**PS / PSF Signal Light**

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

**PSX Signal Light**

- Original Prism Cut Lens: For enhanced visibility and high illumination in every direction.
- Double Flashing: For enhanced visibility (night-time visibility: 1,000m+).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Impact and heat resistant ABS resin.
- Dome: Superior impact and heat resistant polycarbonate resin.
- IP55 with the optional rubber gasket SZ-210.
- Available Colors: Red, Amber, Green, Blue.

**Compact, anti dazzle Signal Light featuring simple function suitable for small devices.**

- Bulb: ø82
- IP55 With SZ-210

**Xenon Signal Light featuring long-lasting afterglow ideal for use in bad weather or snow.**

- Bulb: ø82
- IP55 With SZ-210

**Dimensions**

<table>
<thead>
<tr>
<th>PS / PSF type</th>
<th>PSX type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Power Consumption</td>
</tr>
<tr>
<td>PS-12/PSF-12</td>
<td>12V AC/DC</td>
</tr>
<tr>
<td>PS-24/PSF-04</td>
<td>24V AC/DC</td>
</tr>
<tr>
<td>PS-100/PSF-100</td>
<td>100V AC</td>
</tr>
<tr>
<td>PS-220/PSF-220</td>
<td>220V AC</td>
</tr>
</tbody>
</table>

**Optional Rubber Gasket SZ-210**

Available by Special Order
- Silver Color Body.

**Mounting Dimension**

- Wire exit hole ø5
- Mounting hole ø5

**Name plate**

ø50

**Dimensions**

<table>
<thead>
<tr>
<th>PS / PSF type</th>
<th>PSX type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Power Consumption</td>
</tr>
<tr>
<td>PSX-100</td>
<td>100V AC 2.0W 2.2W</td>
</tr>
<tr>
<td>PSX-220</td>
<td>220V AC 3.0W 10A</td>
</tr>
</tbody>
</table>

Rush current of this product is very high. Please check the outer contact capacity.
LED Multi Signal Light featuring three flashing patterns for diverse use.
- Flashing Pattern: 3 Patterns—Simulated Rotation, Strobe, Blinking.
- Enhanced Illumination: Use of long-life, super bright LED.
- Maintenance-free: No bulb replacement needed.
- Energy Efficient: Low power consumption.
- Extended Product Life: Longer life without the use of a motor.
- Installation: Indoor: upright, inverted and sideways; Outdoors: upright only.
- Available Colors: Red, Amber, Green, Blue.

Available by Special Order
- Silver Color Body.

Xenon Signal Light featuring superior night-time visibility and adjustable flashing cycle.
- Newly Developed Prism Cut Lens: For bright illumination and improved visibility from all directions.
- Extended Bulb Life: Shock resistant xenon, even under severe vibration.
- Installation: Upright, inverted and sideways for indoors only.
- Main Body: Impact and heat resistant ABS resin.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Superior Visibility: Intensive flashing using a xenon lamp (night-time visibility: 1,000m or more).
- Flashing Cycle: Adjustable between 30~90 times/minute.
- IP55 with the optional Rubber gasket SZ-200A (IP23 without SZ-200A).
- Available Colors: Red, Amber, Green, Blue.

Available by Special Order
- Silver Color Body.
- UL type (E215660).

**Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>Mounting Hole</th>
<th>Wire Entry Hole</th>
</tr>
</thead>
<tbody>
<tr>
<td>KHE-24</td>
<td>Ø60, 3 pcs</td>
<td>Ø5.5</td>
</tr>
<tr>
<td>KHE-24a</td>
<td>Ø70, 3 pcs</td>
<td>Ø7.9</td>
</tr>
</tbody>
</table>

**KHE type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Mounting Hole</th>
<th>Wire Entry Hole</th>
</tr>
</thead>
<tbody>
<tr>
<td>KHE-24</td>
<td>Ø60, 3 pcs</td>
<td>Ø5.5</td>
</tr>
<tr>
<td>KHE-24a</td>
<td>Ø70, 3 pcs</td>
<td>Ø7.9</td>
</tr>
</tbody>
</table>

**Power Consumption**

- Model: KHE-24, Power Consumption: 8.2W
- Model: KHE-24a, Power Consumption: 21.6W

**Rush Current**

- Rush current of this product is very high. Please check the outer contact capacity.
**Corrosion-proof plastic Signal Light with triple flashing.**
- Newly Developed Prism Cut Lens: For bright illumination and improved visibility from all directions.
- Superior Visibility: Intensive flashing using a xenon lamp (night-time visibility: 1,000m or more).
- Extended Bulb Life: Shock resistant xenon, even under severe vibration.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Impact and heat resistant ABS resin.
- Lens: Superior weather resistant and light translucent AS resin.
- Available Colors: Red, Amber, Blue.

**Xenon Signal Light with corrosion-proof stainless steel body.**
- Newly Developed Prism Cut Lens: For bright illumination and improved visibility from all directions.
- Superior Visibility: Intensive flashing using a xenon lamp (night-time visibility: 1,000m or more).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Corrosion proof stainless steel body (SUS304) with stainless steel fixing bolt.
- Lens: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Colors: Red, Amber, Blue.

**Dimensions**

<table>
<thead>
<tr>
<th>XP type</th>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Flashes per Minute</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>XP-12</td>
<td>12V DC</td>
<td>1.4A</td>
<td>3-9</td>
<td>110</td>
<td>1.2kg</td>
</tr>
<tr>
<td>XP-24</td>
<td>24V DC</td>
<td>0.7A</td>
<td>3-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XP-100</td>
<td>100V AC</td>
<td>0.4A</td>
<td>3-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XP-220</td>
<td>220V AC</td>
<td>0.2A</td>
<td>3-9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**XP Signal Light**

- Mounted Dimension: 162 x 162 mm
- IP23
- Name plate: ø120

**XL type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Flashes per Minute</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL-A1</td>
<td>12~24V DC</td>
<td>1.5A</td>
<td>70~90 (adjustable)</td>
<td>2.0kg</td>
</tr>
</tbody>
</table>

**XL Signal Light**

- Mounted Dimension: ø140
- Name plate: ø120
- Name plate: ø120
- IP23
- Wire exit hole: ø30
- Wire exit hole: ø30

Rush current of this product is very high. Please check the outer contact capacity.
Revolving Warning Light featuring Rust-free plastic, LED, adjustable flashing cycles, and maintenance-free design.

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

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

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

Includes:
- LED
- Ø162
- IP23
- Drip-proof

Newly developed reflector for LED revolving warning light.

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

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

### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Flash per Minute</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPE-100</td>
<td>100V AC</td>
<td>50mA</td>
<td>120 (revolution)</td>
<td>0.4kg</td>
</tr>
<tr>
<td>KPE-200</td>
<td>200V AC</td>
<td>60mA</td>
<td>120</td>
<td>0.6kg</td>
</tr>
</tbody>
</table>

- **Rated Voltage**
  - KPE: 100V AC, 200V AC
  - SKHE/SKHEB: 12V DC, 24V DC

- **Current Consumption**
  - KPE: 50mA, 60mA
  - SKHE/SKHEB: 0.25A, 0.16A, 0.04A

- **Weight**
  - KPE: 0.4kg, 0.6kg
  - SKHE/SKHEB: 0.4kg, 0.6kg

### Mounting Dimensions

- **KPE**
  - Ø162
  - IP23
  - Drip-proof

- **SKHE/SKHEB**
  - Ø118
  - IP23

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**SKHE / SKHEB**

1 chip super bright LED Revolving Warning Light

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**KPE**

Signal Light

---

**LED**

Ø162

- Drip-proof

- IP23

---

**SKHE | SKHEB**

- Dimensions

- Mounting Dimensions

- Name plate

- Wire exit hole Ø70

- Mounting hole 3-Ø6

- Ø118

- 0.02A

- 120 V AC

- 0.6kg
RKE / RKEB / RHE / RHEB

1 chip super bright LED Revolving Warning Light

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

Newly developed reflector for LED revolving warning light.

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

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

**Dimensions**

- **Size:** 110mm x 110mm x 110mm
- **Mounting Dimensions:**
  - Name plate: 72mm x 72mm
  - Mounting hole: 3-M5
  - Wire exit hole: ø5
- **RKE/RHE type**

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

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

**Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Power Consumption</th>
<th>Rotations per Minute</th>
<th>Mounting Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLE-12</td>
<td>12V DC</td>
<td>1.7W MAX</td>
<td>0.4kg</td>
<td>3.4kg</td>
</tr>
<tr>
<td>RLE-24</td>
<td>24V DC</td>
<td>3.3W MAX</td>
<td>0.8kg</td>
<td>3.8kg</td>
</tr>
<tr>
<td>RLE-100</td>
<td>100V AC</td>
<td>2W MAX</td>
<td>0.8kg</td>
<td>4.0kg</td>
</tr>
<tr>
<td>RLE-220</td>
<td>220V AC</td>
<td>2W MAX</td>
<td>0.8kg</td>
<td>Special order</td>
</tr>
</tbody>
</table>

**RLE type**

LED Revolving Warning Light

- Colors available: Red, Amber, Green, Blue.
- RHEB/RKEB series has an integral alarm (hi-pitch tone 90dB at 1m) that sounds with light operation.
- Compact Motor: High durability and energy-efficient.
- Energy-Efficient: Maintenance-free LED.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Impact and heat resistant ABS resin.
- Dome: Superior impact and heat resistant polycarbonate resin.
- Available Colors: Red, Amber, Green.

**Dimensions**

- **Model:** RLE
- **Rated Voltage:** 12V DC
- **Power Consumption:** 1.7W MAX
- **Rotations per Minute:** 0.4kg
- **Mounting Dimension:**
  - Wire exit hole ø5
  - Mounting hole ø5
  - Name plate ø5

Drip-proof
Compact Revolving Warning Light perfectly designed for small devices.
- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Extended Bulb Life: Vibration-resistant automobile bulb.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Impact and heat resistant ABS resin.
- Cone: Superior impact and heat resistant polycarbonate resin.
- CE Compliant: 12V DC, 24V DC type only.
- Available Colors: Red, Amber, Green, Blue.

Available by Special Order
- Silver Color Body.
- RUP series furnished with mounting pole and bracket.

**Dimensions**

<table>
<thead>
<tr>
<th>RU/RS type</th>
<th>RU/RS-10</th>
<th>RU/RS-120</th>
<th>RU/RS-180</th>
<th>RU/RS-220</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>12V DC</td>
<td>24V DC</td>
<td>120V AC</td>
<td>240V AC</td>
</tr>
<tr>
<td>Current</td>
<td>0.3A</td>
<td>0.1A</td>
<td>0.05A</td>
<td>0.05A</td>
</tr>
<tr>
<td>Bulb</td>
<td>8W</td>
<td>8W</td>
<td>5W</td>
<td>5W</td>
</tr>
<tr>
<td>Mass</td>
<td>0.4kg</td>
<td>0.6kg</td>
<td>1.0kg</td>
<td>1.0kg</td>
</tr>
</tbody>
</table>

**Rated Voltage**

- RU/RS-10: 12V DC, 0.3A, 8W, 0.4kg
- RU/RS-120: 24V DC, 0.1A, 8W, 0.6kg
- RU/RS-180: 120V AC, 0.05A, 5W, 1.0kg
- RU/RS-220: 240V AC, 0.05A, 5W, 1.0kg

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Compact Revolving Warning Light featuring high durability and easy wiring with terminal block.
- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Extended Bulb Life: Vibration-resistant automobile bulb.
- Built-in Alarm: Built-in audible alarm up to 90dB at 1m for RHB/RKB.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Terminal Block: For easy wiring.
- Main Body: Impact and heat resistant ABS resin.
- Cone: Superior impact and heat resistant polycarbonate resin.
- CE Compliant: 12V DC, 24V DC type only.
- Available Colors: Red, Amber, Green, Blue.
- AUL type comes with rubber basket SZ-200A.

Available by Special Order (RH type)
- Silver Color Body.
- RUP series furnished with mounting pole and bracket.

**Dimensions**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>12V DC</td>
<td>24V DC</td>
<td>100V DC</td>
<td>120V AC</td>
<td>240V AC</td>
<td>240V AC</td>
</tr>
<tr>
<td>Current</td>
<td>0.3A</td>
<td>0.2A</td>
<td>0.03A</td>
<td>0.05A</td>
<td>0.05A</td>
<td>0.05A</td>
</tr>
<tr>
<td>Bulb</td>
<td>10W</td>
<td>10W</td>
<td>5W</td>
<td>5W</td>
<td>5W</td>
<td>5W</td>
</tr>
<tr>
<td>Mass</td>
<td>0.4kg</td>
<td>0.6kg</td>
<td>1.0kg</td>
<td>1.0kg</td>
<td>1.0kg</td>
<td>1.0kg</td>
</tr>
</tbody>
</table>

**Rated Voltage**

- RH-A/RK-A-12A (UL): 12V DC, 0.3A, 10W, 0.4kg
- RH-A/RK-A-24A (UL): 24V DC, 0.2A, 10W, 0.6kg
- RH-A/RK-A-100A (UL): 100V DC, 0.03A, 5W, 1.0kg
- RH-A/RK-A-120A (UL): 120V AC, 0.05A, 5W, 1.0kg
- RH-A/RK-A-220A (UL): 240V AC, 0.05A, 5W, 1.0kg
- RH-A/RK-240A (UL): 240V AC, 0.05A, 5W, 1.0kg
**SKH-EA Revolving Warning Light**

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

**Dimensions**

- Ø100
- IP23

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

**WH-A Revolving Warning Light**

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

* WHB type: upright only (outdoors).

**Available by Special Order**

- Silver Color Body.
- IP54.

**Dimensions**

- Ø100

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

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

- Rated Voltage
  - 12V DC
  - 24V DC
  - 100V AC
  - 200V AC

- Model
  - SKH-12EA
  - SKH-24EA
  - SKH-100EA
  - SKH-200EA

- Bulb
  - G18
  - BA15S

- Mass
  - 0.4kg
  - 0.6kg

- Rotations per Minute
  - 0.8A
  - 0.5A

- Current
  - 0.03A
  - 0.065A

- When installing the WHA, please keep its buzzer outlet faced downward.
Corrosion-proof plastic Revolving Warning Light for wide range of applications.

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

SKH-SA
- Installation: Indoors—upright, inverted.

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

- Rotary Mechanism: Gear-driven, for stable rotation under vibration.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Melamine baked finish with polycarbonate resin.
- CE Compliant: 12V DC, 24V DC, 48V DC type only.
- Available Colors: Red, Amber, Green, Blue.

### SKH-A Type

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKH-120A/SKHB-12A</td>
<td>12V DC</td>
<td>0.4A</td>
<td>150</td>
<td>12V/35W</td>
<td>0.4kg</td>
</tr>
<tr>
<td>SKH-110A/SKHB-10A</td>
<td>12V AC</td>
<td>0.25A</td>
<td>150</td>
<td>12V/35W</td>
<td>0.25kg</td>
</tr>
<tr>
<td>SKH-115A/SKHB-12A</td>
<td>12V DC</td>
<td>0.5A</td>
<td>150</td>
<td>12V/35W</td>
<td>0.5kg</td>
</tr>
<tr>
<td>SKH-115A/SKHB-20A</td>
<td>12V DC</td>
<td>0.5A</td>
<td>150</td>
<td>12V/35W</td>
<td>0.5kg</td>
</tr>
</tbody>
</table>

### SKP-A Type

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKP-120A</td>
<td>12V DC</td>
<td>0.25A</td>
<td>150</td>
<td>12V/25W</td>
<td>0.25kg</td>
</tr>
<tr>
<td>SKP-130A</td>
<td>24V DC</td>
<td>1.2A</td>
<td>150</td>
<td>12V/35W</td>
<td>1.2kg</td>
</tr>
<tr>
<td>SKP-140A</td>
<td>48V DC</td>
<td>1.2A</td>
<td>150</td>
<td>12V/35W</td>
<td>1.2kg</td>
</tr>
<tr>
<td>SKP-150A</td>
<td>100V DC</td>
<td>0.5A</td>
<td>150</td>
<td>12V/35W</td>
<td>0.5kg</td>
</tr>
<tr>
<td>SKP-150A</td>
<td>220V AC</td>
<td>0.12A</td>
<td>150</td>
<td>12V/35W</td>
<td>0.12kg</td>
</tr>
</tbody>
</table>

### SKP-A Type Dimensions

- Mounting Dimension (DC type):
  - ø102
  - Mounting hole ø5
  - Wire exit hole ø5.5

- Mounting Dimension (AC type):
  - ø118
  - Mounting hole ø5.5
  - Wire exit hole ø5.5

### SKH-A Type Dimensions

- Mounting Dimension (AC type):
  - ø118
  - Mounting hole ø5.5
  - Wire exit hole ø5.5

- Mounting Dimension (DC type):
  - ø102
  - Mounting hole ø5
  - Wire exit hole ø5.5
KP-A
Rust-free plastic Revolving Warning Light for a wide range of applications.
- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Extended Product Life: Vibration resistant and reliable operation even under severe cold environment (-30?).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: UV and water-proof special resin.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Mounting Bolts: Drip-proof and rust-free stainless steel type.
- CE Compliant: 24V DC type only.
- Available Colors: Red, Amber, Green, Blue.

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

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP-24A</td>
<td>24V DC</td>
<td>1.2A</td>
<td>140</td>
<td>24V20W</td>
<td>0.3kg</td>
</tr>
<tr>
<td>KP-200A</td>
<td>100V AC</td>
<td>3.2A</td>
<td>200</td>
<td>100V40W</td>
<td>1.2kg</td>
</tr>
<tr>
<td>KP-206A</td>
<td>200V AC</td>
<td>0.13A</td>
<td>130</td>
<td>200V30W</td>
<td>0.37 kg</td>
</tr>
<tr>
<td>Bulb</td>
<td>24V RP35 BA15S</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

SKHB-1006A

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKHB-1006A</td>
<td>SUM-1 x 5</td>
<td>0.8A</td>
<td>170</td>
<td>0/2W</td>
<td>1.1kg</td>
</tr>
<tr>
<td>SKHB-1006MA</td>
<td>LR20 x 5</td>
<td>0.4A</td>
<td>170</td>
<td>0/2W</td>
<td>1.1kg</td>
</tr>
</tbody>
</table>

Bulb

- Ø162
- IP23
**SKL-A**

Revolving Warning Light with highly durable housing.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: SKL-CA - Scratch-free melamine baked finish; SKL-SA - Corrosion-proof stainless steel body (SUS304).
- Dome: Superior impact and heat resistant polycarbonate resin.
- Available Colors: Red, Amber, Green, Blue.

**SKLB-A**

Revolving Warning Light featuring built-in buzzer up to 80dB at 1m.
- Built-in Alarm: Intermittent buzzer in 3 levels of volume —low: 65dB at 1m, medium: 70dB at 1m, high: 80dB at 1m. —selectable by external switch (60 times/min.).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Dome: Superior impact and heat resistant polycarbonate resin.
- Available Colors: Red, Amber.
Large Revolving Warning Light with solid design.
- Main Body: Impact and heat resistant ABS resin.
- Dome: Superior weather-resistant and light translucent acrylic resin.
- Voltage Range: 12V, 24V DC.
- Available Colors: Red, Amber, Blue.
- Bulb sold separately (H1).

Light and large Revolving Warning Light with dual-face reflector.
- Dual-face reflector: For powerful rotary flash.
- Compact Motor: High durability and energy-efficient.
- Main Body: Black body for resistance to harsh weather and UV rays.
- Dome: Red: ABS resin; Amber: PS resin.
- Available Colors: Red, Amber.

**Dimensions**

**HP type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Halogen Bulb (Sold separately)</th>
<th>Rotations Per Minute</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP-12/24</td>
<td>120/24V DC</td>
<td>or 24V/240W</td>
<td>160</td>
<td>1.0kg</td>
</tr>
</tbody>
</table>

**KG type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>KG-10</td>
<td>12V DC</td>
<td>1.5A</td>
<td>160</td>
<td>24V/240W</td>
<td>0.7kg</td>
</tr>
<tr>
<td>KG-25</td>
<td>24V DC</td>
<td>1.5A</td>
<td>160</td>
<td>24V/240W</td>
<td>0.7kg</td>
</tr>
<tr>
<td>KG-100</td>
<td>240V AC</td>
<td>3.2A</td>
<td>160</td>
<td>24V/240W</td>
<td>0.7kg</td>
</tr>
<tr>
<td>KG-200</td>
<td>240-240V AC</td>
<td>3.13A</td>
<td>160</td>
<td>24V/240W</td>
<td>0.7kg</td>
</tr>
</tbody>
</table>

**Mounting Dimension**

- HP: ø162
- KG: ø186
Large Revolving Warning Light featuring powerful flash using dual-face reflector.
- Dual-face reflector: For powerful rotary flash.
- Rotary Mechanism: Belt-drive, for extremely quiet and stable rotation.
- Compact Motor: Higher durability and energy-efficient.
- Extended Product Life: Vibration resistant and reliable operation even under severe cold environment (-30°C).
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Melamine baked finish with corrosion-proof stainless steel (SUS 304) lens mounting fixture.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.
- CE compliant: DC12V, 24V type only.

Vibration-proof Revolving Warning Light, ideal for devices with high vibration such as overhead, gantry, and jib cranes.
- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Rotary Mechanism: Belt-drive, for stable rotation under vibration.
- Extended Product Life: Vibration resistant and reliable operation even under severe cold environment (-30°C).
- Extended Bulb Life: Vibration resistant automobile bulb.
- Dome: Superior weather resistant and light translucent AS resin.
- Available Colors: Red, Amber.

**Dimensions**

<table>
<thead>
<tr>
<th>SKC-A type</th>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKC-201A</td>
<td>12V DC</td>
<td>2.6A</td>
<td>300</td>
<td>12V/35W</td>
<td></td>
<td>1.7kg</td>
</tr>
<tr>
<td>SKC-202A</td>
<td>24V DC</td>
<td>1.2A</td>
<td>300</td>
<td>24V/35W</td>
<td></td>
<td>1.8kg</td>
</tr>
<tr>
<td>SKC-210A</td>
<td>100V AC</td>
<td>3.3A</td>
<td>120V/40W</td>
<td>12V/35W</td>
<td></td>
<td>2.0kg</td>
</tr>
<tr>
<td>SKC-220A</td>
<td>200V AC</td>
<td>0.3A</td>
<td>120V/40W</td>
<td>24V/35W</td>
<td></td>
<td>0.13kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RV-A type</th>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>RV-110A</td>
<td>100V AC</td>
<td>0.3A</td>
<td>120V/40W</td>
<td>12V/35W</td>
<td></td>
<td>2.3kg</td>
</tr>
<tr>
<td>RV-120A</td>
<td>220V AC</td>
<td>0.13A</td>
<td>120V/40W</td>
<td>12V/35W</td>
<td></td>
<td>1.5kg</td>
</tr>
</tbody>
</table>

**Bulb**

- ø187
- IP23
- Dual-face reflector
- Vibration-proof
SKV-A

Revolving Warning Light

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

- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Aluminum alloy die-cast with silver color baked finish.
- Dome: Acrylic resin covered with clear hard-glass, and metal guard.
- Product Standards: IEC Standards (IEC ExdIIB + H2T6) Zone1, 2 compliant.
- Approved by: TIIS.
- Available Colors: Red, Amber, Green, Blue.

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKV-101A</td>
<td>12V DC</td>
<td>2.6A</td>
<td>40</td>
<td>12V/20W</td>
<td>0.8kg</td>
</tr>
<tr>
<td>SKV-102A</td>
<td>24V AC</td>
<td>0.3A</td>
<td>30</td>
<td>24V/20W</td>
<td>0.2kg</td>
</tr>
<tr>
<td>SKV-110A</td>
<td>100V AC</td>
<td>0.13A</td>
<td>140</td>
<td>100V/20W</td>
<td>0.05kg</td>
</tr>
<tr>
<td>SKV-120A</td>
<td>220V AC</td>
<td>0.13A</td>
<td>150</td>
<td>220V/20W</td>
<td>0.05kg</td>
</tr>
</tbody>
</table>

Bulb

- ø204
- IP66

RES-A

Explosion-Proof Revolving Warning Light

- Explosion-proof revolving warning light with parabolic reflector.
- Integral Rotating Parabolic Reflector: For enhanced visibility from a distance.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- Main Body: Aluminum alloy die-cast with silver color baked finish.
- Dome: Acrylic resin covered with clear hard-glass, and metal guard.
- Product Standards: IEC Standards (IEC ExdIIB + H2T6) Zone1, 2 compliant.
- Approved by: TIIS.
- Available Colors: Red, Amber, Green, Blue.

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Current</th>
<th>Rotations per Minute</th>
<th>Bulb</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>RES-10A</td>
<td>12V DC</td>
<td>0.9A</td>
<td>90</td>
<td>12V/20W</td>
<td>3.5kg</td>
</tr>
<tr>
<td>RES-24A</td>
<td>24V DC</td>
<td>0.5A</td>
<td>170</td>
<td>24V/20W</td>
<td>1.5kg</td>
</tr>
<tr>
<td>RES-48A</td>
<td>48V DC</td>
<td>0.3A</td>
<td>150</td>
<td>48V/20W</td>
<td>1.5kg</td>
</tr>
<tr>
<td>RES-100A</td>
<td>100~110V AC</td>
<td>0.1A</td>
<td>170</td>
<td>12/20W</td>
<td>1.0kg</td>
</tr>
<tr>
<td>RES-115A</td>
<td>115~130V AC</td>
<td>0.1A</td>
<td>170</td>
<td>12/20W</td>
<td>1.0kg</td>
</tr>
<tr>
<td>RES-220A</td>
<td>200~220V AC</td>
<td>0.05A</td>
<td>170</td>
<td>200~220V</td>
<td>0.05kg</td>
</tr>
<tr>
<td>RES-240A</td>
<td>230~240V AC</td>
<td>0.05A</td>
<td>170</td>
<td>230~240V</td>
<td>0.05kg</td>
</tr>
</tbody>
</table>

Bulb

- ø224
- IP65
- Explosion-proof

Name plate

- ø140
- ø105

Mounting hole

- ø9
- ø140

Special order
**Compact Cube Tower featuring built-in buzzer designed for applications with small equipment.**

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

**Wire exit hole**

- ø12

**Mounting Dimension**

- Height (mm)
  - 1 Light: 173
  - 2 Lights: 256
  - 3 Lights: 355

**Wiring Diagram**

- NPN open collector transistor

**Current consumption and contact capacity per module**

<table>
<thead>
<tr>
<th>Rated Voltage</th>
<th>Lamp Wire Current</th>
<th>Alarm Wire Current</th>
<th>Lamp Wire Contact Capacity</th>
<th>Alarm Wire Contact Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V DC</td>
<td>34mA</td>
<td>100mA</td>
<td>More than 50mA</td>
<td>More than 300mA</td>
</tr>
<tr>
<td>24V DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100V AC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>220V AC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**KJS / KJSB type**

**How to order**

<table>
<thead>
<tr>
<th>Number of stacks</th>
<th>Model</th>
<th>Rated Voltage</th>
<th>Power Consumption</th>
<th>Bulb No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Light</td>
<td></td>
<td>12V DC</td>
<td>12W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24V DC</td>
<td>24V 10W</td>
<td>10</td>
</tr>
<tr>
<td>2 Lights</td>
<td></td>
<td>100V AC</td>
<td>12W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12V DC</td>
<td>12W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24V DC</td>
<td>24V 10W</td>
<td>10</td>
</tr>
<tr>
<td>3 Lights</td>
<td></td>
<td>220V AC</td>
<td>16W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100V AC</td>
<td>16W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12V DC</td>
<td>12W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24V DC</td>
<td>24V 10W</td>
<td>10</td>
</tr>
</tbody>
</table>

- Bulb: G18 BA15S

**KJSB type approx. 160 flashes per minute.**
**KJ / KJB**

**Cube Tower**

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

Available by Special Order
- CE Compliance.

### Dimensions

- **Mounting Dimension**
  - Height (mm):
    1 Light: 185
    3 Lights: 290
    3 Lights: 385
    4 Lights: 550
  - Wire exit hole ø12
  - Mounting hole 4-ø7

### Wiring Diagram

**KJ/JKB (24V DC)**

<table>
<thead>
<tr>
<th>Number</th>
<th>Model</th>
<th>Rated Voltage</th>
<th>Power Consumption</th>
<th>Bulb</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Light</td>
<td>KJB-100</td>
<td>24V DC</td>
<td>13.5W</td>
<td>24V 10W</td>
</tr>
<tr>
<td></td>
<td>KJB-110</td>
<td>100V AC</td>
<td>6W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>KJB-120</td>
<td>220V AC</td>
<td>5.5W</td>
<td>24V 10W</td>
</tr>
<tr>
<td>2 Lights</td>
<td>KJB-200</td>
<td>24V DC</td>
<td>25.0W</td>
<td>24V 10W</td>
</tr>
<tr>
<td></td>
<td>KJB-210</td>
<td>100V AC</td>
<td>11W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>KJB-220</td>
<td>220V AC</td>
<td>9.9W</td>
<td>24V 10W</td>
</tr>
<tr>
<td>3 Lights</td>
<td>KJB-300</td>
<td>24V DC</td>
<td>37.5W</td>
<td>24V 10W</td>
</tr>
<tr>
<td></td>
<td>KJB-310</td>
<td>100V AC</td>
<td>16W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>KJB-320</td>
<td>220V AC</td>
<td>14.3W</td>
<td>24V 10W</td>
</tr>
<tr>
<td>4 Lights</td>
<td>KJB-400</td>
<td>24V DC</td>
<td>49.5W</td>
<td>24V 10W</td>
</tr>
<tr>
<td></td>
<td>KJB-410</td>
<td>100V AC</td>
<td>21W</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>KJB-420</td>
<td>220V AC</td>
<td>18.7W</td>
<td>12</td>
</tr>
</tbody>
</table>

Bulb: G18 BA15D  KJB type approx. 130 flashes per minute.

### How to order

- **Color**
  - Red
  - Amber
  - Green
  - Top to bottom

- **Rated Voltage**
  - 24V DC
  - 100V AC
  - 220V AC
LED Light Bar

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

CLB
- Long life LED lighting with lower power consumption and less heat generation than conventional fluorescent lamps.
- High illumination in a compact body.
- Super bright LEDs are maintenance-free, providing long service life and lower power consumption and heat.
- Rated voltage: 24V DC (No polarity).
- Luminous Intensity: 300lux at 50cm.
- Housing is made of heat and shock resistant polycarbonate.
- Available in Clear/White, Red, Amber.

Dimensions

<table>
<thead>
<tr>
<th>CLF10-24</th>
<th>CLF20-24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>LED color</td>
</tr>
<tr>
<td>CLF10-24</td>
<td>R Y C</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>24V DC (±10%)</td>
</tr>
<tr>
<td>Operating voltage range</td>
<td>Rated voltage ±10%</td>
</tr>
<tr>
<td>Power consumption</td>
<td>1.1W</td>
</tr>
<tr>
<td>Light source</td>
<td>High intensity LEDs</td>
</tr>
<tr>
<td>Color temperature</td>
<td>5000K</td>
</tr>
<tr>
<td>Main body</td>
<td>Housing: Aluminum, Cover: Polycarbonate</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>0°C ~ +40°C (Non-combustible, 30% RH or less)</td>
</tr>
<tr>
<td>Installation</td>
<td>Indoor, Forward Direction</td>
</tr>
<tr>
<td>Protection rating</td>
<td>IP67</td>
</tr>
<tr>
<td>Variation resistance</td>
<td>2kΩ</td>
</tr>
<tr>
<td>Mean</td>
<td>300±10g</td>
</tr>
<tr>
<td>*When mounting with supplied nuts: 12.5 (10.5) (Unit: mm)</td>
<td>*When mounting with supplied nuts: 12.5 (10.5) (Unit: mm)</td>
</tr>
</tbody>
</table>
LED Work Light designed for applications for machine tool, inspection and processing industries.

- Enhanced Illumination: Use of ultra-bright LEDs.
- Extended product life even in harsh environment.
- Energy-Efficient: Low power consumption and less heat build-up.
- Installation: Upright, inverted, sideways.

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

- Enhanced Illumination: 5 super-bright white LEDs.
- Installation: Direct mount with 1 screw, 1 or 2 point angle-mount.
- Mounting Parts: Corrosion resistant stainless steel bracket and mounting screws.
- Main Body: Impact resistant robust aluminum alloy body.
- Glass: Impact resistant tempered glass.

### Dimensions

#### CLE

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

- **Dimensions**
  - (82) x 36 x 60
  - (80) x 36 x 60
  - Ø71
  - IP65f

- **Mounting Dimension**
  - ø7.7
  - ø7.1
  - 1400 from wire exit

### CLM

- **CLM type**
  - Model: CLM-24
  - Rated Voltage: 24V DC
  - Power Consumption: 5W
  - Luminosity: 500cd
  - Mass: 0.5kg

- **Dimensions**
  - (82) x 36 x 60
  - (80) x 36 x 60
  - Ø85
  - IP67f

- **Mounting Dimension**
  - ø7.7
  - ø7.1
  - 1400 from wire exit

- **LED Spectra**

- **Illuminance Distribution**

- **LED Spectra**

- **Measurement Condition**: IFP=150mA, Ta=25°C

- **LED Work Light**
  - Wide Spot Type
  - Narrow Spot Type

- **CLE**
  - LED Work Light

- **CLM**
  - LED Work Light
Super bright, compact energy-saving LED auxiliary warning light designed for emergency vehicles to ensure safety.

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

### LAS type

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Operating voltage range</th>
<th>Flashing patterns</th>
<th>Current consumption</th>
<th>Operating temperature range</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAS-M1</td>
<td>12V / 24V DC</td>
<td>9.5 – 36V DC</td>
<td>10 patterns</td>
<td>Red / Amber: 520 ± 190mA (at 12V DC) 560 ± 220mA (at 24V DC)</td>
<td>-40°C ~ +85°C</td>
<td>approx. 0.3kg</td>
</tr>
</tbody>
</table>
The BD series has a melody, chime and alarm capability, variable audible control, and a compact but loud speaker.

- Maximum output level of 90dB at 1m is suitable for use in a noisy factory.
- 32 sounds are pre-recorded in one unit which can be used for various applications.
- Sound output level and sound group can be selected by rotary switches stored behind the front panel for easier operation even after installation.
- Select one sound group from A to P to playback 4 pre-recorded sounds.
- A new sound group can be created from the 32 sounds by using an optional memory card (Sold separately).
-RoHS compliant.

Available by Special Order
- Binary input controlled 15 sound playback type (C0090).

BD type

<table>
<thead>
<tr>
<th>Model</th>
<th>BD-24V</th>
<th>BD-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Voltage</td>
<td>12/24V DC</td>
<td>100/100V AC, 50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Max. 6W</td>
<td>Max. 6W</td>
</tr>
<tr>
<td>Volume</td>
<td>Max. 95dB at 1m (when flush mounted), volume level adjustable. Volume may be less, depending on sound type and operating conditions.</td>
<td></td>
</tr>
<tr>
<td>Volume control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Signal Time</td>
<td>Continuous</td>
<td>Continuous</td>
</tr>
<tr>
<td>Built-in Timer</td>
<td>For input voltage, 1s or less.</td>
<td>For channel signal: 170ms or less</td>
</tr>
<tr>
<td>Channel</td>
<td>8 channels</td>
<td>4 channels</td>
</tr>
<tr>
<td>Recalled Sound</td>
<td>40 melodies and melodies</td>
<td>4 channels</td>
</tr>
<tr>
<td>Sound Group</td>
<td>16 patterns (A to P)</td>
<td></td>
</tr>
<tr>
<td>Ceiling Sound</td>
<td>D (D: factory setting)</td>
<td></td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>85% RH or less (No condensation)</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20°C ~ 50°C</td>
<td>-20°C ~ 50°C</td>
</tr>
<tr>
<td>Volume/Resonance</td>
<td>150μV/10%</td>
<td>150μV/10%</td>
</tr>
<tr>
<td>Model</td>
<td>BD-24V</td>
<td>BD-100</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>12/24V DC</td>
<td>100/100V AC, 50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
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</tr>
<tr>
<td>Volume</td>
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<td></td>
</tr>
<tr>
<td>Volume control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Signal Time</td>
<td>Continuous</td>
<td>Continuous</td>
</tr>
<tr>
<td>Built-in Timer</td>
<td>For input voltage, 1s or less.</td>
<td>For channel signal: 170ms or less</td>
</tr>
<tr>
<td>Channel</td>
<td>8 channels</td>
<td>4 channels</td>
</tr>
<tr>
<td>Recalled Sound</td>
<td>40 melodies and melodies</td>
<td>4 channels</td>
</tr>
<tr>
<td>Sound Group</td>
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<td></td>
</tr>
<tr>
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<td>D (D: factory setting)</td>
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</tr>
<tr>
<td>Relative Humidity</td>
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<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20°C ~ 50°C</td>
<td>-20°C ~ 50°C</td>
</tr>
<tr>
<td>Volume/Resonance</td>
<td>150μV/10%</td>
<td>150μV/10%</td>
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<tr>
<td>Model</td>
<td>BD-24V</td>
<td>BD-100</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>12/24V DC</td>
<td>100/100V AC, 50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Input Signal Time</td>
<td>Continuous</td>
<td>Continuous</td>
</tr>
<tr>
<td>Built-in Timer</td>
<td>For input voltage, 1s or less.</td>
<td>For channel signal: 170ms or less</td>
</tr>
<tr>
<td>Channel</td>
<td>8 channels</td>
<td>4 channels</td>
</tr>
<tr>
<td>Recalled Sound</td>
<td>40 melodies and melodies</td>
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<tr>
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</tr>
<tr>
<td>Ceiling Sound</td>
<td>D (D: factory setting)</td>
<td></td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>85% RH or less (No condensation)</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
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<td>-20°C ~ 50°C</td>
</tr>
<tr>
<td>Volume/Resonance</td>
<td>150μV/10%</td>
<td>150μV/10%</td>
</tr>
</tbody>
</table>

Available by Special Order
- Binary input controlled 15 sound playback type (C0090).

Sound selection charts

<table>
<thead>
<tr>
<th>Call sign</th>
<th>CH1</th>
<th>CH2</th>
<th>CH3</th>
<th>CH4</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Available by Special Order
- Binary input controlled 15 sound playback type (C0090).
**BM Signal Horn**

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

*1 BM-H type only

**Dimensions**

Max. panel thickness: 7 (mm)

**Wiring Diagram**

Channel priority
CH1 has priority when CH2 and CH1 are activated simultaneously.

**Application Examples**

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

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

*1 BM-H type only

**BM type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Voltage Range</th>
<th>Power Consumption</th>
<th>Volume</th>
<th>Heater contact capacity</th>
<th>Operating Temperature Range</th>
<th>Auxiliary input</th>
<th>Channel</th>
<th>Protection</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-202</td>
<td>24V AC/DC</td>
<td>22V~26V AC/DC</td>
<td>0.4W</td>
<td>More than 1000mA</td>
<td>-10°C~+60°C</td>
<td>Voltage contact</td>
<td>2</td>
<td>-</td>
<td>0.1kg</td>
<td></td>
</tr>
<tr>
<td>BM-210</td>
<td>100V AC</td>
<td>90V~110V AC</td>
<td>2.5W</td>
<td>Max. 85dB at 1m</td>
<td>-10°C~+60°C</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BM-220</td>
<td>220V AC</td>
<td>200V~240V AC</td>
<td>3.5W</td>
<td>Max. 85dB at 1m</td>
<td>-10°C~+60°C</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BM-D202</td>
<td>24V AC/DC</td>
<td>22V~26V AC/DC</td>
<td>0.4W</td>
<td>More than 1000mA</td>
<td>-10°C~+60°C</td>
<td>Voltage contact</td>
<td>2</td>
<td>-</td>
<td>IP34</td>
<td></td>
</tr>
<tr>
<td>BM-D210</td>
<td>100V AC</td>
<td>90V~110V AC</td>
<td>2.5W</td>
<td>Max. 85dB at 1m</td>
<td>-10°C~+60°C</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BM-D220</td>
<td>220V AC</td>
<td>200V~240V AC</td>
<td>3.5W</td>
<td>Max. 85dB at 1m</td>
<td>-10°C~+60°C</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Standard type**

- BM-202: 24V AC/DC, 22V~26V AC/DC
- BM-210: 100V AC, 90V~110V AC
- BM-220: 220V AC, 200V~240V AC

**High volume type**

- BM-D202: 24V AC/DC, 22V~26V AC/DC
- BM-D210: 100V AC, 90V~110V AC
- BM-D220: 220V AC, 200V~240V AC

**Drip proof type**

- BM-D202: 24V AC/DC, 22V~26V AC/DC
- BM-D210: 100V AC, 90V~110V AC
- BM-D220: 220V AC, 200V~240V AC
Wall-mount Signal Horn featuring sound volume of up to 85dB at 1m.

- ADPCM 64kbit/s: High sound quality from LSI digital voice synthesizer*1.
- Built-in Alarm: Adjustable audible sound up to 85dB at 1m with volume control.
- Installation: 3 types — 2 types of direct panel-mount, embedded wall-mount.
- Compatibility: Connectable to DIN 92mm when embedded.
- CE Compliant: BT type 24V AC/DC only.

*1 BT-04 type only.
*2 BT-04 type only; Playback always starts from the beginning.

### BT Type

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage Range</th>
<th>Power Consumption</th>
<th>Volume</th>
<th>Operating Temperature Range</th>
<th>Auxiliary Input</th>
<th>Channel</th>
<th>Aux Output</th>
<th>B/SV Output</th>
<th>Max Message Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT -K100L</td>
<td>90V~110V AC</td>
<td>9W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>4</td>
<td>32mA</td>
<td>10mA</td>
<td>16 sec.</td>
</tr>
<tr>
<td>BT -K200L</td>
<td>90V~110V AC</td>
<td>3W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>3</td>
<td>24mA</td>
<td>10mA</td>
<td>10 sec.</td>
</tr>
<tr>
<td>BT -L100L</td>
<td>90V~110V AC</td>
<td>3W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>3</td>
<td>24mA</td>
<td>10mA</td>
<td>10 sec.</td>
</tr>
<tr>
<td>BT -L200L</td>
<td>90V~110V AC</td>
<td>3W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>3</td>
<td>24mA</td>
<td>10mA</td>
<td>10 sec.</td>
</tr>
<tr>
<td>BT -K100K</td>
<td>90V~110V AC</td>
<td>3W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>3</td>
<td>24mA</td>
<td>10mA</td>
<td>10 sec.</td>
</tr>
<tr>
<td>BT -K200K</td>
<td>90V~110V AC</td>
<td>3W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>3</td>
<td>24mA</td>
<td>10mA</td>
<td>10 sec.</td>
</tr>
<tr>
<td>BT -L100K</td>
<td>90V~110V AC</td>
<td>3W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>3</td>
<td>24mA</td>
<td>10mA</td>
<td>10 sec.</td>
</tr>
<tr>
<td>BT -L200K</td>
<td>90V~110V AC</td>
<td>3W</td>
<td>3W</td>
<td>10°C~+50°C</td>
<td>Voltage free</td>
<td>3</td>
<td>24mA</td>
<td>10mA</td>
<td>10 sec.</td>
</tr>
</tbody>
</table>
**EB / ESB / ETB**

**Signal Horn**

- **95dB at 1m**
- **8 channels**
- **133**
- **NPN Open collector**

**Box-type Signal Horn featuring wide range of tones and sound volume up to 95dB at 1m, suitable for various devices.**

- **LSI Digital Synthesizer:** Original high quality clear sound.
- **Built-in Alarm:** Adjustable audible sound up to 95dB at 1m with volume control.
- **Sound Pattern:** 8 patterns available, (EB-L: 6 melodies + 2 chimes, EB-K: 8 alarm sounds, ESB: 1 alarm sound, ETB: 4 alarm sounds).
- **Installation:** 2 types—direct or embedded* wall-mount.
- **NPN Compatible:** Direct connection to PLC (except ESB).

*Mounting panel thickness 1~5mm

---

**Dimensions**

- **Mounting Dimension:**
  - **Mounting Pitch:** 130mm
  - **Cut square hole to 130mm.** Panel thickness must be 5mm or less.

---

**Wiring Diagram**

**EB**

- **Chime:** 8 sound patterns available
  - B type: Beep, Stutter, Chime, Bell (two high pitched bell), Ringer, Melody, Piano, Synthesized Piano
  - P type: Chime, Beep

**ESB**

- **Alarm:** Comes with 1 alarm sound.
  - A type: Bell (two high pitched bell), Ringer, Melody, Piano, Synthesized Piano
  - B type: Chime

**ETB**

- **Alarm:** Comes with 4 alarm sounds.
  - A type: Bell (two high pitched bell), Ringer, Melody, Piano, Synthesized Piano
  - B type: Chime

---

**EB type**

- **Alarm:**
  - EB-100K: 100V/200V AC
  - Max. 50dB at 1m
  - More than 5mA
  - -20°C~+50°C
  - Humidity: 85% or less.
  - **Voltage free contact at 1mA**
  - **Auxiliary Input:** 3
  - **Volume:** 2W

- **Chime:**
  - EB-100L: 100V/200V AC
  - Max. 50dB at 1m
  - More than 5mA
  - -20°C~+60°C
  - Humidity: 85% or less.
  - **Voltage free contact at 1mA**
  - **Auxiliary Input:** 3
  - **Volume:** 2W

---

**Signalling Sounds**

- **A type**
  1. **Amphitheatre**
  2. **Symphony No.40**
  3. **Shire Lakeside**
  4. **Mountain Musician**
  5. **Kane Dk Armour**
  6. **Pestilence**

- **B type**
  1. **Bell**
  2. **Chime**
  3. **Beep**
  4. **Stutter**

---

**Notes:**

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

---

**Sound Pattern:** 8 patterns available:

- **EB-K:**
  - Beep (slow intermittent horn)
  - Stutter (rapid intermittent horn)
  - Bell (clear high pitched bell)
  - Ringer (rapid siren)
  - Synthesized Piano

- **ETB:**
  - Synthesized Bell

---

**Model Volume Outer Contact**

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage Range</th>
<th>Current Consumption</th>
<th>Volume</th>
<th>More Than</th>
<th>Operating Temperature Range</th>
<th>Auxiliary Input</th>
<th>Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB-100K</td>
<td>90V~110V AC</td>
<td>6W</td>
<td>Max. 50dB at 1m</td>
<td>More than 5mA</td>
<td>-20°C~+50°C Humidity: 85% or less.</td>
<td>3</td>
<td>1.0W</td>
</tr>
<tr>
<td>EB-100L</td>
<td>90V~110V AC</td>
<td>6W</td>
<td>Max. 50dB at 1m</td>
<td>More than 5mA</td>
<td>-20°C~+60°C Humidity: 85% or less.</td>
<td>3</td>
<td>1.0W</td>
</tr>
<tr>
<td>EB-100B</td>
<td>90V~110V AC</td>
<td>6W</td>
<td>Max. 50dB at 1m</td>
<td>More than 5mA</td>
<td>-20°C~+60°C Humidity: 85% or less.</td>
<td>3</td>
<td>1.0W</td>
</tr>
</tbody>
</table>

---

**Power Consumption**

- **EB-100K:** 2W
- **EB-100L:** 2W
- **EB-100B:** 2W

---

**Notes:**

- **NPN:** Direct connection to PLC (except ESB).
- **Signal Horn:**
  - Box-type Signal Horn featuring wide range of tones and sound volume up to 95dB at 1m.
  - LSI Digital Synthesizer: Original high quality clear sound.
  - Built-in Alarm: Adjustable audible sound up to 95dB at 1m with volume control.
  - Installation: 2 types—direct or embedded* wall-mount.
  - NPN Compatible: Direct connection to PLC (except ESB).

---

**Specifications:**

- **Dimensions:** Mounting Pitch: 130mm
- **Cut square hole to 130mm.** Panel thickness must be 5mm or less.
- **Source Voltage:**
  - EB: 24V AC/DC
  - ESB: 100V/220V AC
  - ETB: 200~220V AC

---

**Chime:**

- **Call sign**

---

**Note:**

- The greater number has priority when any of the channels are activated simultaneously.
**EWH / EWHS / EW**

**Signal Horn**

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

- 32 sounds are pre-recorded in one unit (EWH/EWHS type).
- For enhanced durability and safety in the work environment.
- Built-in Alarm: Adjustable audible sound up to 105dB at 1m with volume control.
- Installation: Indoors—upright, inverted, sideways; Outdoors—upright only.
- (Do not install the horn facing upward).
- Easy Installation: With anticorrosive stainless steel mounting bracket.
- NPN Compatible: 24V type only (EWH series only).
- CE Compliant: 24V AC/DC only.
- Available: PNP as special order.

Available by Special Order

- PNP open collector type.

**32 sounds are pre-recorded in one unit (EWH, EWHS)**

32 sounds are pre-recorded in one unit. 3 sound types are available.

**How to order**

- **EWH-24A-J**
  - Model: EWH-24A-J
  - Body Color: A: Type A
  - Voltage: Rated 120V AC
  - Sound Type: Type C

- **EWH-24TB-J**
  - Model: EWH-24TB-J
  - Body Color: A: Type A
  - Voltage: Rated 24V AC/DC
  - Sound Type: Type A: Type C: Type D

**Wiring Diagram**

**EWH / EWHS / EW type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Voltage Range</th>
<th>Power Consumption</th>
<th>Volume</th>
<th>Start Pointing Capacity</th>
<th>Operating Temperature Range</th>
<th>Auxiliary Input</th>
<th>Channel Protection</th>
<th>Power (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW-100</td>
<td>100V AC/DC</td>
<td>90V~132V AC</td>
<td>0.5A (Normal)</td>
<td>13W</td>
<td>200V AC</td>
<td>-20°C to +60°C</td>
<td>1</td>
<td>IP20 (IPX0)</td>
<td>1.3kg</td>
</tr>
<tr>
<td>EW-100TB</td>
<td>100V AC/DC</td>
<td>90V~110V AC</td>
<td>0.3A (Anti-rush)</td>
<td>5W</td>
<td>200V AC</td>
<td>-20°C to +60°C</td>
<td>1</td>
<td>IP20 (IPX0)</td>
<td>1.3kg</td>
</tr>
</tbody>
</table>

**Dimensions**

- **EWH-24A-J**
  - Model: EWH-24A-J
  - Body Color: A: Type A
  - Voltage: Rated 120V AC
  - Sound Type: Type C

- **EWH-24TB-J**
  - Model: EWH-24TB-J
  - Body Color: A: Type A
  - Voltage: Rated 24V AC/DC
  - Sound Type: Type A: Type C: Type D

**How to order**

- **EWH-24A-J**
  - Model: EWH-24A-J
  - Body Color: A: Type A
  - Voltage: Rated 120V AC
  - Sound Type: Type C

- **EWH-24TB-J**
  - Model: EWH-24TB-J
  - Body Color: A: Type A
  - Voltage: Rated 24V AC/DC
  - Sound Type: Type A: Type C: Type D

**Wiring Diagram**

**EWH / EWHS / EW type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Voltage Range</th>
<th>Power Consumption</th>
<th>Volume</th>
<th>Start Pointing Capacity</th>
<th>Operating Temperature Range</th>
<th>Auxiliary Input</th>
<th>Channel Protection</th>
<th>Power (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW-100</td>
<td>100V AC/DC</td>
<td>90V~132V AC</td>
<td>0.5A (Normal)</td>
<td>13W</td>
<td>200V AC</td>
<td>-20°C to +60°C</td>
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<td>1</td>
<td>IP20 (IPX0)</td>
<td>1.3kg</td>
</tr>
</tbody>
</table>

**Dimensions**

- **EWH-24A-J**
  - Model: EWH-24A-J
  - Body Color: A: Type A
  - Voltage: Rated 120V AC
  - Sound Type: Type C

- **EWH-24TB-J**
  - Model: EWH-24TB-J
  - Body Color: A: Type A
  - Voltage: Rated 24V AC/DC
  - Sound Type: Type A: Type C: Type D

**Wiring Diagram**

**EWH / EWHS / EW type**

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<tr>
<th>Model</th>
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<td>1</td>
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<td>1.3kg</td>
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</tbody>
</table>

**Dimensions**

- **EWH-24A-J**
  - Model: EWH-24A-J
  - Body Color: A: Type A
  - Voltage: Rated 120V AC
  - Sound Type: Type C

- **EWH-24TB-J**
  - Model: EWH-24TB-J
  - Body Color: A: Type A
  - Voltage: Rated 24V AC/DC
  - Sound Type: Type A: Type C: Type D

**Wiring Diagram**

**EWH / EWHS / EW type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Voltage Range</th>
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<th>Volume</th>
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</tbody>
</table>
Voice Synthesizer featuring enhanced sound quality and Programmable Multi-Message Controller for original audible messages.

- ADPCM 128kbit/s: High sound quality from LSI digital voice synthesizer for PV-04H/32H type, 64kbit/s for PV-04/32 type.
- Recordable Messages: Editable up to 128 sec.
- Recordable Channels: Up to 32 channels for PV-32.
- Installation: Vertical and horizontal on any place such as DIN rail.
- Control Method: Binary* or 1 bit input.
- Easy Access to Memory Compartment: Simply lift memory compartment cover.

* PV-32 only.

How to order

Memory Storage

PV-04JTH

Number of channels

04 type: 4
32 type: 32

128 sec

H: 128kbit/s
Blank: 64kbit/s

Recordable Messages

- ADPCM 128kbit/s: High sound quality from LSI digital voice synthesizer for PV-04H/32H type, 64kbit/s for PV-04/32 type.
- Recordable Messages: Editable up to 128 sec.
- Recordable Channels: Up to 32 channels for PV-32.
- Installation: Vertical and horizontal on any place such as DIN rail.
- Control Method: Binary* or 1 bit input.
- Easy Access to Memory Compartment: Simply lift memory compartment cover.

PV type

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Voltage Range</th>
<th>Power Contact</th>
<th>Operating Temperature Range</th>
<th>Auxiliary Input</th>
<th>Battery Input</th>
<th>BUSY Output</th>
<th>Max Message Time</th>
<th>SW</th>
<th>Max Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV-04/04JTH</td>
<td>24V AC/DC</td>
<td>20V~26V AC/DC</td>
<td>4/1 Bit</td>
<td>-10°C to 55°C (Humidity 85% or less)</td>
<td>16 sec</td>
<td>4</td>
<td>-256 sec</td>
<td>640 sec</td>
<td>07</td>
<td>0.77 kg</td>
</tr>
<tr>
<td>PV-04/04KTH</td>
<td>100/220V AC</td>
<td>90V<del>110V/180V</del>240V</td>
<td>4/1 Bit</td>
<td>-10°C to 55°C (Humidity 85% or less)</td>
<td>16 sec</td>
<td>4</td>
<td>-256 sec</td>
<td>640 sec</td>
<td>07</td>
<td>0.77 kg</td>
</tr>
<tr>
<td>PV-04/04JT</td>
<td>24V AC/DC</td>
<td>20V~26V AC/DC</td>
<td>4/1 Bit</td>
<td>-10°C to 55°C (Humidity 85% or less)</td>
<td>16 sec</td>
<td>4</td>
<td>-256 sec</td>
<td>640 sec</td>
<td>07</td>
<td>0.77 kg</td>
</tr>
<tr>
<td>PV-04/04JF</td>
<td>24V AC/DC</td>
<td>20V~26V AC/DC</td>
<td>4/1 Bit</td>
<td>-10°C to 55°C (Humidity 85% or less)</td>
<td>16 sec</td>
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<td>07</td>
<td>0.77 kg</td>
</tr>
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<td>90V<del>110V/180V</del>240V</td>
<td>4/1 Bit</td>
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<td>4</td>
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<td>640 sec</td>
<td>07</td>
<td>0.77 kg</td>
</tr>
<tr>
<td>PV-32/32JTH</td>
<td>24V AC/DC</td>
<td>20V~26V AC/DC</td>
<td>64 sec</td>
<td>-10°C to 55°C (Humidity 85% or less)</td>
<td>16 sec</td>
<td>4</td>
<td>-256 sec</td>
<td>640 sec</td>
<td>07</td>
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<td>640 sec</td>
<td>07</td>
<td>0.77 kg</td>
</tr>
</tbody>
</table>

Mountings

The PV can be mounted vertically, horizontally or simply mounted to a DIN rail.

Library Programming

Choose words from the Command Library that can be programmed into the PV's internal library. From this internal library, the commands are linked or sequenced to create messages for your application. With a maximum of 32 channels you can store up to 8 commands in each channel.

Custom Programming

Give us your messages that apply to your particular application up to 128 second total program time and up to 32 individual channels.

- Recordable Channels: Up to 32 channels for PV-32.
- Installation: Vertical and horizontal on any place such as DIN rail.
- Control Method: Binary* or 1 bit input.
- Easy Access to Memory Compartment: Simply lift memory compartment cover.

Note: Model PV requires a professionally recorded message.
**BV Signal Horn**

- Adpcm 64kb/s: High sound quality from LSI digital voice synthesizer.
- Built-in Alarm: Adjustable audible sound up to 80dB at 1m with volume control.
- Sound pattern: 4 voice messages totalling 16 sec.
- Playback Sound: Selected by external sound switch.
- Installation: Indoors—embedded wall-mount in upright, inverted, sideways; Outdoors: embedded wall mount in upright with buzzer outlet downwards.

1. Playback always starts from the beginning.
2. Control line only

---

**IP54 Signal Horn**

**IP54 Signal Horn** perfect for integrated applications with control panel and production site.

- **Wiring Diagram**
  - 12/24V DC
  - 100V AC
  - 200V AC
  - 20V~27V AC

- **Volume control**

- **Power supply**
  - BV
  - Open Circuit:5V
  - Closed Circuit:6mA

- **Channel priority**
  - CH1>CH3>CH2>CH1

- **Protection**
  - IP54

**BV type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Voltage Range</th>
<th>Power Consumption</th>
<th>Volume Control Capacity</th>
<th>Operating Temperature Range</th>
<th>Number of Channels</th>
<th>Protection</th>
<th>Max Message Time</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>BV-04KS 24V DC</td>
<td>24V-36V AC</td>
<td>6.5W</td>
<td>Max. 80dB at 1m</td>
<td>7°C to 30°C</td>
<td>-40°C to 70°C</td>
<td>3</td>
<td>IP44</td>
<td>16 sec</td>
<td>Wall-Mounted</td>
</tr>
<tr>
<td>BV-04KS 100/220V AC</td>
<td>100V-220V AC</td>
<td>5W</td>
<td>Max. 80dB at 1m</td>
<td>7°C to 30°C</td>
<td>-45°C to 70°C</td>
<td>4</td>
<td>IP54</td>
<td>16 sec</td>
<td>Wall-Mounted</td>
</tr>
</tbody>
</table>

*Note: The greater number has priority when any of the channels are activated simultaneously.*
Compact Voice Synthesizer featuring choice of MP3 messages for in-vehicle and integrated applications*.

*For example: control panels, switchboards and production equipment
- Audible messages up to 85dB at 1m.
- MP3 64kbit/s: Clear sound quality.
- Sound Pattern: 2 or 4 messages in 32 sec.
- Installation: Easy mount for indoors only.

Compact Voice Synthesizer designed for vehicle-mount and outdoor applications.
- Audible message adjustable up to 95dB at 1m.
- Sound Pattern: 2 messages in 16 sec. and custom made messages available*.
  * Continuous contact closure replays selected channel repeatedly.

### MV type

<table>
<thead>
<tr>
<th>Model</th>
<th>Input Voltage Range</th>
<th>Operating Temperature Range</th>
<th>Humidity 65% or less</th>
<th>Volume</th>
<th>Max. Volume Contact Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV-02CT</td>
<td>12V-24V DC</td>
<td>-20°C~+65°C</td>
<td>Voltage free contact</td>
<td>2</td>
<td>90dB at 1m</td>
</tr>
<tr>
<td>MV-04CT</td>
<td>12V-24V DC</td>
<td>-20°C~+65°C</td>
<td>Voltage free contact</td>
<td>4</td>
<td>90dB at 1m</td>
</tr>
</tbody>
</table>

### CT type

<table>
<thead>
<tr>
<th>Model</th>
<th>Input Voltage Range</th>
<th>Operating Temperature Range</th>
<th>Auxiliary Input</th>
<th>Max. Message Time</th>
<th>Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-01</td>
<td>12V-24V DC</td>
<td>-20°C~+60°C</td>
<td>Voltage free</td>
<td>2 sec</td>
<td>IP53</td>
</tr>
</tbody>
</table>

---

### Dimensions

**MV type**

- MV-02CT: 70 mm x 30 mm x 25 mm
- MV-04CT: 70 mm x 30 mm x 25 mm

**CT type**

- CT-01: 60 mm x 10 mm x 20 mm

---

**Notes**

- **MV type** compact voice synthesizer features choice of MP3 messages for in-vehicle and integrated applications.
- **CT type** compact voice synthesizer designed for vehicle-mount and outdoor applications.

---

**Additional Information**

- Audible message adjustable up to 95dB at 1m.
- Sound Pattern: 2 messages in 16 sec. and custom made messages available.
- Continuous contact closure replays selected channel repeatedly.

---

**Technical Specifications**

- MV type: 85dB at 1m, 32 sec, 2 channels (MV-02CT), 4 channels (MV-04CT)
- CT type: 95dB at 1m, 16 sec, 2 channels, IP53, NPN Open collector
EVB / PVB

Voice Synthesizer

90dB at 1m
60 sec (PVB type: 16 sec)
4 channels
NPN Open collector

Speaker-type Voice Synthesizer featuring 4 recordable messages* up to 60 sec. with microphone*.

- ADPCM 64kbit/s: Clear sound quality from LSI digital voice synthesizer for PVB type, 32kbit/s for EVB type.
- Recordable Messages: 4 recordable* and editable messages up to 60 sec.*1 with microphones*2.
- Installation: Panel and wall mount for indoors only.

*1 EVB type: 4 selectable pre-installed messages up to 16 sec.
*2 EVB only.

- Recordable Messages: 4 recordable* and editable messages up to 60 sec.*1 with microphones*2.
- Installation: Panel and wall mount for indoors only.

*1 PVB type: 4 selectable pre-installed messages up to 16 sec.
*2 PVB type: 4 messages up to 16 sec.
*3 EVB only.

Specifications:

- Channel priority
  - STOP>CH4>CH3>CH2>CH1
  - Note: The greater number has priority when any of the channels are activated simultaneously.

Wiring Diagram:

- Power supply
  - 24V AC/DC
  - 100V AC
  - 220V AC

- Source Voltage
  - Rated Voltage: 4.8V
  - Fuse: 0.5A

- Channel Mass
  - 0.8kg

- Auxiliary Input Max Message Time
  - 24V DC 500mA

- BUSY Output Max Message Time
  - 60 sec

- Internal Amplifier
  - 500mA

- Volume
  - Max. 90dB at 1m

- Mounting Dimension
  - 130mm (mm)

- Mounting pitch
  - 130×130mm

- Open circuit
  - Vs=20V

- Closed circuit
  - Is=5mA

- Voice: CH1~CH4·STOP

- Polyphonic Sound:
  - 24V DC
  - >100ms. input is required to activate the message.

- More than 10mA input is required to activate the message.

- Voltage free contact
  - 4/1bit

- Operating lamp

- Push switch for recording or start

- Panel thickness 1~5mm

- EVB / PVB type

Dimensions:

Panel thickness 1~5mm
Mounting pitch: 130×130mm

Panel thickness must be 5mm or less.

For panel mount application, cut square hole to 130mm.

EVB / PVB type

- EVB-04JF
  - 24V AC/DC
  - 0.5A

- EVB-04KF
  - 100/220V AC
  - 7W/5W

- PVB-04JS
  - 24V AC/DC
  - 9W

- PVB-04KS
  - 100/220V AC
  - 11W/9W

- Volume
  - Max. 90dB at 1m

- Power Consumption
  - 9W

- Operating Temperature Range
  - -10°C~+55°C

- Humidity
  - 85% or less.

- More than 10mA

- Rated Voltage
  - 24V AC/DC

- Power Consumption
  - 7W

- Operating Temperature Range
  - -10°C~+55°C

- Humidity
  - 85% or less.

- More than 10mA

- Rated Voltage
  - 100/220V AC

- Power Consumption
  - 5W

- Operating Temperature Range
  - -10°C~+55°C

- Humidity
  - 85% or less.

- More than 10mA

- Voltage free contact
  - 4/1bit

- Operating lamp

- Push switch for recording or start

- Panel thickness 1~5mm

- EVB / PVB type

- EVB-04JF
  - 24V AC/DC
  - 0.5A

- EVB-04KF
  - 100/220V AC
  - 7W/5W

- PVB-04JS
  - 24V AC/DC
  - 9W

- PVB-04KS
  - 100/220V AC
  - 11W/9W

- Volume
  - Max. 90dB at 1m

- Power Consumption
  - 9W

- Operating Temperature Range
  - -10°C~+55°C

- Humidity
  - 85% or less.

- More than 10mA

- Rated Voltage
  - 24V AC/DC

- Power Consumption
  - 7W

- Operating Temperature Range
  - -10°C~+55°C

- Humidity
  - 85% or less.

- More than 10mA

- Rated Voltage
  - 100/220V AC

- Power Consumption
  - 5W

- Operating Temperature Range
  - -10°C~+55°C

- Humidity
  - 85% or less.

- More than 10mA

- Voltage free contact
  - 4/1bit

- Operating lamp

- Push switch for recording or start

- Panel thickness 1~5mm
### KJPV / KJT

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

- Built-in Alarm: Adjustable audible sound volume up to 95dB at 1m with volume control.
- ADPCM 64kb/s: High sound quality from LSI digital voice synthesizer (KJPV).
- Alarm and light signal units can be replayed together or separately.
- Installation: Upright only.
- Lens: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.

**Supply Voltage**
- KJPV-102S 24V DC 10W 20V~27V DC 1.4kg
- KJPV-110S 24V DC 20W 90V~110V AC 180V~240V AC 1.7kg
- KJPV-202S 24V DC 30W 90V~110V AC 180V~240V AC 2.0kg
- KJPV-302S 24V DC 40W 90V~110V AC 180V~240V AC 2.6kg
- KJPV-120S 24V DC 60W 90V~110V AC 180V~240V AC 3.0kg
- KJPV-220S 24V DC 100W 90V~110V AC 180V~240V AC 4.0kg
- KJPV-310S 24V DC 120W 90V~110V AC 180V~240V AC 4.5kg
- KJPV-320S 24V DC 150W 90V~110V AC 180V~240V AC 5.0kg

**KJPV / KJT type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage Range</th>
<th>Power Consumption</th>
<th>Bulb</th>
<th>Mounting Capacity</th>
<th>Voltage free contact</th>
<th>Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>KJPV-102S</td>
<td>24V DC</td>
<td>20V~27V DC</td>
<td>10W</td>
<td>20W</td>
<td>20W</td>
<td>A</td>
</tr>
<tr>
<td>KJPV-110S</td>
<td>24V DC</td>
<td>90V~110V AC</td>
<td>20W</td>
<td>100W</td>
<td>100W</td>
<td>B</td>
</tr>
<tr>
<td>KJPV-202S</td>
<td>24V DC</td>
<td>90V~110V AC</td>
<td>30W</td>
<td>60W</td>
<td>60W</td>
<td>C</td>
</tr>
<tr>
<td>KJPV-302S</td>
<td>24V DC</td>
<td>90V~110V AC</td>
<td>40W</td>
<td>100W</td>
<td>100W</td>
<td>D</td>
</tr>
<tr>
<td>KJPV-120S</td>
<td>24V DC</td>
<td>110V~150V AC</td>
<td>60W</td>
<td>120W</td>
<td>120W</td>
<td>A, B</td>
</tr>
<tr>
<td>KJPV-220S</td>
<td>24V DC</td>
<td>220V AC</td>
<td>100W</td>
<td>200W</td>
<td>200W</td>
<td>C, D</td>
</tr>
<tr>
<td>KJPV-310S</td>
<td>24V DC</td>
<td>220V AC</td>
<td>120W</td>
<td>300W</td>
<td>300W</td>
<td>E, F</td>
</tr>
<tr>
<td>KJPV-320S</td>
<td>24V DC</td>
<td>220V AC</td>
<td>150W</td>
<td>400W</td>
<td>400W</td>
<td>G, H</td>
</tr>
</tbody>
</table>

**Operating Voltage**
- 90V~110V AC
- 180V~240V AC

**Temperature Range**
- -10°C~+50°C

**Humidity**
- 85% or less.

**Dimensions**

- Height (mm): 116
- Mounting hole: 4~27
- Wire exit hole ø11

**Wiring Diagram**

- Power supply: 24V DC, Black
- Power supply: 24V AC/DC, Blue
- Power supply: 100V/220V AC, Brown

**Note:** See page 130 for the Sound type Selection Chart.

* KJT type: 90dB at 1m

**Optional Mounting Bracket**

**KJPV / KJT**
Sleek design Revolving Warning Light with voice synthesizer or alarm suitable for various applications.

- Built-in Alarm: Adjustable audible sound volumes up to 95dB at 1m* with volume control.
- ADPCM 64kbps: High sound quality from LSI digital voice synthesizer (RKPV only).
- Alarm and light signal units can be replayed simultaneously or separately.
- Extended Bulb Life: Vibration resistant automobile bulb.
- Installation: Indoors- Upright, inverted; Outdoors- Upright only.
- Dome: Superior impact and heat resistant polycarbonate resin for superior durability and light transmission.
- Available Colors: Red, Amber, Green, Blue.

* RKT type: 90dB at 1m

Note: See page 130 for the Sound type Selection Chart.
### EVW / PVW Voice Synthesizer

#### Dimensions

![Dimensions Diagram]

#### Wiring Diagram

![Wiring Diagram]

- **Voice Synthesizer** featuring 4 recordable messages up to 60 sec.\(^1\) with a microphone\(^2\).
  - **Built-in Alarm:** Adjustable audible sound volume up to 105dB at 1m with volume control.
  - **ADPCM 64kbit/s:** Clear sound quality from LSI digital voice synthesizer for PVW type (32kbit/s for EVW type).
  - **Recordable Messages:** 4 recordable\(^1\) and editable messages up to 60 sec. with microphone\(^2\) (EVW).
  - **Installation:** Indoors—upright, inverted, sideways; Outdoors—upright only.
  - **Easy Installation:** With anticorrosive stainless steel mounting bracket.

**Available by Special Order**
- **CE Compliance:** PVW-**JF** type.

#### Concept of Horn Configuration.

- **Conventional type**
- **New wide Horn Type**

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

---

\(^1\) PVW-04/-15 type: 4 or 15 selectable pre-installed messages up to 64 sec.

\(^2\) EVW only.

---

#### EVW / PVW type

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Voltage Range</th>
<th>Power Consumption</th>
<th>Volume</th>
<th>Over Contact Capacity</th>
<th>Operating Temperatures Range</th>
<th>Auxiliary Input</th>
<th>Channel</th>
<th>AUX Output</th>
<th>BUSY Output</th>
<th>Max. Load</th>
<th>Max. Message Time</th>
<th>Protection</th>
<th>Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVW-04K</td>
<td>100V AC</td>
<td>90V~135V AC</td>
<td>10W/9W</td>
<td>105dB</td>
<td>10mA</td>
<td>-10°C to +55°C Humidity 85% or less.</td>
<td>4</td>
<td>100mA</td>
<td>15W</td>
<td>12W</td>
<td>0.15A</td>
<td>64 sec</td>
<td>IP53</td>
<td>61dB</td>
</tr>
<tr>
<td>EVW-15K</td>
<td>100V AC</td>
<td>90V~135V AC</td>
<td>12W</td>
<td>105dB</td>
<td>10mA</td>
<td>-10°C to +55°C Humidity 85% or less.</td>
<td>4</td>
<td>120mA</td>
<td>18W</td>
<td>18W</td>
<td>0.15A</td>
<td>64 sec</td>
<td>IP53</td>
<td>61dB</td>
</tr>
<tr>
<td>EVW-04Q</td>
<td>220V AC</td>
<td>180V~270V AC</td>
<td>9W</td>
<td>105dB</td>
<td>10mA</td>
<td>-10°C to +55°C Humidity 85% or less.</td>
<td>4</td>
<td>150mA</td>
<td>12W</td>
<td>18W</td>
<td>0.15A</td>
<td>64 sec</td>
<td>IP53</td>
<td>61dB</td>
</tr>
<tr>
<td>EVW-15Q</td>
<td>220V AC</td>
<td>180V~270V AC</td>
<td>12W</td>
<td>105dB</td>
<td>10mA</td>
<td>-10°C to +55°C Humidity 85% or less.</td>
<td>4</td>
<td>180mA</td>
<td>18W</td>
<td>18W</td>
<td>0.15A</td>
<td>64 sec</td>
<td>IP53</td>
<td>61dB</td>
</tr>
<tr>
<td>PVW-04J</td>
<td>12V DC</td>
<td>8~28V AC</td>
<td>1W</td>
<td>105dB</td>
<td>10mA</td>
<td>-10°C to +55°C Humidity 85% or less.</td>
<td>4</td>
<td>10mA</td>
<td>1W</td>
<td>15W</td>
<td>0.15A</td>
<td>64 sec</td>
<td>IP53</td>
<td>61dB</td>
</tr>
<tr>
<td>PVW-15J</td>
<td>12/24V AC/DC</td>
<td>9~35V DC</td>
<td>15W</td>
<td>105dB</td>
<td>10mA</td>
<td>-10°C to +55°C Humidity 85% or less.</td>
<td>4</td>
<td>35mA</td>
<td>15W</td>
<td>18W</td>
<td>0.15A</td>
<td>64 sec</td>
<td>IP53</td>
<td>61dB</td>
</tr>
</tbody>
</table>

---

\(\ast\) More than 100mA input is required to activate the message.

---

**Channel priority**

STOP (Red) > CH4 (Light green) > CH3 (Pink) > CH2 (Yellow) > CH1 (Skyblue)

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

---

**Additional Information**

- **Power supply:**
  - Black: COM
  - White: AUX
  - Skyblue: BUSY OUT
  - Yellow: GND

- **Shielded wire:**
  - External amplifier
  - +DC 24V 500mA

- **Fuse:**
  - 1A 58 mm

- **Model:**
  - EVW-04JF
  - EVW-04KF
  - EVW-04QF
  - PVW-04JF
  - PVW-04DF
  - PVW-04KF
  - PVW-04QF

- **Rated Voltage:**
  - 100V 0.3A
  - 220V 0.15A
  - 12V 1A
  - 24V 0.5A

- **Rated Voltage for Auxiliary Input:**
  - EVW-04: 105V/12V/24V
  - PVW-04: 105V/12V/24V

- **Volume:**
  - Max. 105dB at 1m

- **Max. Message Time:**
  - EVW: 60 sec.
  - PVW: 64 sec.

- **Max. Load:**
  - 24V DC 500mA

- **IP53 Protection:**
  - 64 sec.
Large horn with revolving warning light featuring clear sound up to 105dB at 1m.
- Built-in Alarm: Adjustable audible sound volumes up to 105dB at 1m with volume control.
- ADPCM 64kbit/s: High sound quality from LSI digital voice synthesizer (RT-VS only)*.
- Installation: Upright only.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.
* RT-VS requires a professionally recorded message.

Available by Special Order
- Cabtire Cable: Versatile and flexible 3m cable.
- IP65.
- CE Compliance.
- 120V AC.

Concept of Horn Configuration.

105dB at 1m

Wiring Diagram

How to order

RT type

Model | Rated Voltage | Voltage Range | Power Consumption | Bulb Type | Message Input | Volume | Tone Contact Capacity | Operating Temperature Range | Auxiliary Input | Channel | Note on Monitor Time | Mode
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
RT-VS | 24V AC/DC | 21V~27V AC/DC | 24V 20W | NPN | 8 | 105dB | 9/1bit | 0°C~50°C | 0~10mA | 10mA | Continuous | 200
RT-K | 100V AC | 90V~110V AC | 32W | Voltage free contact | 4 | 105dB | 5/1bit | 10°C~40°C | 20mA | 10mA | 5 sec. | 200
RT-L | 200V AC | 180V~240V AC | 30W | Voltage free contact | 5 | 105dB | 5/1bit | 10°C~40°C | 20mA | 10mA | 5 sec. | 200
RT-VS | 24V AC/DC | 21V~27V AC/DC | 36W | NPN | 8 | 105dB | 9/1bit | 0°C~50°C | 0~10mA | 10mA | Continuous | 200
RT-24L-F-R
Color
| Type of sound | Description
--- | ---
L: Chime | Melody
K: Alarm | Voice Synthesizer
VS: Voice Synthesizer

RT-K,-L
Sound
- VS: Voice Synthesizer
- K: Alarm
- L: Chime
- Melody

RT type

- Built-in Alarm: Adjustable audible sound volumes up to 105dB at 1m with volume control.
- ADPCM 64kbit/s: High sound quality from LSI digital voice synthesizer (RT-VS only)*.
- Installation: Upright only.
- Dome: Superior weather resistant and light translucent acrylic resin.
- Available Colors: Red, Amber, Green, Blue.
* RT-VS requires a professionally recorded message.

Available by Special Order
- Cabtire Cable: Versatile and flexible 3m cable.
- IP65.
- CE Compliance.
- 120V AC.

Note: See page 130 for the Sound type Selection Chart.
### Optional Parts

#### Mounting Pole
- **Model**: SZ-60T, SZ-60L, SZ-70L
- **Includes**: SZ-012 (For ø21.7mm pole), Includes SZ-011

#### Mounting Bracket
- **Model**: SZ-010, SZ-011, SZ-014, SZ-016A (For ø21.7mm pole)
- **Material**: Aluminum alloy die-cast

#### Rubber Gasket
- **Model**: SZ-200A, SZ-210
- **Material**: Ethylene propylene rubber

#### Tripod stand
- **Model**: SZ-009
- **Pitch diameter**: ø120–ø140

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

**Before...**

**After...**

- **How to install**
  - Drill a hole on the mounting parts of the machinery
  - Fix a mounting part and connect on the bracket
  - Join the connectors
  - Hook the mounting bracket to the equipment, lighting or seat as necessary

**Before...**

**After...**

- **Mounting dimensions**
- **Wire connector (SZ-020-001) sold separately**
### Replacement Bulbs

<table>
<thead>
<tr>
<th>Model</th>
<th>Bulb No.</th>
<th>Wattage</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP35/BA1SS</td>
<td>1</td>
<td>12V35W</td>
<td>D01203501</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>24V35W</td>
<td>D02403501</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>48V35W</td>
<td>D04803502</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>120V40W</td>
<td>D1200402A</td>
</tr>
<tr>
<td>G18/BA1SS</td>
<td>5</td>
<td>6V3W</td>
<td>D00603003</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>12V10W</td>
<td>D0120103A</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>110V10W</td>
<td>D1100106A</td>
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<td></td>
<td>8</td>
<td>220V10W</td>
<td>D2200106A</td>
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<tr>
<td></td>
<td>9</td>
<td>110V15W</td>
<td>D1100156A</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>220V15W</td>
<td>D2200156A</td>
</tr>
<tr>
<td>T20/E12</td>
<td>11</td>
<td>12V6W</td>
<td>D01200604</td>
</tr>
<tr>
<td>G14/BA1S</td>
<td>12</td>
<td>24V6W</td>
<td>D02406004</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>110V3W</td>
<td>D11003007</td>
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<tr>
<td></td>
<td>14</td>
<td>220V3W</td>
<td>D22003007</td>
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<tr>
<td></td>
<td>15</td>
<td>220V5W</td>
<td>D22005007</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>12V11A</td>
<td>D0121107</td>
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<tr>
<td></td>
<td>17</td>
<td>24V0.11A</td>
<td>D024/1107</td>
</tr>
<tr>
<td>T10/E10</td>
<td>18</td>
<td>120V40W</td>
<td>D12004024</td>
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<tr>
<td>G18/BA1S</td>
<td>19</td>
<td>24V30W</td>
<td>D24003002</td>
</tr>
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<td></td>
<td>20</td>
<td>120V30W</td>
<td>D12003024</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>24V30W</td>
<td>D24003002</td>
</tr>
</tbody>
</table>

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

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

- **Model**: Bulb No. Wattage Part No.
- **Vibration Endurance Bulb**: 1 12V35W D01203501
- **24V AC (MP/MPS only)**: 250V20W D25002011
- **24V AC (MP/MPS)**: 250V20W D25002011
- **24V DC**: 24V25W D02402505
- **24V DC** (Red): 28V11W D02801111
- **24V DC** (Green): 24V70W D02407015
- **24V DC** (Blue): 24V70W D02407015

#### ME/MES/MP/MPS Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Bulb No.</th>
<th>Wattage</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration Endurance Bulb</td>
<td>39</td>
<td>28V11W</td>
<td>D02801111</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>40</td>
<td>110V12W</td>
<td>D11001211</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>41</td>
<td>250V11W</td>
<td>D25001111</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>42</td>
<td>12V23W</td>
<td>D01202305</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>43</td>
<td>24V25W</td>
<td>D02402505</td>
</tr>
</tbody>
</table>

#### STD Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Bulb No.</th>
<th>Wattage</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration Endurance Bulb</td>
<td>44</td>
<td>12V55W</td>
<td>D01205515</td>
</tr>
<tr>
<td>T10/BA1SS</td>
<td>45</td>
<td>24V70W</td>
<td>D02407015</td>
</tr>
<tr>
<td>T20/E12</td>
<td>46</td>
<td>140V10W</td>
<td>D14001006</td>
</tr>
</tbody>
</table>

#### WM-111(FB) Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Bulb No.</th>
<th>Wattage</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration Endurance Bulb</td>
<td>50</td>
<td>28V20W</td>
<td>D02802011</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>51</td>
<td>110V20W</td>
<td>D11002011</td>
</tr>
<tr>
<td>T29/BA1SS</td>
<td>53</td>
<td>250V20W</td>
<td>D25002011</td>
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<tr>
<td>G18/BA1SS</td>
<td>54</td>
<td>12V15W</td>
<td>D01201503</td>
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<tr>
<td>G18/BA1SS</td>
<td>55</td>
<td>24V20W</td>
<td>D02402003</td>
</tr>
</tbody>
</table>

#### DC 24V: NPN(PNP) Transistor

<table>
<thead>
<tr>
<th>Model</th>
<th>Bulb No.</th>
<th>Wattage</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration Endurance Bulb</td>
<td>39</td>
<td>28V11W</td>
<td>D02801111</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>40</td>
<td>110V12W</td>
<td>D11001211</td>
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<tr>
<td>T20/BA1SS</td>
<td>41</td>
<td>250V11W</td>
<td>D25001111</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>42</td>
<td>12V23W</td>
<td>D01202305</td>
</tr>
<tr>
<td>T20/BA1SS</td>
<td>43</td>
<td>24V25W</td>
<td>D02402505</td>
</tr>
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</table>

#### STD-F 24V type

<table>
<thead>
<tr>
<th>Model</th>
<th>Bulb No.</th>
<th>Wattage</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration Endurance Bulb</td>
<td>44</td>
<td>12V55W</td>
<td>D01205515</td>
</tr>
<tr>
<td>T10/BA1SS</td>
<td>45</td>
<td>24V70W</td>
<td>D02407015</td>
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<tr>
<td>T20/E12</td>
<td>46</td>
<td>140V10W</td>
<td>D14001006</td>
</tr>
</tbody>
</table>

#### STD-F 100V/120V/200~240V type

<table>
<thead>
<tr>
<th>Model</th>
<th>Bulb No.</th>
<th>Wattage</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration Endurance Bulb</td>
<td>44</td>
<td>12V55W</td>
<td>D01205515</td>
</tr>
<tr>
<td>T10/BA1SS</td>
<td>45</td>
<td>24V70W</td>
<td>D02407015</td>
</tr>
<tr>
<td>T20/E12</td>
<td>46</td>
<td>140V10W</td>
<td>D14001006</td>
</tr>
</tbody>
</table>

### Lead wire color correspondence table

- **24V**: Red = Signal Line, Green = Signal Line, Yellow = Common wire for flashing, Brown = Power source wire (Black)
- **100V/120V/200~240V**: Red = Signal Line, Green = Signal Line, Yellow = Common wire for flashing, Brown = Power source wire (Black)

### Transistor Capacity

- **Model**: Transistor (NPN)
- **Model**: Transistor (PNP)
- **Current Capacity**: Ic = 0.1A
- **Withstand Voltage**: Vc = 35V

### Voltage and Amperage of lead wire per layer

- **24V**: Red = Signal Line, Green = Signal Line, Yellow = Common wire for flashing, Brown = Power source wire (Black)
- **100V/120V/200~240V**: Red = Signal Line, Green = Signal Line, Yellow = Common wire for flashing, Brown = Power source wire (Black)
### LME/LMS Wiring Diagram

#### [LME/LMS-■■■(FB)(W)L(■K) Model]

**LME(-W)/LME(-W)-S/Q/LMS (Continuous type)**

- **24V AC/DC**
  - For continuous light
  - Power supply

- **100/220V AC (LME only)**
  - Power supply

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

- **24V AC/DC**
  - For continuous light
  - Power supply

- **100/220V AC (LME only)**
  - Power supply

### Lead wire color correspondence table

<table>
<thead>
<tr>
<th>Color of LED unit</th>
<th>Color of Lead wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>Amber</td>
<td>Orange</td>
</tr>
<tr>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>White</td>
<td>Clear</td>
</tr>
<tr>
<td>Gray</td>
<td>White</td>
</tr>
</tbody>
</table>

**Rated current 1A**

**Signal line voltage and current per LED module**

- **LME**
  - 24V DC: NPN Transistor DC24V PNP Transistor (except for S/Q type)
  - 24V AC: NPN Transistor AC100/220V NPN Transistor

- **LME-S**
  - 24V DC: NPN Transistor DC24V PNP Transistor (except for S/Q type)
  - 24V AC: NPN Transistor AC100/220V NPN Transistor

- **FC**
  - 24V DC: NPN Transistor DC24V PNP Transistor
  - 24V AC: NPN Transistor AC100/220V NPN Transistor

### NPN/(PNP) Transistor

#### 24V DC NPN Transistor

- Continuous only
- Power supply

#### DC 24V PNP Transistor (except for S/Q type)

- Continuous only
- Power supply

#### AC 100/220V NPN Transistor

- Continuous and Flashing with Alarm
- Power supply

#### Fuse rate

<table>
<thead>
<tr>
<th>Model</th>
<th>LGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage type</td>
<td>LGE</td>
</tr>
<tr>
<td>Fuse</td>
<td>LGE</td>
</tr>
<tr>
<td>Voltage</td>
<td>LGE</td>
</tr>
</tbody>
</table>

### LGE Wiring Diagram

#### [LGE-■■■(FB) Model]

**Signal line voltage and current per LED module**

- **24V AC/DC**
  - 24V AC/DC
  - 24V AC/DC

- **100V AC**
  - 24V AC/DC
  - 24V AC/DC

- **220V AC**
  - 24V AC/DC
  - 24V AC/DC

### NPN/(PNP) Transistor

#### 24V DC NPN Transistor

- Continuous only
- Power supply

#### DC 24V PNP Transistor (except for S/Q type)

- Continuous only
- Power supply

#### AC 100/220V NPN Transistor

- Continuous and Flashing with Alarm
- Power supply

#### Fuse rate

<table>
<thead>
<tr>
<th>Model</th>
<th>LGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage type</td>
<td>LGE</td>
</tr>
<tr>
<td>Fuse</td>
<td>LGE</td>
</tr>
<tr>
<td>Voltage</td>
<td>LGE</td>
</tr>
</tbody>
</table>
**SE-D Wiring Diagram**

**SE-D [Continuous type]**

- 24V AC/DC
- 100/220V AC

**SE-D [Flashing type]**

- 24V AC/DC
- 100/220V AC

**Wire color**

<table>
<thead>
<tr>
<th>LED Color</th>
<th>Wire Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td>Blue</td>
<td>Blue</td>
</tr>
<tr>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>Gray</td>
<td>Gray</td>
</tr>
</tbody>
</table>

**Alarm**

- Continuous
- Flashing

**Continuous Light**

- LEDs: R, G, B, C, Y, G
- Power Supply: Yellow
- Fuse: 1A

**Flash Light**

- LEDs: R, G, B, C, Y, G
- Power Supply: Yellow
- Fuse: 1A

**Signal line voltage and current per LED module**

<table>
<thead>
<tr>
<th>Rated Voltage</th>
<th>Signal Line Voltage</th>
<th>Signal Line Current</th>
<th>Alarm Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>24V AC/DC</td>
<td>24V AC/DC</td>
<td>Max 40mA</td>
<td>150mA</td>
</tr>
<tr>
<td>100V AC/220V</td>
<td>AC 24V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**24V DC NPN(PNP) Transistor**

- Continuous light
- Flashing light
- Power Supply: Yellow
- Fuse: 1A

**PNP Transistor**

- Continuous light
- Flashing light
- Power Supply: Yellow
- Fuse: 1A

**Capacity of Transistor**

- NPN Transistor
- PNP Transistor

**WEP/WE Wiring Diagram**

**WEP/WE [Continuous type]**

- 24V AC/DC
- 12V AC/DC

**WEP/WE [Flashing type]**

- 24V AC/DC
- 12V AC/DC

**Wire color**

<table>
<thead>
<tr>
<th>LED Color</th>
<th>Wire Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td>Blue</td>
<td>Blue</td>
</tr>
<tr>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td>Yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td>Gray</td>
<td>Gray</td>
</tr>
</tbody>
</table>

**Alarm**

- Continuous
- Flashing

**Continuous Light**

- LEDs: R, G, B, C, Y, G
- Power Supply: Yellow
- Fuse: 1A

**Flash Light**

- LEDs: R, G, B, C, Y, G
- Power Supply: Yellow
- Fuse: 1A

**Signal line voltage and current per LED module**

<table>
<thead>
<tr>
<th>Rated Voltage</th>
<th>Signal Line Voltage</th>
<th>Signal Line Current</th>
<th>Alarm Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>24V AC/DC</td>
<td>24V AC/DC</td>
<td>Max 40mA</td>
<td>150mA</td>
</tr>
<tr>
<td>100V AC/220V</td>
<td>AC 24V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**24V DC NPN(PNP) Transistor**

- Continuous light
- Flashing light
- Power Supply: Yellow
- Fuse: 1A

**PNP Transistor**

- Continuous light
- Flashing light
- Power Supply: Yellow
- Fuse: 1A

**Capacity of Transistor**

- NPN Transistor
- PNP Transistor

**Fuse for outer contact protection**

- All voltage type: 1A
### WME-A Wiring Diagram

**Continuous light**
- 24V DC/AC
- For continuous light
  - LED Amber Orange
  - LED Green Green
  - LED Blue Blue
  - LED Clear White
- Power supply: 24V DC

**Continuous or flashing light with audible alarm**
- 24V DC/AC
- For continuous light and alarm
  - LED Amber Orange
  - LED Green Green
  - LED Blue Blue
  - LED Clear White
  - Alarm 1 Purple
  - Alarm 2 Skyscrape
- Power supply: 24V DC
- Flashing COM Brown

### 24V DC NPN(PNP) Transistor

**NPN Transistor**
- Continuous light
  - LED Red Red
  - LED Amber Orange
  - LED Green Green
  - LED Blue Blue
  - LED Clear White
  - Yellow Power supply: 24V DC
- Continuous or flashing light with audible alarm
  - LED Red Red
  - LED Amber Orange
  - LED Green Green
  - LED Blue Blue
  - LED Clear White
  - Yellow Power supply: 24V DC
  - Flashing COM Brown

**PNP Transistor**
- Continuous light
  - LED Red Red
  - LED Amber Orange
  - LED Green Green
  - LED Blue Blue
  - LED Clear White
  - Yellow Power supply: 24V DC
  - Flashing COM Brown

### Signal line voltage and current per LED module

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage</th>
<th>Signal Line Voltage</th>
<th>Signal Current</th>
<th>Alarm Current</th>
<th>Inrush Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>WME-A</td>
<td>24V AC/DC</td>
<td>24V AC/DC</td>
<td>35mA</td>
<td>50mA</td>
<td>40mA</td>
</tr>
<tr>
<td></td>
<td>9V-25V AC</td>
<td>24V DC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24V DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sound Type Selection Chart

#### Sound Type Selection Chart

**BD**
- Melody
- Comes with 32 sounds.

**BD-A type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-B type**
- Beep (slow intermittent horn)
- Synthesized Piano
- Synthesized Bell

**BD-C type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-D type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-E type**
- Beep (slow intermittent horn)
- Synthesized Piano
- Synthesized Bell

**BD-F type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-G type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-H type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-I type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-J type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-K type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-L type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-M type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-N type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-O type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-P type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-Q type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-R type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-S type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-T type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-U type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-V type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-W type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-X type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-Y type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**BD-Z type**
- Beep (slow intermittent horn)
- Melody Chime
- Synthesized Piano
- Synthesized Bell

**EB-K BT-KA**
- Melody
- Comes with 8 alarm sounds.

**EBL-BT-L**
- Melody
- Comes with 6 melodies and 2 chimes.

**ESB**
- Melody
- Comes with 1 alarm sound.

**RT-VS RKPV KJPV**
- Voice Synthesizer
- Comes with Max.16sec/4 messages.

**RT-KJ**
- Melody
- Comes with 8 alarm sounds.

**RT-L KJ-L**
- Melody
- Comes with 6 melodies and 2 chimes.

### Type of Sound

- **A type:** Stutter
- **B type:** Beep (slow intermittent horn)
- **C type:** Beep (slow intermittent horn)
- **D type:** Beep (slow intermittent horn)
- **E type:** Beep (slow intermittent horn)
- **F type:** Beep (slow intermittent horn)
- **G type:** Beep (slow intermittent horn)
- **H type:** Beep (slow intermittent horn)
- **I type:** Beep (slow intermittent horn)
- **J type:** Beep (slow intermittent horn)
- **K type:** Beep (slow intermittent horn)
- **L type:** Beep (slow intermittent horn)
- **M type:** Beep (slow intermittent horn)
- **N type:** Beep (slow intermittent horn)
- **O type:** Beep (slow intermittent horn)
- **P type:** Beep (slow intermittent horn)
- **Q type:** Beep (slow intermittent horn)
- **R type:** Beep (slow intermittent horn)
- **S type:** Beep (slow intermittent horn)
- **T type:** Beep (slow intermittent horn)
- **U type:** Beep (slow intermittent horn)
- **V type:** Beep (slow intermittent horn)
- **W type:** Beep (slow intermittent horn)
- **X type:** Beep (slow intermittent horn)
- **Y type:** Beep (slow intermittent horn)
- **Z type:** Beep (slow intermittent horn)

### Voice Synthesizer

- **B type:** Beep (slow intermittent horn)
- **C type:** Beep (slow intermittent horn)
- **D type:** Beep (slow intermittent horn)
- **E type:** Beep (slow intermittent horn)
- **F type:** Beep (slow intermittent horn)
- **G type:** Beep (slow intermittent horn)
- **H type:** Beep (slow intermittent horn)
- **I type:** Beep (slow intermittent horn)
- **J type:** Beep (slow intermittent horn)
- **K type:** Beep (slow intermittent horn)
- **L type:** Beep (slow intermittent horn)
- **M type:** Beep (slow intermittent horn)
- **N type:** Beep (slow intermittent horn)
- **O type:** Beep (slow intermittent horn)
- **P type:** Beep (slow intermittent horn)
- **Q type:** Beep (slow intermittent horn)
- **R type:** Beep (slow intermittent horn)
- **S type:** Beep (slow intermittent horn)
- **T type:** Beep (slow intermittent horn)
- **U type:** Beep (slow intermittent horn)
- **V type:** Beep (slow intermittent horn)
- **W type:** Beep (slow intermittent horn)
- **X type:** Beep (slow intermittent horn)
- **Y type:** Beep (slow intermittent horn)
- **Z type:** Beep (slow intermittent horn)