LD6A
LED SignaLight Towers

Warning/caution indicated by flashing light

Complies with IEC Standards (IEC60073)

Clear, audible alarm sound

3.3 kHz
70 to 90 dB

IDEC CORPORATION

Ergonomically designed for visual and audible recognition

LD6A SignaLight combines the latest LED technology with IDEC's safety technology. Provides a new concept and innovative design, ideal for factory automation and other various applications.

Stylish

Smart functions with a stylish design

Universal design. The striped design makes the SignaLight highly visible.

Wall Mount

Frame Mount

Frame Mount

Direct Mount

Colour Arrangement according to IEC Standards

Indicating towers on machines should have the applicable colours in the following order from the top down; RED, YELLOW, BLUE, GREEN, WHITE. (IEC 60204-1 Fifth edition Chapter 10.3.2 Colours)

Colours for indicator lights and their meanings with respect to the condition of the machine

| Colour	Meaning	Explanation	Action by operator
RED	Emergency	Hazardous condition	Immediate action to deal with hazardous condition
YELLOW	Abnormal	Abnormal condition Impending critical condition	Monitoring and/or intervention (for example by re-establishing the intended function)
BLUE	Mandatory	Indication of a condition that requires action by the operator	Mandatory action
GREEN	Normal	Normal condition	Optional
WHITE	Neutral	Other conditions; may be used whenever doubt exists about the application of RED, YELLOW, GREEN, BLUE	Monitoring

Other Applications

Bank

For customer waiting systems

Hospital/Welfare Facility
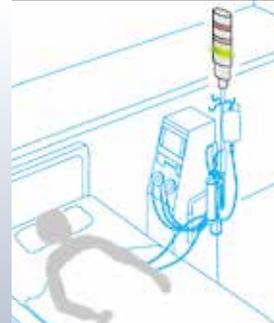
For medical equipment

New Product
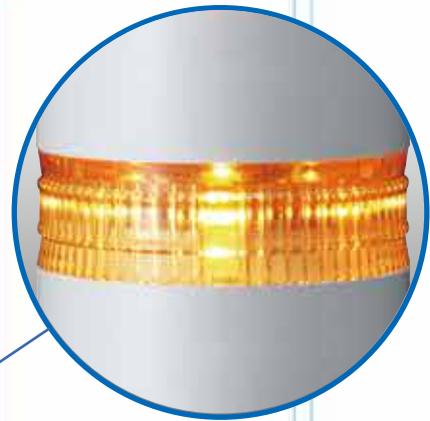
Steady/Flashing/Alarm
The alarm is designed to provide a clear, audible sound.

Pole Mount
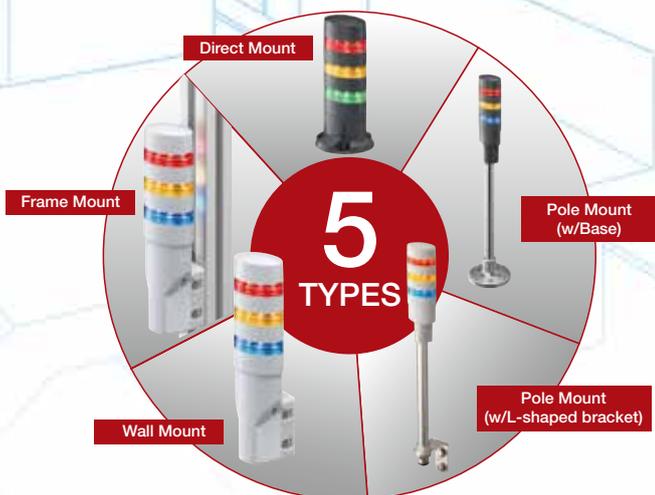(w/Base)

Pole Mount
(w/Base)

Technology

Unique lens shape offers high visibility.
The original lens shape enable high visibility from different directions.
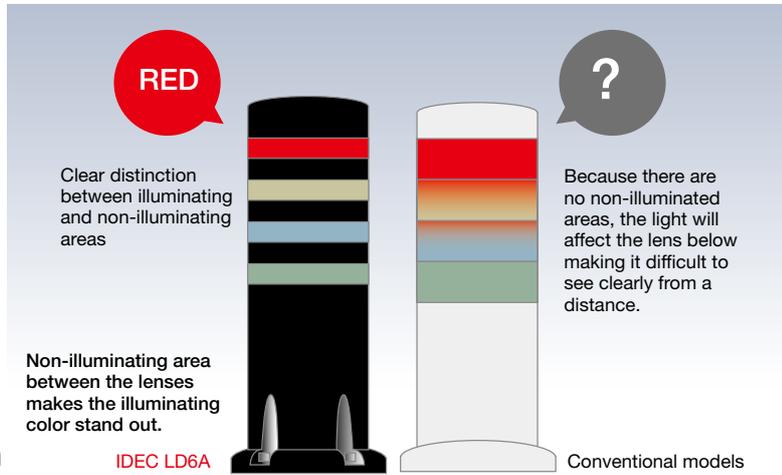
Pole Mount
(w/L-shaped bracket)

Direct Mount

Frame Mount

5
TYPES

Pole Mount
(w/Base)

Wall Mount

Pole Mount
(w/L-shaped bracket)

LD6A
LED SignaLight Towers

Stylish design with high functionality

■ Unique design — oval shape with striped design for clear visibility

RED

Clear distinction between illuminating and non-illuminating areas

Non-illuminating area between the lenses makes the illuminating color stand out.

IDEC LD6A

?

Because there are no non-illuminated areas, the light will affect the lens below making it difficult to see clearly from a distance.

Conventional models

■ Marking is possible

Emergency Stop

Error

Normal

■ IP65 protection degree

Note: Steady/Flashing/Alarm: IP54
Pole mount (L-shaped bracket)
w/o bracket: IP54
Pole mount (L-shaped bracket)
w/bracket: IP23

■ Two housing colors

Dark Gray   Light Gray

Dark and light gray housings are available, providing a stylish image.

Easy installation and assembly

■ Different mounting styles

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

With L-shaped bracket

Without L-shaped bracket

■ 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

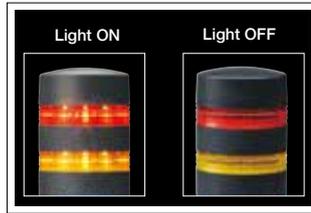Highly reliable plug-in terminals. Easy expansion of LED module.

Plug-in terminal

Steady/Flashing/Alarm

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

IEC 60073 Sixth edition 2002 Chapter 4.2.3
"Coding by changing of characteristics over time"
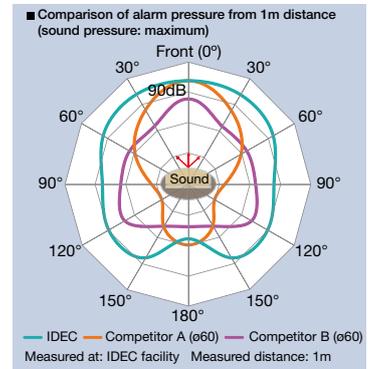
Light ON	Light OFF

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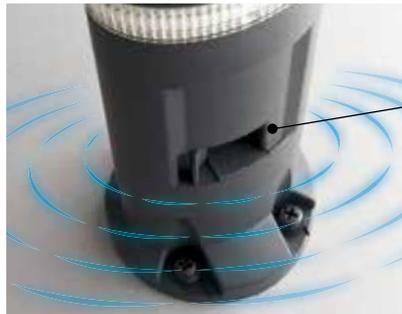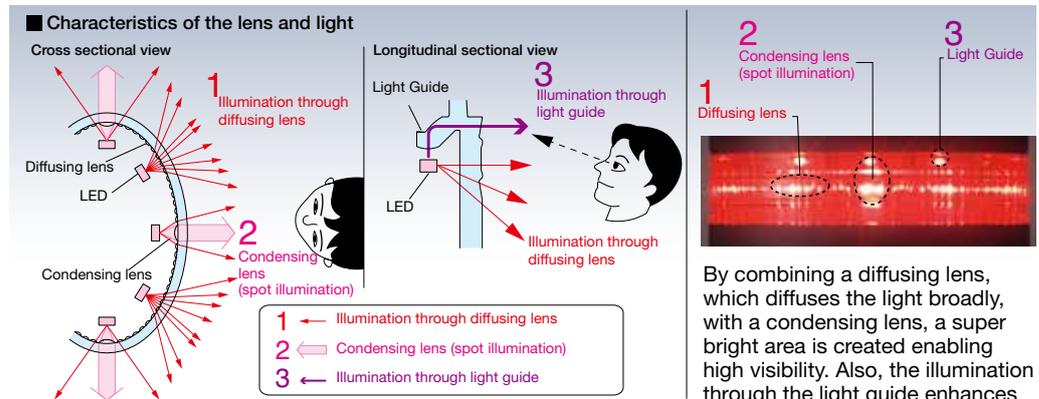
Sound volume adjustment (adjustable within a range of 70 to 90 dB)
Alarm 1: Intermittent short beep-beep sound
Alarm 2: Intermittent long beep-beep sound

■ Comparison of alarm pressure from 1m distance (sound pressure: maximum)

— IDEC   — Competitor A (ø60)   — Competitor B (ø60)
Measured at: IDEC facility   Measured distance: 1m

The alarm can be heard from all directions as the sound spreads out evenly.

Unique lens shape offers high visibility

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

■ Characteristics of the lens and light

Cross sectional view

1 Illumination through diffusing lens

Diffusing lens
LED
Condensing lens

2 Condensing lens (spot illumination)

Longitudinal sectional view

Light Guide
LED

3 Illumination through light guide

Illumination through diffusing lens

1 ← Illumination through diffusing lens
2 ⇐ Condensing lens (spot illumination)
3 ← Illumination through light guide

2 Condensing lens (spot illumination)
3 Light Guide
1 Diffusing lens

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.

■ Clear visibility difference

Because a reflective mirror is not installed in the the LED unit, diffuse reflection does not occur from light disturbance or from strong light. Also, when the clear lens type is used, the visibility difference between when the light is on and when it is off is apparent even in a bright environment.

Light OFF	Light ON
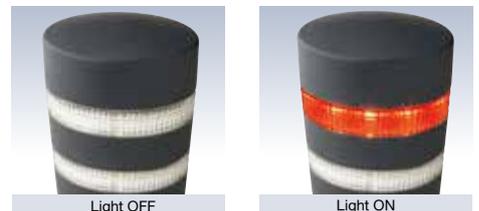
Clear lens type

*Photo: steady/flashing/alarm model.
*Only light gray or dark gray housing is available.

LD6A LED SignaLight Towers

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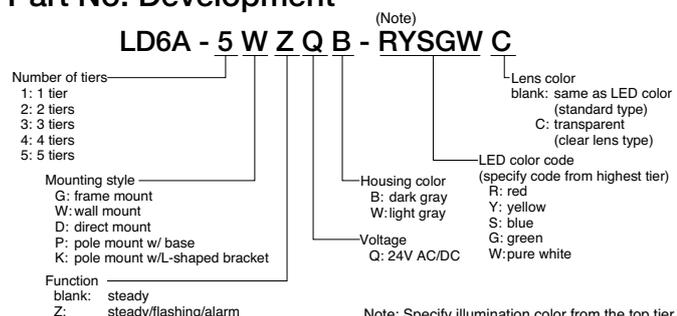## Presents a stylish image on all equipment.

- Striped design with non-illuminating area between the lenses. Built-in super bright LEDs reduce light disturbance to make the illuminating color stand out.
- IDEC's unique lens shape enables high-visibility from different directions.
- Five different mounting styles available. Easy mounting to aluminum frames, wall mounting, direct mounting, and pole mounting (with base or with L-shaped bracket).
- Clear lens type available.
- Custom configuration is possible.
- Flashing cycle: 1.75 Hz (approx. 105 flashes per second) Conforms to international standard IEC 60073.
- Ergonomically designed alarm sound (3.3 kHz, 2 different sounds) spreads 360° degrees. Adjustable volume (70 to 90 dB).
- Degree of protection: IP65
  (IP54 for steady, flashing, alarm types and pole mount without L-shaped bracket)

Applicable Standards	Mark	File No. or Organization
UL508 CSA C22.2 No.14	c**UL**us / **CSA**	UL Recognition File No. E68961
EN60947-5-1	CE	EU Low Voltage Directive

General Specifications

Safety Standards	IEC 60947-5-1, EN60947-5-1, UL508, CSA C22.2 No.14
Operating Temperature	–25 to +55ºC (no freezing)
Operating Humidity	45 to 85% RH (no condensation)
Storage Temperature	–40 to +75ºC (no freezing)
Overvoltage Category	III (IEC 60664-1)
Impulse Withstand Voltage	800V (IEC 60947-1)
Insulation Resistance	100 MΩ minimum (500V DC megger)
Dielectric Strength	Between live and dead parts: 1000V AC, 1 minute
Pollution Degree	3
Corrosion Immunity	Atmosphere free from corrosive gases
Vibration Resistance	Operating extremes: 10 to 55 Hz, amplitude 0.5 mm
Shock Resistance	Operating extremes: 147 m/s², 6 shocks each in 6 axes
Degree of Protection (IEC 60529)	Steady: IP65 Steady/flashing/alarm: IP54 Pole mount (w/o L-shaped bracket): IP54 Pole mount (w/L-shaped bracket): IP23
Housing Color	Dark gray, Light gray
Material	Housing: ABS resin Lens: AS resin Pole: Steel (nickel-chrome plated) Pole stand: Diecast aluminum
Cable	UL1007 AWG22

Part No. Development

LD6A - 5 W Z Q B - RYSGW C
(Note)

Number of tiers
1: 1 tier
2: 2 tiers
3: 3 tiers
4: 4 tiers
5: 5 tiers

Mounting style
G: frame mount
W: wall mount
D: direct mount
P: pole mount w/ base
K: pole mount w/L-shaped bracket

Function
blank: steady
Z: steady/flashing/alarm

Voltage
Q: 24V AC/DC

Housing color
B: dark gray
W: light gray

LED color code
(specify code from highest tier)
R: red
Y: yellow
S: blue
G: green
W: pure white

Lens color
blank: same as LED color (standard type)
C: transparent (clear lens type)

Note: Specify illumination color from the top tier.

Frame mount

Direct mount

Wall mount

Pole mount
(w/Base)   (w/L-shaped bracket)

Functional Specifications

Rated Insulation Voltage	60V		
Operating Voltage	24V AC/DC ±10%		
Rated Voltage (Ue)	24V AC/DC		
LED Color Code	R (red), Y (yellow), S (blue), G (green), W (pure white)		
LED	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 25ºC environment)	
Flashing Cycle (IEC 60073)	Approx. 105 flashes per minute (1.75 Hz)	
Alarm	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. 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

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

|IDEC

Assembled Products

Package Quantity: 1

Mounting Style	Tiers	LED Color Code	Steady		Steady/Flashing/Alarm	
			Part No.	Weight (approx.)	Part No.	Weight (approx.)
Frame Mount	1	R, Y, S, G, W	LD6A-1GQ∗-□	220g	LD6A-1GZQ∗-□	310g
	2	RY, RG	LD6A-2GQ∗-□□	260g	LD6A-2GZQ∗-□□	350g
	3	RYS, RYG	LD6A-3GQ∗-□□□	300g	LD6A-3GZQ∗-□□□	390g
	4	RYSG	LD6A-4GQ∗-□□□□	340g	LD6A-4GZQ∗-□□□□	430g
	5	RYSGW	LD6A-5GQ∗-□□□□□	380g	LD6A-5GZQ∗-□□□□□	470g
Wall Mount	1	R, Y, S, G, W	LD6A-1WQ∗-□	225g	LD6A-1WZQ∗-□	315g
	2	RY, RG	LD6A-2WQ∗-□□	265g	LD6A-2WZQ∗-□□	355g
	3	RYS, RYG	LD6A-3WQ∗-□□□	305g	LD6A-3WZQ∗-□□□	395g
	4	RYSG	LD6A-4WQ∗-□□□□	345g	LD6A-4WZQ∗-□□□□	435g
	5	RYSGW	LD6A-5WQ∗-□□□□□	385g	LD6A-5WZQ∗-□□□□□	475g
Direct Mount	1	R, Y, S, G, W	LD6A-1DQ∗-□	185g	LD6A-1DZQ∗-□	275g
	2	RY, RG	LD6A-2DQ∗-□□	225g	LD6A-2DZQ∗-□□	315g
	3	RYS, RYG	LD6A-3DQ∗-□□□	265g	LD6A-3DZQ∗-□□□	355g
	4	RYSG	LD6A-4DQ∗-□□□□	305g	LD6A-4DZQ∗-□□□□	395g
	5	RYSGW	LD6A-5DQ∗-□□□□□	345g	LD6A-5DZQ∗-□□□□□	435g
Pole Mount (with base)	1	R, Y, S, G, W	LD6A-1PQ∗-□	645g	LD6A-1PZQ∗-□	735g
	2	RY, RG	LD6A-2PQ∗-□□	685g	LD6A-2PZQ∗-□□	775g
	3	RYS, RYG	LD6A-3PQ∗-□□□	725g	LD6A-3PZQ∗-□□□	815g
	4	RYSG	LD6A-4PQ∗-□□□□	765g	LD6A-4PZQ∗-□□□□	855g
	5	RYSGW	LD6A-5PQ∗-□□□□□	805g	LD6A-5PZQ∗-□□□□□	895g
Pole Mount (with L-shaped bracket)	1	R, Y, S, G, W	LD6A-1KQ∗-□	640g	LD6A-1KZQ∗-□	730g
	2	RY, RG	LD6A-2KQ∗-□□	680g	LD6A-2KZQ∗-□□	770g
	3	RYS, RYG	LD6A-3KQ∗-□□□	720g	LD6A-3KZQ∗-□□□	810g
	4	RYSG	LD6A-4KQ∗-□□□□	760g	LD6A-4KZQ∗-□□□□	850g
	5	RYSGW	LD6A-5KQ∗-□□□□□	800g	LD6A-5KZQ∗-□□□□□	890g

• 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.
  □ :R (red), Y (yellow), S (blue), G (green), W (pure white)

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

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

When ordering the model with a cable 500mm 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**

2-ϕ9 mm
20 mm
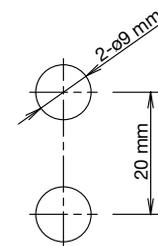
Note: Panel cut-out when using no L-shaped bracket is the same as the standard model.

To specify the pole length for pole-mount model, consult IDEC.

Combination of LED Color and Lens Color

LED Color	Color Lens Type	Clear Lens Type
R: Red	Red lens	Clear lens
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), 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 pcs)∗, M4 spring washer (8 pcs)∗, M4 plain washer (8 pcs)∗, 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)∗, O-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), O-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.

LD6A LED SignaLights

Sub-assembled Products

Base Module

Package Quantity: 1

Description	Mounting Style	Part No. Steady	Part No. Steady/Flashing/Alarm	Remarks
	Frame Mount	**LD6A-0GQ**∗	**LD6A-0GZQ**∗	A top cap is supplied.
	Wall Mount	**LD6A-0WQ**∗	**LD6A-0WZQ**∗	
	Direct Mount	**LD6A-0DQ**∗	**LD6A-0DZQ**∗	
	Pole Mount (with base)	**LD6A-0PQ**∗	**LD6A-0PZQ**∗	
	Pole Mount (with L-shaped bracket)	**LD6A-0KQ**∗	**LD6A-0KZQ**∗	

- 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

Package Quantity: 1

Description		Part No.	LED Color Code	Remarks
	For dark gray housing	**LD9Z-6ALB-□**	R, Y, S, G, W	Color lens
		LD9Z-6ALB-□C	R, Y, S, G	Clear lens
	For light gray housing	**LD9Z-6ALW-□**	R, Y, S, G, W	Color lens
		LD9Z-6ALW-□C	R, Y, S, G	Clear lens

- Specify an LED color code in place of □: 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
	1 tier	**LD9Z-6AC1**	A plain washer and a spring washer are supplied.
	2 tiers	**LD9Z-6AC2**	
	3 tiers	**LD9Z-6AC3**	
Material: SWRM3 (trivalent chromate)	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-0PQW	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

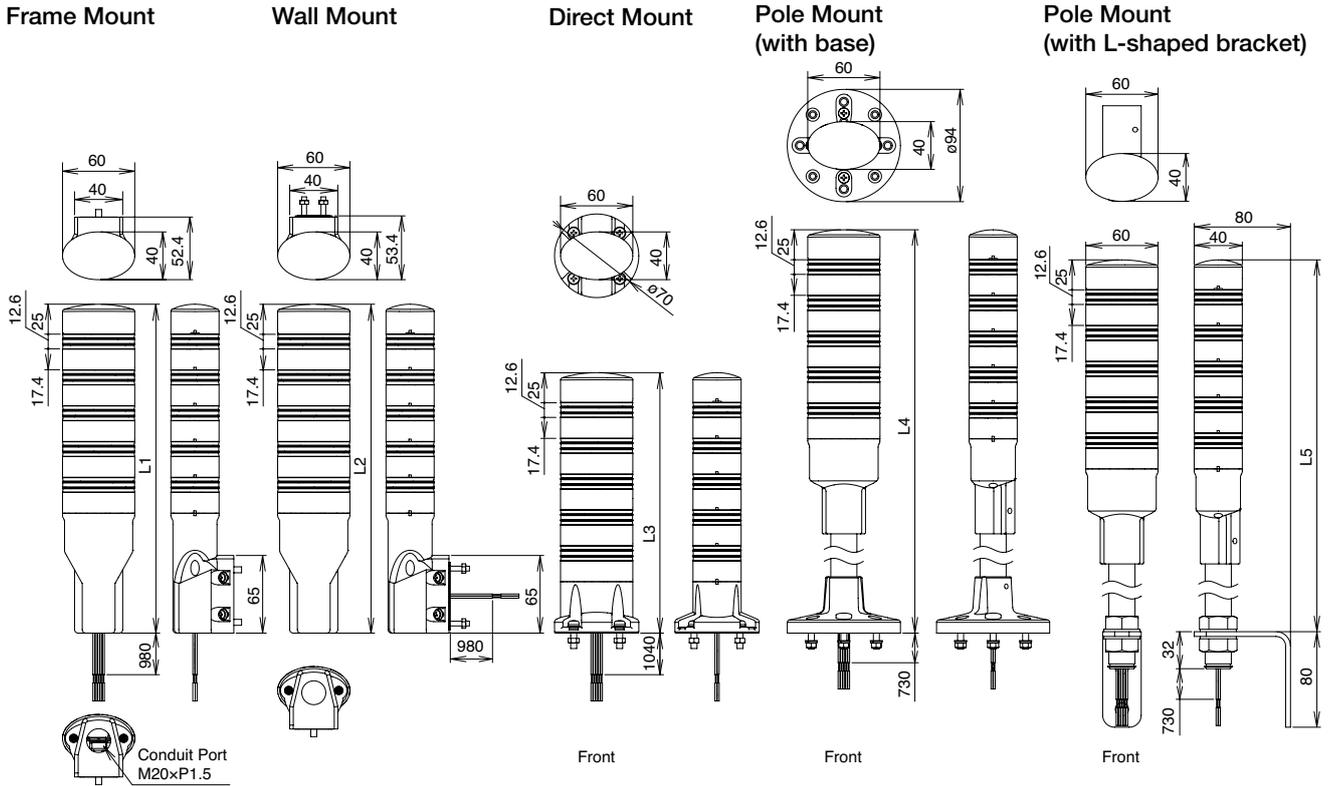|		
Base module (wall mount, steady/flashing/alarm, dark gray housing)	LD6A-0WZQB	1 piece
LED module (red LED with clear lens, dark gray housing)	LD9Z-6ALB-RC	1 piece
LED module (yellow LED with clear lens, dark gray housing)	LD9Z-6ALB-YC	1 piece
LED module (blue LED with clear lens, dark gray housing)	LD9Z-6ALB-SC	1 piece
LED module (green LED with clear lens, dark gray housing)	LD9Z-6ALB-GC	1 piece
LED module (pure white LED with clear lens, dark gray housing)	LD9Z-6ALB-W	1 piece
Center screw set (5 tiers)	LD9Z-6AC5	1 piece

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)
	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), O-ring (4 pcs), gasket (1 pc)
Photo: For direct mount/ dark gray	For direct mount/light gray	LD9Z-6ADW	M5 screw (4 pcs)∗, M5 spring washer (4 pcs)∗, M5 plain washer (4 pcs)∗, M5 nut (4 pcs), O-ring (4 pcs), gasket (1 pc)
Round Base (Set Screw)	Die-cast aluminum (chrome-plated)	LD9Z-6A	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.

∗ For dark gray housing, black screws and washers are supplied. For light gray housing, silver screws and washers are supplied.
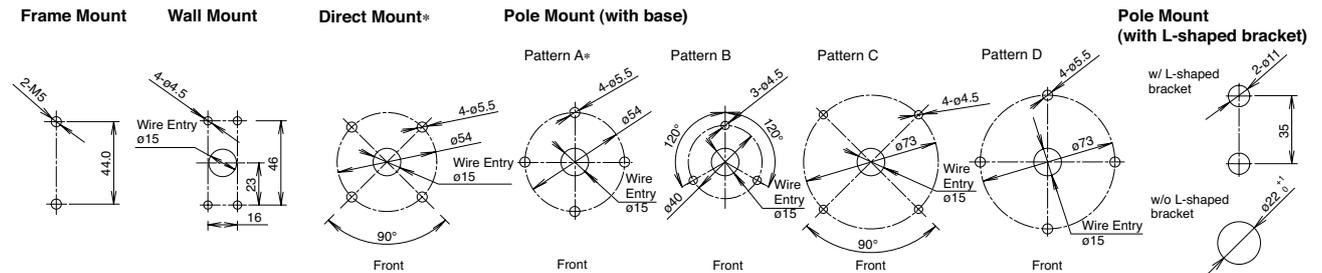
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Dimensions (Steady)

All dimensions in mm.

Frame Mount **Wall Mount** **Direct Mount** **Pole Mount (with base)** **Pole Mount (with L-shaped bracket)**

Conduit Port M20×P1.5

Front Front Front

Dimension Table

Dimensions in mm.

Tiers	Frame Mount (L1)	Wall Mount (L2)	Direct Mount (L3)	Pole Mount	
				w/ base (L4)	w/ L-shaped bracket (L5)
1	156	156	98	408	372
2	186	186	128	438	402
3	216	216	158	468	432
4	246	246	188	498	462
5	276	276	218	528	492

Panel Cut-Out

Frame Mount **Wall Mount** **Direct Mount∗** **Pole Mount (with base)** **Pole Mount (with L-shaped bracket)**

Pattern A∗ Pattern B Pattern C Pattern D

Front Front Front Front Front

∗Complies with IEC 60947-5-1.

Dimensions in mm.

Wiring Example (Steady)
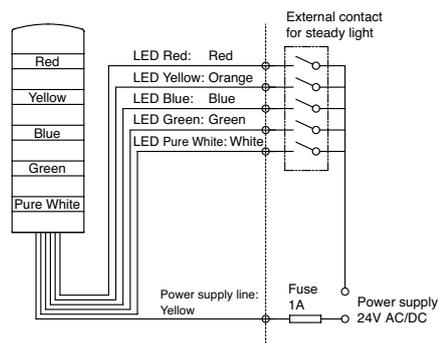
Mechanical Contacts **NPN Transistors** **PNP Transistors**

External contact for steady light

LED Red: Red
LED Yellow: Orange
LED Blue: Blue
LED Green: Green
LED Pure White: White

Power supply line: Yellow
Fuse 1A
Power supply 24V AC/DC

External transistor for steady light

LED Red: Red
LED Yellow: Orange
LED Blue: Blue
LED Green: Green
LED Pure White: White

Power supply line: Yellow
Fuse 1A
Power supply 24V DC (−)(+)

External transistor for steady light

LED Red: Red
LED Yellow: Orange
LED Blue: Blue
LED Green: Green
LED Pure White: White

Fuse 1A
Power supply line: Yellow
Power supply 24V DC (+)(−)

LD6A LED SignaLights

Dimensions (Steady/Flashing/Alarm)

All dimensions in mm.
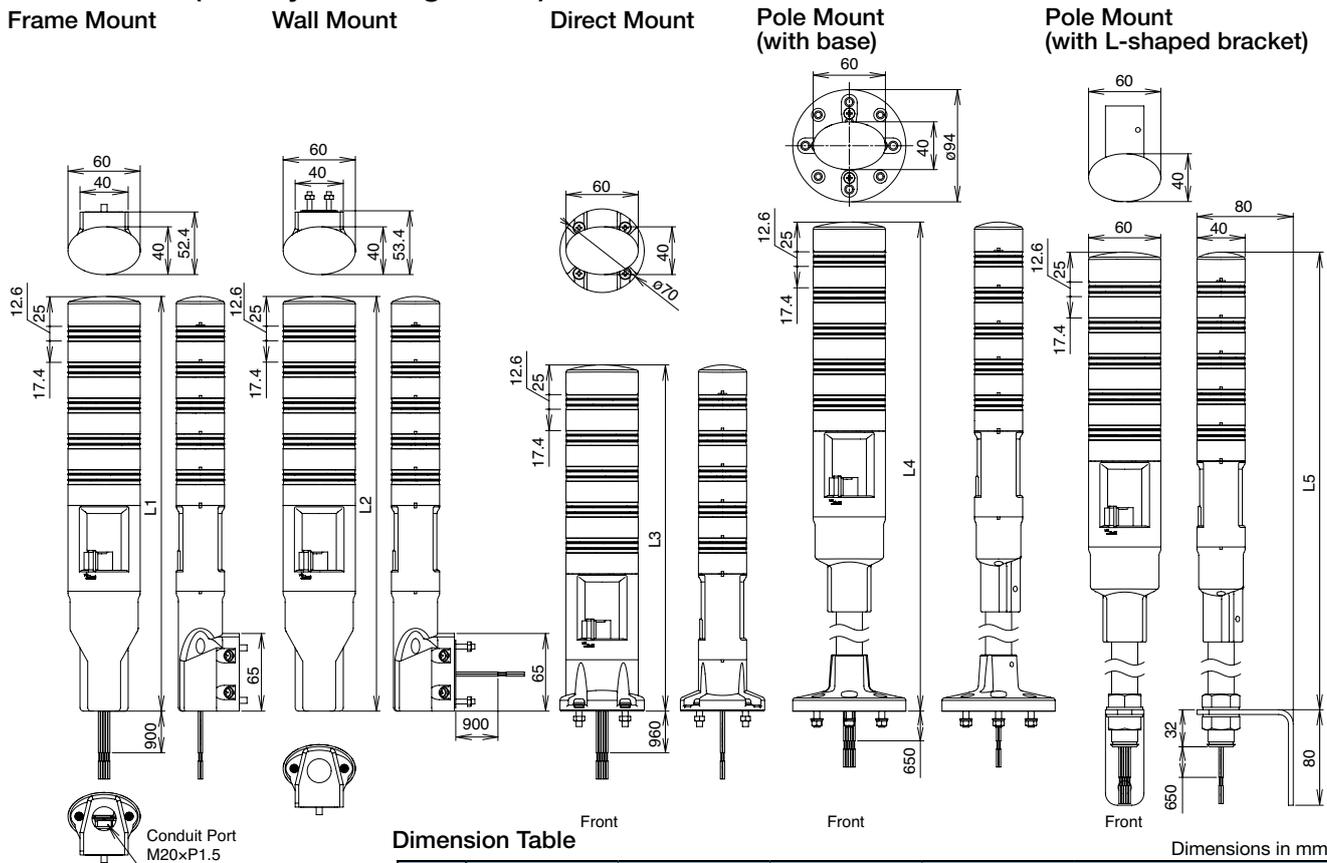
Frame Mount　　Wall Mount　　Direct Mount　　Pole Mount (with base)　　Pole Mount (with L-shaped bracket)

Conduit Port M20×P1.5

Front　　Front　　Front

Dimension Table

Dimensions in mm.

Tiers	Frame Mount (L1)	Wall Mount (L2)	Direct Mount (L3)	Pole Mount	
				w/base (L4)	w/L-shaped bracket (L5)
1	228	228	170	480	444
2	258	258	200	510	474
3	288	288	230	540	504
4	318	318	260	570	534
5	348	348	290	600	564

Panel Cut-Out

Frame Mount　　Wall Mount　　Direct Mount∗　　Pole Mount (with base)　　Pole Mount (with L-shaped bracket)

Pattern A∗　　Pattern B　　Pattern C　　Pattern D

Front　　Front　　Front　　Front

w/ L-shaped bracket

w/o L-shaped bracket
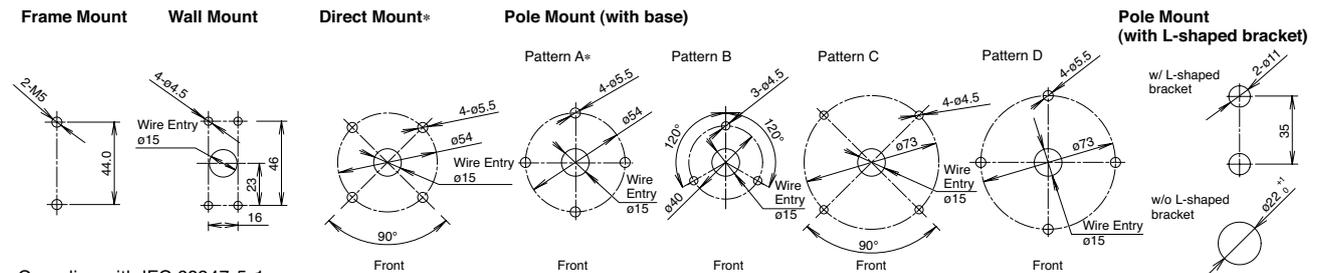
∗Complies with IEC 60947-5-1.

Dimensions in mm.

Wiring Example (Flashing and Alarm)

Mechanical Contacts

LED Red:	Red
LED Yellow:	Orange
LED Blue:	Blue
LED Green:	Green
LED Pure White:	White
Alarm 1:	Purple
Alarm 2:	Light Blue

Red / Yellow / Blue / Green / Pure White

External contact for steady light/alarm

External contact for flashing light

Flashing COM: Brown
Power: Gray
Power: Yellow
Fuse 1A
Power supply 24V AC/DC

NPN Transistors

LED Red:	Red
LED Yellow:	Orange
LED Blue:	Blue
LED Green:	Green
LED Pure White:	White
Alarm1:	Purple
Alarm 2	Light Blue

Red / Yellow / Blue / Green / Pure White

External contact for steady light/alarm

External contact for flashing light

Flashing COM: Brown
Power: Gray
Power: Yellow
Fuse 1A
Power supply 24V DC

PNP Transistors

LED Red:	Red
LED Yellow:	Orange
LED Blue:	Blue
LED Green:	Green
LED Pure White:	White
Alarm1:	Purple
Alarm 2	Light Blue

Red / Yellow / Blue / Green / Pure White

External contact for steady light/alarm

External contact for flashing light

Flashing COM: Brown
Power: Gray
Power: Yellow
Fuse 1A
Power supply 24V DC

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⚠ 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.

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

2-M4 holes for hexagon socket set screws
(recommended tightening torque: 1.1 to1.2 N·m)
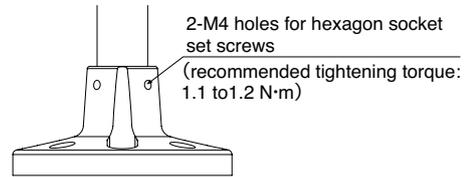
- Do not loosen a screw for which the tightening torque is not specified.

Operating Instructions

Mounting

- See drawing below on mounting of the LD6A.
- For panel cut-out, see pages 9 and 10.
- 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 N·m
2. Mount the LD6A to the bracket using four M4 screws.
   Recommended tightening torque: 1.6 to 1.7 N·m

Bracket
Plain Washer
Spring Washer
M5 Screw
Frame (Note)
Frame Nut (Note)

M4 Screw, Spring Washer, Plain Washer
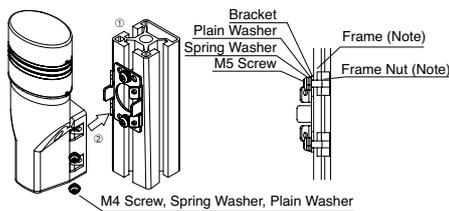
Note: See table below for typical examples of frames and nuts. Consult the manufacturer of the frame for the installation method of the frame nut.

Examples of recommended frames and frame nuts

Frame Size	Frame	Frame Nut	Manufacturer
□30 mm (Note)	SFF-302	SFB-001 SFB-4B5 SFB-101	SUS Corporation (Japan)
□40 mm	SFF-402	SFB-008 SFB-4A5 SFB-108	

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.
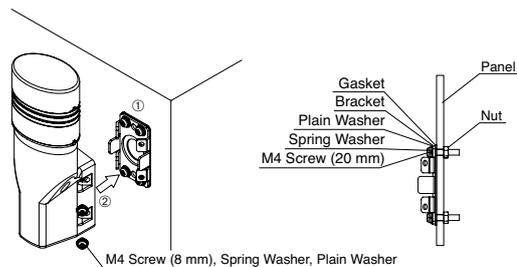Refer to the "Example of Flexible Conduit" shown on the right.

Conduit port (M20×P1.5)
Gland
Conduit
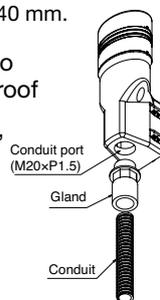
Example of Flexible Conduit

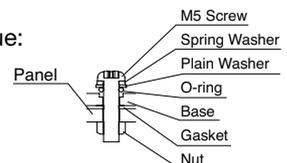| Conduit Port Size	M20
Gland	AL16/M20/A/BL
Conduit	PAFS16BL
Manufacturer	Adaptaflex

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 N·m
2. Mount the LD6A to the bracket using four screws (M4 x 8).
   Recommended tightening torque: 1.6 to 1.7 N·m

Gasket
Bracket
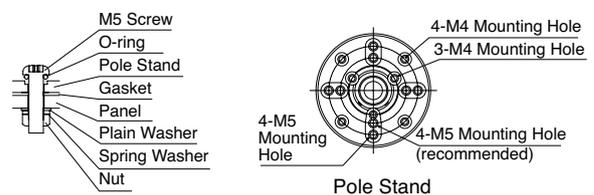Plain Washer
Spring Washer
M4 Screw (20 mm)
Panel
Nut

M4 Screw (8 mm), Spring Washer, Plain Washer

Direct Mounting

- Recommended tightening torque: 2.6 to 2.7 N·m

M5 Screw
Spring Washer
Plain Washer
O-ring
Base
Gasket
Nut
Panel

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 N·m (M5 screw)

M5 Screw
O-ring
Pole Stand
Gasket
Panel
Plain Washer
Spring Washer
Nut

4-M4 Mounting Hole
3-M4 Mounting Hole
4-M5 Mounting Hole
4-M5 Mounting Hole (recommended)
Pole Stand

Pole Mounting (with L-shaped bracket)

1. When L-shaped bracket is used
   Recommended tightening torque: 10 to 11 N·m (M10)
   Recommended tightening torque: 25 to 26 N·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 N·m (M22)

LD6A LED SignaLight Towers

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

Hexagonal nut (M22)
Hexagonal bolt∗ (M10)
Hexagonal nut∗ (M10)
Spring washer∗
Plain washer∗
Plain washer
Hexagonal nut (M22)
Bushing
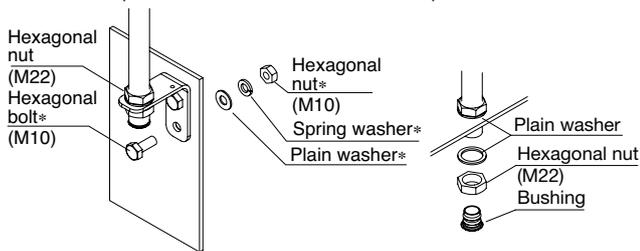
The parts marked with ∗ are not supplied and should be prepared by the user. The screw size depends on the L-shaped bracket size, as shown below.

　　When using LD6A-□K□Q□-****** => M10
　　When using LD6A-□K□Q□1-****** => M8

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 N·m.

Insert flat screwdriver into recess
① ② ③
Top Cap
Recess
LED module
Recess
Packing
Recess
Recess
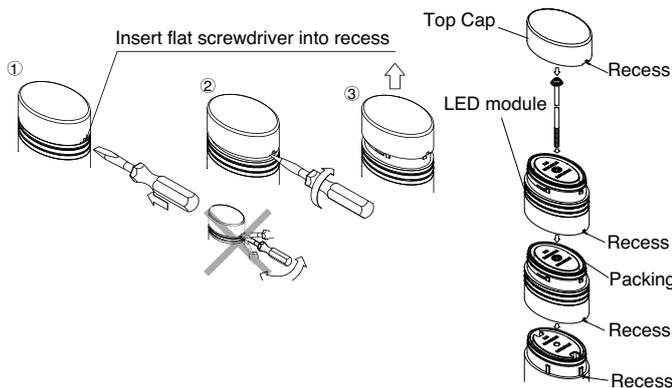
- Note the correct orientation when assembling the LED modules.
- Tighten the screws to the recommended tightening torque. The LED module may be damaged if the screw is loose during operation.
- Do not touch the metal plug on the LED module. Otherwise, LED elements maybe damaged due to static electricity.
- 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 pages 9 and 10.
- 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 pages 9 and 10.
- 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 page 6.

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.

Sound volume adjustment lever
VOL
Min.   Max.
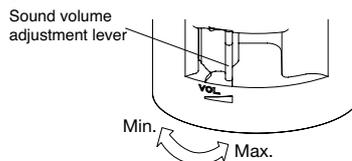
Highest Temperature Limitations

The highest temperature is limited to 50ºC 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)

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