## LED SignaLight Towers

## LD6A



Ergonomically designed for visual and audible recognition

## ${ }^{C 7} \boldsymbol{M}_{\text {us }}$ © ( $\epsilon$

- See website for details on approvals and standards.


## Steady / Flashing / Alarm models available

Flashing cycle complies with IEC standards
[1.75 Hz (approx. 105 times per second)]

"Coding by changing of characteristics over time"
Unique powerful design with 360-degree sound field. Two alarm sound patterns available.
Alarm sound at 3.3 kHz and maximum sound level of 90 dB . With IDEC's unique resonant design, the SignaLight has a frequency that is most sensitive to the human ear and sends a clear sound over 360 degrees. Therefore, the sound recognition is improved as the alarm can be heard in a noisy environment, enhancing safety.


Sound volume adjustment
(adjustable within a range of 70 to 90 dB )
Alarm 1: Intermittent short
beep-beep sound
Alarm 2: Intermittent long beep-beep sound

Stylish design with high functionality
Unique design - oval shape with striped design for clear visibility


## Easy installation and assembly

Different mounting styles
L-shaped bracket available for pole mounting. Can also be mounted directly to equipment.
Five mounting styles available.


## Easy Assembly

The unique secure terminal style of the LED module makes assembly quick and easy, enabling assembly using only one hand.

## Plug-in Terminals

Highly reliable plug-in terminals. Easy expansion of LED module.


## Unique lens shape offers high visibility

Three different illumination methods and a unique lens shape enable high visibility from all directions.


By combining a diffusing lens, which diffuses the light broadly, with a condensing lens, a super bright area is created enabling high visibility. Also, the illumination through the light guide enhances the visibility when the SignaLight is viewed from below.


## LD6A LeD SignaLight Towers

Oval shape with striped design．Presents a stylish image on all equipment．


General Specifications

| Safety Standards | IEC 60947－5－1，EN60947－5－1，UL508， <br> CSA C22．2 No．14 |
| :--- | :--- |
| Operating Temperature | -25 to $+55^{\circ} \mathrm{C}$（no freezing） |
| Operating Humidity | 45 to $85 \%$ RH（no condensation） |
| Storage Temperature | -40 to $+75^{\circ} \mathrm{C}$（no freezing） |
| Overvoltage Category | III（IEC 60664－1） |
| Impulse Withstand Voltage | 800 V （IEC 60947－1） |
| Insulation Resistance | $100 \mathrm{M} \mathrm{\Omega}$ minimum（500V DC megger） |
| Dielectric Strength | Between live and dead parts： <br> 1000 V AC，1 minute |
| Pollution Degree | 3 |
| Corrosion Immunity | Atmosphere free from corrosive gases |
| Vibration Resistance | Operating extremes： <br> 10 to 55 Hz，amplitude 0．5 mm |
| Shock Resistance | Operating extremes： <br> 147 m／s²， 6 shocks each in 6 axes |
| Degree of Protection <br> （IEC 60529）Steady：IP65 <br> Steady／flashing／alarm：IP54 <br> Pole mount（w／o L－shaped bracket）：IP54 <br> Pole mount（w／L－shaped bracket）：IP23 |  |
| Housing Color | Dark gray，Light gray |
| Material | Housing：ABS resin <br> Lens：AS resin <br> Pole：$\quad$ Steel（nickel－chrome plated） <br> Pole stand：Diecast aluminum |
| Cable | UL1007 AWG22 |

Part No．Development

| （Note） |  |  |
| :---: | :---: | :---: |
| LD6A－ 5 W Z Q B－RYSGW C |  |  |
| Number of tiers |  | Lens color |
| 1.1 tier |  |  |
| 1：1 1 tier |  | blank：same as LED color |
| 2： 2 tiers |  | （standard type） |
| 3： 3 tiers |  | C：transparent |
| 4： 4 tiers |  | （clear lens type） |
| 5： 5 tiers |  | －LED color code |
| Mounting style | －Housing color | （specify code from highest tier） |
| G：frame mount | B：dark gray | R：red |
| W：wall mount | W：light gray | Y：yellow |
| D：direct mount |  | S：blue |
| P：pole mount w／base | Voltage | G：green |
| K：pole mount w／L－shaped bracket | Q： 24 V AC／DC | W：pure white |
| Function |  |  |
| blank：steady |  |  |
| Z：steady／flashing／alarm | Note：Specify | lumination color from the top tier． |

Functional Specifications

|  | ted Insulation Voltage | 60 V |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | erating Voltage | 24V AC／DC $\pm 10 \%$ |  |  |
|  | ted Voltage（Ue） | 24V AC／DC |  |  |
| LED Color Code |  | R（red），Y（yellow），S（blue）， <br> G（green），W（pure white） |  |  |
| 唢 | Illumination Color | R，Y | S，G | W |
|  | Rated Current（per tier） | 25 mA | 30 mA | 20 mA |
|  | Power Consumption （per tier） | 0．6W | 0．75W | 0．5W |
| LED Life（Note） |  | Approx．30，000 hours （until the brightness reduces to $50 \%$ the initial value when lit at complete direct current of the rated voltage under $25^{\circ} \mathrm{C}$ environment） |  |  |
| Flashing Cycle（IEC 60073） |  | Approx． 105 flashes per minute（ 1.75 Hz ） |  |  |
| $\left\lvert\, \frac{\underset{5}{\frac{E}{⿺ ⿻}}}{\substack{4}}\right.$ | Alarm Cycle | Alarm 1：approx． 700 times per minute Alarm 2：approx． 35 times per minute |  |  |
|  | Draw Current | 110 mA max． |  |  |
|  | Inrush Current | AC： 400 mA max．$\quad$ DC： 250 mA max． |  |  |
|  | Alarm Volume | 70 to 90 dB ，at 1m（volume adjustable） |  |  |
|  | Acoustic Frequency | Approx． 3.3 kHz |  |  |

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

## External Contact Ratings

| 呆 | AC Contact Capacity （per tier） | Current Capacity | 100 mA min ． |
| :---: | :---: | :---: | :---: |
|  |  | Dielectric Strength | 35 V AC min． |
|  | DC Contact Capacity， Transistor Capacity （per tier） | Current Capacity | 100 mA min． |
|  |  | Dielectric Strength | 35 V min． |
|  |  | Leakage Current | 0.1 mA max． |
|  | AC Contact Capacity （per alarm） | Current Capacity | 400 mA min． |
|  |  | Dielectric Strength | 35 V AC min． |
|  | DC Contact Capacity， Transistor Capacity （per alarm） | Current Capacity | 300 mA min． |
|  |  | Dielectric Strength | 35 V min． |
|  |  | Leakage Current | 0.1 mA max． |


|  | LD6A LED SignaLights <br> Assembled Products |  |  |  |  |  | Package Quantity: 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Steady/Flashing/Alarm |  |
|  | Mounting Style | Tiers | LED Color Code | Part No. | Weight (approx.) | Part No. | Weight (approx.) |
|  | Frame Mount | 1 | R, Y, S, G, W | LD6A-1GQ*- $\square$ | 220 g | LD6A-1GZQ*- $\square$ | 310 g |
|  |  | 2 | RY, RG | LD6A-2GQ*- $\square$ | 260 g | LD6A-2GZQ*- $\square$ | 350 g |
|  |  | 3 | RYS, RYG | LD6A-3GQ*- $\square$ | 300 g | LD6A-3GZQ*- $\square:$ | 390 g |
|  |  | 4 | RYSG | LD6A-4GQ*- $:$ | 340 g | LD6A-4GZQ*- $\square:$ | 430 g |
| APEM |  | 5 | RYSGW | LD6A-5GQ*- $\square: \quad$ : $\vdots$ | 380 g | LD6A-5GZQ*- $\square$ | 470 g |
| Switches \& Pilot lights | Wall Mount | 1 | R, Y, S, G, W | LD6A-1WQ*- $\square$ | 225 g | LD6A-1WZQ*- $\square$ | 315 g |
| Control Boxes |  | 2 | RY, RG | LD6A-2WQ*- $\square$ | 265g | LD6A-2WZQ*- $\square$ | 355 g |
|  |  | 3 | RYS, RYG | LD6A-3WQ*- $\square$ | 305g | LD6A-3WZQ*- $\vdots$ | 395g |
| Emergency Stop Switches |  | 4 | RYSG | LD6A-4WQ*- $\square \vdots \vdots$ | 345 g | LD6A-4WZQ*- $\square: \leq$ | 435 g |
| Enabling Switches |  | 5 | RYSGW | LD6A-5WQ*- | 385 g | LD6A-5WZQ*- $\square: \vdots$ | 475 g |
| Safety Products | Direct Mount | 1 | R, Y, S, G, W | LD6A-1DQ*- $\square$ | 185 g | LD6A-1DZQ*- $\square$ | 275 g |
|  |  | 2 | RY, RG | LD6A-2DQ*- $\square$ | 225 g | LD6A-2DZQ*- $\square$ | 315 g |
| Explosion Proof |  | 3 | RYS, RYG | LD6A-3DQ*- $\quad$ : | 265 g | LD6A-3DZQ*- $\vdots$ | 355 g |
| Terminal Blocks |  | 4 | RYSG | LD6A-4DQ*- $\vdots:$ | 305g | LD6A-4DZQ*- $\square:$ : : | 395g |
| Relay \& Sockets |  | 5 | RYSGW | LD6A-5DQ*- $\square: \vdots \vdots$ | 345 g | LD6A-5DZQ*- $\square: \vdots$ | 435 g |
| Relays \& Sockets | Pole Mount (with base) | 1 | R, Y, S, G, W | LD6A-1PQ*- $\square$ | 645 g | LD6A-1PZQ*- $\square$ | 735 g |
| Protectors |  | 2 | RY, RG | LD6A-2PQ*- $\square$ | 685 g | LD6A-2PZQ*- $\square$ | 775 g |
| Power Supplies |  | 3 | RYS, RYG | LD6A-3PQ*- $\square:$ | 725 g | LD6A-3PZQ*- $\square$ | 815 g |
| LED Illumination |  | 4 | RYSG | LD6A-4PQ*- : : | 765 g | LD6A-4PZQ*- $\square: \vdots$ | 855 g |
|  |  | 5 | RYSGW | LD6A-5PQ*- $\square: \vdots$ | 805 g | LD6A-5PZQ*- $\square: \vdots$ | 895 g |
| Controllers <br> Operator Interfaces | Pole Mount (with L-shaped bracket) | 1 | R, Y, S, G, W | LD6A-1KQ*- $\square$ | 640 g | LD6A-1KZQ*- $\square$ | 730 g |
|  |  | 2 | RY, RG | LD6A-2KQ*- $\square$ | 680 g | LD6A-2KZQ*- $\square$ | 770 g |
| Sensors |  | 3 | RYS, RYG | LD6A-3KQ*- $\square$ | 720 g | LD6A-3KZQ*- $\vdots$ | 810 g |
|  |  | 4 | RYSG | LD6A-4KQ*- $:$ : $:$ | 760 g | LD6A-4KZQ*- $\ddagger$ | 850 g |
| AUTO-ID |  | 5 | RYSGW | LD6A-5KQ*- $¢$ : $\vdots:$ | 800g | LD6A-5KZQ*- $¢$ | 890 g |

Assembled Products

- Specify a housing color code in place of *: B (dark gray), W (light gray)
- Select the illumination color from the top tier specifying the LED color code from the left. $\square: \mathrm{R}$ (red), Y (yellow), S (blue), G (green), W (pure white)


## Flush Silhouette

## Ordering Non-Standard Products

- Order according to the table above. Specify the illumination color from the top tier.
Example: When the LED color is RYGSW => LD6A-5GQW-RYGSW
When ordering the model with a cable 500 mm longer than the standard model
- Specify "-L" after the LED color code. Example: LD6A-3KZQB-RYG => LD6A-3KZQB-RYG-L

When ordering the pole mount model with L-shaped bracket Part No. LD9Z-6AK1
(different panel-cut out from standard model, as shown at right)

- Specify "1" after the housing color code. Example: LD6A-4KQB-RYSG => LD6A-4KQB1-RYSG

Combination of LED Color and Lens Color

- Clear lens type also available. Specify "C" after the LED color code. Example: LD6A-5GQW-RYSGW => LD6A-5GQW-RYSGWC

| LED Color |  | Color Lens Type | Clear Lens Type |  |
| :--- | :--- | :--- | :--- | :---: |
| R: | Red | Red lens | Clear Iens |  |
| Y: | Yellow | Yellow lens | Clear lens |  |
| S: | Blue | Blue lens | Clear lens |  |
| G: | Green | Green lens | Clear lens |  |
| W: | Pure white | Clear lens |  |  |

For pure white (W) LED, a clear lens is used in both color and clear lens configurations.
Supplied Parts

| Mounting Style | Supplied Parts |
| :--- | :--- |
| Frame mount | M4 screw (4 pcs)*, M4 spring washer (4 pcs)*, M4 plain washer (4 pcs)*, M5 screw (2 pcs), <br> M5 spring washer (2 pcs), M5 plain washer (2 pcs), bracket (1 pc) |
| Wall mount | M4 screw (20 mm) (4 pcs), M4 screw (8 mm $)(4 \mathrm{pcs}) *$, M4 spring washer (8 pcs)*, M4 plain washer (8 pcs)*, <br> M4 nut (4 pcs), bracket (1 pc), gasket (1 pc) |
| Direct mount | M5 screw (4 pcs)*, M5 spring washer (4 pcs)*, M5 plain washer (4 pcs)*, M5 nut (4 pcs)*, 0-ring (4 pcs), gasket (1 pc) |
| Pole mount (with base) | M5 screw (4 pcs), M5 spring washer (4 pcs), M5 plain washer (4 pcs), M5 nut (4 pcs), 0-ring (4 pcs), gasket (1 pc) |
| Pole mount (with L-shaped bracket) | M22 plain washer 2 (pcs), M22 nut (2 pcs), bracket (1 pc) |

* For dark gray housing, black screws and washers are supplied. For light gray housing, silver screws and washers are supplied.

Sub-assembled Products
Base Module

- Specify a housing color code in place of $*$ : B (dark gray), W (light gray)
- Do not supply power to the base module without connecting LED modules.

LED Module
Control Boxes
Emergency
Stop Switches
Enabling
Switches

| Description |  | Part No. | LED Color Code | Remarks |
| :--- | :--- | :--- | :--- | :--- |
|  | For dark gray housing | LD9Z-6ALB- $\square$ | $\mathrm{R}, \mathrm{Y}, \mathrm{S}, \mathrm{G}, \mathrm{W}$ |  |
|  |  |  | LD9Z-6ALB- $\square \mathrm{C}$ | $\mathrm{R}, \mathrm{Y}, \mathrm{S}, \mathrm{G}$ |

- Specify an LED color code in place of $\square: \mathrm{R}$ (red), Y (yellow), S (blue), G (green), W (pure white)
- When using pure white (W) with a clear lens, order LD9Z-6ALB-W (dark gray housing) or LD9Z-6ALW-W (light gray housing).

Center Screw Set

| Description |  | Part No. | Remarks |
| :---: | :---: | :---: | :---: |
| Material: SWRM3 (trivalent chromate) | 1 tier | LD9Z-6AC1 | A plain washer and a spring washer are supplied. |
|  | 2 tiers | LD9Z-6AC2 |  |
|  | 3 tiers | LD9Z-6AC3 |  |
|  | 4 tiers | LD9Z-6AC4 |  |
|  | 5 tiers | LD9Z-6AC5 |  |

## Ordering Examples

[Ex. 1] When ordering LD6A-3PQW-RYG as sub-assembled parts, specify the following parts:
Pole mount (with base), steady, light gray housing, 3 tiers, color lens LED modules with Red, Yellow, and Green LED

| Base module (pole mount with base, steady, light gray housing) | LD6A-OPQW | 1 piece |
| :--- | :--- | :--- |
| LED module (red LED with color lens, light gray housing ) | LD9Z-6ALW-R | 1 piece |
| LED module (yellow LED with color lens, light gray housing) | LD9Z-6ALW-Y | 1 piece |
| LED module (green LED with color lens, light gray housing) | LD9Z-6ALW-G | 1 piece |
| Center screw set (3 tiers) | LD9Z-6AC3 | 1 piece |

[Ex. 2] When ordering LD6A-5WZQB-RYSGWC as sub-assembled parts, specify the following parts:
Wall mount, steady/flashing/alarm, dark gray housing, 5 tiers, clear lens LED modules with Red, Yellow, Blue, Green, and Pure white LED

> Base module (wall mount, steady/flashing/alarm, dark gray housing) LED module (red LED with clear lens, dark gray housing) LED module (yellow LED with clear lens, dark gray housing) LED module (blue LED with clear lens, dark gray housing) LED module (green LED with clear lens, dark gray housing) LED module (pure white LED with clear lens, dark gray housing) Center screw set (5 tiers)

| LD6A-0WZQB | 1 piece |
| :--- | :--- |
| LD9Z-6ALB-RC | 1 piece |
| LD9Z-6ALB-YC | 1 piece |
| LD9Z-6ALB-SC | 1 piece |
| LD9Z-6ALB-GC | 1 piece |
| LD9Z-6ALB-W | 1 piece |
| LD9Z-6AC5 | 1 piece |

Terminal Blocks
Relays \& Sockets
Circuit
Protectors
Power Supplies
LED Illumination
Controllers
Operator
Interfaces
Sensors
AUTO-ID

Flush Silhouette
$\varnothing 16$
ø22
930
Miniature
Pilot Lights

## Accessories

| Description |  | Part No. | Remarks |
| :---: | :---: | :---: | :---: |
| Top Cap (ABS resin) | For dark gray | LD9Z-6ATB | A top cap is supplied with a base module. |
|  | For light gray | LD9Z-6ATW |  |
| Mounting Screw Set | For frame mount/dark gray | LD9Z-6AGB | M4 screw (4 pcs)*, M4 spring washer (4 pcs)*, M4 plain washer (4 pcs)*, M5 screws ( 2 pcs ), M5 spring washer ( 2 pcs ), M5 plain washer ( 2 pcs ), bracket ( 1 pc ) |
|  | For frame mount/light gray | LD9Z-6AGW | M4 screw (4 pcs)*, M4 spring washer (4 pcs)*, M4 plain washer (4 pcs)*, M5 screws ( 2 pcs ), M5 spring washer ( 2 pcs ), M5 plain washer ( 2 pcs ), bracket ( 1 pc ) |
|  | For wall mount/dark gray | LD9Z-6AWB | M4 screw (L=20), M4 screw (L=8) (4 pcs)*, M4 spring washer (8 pcs)*, M4 plain washer (8 pcs)*, M4 nut (4 pcs), bracket (1 pc), gasket (1 pc) |
|  | For wall mount/light gray | LD9Z-6AWW | M4 screw (L=20), M4 screw (L=8) (4 pcs)*, M4 spring washer (8 pcs)*, M4 plain washer (8 pcs)*, M4 nut (4 pcs), bracket (1 pc), gasket (1 pc) |
| Photo: For direct mount/ dark gray | For direct mount/dark gray | LD9Z-6ADB | M5 screw ( 4 pcs )*, M5 spring washer (4 pcs)*, M5 plain washer ( 4 pcs )*, M5 nut ( 4 pcs ), 0 -ring ( 4 pcs ), gasket ( 1 pc ) |
|  | For direct mount/ight gray | LD9Z-6ADW | M5 screw (4 pcs)*, M5 spring washer (4 pcs)*, M5 plain washer (4 pcs)*, M5 nut ( 4 pcs ), 0 -ring ( 4 pcs ), gasket ( 1 pc ) |
| Round Base | Die-cast aluminum (chrome-plated) | LD92-6AP | Round base (1 pc), M4 hexagon socket set screw (2 pcs) |
| L-shaped Bracket | Metal SPHC (chrome-plated) | LD9Z-6AK | M22 plain washer (2 pcs), M22 nut (2 pcs), bracket (2-ø11 panel cut-out, 35mm mounting centers) ( 1 pc ) are supplied. |
|  |  | LD9Z-6AK1 | M22 plain washers (2 pcs), M22 nut (2 pcs), bracket (2-ø9 panel cut-out, 20mm mounting centers) ( 1 pc ) are supplied. |

Dimensions (Steady)
Frame Mount

## Panel Cut-Out


Series
$\square$ Wiring Example (Steady)

Mechanical Contacts


NPN Transistors


PNP Transistors


Dimensions (Steady/Flashing/Alarm)
Frame Mount

Wall Mount
Direct Mount

- (with base)






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ront

Pole Mount
(with L-shaped bracket)

\(\begin{array}{l}Dimension Table <br>

\)|  Tiers  |  Frame Mount  |  Wall Mount  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  (L1)  |  | <br>

(L2)\end{array} $\left.\begin{array}{c}\text { Direct Mount } \\
(\mathrm{L} 3)\end{array}\right)$

Panel Cut-0ut
Wall Mount Direct Mount* Pole Mount (with base)

## Wiring Example (Flashing and Alarm)

## Mechanical Contacts



NPN Transistors


PNP Transistors


Control Boxes
Emergency
Stop Switches
Enabling
Switches
Safety Products
Explosion Proof
Terminal Blocks

## Relays \& Sockets

Controllers
Operator Interfaces

Sensors
AUTO-ID

## Flush Silhouette

Miniature
Pilot Lights

## Safety Precautions

- Turn off the power to the LD6A before mounting, dismounting, wiring, and assembling the LED module. Make sure of correct wiring, otherwise electrical shocks or fire hazard may result.
- Mount the LD6A on a solid surface not subjected to vibrations.
- Do not mount the LD6A upside-down or horizontally.
- Do not leave the LD6A without a cap or unassembled.
- Install the supplied gasket, otherwise the waterproof characteristic is impaired.
- Do not apply any chemicals which may corrode the plastic materials.


## Operating Instructions

## Mounting

- See drawing below on mounting of the LD6A.
- For panel cut-out, see B-401 and B-402.
- Face the LD6A to the front to make sure the alarm sound is clear. (Steady/flashing/alarm)


## Frame Mounting

1. Insert two nuts in the frame, and attach the bracket using two M5 screws.
Recommended tightening torque: 2.6 to $2.7 \mathrm{~N} \cdot \mathrm{~m}$
2. Mount the LD6A to the bracket using four M4 screws. Recommended tightening torque: 1.6 to $1.7 \mathrm{~N} \cdot \mathrm{~m}$


Note: See table below for typical examples of frames and nuts. Consult the manufacturer of the frame for the installation method of the frame nut.

Examples of recommended frames and frame nuts

| Frame Size | Frame | Frame Nut | Manufacturer |
| :--- | :--- | :--- | :--- |
| $\square 30 \mathrm{~mm}$ | SFF-302 | SFB-001 |  |
| (Note) |  | SFB-4B5 | SUS |
|  |  | SFB-101 | Corporation |
| $\square$ | mm | SFF-402 | SFB-008 |
| (Japan) |  |  |  |
|  |  | SFB-4A5 |  |

Note: The mounting bracket for the housing is 40 mm .
When using a frame mount type, be sure to use flexible conduit, otherwise the waterproof characteristic is impaired.
Refer to the "Example of Flexible Conduit" shown on the right.


Example of Flexible Conduit

| Conduit Port Size | M20 |
| :--- | :--- |
| Gland | AL16/M20/A/BL |
| Conduit | PAFS16BL |
| Manufacturer | Adaptaflex |

- If the LD6A is subjected to strong vibrations, the hexagon socket screw may become loose. Take measures to prevent loosening. (See the figure below.)

- Do not loosen a screw for which the tightening torque is not specified.


## Wall Mounting

1. Make four tapped holes in the mounting panel and mount the bracket and gasket using four screws (M4 x 20).
Recommended tightening torque: 1.6 to $1.7 \mathrm{~N} \cdot \mathrm{~m}$
2. Mount the LD6A to the bracket using four screws (M4 x 8).
Recommended tightening torque: 1.6 to $1.7 \mathrm{~N} \cdot \mathrm{~m}$


Direct Mounting

- Recommended tightening torque: 2.6 to $2.7 \mathrm{~N} \cdot \mathrm{~m}$


Pole Mounting (with base)
The pole mount type can be installed in four ways. The recommended mounting method (pattern A ) is described below.
Recommended tightening torque:
2.6 to $2.7 \mathrm{~N} \cdot \mathrm{~m}$ (M5 screw)


Pole Mounting (with L-shaped bracket)

1. When $L$-shaped bracket is used Recommended tightening torque: 10 to $11 \mathrm{~N} \cdot \mathrm{~m}$ (M10)
Recommended tightening torque: 25 to $26 \mathrm{~N} \cdot \mathrm{~m}$ (M22)
2. When L-shaped bracket is not used

Remove the bushing, hexagonal nut (M22), plain washer, and L-shaped bracket from the LD6A and install in order of plain washer, hexagonal nut (M22), and bushing.
Recommended tightening torque: 25 to $26 \mathrm{~N} \cdot \mathrm{~m}$ (M22)

1. When L-shaped bracket is used 2 . When L-shaped bracket is not used


The parts marked with * are not supplied and should be prepared by the user. The screw size depends on the L-shaped bracket size, as shown below.
When using LD6A- $\square \mathrm{K} \square Q \square-* * * * * * ~ M 10$
When using LD6A- $\square K \square Q \square 1-* * * * * * ~=>~ M 8 ~$

## Replacement/Expansion/Reduction of LED Modules

- Make sure to turn power off.
- When expanding/reducing the LED modules, make sure to use the center screw set of the correct length.
- Insert a flat screwdriver into the recess as shown below, lift up the cap, and remove the cap with your hands. Use a flat screwdriver with a tip of 1 -mm thick and 7 -mm wide maximum.
- Remove the center screw before reassembling the LED modules.
- When assembling the LED modules, make sure to align the recess of the cap with the recess of the LED module. Otherwise, damage may result.
Recommended tightening torque: 0.4 to $0.5 \mathrm{~N} \cdot \mathrm{~m}$.

- Note the correct orientation when assembling the LED modules.
- Tighten the screws to the recommended tightening torque. The LED module may be damaged if the screw is loose during operation.
- Do not touch the metal plug on the LED module. Otherwise, LED elements maybe damaged due to static electricity.
- Use a maximum of 5 tiers.
- Select an optional screw of an appropriate length depending on the number of tiers.
- Do not remove the packing from the LED module. Otherwise, waterproof characteristics will be impaired.


## Wiring

- For wiring, see the wiring diagrams on B-401 and B-402.
- Incorrect wiring may damage the internal circuit.
- Be sure to insulate unused wires.
- Connect a 1A fuse to the power line as shown in the Wiring Examples on B-401 and B-402.
- Use a UL listed external fuse holder.
- Use a class 2 power supply only.
- When using LED modules of the same color for two or more tiers, determine contact capacity in consideration of the LED current, because only one wire is used to light all tiers of the same color.
- Do not apply voltage to flashing (brown) lines.
- Do not connect flashing (brown) lines with the power lines. The internal circuit may be damaged.
- Do not turn on steady and flashing lines simultaneously.
- Do not turn on alarms 1 and 2 simultaneously.


## Wire Color

| Wire Color | Steady | Steady, Flashing, Alarm |
| :--- | :--- | :--- |
| Red | LED Module - Red | LED Module - Red |
| Orange | LED Module - Yellow | LED Module - Yellow |
| Blue | LED Module - Blue | LED Module - Blue |
| Green | LED Module - Green | LED Module - Green |
| White | LED Module - Pure White | LED Module - Pure White |
| Purple | - | Alarm 1 |
| Light Blue | - | Alarm 2 |
| Brown | - | Flashing COM |
| Gray | - | Power Line |
| Yellow | Power Line | Power Line |

- For information on external contacts, see "External Contact Ratings" on B-398.


## Sound Volume Adjustment

- Move the sound volume lever to the right and left to adjust the sound volume.
- The sound volume is at maximum when the lever is set to the right.
- The sound volume adjustment lever may be damaged if forcibly moved.


Flush Silhouette

Miniature
Pilot Lights

## Highest Temperature Limitations

The highest temperature is limited to $50^{\circ} \mathrm{C}$ when all tiers are lit continuously in the following combinations:

1. Three tiers

Two or more tiers of blue and green
(example: Red-Green-Blue, Green-Green-Red)
2. Four or five tiers
(example: Red-Yellow-Green-Pure White, Red-Yellow-Blue-Green-Pure White)

