

# Total Catalogue 2018C

Tower Light  
Signal Light  
Panel Lamp  
Wall Mount Signal Light  
Speaker  
LED indicators



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with QR code △

# About us



Since our establishment in June 1988, we've continued development in the trials and challenging times. And reached today thanks to constant guidance and cooperation from our customers.

We are doing our best to secure competitiveness and improve corporate value with the best technology and quality in the domestic market as well as the world market. We have acquired ISO9001 quality system and KS certification standards, CE and UL to increase the value of our products and keep putting our efforts to ensure global competitiveness.

It is based on our accumulated technology and abundant experience, we will supply the best products with the best technology and quality, developing new products such as warning lights, automatic control switches, semiconductors and peripheral devices to automation parts, terminal sockets, molds.

All of MENICS staffs are putting effort into the safety of property and efficiency. To achieve our best goal to realize customer satisfaction, we will continue our efforts for ever.

Thank you

## Product Features

### 1. Polycarbonate Lens

- Strong against impacts.

### 2. Various Colors

- Red / Yellow / Green / Blue / Clear (White)

### 3. Diverse Design

- Customized for your business

### 4. Semi-Permanent

- Economically efficient.

### 5. Great Appearance

- Contributes to apply in electronic equipments widely.

### 6. Visible in Various Sides

- Designed to projected in various sides.

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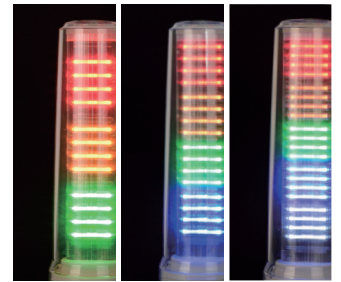


## LED Panel Lamp

- 03 MPL series**  
General Purpose LED Panel Lamp  
- Bar type

## LED Tower Lights

|    |                    |                            |
|----|--------------------|----------------------------|
| 05 | <b>PY7L series</b> | 70mm                       |
| 07 | <b>PY7M series</b> | 70mm multi color           |
| 09 | <b>PY7T series</b> | 70mm multi channel         |
| 11 | PTE series         | 56mm modular               |
| 13 | PTM series         | 56mm multi color           |
| 14 | PTD series         | 56mm dome head             |
| 15 | PL4 series         | 45mm                       |
| 17 | PME series         | 45mm modular               |
| 18 | MP8 series         | 86mm plastic body          |
| 19 | ML8 series         | 86mm aluminum body         |
| 21 | PLD series         | 25mm                       |
| 22 | MSGT series        | 130mm (cubic type speaker) |



**PY7 series**  
70mm LED Signal Tower Light

## Bulb Tower Lights

|    |                |                            |
|----|----------------|----------------------------|
| 23 | MT5C/8C series | 56/86mm                    |
| 25 | MT4B/5B/8B     | 45/56/86mm                 |
| 26 | PS series      | 45mm                       |
| 27 | PR series      | 56mm                       |
| 29 | SL series      | 86mm                       |
| 30 | MSGS series    | 130mm (cubic type speaker) |

## LED Signal Lights

|       |                      |                               |
|-------|----------------------|-------------------------------|
| 31    | MS56L series         | 56mm                          |
| 32    | MS56M series         | 56mm multi color              |
| 33    | MS66 series          | 66mm                          |
| 35    | MS66LT series        | 66mm economical               |
| 36    | <b>MS70LT series</b> | 70mm flashing light           |
| 37    | <b>MS70M series</b>  | 70mm multi color              |
| 40    | MW86M series         | 86mm wall mount (multi color) |
| 41    | MW86T series         | 86mm wall mount               |
| 43    | MS86LT series        | 86mm high brightness          |
| 44~48 | MS86 series          | 86mm (L, W, T, M, S series)   |
| 49~53 | MS115 series         | 115mm (L, T, M, C, S series)  |
| 54    | <b>MS135T series</b> | 135mm                         |



**MS135T series**  
135mm LED Large Warning Signal Light

## LED Wall Mount

|    |                    |                    |
|----|--------------------|--------------------|
| 55 | PWE series         | 90mm               |
| 56 | MWE series         | 90mm multi color   |
| 57 | <b>MWET series</b> | 90mm multi channel |
| 58 | <b>MQVL series</b> | 95mm cubic         |
| 59 | <b>MQVM series</b> | 95mm multi color   |



**70~72 MSP series**  
Horn speaker electronic sounder

To ensure correct use of these products, read the Instruction Manual prior to use. Failure to follow all safeguards can result in fire, electric shock or other accidents.

## Bulb Signal Lights

|    |                      |                 |
|----|----------------------|-----------------|
| 38 | <b>MS70S series</b>  | 70mm xenon lamp |
| 60 | <b>MQVX series</b>   | 95mm xenon lamp |
| 65 | ML series            | 66mm            |
| 66 | ASG/APG series       | 86mm            |
| 67 | AVG series           | 135mm           |
| 68 | <b>MS135B series</b> | 135mm           |



**MQV series**  
Combination with signal lights

## Speaker

|    |                    |                       |
|----|--------------------|-----------------------|
| 61 | <b>MQVH series</b> | 95mm 15W horn speaker |
| 62 | <b>MQVS series</b> | 95mm 5W speaker       |
| 69 | MW86N series       | wall mount            |
| 70 | MSP-H series       | horn speaker          |
| 71 | MSP-T series       | electronic sounder    |
| 72 | MSP-L series       | electronic sounder    |

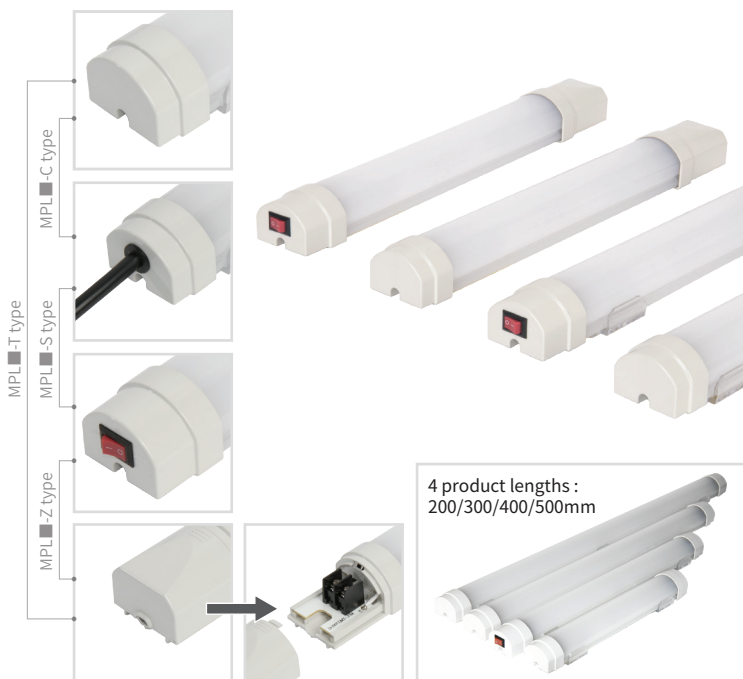
## ETC

|    |                |
|----|----------------|
| 73 | LED indicators |
| 75 | Digital switch |

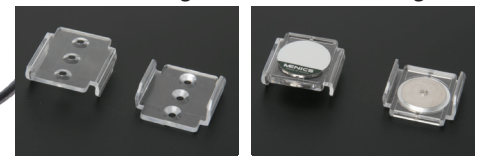
# MPL Series Universal LED Panel Lamp - Bar type NEW



MPL series bar type LED lamp provide bright lighting inside panel light(enclosures) with long service life and easy installation. Models are available for 110V, 220VAC or 12V, 24VDC with options for either screw mount or magnet mount (for steel), and ON/OFF switch option and power cable type or terminal block type options.



### Rear mounting brackets for various usage



**Screw mounting type**

Definite attachment from end to end. You can lock it in any part of the product body.

**Magnet mounting type**

Easy attachment by fixing with it's strong magnet on the surface of steel etc.

Material - Polycarbonate resin

**Number of brackets required\***

product length 200/300mm (2L, 3L) - 2ea  
product length 400/500mm (4L, 5L) - 3ea

\*Enclosed in package



**MPLN type**  
Daylight - Natural light (app.6200K)



**MPLY type**  
Warm white (app.3850K)

## Product Feature

- Wide angle direct light for high illumination inside the distribution panel
- Uses a constant current circuit for stable illumination with unstable power conditions
- Slide rail enables easy attachment and detachment
- Movable mount bracket for easy mounting distance adjustment
- Excellent vibration and impact resistance with use of polycarbonate lens
- On/Off switch equipped for MPL-S, MPL-Z type
- Terminal box equipped for MPL-T, MPL-Z type
- Materials : Lens - PC, Side Cover - ABS
- Protection Rating : None waterproof

## Ordering information

MPL **N** - **S** **20** - **2L** - **(M)** \* option

### ① LED Color

|   |                        |
|---|------------------------|
| N | Daylight-Natural light |
| Y | Warm white             |

### ⑤ Fixing bracket option

|         |                   |
|---------|-------------------|
| No mark | Screw fixing type |
| (M)     | Magnet fixed type |

### ② Product model type

|   |  |
|---|--|
| C | External power cable type                            |
| S | External power cable + Built-in ON / OFF switch type |
| T | Power terminal block type                            |
| Z | Power terminal block + Built-in ON / OFF switch type |

### ③ Power Supply

|    |        |
|----|--------|
| 01 | 12VDC  |
| 02 | 24VDC  |
| 10 | 110VAC |
| 02 | 220VAC |

### ④ Product Length

|    |       |
|----|-------|
| 2L | 200mm |
| 3L | 300mm |
| 4L | 400mm |
| 5L | 500mm |

## Specifications

|              |   |
|--------------|---|
| Application  | Working light, Enclosure box, Semiconductor machinery             |
| Type         | Bar type lamp   |
| Power supply | 12/24VDC ± 5V , 110/220VAC ± 10V (AC50/60Hz)                      |
| Light color  | N type-Natural light (app.6200K)<br>Y type-Warm white (app.3850K) |

| MPLN type | Current / Power (±10%) | 2L series     | 3L series     | 4L series     | 5L series     |               |
|-----------|------------------------|---------------|---------------|---------------|---------------|---------------|
|           |                        | 12V           | 0.60A / 7.6W  | 0.56A / 7.3W  | 0.80A / 9.6W  | 0.85A / 10.2W |
|           | 24V                    | 0.34A / 8.0W  | 0.26A / 6.4W  | 0.50A / 12.0W | 0.46A / 11.0W |               |
|           | 110V                   | 0.08A / 3.3W  | 0.07A / 3.7W  | 0.13A / 11W   | 0.12A / 10.5W |               |
|           | 220V                   | 0.10A / 5.2W  | 0.10A / 6.4W  | 0.14A / 10W   | 0.15A / 14W   |               |
| MPLY type | Current / Power (±10%) | 2L series     | 3L series     | 4L series     | 5L series     |               |
|           |                        | 12V           | 0.60A / 7.6W  | 0.52A / 6.5W  | 0.70A / 8.4W  | 0.70A / 8.4W  |
|           |                        | 24V           | 0.28A / 7.0W  | 0.22A / 5.3W  | 0.37A / 9.0W  | 0.33A / 8.0W  |
|           |                        | 110V          | 0.08A / 3.3W  | 0.07A / 3.8W  | 0.10A / 9.0W  | 0.10A / 8.3W  |
|           | 220V                   | 0.11A / 5.4W  | 0.10A / 6.4W  | 0.13A / 10.0W | 0.15A / 14W   |               |
| MPLN type | Illuminance (1M)       | 12V: 180 lux  | 12V: 160 lux  | 12V: 295 lux  | 12V: 300 lux  |               |
|           |                        | 24V: 180 lux  | 24V: 170 lux  | 24V: 370 lux  | 24V: 355 lux  |               |
|           |                        | 110V: 100 lux | 110V: 110 lux | 110V: 243 lux | 110V: 240 lux |               |
|           |                        | 220V: 140 lux | 220V: 210 lux | 220V: 270 lux | 220V: 360 lux |               |
| MPLY type | Illuminance (1M)       | 12V: 180 lux  | 12V: 150 lux  | 12V: 240 lux  | 12V: 260 lux  |               |
|           |                        | 24V: 180 lux  | 24V: 150 lux  | 24V: 300 lux  | 24V: 275 lux  |               |
|           |                        | 110V: 90 lux  | 110V: 110 lux | 110V: 225 lux | 110V: 214 lux |               |
|           |                        | 220V: 144 lux | 220V: 160 lux | 220V: 243 lux | 220V: 342 lux |               |
| MPLN type | Luminous flux          | 12V: 565 lm   | 12V: 495 lm   | 12V: 926 lm   | 12V: 942 lm   |               |
|           |                        | 24V: 565 lm   | 24V: 535 lm   | 24V: 1160 lm  | 24V: 1115 lm  |               |
|           |                        | 110V: 305 lm  | 110V: 395 lm  | 110V: 763 lm  | 110V: 753 lm  |               |
|           |                        | 220V: 440 lm  | 220V: 660 lm  | 220V: 848 lm  | 220V: 1130 lm |               |
| MPLY type | Luminous flux          | 12V: 623 lm   | 12V: 520 lm   | 12V: 754 lm   | 12V: 900 lm   |               |
|           |                        | 24V: 560 lm   | 24V: 520 lm   | 24V: 942 lm   | 24V: 952 lm   |               |
|           |                        | 110V: 310 lm  | 110V: 380 lm  | 110V: 706 lm  | 110V: 672 lm  |               |
|           |                        | 220V: 452 lm  | 220V: 554 lm  | 220V: 763 lm  | 220V: 1074 lm |               |

|                             |   |
|-----------------------------|---|
| Connection                  | 60227 KS IEC 53, 2CX0.7-Exposure length: 400mm  |
| Material                    | Housing - PC resin (milky white), Cover - ABS resin (ivory), Bracket - PC resin (transparent) |
| Ambient temperature         | -20 ~ 50°C  |
| Storage ambient temperature | -20 ~ 70°C  |
| Ambient humidity            | 45~85% RH   |

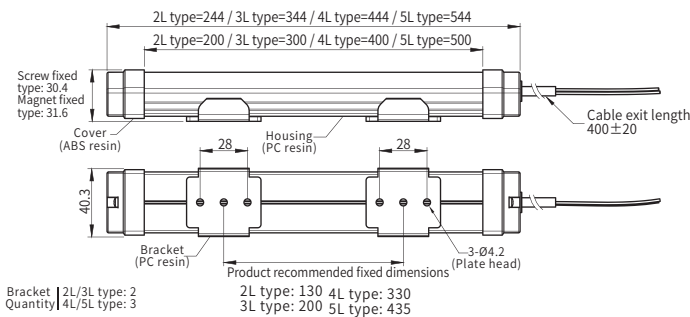
(Lamp depends on operating conditions and environment)

|                       |  |
|-----------------------|--|
| Withstand voltage     | AC: 1500VAC 60Hz for 1 minute / DC: 500VAC 60Hz for 1 minute |
| Insulation resistance | 100MΩ or more (500VDC Mega between all terminals and case)   |
| Vibration             | 10-55Hz (cycle 1 minute) Amplitude 0.75mm X, Y, Z 1hour      |
| Protection structure  | IP 60  |
| Approval              | RoHS   |

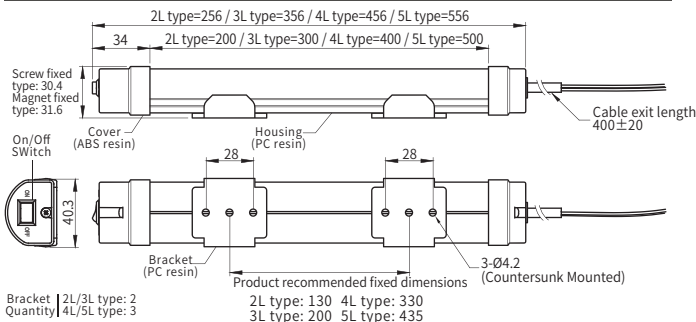
| Weight<br>(220VAC standard) | 2L series   |              | 3L series   |              | 4L series   |              | 5L series   |              |
|-----------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|
|                             | Screw fixed | Magnet fixed | Screw fixed | Magnet fixed | Screw fixed | Magnet fixed | Screw fixed | Magnet fixed |
| MPL-C type                  | app. 113g   | app. 142g    | MPL-C type  | app. 141g    | MPL-C type  | app. 211g    | MPL-C type  | app. 243g    |
| MPL-S type                  | app. 120g   | app. 136g    | MPL-S type  | app. 145g    | MPL-S type  | app. 214g    | MPL-S type  | app. 246g    |
| MPL-T type                  | app. 110g   | app. 133g    | MPL-T type  | app. 140g    | MPL-T type  | app. 203g    | MPL-T type  | app. 235g    |
| MPL-Z type                  | app. 112g   | app. 133g    | MPL-Z type  | app. 140g    | MPL-Z type  | app. 206g    | MPL-Z type  | app. 238g    |
| MPL-C type                  | app. 183g   | app. 215g    | MPL-C type  | app. 211g    | MPL-C type  | app. 211g    | MPL-C type  | app. 243g    |
| MPL-S type                  | app. 186g   | app. 218g    | MPL-S type  | app. 214g    | MPL-S type  | app. 214g    | MPL-S type  | app. 246g    |
| MPL-T type                  | app. 175g   | app. 207g    | MPL-T type  | app. 203g    | MPL-T type  | app. 203g    | MPL-T type  | app. 235g    |
| MPL-Z type                  | app. 178g   | app. 210g    | MPL-Z type  | app. 206g    | MPL-Z type  | app. 206g    | MPL-Z type  | app. 238g    |

## Dimensions <Unit: mm>

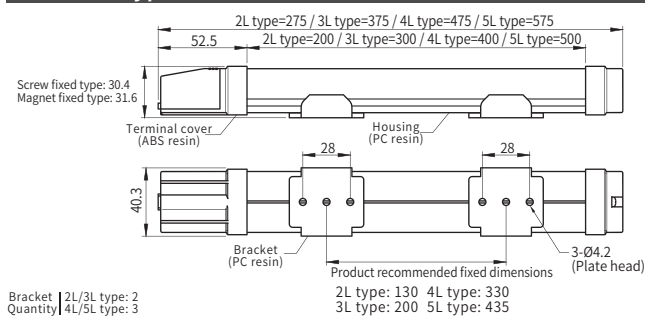
### MPL-C type



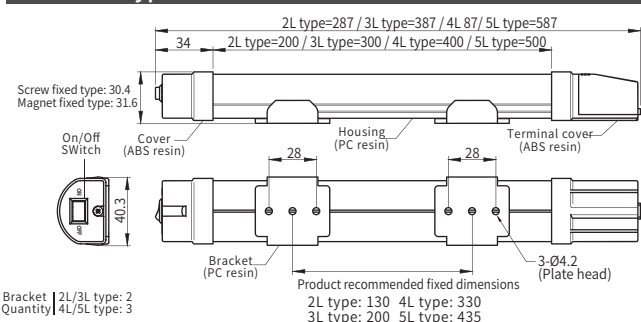
### MPL-S type



### MPL-T type

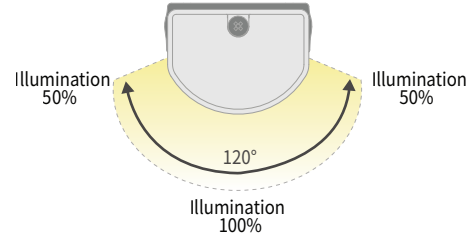


### MPL-Z type



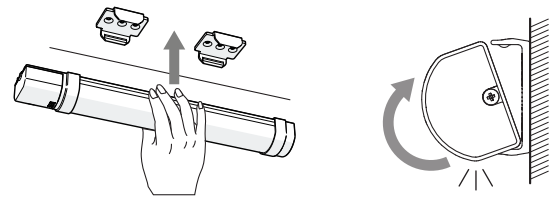
## Illumination range drawing

By removing the surface unevenness, the light distribution balance can spread more uniformly.  
And with an all translucent material construction, it raises the uniformity of the luminousness more.  
The illumination angle fills a large 120 degree area and illuminated it uniformly from a fixed position.



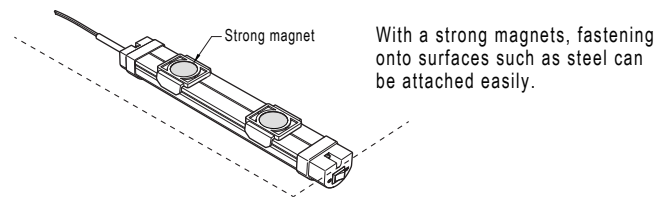
## Installation location

### ● Screw fixing type



Just by after attaching the bracket to a set position, the main body can be easily be assembled and removed with one touch. Moreover, even after the main body in installed on the slide rail, adjusting the right and left mount is possible.

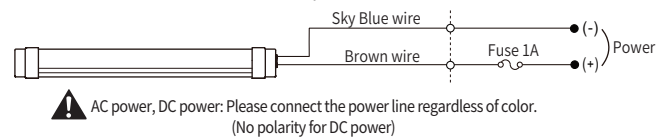
### ● Back side magnet fixing type



## Connection Diagram

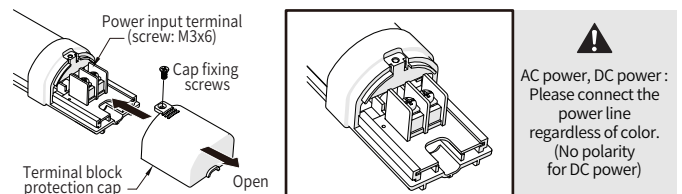
### Power cable type MPL-C, MPL-S model

The MPL-C or MPL-S model has a power cable connected.



### Terminal block type MPL-T, MPL-Z model

MPL-T, MPL-Z models are equipped with terminal box as shown in the picture below. (Recommended screw torque : 0.5 N.m)

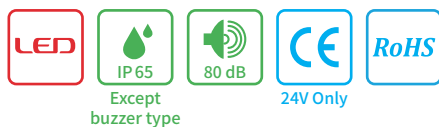


### Built-in ON / OFF switch type MPL-S, MPL-Z model



MPL-S and MPL-Z models are equipped with on/off switch.

# PY7L Series D70mm LED Signal Tower Light NEW

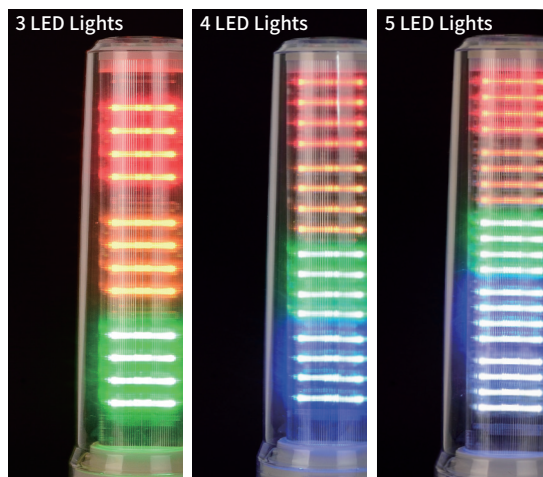


The PY7 series is a circular 70mm LED tower light which can be utilized for many purposes with low maintenance cost and excellent energy saving effect. The entire upper LED display is made transparent and smooth that minimizes the adsorption of water and dust. So it is very efficient for maintenance. Also, the LED display state transmitted through the inner lens has excellent visibility for long distance.



## Product Feature

- Fixing method of 4 products
- 3 body colors (ivory, black, silver)
- LED 3, 4, 5 stages are available
- Buzzer tone: Continuous / intermittent sound can be selected
- Variety power specifications



## Ordering information

**PY7L** **P** - **Z302** - **RYG** - **B**

①    ②③④    ⑤    ⑥

### ① Mounting Type

|   |  |
|---|--|
| P | Aluminium pipe + Fixation using aluminum mounting base                                     |
| M | Secure the product body directly onto the control panel (1/2" NPT) with a plastic nut      |
| G | Two surface mounts on the body ensure that the body is fixed directly to the control panel |
| L | Directly fasten aluminum pipe with screws - Using nut (M20)                                |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| B       | Steady + Buzzer            |
| F       | Steady + Flashing          |
| Z       | Steady + Flashing + Buzzer |

### ③ Number of Stack

|   |              |
|---|--------------|
| 3 | 3 LED Lights |
| 4 | 4 LED Lights |
| 5 | 5 LED Lights |

### ④ Power Supply

|    |            |
|----|------------|
| 02 | 24VDC      |
| FF | 110~220VAC |

### ⑥ Body Color

|   |                      |
|---|----------------------|
| I | Ivory                |
| B | Black                |
| C | Silver matte coating |

### ⑤ LED Color (Top to Bottom)

|       |                                     |
|-------|-------------------------------------|
| RYG   | Red + Yellow + Green                |
| RGB   | Red + Blue + Green                  |
| RYGB  | Red + Yellow + Green + Blue         |
| RYGBW | Red + Yellow + Green + Blue + White |

## Specifications

|                                |   |
|--------------------------------|---|
| Function                       | Steady, Flashing, Buzzer  |
| Power supply                   | 24VDC, 110~220VAC (50~60Hz)   |
| Allowable voltage range        | 24VDC: 21.6~26.4VDC<br>110~220VAC: 100~240VAC   |
| Flashing rate                  | 24VDC <input type="checkbox"/> 75±5/min<br>110~220VAC <input type="checkbox"/>  |
| Buzzer volume                  | Continuous sound: 80±5dB <input type="checkbox"/><br>Intermittent sound: 80±5dB <input type="checkbox"/> (at 1M)<br>※You can select only one of two buzzer sounds to use. |
| Lens color                     | Transparent (inner and outer) - PC Resin  |
| Mounting method                | Vertical only   |
| Connection method              | Exposed wire connection method  |
| Ambient temperature            | -20°C ~ 50°C  |
| Storage ambient 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)<br>Double amplitude 0.75mm X, Y, Z  |
| Connection                     | UL1007/22AWG  |
| Protection structure           | IP65 (with Buzzer type: IP62)   |
| Approval                       | CE(24V Only), RoHS  |
| Weight (DC type) (Buzzer type) | PY7LP type: app. 555g<br>PY7LL type: app. 520g<br>PY7LG type: app. 320g<br>PY7LM type: app. 310g  |

Note: Life of the LED varies according to operating conditions and environment

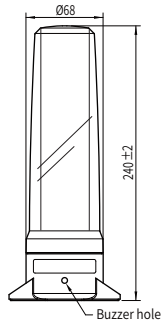
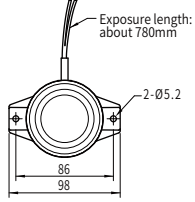
## Current consumption (RMS±10%)

| Stack    | LED Color | 24VDC   |        | 110~220VAC |        |
|----------|-----------|---------|--------|------------|--------|
|          |           | General | Buzzer | General    | Buzzer |
| 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  |

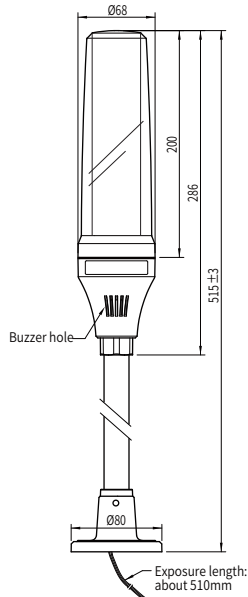
## Dimensions (unit: mm)

### ▼ PY7LG type

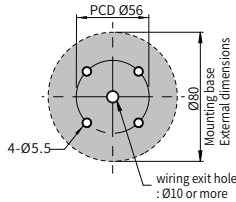
#### <Mounting hole>



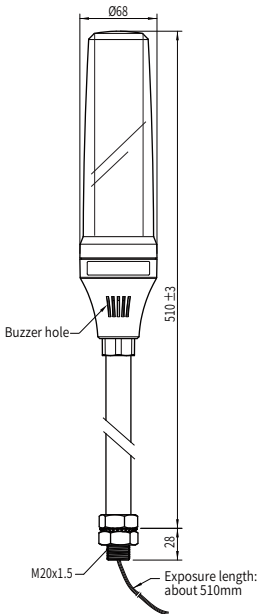
### ▼ PY7LP type



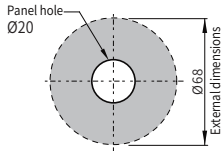
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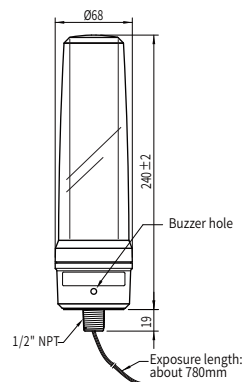
### ▼ PY7LL type



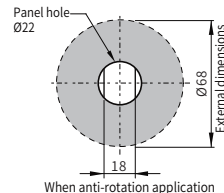
#### <Mounting hole>



### ▼ PY7LM type



#### <Mounting hole>



## Optional Parts

### Wall Mounting Bracket

#### PY7■L type only

MAM-DS25  
Steel



#### PY7■G/P type only

MAM-DS38  
Steel



#### PY7■P/M type only

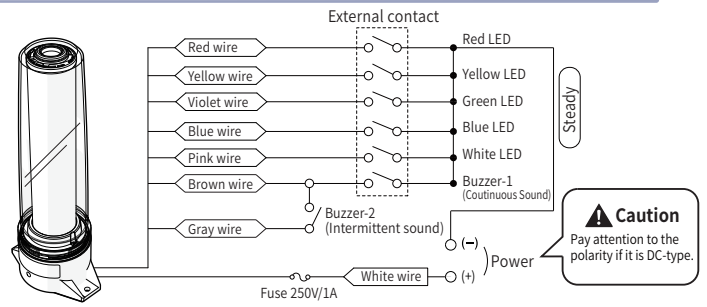
MAM-DS10  
Steel



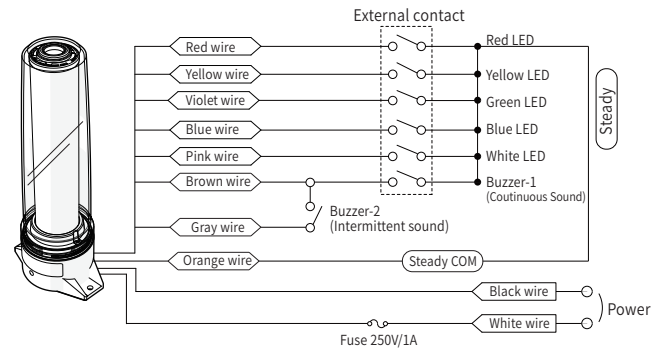
See Page 80 ~ 81 >> for Mounting Options and Accessories.

## Connection diagram

### 24VDC

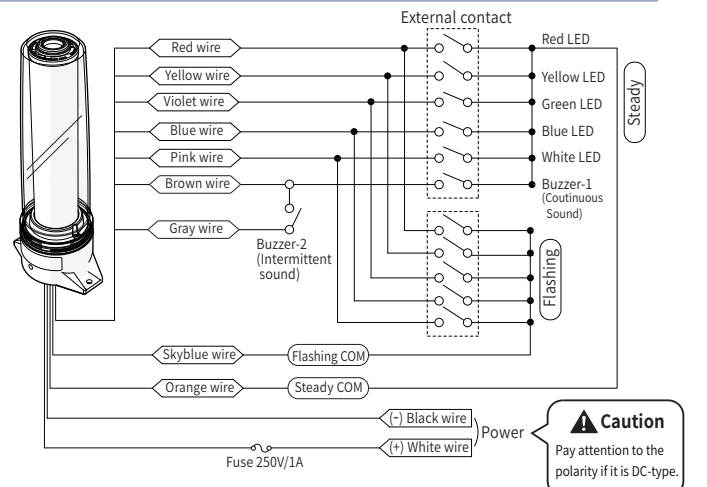


### 110~220VAC



Do not connect the power line and flashing or steady lines. (Orange wire) It may cause damage to the product.

### 24VDC, 110~220VAC



Do not connect the power line and flashing or steady lines. (Orange/Skyblue wire) It may cause damage to the product.

# PY7M Series D70mm multi-colored LED Signal tower light NEW



The PY7M series is an economical 70mm LED tower light that can transmit 7 colors of signals in one stage. The entire upper LED display is made transparent and smooth that minimizes the adsorption of water and dust. So it is very efficient for maintenance. Also, the LED display state transmitted through the inner lens has excellent visibility for long distance.



## Product Feature

- Fixing method of 4 products
- 3 body colors (ivory, black, silver)
- RBG color products - 7 color combinations available
- Buzzer tone: Cintermittent sound
- Variety power specifications

## RBG Color Possibilities (7 colors)



## Ordering information

**PY7M P - Z 02 - RBG - B**

①
②
③
④
⑤

### ① Mounting Type

|   |  |
|---|--|
| P | Aluminium pipe + Fixation using aluminum mounting base                                     |
| M | Secure the product body directly onto the control panel (1/2 " NPT) with a plastic nut     |
| G | Two surface mounts on the body ensure that the body is fixed directly to the control panel |
| L | Directly fasten aluminum pipe with screws - Using nut (M20)                                |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| B       | Steady + Buzzer            |
| F       | Steady + Flashing          |
| Z       | Steady + Flashing + Buzzer |

### ③ Power Supply

|    |            |
|----|------------|
| 02 | 24VDC      |
| FF | 110~220VAC |

### ⑤ Body Color

|   |                      |
|---|----------------------|
| I | Ivory                |
| B | Black                |
| C | Silver matte coating |

### ④ LED Colors

|     |                      |
|-----|----------------------|
| RBG | Red + Blue + Green   |
| RYG | Red + Yellow + Green |

## 소비전류 (RMS ±10%)

| LED color | 24VDC   |        | 110~220VAC |            |
|-----------|---------|--------|------------|------------|
|           | General | Buzzer | General    | Buzzer     |
| RYG       | 0.20A   | 0.22A  | 0.04~0.09A | 0.05~0.09A |
| RBG       | 0.22A   | 0.23A  | 0.05~0.10A | 0.06~0.10A |

## Specifications

|                                |  |
|--------------------------------|--|
| Function                       | Steady, Flashing, Buzzer   |
| Power supply                   | 24VDC, 110~220VAC (50~60Hz)  |
| Allowable voltage range        | 24VDC: 21.6~26.4VDC<br>110~220VAC: 100~240VAC  |
| Flashing rate                  | 24VDC  70±5/min<br>110~220VAC  70±5/min  |
| Buzzer volume                  | Intermittent sound: 75±5dB (at 1M)   |
| Lens color                     | Transparent (inner and outer) - PC Resin   |
| Mounting method                | Vertical only  |
| Connection method              | Exposed wire connection method   |
| Ambient temperature            | -20°C ~ 50°C   |
| Storage ambient 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)<br>Double amplitude 0.75mm X, Y, Z                                       |
| Connection                     | UL1007/22AWG   |
| Protection structure           | IP65 (with Buzzer type: IP62)  |
| Approval                       | RoHS   |
| Weight (DC type) (Buzzer type) | PY7MP type: app. 555g<br>PY7ML type: app. 520g<br>PY7MG type: app. 320g<br>PY7MM type: app. 310g |

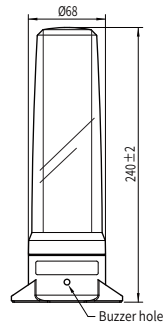
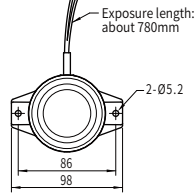
Note: Life of the LED varies according to operating conditions and environment



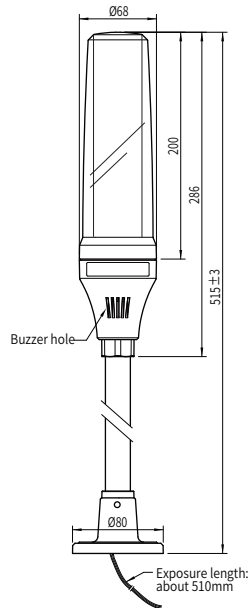
## Dimensions (unit: mm)

### ▼ PY7MG type

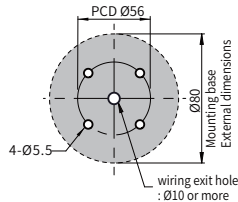
#### <Mounting hole>



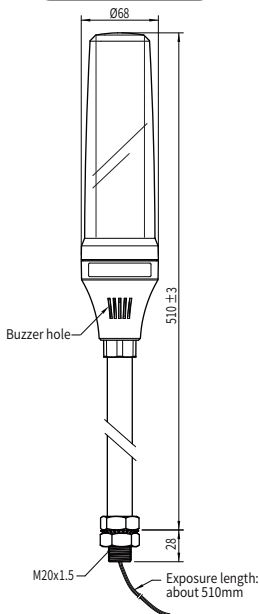
### ▼ PY7MP type



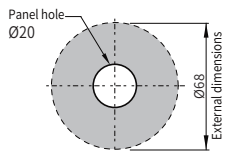
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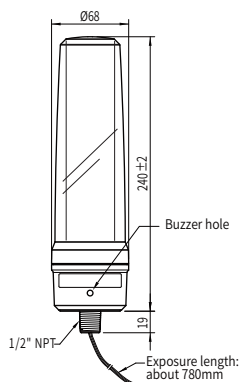
### ▼ PY7ML type



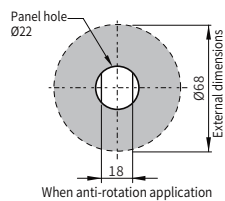
#### <Mounting hole>



### ▼ PY7MM type



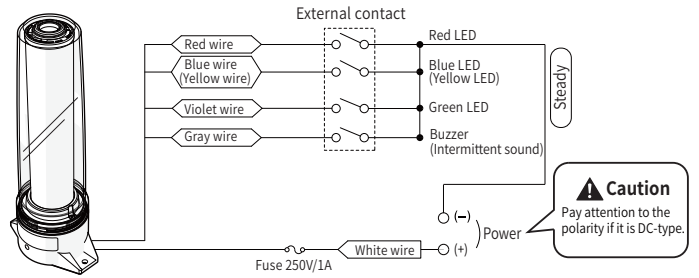
#### <Mounting hole>



## Connection diagram

24VDC

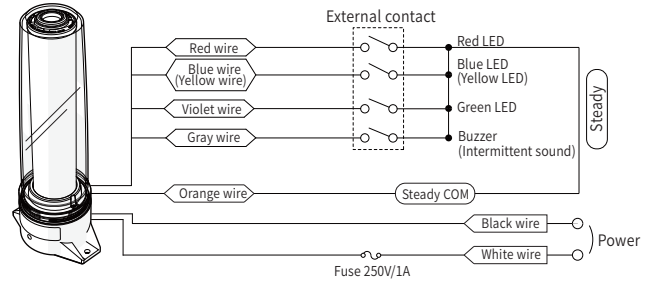
Steady / Buzzer



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

110~220VAC

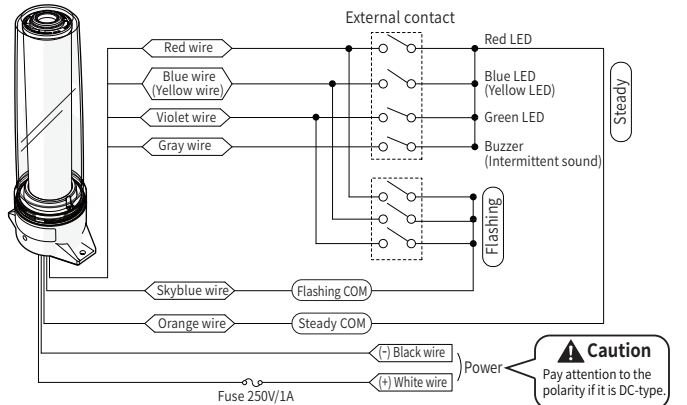
Steady / Buzzer



**Caution**  
Do not connect the power line and flashing or steady lines. (Orange wire) It may cause damage to the product.

24VDC, 110~220VAC

Steady / Flashing / Buzzer



**Caution**  
Do not connect the power line and flashing or steady lines. (Orange/Skyblue wire) It may cause damage to the product.

## RBG 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     |

## Optional Parts

### Wall Mounting Bracket

#### PY7L type only

MAM-DS25  
Steel



#### PY7G/P type only

MAM-DS38  
Steel



#### PY7P/M type only

MAM-DS10  
Steel



See Page 80 ~ 81 >> for Mounting Options and Accessories.

# PY7T Series D70mm multi-colored LED Signal tower light NEW



Except Buzzer type

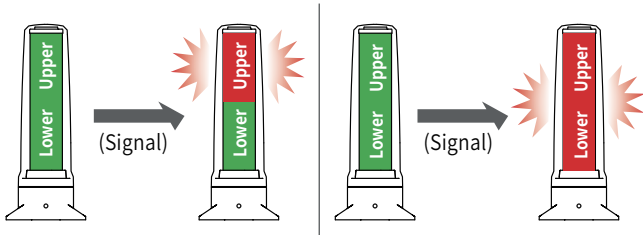
This 3 colors in 1 signal light offers wide visibility and multi-channel analog input. When one signal line is activated the LEDs illuminate the entire screen, and when the second line is activated the screen splits in two showing two different colors.

## Product Feature

- Fixing method of 4 products
- 3 body colors (ivory, black, silver)
- Buzzer tone: Cintermittent sound
- Variety power specifications



“New concept LED indicator that can transmit 1 or 2 color signals on one display window”



## Ordering information

**PY7T** **P** - **F02** - **RBG** - **B**

①    ②    ③                    ④                    ⑤

### ① Mounting Type

|   |  |
|---|--|
| P | Aluminium pipe + Fixation using aluminum mounting base                                     |
| M | Secure the product body directly onto the control panel (1/2 " NPT) with a plastic nut     |
| G | Two surface mounts on the body ensure that the body is fixed directly to the control panel |
| L | Directly fasten aluminum pipe with screws - Using nut (M20)                                |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| B       | Steady + Buzzer            |
| F       | Steady + Flashing          |
| Z       | Steady + Flashing + Buzzer |

### ③ Power Supply

|    |            |
|----|------------|
| 02 | 24VDC      |
| FF | 110~220VAC |

### ④ LED Color

|     |                    |
|-----|--------------------|
| RBG | Red + Blue + Green |
|-----|--------------------|

### ⑤ Body Color

|   |                      |
|---|----------------------|
| I | Ivory                |
| B | Black                |
| C | Silver matte coating |

## Specifications

|                                |  |
|--------------------------------|--|
| Function                       | Steady, Flashing, Buzzer   |
| Power supply                   | 24VDC, 110~220VAC (50~60Hz)  |
| Allowable voltage range        | 24VDC: 21.6~26.4VDC<br>110~220VAC: 100~240VAC  |
| Flashing rate                  | 24VDC: _____<br>110~220VAC: 70±5/min   |
| Buzzer volume                  | Intermittent sound: 75±5dB (at 1M)   |
| Lens color                     | Transparent (inner and outer) - PC Resin   |
| Mounting method                | Vertical only  |
| Connection method              | Exposed wire connection method   |
| Ambient temperature            | -20°C ~ 50°C   |
| Storage ambient 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)<br>Double amplitude 0.75mm X, Y, Z                                       |
| Connection                     | UL1007/22AWG   |
| Protection structure           | IP65 (with Buzzer type: IP62)  |
| Approval                       | RoHS   |
| Weight (DC type) (Buzzer type) | PY7TP type: app. 555g<br>PY7TL type: app. 520g<br>PY7TG type: app. 320g<br>PY7TM type: app. 310g |

Note: Life of the LED varies according to operating conditions and environment

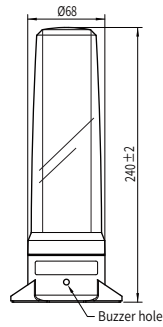
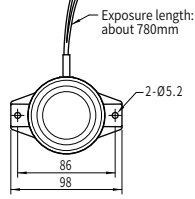
## Current consumption (RMS ±10%)

| LED Color    | 24VDC        |             | 110~220VAC   |             |
|--------------|--------------|-------------|--------------|-------------|
|              | General type | Buzzer type | General type | Buzzer type |
| RBG Products | 0.22A        | 0.23A       | 0.05~0.10A   | 0.06~0.10A  |

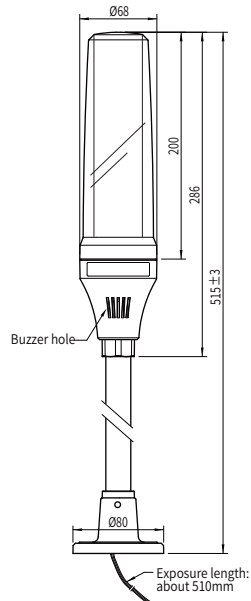
## Dimensions (unit: mm)

### ▼ PY7TG type

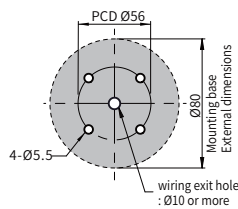
#### <Mounting hole>



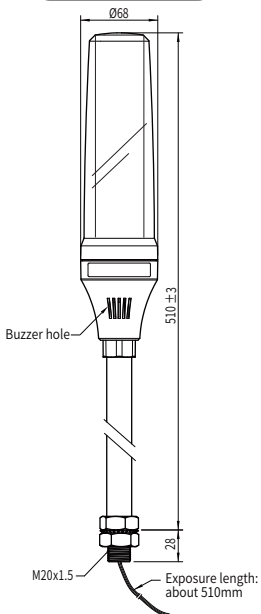
### ▼ PY7TP type



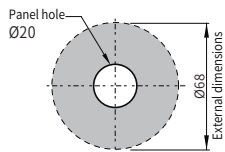
#### <Mounting hole>



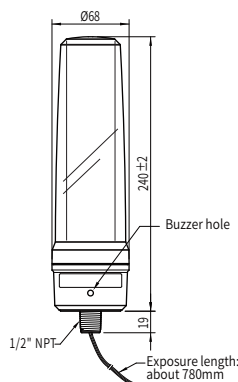
### ▼ PY7TL type



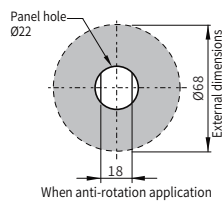
#### <Mounting hole>



### ▼ PY7TM type



#### <Mounting hole>



## Optional Parts

### Wall Mounting Bracket

#### PY7■L type only

MAM-DS25  
Steel



#### PY7■G/P type only

MAM-DS38  
Steel



#### PY7■ P/M type only

MAM-DS10  
Steel

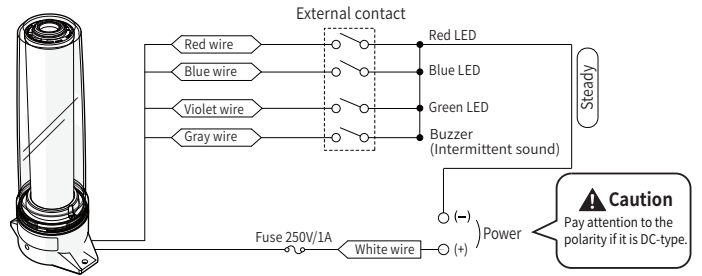


See Page 80 ~ 81 >> for Mounting Options and Accessories.

## Connection diagram

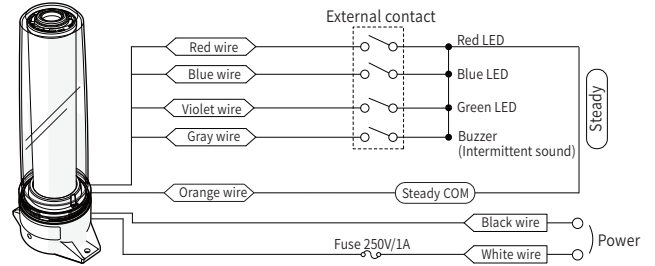
### 24VDC

Steady / Buzzer



### 110~220VAC

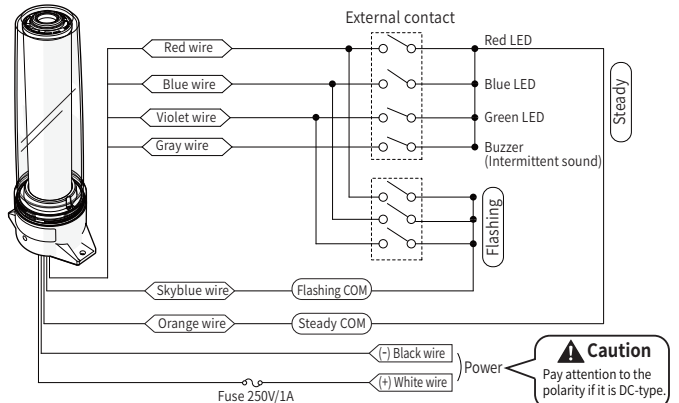
Steady / Buzzer



**Caution** Do not connect the power line and flashing or steady lines. (Orange wire) It may cause damage to the product.

### 24VDC, 110~220VAC

Steady / Flashing / Buzzer



**Caution** Do not connect the power line and flashing or steady lines. (Orange/Skyblue wire) It may cause damage to the product.

## Operating condition

### RGB Light-Output truth table

| 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<br>1: Open condition |                      |                         |                  |               |

# PTE Series D56mm Modular Style LED Tower Light



PTE series tower lights combine the latest LED technology with UL safety technology. With a new concept and innovative design, PTE series tower lights are ideal for factory automation and many applications.

## Ordering information

PTE - **A** **P** **F** - **3** **02** - **RYG** - **B** (H) **W**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

### ① Body Style

|   |                                     |                                    |
|---|-------------------------------------|------------------------------------|
| S | Flat mounting long body             | Apply to Mounting Type<br><b>C</b> |
| A | Pole mount long body                |                                    |
| D | Pole mount short body (24V only)    | <b>G / P / R / M / W / D / J</b>   |
| L | Flat mounting short body (24V only) |                                    |
|   |                                     | <b>P / R / M / W / D / J</b>       |
|   |                                     | <b>C</b>                           |

### ② Mounting Type

|    |   |
|----|---|
| C  | Body direct fixed (M20 Screw)                           |
| G  | Plastic mount base (MAM-B070F)                          |
| P  | Aluminum Pole + Plastic mount base (MAM-B070D)          |
| R* | Aluminum Pole + Plastic rotation mount base (MAM-B070R) |
| M  | Aluminum Pole + M20 screw Plastic mount base (MAM-I025) |
| W  | Aluminum Pole + Wall mount bracket (MAP-DS40)           |
| D  | Aluminum Pole + Aluminum mount base (MAM-DS32)          |
| J  | Aluminum Pole adjustable length + Plastic mount base    |

\* NOTE: "R" type Mount base - 180-degree revolution

### ③ Light Style

|         |   |
|---------|---|
| No mark | Steady  |
| F       | Steady + Flashing                             |
| B       | Steady + Buzzer (Fixed Sound)                 |
| V       | Steady + Buzzer (Adjustable Sound)            |
| Z       | Steady + Flashing + Buzzer (Fixed Sound)      |
| X       | Steady + Flashing + Buzzer (Adjustable Sound) |

### ④ Number of Stack

|   |            |
|---|------------|
| 1 | 1 Stack    |
| 2 | 2 Stacks   |
| 3 | 3 Stacks   |
| 4 | 4 Stacks   |
| 5 | 5 Stacks** |

\*\*Buzzer inapplicable

### ⑤ Power Supply

|    |           |
|----|-----------|
| 02 | 24VAC/DC  |
| FF | 90~240VAC |

### ⑥ Lens Color (Top to bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ⑦ Body Color (Option)

|   |       |
|---|-------|
| B | Black |
|---|-------|

### ⑧ Functional option (Option)

|     |  |
|-----|--|
| (H) | Adjustable Sound<br>- 100dB type<br>- Model: MPZ-56H |
| (C) | Continuous sound                                     |
| (V) | Continuous flashing<br>- 240times/minute             |

### ⑨ Lens Color (Option)

|   |                         |
|---|-------------------------|
| W | All Lens Colors - Clear |
|---|-------------------------|

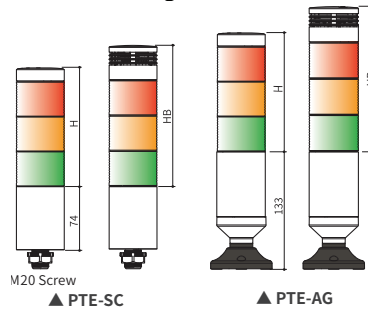
## Product Feature

- Stylish design
- LED modular components
- Bright & even light distribution through prism-cut lenses
- Fast & easy assembly with inter-locking construction
- 7 mounting options
- Optional 80dB Buzzer (fixed or adjustable volume)
- IP65 rated

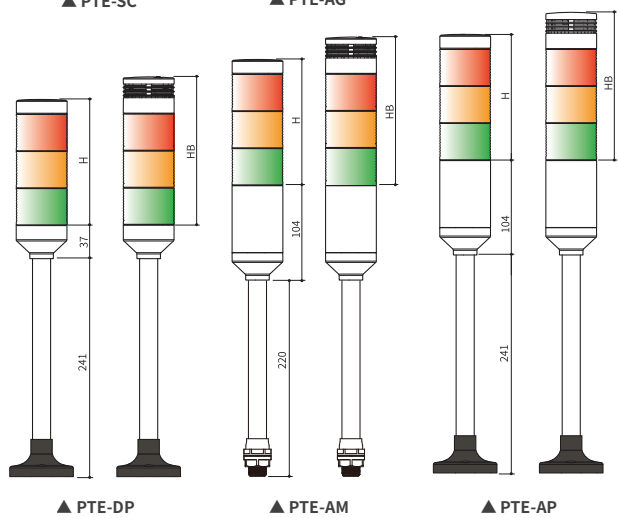


## Dimensions <Unit: ±2mm>

Standard Pole Length : 225mm



|          | H   | HB  |
|----------|-----|-----|
| 1 Stack  | 56  | 81  |
| 2 Stacks | 97  | 122 |
| 3 Stacks | 138 | 163 |
| 4 Stacks | 179 | 204 |
| 5 Stacks | 220 |     |



## Optional Parts

### Wall Mounting Bracket



MAM-DS28  
Steel



MAM-DS25  
Steel



MAP-DS30  
Plastic

See Page 80 ~ 81 >> for Mounting Options and Accessories.

## LED Module



▲ PTE-02-R

▲ PTE-02-Y

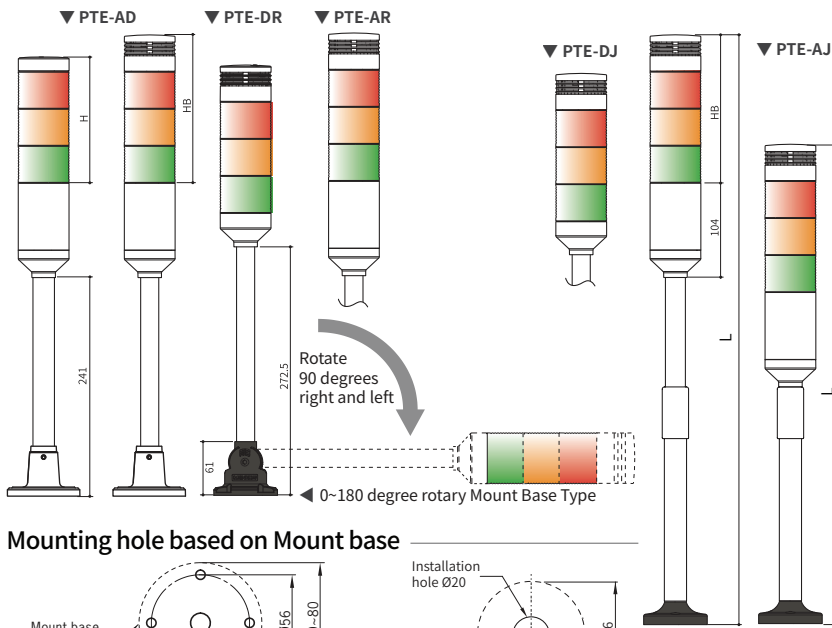
▲ PTE-02-G

▲ PTE-02-B

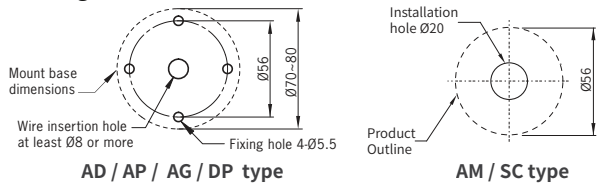
▲ PTE-02-C

## LED Module Current Consumption

| LED color                  | Red          | Yellow       | Green/Blue/Clear |
|----------------------------|--------------|--------------|------------------|
| Current / Power (24V) ±10% | 33mA / 0.77W | 27mA / 0.62W | 42mA / 1.00W     |
| Weight                     | App. 43.0g   |              |                  |



### Mounting hole based on Mount base



## Specifications

|                          |   |
|--------------------------|---|
| Function                 | Steady, Flashing, Buzzer                        |
| Power Supply             | 24VAC/DC, 90~240VAC (AC 50/60Hz)                |
| LED color                | Red, Yellow, Green, Blue, White                 |
| Dimension                | 56mm  |
| Maximum stacked quantity | Standard type: 5 stacks (Buzzer type: 4 stacks) |
| Flashing rate            | 80±5 times/minute                               |
| Lens color               | Red, Yellow, Green, Blue, Clear                 |
| Mounting method          | Vertical only                                   |
| Connection method        | Lead wire connection                            |
| Ambient temperature      | -15 ~ 40°C                                      |
| Storage temperature      | -20 ~ 70°C                                      |
| Ambient humidity         | 45~85% RH                                       |
| Vibration                | 0.75mm at 10~55Hz                               |
| Connection               | UL1007 / 22AWG                                  |
| Approval                 | UL, CE, RoHS                                    |
| Protection structure     | IP65 (Buzzer type: IP50)                        |

Note: Life of LED varies according to operating conditions and environment.

### Current Consumption (RMS±10%)

| Stack | LED Colors | Power supply |        |           |        |
|-------|------------|--------------|--------|-----------|--------|
|       |            | 24VAC/DC     |        | 90~240VAC |        |
|       |            | General      | Buzzer | General   | Buzzer |
| 1s    | R          | 33mA         | 65mA   | 17mA      | 47mA   |
| 2s    | R+G        | 75mA         | 105mA  | 39mA      | 70mA   |
| 3s    | R+Y+G      | 102mA        | 135mA  | 56mA      | 90mA   |
| 4s    | R+Y+G+B    | 144mA        | 180mA  | 75mA      | 105mA  |
| 5s    | R+Y+G+B+W  | 186mA        | -      | 97mA      | -      |

### Buzzer Kits

|              |                                     |                        |                  |
|--------------|-------------------------------------|------------------------|------------------|
| Sound type   | Standard Buzzer Sound - pi pi pi pi |                        |                  |
| Model        | MPZ-56F                             | MPZ-56G                | MPZ-56H          |
| Sound style  | Fixed Sound                         | Adjustable Sound Level |                  |
| Sound volume | 80±5dB at 1M                        | 10~80±5dB at 1M        | 10~100±5dB at 1M |
| Current      | 30mA                                |                        | 150mA            |



Sound Level Adjuster  
Model: MPZ-56G, MPZ-56H

### PTE - AJ type (The chart data based on Buzzer type)

| Type | Product Length (Min ~ Max ±5mm) |          |          | Adjusting range | Exposed wiring (±50mm) |
|------|---------------------------------|----------|----------|-----------------|------------------------|
|      | 2s                              | 3s       | 4s       |                 |                        |
| A    | 370~410                         | 410~450  | 450~490  | 40mm            | 732~622                |
| B    | 395~460                         | 435~500  | 475~540  | 65mm            | 692~752                |
| C    | 440~520                         | 480~560  | 520~600  | 80mm            | 622~702                |
| D    | 525~710                         | 565~750  | 605~790  | 185mm           | 432~617                |
| E    | 665~960                         | 705~1000 | 745~1040 | 295mm           | 183~477                |

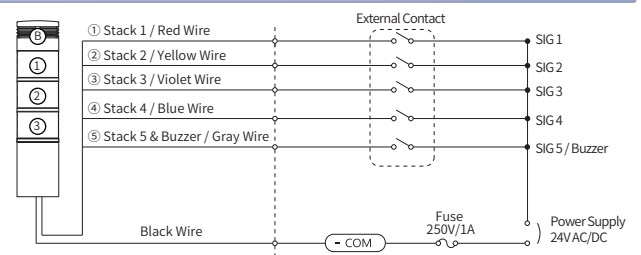
### PTE - DJ type (The chart data based on Buzzer type)

| Type | Product Length (Min ~ Max ±5mm) |         |         | Adjusting range | Exposed wiring (±50mm) |
|------|---------------------------------|---------|---------|-----------------|------------------------|
|      | 2s                              | 3s      | 4s      |                 |                        |
| A    | 302~342                         | 344~384 | 384~424 | 40mm            | 649~689                |
| B    | 327~392                         | 368~433 | 409~474 | 65mm            | 609~669                |
| C    | 372~425                         | 414~494 | 454~534 | 80mm            | 539~619                |
| D    | 457~642                         | 499~684 | 539~724 | 185mm           | 604~704                |
| E    | 597~892                         | 639~934 | 679~974 | 295mm           | 250~544                |

## Connection Diagram

### 24VAC/DC

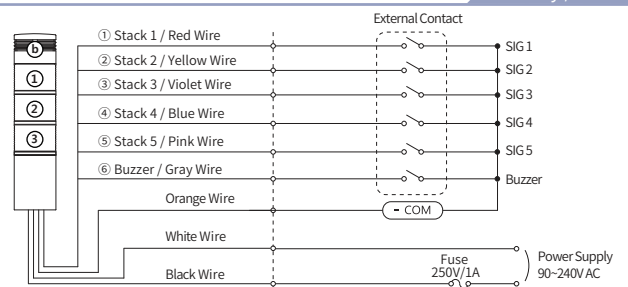
Steady / Buzzer



\* No polarity for DC applications.

### 90~240VAC

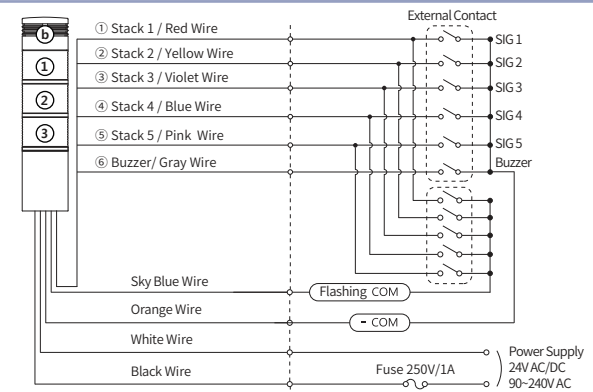
Steady / Buzzer



Do not connect the power line and flashing or steady lines. (Orange wire) It may cause damage to the product.

### 24VAC/DC, 90~240VAC

Steady / Flashing / Buzzer



\* No polarity for DC applications.



Do not connect the power line and flashing or steady lines. (Orange/Skyblue wire) It may cause damage to the product.

# PTM Series D56mm LED 3 Colors in 1 Tower Light



## Product Feature

- Bright & even light distribution through prism-cut lenses
- Fast & easy assembly with inter-locking construction
- Optional 80dB Buzzer (fixed or adjustable volume)
- 3 colors in 1 LED modular components
- 4 mounting options
- IP65 rated



## Ordering information

**PTM - A P F - 1 02 - RYG - B**

① ② ③ ④ ⑤ ⑥ ⑦

### ① Body Style

|   |                                     |                           |
|---|-------------------------------------|---------------------------|
| S | Flat mounting long body             | C                         |
| A | Pole mount long Body                | G / P / R / M / W / D / J |
| D | Pole mount short Body (24V only)    | P / R / M / W / D / J     |
| L | Flat mounting Short body (24V only) | C                         |

### ② Mounting Type

|   |  |
|---|--|
| C | Body direct fixed (M20 Screw)                      |
| G | Plastic mount base (MAM-B070F)                     |
| P | Aluminum Pole + Plastic mount base (MAM-B070D)     |
| M | Aluminum Pole + M20 screw plastic mount (MAM-I025) |
| W | Aluminum Pole + Wall mount bracket (MAP-DS40)      |

### ③ Light Style

|         |   |
|---------|---|
| No mark | Steady  |
| F       | Steady + Flashing                             |
| B       | Steady + Buzzer (Fixed Sound)                 |
| V       | Steady + Buzzer (Adjustable Sound)            |
| Z       | Steady + Flashing + Buzzer (Fixed Sound)      |
| X       | Steady + Flashing + Buzzer (Adjustable Sound) |

### ④ Number of Stack

|   |         |
|---|---------|
| 1 | 1 Stack |
|---|---------|

### ⑤ Power Supply

|    |           |
|----|-----------|
| 02 | 24VAC/DC  |
| FF | 90~240VAC |

### ⑥ LED Color

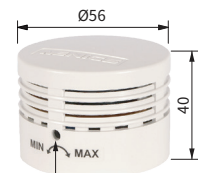
|     |                      |
|-----|----------------------|
| RYG | Red + Yellow + Green |
| RGB | Red + Green + Blue   |

### ⑦ Body Color (Option)

|   |       |
|---|-------|
| B | Black |
|---|-------|

## Buzzer Kits

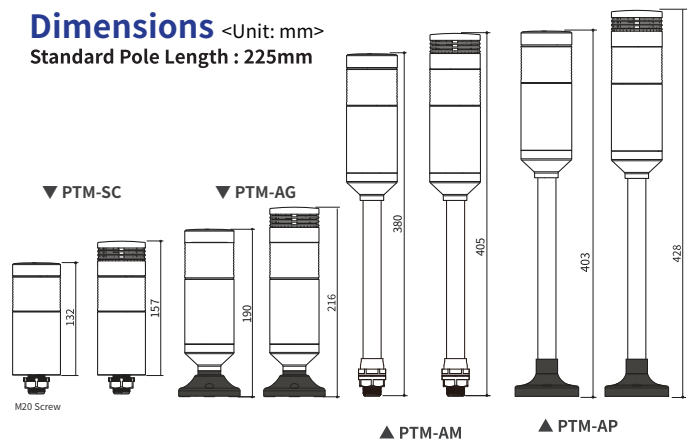
|              |                                     |                        |                  |
|--------------|-------------------------------------|------------------------|------------------|
| Sound type   | Standard Buzzer Sound - pi pi pi pi |                        |                  |
| Model        | MPZ-56F                             | MPZ-56G                | MPZ-56H          |
| Sound Style  | Fixed Sound                         | Adjustable Sound Level |                  |
| Sound Volume | 80±5dB at 1M                        | 10-80±5dB at 1M        | 10-100±5dB at 1M |
| Current      | 30mA                                |                        | 150mA            |



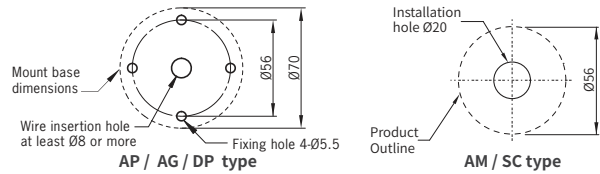
Sound Level Adjuster  
Model: MPZ-56G, MPZ-56H

## Dimensions <Unit: mm>

Standard Pole Length : 225mm



## Mounting hole based on Mount base



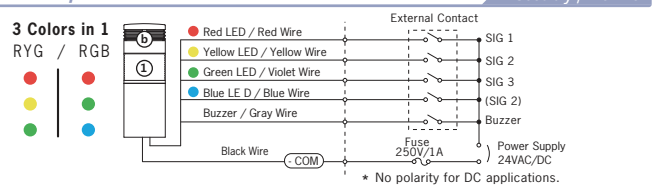
## Specifications

|                      |  |                             |                      |
|----------------------|--|-----------------------------|----------------------|
| Function             | Steady , Flashing , Buzzer   |                             |                      |
| Power Supply         | 24VAC/DC, 90~240VAC (AC 50/60Hz)   |                             |                      |
| Current consumption  | Standard type : 24VAC/DC - 35mA, 90~240VAC - 16mA<br>Buzzer type : 24VAC/DC - 80mA, 90~240VAC - 22mA |                             |                      |
| Flashing rate        | 80±5times/minute   |                             |                      |
| LED color            | RYG (Red, Yellow, Green), RGB (Red, Green, Blue)   |                             |                      |
| Lens color           | Clear  | Maximum stacked quantity    | Max 1 stack          |
| Mounting method      | Vertical only  | Connection method           | Lead Wire connection |
| Ambient temperature  | -15 ~ 40°C   | Storage ambient temperature | -20 ~ 70°C           |
| Ambient humidity     | 45~85% RH  | Vibration                   | 0.75mm at 10~55Hz    |
| Connection           | UL1007/22AWG   | Approval                    | UL, CE, RoHS         |
| Protection structure | IP65 (Buzzer type: IP50)   |                             |                      |

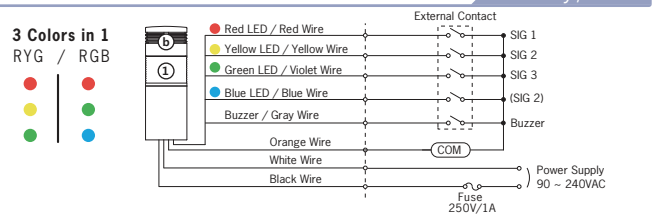
Note: Life of LED varies according to operating conditions and environment.

## Connection diagram

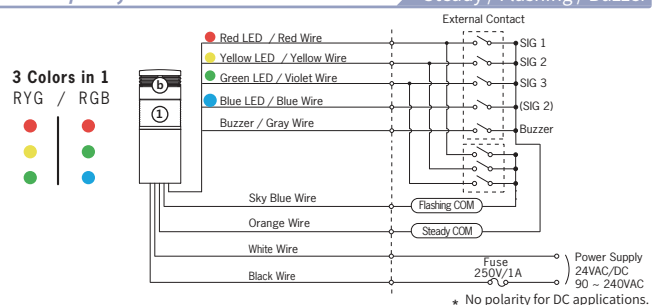
### 24VAC/DC



### 90~240VAC



### 24VAC/DC, 90~240VAC



# PTD Series D56mm LED Dome Head type Tower Light



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



## Ordering information

**PTD - A P F - 102 - R - B**

① ② ③ ④ ⑤ ⑥ ⑦

### ① Body Style

|   |                                     |  |
|---|-------------------------------------|--|
| S | Flat mounting long body             | Apply to Mounting Type<br><b>C</b><br><b>G / P / R / M / W / D</b><br><b>P / R / M / W / D</b><br><b>C</b> |
| A | Pole mount long Body                |  |
| D | Pole mount short Body (24V only)    |  |
| L | Flat mounting Short body (24V only) |  |

### ② Mounting Type

|   |   |
|---|---|
| C | Body direct fixed (M20 Screw)                       |
| G | Plastic mount base (MAM-B070F)                      |
| P | Aluminum Pole + Plastic mount base (MAM-B070D)      |
| M | Aluminum Pole + M20 screw plastic mount (MAM-1025)  |
| W | Aluminum Pole + Wall mount bracket (MAP-DS40)       |
| D | Aluminum Pole + Aluminum Pole mount base (MAM-DS32) |

### ③ Light Style

|         |                   |
|---------|-------------------|
| No mark | Steady            |
| F       | Steady + Flashing |

### ④ Number of Stack

|   |         |
|---|---------|
| 1 | 1 Stack |
|---|---------|

### ⑤ Power Supply

|    |           |
|----|-----------|
| 02 | 24VAC/DC  |
| FF | 90~240VAC |

### ⑥ Lens Color

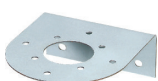
|     |  |                                   |
|-----|--|-----------------------------------|
| R   | Red  | 1 Color                           |
| Y   | Yellow   |                                   |
| G   | Green  |                                   |
| B   | Blue   |                                   |
| C   | Clear  |                                   |
| RYG | Red + Yellow + Green<br>(All lens color-clear) | 3 Color<br>in 1<br>(LED<br>color) |
| RGB | Red + Green + Blue<br>(All lens color-clear)   |                                   |

### ⑦ Body Color (Option)

|   |       |
|---|-------|
| B | Black |
|---|-------|

## Optional Parts

### Wall Mounting Bracket



**MAM-DS28**  
Steel



**MAM-DS25**  
Steel



**MAP-DS30**  
Plastic

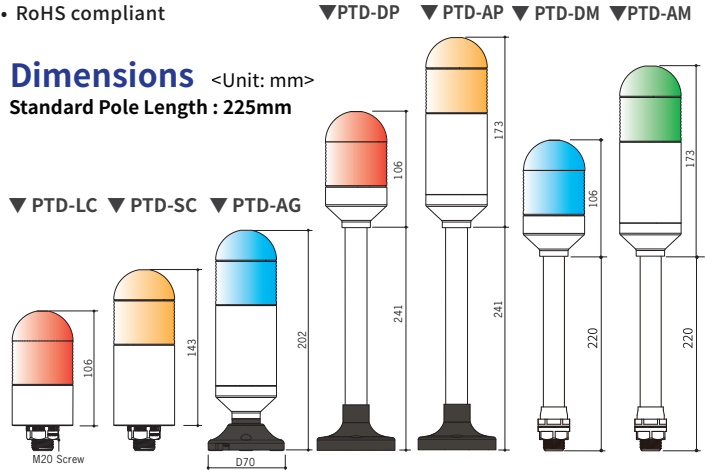
See Page 80 ~ 81 >> for Mounting Options and Accessories.

## Product Feature

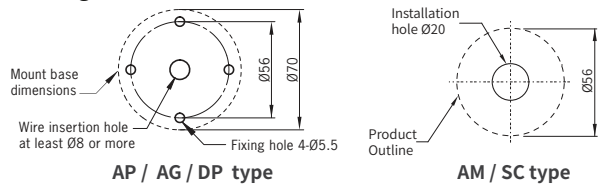
- LED modular components
- Bright & even light distribution through prism-cut lenses
- Fast & easy assembly with inter-locking construction
- 4 mounting options
- IP65 rated
- RoHS compliant

## Dimensions <Unit: mm>

Standard Pole Length : 225mm



## Mounting hole based on Mount base



## Specifications

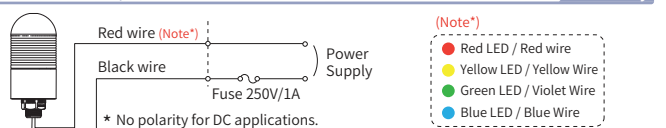
|                     |                                 |                             |                |
|---------------------|---------------------------------|-----------------------------|----------------|
| Function            | Steady, Flashing                |                             |                |
| Power supply        | 24VAC/DC, 90~240VAC (50/60Hz)   |                             |                |
| Lens color          | Red, Yellow, Green, Blue, Clear |                             |                |
| Lens diameter       | 56 mm                           | Maximum stacked quantity    | Max 1 stack    |
| Flashing rate       | 80±5 times/min                  |                             |                |
| Vibration           | 0.75mm at 10~55Hz               |                             |                |
| Ambient temperature | -15°C ~ 40°C                    | Storage ambient Temperature | -20°C ~ 70°C   |
| Ambient humidity    | 45 ~ 85% RH                     | Protection structure        | IP65           |
| Approval            | CE, UL, RoHS                    | Connection                  | UL1007 / 22AWG |

### Current consumption (±10%)

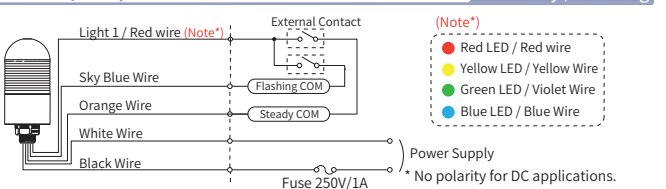
| Power supply      | 24VAC/DC | 90~240VAC |
|-------------------|----------|-----------|
| 1 Color Lens      | 65mA     | 32mA      |
| 3 Colors in 1 LED | 52mA     | 26mA      |

## Connection Diagram

### 24VAC/DC, 90~240VAC



### 24VAC/DC, 90~240VAC



NOTE : Refer PTM Wiring Diagram for RGB, RYG 3 colors

# PL4 Series D45mm LED Tower Light



PL4 Series is multifunctional 45mm LED Tower Light. It features low maintenance and high energy efficiency.



## Product Feature

- 1~5 Stacks
- Built-in Buzzer: 75±5dB
- Various operating voltages
- High visibility from every angle through prism-cut lens
- Various mounting options and accessories

## Specifications

|                             |  |
|-----------------------------|--|
| Function                    | Steady, Flashing, Buzzer   |
| Power supply                | 12VAC/DC, 24VAC/DC, 12~24VAC/DC<br>110~220VAC (AC 50/60Hz)                               |
| LED color                   | Red, Yellow, Green, Blue, Clear  |
| Dimension                   | 45mm   |
| Maximum stacked quantity    | Up to 5 Stacks   |
| Flashing rate               | 12VDC - 75±5 times/minute<br>12VAC, 24VAC/DC _____ 80±5 times/minute<br>110~220VAC _____ |
| Buzzer volume (Maximum)     | Intermittent sound : 75±5dB (pi- pi- pi-)<br>Continuous sound : 75±5dB (pi- - -)         |
| Lens color                  | Red, Yellow, Green, Blue, Clear  |
| Mounting method             | Vertical only  |
| Connection method           | Lead wire connection   |
| Ambient temperature         | -20°C ~ 40°C   |
| Storage ambient temperature | -20°C ~ 70°C   |
| Ambient humidity            | 45~85% RH  |
| Vibration                   | 0.75mm at 10~55Hz  |
| Connection                  | UL1007 / 22AWG   |
| Approval                    | CE, RoHS   |
| Protection structure        | IP63 (Buzzer type: IP52)   |

## Ordering information

PL4 - **G** **Z** - **3** **FF** - **RYG** - **W** (BC)

① ② ③ ④ ⑤ ⑥ ⑦

※ option

### ① Mounting Type

|   |   |
|---|---|
| M | Aluminum Pole + M20 screw plastic mount |
| P | Aluminum Pole + Plastic mount base      |
| G | Plastic mount base                      |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| B       | Steady + Buzzer            |
| F       | Steady + Flashing          |
| Z       | Steady + Flashing + Buzzer |

### ⑤ Lens Color (Top to bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ③ Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ④ Power Supply

|    |  |
|----|--|
| 01 | 12VAC/DC<br>(Steady, Buzzer function only) |
| 02 | 24VAC/DC<br>(Steady, Buzzer function only) |
| 00 | 12 ~ 24VAC/DC                              |
| FF | 110 ~ 220VAC                               |

### ⑥ Lens Color

|   |                       |
|---|-----------------------|
| W | All Lens Colors-Clear |
|---|-----------------------|

### ⑦ Option

|     |                                  |
|-----|----------------------------------|
| (B) | Black Body                       |
| (C) | Buzzer continuous sound(pi- - -) |

## Current Consumption (RMS value ±10%)

| Stacks | LED Colors | Single power |        |          |        |
|--------|------------|--------------|--------|----------|--------|
|        |            | 12VAC/DC     |        | 24VAC/DC |        |
|        |            | General      | Buzzer | General  | Buzzer |
| 1S     | R          | 0.05A        | 0.07A  | 0.03A    | 0.08A  |
| 2S     | R+G        | 0.10A        | 0.12A  | 0.06A    | 0.10A  |
| 3S     | R+Y+G      | 0.15A        | 0.15A  | 0.09A    | 0.13A  |
| 4S     | R+Y+G+B    | 0.20A        | 0.20A  | 0.12A    | 0.16A  |
| 5S     | R+Y+G+B+C  | 0.25A        | 0.25A  | 0.15A    | 0.20A  |

| Stacks | LED Colors | Free voltage power |        |               |        |
|--------|------------|--------------------|--------|---------------|--------|
|        |            | 12~24VAC/DC        |        | 110~220VAC/DC |        |
|        |            | General            | Buzzer | General       | Buzzer |
| 1S     | R          | 0.22A              | 0.25A  | 0.03A         | 0.03A  |
| 2S     | R+G        | 0.30A              | 0.32A  | 0.05A         | 0.06A  |
| 3S     | R+Y+G      | 0.38A              | 0.38A  | 0.07A         | 0.07A  |
| 4S     | R+Y+G+B    | 0.46A              | 0.46A  | 0.09A         | 0.09A  |
| 5S     | R+Y+G+B+C  | 0.52A              | 0.52A  | 0.11A         | 0.11A  |

## Optional Parts

### Wall Mounting Bracket



**MAM-DS28**  
Steel



**MAM-DS25**  
Steel



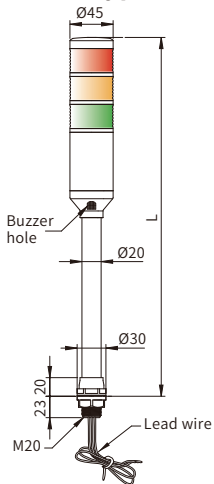
**MAP-DS30**  
Plastic

See Page 80 ~ 81 >> for Mounting Options and Accessories.



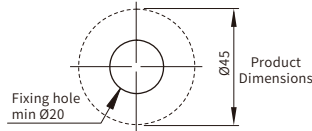
## Dimensions <Unit: mm>

### ▼ PL4M type

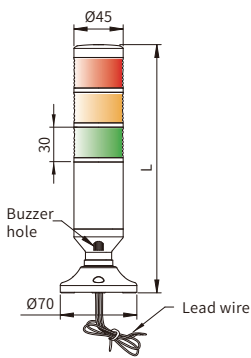


| Product length<br>L±2 | Weight<br>(g) | Exposed<br>wiring ±20 |
|-----------------------|---------------|-----------------------|
| 1s                    | 320           | 213                   |
| 2s                    | 350           | 227                   |
| 3s                    | 380           | 242                   |
| 4s                    | 410           | 256                   |
| 5s                    | 440           | 271                   |

#### <Mounting hole>

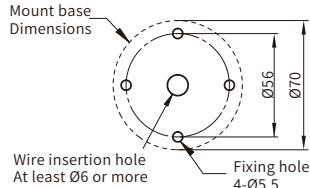


### ▼ PL4G type

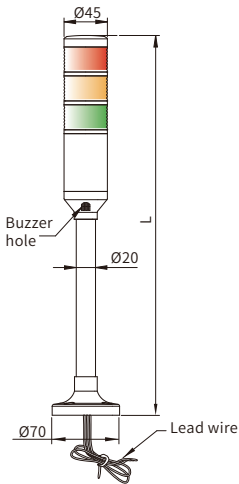


| Product length<br>L±2 | Weight<br>(g) | Exposed<br>wiring ±20 |
|-----------------------|---------------|-----------------------|
| 1s                    | 162           | 158                   |
| 2s                    | 192           | 172                   |
| 3s                    | 222           | 187                   |
| 4s                    | 252           | 201                   |
| 5s                    | 282           | 216                   |

#### <Mounting hole>

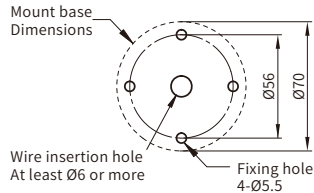


### ▼ PL4P type



| Product length<br>L±2 | Weight<br>(g) | Exposed<br>wiring ±20 |
|-----------------------|---------------|-----------------------|
| 1s                    | 334           | 229                   |
| 2s                    | 364           | 244                   |
| 3s                    | 394           | 258                   |
| 4s                    | 424           | 273                   |
| 5s                    | 454           | 287                   |

#### <Mounting hole>

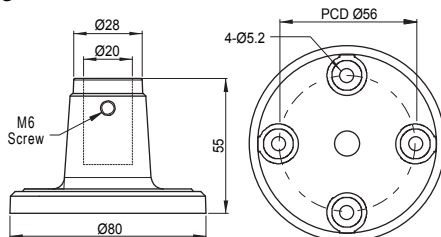


## Optional Parts

### Aluminum Mount base



MAM-DS32  
aluminum



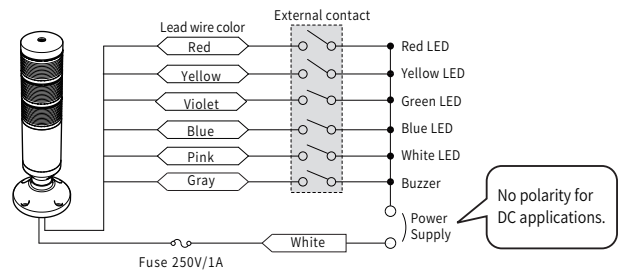
※ In case of PL4P type, there is no change in total length although the Aluminum mount base is replaced.

## Connection Diagram

12VAC/DC  
24VAC/DC

Steady , Steady + Buzzer

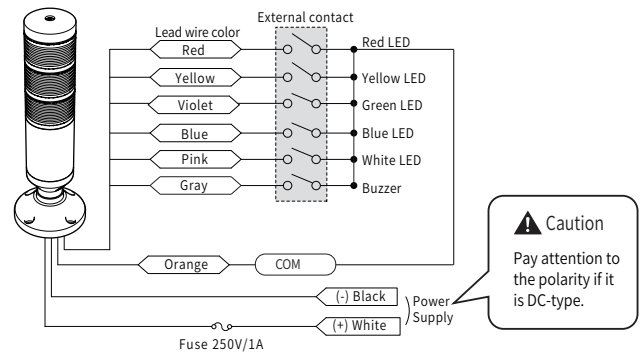
PL4■-■01 | PL4■B-■01  
PL4■-■02 | PL4■B-■02



12~24VAC/DC  
110~220VAC

Steady , Steady + Buzzer

PL4■-■00 | PL4■-■FF  
PL4■B-■00 | PL4■B-■FF



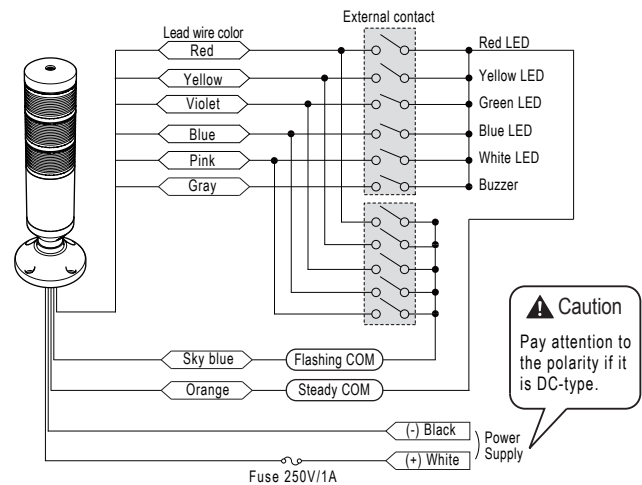
**Attention**

Do not connect the power line and flashing or steady lines.  
(Orange wire)  
It may cause damage to the product.

12~24VAC/DC  
110~220VAC

Steady + Flashing + Buzzer

PL4■Z-■00  
PL4■Z-■FF



**Attention**

Do not connect the power line and flashing or steady lines.  
(Orange wire, Sky blue wire)  
It may cause damage to the product.

# PME Series D45mm Moduler Style LED Tower Light



PME Series features low maintenance and energy efficiency using the latest in LED technology.



## Ordering information

**PME GF - 3 02 - RYG**

### ① Mounting Type

|   |   |
|---|---|
| M | Aluminum Pole + M20 screw plastic mount |
| P | Aluminum Pole + Plastic mount base      |
| G | Plastic mount base                      |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| B       | Steady + Buzzer            |
| F       | Steady + Flashing          |
| Z       | Steady + Flashing + Buzzer |

Note: Buzzer type - 12, 24V only

### ③ Number of Stack

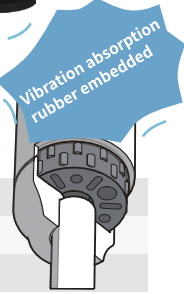
|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ④ Power Supply

|    |             |
|----|-------------|
| 01 | 12VAC/DC    |
| 02 | 24VAC/DC    |
| FF | 90 ~ 240VAC |

### ⑤ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |



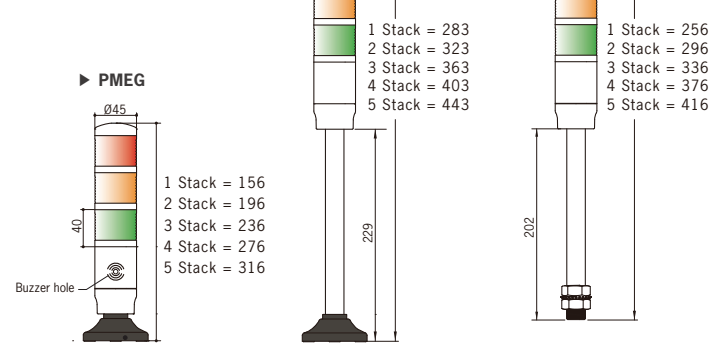
## Specifications

|                             |  |
|-----------------------------|--|
| Dimension                   | 45mm   |
| Power supply                | 12VAC/DC, 24VAC/DC, 90~240VAC (50/60Hz)                                |
| Maximum stacked quantity    | Up to 5 Stacks   |
| Flashing rate               | 80 ± 5 times/minute  |
| Buzzer volume               | 80 ± 5dB at 1M - (12V, 24V only available)                             |
| Lens color                  | Red, Yellow, Green, Blue, Clear  |
| Ambient temperature         | -15°C ~ 40°C   |
| Storage ambient temperature | -20°C ~ 70°C   |
| Ambient humidity            | 45~85% RH (no condensation)  |
| Insulation resistance       | 100MΩ minimum (500VDC megger)  |
| Vibraton                    | 0.75mm at 10~55Hz  |
| Material                    | Body: ABS resin Lens: PC resin<br>Pole: Aluminum Mount base: PA6 resin |
| Mounting method             | - Pole mount - Direct Mount  |
| Approval                    | CE, RoHS   |
| Protection structure        | IP52   |
| Connection                  | UL1007 / 22AWG   |

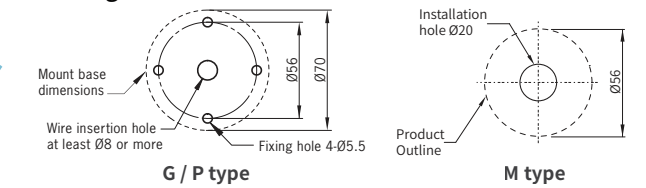
Note: Life of the LED varies according to operating conditions and environment

## Dimensions

<Unit: mm>



## Mounting hole based on Mount base



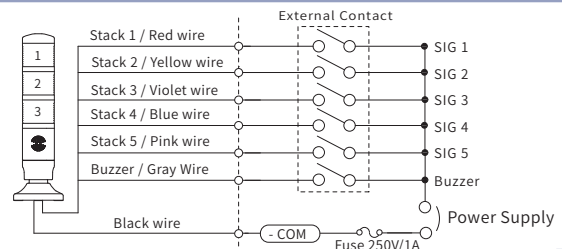
## Current Consumption (RMS value ±10%)

| Power supply |         | 1stack | 2stacks | 3stacks | 4stacks | 5stacks |
|--------------|---------|--------|---------|---------|---------|---------|
| 12V          | General | 0.06A  | 0.10A   | 0.17A   | 0.20A   | 0.24A   |
|              | Buzzer  | 0.07A  | 0.11A   | 0.18A   | 0.21A   | 0.25A   |
| 24V          | General | 0.03A  | 0.07A   | 0.11A   | 0.15A   | 0.18A   |
|              | Buzzer  | 0.06A  | 0.09A   | 0.14A   | 0.17A   | 0.20A   |
| 90 ~ 240V    | General | 0.02A  | 0.05A   | 0.07A   | 0.10A   | 0.12A   |

## Connection Diagram

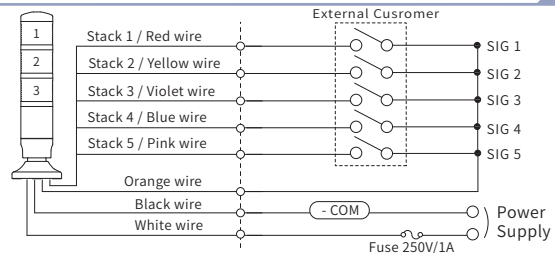
### 12/24VAC/DC

Steady / Buzzer



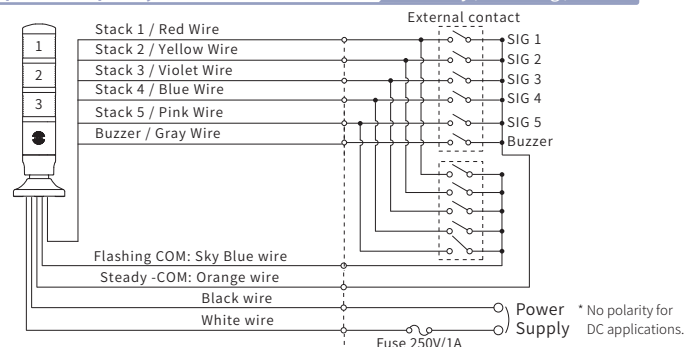
### 90~240VAC

Steady



### 12/24VAC/DC, 90~240VAC

Steady / Flashing / Buzzer



\* No polarity for DC applications.

# MP8 Series D86mm LED Tower Light - Plastic Body type



High Brightness



The unique prism-cut globe provides wide radiance, high intensity, bright color and higher quality than other similar type products.

## Product Feature

- Menics Exclusive Hybrid Prism Cut Lens.
- Enhanced Illumination: Special high intensity illumination design.
- Installation: Base direct mount, Plastic Mount base
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission
- Available Colors: Red / Yellow / Green / Blue / Clear
- Mounting : Upright Only
- This product complies with the RoHS Directive

## Ordering information

**MP8 C - F 3 00 - RYG - B**

① ② ③ ④ ⑤ ⑥

### ① Mounting Type

|   |                    |
|---|--------------------|
| C | Body direct fixed  |
| G | Plastic mount base |

### ④ Power Supply

|    |               |
|----|---------------|
| 00 | 12 ~ 24VAC/DC |
| FF | 90 ~ 240VAC   |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| F       | Steady + Flashing          |
| B       | Steady + Flashing + Buzzer |

### ⑤ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ③ Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ⑥ Body Color

|         |       |
|---------|-------|
| No mark | Ivory |
| B       | Black |

## Specifications

|                             |  |
|-----------------------------|--|
| Dimension                   | 86mm   |
| Power supply                | 12~24VAC/DC, 90~240VAC (50/60Hz)                 |
| Function                    | Steady, Flashing, Buzzer                         |
| Lens Color                  | Red / Yellow / Green / Blue / Clear              |
| Maximum stacked quantity    | 1 ~ 5 can be stacked                             |
| Mounting method             | Body direct mounting, Plastic mount base         |
| Flashing rate               | 80±10 times / minute                             |
| Buzzer volume               | min 10 ~ max 100 ±5dB (at 1M), Volume adjustable |
| Body color                  | White / Black (option)                           |
| Ambient temperature         | -15°C ~ 40°C                                     |
| Storage ambient temperature | -20°C ~ 70°C                                     |
| Ambient humidity            | 45~85% RH  |
| Insulation resistance       | 100MΩ minimum (500VDC megger)                    |
| Vibration                   | 0.75mm at 10~55Hz                                |
| Protection structure        | IP65 / IP40 (with Buzzer)                        |
| Connection                  | UL1007/22AWG                                     |

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

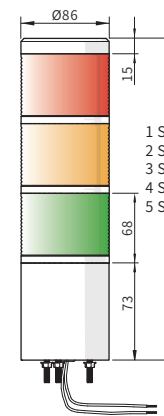
## Current Consumption

See Page 20 >> for Current Consumption

## Dimensions <Unit: mm>

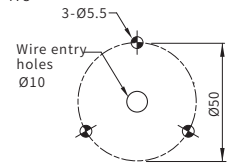
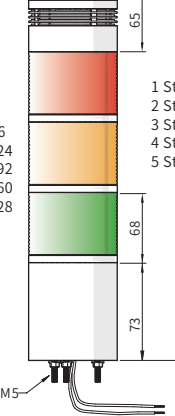
### ■ MP8C

### ■ MP8C-F



### ■ MP8C-B

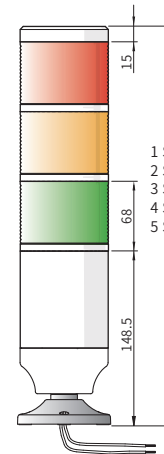
### ■ MP8C-F



▲ Body direct mounting Fixing Hole

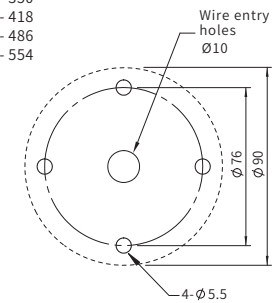
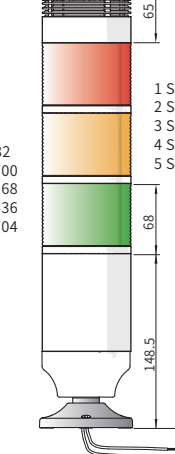
### ■ MP8G

### ■ MP8G-F



### ■ MP8G-B

### ■ MP8G-F



▲ Plastic mount base Fixing Hole (MP8G - Type)

## Connection Diagram

See Page 20 >> for Connection Diagram

## Optional Parts

### Wall Mounting Bracket



MAP-DS30  
ABS resin



MAM-DS26  
Steel



MAM-DS28  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# ML8 Series 86mm LED Tower Light - Aluminum Body type



High Brightness

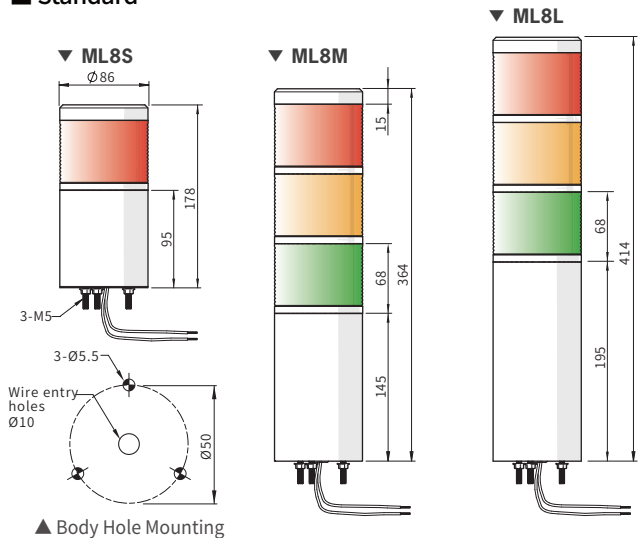
The ML8 Series are direct mounted LED Tower light with rust free aluminum body.

## Product Feature

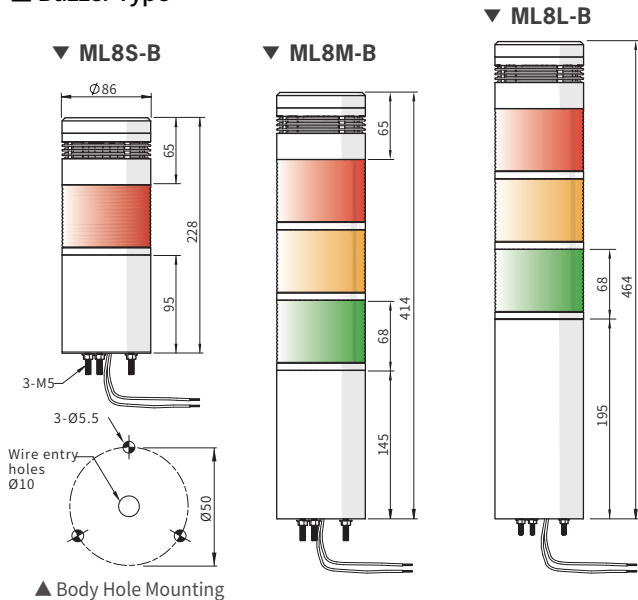
- Menics Exclusive Hybrid Prism Cut Lens.
- Enhanced Illumination: Special high intensity illumination design.
- Installation: Direct mount
- Main Body: Corrosion resistant anodizing aluminum.
- Lens: Superior impact and heat resistant polycarbonate resin for durability and light transmission
- Available Colors: Red / Yellow / Green / Blue / Clear
- 3 types of Body Length
- Mounting : Upright Only
- This product complies with the RoHS Directive

## Dimensions <Unit: mm>

### Standard



### Buzzer Type



### Product Length

|               | Model  | 1 Stack | 2 Stacks | 3 Stacks | 4 Stacks | 5 Stacks |
|---------------|--------|---------|----------|----------|----------|----------|
| Standard Type | ML8S   | 178     | 246      | 314      | 382      | 450      |
|               | ML8M   | 228     | 296      | 364      | 432      | 500      |
|               | ML8L   | 278     | 346      | 414      | 482      | 550      |
| Buzzer Type   | ML8S-B | 228     | 296      | 364      | 432      | 500      |
|               | ML8M-B | 278     | 346      | 414      | 482      | 550      |
|               | ML8L-B | 328     | 396      | 464      | 532      | 600      |

## Ordering information

ML8 **M** - **F** **3** **00** - **RYG** - **B**

① ② ③ ④ ⑤ ⑥

### ① Body Length

|   |                     |
|---|---------------------|
| S | 100mm Aluminum body |
| M | 150mm Aluminum body |
| L | 200mm Aluminum body |

### ④ Power Supply

|    |               |
|----|---------------|
| 00 | 12 ~ 24VAC/DC |
| FF | 90 ~ 240VAC   |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| F       | Steady + Flashing          |
| B       | Steady + Flashing + Buzzer |

### ⑤ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ③ Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ⑥ Body Color

|         |       |
|---------|-------|
| No mark | Ivory |
| B       | Black |

## Specifications

|                             |  |
|-----------------------------|--|
| Dimension                   | 86mm   |
| Power supply                | 12~24VAC/DC, 90~240VAC (50/60Hz)                 |
| Function                    | Steady, Flashing, Buzzer                         |
| Lens color                  | Red / Yellow / Green / Blue / Clear              |
| Maximum stacked quantity    | 1 ~ 5 can be stacked                             |
| Mounting method             | Body direct mounting                             |
| Flashing rate               | 80±10 times / minute                             |
| Buzzer volume               | min 10 ~ max 100 ±5dB (at 1M), Volume adjustable |
| Body color                  | White / Black (option)                           |
| Ambient temperature         | -15°C ~ 40°C                                     |
| Storage ambient temperature | -20°C ~ 70°C                                     |
| Ambient humidity            | 45~85% RH  |
| Insulation resistance       | 100MΩ minimum (500VDC megger)                    |
| Vibration                   | 0.75mm at 10~55Hz                                |
| Protection structure        | IP65 / IP40 (with Buzzer)                        |
| Connection                  | UL1007/22AWG                                     |

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

## Current Consumption

See Page 20 >> for Current Consumption

## Connection Diagram

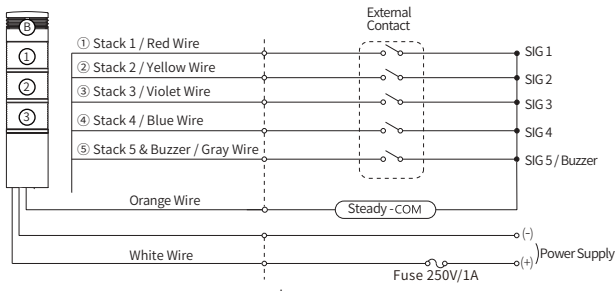
See Page 20 >> for Connection Diagram

# Connection Diagram

## MP8/ML8 Series

12~24VAC/DC, 90~240VAC

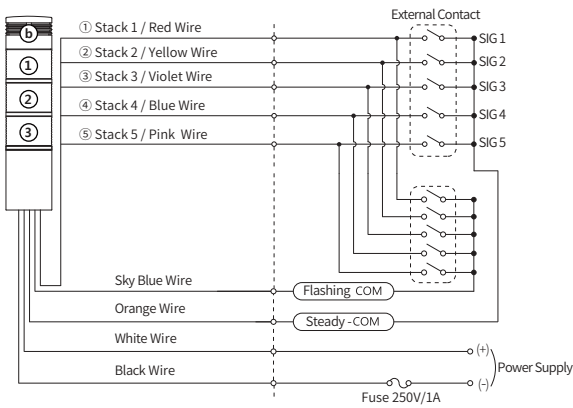
Steady / Buzzer



\* The case of the DC power Polarity attention

12~24VAC/DC, 90~240VAC

Steady / Flashing



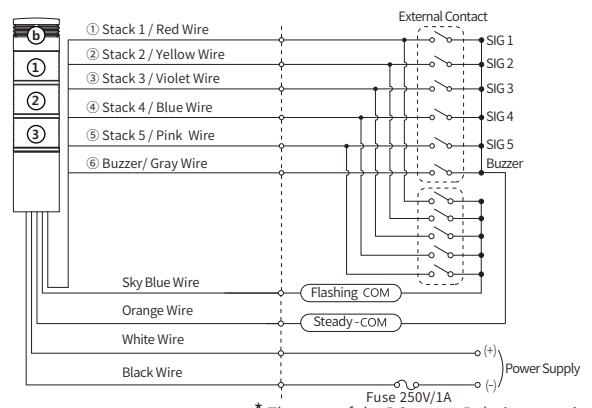
\* The case of the DC power Polarity attention



Do not connect the power line and flashing or steady lines. (Orange/Skyblue wire) It may cause damage to the product.

12~24VAC/DC, 90~240VAC

Steady / Flashing / Buzzer



\* The case of the DC power Polarity attention



Do not connect the power line and flashing or steady lines. (Orange/Skyblue wire) It may cause damage to the product.

## MP8/ML8 series Current Consumption (RMS value $\pm 10\%$ )

| Power supply |         | 1stack | 2stacks | 3stacks | 4stacks | 5stacks |
|--------------|---------|--------|---------|---------|---------|---------|
| 12~24V       | General | 0.15A  | 0.30A   | 0.40A   | 0.50A   | 0.60A   |
|              | Buzzer  | 0.17A  | 0.32A   | 0.42A   | 0.52A   | 0.62A   |
| 90~240V      | General | 0.02A  | 0.04A   | 0.05A   | 0.06A   | 0.07A   |
|              | Buzzer  | 0.03A  | 0.04A   | 0.05A   | 0.06A   | 0.07A   |

## ML8 Series Optional Parts

### Wall Mounting Bracket



**MAP-DS30**  
ABS resin



**MAM-DS26**  
Steel

See Page 80 ~ 81 >> for detail dimensions.

# PLD Series D25mm LED Tower Light-Aluminum Body type



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



## Product Feature

- Hybrid Prism Cut Lens
- Enhanced Illumination: Special high intensity illumination design.
- Installation: Direct mount with a single hole.
- Main Body: Corrosion resistant anodizing aluminum.
- Lens: polycarbonate resin
- Body Length: PLDS 60mm / PLDM 100mm / PLDL 200mm
- Mounting : Indoor & Upright Only
- This product conforms to the CE requirements and shows the CE Marking
- This product complies with the RoHS Directive

## Ordering information

**PLD M - F 3 02 - RYG (W)**

① ② ③ ④ ⑤ ⑥

### ① Body Length

|   |                     |
|---|---------------------|
| S | 65mm Aluminum Body  |
| M | 100mm Aluminum Body |
| L | 200mm Aluminum Body |

### ② Light Style

|         |                   |
|---------|-------------------|
| No mark | Steady            |
| F       | Steady + Flashing |

### ③ Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ④ Power Supply

|    |       |
|----|-------|
| 01 | 12VDC |
| 02 | 24VDC |

### ⑤ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ⑥ Lens color (option)

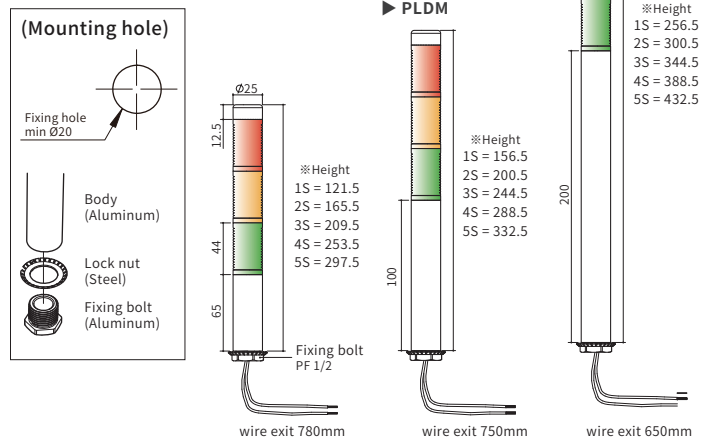
|     |                        |
|-----|------------------------|
| (W) | All lens color - Clear |
|-----|------------------------|

## Specifications

|                             |                                 |                 |
|-----------------------------|---------------------------------|-----------------|
| Dimension                   | 25mm                            |                 |
| Power supply                | 12VDC, 24VDC                    |                 |
| Function                    | Steady, Flashing                |                 |
| Flashing rate               | 80±5 times/minute               |                 |
| Maximum stacked quantity    | Up to 5 Stacks                  |                 |
| Lens color                  | Red, Yellow, Green, Blue, Clear |                 |
| Ambient temperature         | -15°C ~ 40°C                    |                 |
| Storage ambient temperature | -20°C ~ 70°C                    |                 |
| Ambient humidity            | 45~85% RH (no condensation)     |                 |
| Insulation resistance       | 100MΩ minimum (500VDC megger)   |                 |
| Vibraton                    | 0.75mm at 10~55Hz               |                 |
| Material                    | Pole Body: Aluminum             | Lens: PC resin  |
|                             | Fixing bolt: Aluminum           | Lock Nut: Steel |
| Mounting method             | Body direct mount               |                 |
| Approval                    | CE, RoHS                        |                 |
| Protection structure        | IP52                            |                 |
| Connection                  | UL1007 / 22AWG                  |                 |

Note: Life of the LED varies according to operating conditions and environment

## Dimensions (Unit:mm)



## Current Consumption (RMS ±10%)

| Number of stack | 12VDC | 24VDC |
|-----------------|-------|-------|
| 1stack          | 0.07A | 0.03A |
| 2stacks         | 0.14A | 0.07A |
| 3stacks         | 0.21A | 0.10A |
| 4stacks         | 0.28A | 0.13A |
| 5stacks         | 0.35A | 0.16A |

## Optional Parts Wall Mounting Bracket

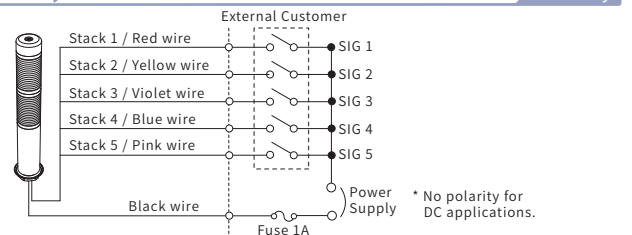


**MAM-DS25 Steel**

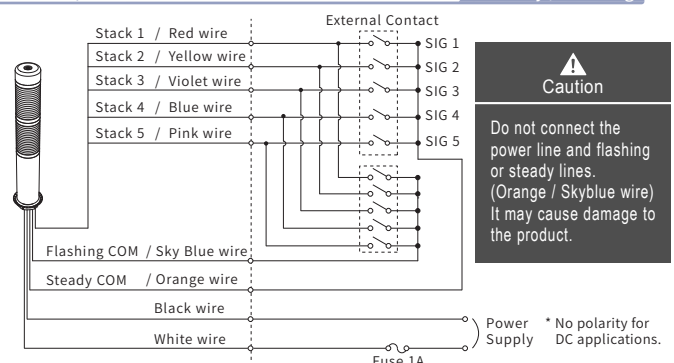
See Page 80 ~ 81 >> for Mounting Options and Accessories.

## Connection Diagram

### 12VDC, 24VDC



### 12VDC, 24VDC



# MSGT Series Cubic Tower LED Warning Light with 5 Sounds

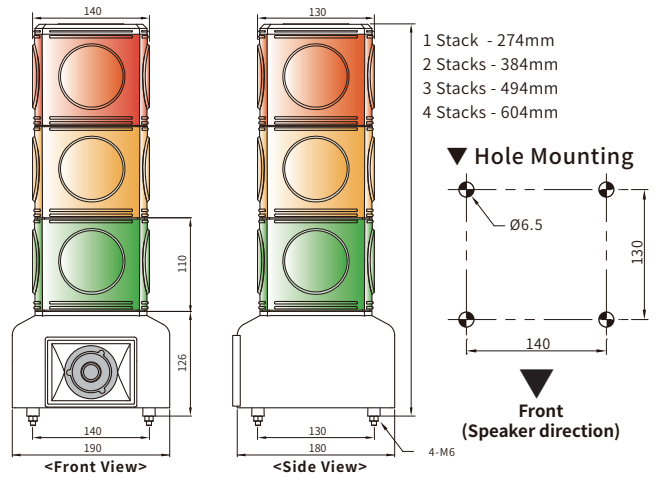


built in sounds-  
3 types of siren,  
2 types of melody



MSGT Series has excellent visibility and brightness with a dual reflection system both indoors and outdoors regardless of LED functions. You can easily control each LED functions with the built-in mode change switches. MSGT Series features more than 100dB(1M) volume, high quality sound and maintenance free operation.

## Dimensions <Unit: mm>



## Ordering information

**MSGT - 3 20 - RYG**

| ① Number of Stack |          | ② Power Supply |          |    |       |    |        |
|-------------------|----------|----------------|----------|----|-------|----|--------|
| 1                 | 1 Stack  | 3              | 3 Stacks | 01 | 12VDC | 10 | 110VAC |
| 2                 | 2 Stacks | 4              | 4 Stacks | 02 | 24VDC | 20 | 220VAC |

| ③ Lens Color (Top to Bottom) |        |   |       |
|------------------------------|--------|---|-------|
| R                            | Red    | B | Blue  |
| Y                            | Yellow | G | Green |

## Specifications

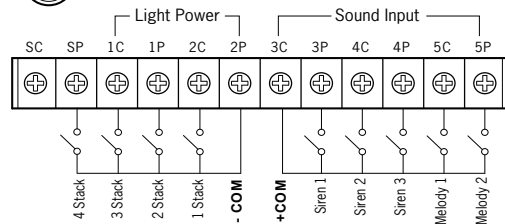
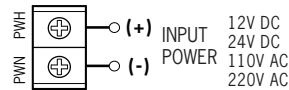
|                             |  |
|-----------------------------|--|
| Function                    | Steady, Flashing, Rotation   |
| Power supply                | 12VDC ±5%, 24VDC ±5%<br>110VAC ±10%, 220VAC ±10% (AC: 50/60Hz)           |
| Replacement fuse            | Glass tube fuse : 51NR, 250V/1A<br>In case of 12VDC & 4 stacks : 250V/2A |
| Dimension                   | 190 x 180 mm (Body Size)   |
| Maximum stacked quantity    | Fixed frame, 1~3 stack versions available (4 stack : option)             |
| Flashing rate               | Continuous flashing (emergency signal)<br>240 ±10 times per minute       |
| Rotating rate               | 250 ±10rpm (Clockwise Rotation)  |
| Sound volume                | Speaker 15W / App. 100 ±5dB at 1 meter                                   |
| Sound type                  | Siren - 3types, Melody - 2 types   |
| 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 100MΩ (500VDC)   |
| Protection structure        | IP23 (Upright)   |
| Weight                      | App. [1S: 2.7Kg] [2S: 3.3Kg] [3S: 4.0Kg]                                 |
| Approval                    | RoHS   |

Note: Life of the LED varies according to operating conditions and environment

## Current Consumption (Maximum current consumption when LED is lit)

| Number of Stacks | LED Color | ※ Standard type-Only LED |       | ※ Speaker-Both LED and Speaker |        |          |         |       |       |
|------------------|-----------|--------------------------|-------|--------------------------------|--------|----------|---------|-------|-------|
|                  |           | 12VDC                    | 24VDC | 110VAC                         | 220VAC | 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 Stacks         | 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 Stacks         | 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  |

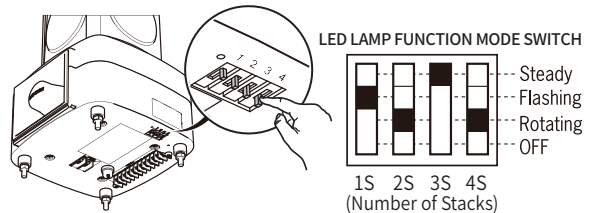
## Connection Diagram



### Sound List

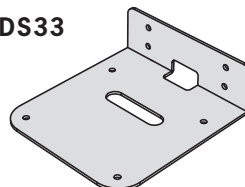
- 3P / Siren 1 - An ambulance siren
- 4C / Siren 2 - Police car siren
- 4P / Siren 3 - Fire car siren
- 5C / Melody 1 - Home Sweet Home
- 5P / Melody 2 - For Elise

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



## Optional Parts Wall Mounting Bracket

**MAM-DS33**  
Steel



See Page 80 ~ 81 >>  
for Mounting Options  
and Accessories.

# MT5C/8C Series D56/D86mm Bulb Type Tower Light(Steady, Flashing, Buzzer)



Multi-layer tower light that features an outstanding vibration resistance and a long service life.



## Ordering information

**MT 5C 3 A L G B - RY G**

① ② ③ ④ ⑤ ⑥ ⑦

### ① Product Diameter & Light Style

|    |   |
|----|---|
| 5C | 56mm type - Steady + Flashing + Buzzer          |
| 8C | 86 mm type - Steady + Flashing + Buzzer (*note) |

\*NOTE: 8C is mounted on G type only

### ② Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ③ Power Supply

|   |          |
|---|----------|
| A | 24VAC/DC |
| B | 110VAC   |
| C | 220VAC   |

### ④ Connection

|   |                |
|---|----------------|
| L | Lead Wire type |
|---|----------------|

### ⑤ Mounting Type

|   |                                    |
|---|------------------------------------|
| G | Plastic mount base                 |
| P | Aluminum Pole + Plastic mount base |
| M | M20 Screw Aluminum Pole mount      |

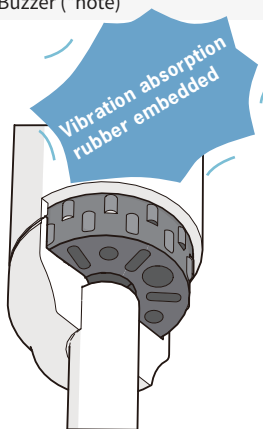
The unique vibration absorbing structure using new material reduces vibration and impact from all machines and devices, greatly extending bulb life.

### ⑥ Buzzer Option

|         |            |
|---------|------------|
| No mark | Non Buzzer |
| B       | Buzzer     |

### ⑦ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |



## Product Feature

- Selectable Steady or Flashing Modes
- Prism-cut lenses for even light distribution
- Surface, Pole or Wall Mounted
- Add-on Buzzer (80dB) kit available
- IP54 rated

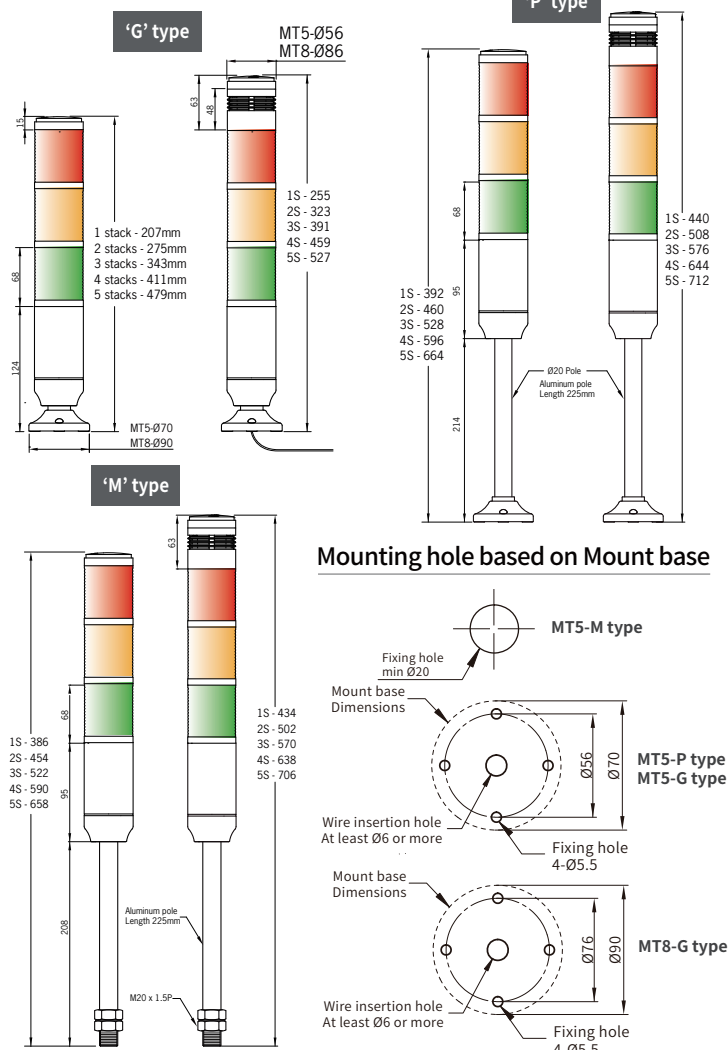
## Specifications

|                          |  |
|--------------------------|--|
| Function                 | Steady + Flashing + Buzzer               |
| Maximum stacked quantity | May be ordered as 1, 2, 3, 4 or 5 Stacks |
| Lens color               | Red / Yellow / Green / Blue / Clear      |
| Protection structure     | IP 54 / IP 50 (with Buzzer)              |
| Buzzer volume            | 80±5dB (1M)                              |
| Flashing rate            | 80±10times / minute                      |
| Wire size                | UL3266/22AWG                             |
| Approval                 | UL, CE, RoHS                             |

## Current Consumption (RMS value ±10%)

| Power supply |         | 1stack | 2stacks | 3stacks | 4stacks | 5stacks |
|--------------|---------|--------|---------|---------|---------|---------|
| 24V          | General | 0.4A   | 0.8A    | 1.3A    | 1.7A    | 2.0A    |
|              | Buzzer  | 0.43A  | 0.83A   | 1.33A   | 1.73A   | 2.03A   |
| 110V         | General | 0.09A  | 0.18A   | 0.27A   | 0.36A   | 0.45A   |
|              | Buzzer  | 0.12A  | 0.21A   | 0.30A   | 0.39A   | 0.48A   |
| 220V         | General | 0.04A  | 0.08A   | 0.12A   | 0.16A   | 0.20A   |
|              | Buzzer  | 0.07A  | 0.11A   | 0.15A   | 0.19A   | 0.23A   |

## Dimensions <Unit: mm>



## ► MT5C/8C Bulb Replacement Parts

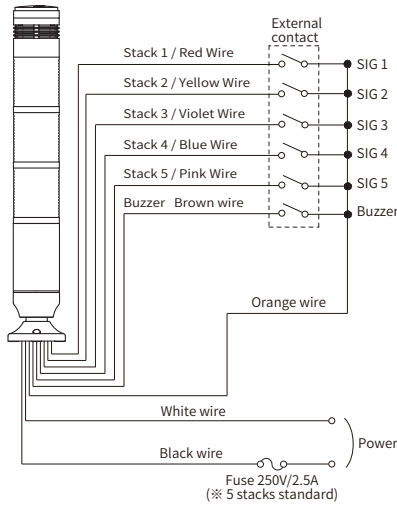
|             |                                   |               |                  |                  |
|-------------|-----------------------------------|---------------|------------------|------------------|
|             | Energy Used: 10 watt              | Input Voltage | Bulb             | Part no.         |
|             | Base Type: Double Contact (BA15D) | 12V type      | 12V 10W          | MAM-T15-D-012-10 |
|             | Color / Finish: Clear             | 24V type      | 24V 10W          | MAB-T15-D-024-10 |
|             | Length: 45mm                      | 110V type     | 120V 10W         | MAB-T15-D-120-10 |
| Width: 16mm | 220V type                         | 240V 10W      | MAB-T15-D-240-10 |                  |



## MT5C/8C Series

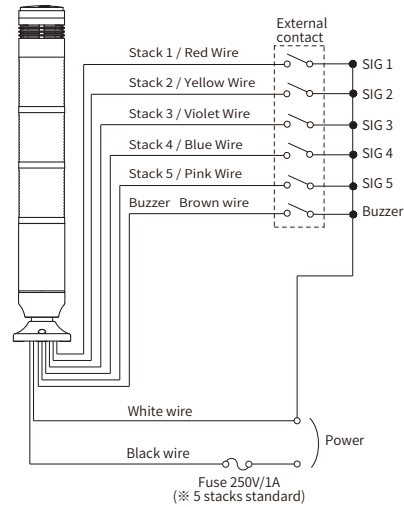
24VAC/DC

Steady / Flashing / Buzzer

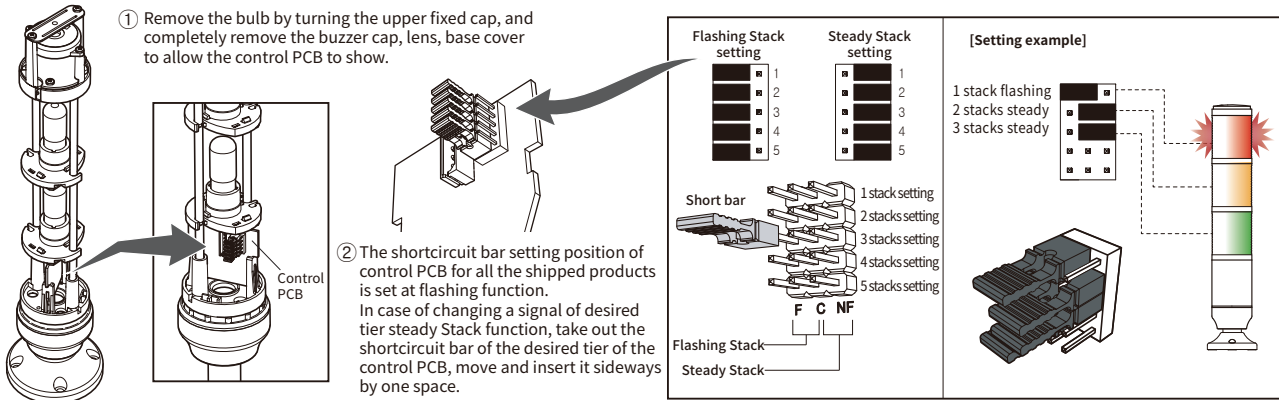


110VAC, 220VAC

Steady / Flashing / Buzzer



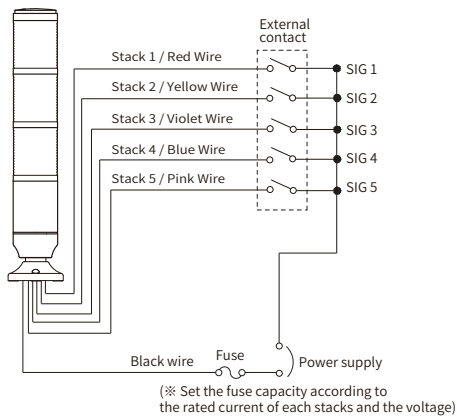
### ► MT5C/8C Series Steady/Flashing lights Changing Method



## MT4B/5B/8B Series

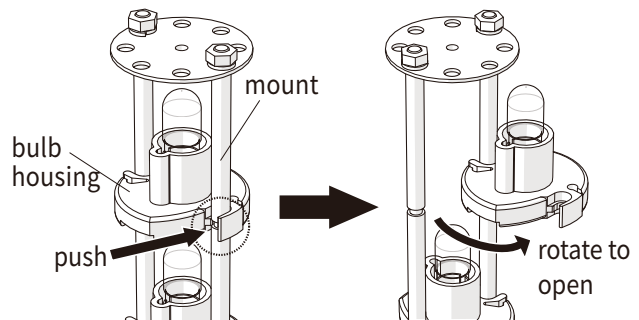
12VAC/DC, 24VAC/DC, 110VAC, 220VAC

Steady



### MT4B-Bulb Replacement Method

Push to open the bulb housing fixed inside the mount groove using hands or tools. This allows easily replacing the bulb.



### Optional Parts

#### Wall Mounting Bracket



apply MT4/5-G/P type only  
MAM-DS28  
Steel



apply MT4/5-M type only  
MAM-DS25  
Steel



apply MT4/5-G/P type only  
MAP-DS30  
Plastic



apply MT8-G type only  
MAM-DS28  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MT4B / 5B / 8B Series (Only Steady Light) D45/D56/D86mm Bulb Type Tower Light



Low-priced multi-layer tower light that features an outstanding Vibration resistance and a long service life.


## Product Feature

- Long life and reliability
- Prism-cut lenses for even light distribution
- MT5/MT8 Options to use LED bulb
- Surface, Pole or Wall Mounted
- MT4B Approvals - CE, UL, RoHS
- MT5B/8B Approvals - UL, RoHS




## Replacement Parts

### ► MT4B Bulb Replacement Parts

| <br>Energy Used: 5 watt<br>Base Type: Single Contact (BA9S)<br>Color / Finish: Clear<br>Length: 28mm<br>Width: 10mm | Input Voltage | Bulb    | Part no.         |
|--|---------------|---------|------------------|
|  | 12V type      | 12V 5W  | MAB-T09-S-012-05 |
|  | 24V type      | 24V 5W  | MAB-T09-S-024-05 |
|  | 110V type     | 130V 5W | MAB-T09-S-130-05 |
|  | 220V type     | 240V 5W | MAB-T09-S-240-05 |

### ► MT5B/8B Bulb Replacement Parts

| <br>Energy Used: 10 watt<br>Base Type: Double Contact (BA15D)<br>Color / Finish: Clear<br>Length: 45mm<br>Width: 16mm | Input Voltage | Bulb     | Part no.         |
|--|---------------|----------|------------------|
|  | 12V type      | 12V 10W  | MAM-T15-D-012-10 |
|  | 24V type      | 24V 10W  | MAB-T15-D-024-10 |
|  | 110V type     | 120V 10W | MAB-T15-D-120-10 |
|  | 220V type     | 240V 10W | MAB-T15-D-240-10 |

## Ordering information

**MT 4B 3 A L G - RYG**

- ① ② ③ ④ ⑤ ⑥

### ① Product Diameter & Light Style

|    |                                   |
|----|-----------------------------------|
| 4B | D45mm type - Steady Light         |
| 5B | D56 mm type - Steady Light        |
| 8B | D86 mm type - Steady Light(*note) |

\*NOTE: 8B is mounted on G type only

### ② Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ⑤ Mounting Type

|   |                                    |
|---|------------------------------------|
| G | Plastic mount base                 |
| P | Aluminum Pole + Plastic mount base |
| M | M20 Screw Aluminum Pole mount      |

### ③ Power Supply

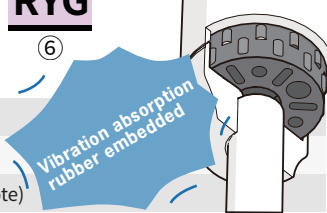
|   |          |   |          |
|---|----------|---|----------|
| A | 24VAC/DC | C | 220VAC   |
| B | 110VAC   | D | 12VAC/DC |

### ④ Connection

|   |            |
|---|------------|
| L | Lead Wires |
|---|------------|

### ⑥ Lens Color (Top to Bottom)

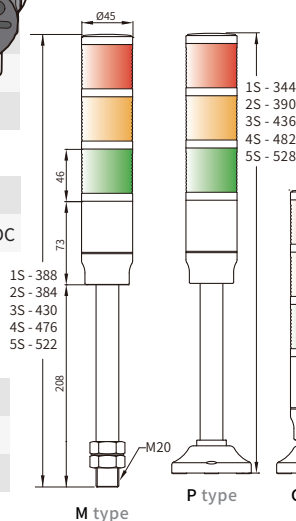
|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |



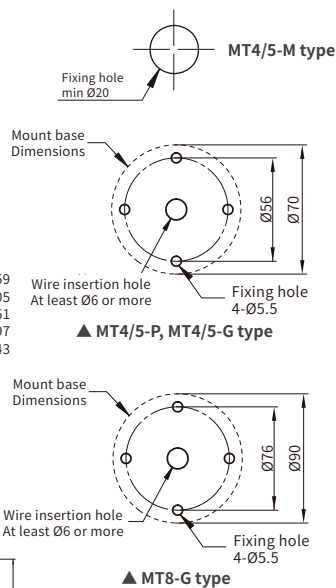
## Dimensions <Unit: mm>

Standard Pole Length : 225mm

### ■ MT4B Series



## Mounting hole based on Mount base



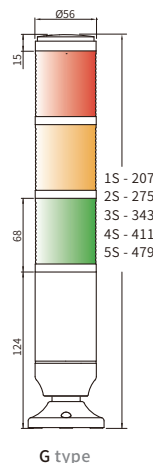
## Specifications

|                          |  |
|--------------------------|--|
| Power supply             | 12VAC/DC, 24VAC/DC, 110~120VAC, 220~240VAC |
| Function                 | Steady                                     |
| Maximum stacked quantity | May be ordered as 1, 2, 3, 4 or 5 stacks   |
| Lens color               | Red / Yellow / Green / Blue / Clear        |
| Protection structure     | IP54                                       |

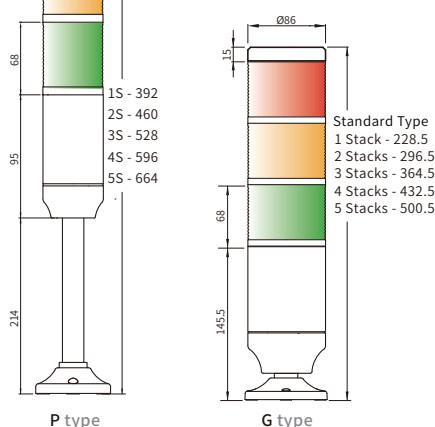
| Power Supply       | 12VAC/DC | 24VAC/DC | 110VAC | 220VAC |
|--------------------|----------|----------|--------|--------|
| <b>MT4B</b>        |          |          |        |        |
| Current            |          |          |        |        |
| Consumption (±10%) |          |          |        |        |
| 1 Stack            | 0.4A     | 0.2A     | 0.04A  | 0.02A  |
| 2 Stacks           | 0.8A     | 0.4A     | 0.09A  | 0.04A  |
| 3 Stacks           | 1.2A     | 0.6A     | 0.13A  | 0.06A  |
| 4 Stacks           | 1.6A     | 0.8A     | 0.16A  | 0.08A  |
| 5 Stacks           | 2.0A     | 1.0A     | 0.20A  | 0.1A   |

| Power Supply       | 12VAC/DC | 24VAC/DC | 110VAC | 220VAC |
|--------------------|----------|----------|--------|--------|
| <b>MT5B/8B</b>     |          |          |        |        |
| Current            |          |          |        |        |
| Consumption (±10%) |          |          |        |        |
| 1 Stack            | 0.8A     | 0.4A     | 0.08A  | 0.04A  |
| 2 Stacks           | 1.7A     | 0.8A     | 0.16A  | 0.08A  |
| 3 Stacks           | 2.5A     | 1.2A     | 0.24A  | 0.12A  |
| 4 Stacks           | 3.3A     | 1.6A     | 0.32A  | 0.16A  |
| 5 Stacks           | 4.2A     | 2.0A     | 0.4A   | 0.2A   |

### ■ MT5B Series



### ■ MT8B Series



See Page 24 >> for Connection Dimension

# PS Series D45mm Bulb type Tower Light



## Ordering information

**PS** **P** - **3** **20** - **RYG**

① ② ③ ④

### ① Mounting style

|   |  |
|---|--|
| P | D18mm Aluminum pole + Plastic mount base |
| G | Plastic mount base                       |
| M | M18 Screw Aluminum pole                  |

### ② Number of Stack

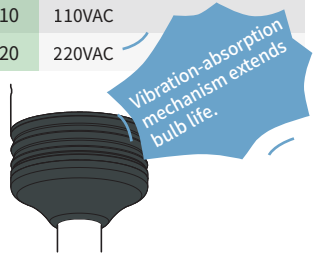
|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ③ Power Supply

|    |          |
|----|----------|
| 01 | 12VAC/DC |
| 02 | 24VAC/DC |
| 10 | 110VAC   |
| 20 | 220VAC   |

### ④ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |



Steady light only.  
Vibration-absorption technology to extend bulb life.

## Product Feature

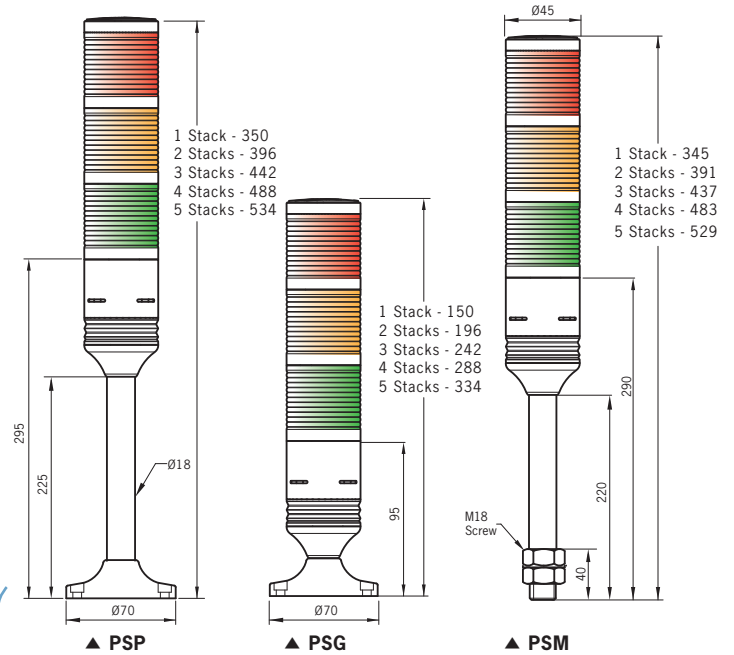
- Ø45mm lens diameter & Five lens colors available
- Prism-cut lenses for even light distribution
- Various Operating Voltage

## Replacement Parts

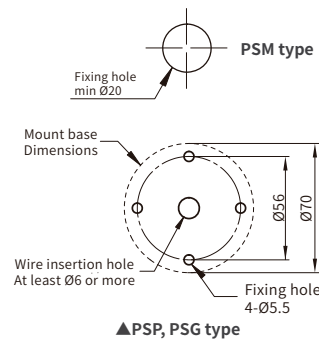
### ►PS series Bulb Replacement Parts

|  |                                  |               |         |                  |
|--|----------------------------------|---------------|---------|------------------|
|  | Energy Used: 5 watt              | Input Voltage | Bulb    | Part no.         |
|  | Base Type: Single Contact (BA9S) | 12V type      | 12V 5W  | MAB-T09-S-012-05 |
|  | Color / Finish: Clear            | 24V type      | 24V 5W  | MAB-T09-S-024-05 |
|  | Length: 28mm                     | 110V type     | 130V 5W | MAB-T09-S-130-05 |
|  | Width: 10mm                      | 220V type     | 240V 5W | MAB-T09-S-240-05 |

## Dimensions <Unit: mm>



### Mounting hole based on Mount base



## Optional Parts Wall Mounting Bracket



**apply PSM type only**  
**MAM-DS25**  
**Steel**

See Page 80 ~ 81 >>  
for Mounting Options  
and Accessories.

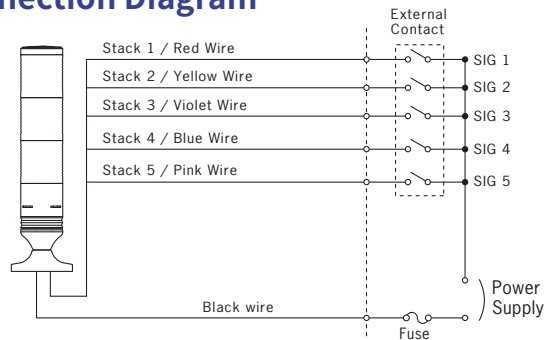
## Specifications

|                             |   |
|-----------------------------|---|
| Function                    | Steady  |
| Power supply                | 12VAC/DC, 24VAC/DC, 110VAC, 220VAC  |
| Maximum stacked quantity    | May be ordered as 1, 2, 3, 4 or 5 stacks                                      |
| Lens color                  | Red, Yellow, Green, Blue, Clear   |
| Ambient temperature         | -15 ~ 40°C  |
| Storage ambient temperature | -25 ~ 70°C  |
| Ambient humidity            | 45~85% RH   |
| Protection structure        | IP20  |
| Approval                    | RoHS  |
| Connection                  | 110/220VAC: VSF/0.75mm (Power supply wire only)<br>12/24VAC/DC: 1007UL/220AWG |

## Current Consumption

| Power Supply               | 12VAC/DC | 24VAC/DC | 110VAC | 220VAC |
|----------------------------|----------|----------|--------|--------|
| Current Consumption (±10%) |          |          |        |        |
| 1 Stack                    | 0.4A     | 0.2A     | 0.04A  | 0.02A  |
| 2 Stacks                   | 0.8A     | 0.4A     | 0.08A  | 0.04A  |
| 3 Stacks                   | 1.2A     | 0.6A     | 0.12A  | 0.06A  |
| 4 Stacks                   | 1.6A     | 0.8A     | 0.16A  | 0.08A  |
| 5 Stacks                   | 2.0A     | 1.0A     | 0.20A  | 0.1A   |

## Connection Diagram



\* No polarity for DC applications.

# PR Series D56mm Bulb type Tower Light



Vibration-absorption mechanism extends bulb life.

The unique vibration absorbing structure using new material reduces vibration and impact from all machines and devices, greatly extending bulb life.



Suitable for displaying the operation status of machines tools, industrial machines, special purpose machines, automatic production line, robot, etc.

## Product Feature

- Shock and Vibration Tolerant
- Option to use LED bulb
- Shock and Vibration Tolerant & IP20 Ingress Protection

## Ordering information

**PR P F - 3 02 - RYG**

### ① Mounting Style

|   |  |
|---|--|
| P | D18mm Aluminum pole + Plastic mount base |
| G | Plastic mount base                       |
| M | M18 Screw Aluminum pole                  |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| F       | Flashing                   |
| B       | Steady + Buzzer            |
| Z       | Steady + Flashing + Buzzer |

### ④ Power Supply

|    |          |
|----|----------|
| 01 | 12VAC/DC |
| 02 | 24VAC/DC |
| 10 | 110VAC   |
| 20 | 220VAC   |

### ③ Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ⑤ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

## Specifications

|                             |   |
|-----------------------------|---|
| Function                    | Steady, Flashing, Buzzer  |
| Power supply                | 12VAC/DC, 24VAC/DC, 110VAC, 220VAC(50~60Hz)                                   |
| Maximum stacked quantity    | May be ordered as 1, 2, 3, 4 or 5 stacks                                      |
| Lens color                  | Red, Yellow, Green, Blue, Clear   |
| Buzzer volume               | 80±5dB at 1M, Buzzer Continuous sound (pi--)                                  |
| Flashing rate               | 80±10 times / minute  |
| Ambient temperature         | -15°C ~ 40°C  |
| Storage ambient temperature | -25°C ~ 70°C  |
| Ambient humidity            | 45 ~ 85% RH   |
| Protection structure        | IP20  |
| Connection                  | 110/220VAC: VSF/0.75mm (Power supply wire only)<br>12/24VAC/DC: 1007UL/220AWG |

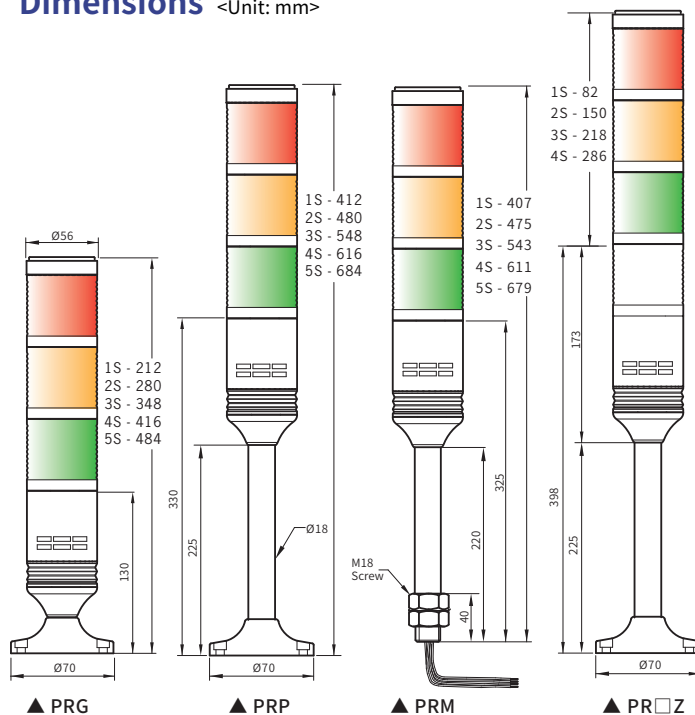
## Current Consumption

| Power Supply               | 12VAC | 24VAC | 110VAC | 220VAC |
|----------------------------|-------|-------|--------|--------|
| Current Consumption (±10%) |       |       |        |        |
| 1 Stack                    | 0.8A  | 0.4A  | 0.08A  | 0.04A  |
| 2 Stacks                   | 1.7A  | 0.8A  | 0.17A  | 0.08A  |
| 3 Stacks                   | 2.5A  | 1.2A  | 0.25A  | 0.12A  |
| 4 Stacks                   | 3.3A  | 1.7A  | 0.33A  | 0.17A  |
| 5 Stacks                   | 4.2A  | 2.1A  | 0.40A  | 0.20A  |

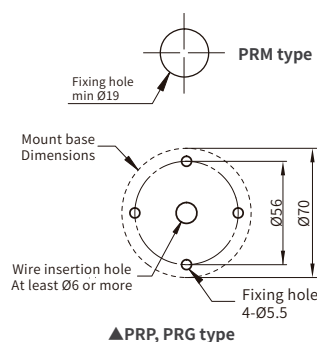
## PR series Bulb Replacement Parts

|  |                                   |               |         |                  |
|--|-----------------------------------|---------------|---------|------------------|
|  | Energy Used: 8 watts              | Input Voltage | Bulb    | Part no.         |
|  | Base Type: Single Contact (BA15S) | 12V type      | 12V 8W  | MAM-T15-S-012-08 |
|  | Color / Finish: Clear             | 24V type      | 24V 8W  | MAB-T15-S-024-08 |
|  | Length: 45mm                      | 110V type     | 130V 8W | MAB-T15-S-130-08 |
|  | Width: 16mm                       | 220V type     | 240V 8W | MAB-T15-S-240-08 |

## Dimensions <Unit: mm>



## Mounting hole based on Mount base



## Optional Parts Wall Mounting Bracket



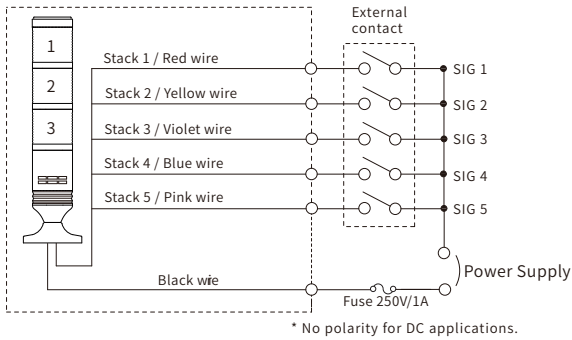
apply PRM type only  
**MAM-DS25**  
Steel

See Page 80 ~ 81 >>  
for Mounting Options  
and Accessories.

# Connection Diagram

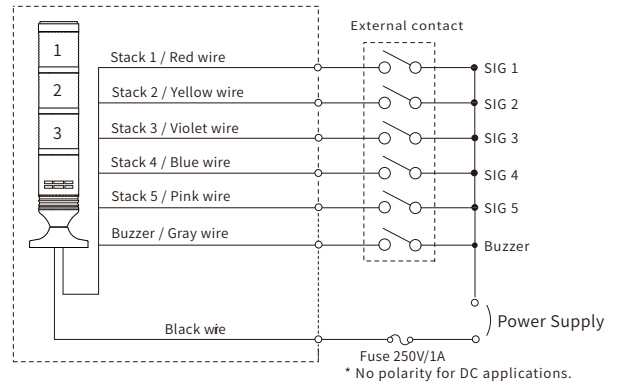
12VAC/DC, 24VAC/DC, 110VAC, 220VAC

Steady



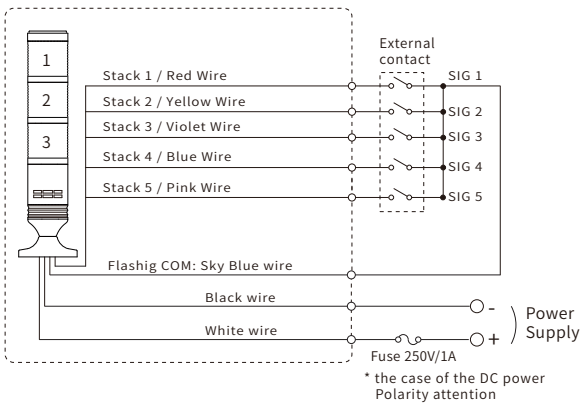
12VAC/DC, 24VAC/DC, 110VAC, 220VAC

Steady / Buzzer



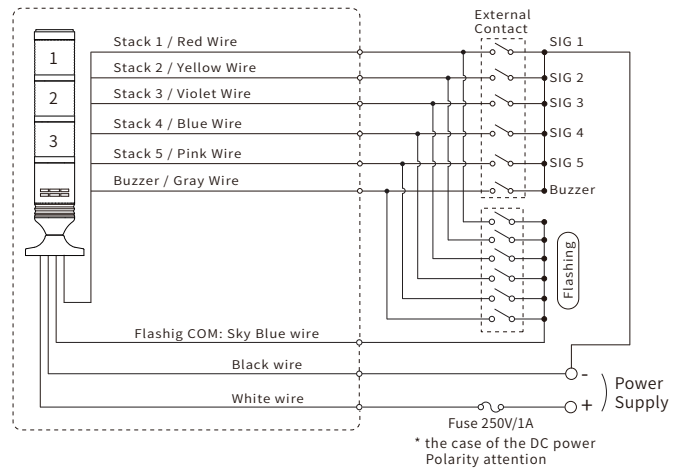
12VAC/DC, 24VAC/DC, 110VAC, 220VAC

Flashing



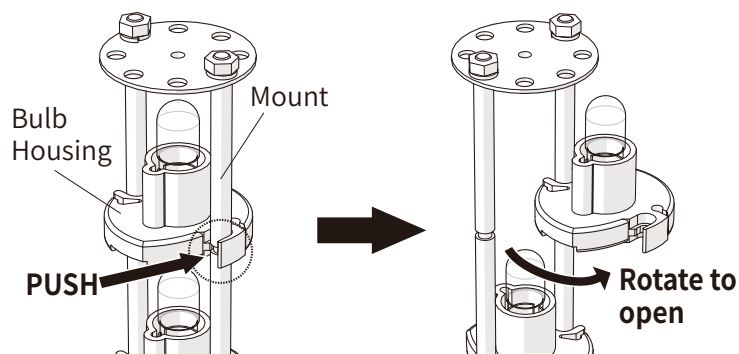
12VAC/DC, 24VAC/DC, 110VAC, 220VAC

Steady / Flashing / Buzzer



## 45mm PS Series Bulb Replacement Method

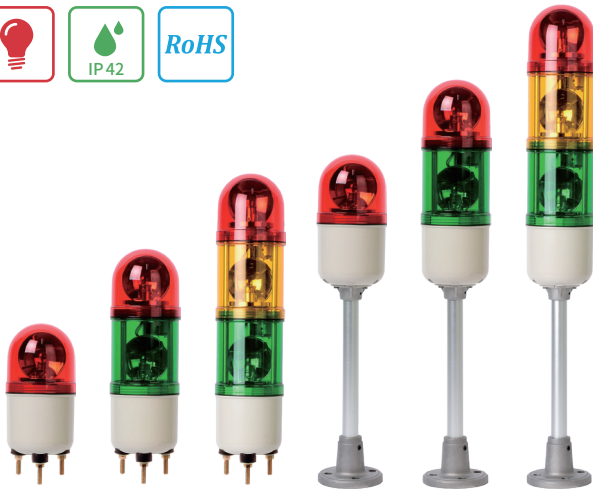
Push to open the bulb housing fixed inside the mount groove using hands or tools.  
This allows easily replacing the bulb.



Caution

Wear protective gloves, replace the bulb after shutting off the power.  
There is a risk of breakage of the glass.

# SL Series D86mm Bulb type Dome Style Tower Light



## Ordering information

**SL G F - 3 20 - RYG**

① ② ③ ④ ⑤

### ① Mounting Type

|   |                                     |
|---|-------------------------------------|
| G | Body direct fixed                   |
| P | Aluminum Pole + Aluminum mount base |

### ④ Power Supply

|    |        |                                       |            |
|----|--------|---------------------------------------|------------|
| 01 | 12VDC  | 20                                    | 220VAC     |
| 02 | 24VDC  | FF                                    | 110/220VAC |
| 10 | 110VAC | Except for Flashing type - F function |            |

### ② Light Style

|  |                            |
|--|----------------------------|
| No mark  | Rotating                   |
| F  | Flashing - (DC power only) |
| (Rotating mirror - AC 220V, AC 110V combined products) |                            |
| K  | 1 Light - 110V, 220VAC     |
|  | 2 Light - 110V, 220VAC     |

### ③ Number of Stack

|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 3 | 3 Stacks |
| 2 | 2 Stacks |   |          |

### ⑤ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | G | Green |
| Y | Yellow | B | Blue  |

## Specifications

|                             |   |
|-----------------------------|---|
| Function                    | Rotating, Flashing  |
| Power supply                | 12VAC/DC, 24VAC/DC, 110VAC, 220VAC  |
| Maximum stacked quantity    | May be ordered as 1, 2, or 3 stacks   |
| Lens color                  | Red, Yellow, Green, Blue  |
| Rotating rate               | 130 ± 10 rpm  |
| Flashing rate               | 80 ± 5 times / minute   |
| Ambient temperature         | -15°C ~ 40°C  |
| Storage ambient temperature | -25°C ~ 70°C  |
| Ambient humidity            | 45~85% RH   |
| Protection structure        | IP42  |
| Vibration                   | 0.75mm at 10~55Hz   |
| Connection                  | 110, 220VAC: VSF/0.75mm (Power supply wire only)<br>12, 24VAC/DC: 1007UL/220AWG |

## Current Consumption (RMS ±10%)

|          | 12VAC/DC | 24VAC/DC | 110VAC | 220VAC |
|----------|----------|----------|--------|--------|
| 1 Stack  | 0.6A     | 0.3A     | 0.04A  | 0.02A  |
| 2 Stacks | 1.2A     | 0.6A     | 0.08A  | 0.04A  |
| 3 Stacks | 1.8A     | 0.9A     | 0.12A  | 0.06A  |

### ► SL series Bulb Replacement Parts (only Flashing type)

|  |                                   |               |         |                  |
|--|-----------------------------------|---------------|---------|------------------|
|  | Energy Used: 8 watt               | Input Voltage | Bulb    | Part no.         |
|  | Base Type: Single Contact (BA15S) | 12V type      | 12V 8W  | MAM-T15-S-012-08 |
|  | Color / Finish: Clear             | 24V type      | 24V 8W  | MAB-T15-S-024-08 |
|  | Length: 45mm                      | 110V type     | 130V 8W | MAB-T15-S-130-08 |
|  | Width: 16mm                       | 220V type     | 240V 8W | MAB-T15-S-240-08 |

Tower Warning Light Which an transmit plural signals by using only one fitting space.

## Product Feature

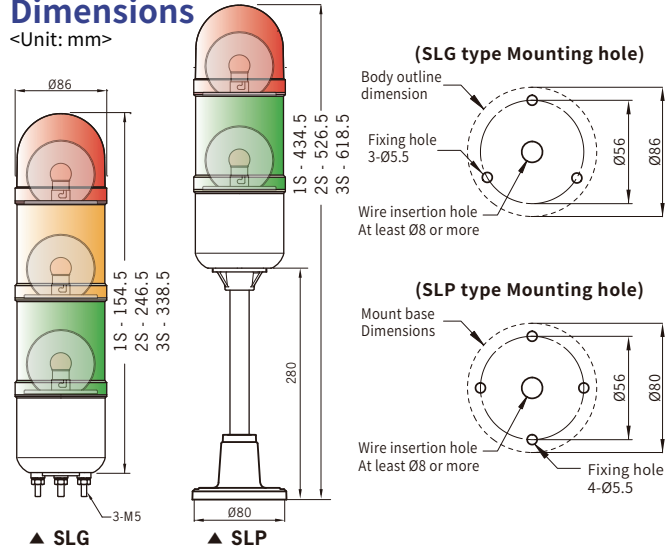
- Ø86mm lens diameter & Rotating, Flickering model
- Protection Class: IP42
- 4 lens colors available & Various operating voltage
- Possible to catch several signals at a time and make & signals separate

### ► SL series Bulb Replacement Parts (only Rotating type)

|  |                                   |               |        |                  |
|--|-----------------------------------|---------------|--------|------------------|
|  | Energy Used: 8 watt               | Input Voltage | Bulb   | Part no.         |
|  | Base Type: Single Contact (BA15S) | 12V type      | 12V 8W | MAM-T15-S-012-08 |
|  | Energy Used: 5 watt               | 110V type     | 12V 5W | MAB-T15-S-012-05 |
|  | Base Type: Single Contact (BA15S) | 220V type     | 12V 5W | MAB-T15-S-012-05 |
|  | Length: 45mm                      |               |        |                  |
|  | Width: 16mm                       |               |        |                  |

## Dimensions

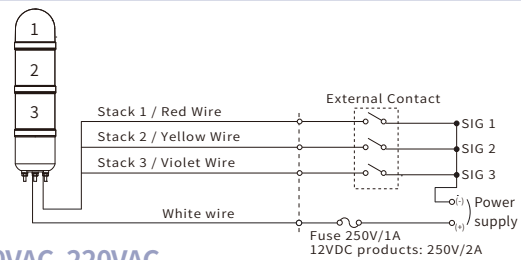
<Unit: mm>



## Connection Diagram

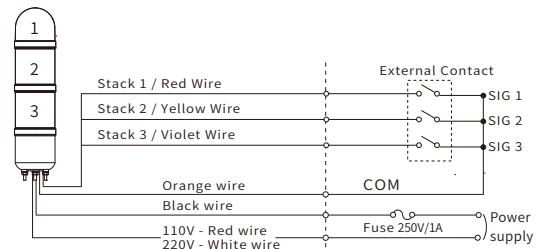
12VAC/DC, 24VAC/DC

Rotating



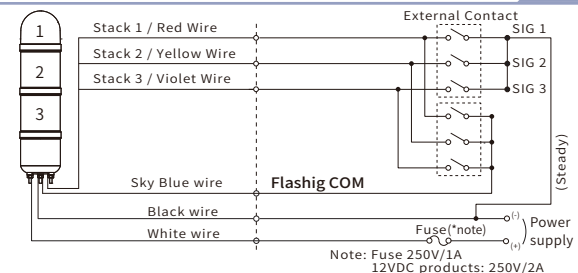
110VAC, 220VAC

Rotating



12VAC/DC, 24VAC/DC, 110VAC, 220VAC

Flashing



# MSGS Series Large size Square Type Tower Light (horn speaker type)



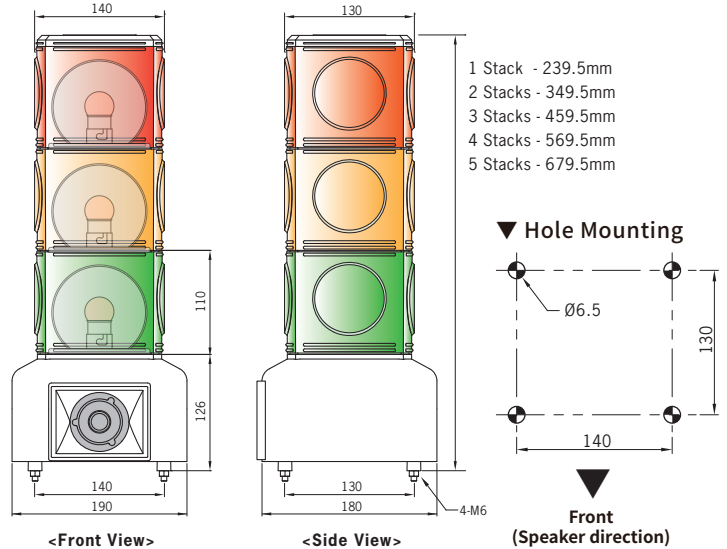
The MSGS Series is a larger beacon that uses a mirrored parabolic reflector for increased visibility



## Product Feature

- Incandescent type
- Outstanding visibility by magnified lens
- Red, Yellow, Green, Blue or Clear lens available
- Large rotating reflector
- Selectable audio sounds: 2-melody, 3-siren (100dB)
- Stud mounted

## Dimensions <Unit: mm>



## Ordering information

MSGS - 3 20 - RYG

### ① Number of Stack

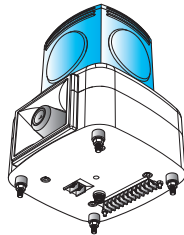
|   |          |   |          |
|---|----------|---|----------|
| 1 | 1 Stack  | 4 | 4 Stacks |
| 2 | 2 Stacks | 5 | 5 Stacks |
| 3 | 3 Stacks |   |          |

### ② Power Supply

|    |       |    |        |
|----|-------|----|--------|
| 01 | 12VDC | 10 | 110VAC |
| 02 | 24VDC | 20 | 220VAC |

### ③ Lens Color (Top to Bottom)

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |



## Specifications

|                             |  |
|-----------------------------|--|
| Dimension                   | 190 x 180 mm (Body Size)                             |
| Function                    | Rotating with 5 sounds (2 - melody, 3 - siren)       |
| Power supply                | 12VDC, 24VDC, 110VAC, 220VAC (AC 50/60Hz)            |
| Maximum stacked quantity    | Fixed frame, 1, 2, 3, 4 or 5-stack version available |
| Lens color                  | Red, Yellow, Green, Blue, Clear                      |
| Rotating rate               | max. 150±10rpm/minute                                |
| Sound volume                | 100±5dB at 1m  |
| Vibration                   | 0.75mm at 10~55Hz                                    |
| Ambient temperature         | -15 ~ 40°C   |
| Storage ambient temperature | -25 ~ 70°C   |
| Ambient humidity            | 45 ~ 85% RH  |
| Protection structure        | indoor (upright) IP20                                |
| Approval                    | RoHS   |
| Connection                  | VSF / 0.75mm <sup>2</sup> (Power supply wire only)   |

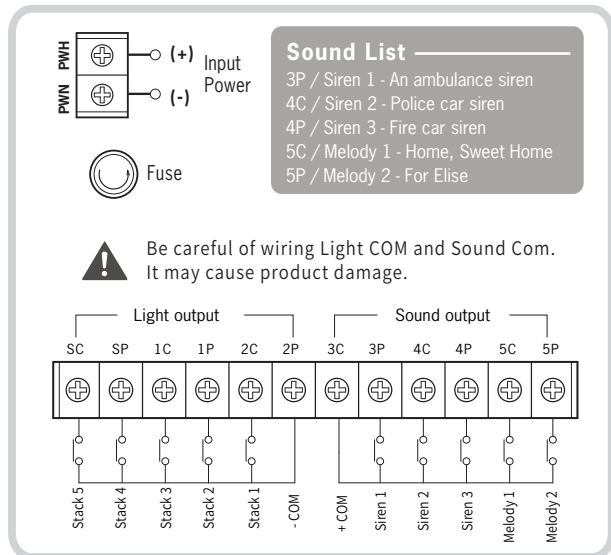
## Current Consumption (RMS value ±10%)

|                         |       |       |        |        |
|-------------------------|-------|-------|--------|--------|
| Power Supply            | 12VDC | 24VDC | 110VAC | 220VAC |
| Current (1 light+Sound) | 2.4A  | 1.3A  | 0.4A   | 0.2A   |

## ▶ Bulb Replacement Parts

|  |               |         |                  |
|--|---------------|---------|------------------|
| <p>Energy Used: 25 watt<br/>Base Type: Double Contact (BA15D)<br/>Color / Finish: Clear<br/>Length: 54mm<br/>Width: 22mm</p> | Input Voltage | Bulb    | Part no.         |
|  | 12V type      | 12V 25W | MAM-T15-D-012-25 |
|  | 24V type      | 24V 25W | MAB-T15-D-024-25 |
|  | 110V type     | 12V 25W | MAB-T15-D-012-25 |
|  | 220V type     | 12V 25W | MAB-T15-D-012-25 |

## Connection Diagram

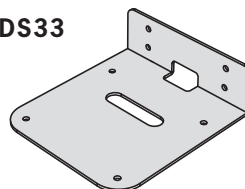


## Optional Parts

### Wall Mounting Bracket

### MAM-DS33

Steel



See Page 80 ~ 81 >>  
for Mounting Options  
and Accessories.

# MS56L Series D56mm LED Signal Light



Compact LED Warning Light featuring enhanced illumination. Ideal for use with conveyors and electrical control panels.



## Product Feature

- Steady + Flashing Light, Rotating Light
- Power Supply: 12/24VAC/DC, 110/220VAC
- M20 Plastic nut panel mounting
- Rotating speed is adjustable
- IP65 rated

## Ordering information

**MS56L - F 02 - R**

① ② ③

### ① Light Style

|         |                   |
|---------|-------------------|
| No mark | Steady            |
| F       | Steady + Flashing |
| R       | Rotating          |

### ② Power Supply

|    |          |
|----|----------|
| 01 | 12VAC/DC |
| 02 | 24VAC/DC |
| 10 | 110VAC   |
| 20 | 220VAC   |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

## Specifications

|                             |   |
|-----------------------------|---|
| Function                    | Steady, Steady + Flashing, Rotating                   |
| Power supply                | 12VAC/DC, 24VAC/DC<br>110VAC, 220VAC (AC: 50/60Hz)    |
| Dimension                   | 56mm  |
| Flashing control            | Dip switch in the internal PCB board controls         |
| Rotating control            | Volume in the internal PCB board controls (40~300rpm) |
| Lens Color                  | Red, Yellow, Green, Blue, Clear                       |
| 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)  |
| Approval                    | CE, RoHS  |
| Connection                  | UL1007 / 22AWG  |

## Flashing Rate (±10 times/minute)

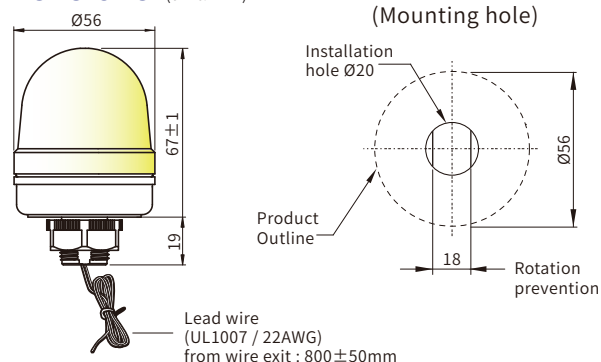
| Rated Voltage | AC Power         | DC Power        |
|---------------|------------------|-----------------|
| 12V           | 110 times/minute | 60 times/minute |
| 24V           | 80 times/minute  | 80 times/minute |
| 110V          | 80 times/minute  |                 |
| 220V          | 80 times/minute  |                 |

## Current Consumption (RMS ±10%)

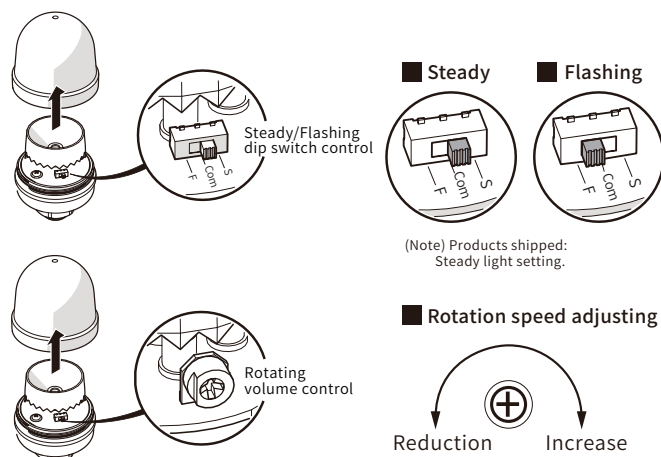
|               | 12VAC/DC | 24VAC/DC | 110VAC | 220VAC |
|---------------|----------|----------|--------|--------|
| Steady type   | 0.1A     | 0.12A    | 0.03A  |        |
| Rotating type | 0.8A     | 0.07A    | 0.03A  | 0.04A  |

Note : 12V , 24VDC Current Consumption : 0.06A

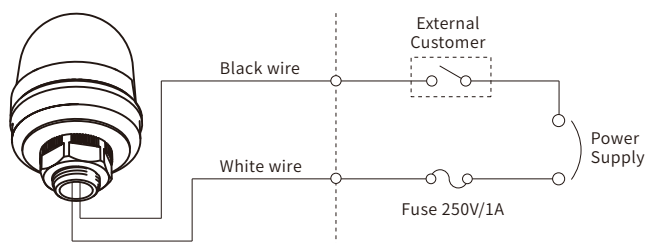
## Dimensions (unit: mm)



## Feature Setting



## Connection Diagram



## Optional Parts

Wall mounting Bracket



**MAM-DS11**  
Steel

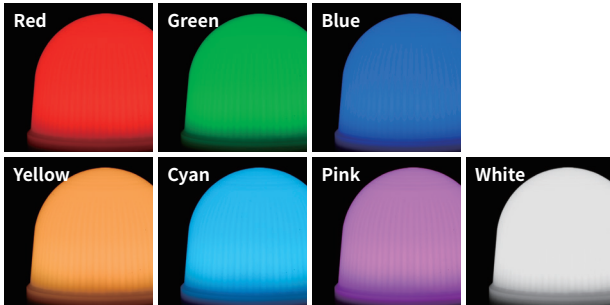
See Page 80 - 81  
for Mounting Options and Accessories.



# MS56M Series D56mm Dome head Multi color LED Signal Light



With one indicator light, it is possible to output 7 types of signal light. There are two kinds of external contact (wire drawing) type that can be easily applied in any environment and switch type that can easily change the color. When turned off, the color of the lens is milky white. And when lit, blinks and emits gentle light.



## Ordering information

**MS56M - 02 - SW**

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

## Specifications

|                             |   |
|-----------------------------|---|
| Function                    | Steady, Flashing                            |
| Power supply                | 12VDC, 24VDC<br>100~240VAC (AC. 50/60Hz)    |
| Dimension                   | 56mm  |
| Flashing rate               | 80 ± 5times/minute                          |
| LED color                   | Red, Yellow, Green, Cyan, Blue, Pink, White |
| Lens color                  | Milky white                                 |
| 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)                                |
| Approval                    | CE, RoHS                                    |
| Connection                  | UL1007 / 22AWG                              |

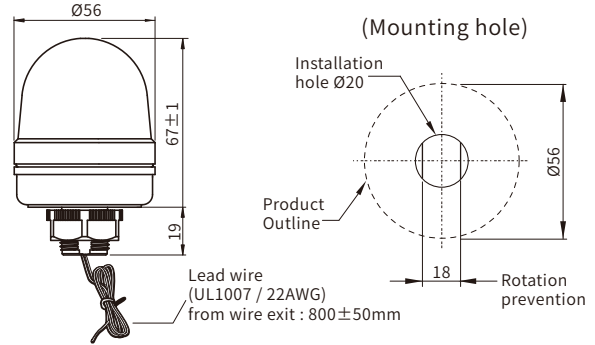
## Current Consumption (RMS ± 10%)

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

## Product Feature

- Steady, Flashing type
- 2 types of product : Wire draw-out type and internal switch type
- Various power supply
- Plastic M20 nut panel mounting type

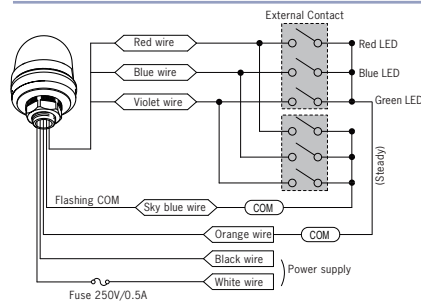
## Dimensions (unit: mm)



## Connection Diagram

100~240VAC

Lead wire type - LC

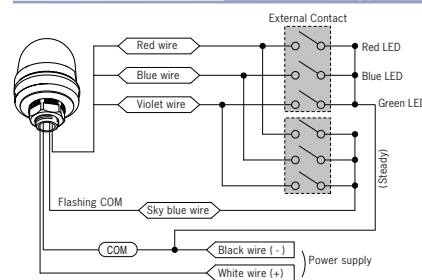


### LED color wiring chart

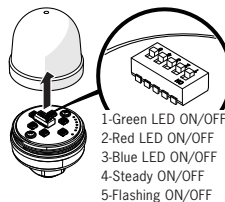
| Condition | Wiring Line color | Lens color |
|-----------|-------------------|------------|
| 1         | Red               | Red        |
| 2         | Violet            | Green      |
| 3         | Blue              | Blue       |
| 4         | Red+Violet        | Yellow     |
| 5         | Red+Blue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

12/24VDC

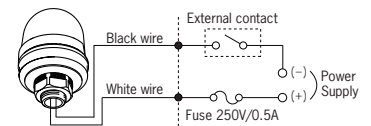
Lead wire type - LC



## <Internal switch type-SW>



- 1-Green LED ON/OFF
- 2-Red LED ON/OFF
- 3-Blue LED ON/OFF
- 4-Steady ON/OFF
- 5-Flashing ON/OFF



| LED Colors | Steady          | Flashing        |
|------------|-----------------|-----------------|
| No.1 Green | ON<br>1 2 3 4 5 | ON<br>1 2 3 4 5 |
| No.2 Red   | ON<br>1 2 3 4 5 | ON<br>1 2 3 4 5 |
| No.3 Blue  | ON<br>1 2 3 4 5 | ON<br>1 2 3 4 5 |

| LED Colors  | Steady          | Flashing        |
|-------------|-----------------|-----------------|
| No.4 Yellow | ON<br>1 2 3 4 5 | ON<br>1 2 3 4 5 |
| No.5 Cyan   | ON<br>1 2 3 4 5 | ON<br>1 2 3 4 5 |
| No.6 Pink   | ON<br>1 2 3 4 5 | ON<br>1 2 3 4 5 |
| No.7 White  | ON<br>1 2 3 4 5 | ON<br>1 2 3 4 5 |

## Optional Parts

Wall mounting Bracket  
MAM-DS11  
Steel



See Page 80 - 81  
for Mounting Options  
and Accessories.

# MS66 Series D66mm LED Signal Light



Compact, Dome-head, Long life Signal Light with Red, Yellow, Green, Blue and White lens.



## Ordering information

**MS66 G - B 00 - R (V)**

### ① Mounting Type

|   |                                    |
|---|------------------------------------|
| P | Aluminum Pole + Plastic mount base |
| G | Plastic mount base                 |
| M | Body direct fixed (M20 Screw)      |

### ② Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |
| R | Rotating                   |
| T | Rotating + Buzzer          |

### ③ Power Supply

|    |               |
|----|---------------|
| 00 | 12 ~ 24VAC/DC |
| FF | 110 ~ 220VAC  |

### ④ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ⑤ Light style (option)

|     |  |
|-----|--|
| (V) | Emergency signal flashing<br>240±5times/minute |
|-----|--|

## Specifications

|                             |   |
|-----------------------------|---|
| Function                    | Steady, Flashing, Buzzer or Rotating, Buzzer  |
| Power supply                | 12 ~ 24VAC/DC, 110 ~ 220VAC(AC 50/60Hz)   |
| Dimension                   | 68mm  |
| Lens color                  | Red, Yellow, Green, Blue, Clear   |
| Light source                | LED   |
| Rotating rate               | Volume Control : 60~300rpm (Clockwise Rotation)                                     |
| Operating condition         | When the power is on, LED Rotation and Buzzer will be operated immediately          |
| Buzzer volume               | 80±5dB (Alternating Buzzer : pi- pi- pi)<br>(Buzzer type : Only indoor)             |
| Mounting method             | MS66M / MS66P type - Upward only<br>MS66G type - Forward, Reverse, Moving direction |
| Ambient temperature         | -20 to 40°C   |
| Storage ambient temperature | -20 to 70°C   |
| Ambient humidity            | 45~85% RH   |
| Insulation resistance       | 100MΩ min. at 500VDC  |
| Vibration                   | 0.75mm at 10~55Hz   |
| Connection                  | UL1007 / 22AWG  |
| Approval                    | CE, RoHS  |
| Protection structure        | IP65 (IP52-Buzzer type)   |
| Weight (AC + Buzzer type)   | MS66M - App.168g, MS66G - App.180g, MS66P - App.233g                                |

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

## Product Feature

- Steady + Flashing, Rotating
- Rotating speed is adjustable
- Built-in high-powered Buzzer
- Various operating voltages
- 3 mounting options
- Lead wire connection

## Current consumption (RMS value at AC type ±10%)

| R/Y/G/B/C              | 12 ~ 24VAC |        | 110 ~ 220VAC |        |
|------------------------|------------|--------|--------------|--------|
|                        | General    | Buzzer | General      | Buzzer |
| Steady / Flashing type | 0.30A      | 0.32A  | 0.03A        | 0.04A  |
| Rotating type          | 0.20A      | 0.22A  | 0.03A        |        |

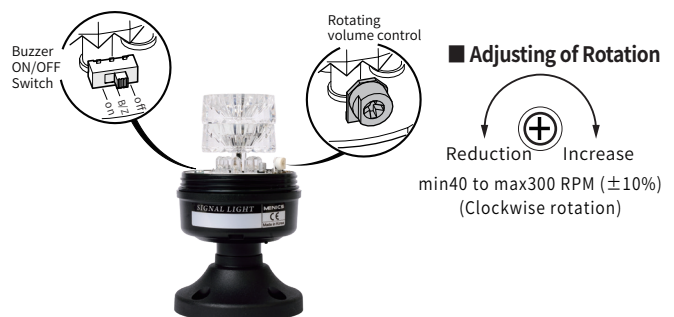
Note (Current consumption) : Steady / Flashing type, 12VDC : 0.08A, 24VDC : 0.06A

Note (Current consumption) : Rotating type, 12VDC : 0.06A, 24VDC : 0.04A

## Flashing Rate

|                               | General type     | Emergency Flashing type option (V) type |
|-------------------------------|------------------|---|
| 12 ~ 24VAC/DC<br>110 ~ 220VAC | 80±5times/minute | 240±5times/minute                       |

## Rotating Speed Change



## Optional Parts

### 1. Wall mounting Bracket



**MS66M type only**  
MAM-DS11  
Steel



**MS66P/G type only**  
MAM-DS28  
Steel



**MS66P/G type only**  
MAP-DS30  
Plastic

### 2. Aluminum mount base



**MS66P only apply**  
MAM-DS32  
Aluminum

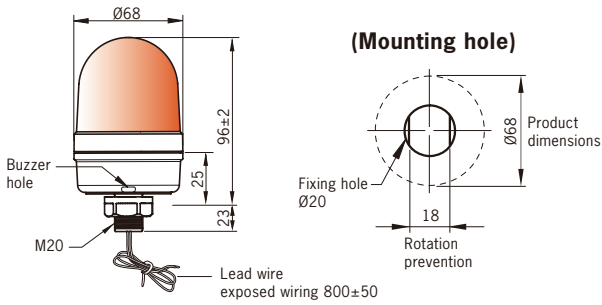
See Page 80 - 81  
for Mounting Options  
and Accessories.

\*Note : In case of P type, there is no change in total length if the Aluminum mount base replaces the Plastic mount base

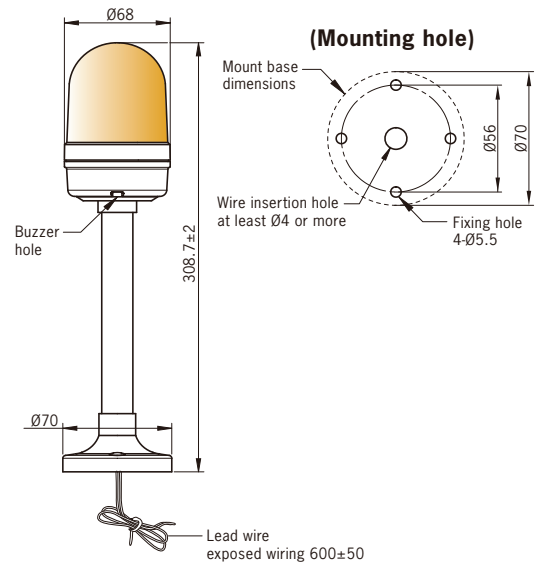
# Dimensions & Connection Diagram

## Dimensions (unit: mm)

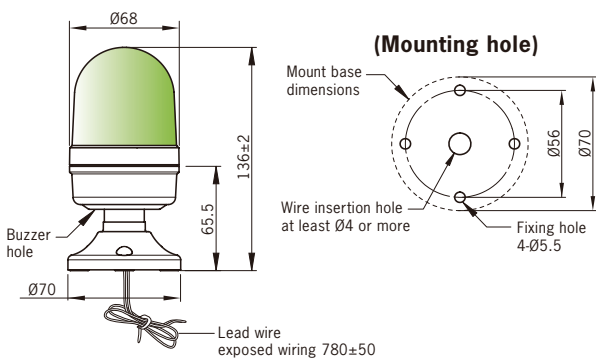
### ▼ MS66M type



### ▼ MS66P type



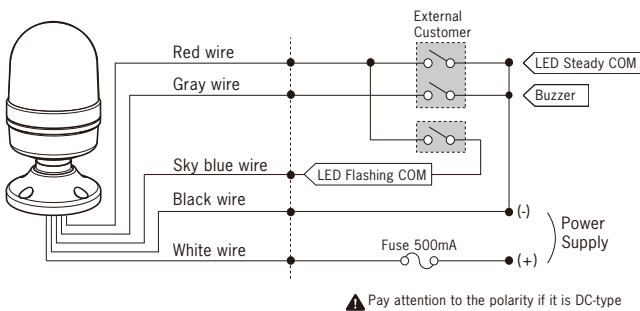
### ▼ MS66G type



## Connection Diagram

### 12~24VAC/DC

Steady / Flashing / Buzzer



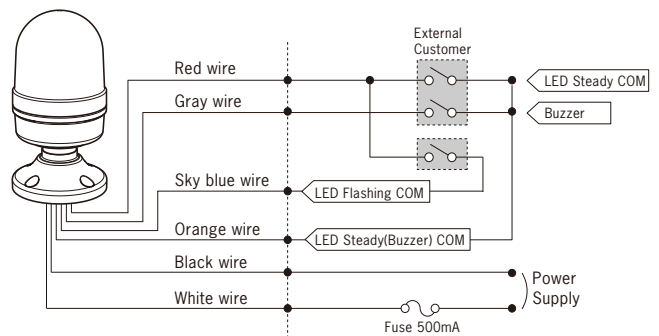
⚠ Pay attention to the polarity if it is DC-type



Do not connect the power line and flashing or steady lines. (Skyblue wire) It may cause damage to the product.

### 110~220VAC

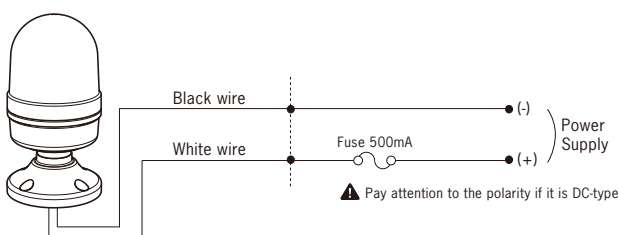
Steady / Flashing / Buzzer



Do not connect the power line and flashing or steady lines. (Orange/Skyblue wire) It may cause damage to the product.

### 12~24VAC/DC, 110~220VAC

Rotating / Buzzer



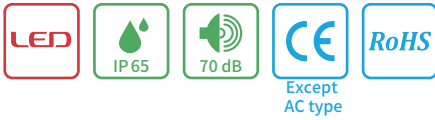
⚠ Pay attention to the polarity if it is DC-type

### ※ Note : Buzzer type

When the power is on, LED Rotating or Buzzer will be operated immediately.

(on/off switch built-in)

# MS66LT Series D66mm Economical LED Signal Light



The MS66 series is an LED light structure that is ideal for conveyor and electrical control panels with high visibility and bright light. It is suitable for forklifts and other material handling industrial applications and is ideal for a wide range of industrial applications



## Product Feature

- On / off switch built-in
- Built-in buzzer
- Various power specifications
- Three mounting specifications
- Lead wire connection

## Flashing Rate / Emergency flashing type

| Power supply | <General type>                  | Power supply | <Option (V) type>                |
|--------------|---------------------------------|--------------|----------------------------------|
| 12/24VDC     | 80 ± 5times flashing per minute | 12/24VDC     | 240 ± 5times flashing per minute |
| 110~220VAC   |                                 | 110~220VAC   |                                  |

## Current Consumption (RMS value ±10%)

| PowerSupply | 12VDC     |         | 24VDC  |         | 110~220VAC |         |
|-------------|-----------|---------|--------|---------|------------|---------|
|             | LED Color | General | Buzzer | General | Buzzer     | General |
| Red         | 120mA     | 140mA   | 60mA   | 70mA    | 50mA       |         |
| Yellow      | 120mA     | 140mA   | 60mA   | 70mA    | 50mA       |         |
| Green       | 60mA      | 80mA    | 30mA   | 40mA    | 40mA       |         |
| Blue        | 80mA      | 100mA   | 40mA   | 50mA    | 40mA       |         |
| White       | 80mA      | 100mA   | 40mA   | 50mA    | 40mA       |         |

## Ordering information

**MS66LT** **G** - **B** **00** - **R** (**V**)

### ① Mounting Type

|   |                                    |
|---|------------------------------------|
| P | Aluminum Pole + Plastic mount base |
| G | Plastic mount base                 |
| M | Body direct fixed (M20 Screw)      |

### ② Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |

### ③ Power Supply

|    |              |
|----|--------------|
| 01 | 12VDC        |
| 02 | 24VDC        |
| FF | 110 ~ 220VAC |

### ④ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ⑤ Option

|     |   |
|-----|---|
| (V) | Emergency signal flashing 240±5times/minute |
|-----|---|

## Specifications

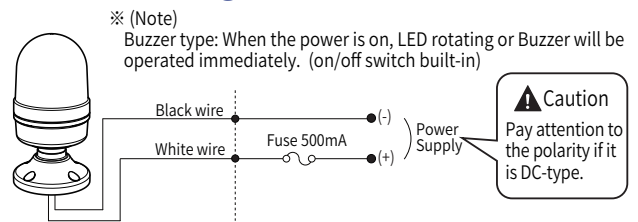
|                               |   |
|-------------------------------|---|
| Function                      | Steady, Flashing, Buzzer  |
| Power supply                  | 12VDC, 24VDC, 110~220VAC (AC: 50/60Hz)  |
| Dimension                     | 68mm  |
| Lens color                    | Red, Yellow, Green, Blue, Clear   |
| Light source                  | LED   |
| Function control              | Select by internal switch   |
| Buzzer volume (maximum sound) | 70 ± 5dB at 1M (Continuous sound : beep-----) (Buzzer type : Only indoor)           |
| Mounting                      | MS66M / MS66P type - Upward only<br>MS66G type - Forward, Reverse, Moving direction |
| Connection method             | Lead wire connection  |
| Ambient temperature           | -20 to 40°C   |
| Storage ambient temperature   | -20 to 70°C   |
| Ambient humidity              | 45~85% RH   |
| Insulation resistance         | 100MΩ min. at 500VDC  |
| Vibration                     | 0.75mm at 10~55Hz   |
| Connection                    | UL1007 / 22AWG  |
| Approval                      | CE(12/24V only), RoHS   |
| Protection structure          | IP65 (IP52-Buzzer type)   |
| Weight (AC + Buzzer type)     | M type - App.168g, G type - App.180g, P type - App.233g                             |

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

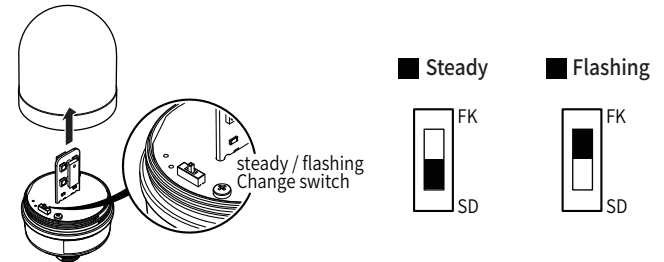
## Dimension

<< See previous Page 34

## Connection Diagram



## Steady / Flashing setting



## Optional Parts

### 1. Wall mounting Bracket



**M type only**  
MAM-DS11  
Steel



**P/G type only**  
MAM-DS28  
Steel



**P/G type only**  
MAP-DS30  
Plastic

### 2. Aluminum mount base

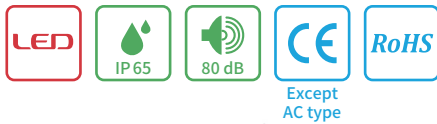


**P only apply**  
MAM-DS32A  
Aluminum

See Page 80 - 81  
for Mounting Options  
and Accessories.

※ Note : In case of P type, there is no change in total length if the Aluminum mount base replaces the Plastic mount base

# MS70LT Series D70mm LED Strobe Light



MS70LT Series flashing light offer a high quality yet economical lighting solution specifically intended for use in material handling and other electric vehicle applications. These lights are ideal for a broad range of industrial type purposes.



## Ordering information

**MS70LT - G B 00 - R**

① ② ③ ④

### ① Mounting Type

|   |  |
|---|--|
| G | Plastic mount base (Two Surface mounts)  |
| M | Body direct fixed (1/2" NPT Plastic nut) |
| P | Aluminium pipe + Aluminum mounting base  |

### ② Light Style

|   |                   |
|---|-------------------|
| F | Flashing          |
| B | Flashing + Buzzer |

### ③ Power Supply

|    |            |
|----|------------|
| 00 | 12~24VDC   |
| FF | 110~220VAC |

### ④ Lens Color

|   |        |   |       |   |       |
|---|--------|---|-------|---|-------|
| R | Red    | B | Blue  | G | Green |
| Y | Yellow | C | Clear |   |       |

## Specifications

|                             |   |  |
|-----------------------------|---|--|
| Function                    | Flashing, Buzzer  |  |
| Power supply                | 12 ~ 24VDC, 110 ~ 220VAC(AC 50/60Hz)  |  |
| Dimension                   | 68mm  |  |
| Color                       | Lens - Red, Yellow, Green, Blue, Clear<br>Body - Black  |  |
| Light source                | LED   |  |
| Flashing rate (2 patterns)  | - Normal flashing : 75±5 time/minute<br>- 3 pattern flashing (Emergency signal) : 130±5 time/minute |  |
| Buzzer volume               | min 50 ~ max 80±5dB   |  |
| Current consumption         | Flashing type   | Flashing + Buzzer type                         |
|                             | 12~24VDC: 0.12~0.16A<br>110~220VAC: 0.04~0.05A  | 12~24VDC: 0.16~0.21A<br>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  |  |

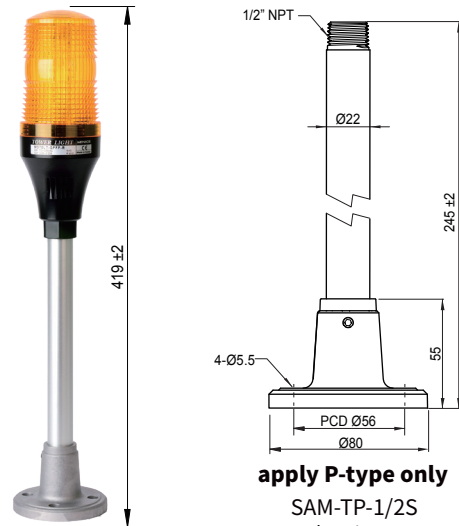
Note : Life of the LED varies according to operating conditions and environment.

## Product Feature

- Compact and high brightness LED flashing light
- Three mounting specifications
- Two flashing patterns can be easily changed (built-in slide switch)
- Rugged glass filled nylon base and polycarbonate lens
- High degree of protection IP65 construction (buzzer type -IP50)

## Optional Parts

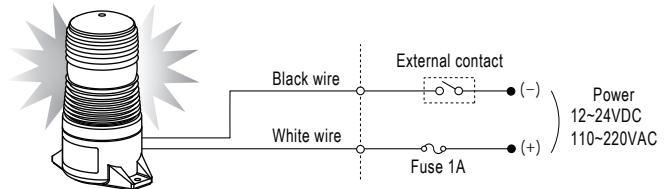
### Aluminum mount base



## Dimensions

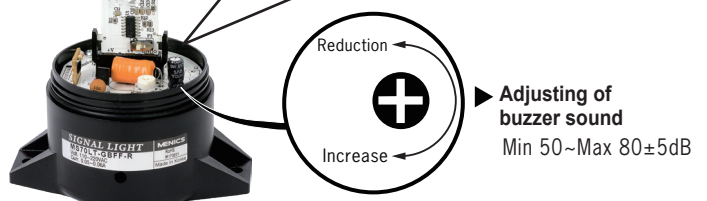
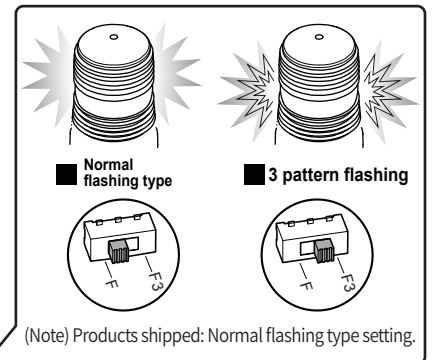
See Page 39 >>

## Connection Diagram



(Note) buzzer type : When power is applied, LED flashing and buzzer operate simultaneously

## Change Function



# MS70M series D70mm Multicolored LED Signal Light



The MS70M series is a compact 70mm LED indicators that can deliver 7 colors. It is suitable for forklifts and other material handling / industrial applications and is ideal for a wide range of industrial applications



high intensity LEDs and prism-cut lens provides great visibility at long distance (Long distance applications)

offers a softer light brightness helping prevent eye exhaustion from the light (short distance applications)

## Ordering information

**MS70M - G Z 00 - RBG (M)**

### ① Mounting Type

|   |  |
|---|--|
| G | Plastic mount base (Two Surface mounts)  |
| M | Body direct fixed (1/2" NPT Plastic nut) |
| P | Aluminium pipe + Aluminum mounting base  |

### ② Light Style

|   |                            |
|---|----------------------------|
| F | Flashing                   |
| B | Flashing + Buzzer          |
| Z | Steady + Flashing + Buzzer |

### ③ Power Supply

|    |              |
|----|--------------|
| 00 | 12~24VDC     |
| FF | 110 ~ 220VAC |

### ④ LED Color

|     |                      |
|-----|----------------------|
| RBG | Red + Blue + Green   |
| RYG | Red + Yellow + Green |

### ⑤ Lens Color

|         |            |
|---------|------------|
| No mark | Clear lens |
| (M)     | Milky lens |

## Specifications

|                             |   |  |
|-----------------------------|---|--|
| Function                    | LED Steady + Flashing<br>Buzzer : min 50 to max 75±5dB  |  |
| Power supply                | 12 ~ 24VDC, 110 ~ 220VAC(AC 50/60Hz)  |  |
| Diameter                    | 68mm  |  |
| Color                       | Lens - Clear / Milky white<br>Body - Black  |  |
| Light source                | LED   |  |
| Flashing rate               | 12VDC : 65±5 times per minute<br>24VDC : 60±5 times per minute<br>110~220VAC : 70±5times per minute |  |
| Current consumption         | LED Steady<br>12~24VDC: 0.22A<br>110~220VAC: 0.04~0.06A   | LED Steady+Buzzer<br>12~24VDC: 0.26A<br>110~220VAC: 0.05~0.06A |
| Connection                  | UL1007/22AWG  |  |
| Material                    | Body - ABS resin  | Lens - PC resin  |
| Operating 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  |  |

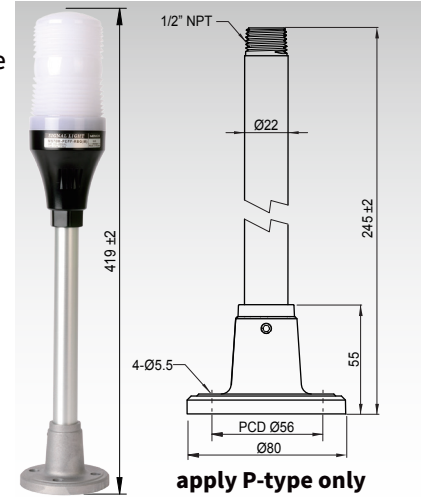
Note : Life of the LED varies according to operating conditions and environment.

## Product Feature

- Three fixed mount bases
- 3 body colors (ivory, black, silver paint)
- For RBG color, 7 color combinations are available.
- Polycarbonate lens
- High degree of protection: IP65 (buzzer type -IP50)

## Optional Parts

Aluminum mount base

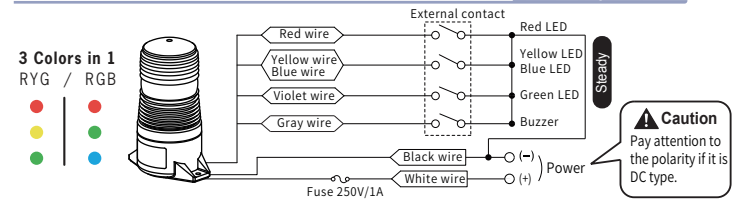


apply P-type only  
SAM-TP-1/2S  
Aluminum

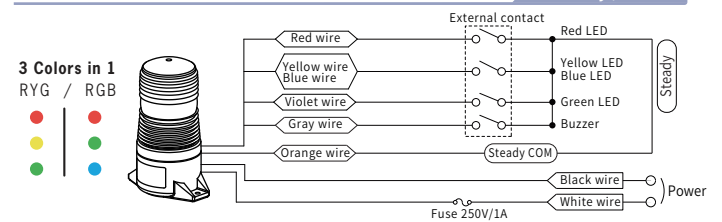
## Dimensions & Light colors

See Page 39 >>

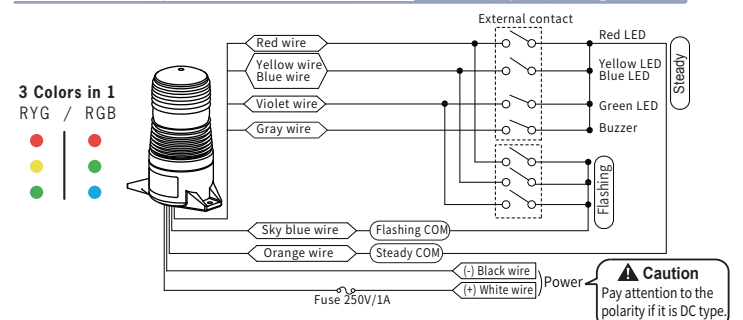
## Connection Diagram 12~24VDC



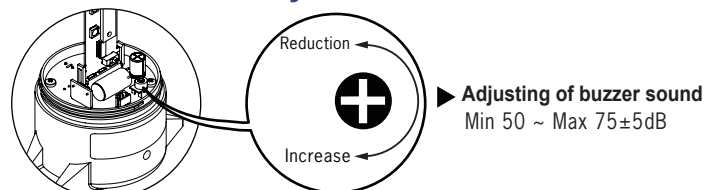
## 110~220VAC



## 12~24VDC, 110~220VAC



## Buzzer volume adjustment



# MS70S Series D70mm Xenon Lamp Strobe Light



Except AC type

MS70S Series strobes offer a high quality yet economical lighting solution specifically intended for use in material handling and other electric vehicle applications. These lights are ideal for a broad range of industrial type purposes.



## Ordering information

**MS70S - G 20 - R**

### ① Mounting Type

|   |  |
|---|--|
| G | Plastic mount base (Two Surface mounts)  |
| M | Body direct fixed (1/2" NPT Plastic nut) |
| P | Aluminium pipe + Aluminum mounting base  |

### ② Power Supply

|    |          |
|----|----------|
| 00 | 12~48VDC |
| 10 | 110VAC   |
| 20 | 220VAC   |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | G | Green |

## Specifications

|                             |   |                 |
|-----------------------------|---|-----------------|
| Function                    | Flashing  |                 |
| Power supply                | 12 ~ 48VDC, 110VAC, 220VAC(AC 50/60Hz)  |                 |
| Dimension                   | 68mm  |                 |
| Color                       | Lens - Red, Blue, Yellow, Green<br>Body - Black   |                 |
| Light source                | Xenon Lamp  |                 |
| Flashing rate               | 12~48VDC : 80±5 times per minute<br>110VAC : 77±5 times per minute<br>220VAC : 60±5times per minute |                 |
| Current consumption         | 12~48VDC : 0.08~0.2A<br>110VAC : 0.07A<br>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<br>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  |                 |

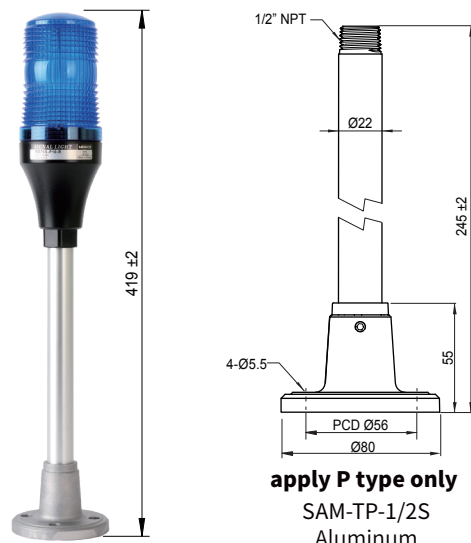
Note : Lifetime of the lamp varies according to operating conditions and environment.

## Product Feature

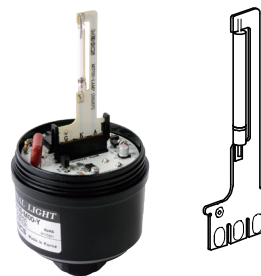
- Compact and economical low intensity strobe ideal for industrial applications
- Three mounting specifications
- Field replaceable snap-fit flashing lamp
- Rugged glass filled nylon base and polycarbonate lens
- High degree of protection IP65 construction

## Optional Parts

### Aluminum mount base



## Replacement Parts



Part name.

**MS70S-LAMP-AL**

Xenon lamp

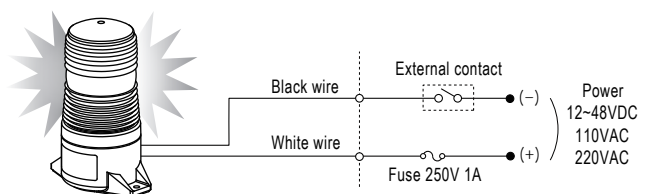
type: 3W

Lamp life: App 2,000 hours

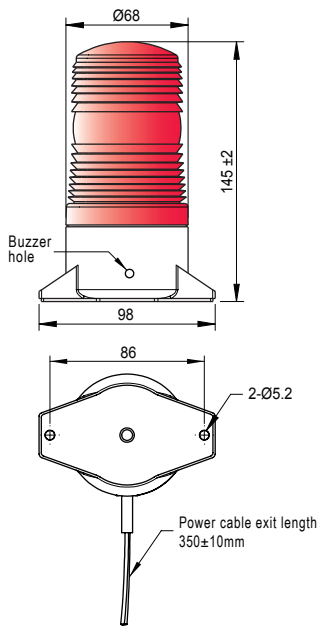
## Dimensions

See Page 39 >>

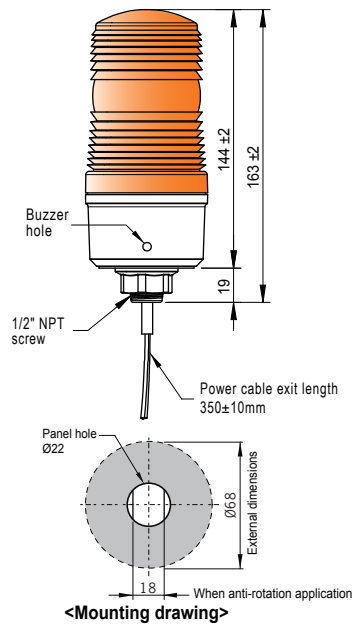
## Connection Diagram



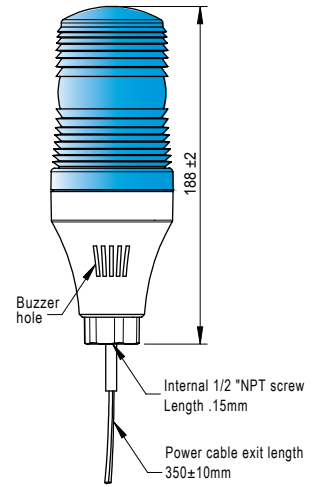
MS70 series - G type



MS70 series - M type



MS70 series - P type



Optional Parts

Wall Mounting Bracket

See Page 80 ~ 81 >> for Mounting Options and Accessories.



MS70 - G/P type only  
MAM-DS38  
Steel



MS70 - P/M type only  
MAM-DS10  
Steel

MS70M series LED Light colors



Clear lens

high intensity LEDs and prism-cut lens provides great visibility at long distance (Long distance applications)

Milky white lens

offers a softer light brightness helping prevent eye exhaustion from the light (short distance applications)





# MW86M Series D86mm Wall Mount LED 3 Colors in 1 Signal Light (Multi Sound)



General type

Horn type



MW86M Series combines LED Signal Light and Sound. It can be easily fixed on the wall without extra equipments.

## Product Feature

- 3 Colors in 1 Signal Light
- Steady, Flashing functions from high-bright LED
- 2 Types of Flashing functions
  - Regular flashing / Urgency signal flashing
- Built-in Speaker for 3~4 sounds
- Removable Horn is offered

## Current consumption

| LED Colors | Power supply |       |       |        |        |
|------------|--------------|-------|-------|--------|--------|
|            | 12VDC        | 24VDC | 90VAC | 110VAC | 220VAC |
| Red        | 0.35A        | 0.18A | 0.10A | 0.09A  | 0.06A  |
| Yellow     | 0.35A        | 0.18A | 0.10A | 0.09A  | 0.06A  |
| Green      | 0.39A        | 0.20A | 0.12A | 0.09A  | 0.07A  |

▲ Combined current consumption of both LED Steady light and sound

## Ordering information

**MW86M - F 00 - RYG - M3 (B)**

① ② ③ ④ ⑤

### ① Light Style

F Steady + Flashing

### ② Power Supply

00 12~24VDC

FF 90~240VAC

### ③ LED Color

RYG Red + Yellow + Green

RGB Red + Green + Blue

### ④ Sound Type

M3 3 Melody channels

M4 4 Melody channels

S3 3 Siren channels

► Melody  
For Elise — M3 type  
Home, Sweet Home  
Cuckoo Walts  
Love me tender — M4 type

► 3 Siren  
Fire siren  
Police siren  
Ambulance siren

### ⑤ Body Color

No mark Ivory

(B) Black

## Specifications

| Function   | Steady, Flashing   |                                |
|--|--|--------------------------------|
| Power supply                                     | 12~24VDC, 90~240VAC(AC 50/60Hz)  |                                |
| Light source                                     | LED  |                                |
| Connection method                                | Lead wire  |                                |
| Flashing rate<br>(Internal PCB board dip switch) | F1: 80±5 flashing per minute<br>F3: 240±10 flashing per minute<br>(Emergency signal) |                                |
| Mounting method                                  | Wall mounting (upright only)   |                                |
| Material   | Body - ABS resin   | Lens - PC (Lens Color : Clear) |
| Ambient temperature                              | -20~40°C   |                                |
| Storage ambient temperature                      | -20~70°C   |                                |
| Ambient humidity                                 | 45~85% RH  |                                |
| Vibration  | 10 to 55Hz (cycle 1 minute) Amplitude 0.75mm<br>X, Y, Z 1 hour in each direction     |                                |
| Approval   | UL, RoHS   |                                |
| Connection                                       | 1007UL/22AWG, Sound wire - 2464UL/22AWG  |                                |
|  | General Type   | Horn Type                      |
| Sound volume (1m)                                | 55 ~ 85±5dB  | 55 ~ 90±5dB                    |
| Protection structure                             | IP43   | IP54                           |
| Weight (AC type standard)                        | App. 286g  | App. 313g                      |

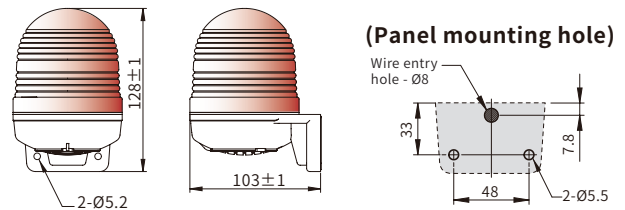
Note : Life of the LED varies according to operating conditions and environment.

## Connection Diagram Sound Setting table

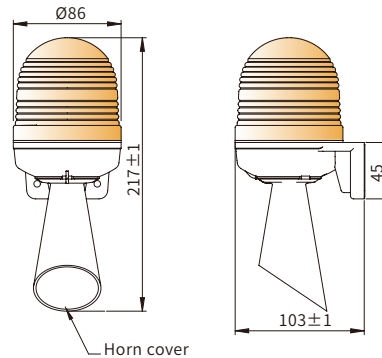
See Page 42 >>

## Dimensions (unit: mm)

### ▼ General type



### ▼ Horn type

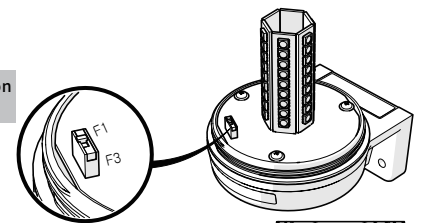


## Feature setting

### ■ Flashing function selection switch

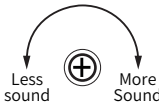
F1: 80±5 flashing per minute

F3: 240±10 flashing per minute

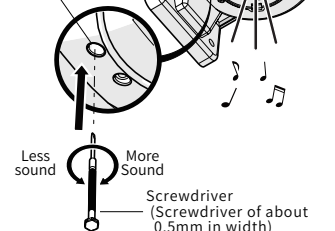


### ■ Adjustment of sound volume

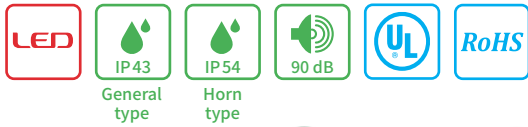
#### Volume



Sound Volume Adjustment hole



# MW86T Series D86mm Wall Mount Multi Function LED Signal light (Multi Sound)



MW86T Series combines LED Signal Light and Sound. It can be easily fixed on the wall without extra equipments.



## Product Feature

- Steady , Flashing , Rotating functions from high-bright LED
- 2 Types of Flashing function - Regular flashing , Urgency signal flashing
- Built-in Button for sound volume adjusting and rotating speed adjusting
- Built-in Speaker for 3~4 sounds
- Removable Horn is offered

## Ordering information

**MW86T - R 00 - R - M3 (B)**

① ② ③ ④ ⑤

### ① Light Style

R Steady + Flashing + Rotating

### ② Power supply

00 12~24VDC

FF 90~240VAC

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ④ Sound Type

M3 3 Melody channels

M4 4 Melody channels

S3 3 Siren channels

► Melody For Elise  
Home, Sweet Home M3 type  
Cuckoo Walts M4 type  
Love me tender M4 type

► 3 Siren Fire siren  
Police siren  
Ambulance siren

### ⑤ Body Color

No mark Ivory

(B) Black

## Specifications

|                             |   |                  |
|-----------------------------|---|------------------|
| Function                    | Steady, Flashing, Rotating  |                  |
| Power supply                | 12 ~ 24VDC, 90 ~ 240VAC(AC 50/60Hz)   |                  |
| Connection method           | Lead wire   |                  |
| Rotating rate               | min60 ~ max300±10 rpm (Clockwise rotation)                                    |                  |
| Flashing rate               | F1 : 80±5 flashing per minute<br>F3 : 240±10 flashing per minute              |                  |
| Mounting method             | Wall mounting (upright only)  |                  |
| Material                    | Body - ABS resin    Lens - PC   |                  |
| Ambient temperature         | -20 to 40°C   |                  |
| Storage ambient temperature | -20 to 70°C   |                  |
| Ambient humidity            | 45~85% RH   |                  |
| Vibration                   | 10 to 55Hz (cycle 1 minute) Amplitude 0.75mm X, Y, Z 1 hour in each direction |                  |
| Approval                    | UL, RoHS  |                  |
| Connection                  | 1007UL/22AWG, Sound wire - 2464UL/22AWG                                       |                  |
|                             | <b>General Type</b>   | <b>Horn Type</b> |
| Sound volume (1m)           | 55 ~ 85±5dB   | 55 ~ 90±5dB      |
| Protection structure        | IP43  | IP54             |
| Weight (AC type standard)   | App. 279g   | App. 306g        |

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

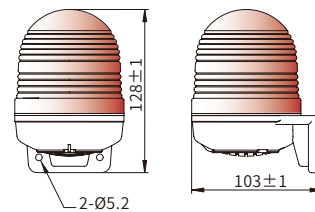
## Current consumption

|              | 12 - 24VDC     | 90 - 240VAC    |
|--------------|----------------|----------------|
| 3 Sound type | Max. 0.52A±10% | Max. 0.16A±10% |
| 4 Sound type | Max. 0.65A±10% | Max. 0.18A±10% |

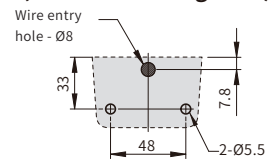
⚠ Combined current consumption of both LED Steady light and sound

## Dimensions (unit: mm)

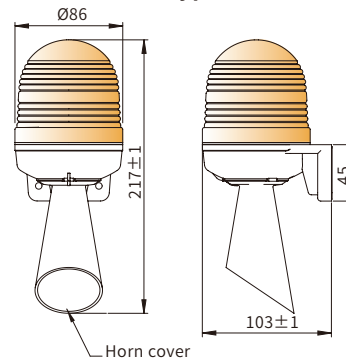
### ▼ General type



### (Panel mounting hole)



### ▼ Horn type



⚠ Users have to assemble the horn covers.

## Feature setting

### ■ Flashing function selection switch

F1: 80±5 flashing per minute  
F3: 240±10 flashing per minute

### ■ Rotating speed adjustment volume

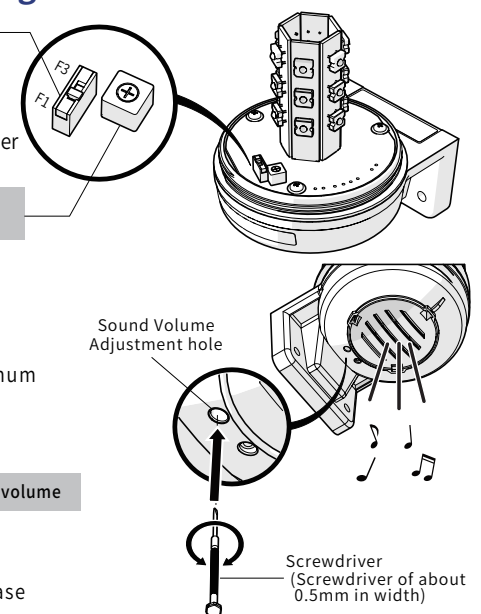
60 ~ 300±10 rpm

### Volume

Minimum ⊕ Maximum

### ■ Adjustment of sound volume

Reduction ⊕ Increase



## Connection Diagram Sound Setting table

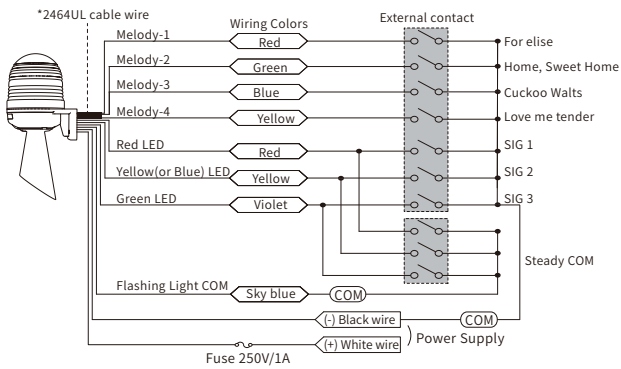
See Page 42 >>

# Connection Diagram

## MW86M Series

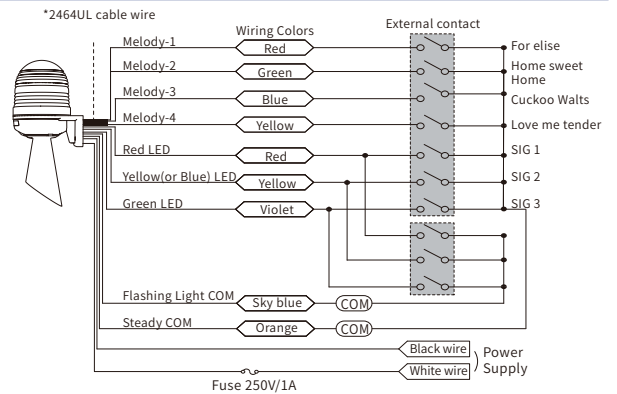
12~24VDC

Melody type



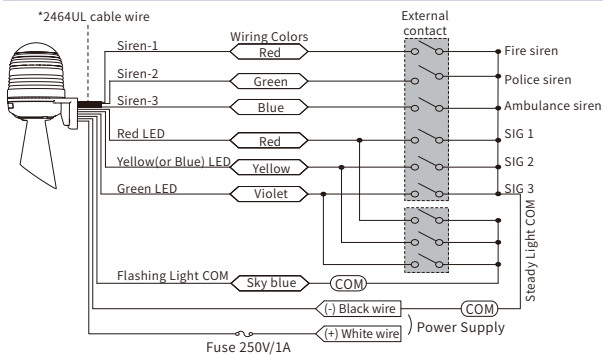
90~240VAC

Melody type



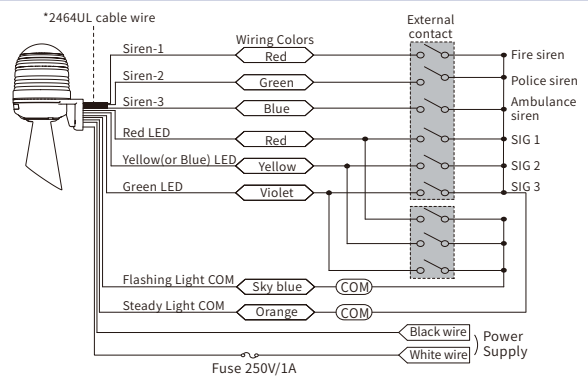
12~24VDC

Siren type



90~240VAC

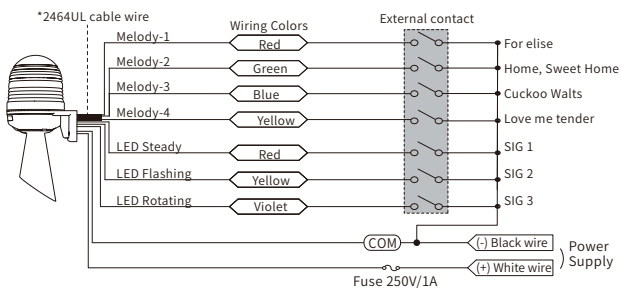
Siren type



## MW86T Series

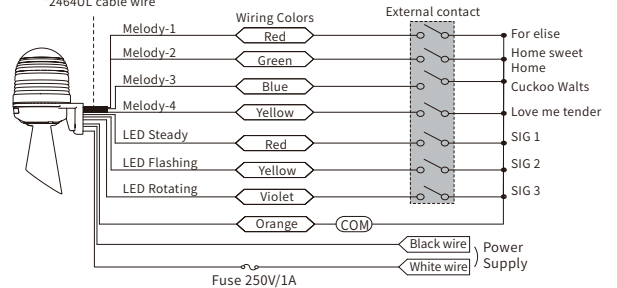
12~24VDC

Melody type



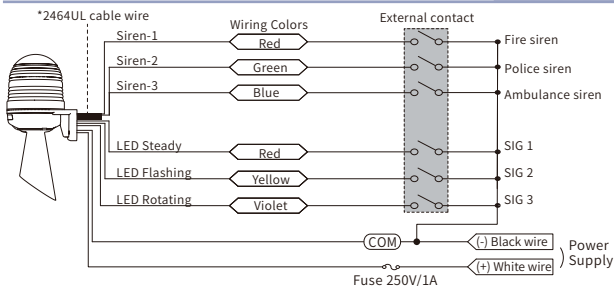
90~240VAC

Melody type



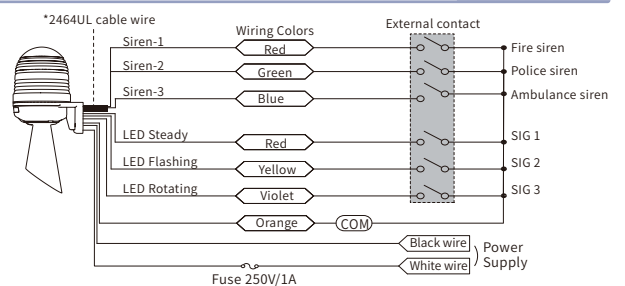
12~24VDC

Siren type



90~240VAC

Siren type



## Sound setting and operation

### Melody sound

※ it means the condition of '0' when connected with com wire.

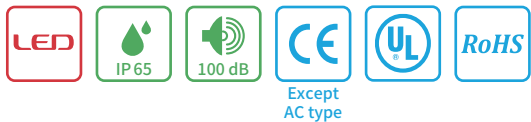
| Wiring Colors             | Red | Green | Blue | Melody reaction               | Notes   |
|---------------------------|-----|-------|------|-------------------------------|---|
| Normal entry conditions   | 1   | 1     | 1    | No                            | 1. If you don't select the signal(Under this condition, 111 is displayed) or select three signals at the same time(Under this condition, 000 is displayed), then the melody doesn't play. |
|                           | 0   | 1     | 1    | for elise                     |   |
|                           | 1   | 0     | 1    | Home, Sweet Home              |   |
|                           | 1   | 1     | 0    | Cuckoo Walts                  |   |
| Priority entry conditions | 1   | 0     | 0    | for elise (priority-1)        | 2. Priority order of melody-playback<br>(1) Red Wire - for elise<br>(2) Green Wire - Home, Sweet Home<br>(3) Blue Wire - Cuckoo Walts   |
|                           | 0   | 1     | 0    | Home, Sweet Home (priority-2) |   |
|                           | 0   | 0     | 1    | Cuckoo Walts (priority-3)     |   |

### Siren sound

※ it means the condition of '0' when connected with com wire.

| Wiring Colors           | Red | Green | Blue | Siren reaction  | Notes   |
|-------------------------|-----|-------|------|-----------------|---|
| Normal entry conditions | 1   | 1     | 1    | Notes           | It's impossible to input two or three signals at the same time.<br>※ When connecting wiring at the same time, a sound is played equentially.<br>Fire siren > Police siren > Ambulance siren |
|                         | 0   | 1     | 1    | Fire siren      |   |
|                         | 1   | 0     | 1    | Police siren    |   |
|                         | 1   | 1     | 0    | Ambulance siren |   |

# MS86LT Series D86mm High brightness flashing LED signal light



MS86LT series is 86mm LED lamp for multi-functional usages, which is designed to inject LED light effectively in indoor as well as in outdoor having excellent visibility day and night. It is composed of a long-life LED that is easy for maintenance.



## Ordering information

**MS86LT - F 00 - R (V)**

① ② ③ ④

### ① Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ② Power Supply

|    |            |
|----|------------|
| 00 | 12~24VDC   |
| FF | 100~220VAC |

### ④ Option

|     |   |
|-----|---|
| (V) | Continuous flashing (emergency signal)<br>240±5times per minute |
|-----|---|

## Specifications

|   |   |
|---|---|
| Function                                | Steady, Flashing, Buzzer  |
| Power supply                            | 12 ~ 24VDC (±5%) , 100~220VAC(±10%) 50/60Hz                                   |
| Light source                            | LED   |
| Dimension                               | 86mm  |
| Flashing rate                           | 70 ± 5times flashing per minute   |
| Buzzer volume (built-in volume control) | Intermittent sound (beep-beep-beep)<br>Sound Pressure: 80 ~ 100 ± 5dB (at 1M) |
| Lens color                              | Red, Yellow, Green, Blue, Clear   |
| Mounting method                         | Direct mounting   |
| Connection method                       | exposed wiring connections  |
| Ambient temperature                     | -20 ~ 50°C   Storage ambient temperature : -20 ~ 70°C                         |
| Ambient humidity                        | 45~85% RH   |
| Dielectric strength                     | 500VAC 50 / 60Hz 1 min  |
| Insulation resistance                   | Over 100MΩ (500VDC mega between terminals and case)                           |
| Vibration                               | 0.75mm at 10~55Hz (cycle: 1 minute)   |
| Protection structure                    | IP65  |
| Connection                              | UL1007/22AWG  |
| Approval                                | CE(Only 12~24VDC), UL, RoHS   |
| Weight                                  | App. 220g (Buzzer type basis)   |

## Current consumption

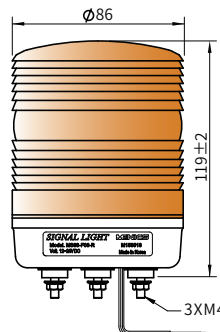
(Maximum current consumption when LED is lit.)

| Product color | Standard type |            | Buzzer type |            | Buzzer operation only                  |
|---------------|---------------|------------|-------------|------------|--|
|               | 12~24VDC      | 100~220VAC | 12~24VDC    | 100~220VAC |  |
| Red           | 0.15A         | 0.07A      | 0.18A       | 0.08A      | 12~24VDC : 0.05A<br>100~220VAC : 0.02A |
| Yellow        | 0.15A         | 0.07A      | 0.18A       | 0.08A      |  |
| Green         | 0.10A         | 0.07A      | 0.13A       | 0.08A      |  |
| Blue          | 0.15A         | 0.07A      | 0.20A       | 0.08A      |  |
| Clear         | 0.10A         | 0.07A      | 0.13A       | 0.08A      |  |

## Product Feature

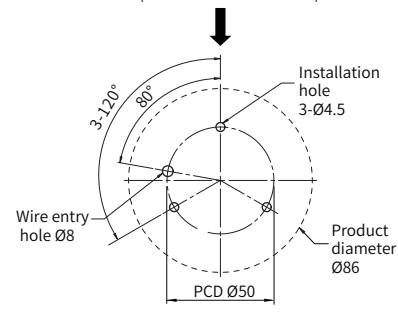
- Volume adjustable buzzer: up to 100 ± 5dB
- Replaceable LED module PCB type
- Emergency flashing patterns signal (option)

## Dimension (Unit: mm)



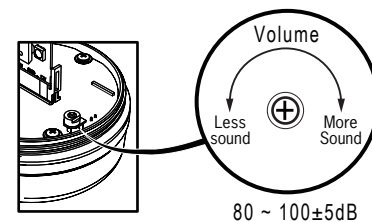
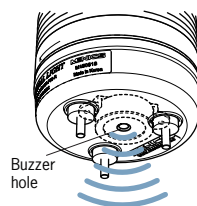
UL1007/22AWG, 800±30mm

## Front View (Product label directions)



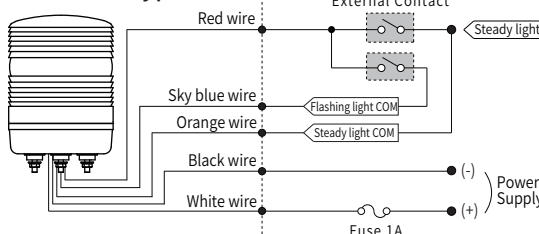
## [Mounting hole]

## Feature setting



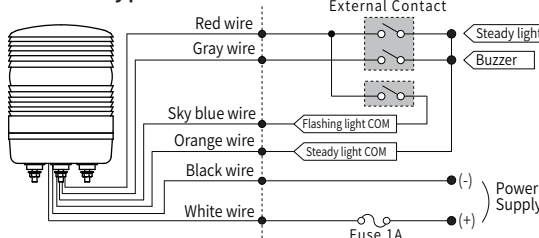
## Connection Diagram

### <Standard type>



**Caution**  
Be careful of in case of DC power supply as it has polarity.

### <Buzzer type>



**Caution**  
Be careful of in case of DC power supply as it has polarity.

## Optional Parts

### Wall Mounting Bracket



MAM-DS26  
Steel



MAP-DS30  
Plastic

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MS86L Series D86mm LED Signal Light



MS86L series LED Dome indicator light .The dome shape provides increased visibility and the LEDs provide years of maintenance-free operation.

► Dome head type

► Low head type



## Ordering information

**MS86L - F 02 - R - F**

① ② ③ ④

### ① Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ② Power Supply

|    |           |
|----|-----------|
| 02 | 24VAC/DC  |
| FF | 90~240VAC |

### ④ Lens Shape

|         |                        |
|---------|------------------------|
| No mark | Dome type lens cap     |
| F       | Low head type lens cap |

## Specifications

|                             |                                 |
|-----------------------------|---------------------------------|
| Function                    | Steady, Flashing, Buzzer        |
| Power supply (50/60Hz)      | 24VAC/DC<br>90 ~ 240VAC         |
| Dimension                   | 86mm                            |
| Buzzer volume               | App. 80±5 dB ( at 1m )          |
| Flashing rate               | 80±10 times flashing per minute |
| Vibration                   | 0.75mm at 10~55Hz               |
| Ambient temperature         | -20 ~ 40°C                      |
| Storage ambient temperature | -20 ~ 70°C                      |
| Ambient humidity            | 45 ~ 85% RH                     |
| Withstand voltage           | 500V AC 50/60Hz for 1 minute    |
| Protection structure        | IP65                            |
| Approval                    | UL , CE(24V Only) , RoHS        |
| Connection                  | UL2464, 22AWGx2C                |
| Weight                      | App. 150g                       |

Note: LED lifetime depends on operating condition or environment.

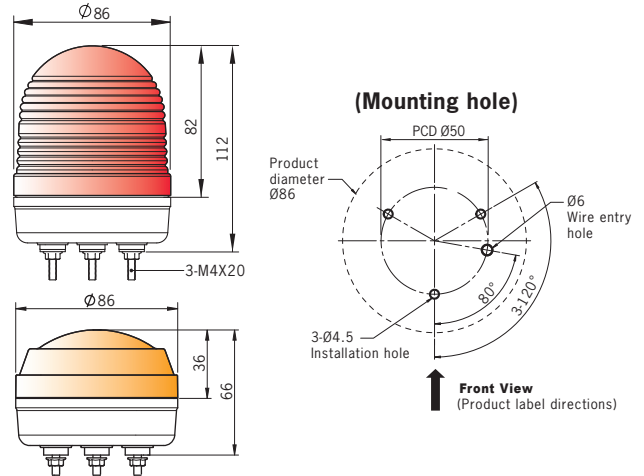
## Current Consumption (RMS value ±10%)

| PowerSupply | 24VAC/DC |        | 90~240VAC |        |
|-------------|----------|--------|-----------|--------|
|             | General  | Buzzer | General   | Buzzer |
| Red         | 0.33A    | 0.36A  |           |        |
| Yellow      | 0.33A    | 0.36A  |           |        |
| Green       | 0.46A    | 0.49A  | 0.05A     | 0.08A  |
| Blue        | 0.46A    | 0.49A  |           |        |
| White       | 0.46A    | 0.49A  |           |        |

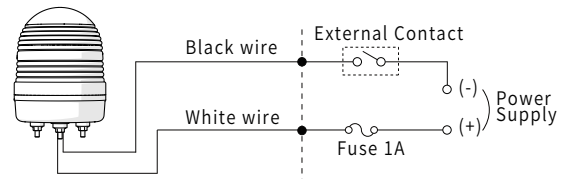
## Product Feature

- Wide light distribution with prism-cut dome-shaped lens
- Outstanding visibility at distance
- Selectable Steady or Flashing Modes for LED lights
- Red, Yellow, Green, Blue and Clear lens available
- IP65 rated

## Dimensions (unit: mm)

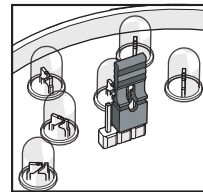


## Connection Diagram

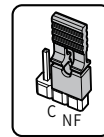


## Feature setting

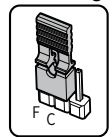
### Steady or Flashing Conversion dip Switch



▼ Steady



▼ Flashing



## Optional Parts

### 1. Mounting Pole



SAM-T31



SAM-D31



SAM-M31

### 2. Wall Mount Brackets



MAP-DS30  
ABS resin



MAM-DS26  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MS86W Series D86mm low head multifunction LED Signal Light



The MS86W series is an LED beacon featuring three selectable light patterns of Flashing or rotation for diversified uses. The clear lens makes it easier to see the light, even in bright ambient conditions.



## Product Feature

- Flashing, Rotation, Continuous
- Enhanced Illumination: Use of long-life, super bright LED.
- Energy Efficient: Low power consumption.
- Main Body: heat resistant ABS resin.
- Lens Cap: impact and heat resistant polycarbonate resin.
- Installation: Indoor & Outdoors
- Available Colors: Red, Yellow, Green, Blue, Clear



■ Steady light



■ Flashing light



■ Rotating light

## Functional Specifications

|                    |   |
|--------------------|---|
| Flashing Rate      | 80 ± 10 times per minute                  |
| Rotating Rate      | Approx. 130 ± 20 rpm (Clockwise rotation) |
| Buzzer sound level | 80dB ± 5dB (at 1M) - Only 24VDC           |

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

## Current Consumption (RMS value ±10%)

|         | Red   | Yellow | Green | Blue  | White |
|---------|-------|--------|-------|-------|-------|
| General | 0.50A | 0.50A  | 0.30A | 0.35A | 0.38A |
| Buzzer  | 0.53A | 0.53A  | 0.34A | 0.38A | 0.40A |

## Ordering information

MS86W - R 00 - R

① ② ③

### ① Light Style

|   |  |
|---|--|
| R | Steady + Flashing + Rotating                     |
| B | Steady + Flashing + Rotating + Buzzer (24V only) |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

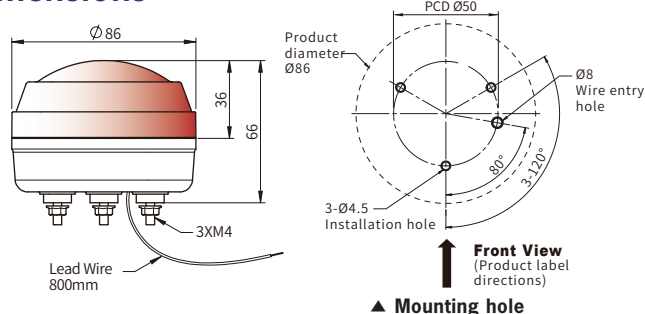
### ② Power supply

|    |             |
|----|-------------|
| 00 | 12~24VAC/DC |
|----|-------------|

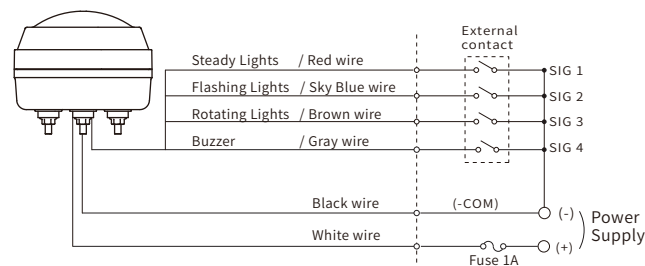
## Specifications

|                       |  |
|-----------------------|--|
| Dimension             | 86mm   |
| Power supply          | 12 ~ 24VAC/DC  |
| Function              | Steady, Flashing, Rotating, Buzzer   |
| Ambient humidity      | 45 to 85% RH (no condensation)   |
| Ambient temperature   | -15 to 40°C (no freezing)  |
| Storage temperature   | -20 to 70°C (no freezing)  |
| Insulation resistance | 100MΩ minimum (500VDC megger)  |
| Vibration             | 10 to 55Hz, amplitude 0.75mm   |
| Body color            | Black  |
| Material              | - Body: ABS resin<br>- Lens cap: PC resin<br>- Fixing bolt: Steel                    |
| Mounting method       | - Body direct mounting<br>- L-shaped bracket<br>- Installation: Indoor & Outdoor Use |
| Lens color            | Red / Yellow / Green / Blue / Clear  |
| Approval              | UL, RoHS   |
| Protection structure  | IP65   |
| Connection method     | Lead wire  |
| Connection            | UL1007/22AWG   |
| Weight                | 170g   |

## Dimensions (Unit:mm)

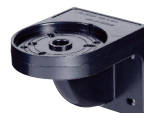


## Connection Diagram

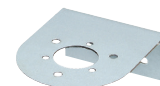


## Optional Parts

### Wall Mount Brackets



MAP-DS30  
ABS resin



MAM-DS26  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MS86T Series D86mm Wall Mount Multi Function LED Signal light (Multi Sound)

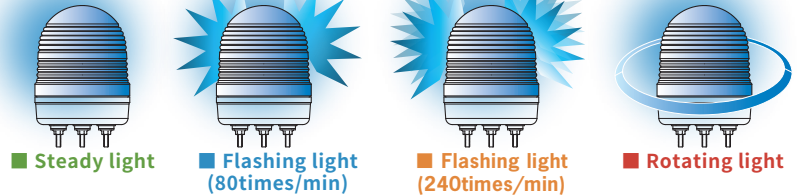


LED Strobe Light of High Brightness, Excellent Visibility from a Distance. Improving Visibility by Employing Special Scattering Lens.



## Product Feature

- Wide light distribution with prism-cut dome-shaped lens
- Outstanding visibility at distance
- Flashing Cycles: 2 patterns (Selectable by a switch)
- Built-in buzzer (adjustable volume)
- Adjustable flashing or rotating cycles
- Red, Yellow, Green, Blue and Clear lens available



## Ordering information

MS86T - **F** **00** - **R**

① ② ③

### ① Light Style

|   |                                       |
|---|---------------------------------------|
| F | Steady + Flashing                     |
| R | Steady + Flashing + Rotating          |
| B | Steady + Flashing + Rotating + Buzzer |

### ② Power Supply

|    |             |
|----|-------------|
| 00 | 12~24VAC/DC |
| FF | 90~240VAC   |
| 04 | 48VDC       |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

## Specifications

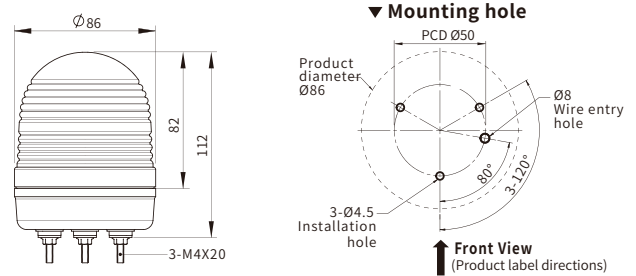
|  |   |                               |
|--|---|-------------------------------|
| Function   | Steady, Flashing, Rotating, Buzzer  |                               |
| Power supply   | 12~24VAC/DC, 48VDC, 90~240VAC (50/60Hz)   |                               |
| Dimension  | 86mm  |                               |
| Material   | Lens : PC resin , Body : ABS resin  |                               |
| Buzzer volume  | 10~100±5dB ( at 1m ) volume adjustable  |                               |
| Flashing Rate<br>(Internal PCB board is dip switch controls) | F1: 80±10 times per minute<br>F3: 240±10 times per minute (Emergency Signal lights) |                               |
| Rotating rate  | Min.60 ~ Max.300±10rpm (Clockwise rotation)   |                               |
| Connection method  | Lead wire Connection  |                               |
| Insulation Resistance  | 100MΩ minimum (500VDC megger)   |                               |
| Ambient temperature  | -20 to 40°C   |                               |
| Storage ambient temperature                                  | -20 to 70°C   |                               |
| Ambient humidity   | 45~85% RH (no condensation)   |                               |
| Protection structure   | IP65  | Vibration : 0.75mm at 10~55Hz |
| Approval   | UL, RoHS  |                               |
| Connection   | 1007UL / 22AWG  |                               |
| Weight   | Approx. 360g  |                               |

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

## Current Consumption (RMS value ±10%)

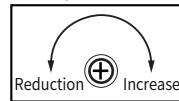
| Power supply |         | Red   | Yellow | Green | Blue  | White |
|--------------|---------|-------|--------|-------|-------|-------|
| 12~24V       | General | 0.4A  | 0.34A  | 0.3A  | 0.37A | 0.28A |
|              | Buzzer  | 0.55A | 0.48A  | 0.45A | 0.52A | 0.42A |
| 48V          | General | 0.06A | 0.06A  | 0.04A | 0.04A | 0.04A |
|              | Buzzer  | 0.20A | 0.20A  | 0.20A | 0.19A | 0.19A |
| 90~240V      | General | 0.06A | 0.05A  | 0.05A | 0.04A | 0.45A |
|              | Buzzer  | 0.20A | 0.20A  | 0.20A | 0.19A | 0.19A |

## Dimensions (Unit:mm)

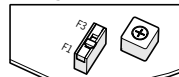


## Feature setting

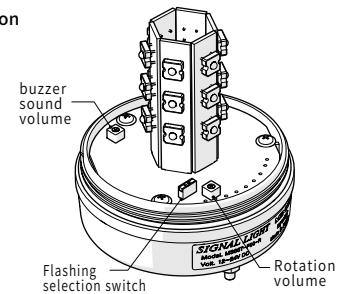
- Adjusting of buzzer sound / Rotation



- Flashing feature selection

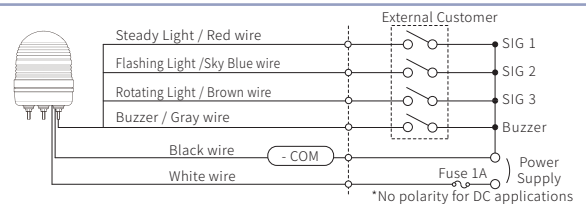


F1: 80±10 times per minute  
F3: 240±10 times per minute (emergency signal display light)

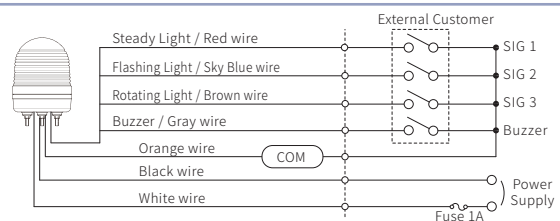


## Connection Diagram

12~24VAC/DC, 48VDC



90~240VAC

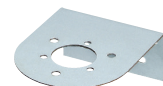


## Optional Parts

### Wall Mount Brackets



MAP-DS30  
ABS resin



MAM-DS26  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MS86M Series D86mm Wall Mount LED 3 Colors in 1 Signal Light (Multi Sound)



With high-brightness LED as its light source, the flashing light has a high effect of radiating signal light to ensure an accurate signal transmission even under worse conditions such as permanent fog and dust.



## Product Feature

- 3 colors in 1 LED modular components
- High Brightness LED light distribution through prism-cut lenses
- The streamlined warning light is suitable for patrol cycles, emergency, vehicles and ambulance cars.
- Extremely high light intensity

## Ordering information

MS86M - **F** **00** - **RYG**

① ② ③

### ① Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |

### ② Power supply

|    |             |
|----|-------------|
| 00 | 12~24VAC/DC |
| FF | 90~240VAC   |

### ③ LED Color

|     |                      |
|-----|----------------------|
| RYG | Red + Yellow + Green |
| RGB | Red + Green + Blue   |

## Specifications

|  |   |
|--|---|
| Function   | Steady, Flashing, Buzzer  |
| Power supply   | 12~24VAC/DC, 90~240VAC  |
| Buzzer volume  | 10~100±5dB (at 1M), volume adjustable                                     |
| Dimension  | 86mm   Lens color: Clear  |
| Material   | Body : ABS resin, Cap : PC resin  |
| Flashing rate<br>(Internal PCB board is dip switch controls) | F1: 80±10times/minute<br>F3: 240±10times/minute (Emergency Signal lights) |
| Connection method  | Lead wire Connection  |
| Insulation resistance  | 100MΩ minimum (500VDC megger)   |
| Vibration  | 0.75mm at 10~55Hz   |
| Ambient temperature  | -20 to 40°C   |
| Storage ambient temperature                                  | -20 to 70°C   |
| Ambient humidity   | 45 ~ 85% RH   |
| Protection structure   | IP65  |
| Approval   | UL, RoHS  |
| Connection   | 1007UL/22AWG  |
| Weight   | Approx. 150g  |

## Current Consumption (RMS value ±10%)

| Power Spec | 12V ~ 24V   | 90~240V AC | Buzzer                                  |
|------------|-------------|------------|---|
| R/Y/G LED  | 400 ~ 600mA | 30~80mA    | 150mA                                   |
| R/G/B LED  |             |            | (Momentary inrush current: up to 300mA) |

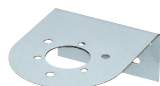
※ Maximum current consumption when LED is lit.

## Optional Parts

### Wall Mount Brackets



MAP-DS30  
ABS resin



MAM-DS26  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

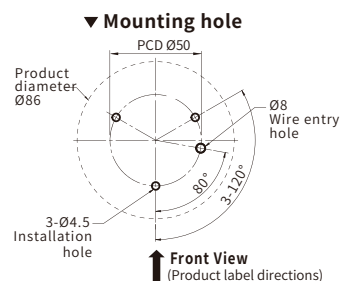
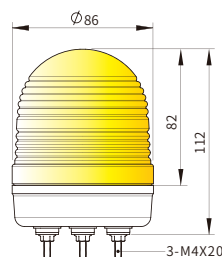


■ Steady light

■ Flashing light (80times/min)

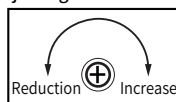
■ Flashing light (240times/min)

## Dimensions (Unit:mm)



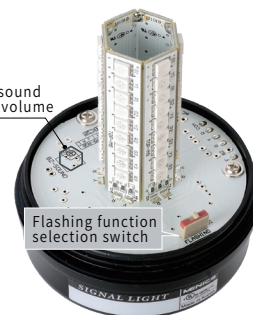
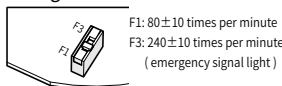
## Feature setting

### - Adjusting of buzzer sound



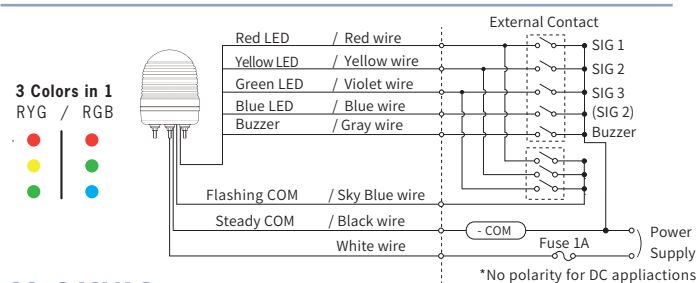
The buzzer sound adjustment volume

### - Flashing feature selection

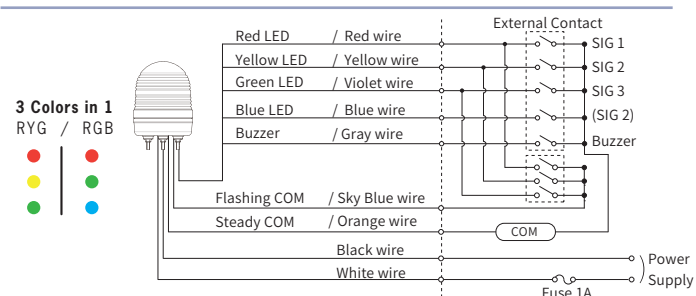


## Connection Diagram

### 12~24VAC



### 90~240VAC





# MS86S Series D86mm Xenon Lamp Strobe Light



Strobe Light of High Brightness, Excellent Visibility from a Distance  
Improving Visibility by Employing Special Scattering Lens



## Ordering information

**MS86S - S 00 - R**  
① ② ③

### ① Body option

|   |                  |
|---|------------------|
| S | Molding type     |
| N | Not molding type |

### ② Power supply

|    |                                 |
|----|---------------------------------|
| 00 | 12~24VAC/DC                     |
| 10 | 110VAC (Molding not applicable) |
| 20 | 220VAC (Molding not applicable) |

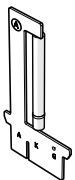
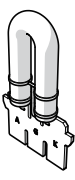
### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

## Specifications

|                             |  |
|-----------------------------|--|
| Dimension                   | 86mm   |
| Light source                | Xenon lamp   |
| Power supply                | 12~24VAC/DC, 110VAC, 220VAC (50/60Hz)                  |
| Mounting method             | Body direct mounting, L-shaped bracket                 |
| Lens color                  | Red, Yellow, Green, Blue, Clear (Material: PC resin)   |
| Flashing rate               | Approx. 80±10times/minute                              |
| Current consumption (±10%)  | - 12~24V: 0.08~0.15A<br>- 110V: 0.07A<br>- 220V: 0.03A |
| Vibration                   | 0.75mm at 10~55Hz                                      |
| Ambient temperature         | -20 to 40°C  |
| Storage ambient temperature | -20 to 70°C  |
| Ambient humidity            | 45~85% RH  |
| Protection structure        | IP65   |
| Approval                    | UL, RoHS   |
| Connection                  | UL2464/22AWGx2C  |
| Weight                      | App.300g - Mold type, App.200g - Standard              |

## Replacement Lamp Specifications

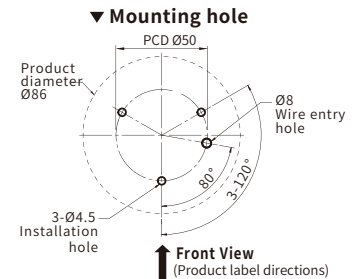
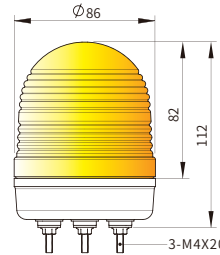
| Supplier No.  | MS86S-LAMP-02   | Supplier No.  | MS86S-LAMP-10   |
|---|---|---|---|
|  | Xenon Lamp<br>I - Type, 3W<br>12~24V<br>Lamp life: 1,000,000<br>Frequency.<br>(2,000 hours) |  | Xenon Lamp<br>U - Type, 6W<br>AC110V<br>Lamp life: 1,000,000<br>Frequency.<br>(2,000 hours) |

## Product Feature

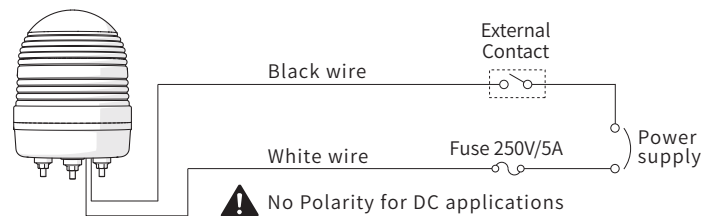
- Xenon Lamp type
- Wide light distribution with prism-cut dome-shaped lens
- Outstanding visibility at distance
- Application of replaceable lamp in PCB module
- Red, Yellow, Green, Blue and Clear lens available
- IP65 rated



## Dimensions (Unit:mm)



## Connection Diagram



## Optional Parts

### 1. Mounting Pole



### 2. Wall Mount Brackets



See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MS115S Series D115mm Xenon Lamp Strobe Light

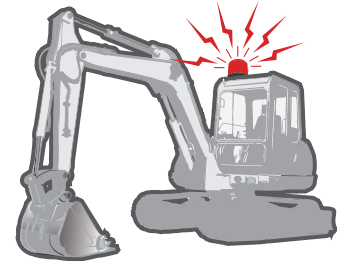


Strobe Light of High Brightness, Excellent Visibility from a Distance. Improving visibility by Employing Special Scattering Lens.



## Product Feature

- Xenon Strobe light
- Wide light distribution with prism-cut dome-shaped lens
- Outstanding visibility at distance
- PCB module style Xenon lamp
- Fast and easy replacement of lamp
- Red, Yellow, Green, Blue and Clear lens available
- IP65 rated



## Ordering information

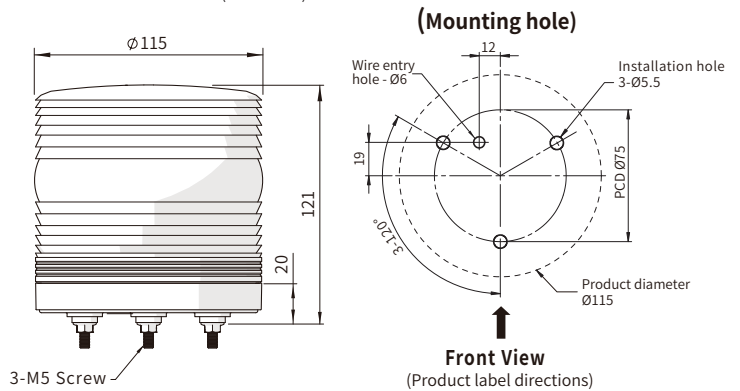
**MS115S - S 20 - R**

| ① Power Supply |             | ② Lens Color |        |   |       |
|----------------|-------------|--------------|--------|---|-------|
| 00             | 12~24VAC/DC | R            | Red    | B | Blue  |
| 10             | 110VAC      | Y            | Yellow | C | Clear |
| 20             | 220VAC      | G            | Green  |   |       |

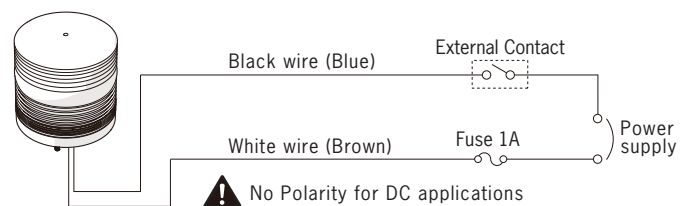
## Specifications

|                             |  |
|-----------------------------|--|
| Dimension                   | 115mm  |
| Light source                | Xenon Lamp   |
| Power supply                | 12 ~ 24VAC/DC, 110VAC, 220VAC<br>(OPTION : 48VAC/DC)   |
| Mounting method             | Body direct mounting , L-shaped bracket                |
| Lens colors                 | Red, Yellow, Green, Blue, Clear (Material: PC resin)   |
| Flashing rate               | 60 ± 10 times/minute                                   |
| Current Consumption (±10%)  | - 12~24V: 0.08~0.15A<br>- 110V: 0.07A<br>- 220V: 0.03A |
| Vibration                   | 0.75mm at 10~55Hz                                      |
| Ambient temperature         | -20 to 40°C  |
| Storage ambient temperature | -20 to 70°C  |
| Ambient humidity            | 45 ~ 85% RH  |
| Protection structure        | IP65   |
| Approval                    | UL, RoHS   |
| Connection                  | UL 2464, 22AWGx2C                                      |
| Weight                      | Approx.315g  |

## Dimensions (unit: mm)



## Connection Diagram



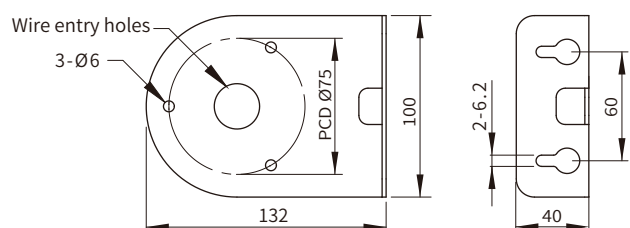
## Optional Parts

### Wall Mount Bracket (unit: mm)



## Replacement Lamp Specifications

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



# MS115L Series D115mm LED Signal Light



LED Multi Signal Light featuring two flashing patterns for diverse use.

## Product Feature

- Newly Developed Triple-reflection System : For enhanced visibility and low power consumption
- Enhanced Illumination : Use of long-life, super bright LED
- Semi-permanent in the self-life of light source and suitable for machines having lots of vibration and impact
- Built-in Buzzer (80dB)
- Red, Yellow, Green, Blue and Clear lens available
- Energy Efficient : Low power consumption



## Ordering information

**MS115L - F 02 - R**  
 ① ② ③

### ① Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |

### ② Power Supply

|    |           |
|----|-----------|
| 02 | 24VAC/DC  |
| FF | 90~240VAC |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

## Specifications

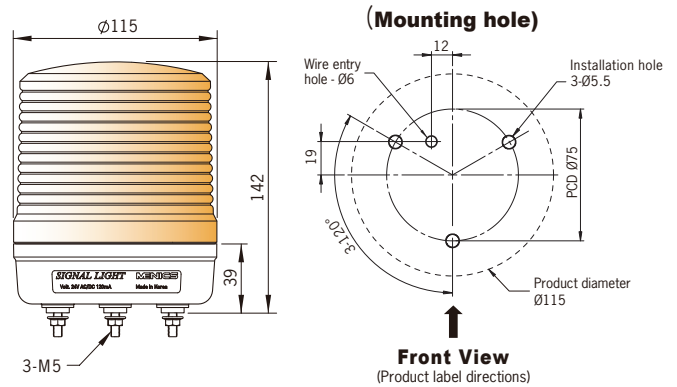
|                             |                                  |
|-----------------------------|----------------------------------|
| Function                    | Steady, Flashing, Buzzer         |
| Power supply                | 24VAC/DC, 90~240VAC (50/60 Hz)   |
| Buzzer volume               | Approx. 80±5 dB (at 1M)          |
| Lens color                  | Red, Yellow, Green, Blue & Clear |
| Dimension                   | 115mm                            |
| Flashing rate               | 80±10 times/minute               |
| Vibration                   | 0.75mm at 10~55Hz                |
| Ambient temperature         | -20 to 40°C                      |
| Storage ambient temperature | -20 to 70°C                      |
| Ambient humidity            | 45~85% RH                        |
| Protection structure        | IP65                             |
| Approval                    | UL, RoHS                         |
| Connection                  | UL2464/22AWGx2C                  |
| Weight                      | Approx. 325g                     |

Note: Life of the LED varies according to operating conditions and environment

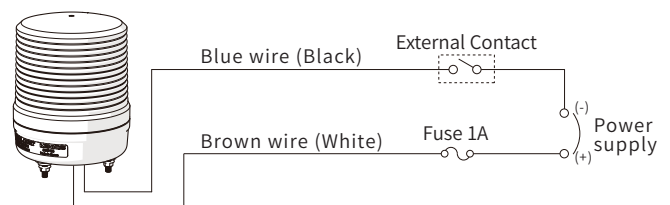
## Current Consumption (RMS value ±10%)

| PowerSupply | 24VAC/DC |        | 90~240VAC |        |
|-------------|----------|--------|-----------|--------|
|             | General  | Buzzer | General   | Buzzer |
| Red         | 0.13A    | 0.16A  |           |        |
| Yellow      | 0.11A    | 0.14A  |           |        |
| Green       | 0.25A    | 0.28A  | 0.07A     | 0.10A  |
| Blue        | 0.25A    | 0.28A  |           |        |
| White       | 0.29A    | 0.32A  |           |        |

## Dimensions

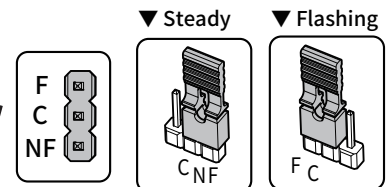
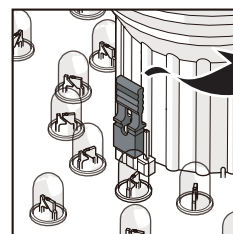


## Connection Diagram



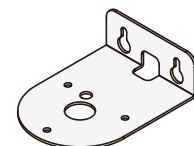
## Feature setting

### Steady or Flashing Conversion dip Switch



## Optional Parts

### Wall Mount Bracket



MAM-DS29  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MS115T Series D115mm Multi Function LED Signal Light



LED Strobe Light of High Brightness, Excellent Visibility from a Distance. Improving Visibility by Employing Special Scattering Lens.



## Ordering information

**MS115T - F 00 - R - L**

① ② ③ ④

### ① Light Style

|   |                                       |
|---|---------------------------------------|
| F | Steady + Flashing                     |
| R | Steady + Flashing + Rotating          |
| B | Steady + Flashing + Rotating + Buzzer |

### ② Power Supply

|    |             |
|----|-------------|
| 00 | 12~24VAC/DC |
| FF | 90~240VAC   |

### ③ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ④ Base Type

|         |           |
|---------|-----------|
| No mark | 20mm Body |
| L       | 40mm Body |

## Specifications

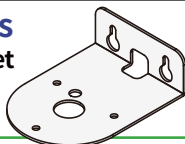
|  |   |                              |
|--|---|------------------------------|
| Function   | Steady, Flashing, Rotating, Buzzer  |                              |
| Power supply   | 12~24VAC/DC, 90~240VAC  |                              |
| Dimension  | 115mm   |                              |
| Material   | Lens: PC resin, Body: ABS resin   |                              |
| Buzzer volume  | 10~100±5dB (at 1m) volume adjustable  |                              |
| Flashing rate<br>(Internal PCB board is dip switch controls) | F1: 80±10 times per minute<br>F3: 240±10 times per minute (Emergency Signal lights) |                              |
| Rotating rate  | Min.60 ~ Max.300±10rpm (Clockwise rotation)   |                              |
| Connection method  | Lead wire Connection  |                              |
| Insulation resistance  | 100MΩ minimum (500VDC megger)   |                              |
| Ambient temperature  | -20 to 40°C   |                              |
| Storage ambient temperature                                  | -20 to 70°C   |                              |
| Ambient humidity   | 45~85% RH (no condensation)   |                              |
| Protection structure   | IP65  | Vibration: 0.75mm at 10~55Hz |
| Approval   | UL, RoHS  |                              |
| Connection   | 1007UL / 22AWG  |                              |
| Weight   | App. 360g   |                              |

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

## Current Consumption (RMS value ±10%)

| Power supply | Red     | Yellow | Green | Blue  | White |       |
|--------------|---------|--------|-------|-------|-------|-------|
| 12~24V       | General | 0.54A  | 0.53A | 0.25A | 0.54A | 0.24A |
|              | Buzzer  | 0.69A  | 0.69A | 0.39A | 0.69A | 0.39A |
| 90~240V      | General | 0.08A  | 0.07A | 0.04A | 0.08A | 0.04A |
|              | Buzzer  | 0.23A  | 0.23A | 0.19A | 0.23A | 0.19A |

**Optional Parts**  
Wall Mount Bracket  
MAM-DS29  
Steel

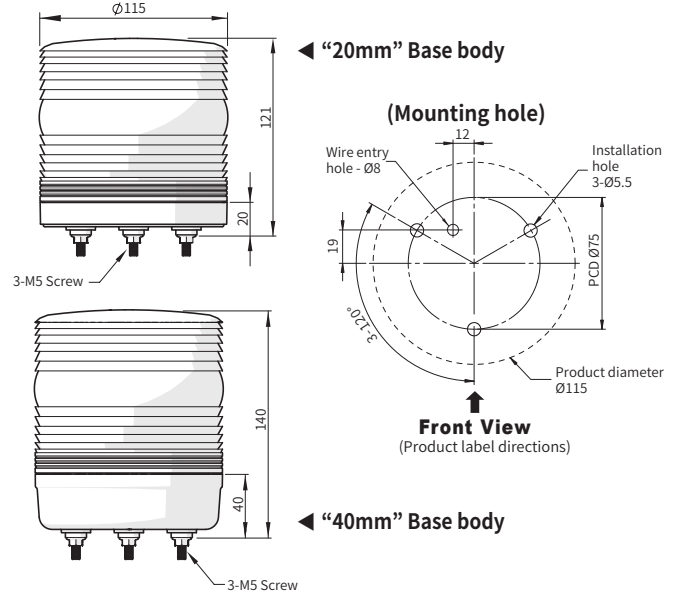


See Page 80 ~ 81 >>  
for Dimensions

## Product Feature

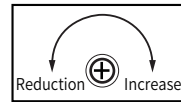
- Extremely high light output using unique LED technology
- Wide light distribution with prism-cut dome-shaped lens
- Outstanding visibility at distance
- Flashing Cycles : 2 patterns (Selected by a switch)
- Adjustable flashing or rotating cycles
- Built-in buzzer (adjustable volume)
- Red, Yellow, Green, Blue and Clear lens available

## Dimensions (unit: mm)

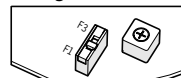


## Feature setting

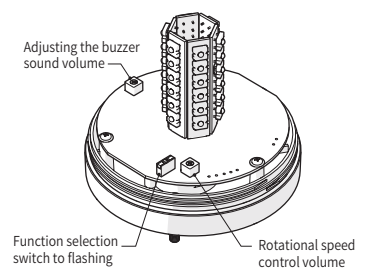
- Adjusting of buzzer sound / Rotation



- Flashing feature selection

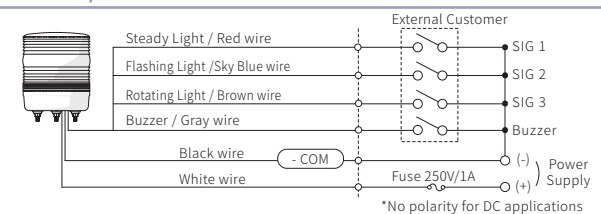


F1: 80±10 times per minute  
F3: 240±10 times per minute (emergency signal display light)

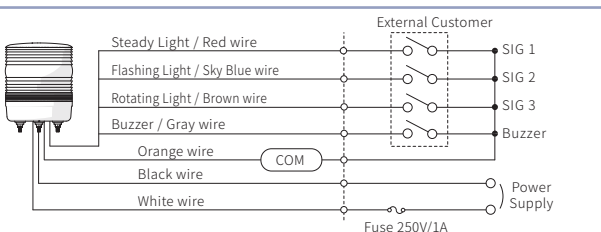


## Connection Diagram

12~24VAC/DC



90~240VAC



# MS115M Series D115mm LED 3 Colors in 1 Signal Light



LED Strobe Light of High Brightness, Excellent Visibility from a Distance. Improving Visibility by Employing Special Scattering Lens.



## Ordering information

**MS115M - B FF - RYG - L**

① ② ③ ④

### ① Light Style

|   |                            |    |             |
|---|----------------------------|----|-------------|
| F | Steady + Flashing          | 00 | 12~24VAC/DC |
| B | Steady + Flashing + Buzzer | FF | 90~240VAC   |

### ② Power supply

### ③ LED Color

|     |                      |         |                |
|-----|----------------------|---------|----------------|
| RYG | Red + Yellow + Green | No mark | 20mm Base body |
| RGB | Red + Green + Blue   | L       | 40mm Base body |

### ④ Base type (base height)

## Specifications

|  |   |
|--|---|
| Function   | Steady, Flashing, Buzzer  |
| Power supply   | 12~24VAC/DC, 90~240VAC  |
| Buzzer volume  | 10~100±5dB (at 1M), volume adjustable                                     |
| Dimension  | 115mm   Lens color: Clear   |
| Material   | Body : ABS resin, Cap : PC resin  |
| Flashing rate<br>(Internal PCB board is dip switch controls) | F1: 80±10times/minute<br>F3: 240±10times/minute (Emergency Signal lights) |
| Connection method  | Lead wire Connection  |
| Insulation resistance  | 100MΩ minimum (500VDC megger)   |
| Vibration  | 0.75mm at 10~55Hz   |
| Ambient temperature  | -20 to 40°C   |
| Storage ambient temperature                                  | -20 to 70°C   |
| Ambient humidity   | 45 ~ 85% RH   |
| Protection structure   | IP65  |
| Approval   | UL, RoHS  |
| Connection   | 1007UL/22AWG  |
| Weight   | App. 360g   |

## Current consumption (RMS value ±10%)

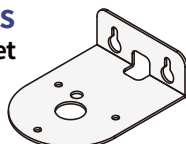
| LED Colors | 12V   |       | 12VDC |       | 90VAC | 110VAC | 220VAC |
|------------|-------|-------|-------|-------|-------|--------|--------|
|            | AC    | DC    | AC    | DC    |       |        |        |
| Red        | 0.39A | 0.21A | 0.25A | 0.11A | 0.07A | 0.06A  | 0.04A  |
| Yellow     | 0.38A | 0.20A | 0.24A | 0.11A | 0.06A | 0.06A  | 0.04A  |
| Green      | 0.42A | 0.25A | 0.30A | 0.14A | 0.09A | 0.07A  | 0.05A  |

▲ Combined current consumption of both LED Steady light and sound

## Optional Parts

### Wall Mount Bracket

MAM-DS29  
Steel



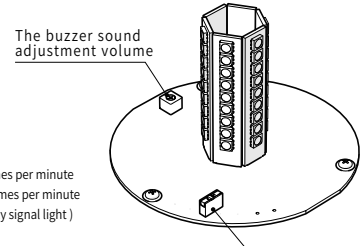
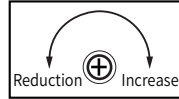
See Page 80 ~ 81 >>  
for Dimensions

## Product Feature

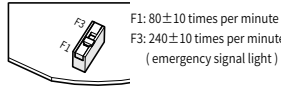
- 3 colors in 1 LED modular components
- Bright & even light distribution through prism-cut lenses
- Multi-functional LED signal light
- Flashing Cycles : 2 patterns (Selectable by a switch)
- Optional 100dB Buzzer (adjustable volume)
- IP65 rated
- RoHS compliant

## Feature setting

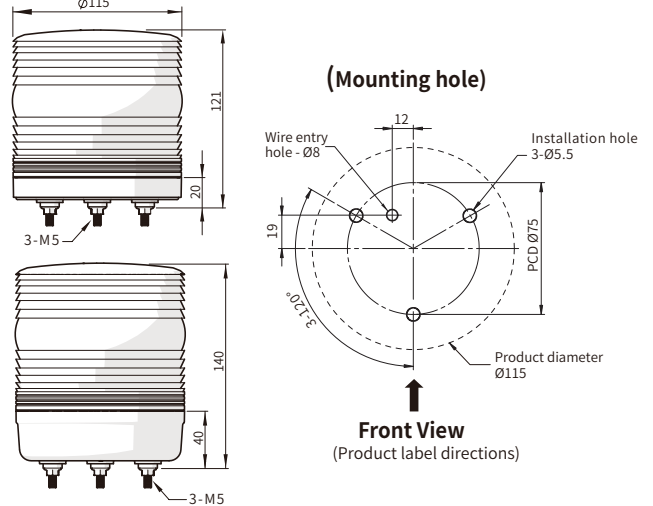
- Adjusting of buzzer sound



- Flashing feature selection

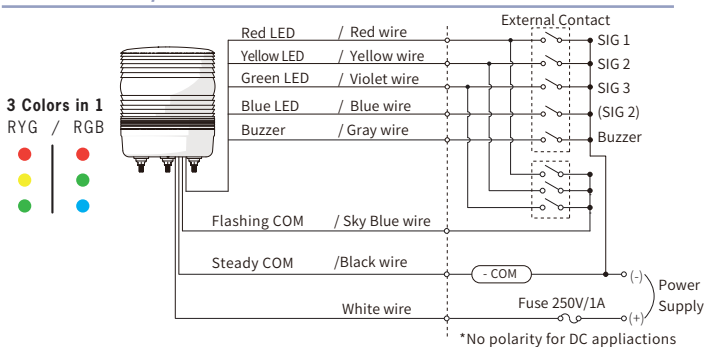


## Dimensions (unit: mm)

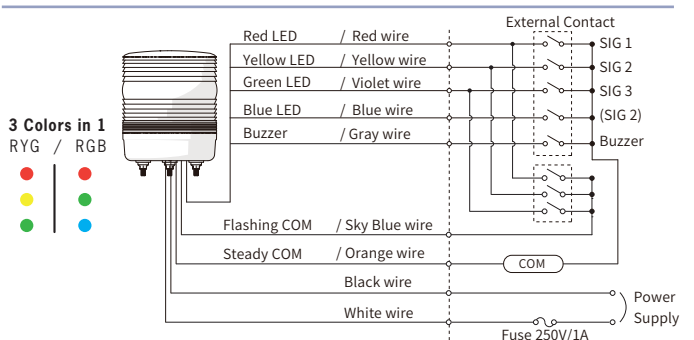


## Connection Diagram

### 12 ~ 24VAC/DC



### 90 ~ 240VAC



# MS115C Series D115mm Only Flashing LED Signal Light

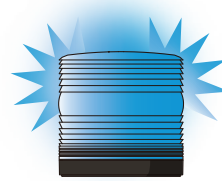


LED Strobe Light of High Brightness, Excellent Visibility from a Distance. Improving Visibility by Employing Special Scattering Lens. Semi-permanent in the lifespan of light source and suitable for machines having.

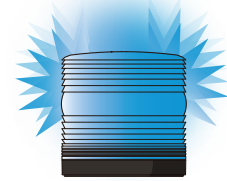


## Product Feature

- Apply a low body (20mm)
- Semi-permanent in the lifespan of light source and suitable for machines having
- Wide light distribution with prism-cut dome-shaped lens
- Flashing Cycles : 2 patterns (Selectable by a switch)
- Red, Yellow, Green, Blue and Clear lens available
- Installation : upright, inverted, sideways
- IP65 rated



■ Flashing light (80times/min)



■ Flashing light (240times/min)

## Ordering information

**MS115C - F00 - Y**

### ① Power Supply

|    |          |
|----|----------|
| 00 | 12~24VDC |
|----|----------|

### ② Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

## Specifications

|  |   |                              |  |
|--|---|------------------------------|--|
| Function   | Flashing  |                              |  |
| Power supply   | 12~24VDC  |                              |  |
| Dimension  | 115mm   |                              |  |
| Material   | Lens : PC resin , Body : ABS resin  |                              |  |
| Flashing rate<br>(Internal PCB board is dip switch controls) | F1: 80±10 times per minute<br>F3: 240±10 times per minute (Emergency Signal lights) |                              |  |
| Ambient temperature  | -20 to 40°C   |                              |  |
| Storage ambient temperature                                  | -20 to 70°C   |                              |  |
| Ambient humidity   | 45~85% RH   |                              |  |
| Protection structure   | IP65  | Vibration: 0.75mm at 10~55Hz |  |
| Approval   | UL, RoHS  |                              |  |
| Connection   | 1007UL/22AWG  |                              |  |
| Weight   | App. 325g   |                              |  |

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

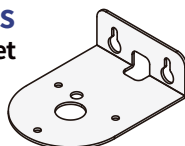
## Current Consumption

| Volt.    | LED. | Red         | Yellow | Green | Blue | Clear |
|----------|------|-------------|--------|-------|------|-------|
| 12 ~ 24V |      | 565 ~ 900mA |        |       |      |       |

## Optional Parts

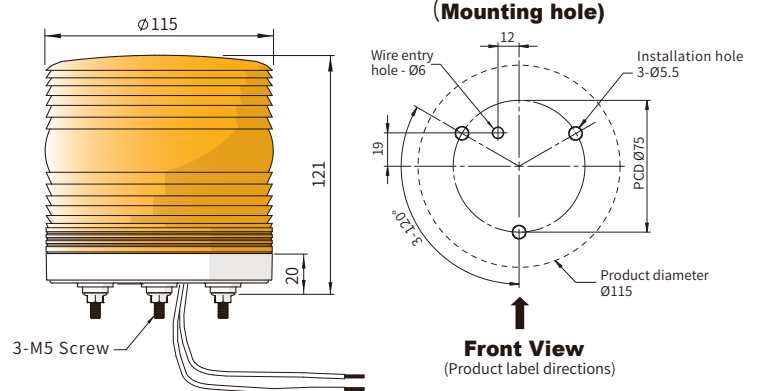
### Wall Mount Bracket

MAM-DS29  
Steel

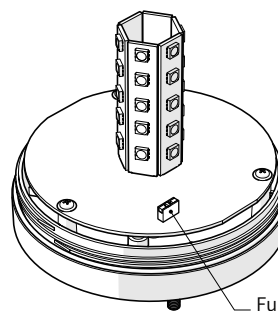


See Page 80 ~ 81 >>  
for Dimensions

## Dimensions (unit: mm)

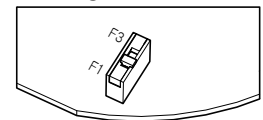


## Feature setting



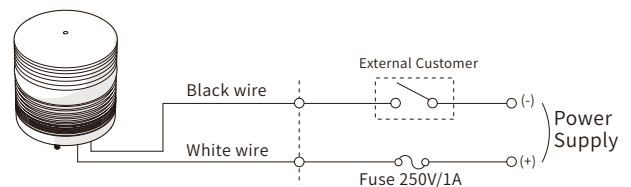
Function selection switch to flashing

### - Flashing feature selection



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

## Connection Diagram



# MS135T Series D135mm LED Large Warning Signal Light



MS135T series is a large 135mm LED Warning Light of multi-functional that is designed to inject LED light effectively both indoor and outdoor and both day and night securing an excellent visibility. It secures an excellent visibility for both distant place and just under the bottom of the even when mounted high.



## Ordering information

**MS135 T - B 00 - R**

① ② ③ ④

### ① Product Model Type

|    |                              |
|----|------------------------------|
| T  | Standard type                |
| TP | Aluminium Pole mounting type |

### ③ Power supply

|    |            |
|----|------------|
| 00 | 12~24VDC   |
| FF | 100~240VAC |

### ④ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | C | Clear |
| G | Green  |   |       |

### ② Light Style (NOTE)

|   |                              |
|---|------------------------------|
| R | Flashing + Rotating          |
| B | Flashing + Rotating + Buzzer |
| M | Flashing + Rotating + Melody |
| S | Flashing + Rotating + Siren  |

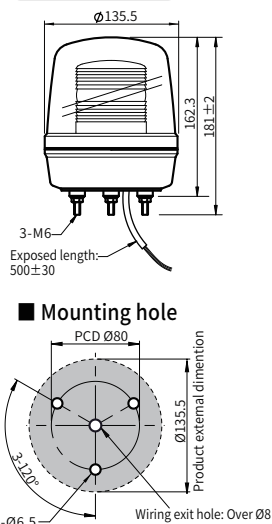
(NOTE)

MS135T function option : R, B, M, S

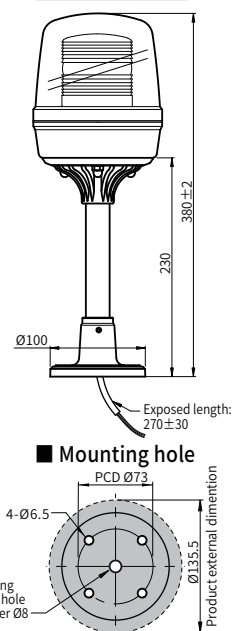
MS135TP function option : R, B only

## Dimensions (unit: mm)

### MS135T series



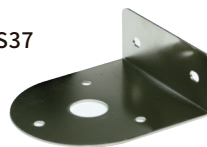
### MS135TP series



## Optional Parts

### Wall Mount Bracket

MAM-DS37  
Steel



MS135P type only  
MAM-DS38  
Steel



See Page 80 ~ 81 >> for Mounting Options and Accessories.

## Specifications

|  |   |                                   |  |
|--|---|-----------------------------------|--|
| Function                                   | Flashing(emergency signal flash pattern), rotating, Buzzer            |                                   |  |
| Power supply                               | 12~24VDC±5%, 100~240VAC (AC. 50/60Hz)                                 |                                   |  |
| Light source                               | LED   |                                   |  |
| Dimension                                  | 135.5mm   |                                   |  |
| Flash rate                                 | 240±5 time/min  | Rotating rate                     | 60~300 rpm/min                             |
| Buzzer volume<br>(Built-in volume control) | intermittent sound<br>(Beep-Beep-Beep)<br>: 75~100±5dB (1M)           | Sound volume<br>(built-in volume) | 55~80±5dB (1M)                             |
|  |   | Melody                            | for Elise, Home sweet home<br>Cuckoo waltz |
| Lens color                                 | Red, Yellow, Green, Blue, Clear                                       | Siren                             | Fire, Police, Ambulance                    |
| Mounting method                            | MS135T: Direct mounting on the body / MS135TP: aluminum base 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                                  | 10 ~ 55Hz (1 min.cycle) Double amplitude 0.75mm X, Y, Z               |                                   |  |
| Protection structure                       | IP65  |                                   |  |
| Connection                                 | UL2464/22AWG  |                                   |  |
| Approval                                   | RoHS  |                                   |  |
| Weight                                     | MS135T series - app.555g  | MS135TP series -                  | app.935g                                   |

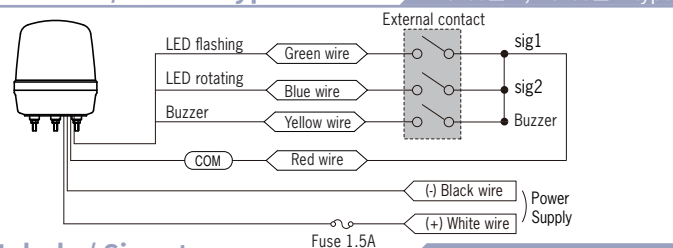
## Current Consumption

| Product color | Standard type |          | Buzzer type |          | Melody / Siren |          |
|---------------|---------------|----------|-------------|----------|----------------|----------|
|               | 12~24V        | 110~220V | 12~24V      | 110~220V | 12~24V         | 110~220V |
| Red           | 0.75A         | 0.10A    | 0.78A       | 0.13A    | 0.90A          | 0.14A    |
| Yellow        | 0.75A         | 0.10A    | 0.78A       | 0.13A    | 0.90A          | 0.14A    |
| Green         | 0.72A         | 0.08A    | 0.75A       | 0.10A    | 0.90A          | 0.14A    |
| Blue          | 0.72A         | 0.08A    | 0.75A       | 0.10A    | 0.90A          | 0.14A    |
| Clear         | 0.75A         | 0.10A    | 0.78A       | 0.12A    | 0.90A          | 0.14A    |

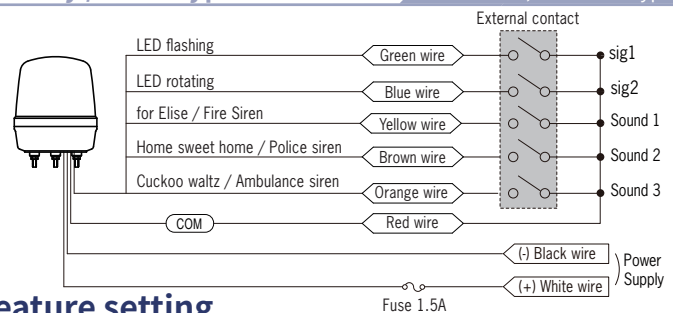
Note: Life of the LED vary depending on the operating condition or environment.

## Connection Diagram

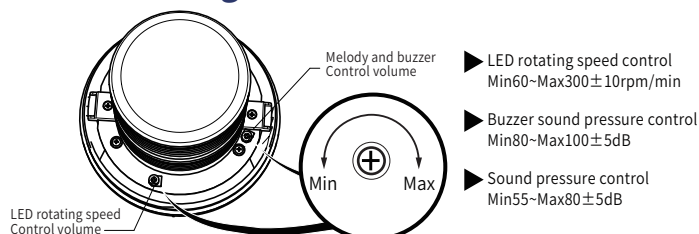
### Standard / Buzzer type



### Melody / Siren type



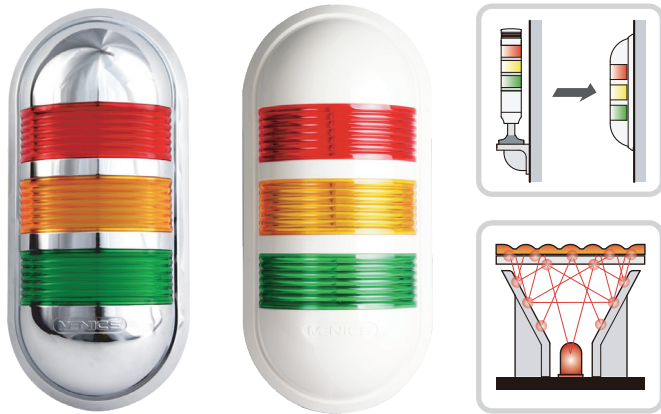
## Feature setting



# PWE Series D90mm Wall Mounting Type Signal Light

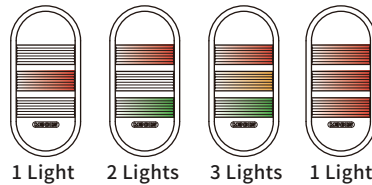


Ultra-Slim Signal Lights that offer seamless integration with equipment.



## Product Feature

- Slim Profile Wall Mount
- Easy Mounted vertically and horizontally
- Equivalent brightness in every angle
- Steady and flashing lights
- Vibration and moisture resistant



For information of Special specifications Please contact us.

## Ordering information

**PWE C F - 3 02 - RYG**

① ② ③ ④ ⑤

### ① Body Color

|         |                |
|---------|----------------|
| No mark | Ivory          |
| C       | Silver Coating |

### ② Light Style

|         |                            |
|---------|----------------------------|
| No mark | Steady                     |
| F       | Steady + Flashing          |
| B       | Steady + Buzzer            |
| Z       | Steady + Flashing + Buzzer |

### ③ Number of Stack

|   |          |
|---|----------|
| 1 | 1 Stack  |
| 2 | 2 Stacks |
| 3 | 3 Stacks |

### ④ Power Supply

|    |             |
|----|-------------|
| 01 | 12VAC/DC    |
| 02 | 24VAC/DC    |
| FF | 90 ~ 240VAC |

### ⑤ LED Color (Top to Bottom)

|    |             |     |                      |
|----|-------------|-----|----------------------|
| R  | Red         | RYG | Red + Yellow + Green |
| RG | Red + Green | RBG | Red + Blue + Green   |

## Specifications

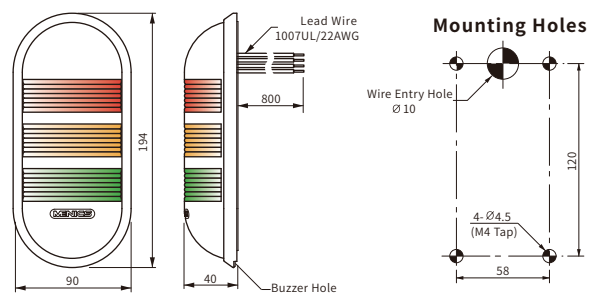
|                             |   |                         |
|-----------------------------|---|-------------------------|
| Function                    | Steady, Flashing, Buzzer                        |                         |
| Power supply                | 12VAC/DC, 24VAC/DC, 90~240VAC (AC 50/60Hz)      |                         |
| Light source                | LED   |                         |
| Lens color                  | Red, Yellow, Green, Blue                        |                         |
| Dimension                   | Width: 90mm, Thickness: 40mm, Length: 194mm     |                         |
| Flashing rate               | 80 ± 5 times per minute                         |                         |
| Buzzer volume               | 80 ± 5dB (at 1M, Sound Level is maximum)        |                         |
| Mounting method             | Wall mounting only (Upright, Reverse, Sideways) |                         |
| Connection method           | Lead wire connection                            |                         |
| Ambient temperature         | -20 ~ 40°C                                      |                         |
| Storage ambient 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                               |                         |
| Connection                  | UL1007/22AWG                                    | Approval : UL, CE, RoHS |
| Protection structure        | IP65 (IP52-Buzzer type)                         |                         |
| Weight (Buzzer type)        | Approx. 340g                                    |                         |

## Current Consumption (RMS value ±10%)

| PowerSupply       | 12VAC/DC  |         | 24VAC/DC |         | 90~240VAC |         |        |
|-------------------|-----------|---------|----------|---------|-----------|---------|--------|
|                   | LED Color | 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  |

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

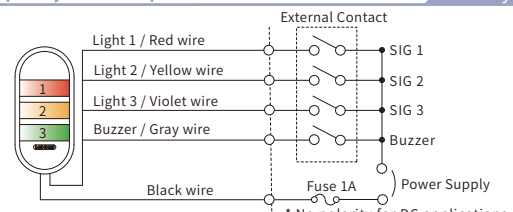
## Dimensions <Unit: mm>



## Connection Diagram

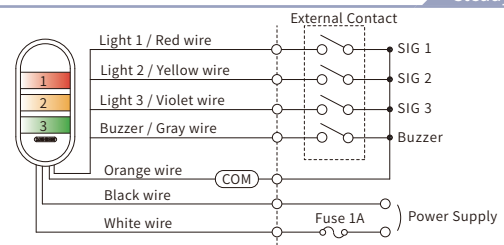
### 12VAC/DC, 24VAC/DC

Steady / Buzzer



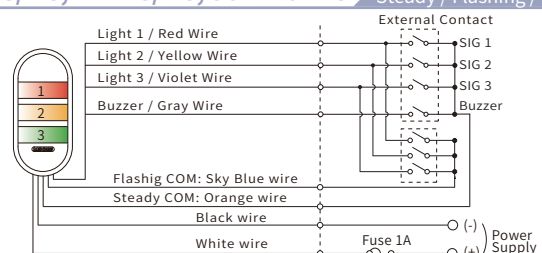
### 90~240VAC

Steady / Buzzer



### 12VAC/DC, 24VAC/DC, 90~240VAC

Steady / Flashing / Buzzer





# MWE Series D90mm Wall Mounting Type Multicolor Signal Light (Single lens)



MWE Series are manufactured from Lens using LED-only synthetic resin, so it displays natural and detail color of the LED Lighting. The diffusion and transmission ratio of the LED Lighting are very good regardless of angle. This slim product offers seamless integration with equipment.



Body : Ivory      Body : Ivory      Body : Silver Coating  
 Lens : Clear Lens      Lens : Milky Lens      Lens : Milky Lens

## Ordering information

MWE **C** **F** - **4** **00** - **RYGB** (**M**)  
 ① ② ③ ④ ⑤ ⑥ \* option

### ① Body Color

|         |                |
|---------|----------------|
| No mark | Ivory          |
| C       | Silver Coating |

### ② Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |

### ③ Number of Stack

|   |                 |
|---|-----------------|
| 3 | 3 Color signals |
| 4 | 4 Color signals |

### ④ Power Supply

|    |            |
|----|------------|
| 00 | 12 ~ 24VDC |
| FF | 110~220VAC |

### ⑤ LED Color

|      |                             |
|------|-----------------------------|
| RGB  | Red + Green + Blue          |
| RYG  | Red + Yellow + Green        |
| RYGB | Red + Yellow + Green + Blue |

### ⑥ Color of Front lens \* option

|         |            |
|---------|------------|
| No mark | Clear lens |
| (M)     | Milky lens |

## Specifications

|                             |  |
|-----------------------------|--|
| Function                    | Steady, Flashing, Buzzer   |
| Power supply                | 12~24VDC, 110~220VAC (AC: 50/60Hz)   |
| Light source                | LED  |
| LED color                   | 3 colors: RGB/RYG, 4 colors: RYGB  |
| Dimension                   | Width: 90mm, Thickness: 40mm, Length: 194mm  |
| Flashing rate               | 12VDC: 80±5times per minute<br>24VDC: 85±5times per minute<br>110~220VAC: 85±5times per minute |
| Lens color                  | Standard type: Clear, Option: Milky white  |
| Buzzer volume               | 75±5dB (at 1M, Sound Level is maximum)   |
| Mounting method             | Wall mounting only (Upright, Reverse, Sideways)  |
| Connection method           | Lead wire connection   |
| Ambient temperature         | -20 ~ 40°C   |
| Storage ambient 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  |
| Connection                  | UL1007/22AWG   Certification   UL, CE, RoHS  |
| Protection structure        | IP65 (IP52-Buzzer type)  |
| Weight (Buzzer type)        | AC type - App. 300g, DC type - App. 293g   |

“New concept LED display that can change color from 1 color to 4 colors on one display window”

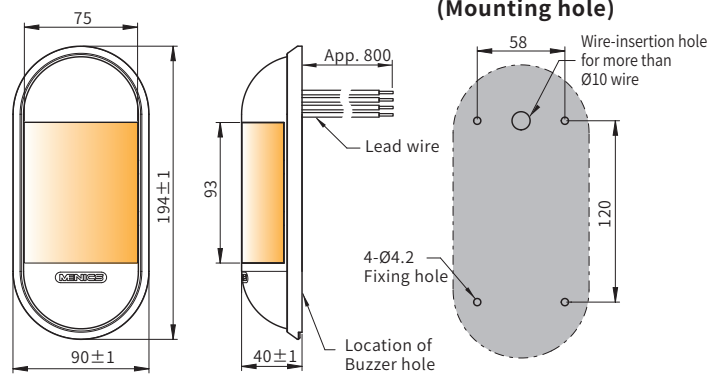
## Product Feature

- 4 Colors (Red, Yellow, Green, Blue) / 3 Colors (Red, Green, Blue) Signal Light
- Large LED Light-emitting Lens: Length: 93mm
- 40mm thick, slim product offers seamless integration with equipment
- Optional built-in Buzzer: IP65 (Buzzer type: IP52)
- Letters, Symbols and Company Logos can be carved and attached to the Front lens using sheet.

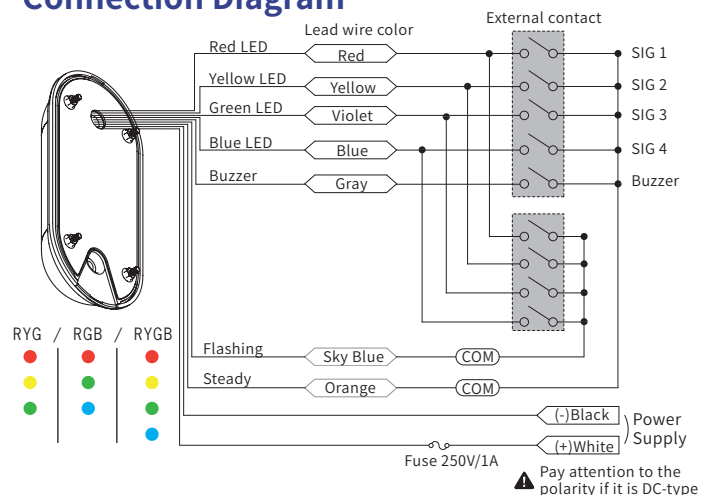
## Current Consumption (RMS value ±10%)

| PowerSupply         | 12~24VDC |        | 110~220VAC |        |
|---------------------|----------|--------|------------|--------|
|                     | General  | Buzzer | General    | Buzzer |
| Current consumption | 0.50A    | 0.60A  | 0.07A      | 0.07A  |

## Dimensions <Unit: mm>



## Connection Diagram



## RGB LED Color Chart (12~24VDC only)

| 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     |



This 3 colors in 1 signal light offers wide visibility and multi-channel analog input. When one signal line is activated the LEDs illuminate the entire screen, and when the second line is activated the screen splits in two showing two different colors.



**Clear lens**

high intensity LEDs and prism-cut lens provides great visibility at long distance (Long distance applications)



**Milky white lens**

offers a softer light brightness helping prevent eye exhaustion from the light (short distance applications)

### Ordering information

MWET **C** **F** - **3** **00** - **RYGB** (M) ※ option

① ② ③ ④ ⑤ ⑥

#### ① Body Color

|         |                |
|---------|----------------|
| No mark | Ivory          |
| C       | Silver Coating |

#### ④ Power Supply

|    |            |
|----|------------|
| 00 | 12 ~ 24VDC |
| FF | 110~220VAC |

#### ② Light Style

|   |                            |
|---|----------------------------|
| F | Steady + Flashing          |
| B | Steady + Flashing + Buzzer |

#### ⑤ LED Color

|     |                      |
|-----|----------------------|
| RGB | Red + Green + Blue   |
| RYG | Red + Yellow + Green |

#### ③ LED Color Type

|   |                |
|---|----------------|
| 3 | 3 Color signal |
|---|----------------|

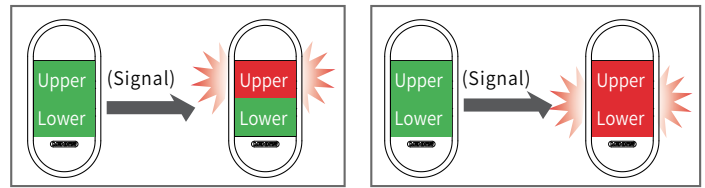
#### ⑥ Color of Front lens ※ option

|         |            |
|---------|------------|
| No mark | Clear lens |
| (M)     | Milky lens |

### Specifications

|                             |  |
|-----------------------------|--|
| Function                    | Steady, Flashing, Buzzer   |
| Power supply                | 12~24VDC, 110~220VAC (AC: 50/60Hz)   |
| Current consumption         | 12~24VDC: 0.22A, 110~220VAC: 0.08A (RMS ±10%)  |
| LED color                   | 3 colors: RGB/RYG  |
| Dimension                   | Width: 90mm, Thickness: 40mm, Length: 194mm  |
| Flashing rate               | 12VDC: 80 ± 5times per minute<br>24VDC: 85 ± 5times per minute<br>110~220VAC: 85 ± 5times per minute |
| Front lens color            | Standard type: Clear-white, Option: Milky white  |
| Buzzer volume               | 75 ± 5dB (at 1M, Sound Level is maximum)   |
| Mounting method             | Wall mounting only (Upright, Reverse, Sideways)  |
| Connection method           | Lead wire connection   |
| Ambient temperature         | -20 ~ 40°C   |
| Storage ambient 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  |
| Connection                  | UL1007/22AWG   Approval   UL, RoHS   |
| Protection structure        | IP65 (IP52-Buzzer type)  |
| Weight (Buzzer type)        | AC type - App. 300g, DC type - App. 293g   |

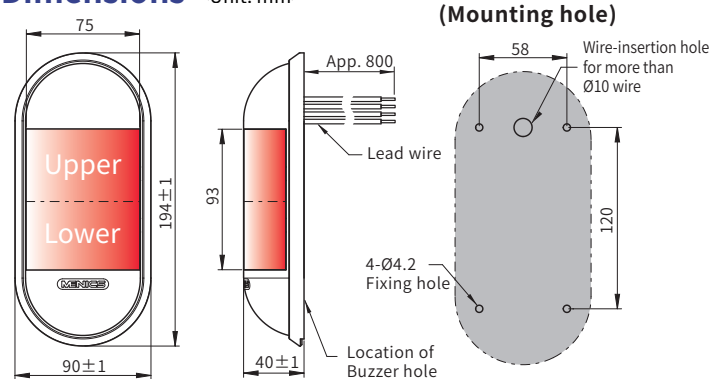
“New concept LED indicator that can transmit 1 or 2 color signals on one display window”



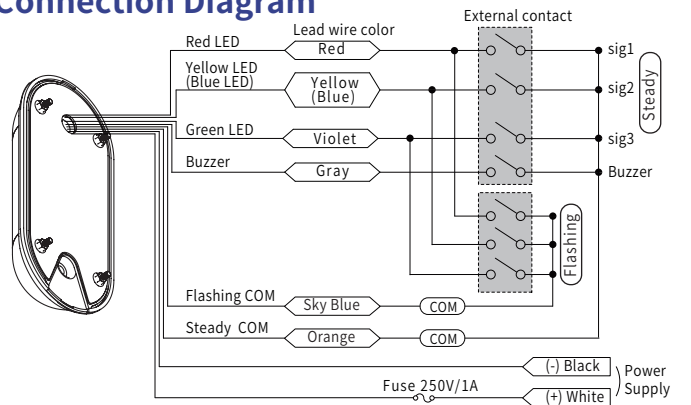
### Product Feature

- Its half capsule shape allows it to homogenize with all equipment and machines
- Easy wall mounting and its 40mm slim housing makes it suitable for application with tight spaces.
- Its 93mm lens provides great visibility at long distance.
- IP65 (IP52 with buzzer)

### Dimensions <Unit: mm>



### Connection Diagram



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

### Product Operating Conditions

#### RYG Light-Output truth table

| Conditions  | Input condition   |                          |                         | LED Output color |               |
|-------------|---|--------------------------|-------------------------|------------------|---------------|
|             | Red LED (Red wire)  | Yellow LED (Yellow wire) | Green LED (Violet wire) | Upper Display    | Lower Display |
| Condition-1 | 0   | 1                        | 1                       | Red              |               |
| Condition-2 | 1   | 0                        | 1                       | Yellow           |               |
| Condition-3 | 1   | 1                        | 0                       | Green            |               |
| Condition-4 | 0   | 1                        | 0                       | Red              | Green         |
| Condition-5 | 0   | 0                        | 1                       | Red              | Yellow        |
| Condition-6 | 1   | 0                        | 0                       | Yellow           | Green         |
| Condition-7 | 0   | 0                        | 0                       | Red              | OFF           |
| Condition-8 | 1   | 1                        | 1                       | OFF              |               |
| Remark      | 0: Orange wire (-) COM ----> Connection status<br>1: Open condition |                          |                         |                  |               |

# MQVL Series 95mm Cube LED Signal Light



Various combinations of LED warning lights for traffic signs

Multiple connection (MQVS or MQVH series)



## 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   |
| Light source            | LED  |
| Dimension               | 95 x 95 x 94 (mm)  |
| Flashing rate           | Standard - 80 ± 5 per minute<br>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<br>- Maximum cable diameter : Ø7mm<br>External locations<br>- Cable gland |
| Connection              | UL1007/AWG22   |
| Color                   | Body - Black Lens - 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<br>Storage ambient temperature: -20 ~ 70°C                            |
| Ambient humidity        | 45 ~ 85% RH  |
| Protection structure    | IP65   |
| Approval                | RoHS   |
| Weight                  | App. 300g (AC type standard)   |

## Current consumption (RMS ± 10%)

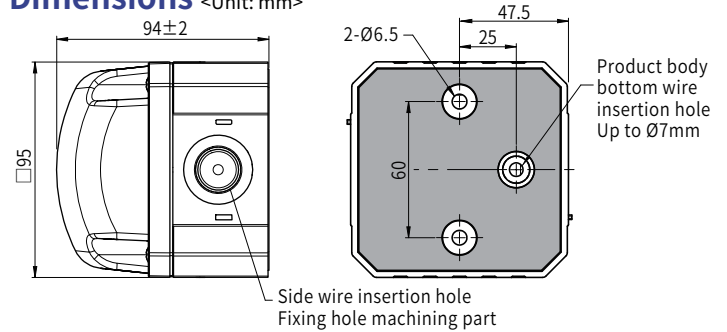
| Product LED color | MQVL Series |            |
|-------------------|-------------|------------|
|                   | 12~24VDC    | 110~220VAC |
| Red               | 0.21A       | 0.06A      |
| Yellow            | 0.21A       | 0.06A      |
| Green             | 0.21A       | 0.06A      |
| Blue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

<Note> The lifetime of LED depends on operating conditions and environment.

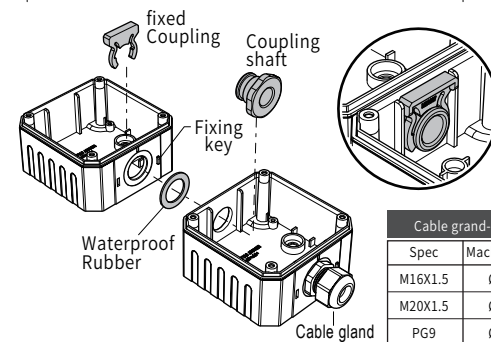
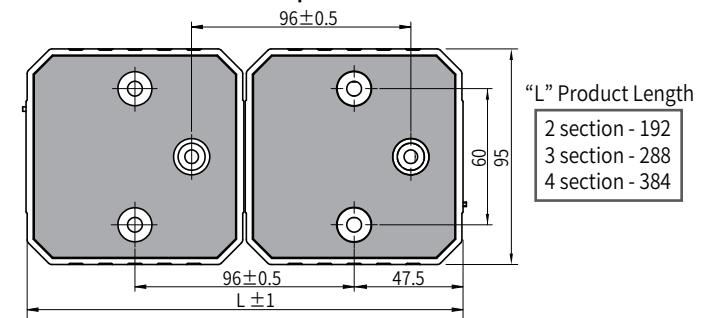
## Product Feature

- LED Function : Steady, Flashing
- Various colors can be produced according to installation conditions in row or column direction for each color
- High degree of protection IP66 construction provides excellent airtightness in outdoor and dusty areas

## Dimensions <Unit: mm>

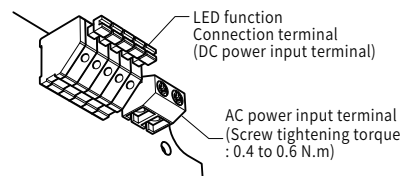
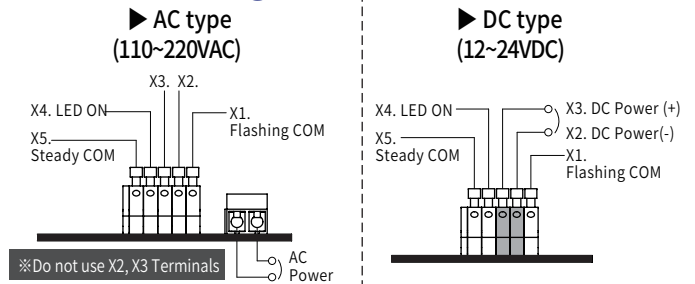


## Fixed dimensions for multiple connection



| Cable gland-Dimension of machining hole |                |                    |
|---|----------------|--------------------|
| Spec                                    | Machining hole | Suitable Cable Dia |
| M16X1.5                                 | Ø16mm          | Ø4.5-10mm          |
| M20X1.5                                 | Ø20mm          | Ø7-12.5mm          |
| PG9                                     | Ø16mm          | Ø3-8mm             |
| PG13.5                                  | Ø20mm          | Ø5-12mm            |

## Connection Diagram



<Steady Light>  
X4+X5 short

<Flashing Light>  
X1+X4 short

# MQVM Series 95mm Cube multi-color LED Signal Light

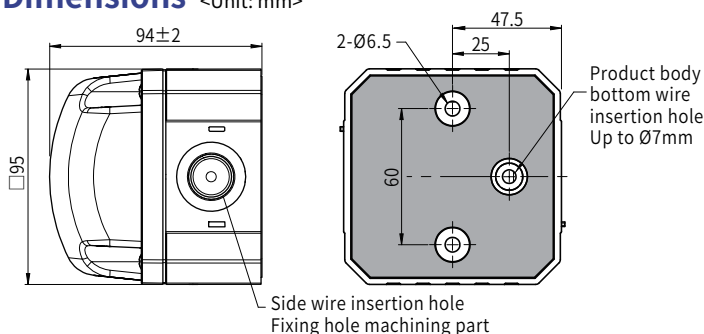


Various combinations of LED warning lights for traffic signs  
 “7 Colors in one signal light:  
 Red, Yellow, Green, Blue, Pink, Cyan, White”

## Product Feature

- LED Function : Steady, Flashing
- LED Permanent light (multi-color) in attractive quadratic form
- 7 different status warnings can be signalled by just one signal light (7 colors)
- The three basic colors (RGB/RYG) can be triggered using only two PLC outputs.
- Easy assembly due to quick-release screws
- Connected with speaker products (MQVH, MQVS series)

## Dimensions <Unit: mm>



## Ordering information

MQVM - 00 - RGB (V)

①                      ②                      ③

### ① Power Supply

|    |            |
|----|------------|
| 00 | 12~24VDC   |
| FF | 110~220VAC |

### ② LED Color

|     |                      |
|-----|----------------------|
| RGB | Red + Green + Blue   |
| RYG | Red + Yellow + Green |

### ③ Option

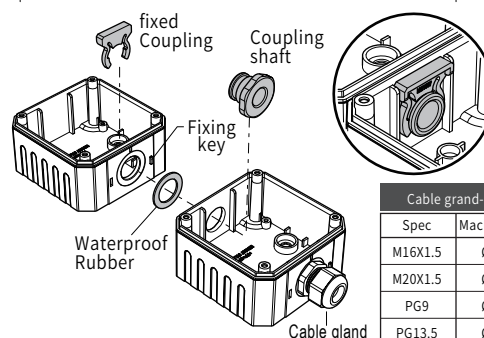
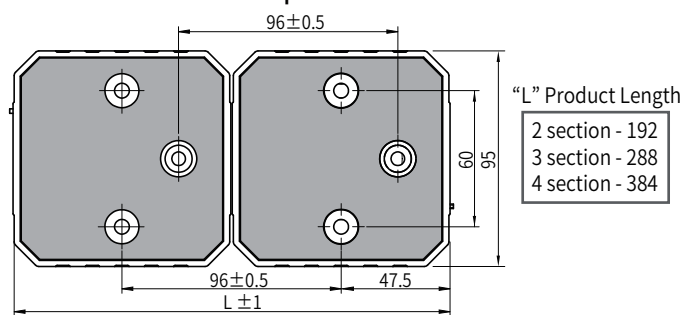
|     |   |
|-----|---|
| (V) | 240 ± 10 times/minute<br>(Emergency signal) |
|-----|---|

## 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<br>110~220VAC : 0.07A   |
| Function                   | Steady, Flashing   |
| Light source               | LED  |
| Dimension                  | 95 x 95 x 94 (mm)  |
| Flashing rate              | Standard - 80 ± 5 per minute<br>Option (V) type - 240 ± 10 times per minute                                      |
| Mounting method            | Body bottom mount base - Screw type (M6, 2EA)<br>Internal bottom of main body<br>- Maximum cable diameter : Ø7mm |
| Power cable insertion      | External locations<br>- Cable gland  |
| Connection                 | UL1007/AWG22   |
| Color                      | Body - Black Lens - 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<br>Storage ambient temperature: -20 ~ 70°C                                      |
| Ambient humidity           | 45 ~ 85% RH  |
| Protection structure       | IP65   |
| Approval                   | RoHS   |
| Weight                     | App. 300g (AC type standard)   |

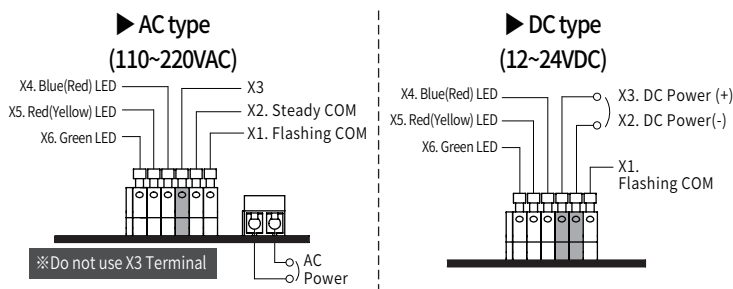
Note: Life of the LED varies according to operating conditions and environment

## Fixed dimensions for multiple connection



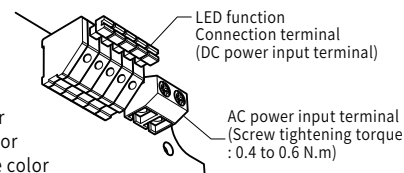
| Spec    | Machining hole | Suitable Cable Dia |
|---------|----------------|--------------------|
| M16X1.5 | Ø16mm          | Ø4.5~10mm          |
| M20X1.5 | Ø20mm          | Ø7~12.5mm          |
| PG9     | Ø16mm          | Ø3~8mm             |
| PG13.5  | Ø20mm          | Ø5~12mm            |

## Connection Diagram



## 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



# MQVX Series Xenon lamp type High power D95mm Cube Strobe Light



Combinable cube permanent Xenon lamp strobe light



## Product Feature

- Diffusing very clear light for night-time visibility as well as daytime.
- Various colors can be produced according to conditions of installation in row or column direction for each color.
- Structure of high degree protection IP65 provides excellent airtightness in outdoor and dusty areas
- Connection with speaker products (MQVH, MQVS series) enables various displays.



Multiple connection (MQVH or MQVS series) ▶

## Ordering information

**MQVX - 10 - R**

① ②

### ① Power Supply

|    |          |
|----|----------|
| 00 | 12~48VDC |
| 10 | 110VAC   |
| 20 | 220VAC   |

### ② Lens Color

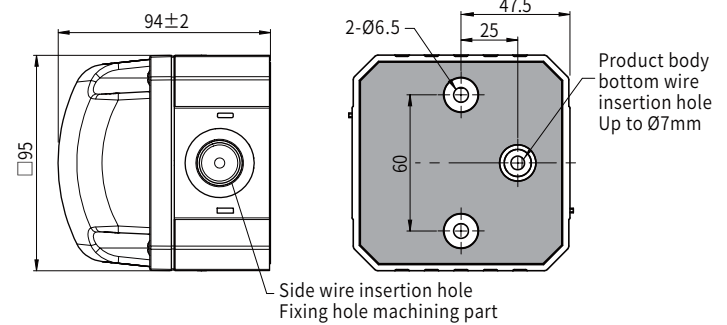
|   |        |   |       |
|---|--------|---|-------|
| R | Red    | G | Green |
| Y | Yellow | B | Blue  |
| C | Clear  |   |       |

## Specifications

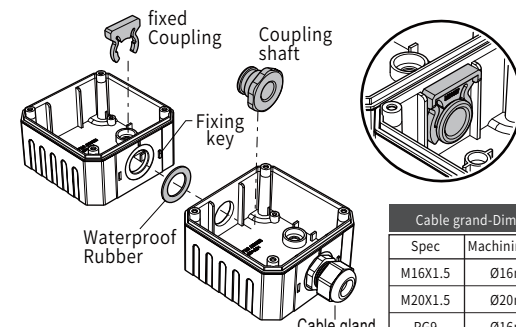
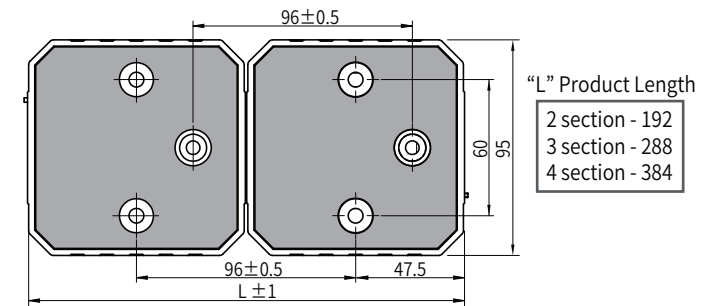
|                         |  |
|-------------------------|--|
| Power supply            | 12 ~ 48VDC, 110VAC, 220VAC (AC 50/60Hz)  |
| Allowable voltage range | 10.8V ~ 50VDC, 100~120VAC, 210~230VAC  |
| Current consumption     | 12~48VDC: 0.2A , 110VAC: 0.07A , 220VAC: 0.04A   |
| Function                | Flashing   |
| Light source            | Xenon Lamp   |
| Dimension               | 95 x 95 x 94 (mm)  |
| Flashing rate           | 12~18VDC : 80±5 times per minute<br>110VAC : 77±5 times per minute<br>220VAC : 60±5 times per minute   |
| Mounting method         | Body bottom face fixing - Screw type (M6, 2EA)   |
| Power cable insertion   | Internal bottom of main body<br>- Maximum cable diameter : Ø7mm<br>External locations<br>- Cable gland |
| Connection              | UL1007/18AWG   |
| Color                   | Body - Black Lens - 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<br>Storage temperature: -20 ~ 70°C                                    |
| Ambient humidity        | 45 ~ 85% RH  |
| Protection structure    | IP65   |
| Approval                | RoHS   |
| Weight                  | App. 283g (DC type)  |



## Dimensions <Unit: mm>



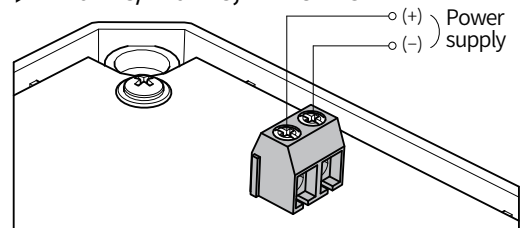
## Fixed dimensions for multiple connection



| Cable gland-Dimension of machining hole |                |                    |
|---|----------------|--------------------|
| Spec                                    | Machining hole | Suitable Cable Dia |
| M16X1.5                                 | Ø16mm          | Ø4.5-10mm          |
| M20X1.5                                 | Ø20mm          | Ø7-12.5mm          |
| PG9                                     | Ø16mm          | Ø3-8mm             |
| PG13.5                                  | Ø20mm          | Ø5-12mm            |

## Connection Diagram

▶ 110VAC/220VAC, 12~48VDC





Compact and lightweight high pressure Panel stationary type Horn speaker

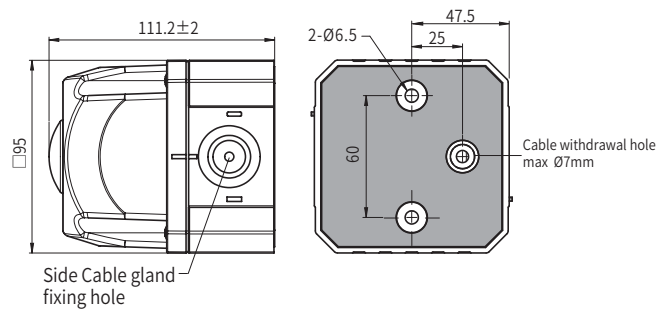
Multiple connection  
(MQVL or MQVX series) ▶



### Product Feature

- Built-in 15W high power speaker
- Volume adjustable up to 105dB
- 9 tones for a diverse range of applications
- Duration of signal phase selectable
- High protection rating IP 65

### Dimensions <Unit: mm>



### Ordering information

**MQVH - 9 FF - R**  
① ② ③

#### ① Built-in Sound

9 9 tones

#### ② Power Supply

00 12 ~ 24VDC  
FF 110 ~ 220VAC

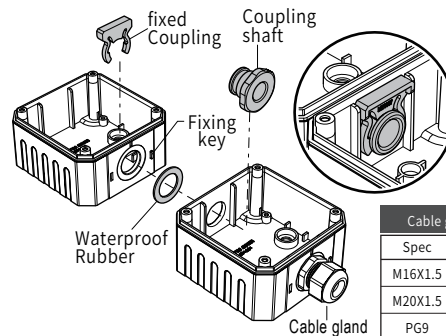
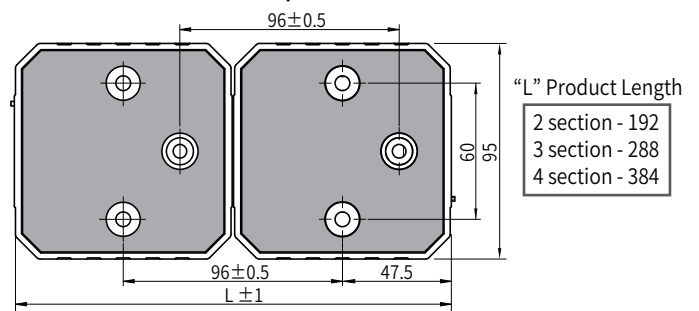
#### ③ Cover Color

R Red  
B Black

### Specifications

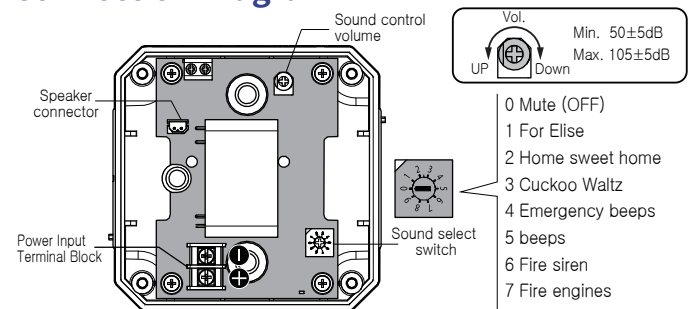
|                            |  |
|----------------------------|--|
| Power supply               | 12~24VDC, 110~220VAC (AC 50/60Hz)  |
| Allowable voltage range    | 10.8~26.4VDC, 100~240VAC   |
| Current consumption (±10%) | 12V~24VDC: 0.45A<br>110~220VAC: 0.20A  |
| Sound volume (max)         | 105±5dB (1M)   |
| Volume control             | Built-in volume control  |
| Sound type                 | Melody : 3ch / Signal : 3ch / Siren : 3ch  |
| Mounting Method            | Body bottom face fixing - Screw type (M6, 2EA)   |
| Power cable insertion      | Bottom of main body - Maximum cable diameter: Ø7mm<br>Two external locations - Cable gland |
| Connection                 | AC type: 18AWG      DC type: 22AWG   |
| Color                      | Body - Black      Speaker cover- Black, Red  |
| Material                   | Body - PA6      Speaker Cover - ABS  |
| Insulation resistance      | Over 100MΩ (500VDC mega between terminals and case)  |
| Withstand voltage          | 500VAC 50/60Hz 1min (between terminals and case before)                                    |
| Vibration                  | 0.75mm at 10~55Hz (cycle: 1minute)   |
| Temperature                | Working temperature : -20 ~ 50°C<br>Storage temperature : -20 ~ 70°C                       |
| Ambient humidity           | 45 ~ 85% RH  |
| Protection structure       | IP65   |
| Approval                   | RoHS   |
| Weight                     | App. 535g (AC type standard)   |

### Fixed dimensions for multiple connection



| Cable gland-Dimension of machining hole |                |                    |
|---|----------------|--------------------|
| Spec                                    | Machining hole | Suitable Cable Dia |
| M16X1.5                                 | Ø16mm          | Ø4.5-10mm          |
| M20X1.5                                 | Ø20mm          | Ø7-12.5mm          |
| PG9                                     | Ø16mm          | Ø3-8mm             |
| PG13.5                                  | Ø20mm          | Ø5-12mm            |

### Connection Diagram



※Be careful of polarity when inputting DC.

⚠ Warning : It must be powered off before connecting terminals

- 0 Mute (OFF)
- 1 For Elise
- 2 Home sweet home
- 3 Cuckoo Waltz
- 4 Emergency beeps
- 5 beeps
- 6 Fire siren
- 7 Fire engines
- 8 Police siren
- 9 Ambulance siren

# MQVS Series D95mm Cube Electronic Multi-Tone Sounder



Compact and light weight high pressure Panel stationary type Horn speaker

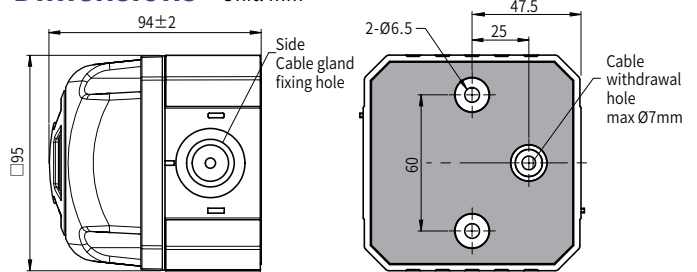
Multiple connection (MQVL or MQVX series) ▶



## Product Feature

- Built-in 5W speaker
- Volume adjustable up to 85dB
- 15 tones for a diverse range of applications
- Duration of signal phase selectable
- High protection rating IP55

## Dimensions <Unit: mm>



## Ordering information

**MQVS - 15 00 - B**

### ① Sound Type

15 15ch Sound

### ③ Cover Color

R Red

### ② Power Supply

00 12 ~ 24VDC

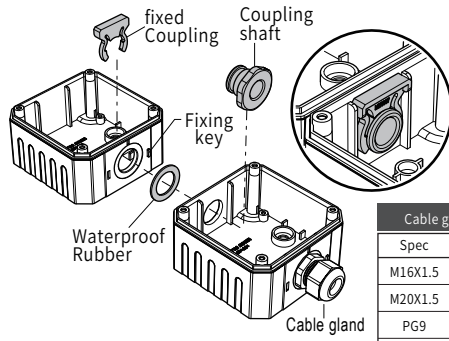
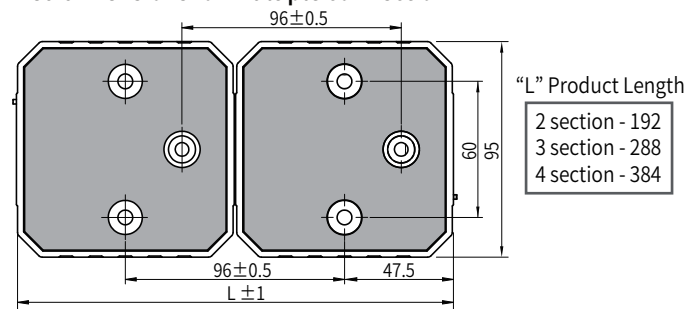
FF 110~220VAC

B Black

## Specifications

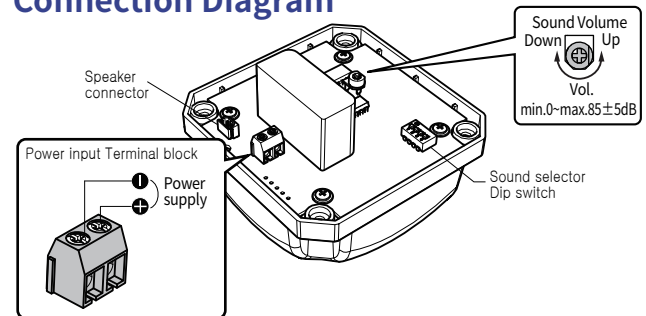
|                            |  |
|----------------------------|--|
| Power Supply               | 12~24VDC, 110~220VAC (50/60Hz)   |
| Allowable voltage range    | 10.8V ~ 26.4VDC, 100~240VAC  |
| Current consumption (±10%) | 12~24VDC : 0.1A      110~220VAC : 0.03A  |
| Sound volume control       | Internal volume control: 0~85±5dB (1M)   |
| Sound type                 | Siren: 3ch      Vehicle beep: 2ch<br>Phone bell: 4ch      Melody: 6ch                            |
| Mounting method            | Body bottom face fixing - Screw type (M6, 2EA)   |
| Power cable insertion      | Bottom of main body<br>- Maximum cable diameter: Ø7mm<br>Two external locations<br>- Cable gland |
| Connection                 | AC : 18 AWG      DC : 22 AWG   |
| Color                      | Body - Black      Speaker cover - Black or Red   |
| Material                   | Body - PA6      Speaker Cover - ABS  |
| 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                | Working temperature : -20 ~ 50°C<br>Storage temperature: -20 ~ 70°C                              |
| Operating humidity         | 45 ~ 85% RH  |
| Protection structure       | IP55   |
| Approval                   | RoHS   |
| Weight (Buzzer type)       | App. 380g (AC type standard)   |

## Fixed dimensions for multiple connection



| Spec    | Machining hole | Suitable Cable Dia |
|---------|----------------|--------------------|
| M16X1.5 | Ø16mm          | Ø4.5-10mm          |
| M20X1.5 | Ø20mm          | Ø7-12.5mm          |
| PG9     | Ø16mm          | Ø3-8mm             |
| PG13.5  | Ø20mm          | Ø5-12mm            |

## Connection Diagram



## Sound selection guide

| No. | Dip Switch | Tone              | ON = 1 OFF = 0 |   |   |   | No. | Dip Switch | Tone              | ON = 1 OFF = 0 |   |   |   |    |  |                           |   |   |   |   |
|-----|------------|-------------------|----------------|---|---|---|-----|------------|-------------------|----------------|---|---|---|----|--|---------------------------|---|---|---|---|
|     |            |                   | 1              | 2 | 3 | 4 |     |            |                   | 1              | 2 | 3 | 4 |    |  |                           |   |   |   |   |
| 0   |            | Mute(off)         | 0              | 0 | 0 | 0 | 4   |            | Car clock         | 0              | 0 | 1 | 0 | 10 |  | General Alarm             | 0 | 1 | 0 | 1 |
| 1   |            | Emergency vehicle | 1              | 0 | 0 | 0 | 5   |            | Vehicle back-beep | 1              | 0 | 1 | 0 | 11 |  | Spinning song             | 1 | 1 | 0 | 1 |
| 2   |            | Ambulance         | 0              | 1 | 0 | 0 | 6   |            | Doorbell          | 0              | 1 | 1 | 0 | 12 |  | Serenade-Haydn            | 0 | 0 | 1 | 1 |
| 3   |            | Fire vehicle      | 1              | 1 | 0 | 0 | 7   |            | Pipipi            | 1              | 1 | 1 | 0 | 13 |  | Orpheus in the Underworld | 1 | 0 | 1 | 1 |
|     |            |                   |                |   |   |   | 8   |            | Telephone ringing | 0              | 0 | 0 | 1 | 14 |  | Melody                    | 0 | 1 | 1 | 1 |
|     |            |                   |                |   |   |   | 9   |            | Telephone         | 1              | 0 | 0 | 1 | 15 |  | Home sweet home           | 1 | 1 | 1 | 1 |

## ■ Combination with signal lights

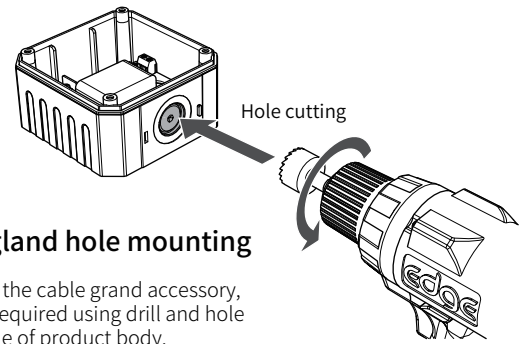
Speaker products and signal lights can be used in the form of traffic lights by connecting two or more products.

Combination of MQVL series and MQVH series

Combination of MQVM series and MQVS series

Combination of MQVL series and MQVS series

- LED Signal Lights**
  - MQVL series
  - MQVM series
- Xenon Lamp Warning Lights**
  - MQVX series
- 15W Speaker alarm**
  - MQVH series
- 5W Speaker alarm**
  - MQVS series

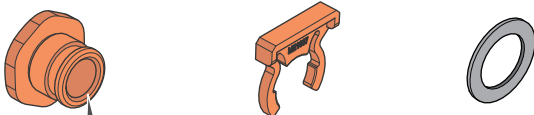


Before inserting the cable gland accessory, cutting work is required using drill and hole cutter on the side of product body.

## ■ Body connection coupling parts

- Built-in as default for the MQVL, MQVM, MQVX series.  
Please inquire at head office for additional purchase.

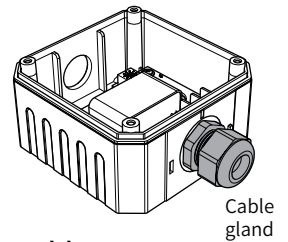
- 1. Coupling shaft**  
Material: POM resin
- 2. Fixing coupling**  
Material: POM resin
- 3. Waterproof rubber**  
Material: EVA sheet



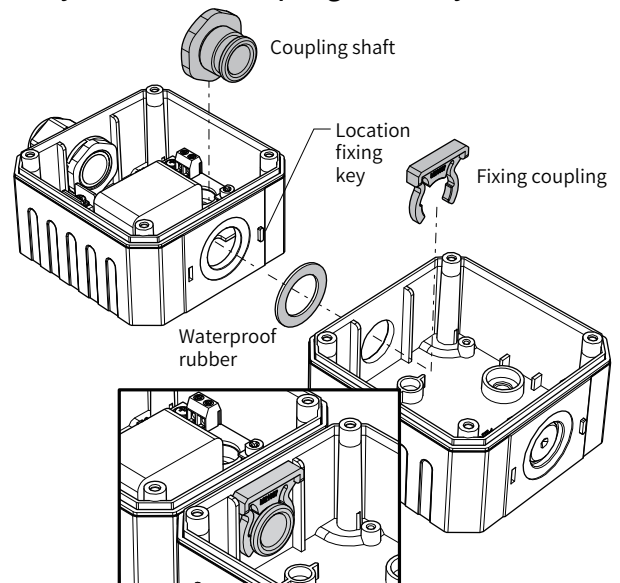
There is a hole (Ø12mm) inside the shaft, so you can easily connect the wire between the bodies.

Mounting hole dimension by cable gland standard

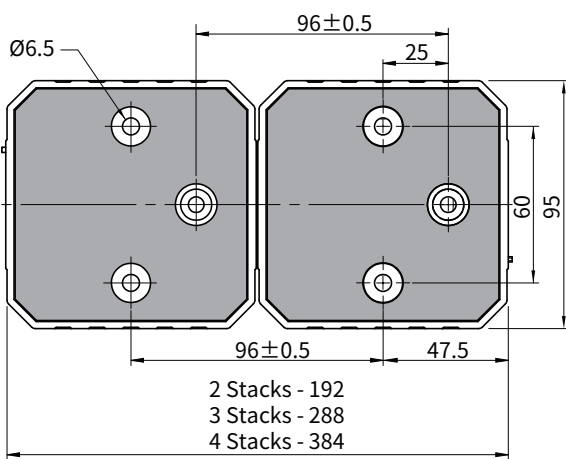
| Cable gland | Mounting hole | Cable Outer dia |
|-------------|---------------|-----------------|
| M16X1.5     | Ø16           | Ø4.5~10         |
| M20X1.5     | Ø20           | Ø7~12.5         |
| PG9         | Ø16           | Ø3~8            |
| PG13.5      | Ø20           | Ø5~12           |



## ■ Body connection coupling assembly



## ■ Panel mounting dimension (Unit:mm)





■ Combination with signal lights



# ML Series D66mm Miniature Warning Bulb Signal Light



Compact Revolving Warning Light perfectly designed for small devices.



## Ordering information

**ML G F - 20 - R**

① ② ③ ④

### ① Mount Style

|   |                                     |
|---|-------------------------------------|
| G | Body direct fixed                   |
| P | Aluminum Pole + Aluminum mount base |

### ② Light Style

|         |  |
|---------|--|
| No mark | Rotating (Smooth Lens)                                     |
| F       | Flashing (Prism Lens)                                      |
| S       | Xenon Strobe Lamp (Prism Lens) - 110V, 220V only available |

### ③ Power Supply

|    |          |    |        |
|----|----------|----|--------|
| 01 | 12VAC/DC | 10 | 110VAC |
| 02 | 24VAC/DC | 20 | 220VAC |

### ④ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | G | Green |

## Specifications - Bulb type

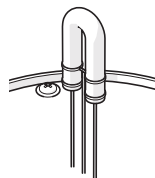
|                             |  |
|-----------------------------|--|
| Power supply                | 12VAC/DC, 24VAC/DC, 110VAC, 220VAC (50/60Hz)   |
| Dimension                   | 66mm   |
| Lens color                  | Red, Yellow, Green, Blue (Smooth Lens)   |
| Rotation rate               | 130±10 rpm   |
| Flashing rate               | 80±10 times/minute   |
| Ambient temperature         | -15°C ~ 40°C   |
| Storage ambient temperature | -25°C ~ 70°C   |
| Ambient humidity            | 45 ~ 85% RH  |
| Protection structure        | IP42   |
| Connection                  | AC 110/220V: VSF/0.75mm <sup>2</sup> (Power supply wire only)<br>AC/DC 12/24V: 1007UL/220AWG |
| Approval                    | CE, RoHS   |

## Current Consumption

| Power Supply        | 12V      | 24V      | 110V      | 220V      |
|---------------------|----------|----------|-----------|-----------|
| Current Consumption | 0.6A, 8W | 0.3A, 8W | 0.07A, 8W | 0.03A, 8W |

## Specifications - Xenon Lamp Type (ML-S)

|                      |  |
|----------------------|--|
| Power supply         | 110VAC, 220VAC (50/60Hz)                     |
| Current consumption  | 110VAC : 0.22A      220VAC : 0.11A           |
| Lens color           | Red, Yellow, Green, Blue (Lens type : Prism) |
| Strobe Pulse         | 80±10 times/minute                           |
| Protection structure | IP42   |
| Approval             | CE, RoHS                                     |
| Connection           | VSF / 0.75mm <sup>2</sup>                    |
| Lamp Wattage         | 6W Lamp                                      |



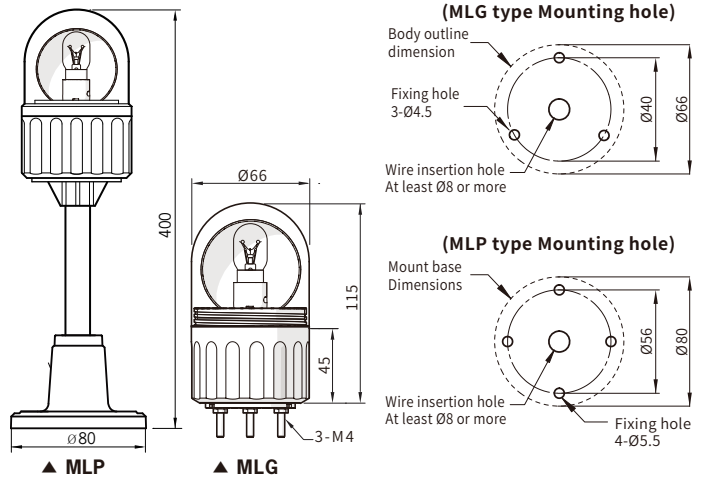
## Product Feature

- Incandescent or Xenon lamp type
- Red, Yellow, Green and Blue lens available
- Stud mounted or Pole mounted
- Optional Wall Mounting Brackets available

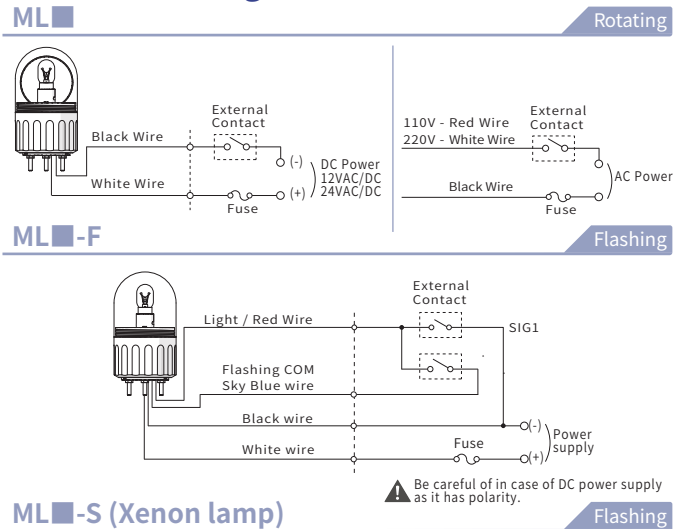
## Bulb Replacement Parts

|  |                                   |               |         |                  |
|--|-----------------------------------|---------------|---------|------------------|
|  | Energy Used: 8 watts              | Input Voltage | Bulb    | Part no.         |
|  | Base Type: Single Contact (BA15S) | 12V type      | 12V 8W  | MAM-T15-S-012-08 |
|  | Color / Finish: Clear             | 24V type      | 24V 8W  | MAB-T15-S-024-08 |
|  | Length: 45mm<br>Width: 16mm       | 110V type     | 130V 8W | MAB-T15-S-130-08 |
|  |                                   | 220V type     | 240V 8W | MAB-T15-S-240-08 |

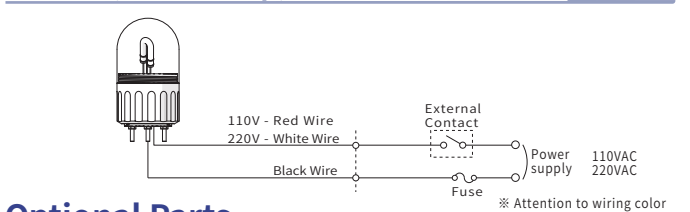
## Dimensions <Unit: mm>



## Connection Diagram



## Optional Parts



## Wall Mount Brackets



See Page 80 ~ 81 >> for detail dimensions.

# ASG / APG Series D86mm Bulb Revolving Small Size Warning Signal Light



Compact Revolving Warning Light perfectly designed for small devices.



## Ordering information

**ASG B - 20 - R**

① ② ③ ④

### ① Product style

|     |               |
|-----|---------------|
| ASG | Dome top lens |
| APG | Flat top lens |

### ② Light Style

|         |   |
|---------|---|
| No mark | Rotating (Smooth Lens)                                      |
| F       | Flashing (Prism Lens)                                       |
| B       | Rotating + Buzzer (Smooth Lens)                             |
| S       | Xenon Strobe Lamp (Smooth Lens) - 110V, 220V only available |

### ③ Power Supply

|    |                                |    |        |
|----|--------------------------------|----|--------|
| 01 | 12VAC/DC                       | 10 | 110VAC |
| 02 | 24VAC/DC                       | 20 | 220VAC |
| FF | 110/220VAC (Free voltage type) |    |        |

### ④ Lens Color

|   |        |   |       |
|---|--------|---|-------|
| R | Red    | B | Blue  |
| Y | Yellow | G | Green |

## Specifications - Bulb type

|                             |  |
|-----------------------------|--|
| Function                    | Rotating, Flashing, Buzzer   |
| Power supply                | 12/24VAC/DC, 110/220VAC (AC: 50/60Hz)  |
| Dimension                   | 86mm   |
| Lens color                  | Red, Yellow, Green, Blue (Lens type: Smooth)   |
| Rotation rate               | 130±10 rpm   |
| Flashing rate               | 80±10 times/minute   |
| Ambient temperature         | -15°C ~ 40°C   |
| Storage ambient temperature | -25°C ~ 70°C   |
| Ambient humidity            | 45 ~ 85% RH  |
| Protection structure        | IP42   |
| Connection                  | AC 110/220V: VSF/0.75mm <sup>2</sup> (Power supply wire only)<br>AC/DC 12/24V: 1007UL/220AWG |
| Approval                    | CE, RoHS   |

## Current Consumption

| Power Supply   | 12V       | 24V       | 110V      | 220V      | 110/220V |
|----------------|-----------|-----------|-----------|-----------|----------|
| Current Supply | 0.67A, 8W | 0.33A, 8W | 0.07A, 8W | 0.03A, 8W | 0.4A, 8W |

## Specifications - Xenon Lamp Type (A■GS)

|                      |  |
|----------------------|--|
| Power supply         | 110VAC, 220VAC (50/60Hz)                     |
| Current consumption  | 110VAC : 0.22A      220VAC : 0.11A           |
| Lens color           | Red, Yellow, Green, Blue (Lens type : Prism) |
| Strobe pulse         | 80±10 times/minute                           |
| Protection structure | IP42   |
| Approval             | CE, RoHS                                     |
| Connection           | VSF / 0.75mm <sup>2</sup>                    |
| Lamp Wattage         | 6W Lamp                                      |



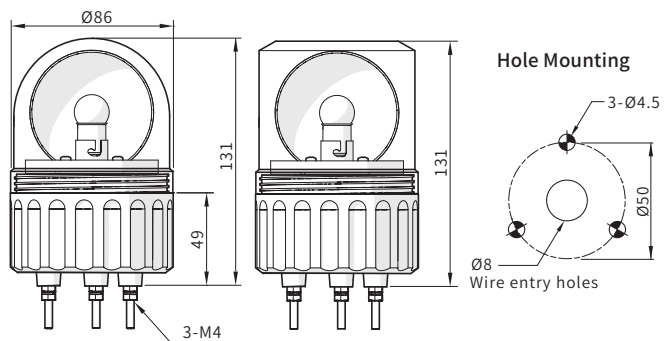
## Product Feature

- Incandescent or Xenon lamp type
- Red, Yellow, Green and Blue lens available
- Dome top lens or Flat top lens
- Optional Wall Mounting Brackets available
- Built-in Buzzer available: 85dB

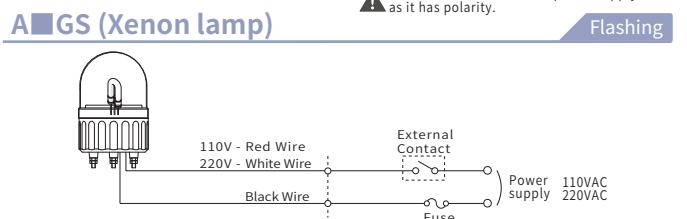
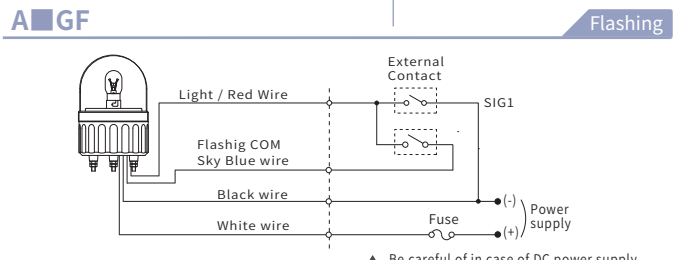
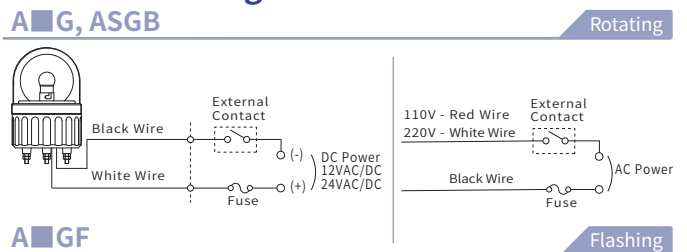
## Bulb Replacement Parts

|                                   |                                   |   |
|-----------------------------------|-----------------------------------|---|
|                                   |                                   | <b>Only Flashing Light type</b>                   |
| Energy Used: 8 watts              | Energy Used: 5 watts              | 12V type MAM-T15-S-012-08                         |
| Base Type: Single Contact (BA15S) | Base Type: Single Contact (BA15S) | 24V type MAB-T15-S-024-08                         |
| Color / Finish: Clear             | Color / Finish: Clear             | 110V type MAB-T15-S-130-08                        |
| Length: 45mm                      | Length: 35mm                      | 220V type MAB-T15-S-240-08                        |
| Width: 16mm                       | Width: 19mm                       | <b>Only Rotating Light type</b>                   |
|                                   |                                   | 12V type MAM-T15-S-012-08                         |
|                                   |                                   | 24V type MAB-T15-S-024-08                         |
|                                   |                                   | 110V type MAB-T15-S-012-05                        |
|                                   |                                   | 220V type MAB-T15-S-012-05                        |
|                                   |                                   | <b>110/220V Free Voltage type (Rotating type)</b> |
|                                   |                                   | 110/220V type MAB-T15-S-012-05                    |

## Dimensions <Unit: mm>



## Connection Diagram

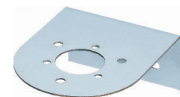


## Optional Parts

### Wall Mount Brackets



**MAP-DS30**  
ABS resin



**MAM-DS26**  
Steel

See Page 80 ~ 81 >> for detail dimensions.

# AVG Series D135mm Large Size Revolving Warning Signal Light



Large size plastic Revolving Warning Light for a wide range of applications. Ideal for large machines, construction sites, parking systems and more.



## Product Feature

- Incandescent type
- Red, Yellow, Green and Blue lens available
- Buzzer(80dB) Model available

## Ordering information

AVG **B** - **20** - **R**

①      ②      ③

### ① Light Style

|         |                   |   |        |   |       |
|---------|-------------------|---|--------|---|-------|
| No mark | Rotating          | R | Red    | B | Blue  |
| B       | Rotating + Buzzer | Y | Yellow | G | Green |

### ③ Lens Color

### ② Power Supply

|    |       |    |        |
|----|-------|----|--------|
| 01 | 12VDC | 10 | 110VAC |
| 02 | 24VDC | 20 | 220VAC |

## Specifications

|                             |  |
|-----------------------------|--|
| Function                    | Rotating, Buzzer   |
| Power supply                | 12VDC, 24VDC<br>110/220VAC (AC. 50/60Hz)                 |
| Dimension                   | 135mm  |
| Lens color                  | Red, Yellow, Green, Blue                                 |
| Rotation rate               | 150±10rpm  |
| Buzzer volume               | 80±5dB (at 1M)   |
| Ambient temperature         | -15~40°C   |
| Storage ambient temperature | -20~70°C   |
| Ambient humidity            | 45~85% RH  |
| Protection structure        | IP42   |
| Connection                  | 110/220V : 1007 UL / 18 AWG<br>12/24V : 1007 UL / 22 AWG |
| Approval                    | UL, CE, RoHS   |

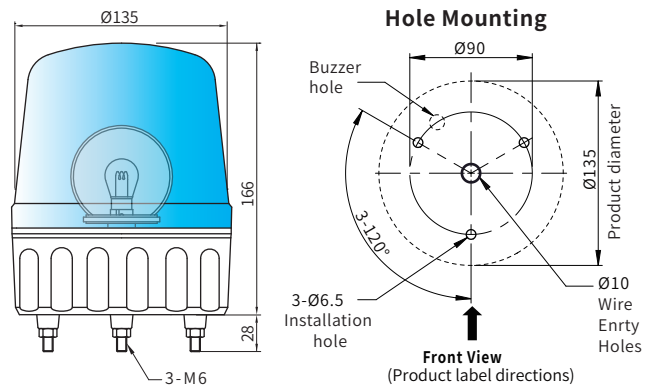
## Current consumption

|                     |            |            |            |            |
|---------------------|------------|------------|------------|------------|
| Power supply        | 12V        | 24V        | 110V       | 220V       |
| Current consumption | 2.08A, 25W | 1.04A, 25W | 0.22A, 25W | 0.11A, 25W |

## Replacement Bulbs

|              |                                   |               |          |                  |
|--------------|-----------------------------------|---------------|----------|------------------|
|              | Energy Used: 25 watt              | Input Voltage | Bulb     | Part no.         |
|              | Base Type: Double Contact (BA15D) | 12V type      | 12V 25W  | MAM-T15-D-012-25 |
|              |                                   | 24V type      | 24V 25W  | MAB-T15-D-024-25 |
|              | Color / Finish: Clear             | 110V type     | 130V 25W | MAB-T15-D-130-25 |
|              |                                   | 220V type     | 240V 25W | MAB-T15-D-240-25 |
| Length: 54mm |                                   |               |          |                  |
| Width: 22mm  |                                   |               |          |                  |

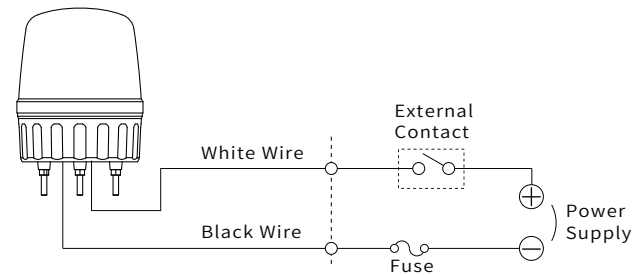
## Dimensions <Unit: mm>



## Connection Diagram

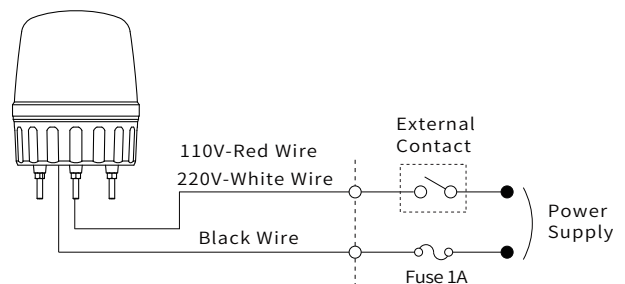
### 12/24VDC

Steady



### 110VAC, 220VAC

Steady



## Optional Parts

### Wall Mount Brackets



**MAM-DS27**  
Steel

See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MS135B Series D135mm Large Revolving Warning Signal Light



MS135B series is a large 135mm Revolving Warning Light that can serve for multi-functional usage. It is designed to emit a strong flash using a reflector that can effectively inject light far away. In the case of the model with a built-in buzzer, the flash rotate with the electronic buzzer and intermittent sound of up to 90dB (at 1M)



## Ordering information

**MS135B - B01 - R**

① ② ③ ④

| ① Product model type |                      | ② Function   |                             |
|----------------------|----------------------|--------------|-----------------------------|
| MS135B               | Standard type        | No mark      | Reflector rotation          |
| MS135BP              | Pole mount base type | B            | Reflector rotation + Buzzer |
| ③ Power supply       |                      | ④ Lens Color |                             |
| 01                   | 12VDC                | R            | Red                         |
| 02                   | 24VDC                | Y            | Yellow                      |
| 10                   | 110VAC               | G            | Green                       |
| 20                   | 220VAC               | B            | Blue                        |
|                      |                      | C            | Clear                       |

## Specifications

|                             |  |
|-----------------------------|--|
| Power supply                | 12VDC ±5%, 110VAC ±10% (50/60Hz)<br>24VDC ±5%, 220VAC ±10% (50/60Hz)   |
| Light source                | Incandescent   |
| Dimension                   | 135.5mm  |
| Rotation rate               | 150 ±10% rpm/min   |
| Buzzer volume               | 90 ±5dB (1M)<br>beep-beep-beep : The volume can not be adjusted        |
| Lens color                  | Red, Yellow, Green, Blue, Clear  |
| Mounting method             | MS135B: Direct mounting on the body<br>MS135BP: aluminum base 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                      | MS135B series - app.555g MS135BP series - app.935g                     |

## Current Consumption

| Power Supply        | 12VDC      | 24VDC      | 110VAC     | 220VAC     |
|---------------------|------------|------------|------------|------------|
| Current Consumption | 2.08A, 25W | 1.04A, 25W | 0.22A, 25W | 0.11A, 25W |

※ Note : Life of the bulb may vary depending on operating conditions and environment

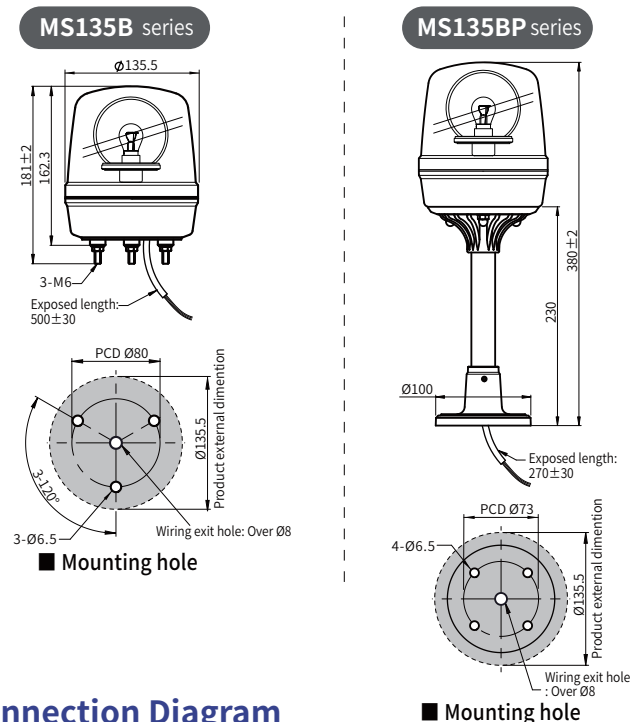
## Product Feature

- Apply a light bulb 25W
- Designed strong against vibration
- IP65 waterproof rating
- Black body with strong weather resistance that is not affected by the ultraviolet

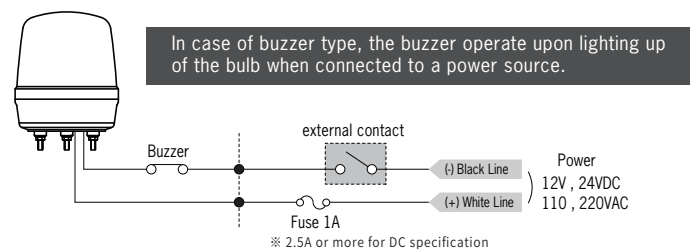
## Replacement Bulbs

| Energy Used: 25 watt<br>Base Type: Double Contact<br>(BA15D)<br>Color / Finish: Clear<br>Length: 54mm<br>Width: 22mm | Input Voltage | Bulb     | Part no.         |
|--|---------------|----------|------------------|
|  | 12V type      | 12V 25W  | MAM-T15-D-012-25 |
|  | 24V type      | 24V 25W  | MAB-T15-D-024-25 |
|  | 110V type     | 130V 25W | MAB-T15-D-130-25 |
|  | 220V type     | 240V 25W | MAB-T15-D-240-25 |

## Dimensions (unit: mm)



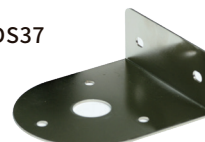
## Connection Diagram



## Optional Parts

### Wall Mount Bracket

MAM-DS37  
Steel



**MS135P type only**

MAM-DS38  
Steel



See Page 80 ~ 81 >> for Mounting Options and Accessories.

# MW86N Series Wall Mounting Electronics Siren (Multi sound)



MW86N Series is electronic Horn which has beautiful appearance and outputs high quality sound. It can be easily fixed on the wall without extra equipments even in the narrow space

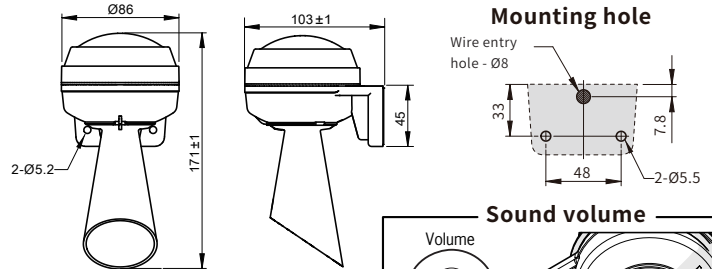
## Product Feature

- Built-in Button for sound volume adjusting
- Built-in Speaker for 3 Sounds
- Removable Horn is offered

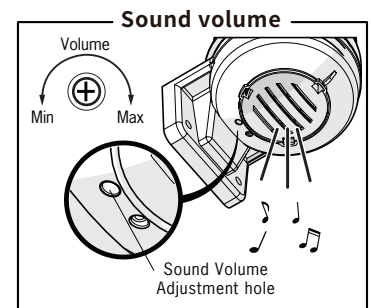
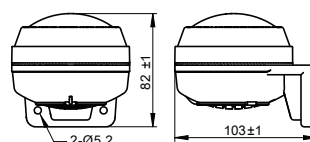


## Dimensions <Unit: mm>

### ▼ Horn type



### ▼ General type



## Ordering information

MW86N - **FF** - **M3** (**B**)  
 ① ② ③ ※ option

### ① Power Supply

|    |               |
|----|---------------|
| 00 | 12 ~ 24VAC/DC |
| FF | 90 ~ 240VAC   |

### ② Sound Type

|    |                   |
|----|-------------------|
| M3 | Melody 3 channels |
| M4 | Melody 4 channels |
| S3 | Siren 3 channels  |

### ③ Body Color

|         |       |
|---------|-------|
| No mark | Ivory |
| (B)     | Black |
| (R)     | Red   |

For Elise — M3 type  
 Home, Sweet Home — M3 type  
 Cuckoo Walts — M3 type  
 Love me tender — M4 type

For 3 Siren  
 Fire siren  
 Police siren  
 Ambulance siren

## Specifications

|                             | General Type                         | Horn Type   |
|-----------------------------|--------------------------------------|-------------|
| Power supply                | 12~24VAC/DC, 90~240VAC (AC. 50/60Hz) |             |
| Sound volume (1m)           | 55 ~ 85±5dB                          | 55 ~ 90±5dB |
| Connection method           | Lead wire                            |             |
| Material                    | Body, Cap - ABS resin                |             |
| Mounting method             | Wall mounting (upright only)         |             |
| Ambient temperature         | -20 ~ 40°C                           |             |
| Storage ambient temperature | -20 ~ 70°C                           |             |
| Ambient humidity            | 45~85% RH                            |             |
| Protection structure        | IP43                                 | IP54        |
| Vibration                   | 0.75mm at 10~55Hz                    |             |
| Connection                  | 2464UL / 22AWG                       |             |
| Approval                    | UL, RoHS                             |             |
| Weight (AC type basis)      | App. 198g                            | App. 224g   |

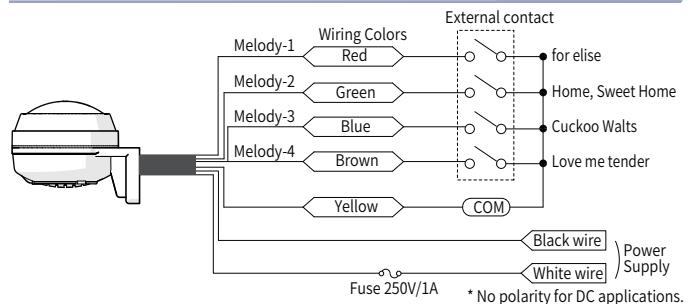
## Current Consumption

|  | 12 ~ 24VAC/DC  | 90 ~ 240VAC     |
|--|----------------|-----------------|
|  | Max. 0.2A ±10% | Max. 0.06A ±10% |

## Connection Diagram

12~24VAC/DC, 90~240VAC

Melody type



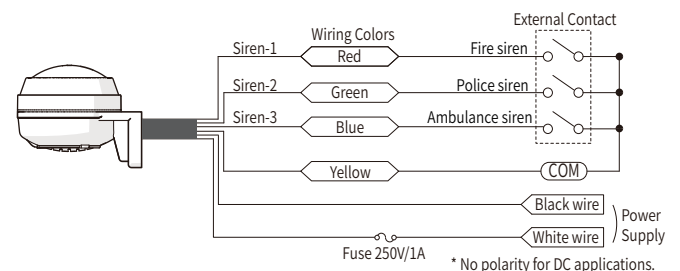
### Setting of 3 melody sound and operation

※ it means the condition of '0' when connected with com wire.

| Wiring Colors  | Red | Green | Blue | Melody reaction               | Notes   |
|----------------|-----|-------|------|-------------------------------|---|
| Normal entry   | 1   | 1     | 1    | No                            | 1. If you don't select the signal (Under this condition, 111 is displayed) or select three signals at the same time (Under this condition, 000 is displayed), then the melody doesn't play. |
| conditions     | 0   | 1     | 1    | for elise                     |   |
|                | 1   | 0     | 1    | Home, Sweet Home              |   |
| Priority entry | 1   | 1     | 0    | Cuckoo Walts                  | 2. Priority order of melody-playback<br>(1) Red Wire - for elise<br>(2) Green Wire - Home, Sweet Home<br>(3) Blue Wire - Cuckoo Walts   |
|                | 1   | 0     | 0    | for elise (priority-1)        |   |
|                | 0   | 1     | 0    | Home, Sweet Home (priority-2) |   |
| conditions     | 0   | 0     | 1    | Cuckoo Walts (priority-3)     |   |

12~24VAC/DC, 90~240VAC

Siren type



### Setting of Siren type and operation

※ it means the condition of '0' when connected with com wire.

| Wiring Colors | Red wire | Green wire | Blue wire | Siren reaction  | Notes  |
|---------------|----------|------------|-----------|-----------------|--|
| Normal entry  | 1        | 1          | 1         | Notes           | It's impossible to input two or three signals at the same time.<br>※ When connecting wiring at the same time, a sound is played sequentially.<br>Fire siren > Police siren > Ambulance siren |
|               | 0        | 1          | 1         | Fire siren      |  |
|               | 1        | 0          | 1         | Police siren    |  |
|               | 1        | 1          | 0         | Ambulance siren |  |

# MSP-H Series Compact design High power horn speaker



Compact and lightweight high pressure Panel stationary type Horn speaker



▼ MSP-HB type

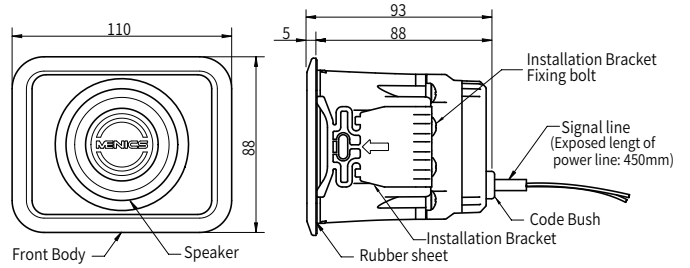
◀ MSP-HP type

## Product Feature

- Simple and slim design
- Strong vibrations when applied to the panel mounting bracket
- 15W output, 108dB wide variety of applications are possible with the horn speaker
- Speaker Front panel IP65 protection structure
- Body in four colors : Ivory / Black / Red / Ni plated type

## Dimensions <Unit: mm>

### MSP-HP type



## Ordering information

### MSP - H P 15 (B)

#### ① Mounting Type

|      |              |
|------|--------------|
| HP15 | Panel Type   |
| HB15 | Bracket Type |

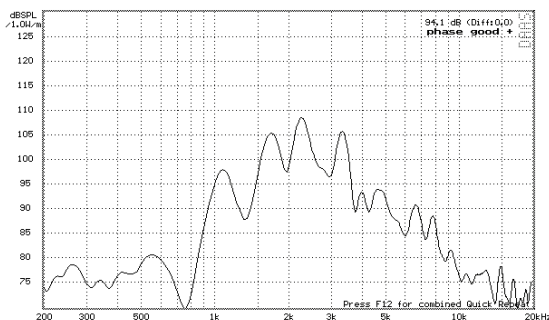
#### ② Body Color

|         |                |
|---------|----------------|
| No mark | Ivory          |
| (B)     | Black          |
| (R)     | Red            |
| (P)     | Nickel Coating |

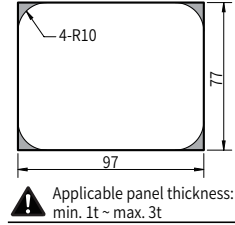
## Specifications

|                               |   |
|-------------------------------|---|
| Maximum rated input           | 15W   |
| Impedance                     | 6 Ohm   |
| Frequency band                | 1000 ~ 4000Hz                                       |
| Sound volume (Maximum output) | 108dB (1M)  |
| Material                      | Body - ABS resin      Rubbers - NBR                 |
| Color                         | Body - White      Speaker horn - Black              |
| Ambient temperature           | -20 ~ 50°C  |
| Storage ambient temperature   | -20 ~ 65°C  |
| Ambient humidity              | 45 ~ 85% RH   |
| Vibration                     | 0.75mm at 10~55Hz (cycle : 1minute)                 |
| Protection structure          | MSP-HP type: IP65 (front panel) , MSP-HB type: IP60 |
| Connection                    | 2464UL/22AWG, 2P, 450mm                             |
| Approval                      | RoHS  |
| Weight                        | Approx. 410 (MSP-HP type standard)                  |

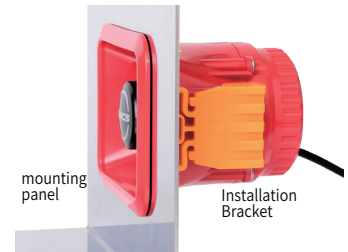
## Frequency response



### ▼ Panel cutting

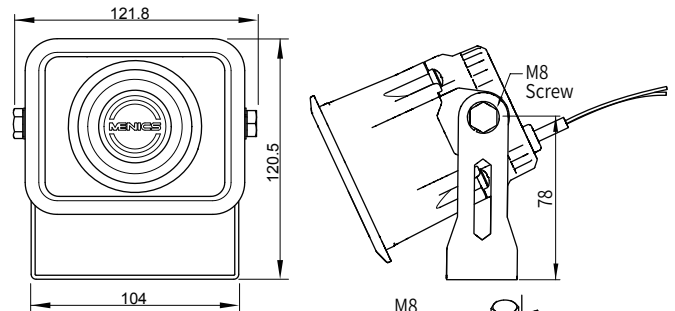


### ▼ How to install panel

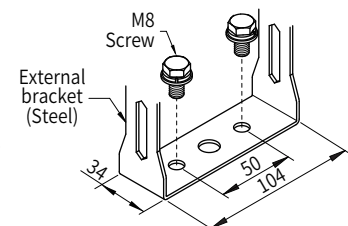


## MSP-HB type

MSP-HB type is product to fix speakers on the equipment or on the wall of a building other than a panel. Speaker angle can be adjusted up and down after fixing.



### ▶ Panel hole cutting



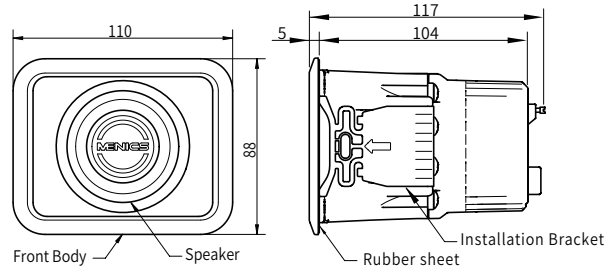


Compact and lightweight high pressure Panel stationary type Horn speaker

### Product Feature

- Compact and slim Design
- Adjustable sound volume control
- Power Supply : 12VDC, 24VDC, 100~240VAC
- Body-ABS, Installation Bracket-STS304, Panel Bracket-POM
- Body Color : Black, Red, Ivory, Nickel coating
- Internal Sound : 3 channels (Melody type, Siren type)
- Front IP65 protective structure

### Dimensions <Unit: mm> MSP-TP type



MSP-TP type ▶

▶ MSP-TB type

### Ordering information

**MSP - TP M - 02 (B)**

① ② ③ ④

#### ① Mounting Style

|    |              |
|----|--------------|
| TP | Panel Type   |
| TB | Bracket Type |

#### ② Sound Type

|   |                  |
|---|------------------|
| M | Melody 3 channel |
| S | Siren 3 channel  |

#### ③ Power supply

|    |            |
|----|------------|
| 01 | 12VDC      |
| 02 | 24VDC      |
| FF | 100~240VAC |

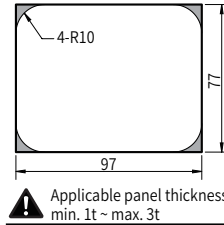
#### ④ Body Color

|         |       |     |                |
|---------|-------|-----|----------------|
| No mark | Ivory | (R) | Red            |
| (B)     | Black | (P) | Nickel Coating |

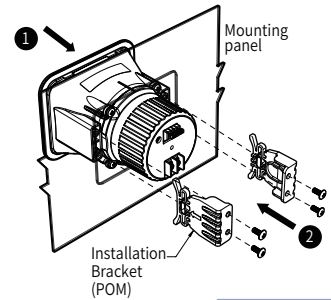
### Specifications

|                            |   |            |
|----------------------------|---|------------|
| Power supply               | 12VDC, 24VDC, 100~240VAC  |            |
| Allowable voltage range    | 12VDC±5%, 24VDC±10%, 100~240VAC±10%   |            |
| Current consumption (±10%) | Melody type   | Siren type |
|                            | 12VDC: 0.22A  | 0.8A       |
|                            | 24VDC: 0.12A  | 0.4A       |
|                            | 100~240AC: 0.13A  | 0.13A      |
| Sound volume (Max, 1M)     | Melody type: 100±5dB, siren type: 110±5dB   |            |
| Number of channels         | Sound Types: 3 channels   |            |
| Sound type                 | Melody type: For Elise/Sweet Home/Cuckoo Waltz<br>Siren type: Fire trucks/Police cars/Ambulance |            |
| Volume control             | Available (Built-in volume control)   |            |
| Volume range               | 12/24VDC type: 70~100±5dB (1M)  |            |
|                            | 100~240VAC type: 50~100±5dB (1M)  |            |
| Color                      | Body - Ivory/Black/Red/Nickel plated<br>Horn speaker - black                                    |            |
| Material                   | Body - ABS, Rubbers - NBR   |            |
| Insulation resistance      | Over 100MΩ<br>(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: 1 minute)   |            |
| Temperature                | Ambient temperature: -20 ~ 50°C   |            |
|                            | Storage ambient temperature: -20 ~ 65°C   |            |
| Ambient humidity           | 45~85% RH   |            |
| Protection structure       | IP65 (Front panel)  |            |
| Approval                   | RoHS  |            |
| Weight                     | App. 436g (MSP-TP type)   |            |

#### Panel cutting

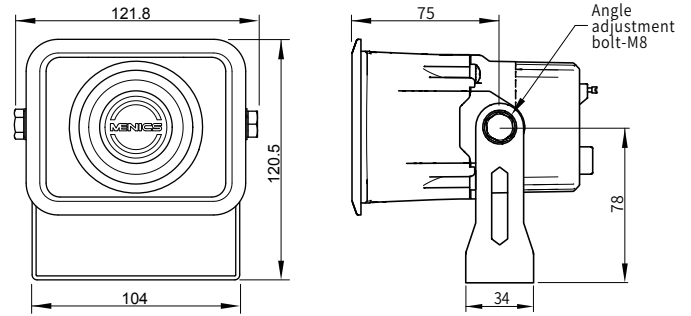


#### How to install panel

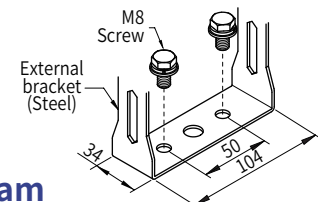


### MSP-TB type

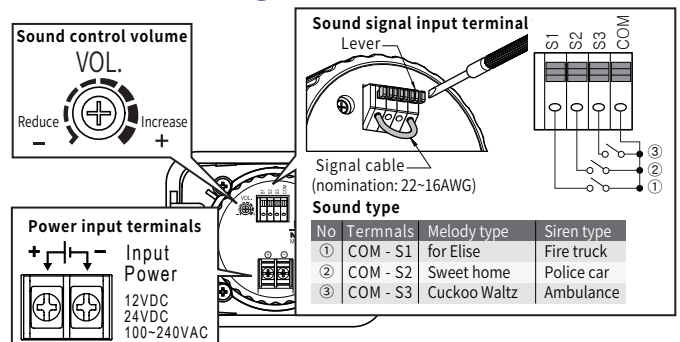
MSP-TB type is product to fix speakers on the equipment or on the wall of a building other than a panel. Speaker angle can be adjusted up and down after fixing.



#### Panel hole cutting



### Connection Diagram







Compact and lightweight high pressure Panel stationary type Horn speaker



▲ MSP-LB type

MSP-LP type ►

### Ordering information

**MSP - LP M - 02 (B)**

① ② ③ ④

#### ① Mounting Style

|    |              |
|----|--------------|
| LP | Panel Type   |
| LB | Bracket Type |

#### ② Sound Type

|   |                   |
|---|-------------------|
| M | Melody 3 channels |
| S | Siren 3 channels  |

#### ③ Power Supply

|    |            |
|----|------------|
| 01 | 12VDC      |
| 02 | 24VDC      |
| FF | 100~240VAC |

#### ④ Body Color

|         |       |     |                |
|---------|-------|-----|----------------|
| No mark | Ivory | (R) | Red            |
| (B)     | Black | (P) | Nickel Coating |

### Specifications

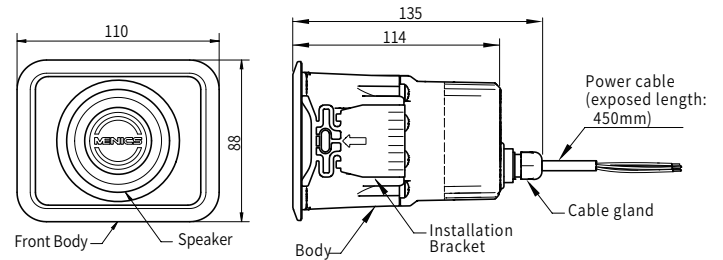
|                            |   |            |
|----------------------------|---|------------|
| Power supply               | 12VDC, 24VDC, 100~240VAC  |            |
| Allowable voltage range    | 12VDC ± 5%, 24VDC ± 10%, 100~240VAC ± 10%   |            |
| Current consumption (±10%) | Melody type   | Siren type |
|                            | 12VDC: 0.22A  | 0.8A       |
|                            | 24VDC: 0.12A  | 0.4A       |
|                            | 100~240AC: 0.13A  | 0.13A      |
| Sound volume (max, 1M)     | Melody type: 100 ± 5dB, siren type: 110 ± 5dB   |            |
| Number of channels         | Sound Types: 3 channels   |            |
| Sound type                 | Melody type: For Elise/Sweet Home/Cuckoo Waltz<br>Siren type: Fire trucks/Police cars/Ambulance |            |
| Volume control             | Available (Built-in volume control)   |            |
| Connection                 | 2464UL/22AWG, 6P, 450mm   |            |
| Color                      | Body - Ivory/Black/Red/Nickel plated<br>Horn speaker - black                                    |            |
| Material                   | Body - ABS, Rubbers - NBR   |            |
| Insulation resistance      | Over 100MΩ<br>(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: 1 minute)   |            |
| Temperature                | Ambient temperature: -20 ~ 50°C<br>Storage ambient temperature: -20 ~ 65°C                      |            |
| Ambient humidity           | 45~85% RH   |            |
| Protection structure       | IP65  |            |
| Approval                   | RoHS  |            |
| Weight                     | App. 588g (MSP-LB type)   |            |

### Product Feature

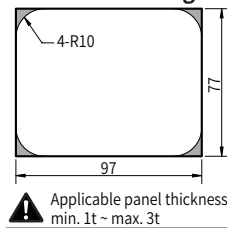
- Compact and slim Design
- Adjustable sound volume control
- Power Supply : 12VDC, 24VDC, 100~240VAC
- Body-ABS, Installation Bracket-STS304, Panel Bracket-POM
- Body Color : Black, Red, Ivory, Nickel coating
- Internal Sound : 3 channels (Melody type, Siren type)
- Front IP65 protective structure

### Dimensions <Unit: mm>

#### MSP-LP type

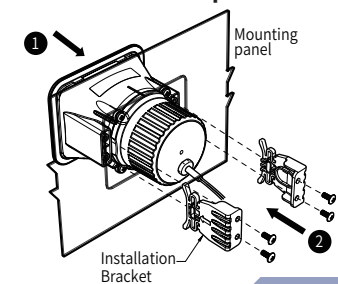


#### ▼ Panel cutting



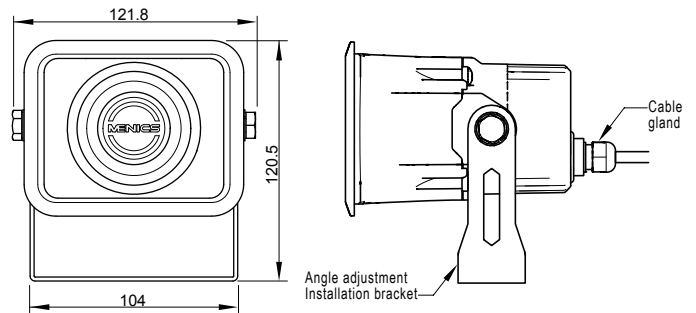
▲ Applicable panel thickness: min. 1t ~ max. 3t

#### ▼ How to install panel

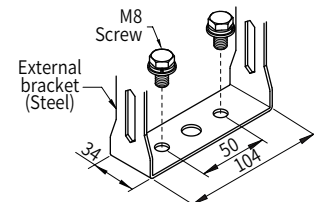


#### MSP-LB type

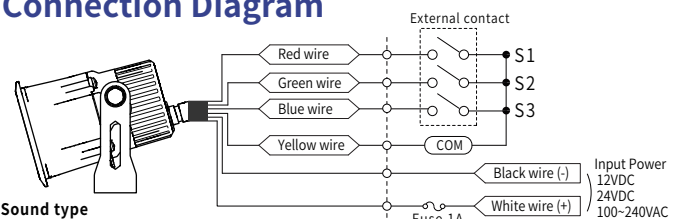
MSP-LB type is product to fix speakers on the equipment or on the wall of a building other than a panel. Speaker angle can be adjusted up and down after fixing.



#### ► Panel hole cutting



### Connection Diagram



#### Sound type

| No | Wire color | Melody type  | Siren type |
|----|------------|--------------|------------|
| S1 | Red        | for Elise    | Fire truck |
| S2 | Green      | Sweet home   | Police car |
| S3 | Blue       | Cuckoo Waltz | Ambulance  |

※ Please mind the power polarity for connection

# LED Indicators Panel mounting



## F SERIES



## R SERIES



## P SERIES



### Product Feature

Operating Temperature Range: -25 ~ +60 °C  
 Chrome plated brass, Plastic housing  
 Dielectric strength: 500 VAC 50/60Hz for 1 minute (DC Type)  
 Dielectric strength: 1000 VAC 50/60Hz for 1 minute (AC Type)\*  
 Insulation resistance: Max. 100MΩ (at 500VDC mega)

### Accessories



**LTC-500 / LTC-1000**

Wire length: 500mm      Wire length: 1M  
 \* wire: UL1007, 22AWG      \* Terminal: 110 series connector, Brass 0.3t

### Ordering Information

**M 12 R - 03 R - W**  
 ① ② ③ ④ ⑤ ⑥

|                |    |                              |                 |
|----------------|----|------------------------------|-----------------|
| ① Type         | M  | IP60                         | Standard LED    |
|                | H  |                              | High Bright LED |
|                | E  | IP67 (Sealing type)          | Standard LED    |
|                | S  |                              | High Bright LED |
| ② Diameter     | 06 | 6 mm                         |                 |
|                | 08 | 8 mm                         |                 |
|                | 10 | 10 mm                        |                 |
|                | 12 | 12 mm                        |                 |
|                | 16 | 16 mm                        |                 |
| ③ Head Style   | F  | Flat (High bright only)      |                 |
|                | R  | Round                        |                 |
|                | P  | Protrude                     |                 |
| ④ Power Supply | 03 | 3VDC                         |                 |
|                | 12 | 12VDC                        |                 |
|                | 24 | 24VDC                        |                 |
|                | 10 | 110VAC*                      |                 |
|                | 20 | 220VAC*                      |                 |
| ⑤ Color        | R  | Red                          |                 |
|                | Y  | Yellow                       |                 |
|                | G  | Green                        |                 |
|                | B  | Blue (High bright LED only)  |                 |
|                | W  | White (High bright LED only) |                 |
| ⑥ Option       | W  | Milky white (Front lens)     |                 |

\* Not applied for 6 mm series.

### Specifications

| Voltage  | Operating Voltage | Operating Current |
|----------|-------------------|-------------------|
| 3V DC    | 2.7 to 3.3V DC    | 20 mA             |
| 12V DC   | 10.8 to 13.2V DC  | 20 mA             |
| 24V DC   | 21.6 to 26.4V DC  | 20 mA             |
| 110V AC* | 100 to 120V AC    | 4 mA              |
| 220V AC* | 200 to 240V AC    | 2 mA              |

\* not valid on Ø6 mm

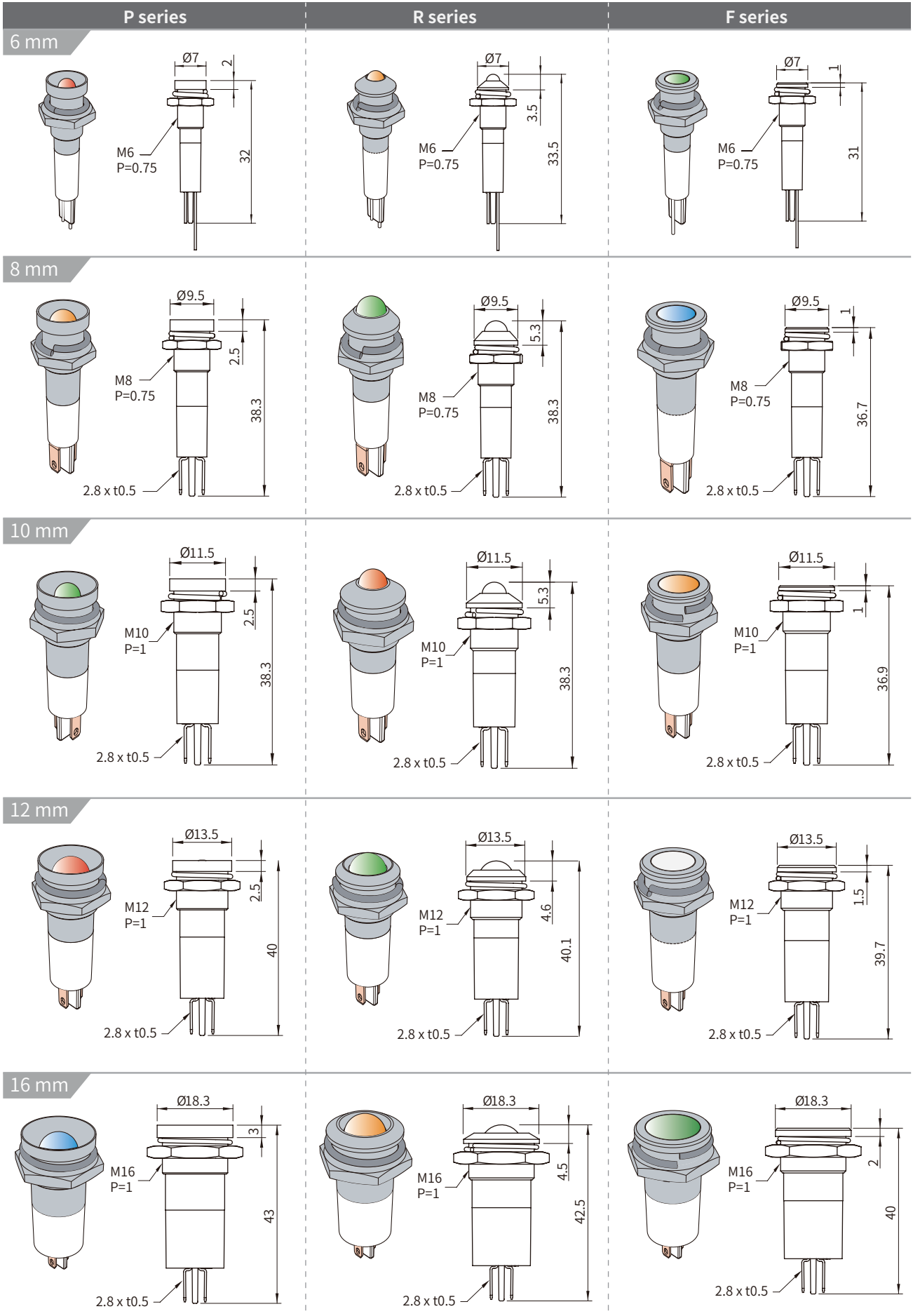
### Standard LED Intensity

| Type   | Standard LED | Lumi. intensity P and R Type (mcd) | Lumi. intensity F Type (mcd) |          |
|--------|--------------|------------------------------------|------------------------------|----------|
| 6 mm   | Red          | 50 to 80                           | 10 to 20                     |          |
|        | Yellow       | 50 to 70                           | 10 to 18                     |          |
|        | Green        | 50 to 80                           | 10 to 23                     |          |
| 8 mm   | Red          | 60 to 90                           | 15 to 23                     |          |
|        | Yellow       | 50 to 80                           | 10 to 22                     |          |
|        | Green        | 70 to 100                          | 15 to 25                     |          |
| 10 mm  | Red          | 60 to 90                           | 13 to 20                     |          |
|        | Yellow       | 50 to 80                           | 8 to 20                      |          |
|        | Green        |                                    | 70 to 100                    | 14 to 23 |
|        | 12 mm        | Red                                | 50 to 80                     | 10 to 20 |
| Yellow |              | 40 to 70                           | 8 to 18                      |          |
| Green  |              | 60 to 80                           | 10 to 22                     |          |
| 16 mm  | Red          | 50 to 80                           | 8 to 18                      |          |
|        | Yellow       | 40 to 60                           | 8 to 15                      |          |
|        | Green        |                                    | 50 to 70                     | 10 to 20 |

### High Bright LED Intensity (F Series only)

| Type  | High Bright LED | Lumi. Intensity P and R Type (mcd) | Lumi. Intensity F Type (mcd) |
|-------|-----------------|------------------------------------|------------------------------|
| 6 mm  | Red             | 500 to 1000                        | 100 to 200                   |
|       | Yellow          | 600 to 1200                        | 100 to 200                   |
|       | Green           | 700 to 1500                        | 150 to 250                   |
|       | Blue            | 500 to 1300                        | 100 to 220                   |
|       | White           | 800 to 1300                        | 120 to 200                   |
| 8 mm  | Red             | 600 to 1100                        | 150 to 250                   |
|       | Yellow          | 600 to 1200                        | 130 to 260                   |
|       | Green           | 1000 to 1800                       | 200 to 300                   |
|       | Blue            | 800 to 1500                        | 140 to 240                   |
|       | White           | 900 to 1600                        | 150 to 240                   |
| 10 mm | Red             | 600 to 1200                        | 140 to 220                   |
|       | Yellow          | 850 to 1200                        | 120 to 240                   |
|       | Green           | 1000 to 1800                       | 180 to 270                   |
|       | Blue            | 900 to 1500                        | 130 to 230                   |
|       | White           | 900 to 1600                        | 140 to 230                   |
| 12 mm | Red             | 500 to 1000                        | 110 to 180                   |
|       | Yellow          | 500 to 1100                        | 100 to 190                   |
|       | Green           | 800 to 1500                        | 130 to 220                   |
|       | Blue            | 550 to 1300                        | 100 to 200                   |
|       | White           | 600 to 1400                        | 100 to 210                   |
| 16 mm | Red             | 550 to 1000                        | 80 to 150                    |
|       | Yellow          | 600 to 1100                        | 80 to 160                    |
|       | Green           | 700 to 1400                        | 100 to 210                   |
|       | Blue            | 500 to 1200                        | 80 to 190                    |
|       | White           | 600 to 1200                        | 90 to 180                    |

## Dimensions <Unit: mm>



RoHS



### Ultra-small Thumbwheel-operated Switches

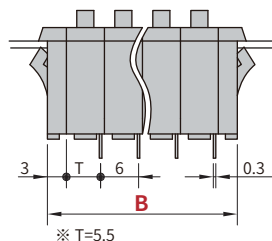
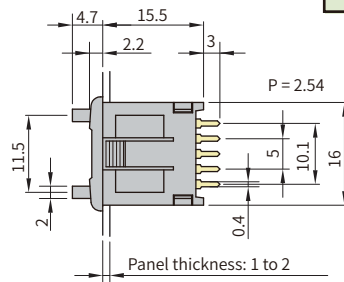
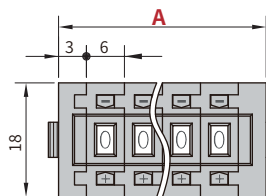
- High reliability achieved with gold contacts.
- snap-in Type (Front mounting)
- PCB Terminals, Pen-push Model
- Decimal Code - Uses the ten digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

### Ordering Information

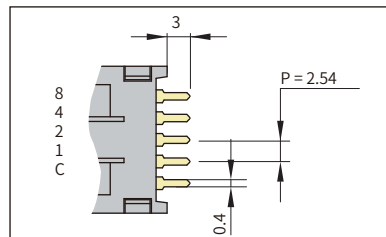
**AD105-IN**

**Unit Color**  
IN : Ivory  
BN : Black

### Dimensions (unit: mm)



※ T=5.5

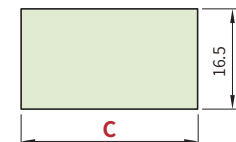


### Output Codes 06 and 07

| Model | Switch Unit or Connector | Common terminal number | Terminals connected to common |   |   |   |
|-------|--------------------------|------------------------|-------------------------------|---|---|---|
|       | Switch Unit              | C                      | 1                             | 2 | 4 | 8 |
| 06    | Connector                | 2                      | 4                             | 5 | 6 | 7 |
| 07    | Connector                | 1                      | 4                             | 5 | 6 | 7 |
| Dial  | 0                        |                        |                               |   |   |   |
|       | 1                        |                        | •                             |   |   |   |
|       | 2                        |                        |                               | • |   |   |
|       | 3                        |                        | •                             | • |   |   |
|       | 4                        |                        |                               |   | • |   |
|       | 5                        |                        | •                             |   | • |   |
|       | 6                        |                        |                               | • | • |   |
|       | 7                        |                        | •                             | • | • |   |
|       | 8                        |                        |                               |   |   | • |
|       | 9                        |                        | •                             |   |   | • |

※ The solid dot • indicates that the internal switch is ON (i.e., connected to the common terminal).

### Panel Cutout



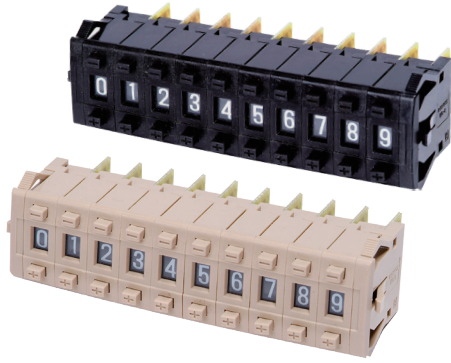
[Note] Common terminal C is at the bottom when the Switch Unit is viewed from the front.

### Specifications

| Number of Switches (n) | A (n x 6+8) | B (n x 6+6) | C    |
|------------------------|-------------|-------------|------|
| 1                      | 14          | 12          | 12.5 |
| 2                      | 20          | 18          | 18.5 |
| 3                      | 26          | 24          | 24.5 |
| 4                      | 32          | 30          | 30.5 |
| 5                      | 38          | 36          | 36.5 |
| 6                      | 44          | 42          | 42.5 |
| 7                      | 56          | 48          | 48.5 |
| 8                      | 56          | 56          | 56.5 |
| 9                      | 62          | 60          | 60.5 |
| 10                     | 68          | 66          | 66.5 |

※The dimensions above include both End Caps, and will increase 6 mm for each Spacer inserted.

|                                     |  |                               |
|-------------------------------------|--|-------------------------------|
| Switching capacity (resistive load) | AC 5V / DC 28V<br>1 mA to 0.1 A                                    |                               |
| Continuous carry current            | 1A max.  |                               |
| Contact resistance                  | 200mΩ max.   |                               |
| Insulation resistance               | Between non-connected terminals                                    | 10 MΩ min. (at 250 VDC)       |
|                                     | Between terminal and non-current carrying part                     | 100 MΩ min. (at 500 VDC)      |
| Dielectric strength                 | Between non-connected terminals                                    | 200 VAC, 50/60 Hz for 1 min   |
|                                     | Between terminal and non-current carrying part                     | 1,000 VAC, 50/60 Hz for 1 min |
| Shock resistance                    | 490 m/s <sup>2</sup> min.  |                               |
| Vibration resistance                | 10 to 55 Hz, 1.5-mm double amplitude                               |                               |
| Durability                          | Mechanical   | 30,000 operations min.        |
|                                     | Electrical   | 20,000 operations min.        |
| Ambient temperature                 | Operating: -10°C to 70°C (with no icing)<br>Storage: -20°C to 80°C |                               |
| Ambient humidity                    | 35% ~ 85%  |                               |
| Max. operating force                | 4.41 N max.  |                               |



## Wide Range of Locking-type Models Available

- Character height of 4.8 mm makes for easy - to view display
- Installation is easy with snap-in mounting.

## Ordering Information

**AD105-IN**

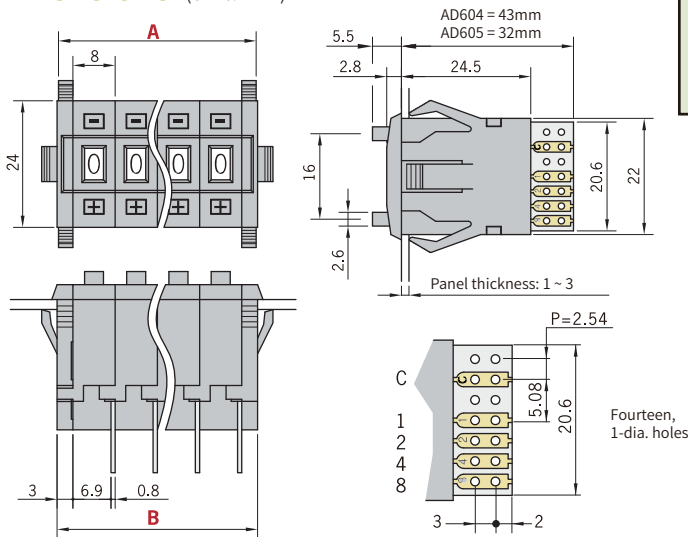
### PCB Length

AD604: 43mm  
AD605: 32mm

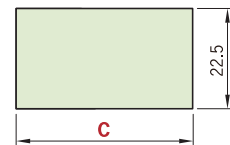
### Unit Color

IN : Ivory  
BN : Black

## Dimensions (unit: mm)



## Panel Cutout



## Output Codes 06 and 07

| Model | Switch Unit or Connector | Common terminal number | Terminals connected to common |   |   |   |
|-------|--------------------------|------------------------|-------------------------------|---|---|---|
|       | Switch Unit              | C                      | 1                             | 2 | 4 | 8 |
| 06    | Connector                | 2                      | 4                             | 5 | 6 | 7 |
| 07    | Connector                | 1                      | 4                             | 5 | 6 | 7 |
| Dial  | 0                        |                        |                               |   |   |   |
|       | 1                        |                        | •                             |   |   |   |
|       | 2                        |                        |                               | • |   |   |
|       | 3                        |                        | •                             | • |   |   |
|       | 4                        |                        |                               |   | • |   |
|       | 5                        |                        | •                             |   | • |   |
|       | 6                        |                        |                               | • | • |   |
|       | 7                        |                        | •                             | • | • |   |
|       | 8                        |                        |                               |   |   | • |
| 9     |                          | •                      |                               |   | • |   |

※ The solid dot • indicates that the internal switch is ON (i.e., connected to the common terminal).

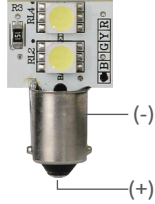
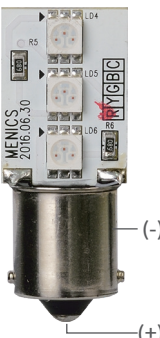

| Number of Switches (n) | A (n x 6+8) | B (n x 6+6) | C    |
|------------------------|-------------|-------------|------|
| 1                      | 16          | 14          | 14.5 |
| 2                      | 24          | 22          | 22.5 |
| 3                      | 32          | 30          | 30.5 |
| 4                      | 40          | 38          | 38.5 |
| 5                      | 48          | 46          | 46.5 |
| 6                      | 56          | 54          | 54.5 |
| 7                      | 64          | 62          | 62.5 |
| 8                      | 72          | 70          | 70.5 |
| 9                      | 80          | 78          | 78.5 |
| 10                     | 88          | 86          | 86.5 |

※ The dimensions above include both End Caps, and will increase 6 mm for each Spacer inserted.

## Specifications

|                                     |  |                               |
|-------------------------------------|--|-------------------------------|
| Switching capacity (resistive load) | AC 5V / DC 28V<br>1 mA to 0.1 A                                    |                               |
| Continuous carry current            | 1A max.  |                               |
| Contact resistance                  | 300mΩ max.   |                               |
| Insulation resistance               | Between non-connected terminals                                    | 10 MΩ min. (at 250 VDC)       |
|                                     | Between terminal and non-current carrying part                     | 100 MΩ min. (at 500 VDC)      |
| Dielectric strength                 | Between non-connected terminals                                    | 200 VAC, 50/60 Hz for 1 min   |
|                                     | Between terminal and non-current carrying part                     | 1,000 VAC, 50/60 Hz for 1 min |
| Shock resistance                    | 500 m/s <sup>2</sup> min.  |                               |
| Vibration resistance                | 10 to 55 Hz, 1.5-mm double amplitude                               |                               |
| Durability                          | Mechanical   | 100,000 operations min.       |
|                                     | Electrical   | 50,000 operations min.        |
| Ambient temperature                 | Operating: -10°C to 70°C (with no icing)<br>Storage: -20°C to 80°C |                               |
| Ambient humidity                    | 35% ~ 85%  |                               |
| Max. operating force                | 5.39 N max.  |                               |

# Replacement LED Bulbs

| LED Bulb  | Ordering Information  | Applicable Products |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
|---|---|---------------------|-----|---|--------|---|-------|---|------|---|-------|----|----------|----|----------|---------------------|-------------|---------------------|-------------|--------------------------------------|-----|---|--------|---|-------|---|------|---|-------|-----|--------|-----|--------|------------|----------------|------------|----------------|--|
|  <p>Base 9mm<br/>Single contact</p>    | <p><b>MAL - T09 - S - 12 - (R)</b></p> <p><b>Color</b></p> <table border="1"> <tr><td>R</td><td>Red</td></tr> <tr><td>Y</td><td>Yellow</td></tr> <tr><td>G</td><td>Green</td></tr> <tr><td>B</td><td>Blue</td></tr> <tr><td>C</td><td>Clear</td></tr> </table> <p><b>Voltage</b></p> <table border="1"> <tr><td>12</td><td>12VAC/DC</td></tr> <tr><td>24</td><td>24VAC/DC</td></tr> </table> <p>Current consumption    Allowable voltage range</p> <table border="1"> <tr> <td>12V: within 30~50mA</td> <td>12V: 11~13V</td> </tr> <tr> <td>24V: 20mA</td> <td>24V: 22~26V</td> </tr> </table> <p>▲ Pay attention to the polarity if it is DC-type.</p>   | R                   | Red | Y | Yellow | G | Green | B | Blue | C | Clear | 12 | 12VAC/DC | 24 | 24VAC/DC | 12V: within 30~50mA | 12V: 11~13V | 24V: 20mA           | 24V: 22~26V | <p>MT4 series<br/>PS / PL series</p> |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| R   | Red   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| Y   | Yellow  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| G   | Green   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| B   | Blue  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| C   | Clear   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 12  | 12VAC/DC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 24  | 24VAC/DC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 12V: within 30~50mA   | 12V: 11~13V   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 24V: 20mA   | 24V: 22~26V   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
|  <p>Base 15mm<br/>Single contact</p>  | <p><b>MAL - T15 - S - 12 - (R)</b></p> <p><b>Color</b></p> <table border="1"> <tr><td>R</td><td>Red</td></tr> <tr><td>Y</td><td>Yellow</td></tr> <tr><td>G</td><td>Green</td></tr> <tr><td>B</td><td>Blue</td></tr> <tr><td>C</td><td>Clear</td></tr> </table> <p><b>Voltage</b></p> <table border="1"> <tr><td>12</td><td>12VAC/DC</td></tr> <tr><td>24</td><td>24VAC/DC</td></tr> </table> <p>Current consumption    Allowable voltage range</p> <table border="1"> <tr> <td>12V: within 30~50mA</td> <td>12V: 11~13V</td> </tr> <tr> <td>24V: within 20~30mA</td> <td>24V: 22~26V</td> </tr> </table> <p>▲ Pay attention to the polarity if it is DC-type.</p> <p><b>MAL - T15 - S - 110 - (R)</b></p> <p><b>Color</b></p> <table border="1"> <tr><td>R</td><td>Red</td></tr> <tr><td>Y</td><td>Yellow</td></tr> <tr><td>G</td><td>Green</td></tr> <tr><td>B</td><td>Blue</td></tr> <tr><td>C</td><td>Clear</td></tr> </table> <p><b>Voltage</b></p> <table border="1"> <tr><td>110</td><td>110VAC</td></tr> <tr><td>220</td><td>220VAC</td></tr> </table> <p>Current consumption    Allowable voltage range</p> <table border="1"> <tr> <td>110V: 15mA</td> <td>110V: 100~120V</td> </tr> <tr> <td>220V: 20mA</td> <td>220V: 210~240V</td> </tr> </table> | R                   | Red | Y | Yellow | G | Green | B | Blue | C | Clear | 12 | 12VAC/DC | 24 | 24VAC/DC | 12V: within 30~50mA | 12V: 11~13V | 24V: within 20~30mA | 24V: 22~26V | R                                    | Red | Y | Yellow | G | Green | B | Blue | C | Clear | 110 | 110VAC | 220 | 220VAC | 110V: 15mA | 110V: 100~120V | 220V: 20mA | 220V: 210~240V | <p>PR series<br/>ML series<br/>AS, SL series</p>               |
| R   | Red   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| Y   | Yellow  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| G   | Green   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| B   | Blue  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| C   | Clear   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 12  | 12VAC/DC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 24  | 24VAC/DC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 12V: within 30~50mA   | 12V: 11~13V   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 24V: within 20~30mA   | 24V: 22~26V   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| R   | Red   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| Y   | Yellow  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| G   | Green   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| B   | Blue  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| C   | Clear   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 110   | 110VAC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 220   | 220VAC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 110V: 15mA  | 110V: 100~120V  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 220V: 20mA  | 220V: 210~240V  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
|  <p>Base 15mm<br/>Double contact</p> | <p><b>MAL - T15 - D - 24 - (R)</b></p> <p><b>Color</b></p> <table border="1"> <tr><td>R</td><td>Red</td></tr> <tr><td>Y</td><td>Yellow</td></tr> <tr><td>G</td><td>Green</td></tr> <tr><td>B</td><td>Blue</td></tr> <tr><td>C</td><td>Clear</td></tr> </table> <p><b>Voltage</b></p> <table border="1"> <tr><td>12</td><td>12VAC/DC</td></tr> <tr><td>24</td><td>24VAC/DC</td></tr> </table> <p>Current consumption    Allowable voltage range</p> <table border="1"> <tr> <td>12V: within 30~50mA</td> <td>12V: 11~13V</td> </tr> <tr> <td>24V: within 20~30mA</td> <td>24V: 22~26V</td> </tr> </table> <p>▲ Pay attention to the polarity if it is DC-type.</p> <p><b>MAL - T15 - D - 220 - (R)</b></p> <p><b>Color</b></p> <table border="1"> <tr><td>R</td><td>Red</td></tr> <tr><td>Y</td><td>Yellow</td></tr> <tr><td>G</td><td>Green</td></tr> <tr><td>B</td><td>Blue</td></tr> <tr><td>C</td><td>Clear</td></tr> </table> <p><b>Voltage</b></p> <table border="1"> <tr><td>110</td><td>110VAC</td></tr> <tr><td>220</td><td>220VAC</td></tr> </table> <p>Current consumption    Allowable voltage range</p> <table border="1"> <tr> <td>110V: 15mA</td> <td>110V: 100~120V</td> </tr> <tr> <td>220V: 20mA</td> <td>220V: 210~240V</td> </tr> </table> | R                   | Red | Y | Yellow | G | Green | B | Blue | C | Clear | 12 | 12VAC/DC | 24 | 24VAC/DC | 12V: within 30~50mA | 12V: 11~13V | 24V: within 20~30mA | 24V: 22~26V | R                                    | Red | Y | Yellow | G | Green | B | Blue | C | Clear | 110 | 110VAC | 220 | 220VAC | 110V: 15mA | 110V: 100~120V | 220V: 20mA | 220V: 210~240V | <p>MT5 series<br/>MT8 series<br/>AVG series<br/>MSG series</p> |
| R   | Red   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| Y   | Yellow  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| G   | Green   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| B   | Blue  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| C   | Clear   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 12  | 12VAC/DC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 24  | 24VAC/DC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 12V: within 30~50mA   | 12V: 11~13V   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 24V: within 20~30mA   | 24V: 22~26V   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| R   | Red   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| Y   | Yellow  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| G   | Green   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| B   | Blue  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| C   | Clear   |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 110   | 110VAC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 220   | 220VAC  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 110V: 15mA  | 110V: 100~120V  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |
| 220V: 20mA  | 220V: 210~240V  |                     |     |   |        |   |       |   |      |   |       |    |          |    |          |                     |             |                     |             |                                      |     |   |        |   |       |   |      |   |       |     |        |     |        |            |                |            |                |  |

Please contact the head office for more informations about this product.

# Replacement Bulbs

| Bulb Type  | No | Wattage                 | Ordering information   | Applicable Products  |
|--|----|-------------------------|--|--|
| <br>T10 / BA9S    | 1  | 12V 5W                  | <b>MAB-T09-S-012-05</b>  | <b>MT4 series</b><br><b>PS / PL series</b>                                   |
|  | 2  | 24V 5W                  | <b>MAB-T09-S-024-05</b>  |  |
|  | 3  | 130V 5W                 | <b>MAB-T09-S-130-05</b>  |  |
|  | 4  | 240V 5W                 | <b>MAB-T09-S-240-05</b>  |  |
| <br>G19 / BA15S   | 5  | 12V 5W                  | <b>MAB-T15-S-012-05</b>  | <b>AS series</b><br><b>SL series</b>   |
| <br>T16 / BA15S   | 6  | 12V 8W                  | <b>MAB-T15-S-012-08</b>  | <b>PR series</b><br><b>ML series</b><br><b>AS series</b><br><b>SL series</b> |
|  | 7  | 24V 8W                  | <b>MAB-T15-S-024-08</b>  |  |
|  | 8  | 130V 8W                 | <b>MAB-T15-S-130-08</b>  |  |
|  | 9  | 240V 8W                 | <b>MAB-T15-S-240-08</b>  |  |
| <br>T16 / BA15D | 10 | 12V 10W                 | <b>MAB-T15-D-012-10</b>  | <b>MT5 series</b><br><b>MT8 series</b>                                       |
|  | 11 | 24V 10W                 | <b>MAB-T15-D-024-10</b>  |  |
|  | 12 | 130V 10W                | <b>MAB-T15-D-130-10</b>  |  |
|  | 13 | 240V 10W                | <b>MAB-T15-D-240-10</b>  |  |
| <br>T22 / BA15D | 14 | 12V 25W                 | <b>MAB-T15-D-012-25</b>  | <b>AVG series</b><br><b>MSGs series</b>                                      |
|  | 15 | 24V 25W                 | <b>MAB-T15-D-024-25</b>  |  |
|  | 16 | 130V 25W                | <b>MAB-T15-D-130-25</b>  | <b>AVG series</b>  |
|  | 17 | 240V 25W                | <b>MAB-T15-D-240-25</b>  |  |
|                 | 18 | <b>Xenon Lamp</b><br>3W | <b>MS86S-LAMP-02</b><br>AC/DC 12 ~ 24V<br>I-Type<br>Lamp life: 2,000 hours | <b>MS86S series</b><br><b>MS115S series</b>                                  |
|                 | 19 | <b>Xenon Lamp</b><br>6W | <b>MS86S-LAMP-10</b><br>AC 110V, 220V<br>U-Type<br>Lamp life: 2,000 hours  | <b>MS86S series</b><br><b>MS115S series</b>                                  |

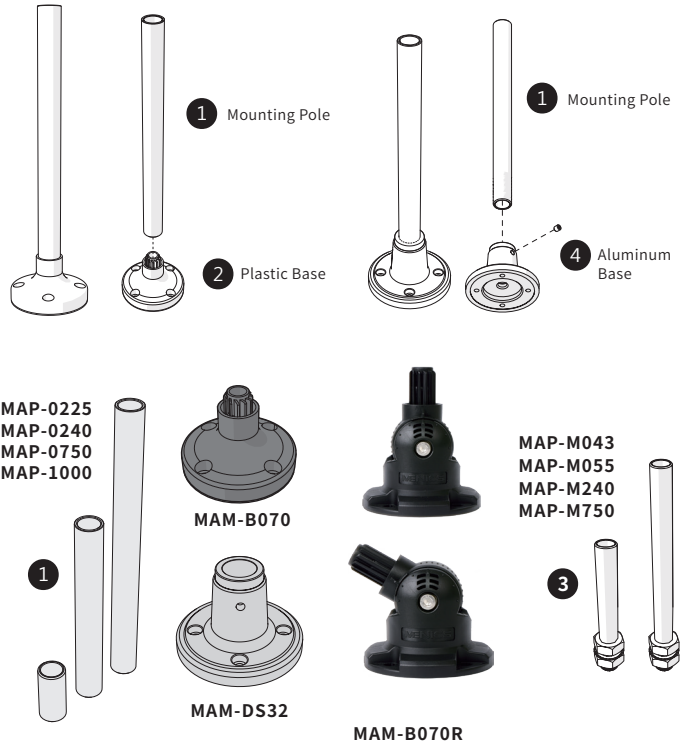
# Tower Light Mounting Options

PTE , PTM , PTD , PME , MT5C/8C , MT4B/5B/8B

## Pole Mounting with Base

| No | Part #           | Description  |
|----|------------------|--|
| 1  | <b>MAP-0225</b>  | Ø20mm, 8.86 in (Length 225mm) Pole   |
|    | <b>MAP-0240</b>  | Ø20mm, 9.45 in (Length 240mm) Pole   |
|    | <b>MAP-0750</b>  | Ø20mm, 29.53 in (Length 750mm) Pole  |
|    | <b>MAP-1000</b>  | Ø20mm, 39.37 in (Length 1000mm) Pole   |
| 2  | <b>MAM-B070</b>  | Ø70mm Plastic Base<br>With Water-Proof Rubber Gasket                             |
|    | <b>MAM-B070R</b> | Ø70mm Plastic Base<br>With 180° Rotating Pole Base                               |
| 3  | <b>MAP-M043</b>  | Ø20mm, 1.69 in (Length 43mm) Pole<br>Threaded pole With 2 Nut (M20 x 1.5Pitch)   |
|    | <b>MAP-M055</b>  | Ø20mm, 2.17 in (Length 55mm) Pole<br>Threaded pole With 2 Nut (M20 x 1.5Pitch)   |
|    | <b>MAP-M240</b>  | Ø20mm, 9.45 in (Length 240mm) Pole<br>Threaded pole With 2 Nut (M20 x 1.5Pitch)  |
|    | <b>MAP-M750</b>  | Ø20mm, 29.53 in (Length 750mm) Pole<br>Threaded pole With 2 Nut (M20 x 1.5Pitch) |
| 4  | <b>MAM-DS32</b>  | Ø20mm Aluminum pole mount base<br>- Die Casting                                  |

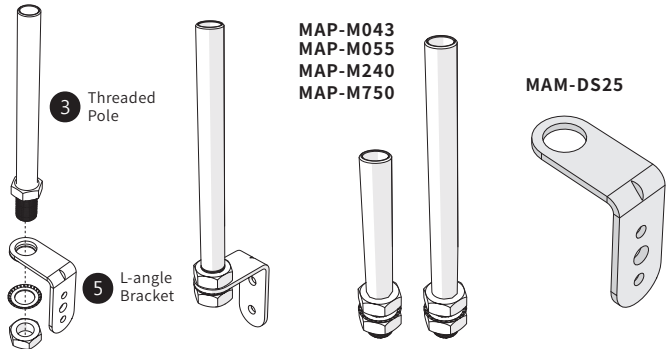
\* Aluminum Pole Length Options



## L-angle Mounting with Bracket

| No | Part #          | Description   |
|----|-----------------|---|
| 3  | <b>MAP-M043</b> | Ø20mm, 1.69 in (Length 43mm) Pole<br>Threaded pole With 2 Nut   |
|    | <b>MAP-M240</b> | Ø20mm, 9.45 in (Length 240mm) Pole<br>Threaded pole With 2 Nut  |
|    | <b>MAP-M750</b> | Ø20mm, 29.53 in (Length 750mm) Pole<br>Threaded pole With 2 Nut |
| 5  | <b>MAM-DS25</b> | L-angle Bracket   |

\* Aluminum Pole Length Options



## L-angle Mounting with Bracket



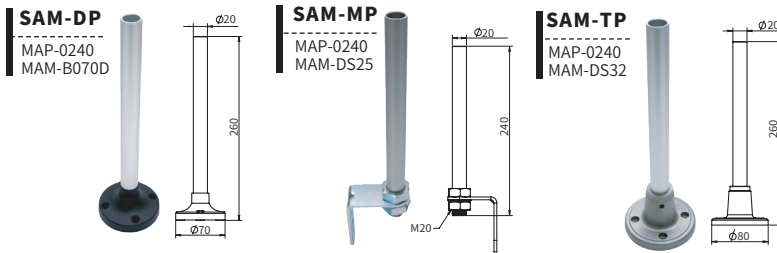


# Accessories Parts

## Ordering information and Dimensions (UNIT : mm)

### Semi-assembled pole mounting base

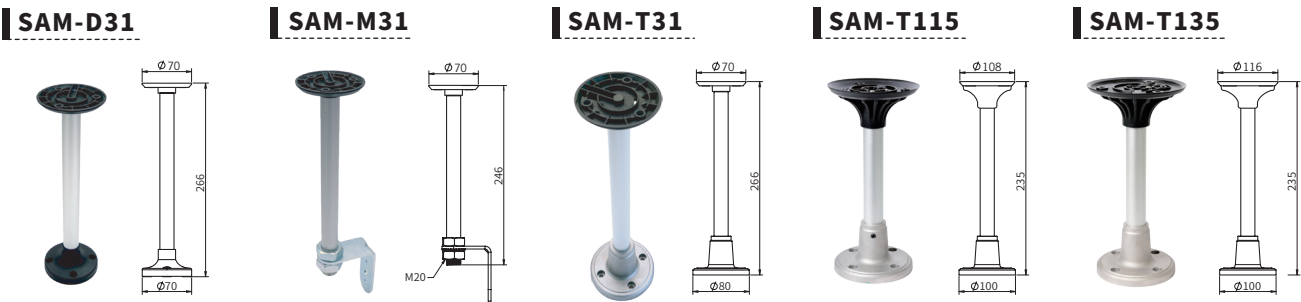
PTE, PTM, PTD, PME, MT4, MT5 series



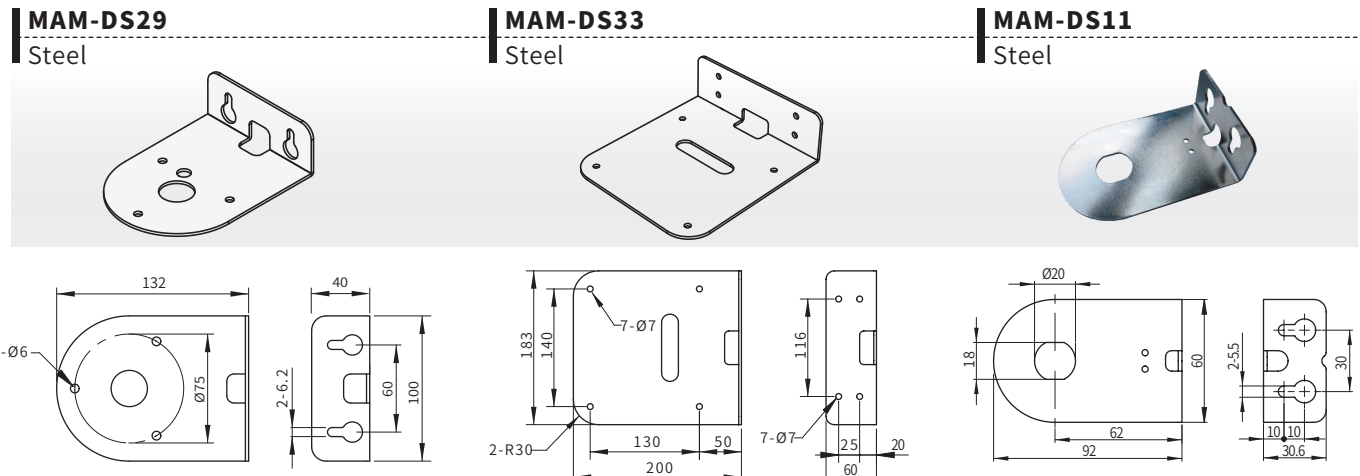
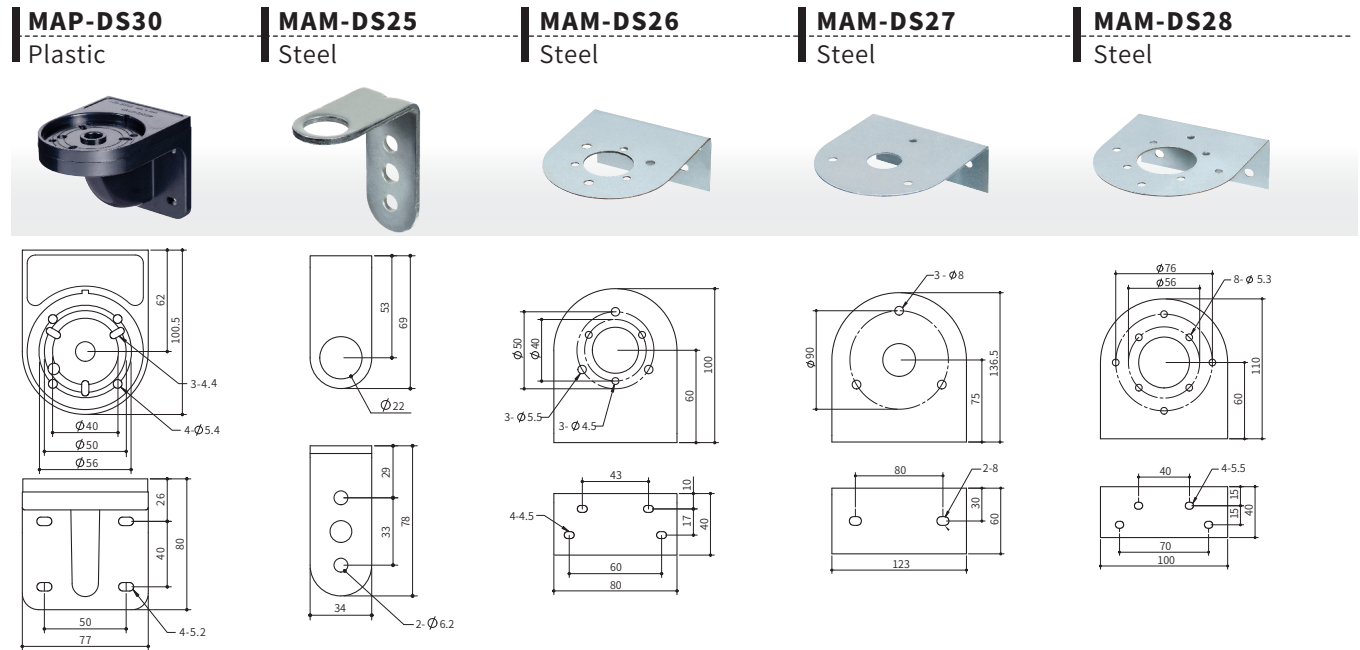
### MS86 series dedicated part

### MS115 series

### MS135 series



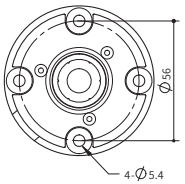
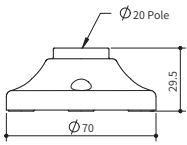
### Wall Mounting Bracket



## Mount Base

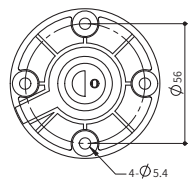
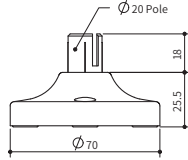
### MAM-B070B

Plastic



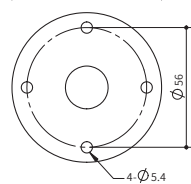
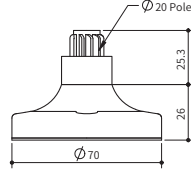
### MAM-B070C

Plastic



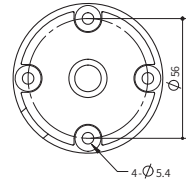
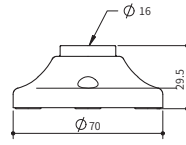
### MAM-B070D

Plastic



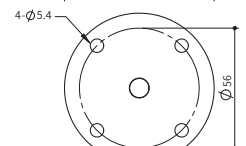
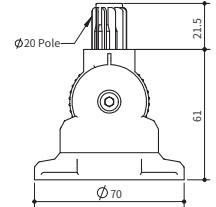
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Plastic



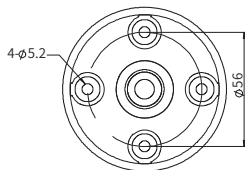
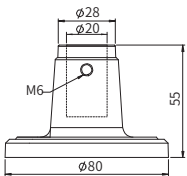
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Plastic



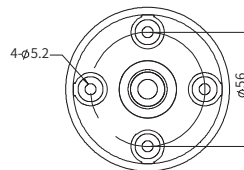
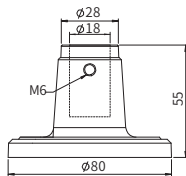
### MAM-DS32A

Aluminum



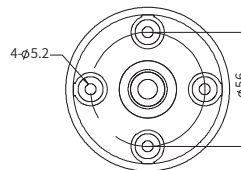
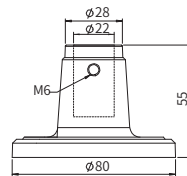
### MAM-DS32B

Aluminum



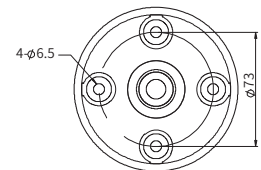
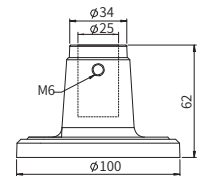
### MAM-DS32C

Aluminum



### MAM-DS35

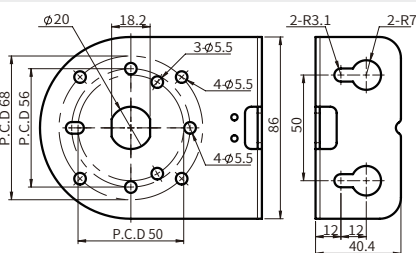
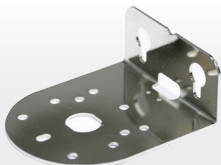
Aluminum



## Wall Mounting Bracket

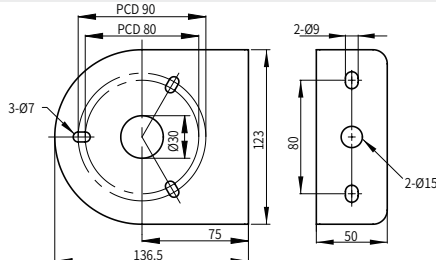
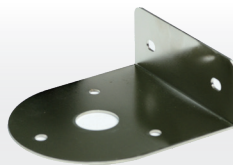
### MAM-DS10

Steel



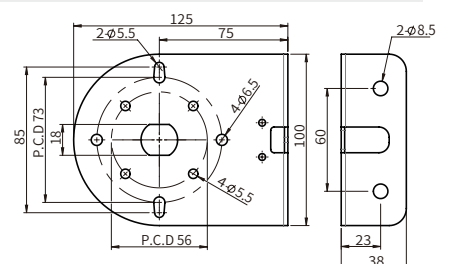
### MAM-DS37

Steel



### MAM-DS38

Steel



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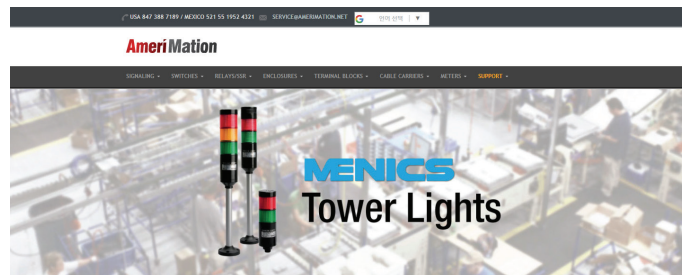


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