + Rotating + Siren
② Power	00	12 - 24V DC
	FF	100 - 240V AC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

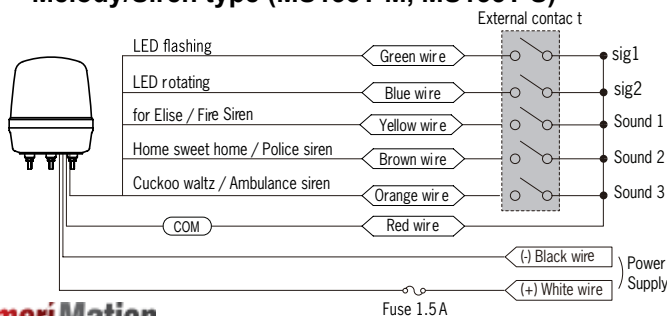
* Pole mounting option is not applicable for M or S type

Wiring Diagram

Standard buzzer type (MS135T-R, MS135T-B)

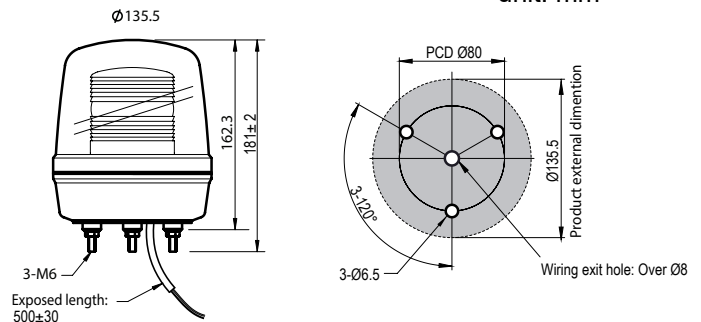


Melody/Siren type (MS135T-M, MS135T-S)

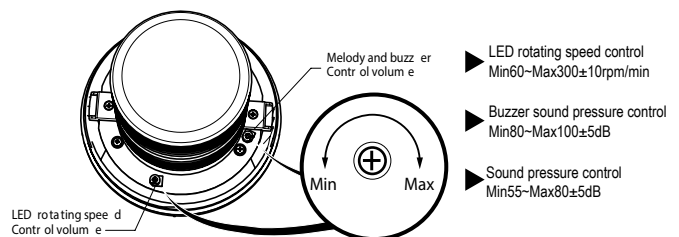


Dimensions

unit: mm



Feature Setting





MS135B Series

Ø135mm Rotating
Warning Light

- Strong flash using reflector with 25W bulb
- Weather resistant lens and body
- LED bulb replacement available
- IP65 rated



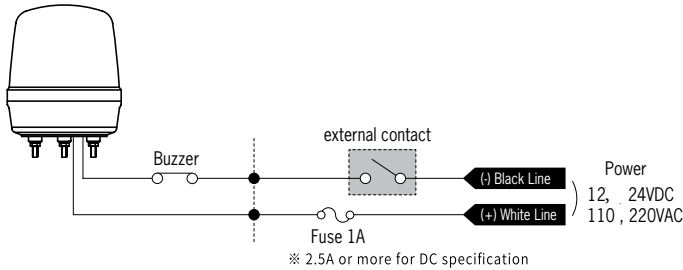
Ordering Information

MS135B - -

① ② ③

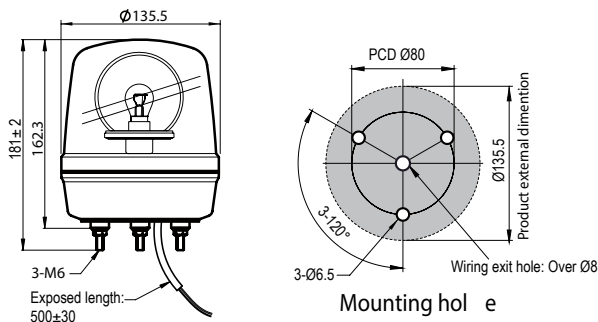
① Function	No mark	Reflector rotation
	B	Reflector rotation + Buzzer
② Power	01	12VDC
	02	24VDC
	10	110VAC
	20	220VAC
③ Lens Colors	R	Red
	Y	Yellow
	G	Green
	B	Blue
	C	Clear

Wiring Diagram



Dimensions

unit: mm



Replacement Parts

LED Bulb		Part Number	Voltage
		MAL-T15-D-12-①	12V
MAL-T15-D-24-①	24V		
MAL-T15-D-120-①	110V		
MAL-T15-D-240-①	220V		
Incandescent BULB		MAM-T15-D-012-25	12V 25W
		MAB-T15-D-024-25	24V 25W
		MAB-T15-D-130-25	110V 25W
		MAB-T15-D-240-25	220V 25W

①: Color of LED or Lens; R, Y, G, B or C

Specifications

Light source	Incandescent bulb			
Power Supply	12VDC	24VDC	110VAC	220VAC
Current Consumption	2.08A, 25W	1.04A, 25W	0.22A, 25W	0.11A, 25W
Rotation Rate	150 ±10% rpm/min			
Buzzer volume	90 ±5dB (1M) beep-beep-beep : The volume can not be adjusted			
Lens color	Red, Yellow, Green, Blue, Clear			
Mounting options	Stud/Pole/Wall mounting			
Connection method	Exposed wiring connections			
Ambient temperature	-15 ~ 50°C			
Storage ambient temperature	-20 ~ 70°C			
Ambient humidity	45 ~ 85% RH			
Dielectric strength	1 Min. at 1000VAC 50/60Hz			
Insulation Resistance	100MΩ or more (500VDC Megger basis)			
Vibration resistance	10 ~ 55Hz (1 min cycle) Double amplitude 0.75mm X, Y, Z			
Protection structure	IP65			
Connection	UL2464/22AWG			
Bulb life	1,000 hrs			
Approval	RoHS			
Weight	app.555g			