Switches & Pilot Lights

Signaling Lights

Relays & Sockets

Timers

Contactors

Terminal Blocks

Circuit Breakers

LH Series Surface Mount Indicators

**Innovative indicators in a slim & stylish design.
Reduces installation space.**

Key features of the LH series include:

- Direct mounting on surfaces such as panels, aluminum frames, and walls.
- Surface mount style does not affect the placement of other components. Requires only a small space behind the mounting surface for screws and nuts.
- Slim design well suited for installation in small spaces.
- Direct cable wiring style ensures waterproof characteristics. 1m, 3m, and 5m cables available.
- IP67, Type 4X
- Excellent visibility from the front and from the side.
- Legends and symbols can be printed on marking film to customize flat type.
- Red/Green two-color alternate illumination available.
- Three-color alternate illumination available with jumbo-dome models.
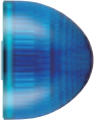- Jumbo dome models available with connector.

Part Numbers

Style	Cable	Part No.
Dome ø37 One Color	1m	LH1D-D2HQ4C10-①
	3m	LH1D-D2HQ4C30-①
	5m	LH1D-D2HQ4C50-①
Dome ø37 Red/Green 2-color Alternate	1m	LH1D-D2HQ4C10-RG
	3m	LH1D-D2HQ4C30-RG
	5m	LH1D-D2HQ4C50-RG
Flat One Color Full	1m	LH1D-H2HQ4C10-①
	3m	LH1D-H2HQ4C30-①
	5m	LH1D-H2HQ4C50-①
Flat Red/Green 2-color Alternate	1m	LH1D-H2HQ4C10-RG
	3m	LH1D-H2HQ4C30-RG
	5m	LH1D-H2HQ4C50-RG

Style	Connections		Part No.
Jumbo Dome (one color)	Cable	1m	LH1D-D3HQ4C10-②
		3m	LH1D-D3HQ4C30-②
		5m	LH1D-D3HQ4C50-②
	Connector		LH1D-D3HQ4CN1-②
Jumbo Dome (two color)	Cable	1m	LH1D-D3HQ4C10-③
		3m	LH1D-D3HQ4C30-③
		5m	LH1D-D3HQ4C50-③
	Connector		LH1D-D3HQ4CN1-③
Jumbo Dome (three color)	Cable	1m	LH1D-D3HQ4C10-④
		3m	LH1D-D3HQ4C30-④
		5m	LH1D-D3HQ4C50-④
	Connector		LH1D-D3HQ4CN1-④

1. Specify a color code in place of ① in the Part No.: **A**: amber, **G**: green, **PW**: cool white, **R**: red, **S**: blue, **W**: warm white, **Y**: yellow
2. Specify a color code in place of ② in the Part No.: **A**: amber, **G**: green, **R**: red, **S**: blue, **W**: warm white, **Y**: yellow
3. Specify a color code in place of ③ in the Part No.: **AG**: amber/green, **AW**: amber/warm white, **APW**: amber/cool white, **RG**: red/green, **RW**: red/warm white, **RPW**: red/cool white, **GW**: green/warm white, **GPW**: green/cool white
4. Specify a color code in place of ④ in the Part No.: **RGW**: red/green/warm white, **RGPW**: red/green/cool white
5. **RG**: R (red) / G (green) 2-color alternate illumination
Note: Dual- and tri-color units use a white lens.

Replacement Parts

Style	Material	Part Number	② Lens Color
Lens (flat)	Polyarylate	LH9Z-1DLH2-①	For flat lens. Specify a color code in place of ① in the Part No. A: amber G: green C: clear R: red S: blue Y: yellow Note: Use C (clear) lens for R/G (red/green alternate), W (warm white), or PW (cool white) illumination.
Lens (jumbo dome)	Polycarbonate	HW1A-P5②	For jumbo dome lens. Specify a color code in place of ② in the Part No. A: amber G: green R: red S: blue W: white Y: yellow Note: Dual- and tri-color units use a white lens.

LH Specifications

Applicable Standards	IEC 60947-1, IEC 60947-5-1, EN 60598-2-1, EN 60947-5-1 UL508, CSA C22.2 No.14
Operating Temperature	−20 to +55°C (no freezing)
Operating Humidity	45 to 85% RH (no condensation)
Storage Temperature	−30 to +80°C (no freezing)
Impulse Withstand Voltage (illuminating part)	800V
Insulation Resistance	Between live and dead parts: 100 MΩ minimum
Dielectric Strength	Between live and dead parts: 2000V, 50/60Hz , 1 minute
Pollution Degree	3
Vibration Resistance	60m/s^2, 5 to 55 Hz, amplitude 0.5 mm
Shock Resistance	1000m/s^2
Cable Tensile Strength	90N minimum
Degree of Protection	IP67, Type 4X
Housing Color	Black
Cable	24 AWG 2-core (one-color) 3-core (2-color alternate) 4-core (3-color alternate)
Cable Outside Diameter	ø4.1mm
Allowable Cable Bending Radius	24.6mm minimum
Weight (1m cable)	50g (dome type, flat type) 140g (jumbo dome type)

Standards

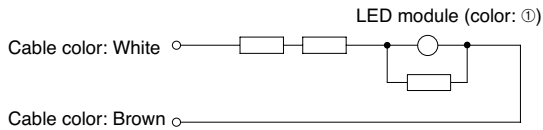| Standards	Marks	File No. or Organization
EN 60598-2-1	TÜV	TÜV SÜD
EN 60598-2-1 EN 60947-5-1	CE	EC Low Voltage Directive
UL508	c(UL)us	UL, cUL

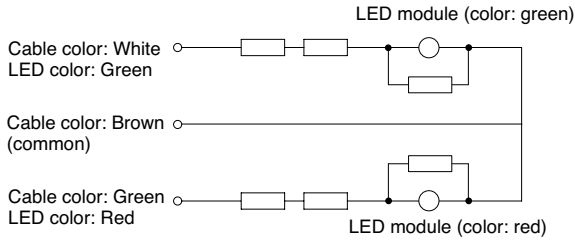ℹ️ LH series surface mount indicators are approved by TÜV as class III lighting fixtures.

Specifications

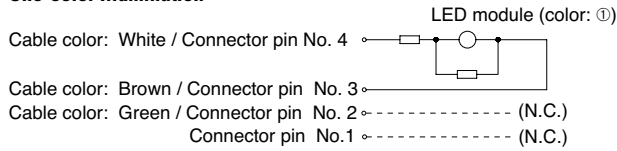|	
Rated Insulation Voltage (Ui)	32V
Rated Voltage	24V AC/DC
Operating Voltage Range	24V AC/DC ±10%
Rated Current	17 mA
Maximum Power/Current	0.6W (25 mA)
Illumination Color	A (amber), G (green), PW (cool white), R (red), S (blue), W (warm white), Y (yellow) R (red) /G (green) alternate
LED Lamp Life	Approx. 50,000 hours (When used on complete DC at 25°C, brightness reduces to 50% of the initial intensity.)

Signaling Lights

Switches & Pilot Lights

Signaling Lights

Relays & Sockets

Timers

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Terminal Blocks

Circuit Breakers

Internal Circuit
One-color Illumination (Dome)

LED module (color: ①)

Cable color: White

Cable color: Brown

Two-color
(Dome)

LED module (color: green)

Cable color: White
LED color: Green

Cable color: Brown
(common)

Cable color: Green
LED color: Red

LED module (color: red)

Internal Circuit
One-color Illumination

LED module (color: ①)

Cable color: White / Connector pin No. 4

Cable color: Brown / Connector pin No. 3
Cable color: Green / Connector pin No. 2 — — — — — — — (N.C.)
Connector pin No.1 — — — — — — — (N.C.)

Two-color Alternate Illumination

LED module (color: ①)

Cable color: White / Connector pin No. 4

LED module (color: ②)

Cable color: Green / Connector pin No. 2

Cable color: Brown / Connector pin No. 3
Connector pin No. 1 — — — — — — — (N.C.)

Three-color Alternate Illumination

LED module (color: ①)

Cable color: White / Connector pin No. 4

LED module (color: ②)

Cable color: Green / Connector pin No. 2

LED module (color: ③)

Cable color: Yellow / Connector pin No. 1

Cable color: Brown / Connector pin No. 3
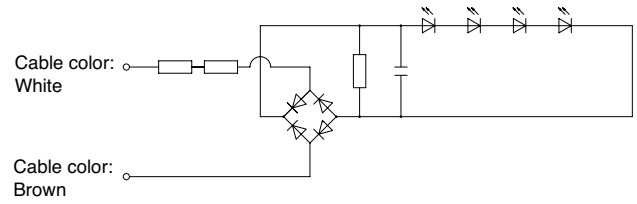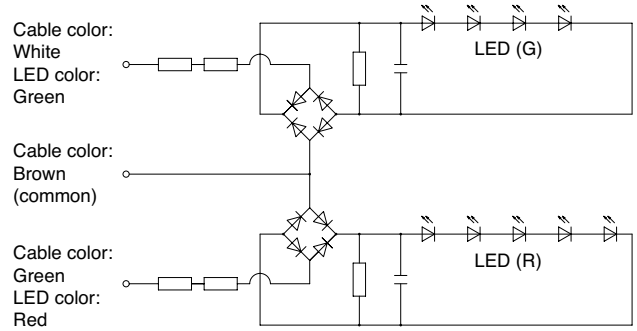
Note: For the schematic of the LED module, see "LED Module Internal Circuit" on the right.
N.C. means No connection

One-color Illumination (Flat)

Cable color: White

Cable color: Brown

(Flat)

Cable color: White
LED color: Green

LED (G)

Cable color: Brown
(common)

Cable color: Green
LED color: Red

LED (R)

Lens Colors

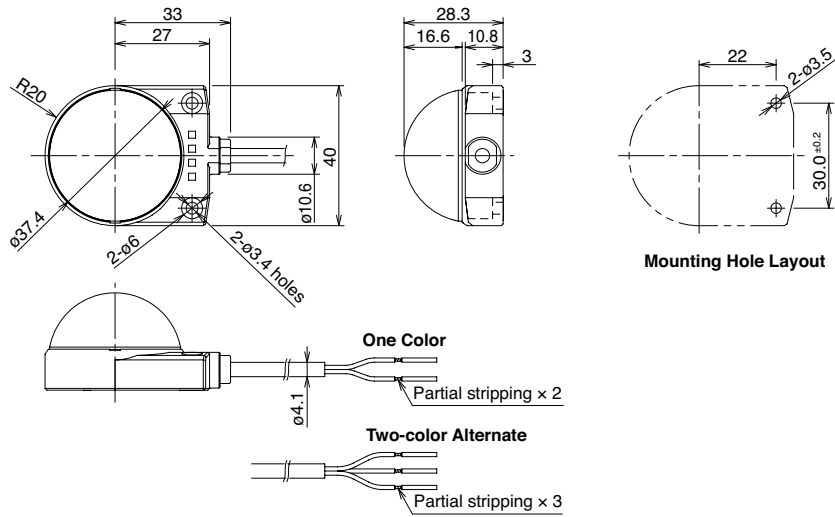| Illumination Type		Illumination Color	White Lens Color
Dome/Flat	One Color	Amber	Amber
		Blue	Blue
		Green	Green
		Cool White	Clear (Note)
		Red	Red
		Warm White	Clear (Note)
		Yellow	Yellow
	Two-color Alternate	Red/Green	Clear (Note)
Jumbo Dome	One Color	Amber	Amber
		Green	Green
		Red	Red
		Blue	Blue
		White	White
		Yellow	Yellow
	Two-color Alternate	Red/Green	White
		Green/White	White
		Red/White	White
		Amber/Green	White
		Amber/White	White
		Red/Pure White	White
		Green/Pure White	White
		Amber/Pure White	White
	Three-color Alternate	Red/Green/White	White
		Red/Green/Pure White	White

Resistor

LED Chip

Rectifying Diode

Zener Diode
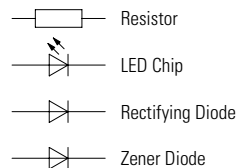
Note: Because lenses have a white diffusion cover inside, cool white, warm white, and red/green types look white when the light is off.
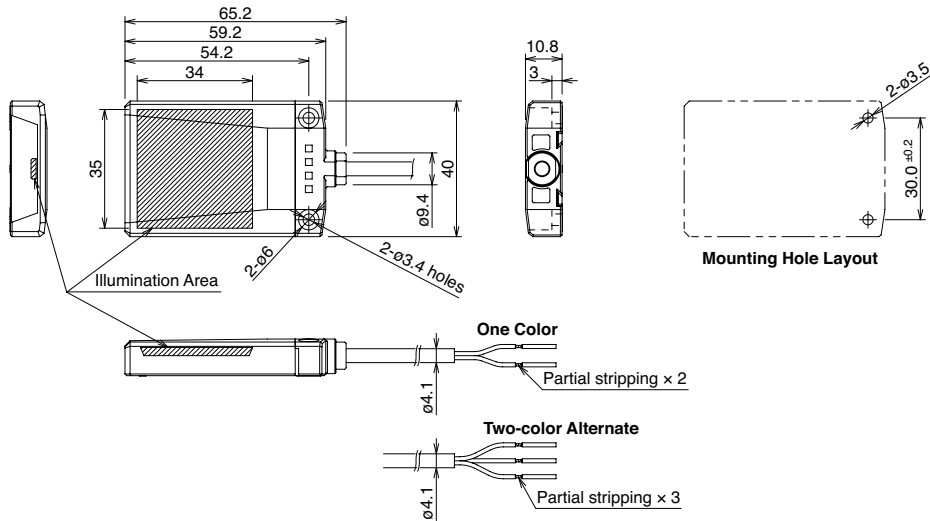
IDEC

1607302105
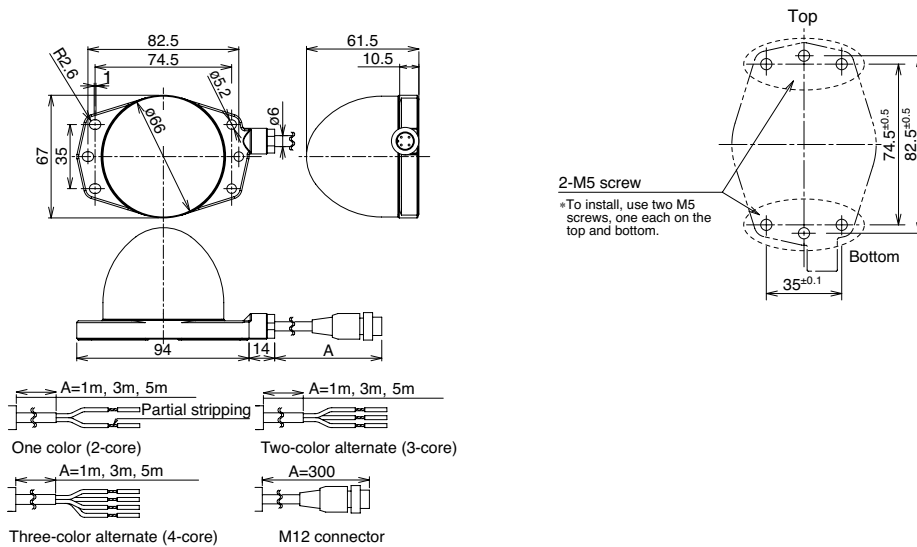
Dimensions (mm)

Dome

Not to scale.

Mounting Hole Layout

One Color

Partial stripping × 2

Two-color Alternate

Partial stripping × 3

Flat

Illumination Area

Mounting Hole Layout

One Color

Partial stripping × 2

Two-color Alternate

Partial stripping × 3

Jumbo Dome

Top

2-M5 screw

∗To install, use two M5 screws, one each on the top and bottom.

Bottom

A=1m, 3m, 5m
Partial stripping
One color (2-core)

A=1m, 3m, 5m
Two-color alternate (3-core)

A=1m, 3m, 5m
Three-color alternate (4-core)

A=300
M12 connector

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Circuit Breakers

Instructions

Panel Mounting

Using two M3 screws, install the LH indicator to a mounting surface. Tighten the screws to a torque of 0.6 N·m maximum. Mounting screws are not provided and must be supplied by the user.
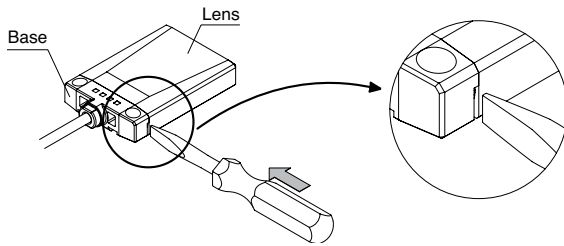
Lens

Housing

M3 Screws

Lens

Housing

M3 Screws
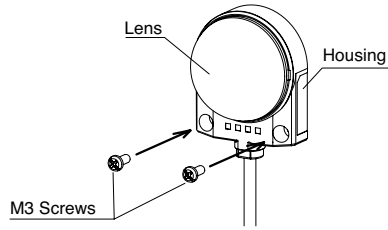
Note: The standard dome lens is not removable. Do not attempt to remove or damage may occur. However, the jumbo dome lens is removable and replaceable.
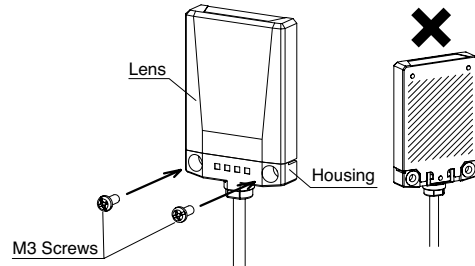
Note 1: Do not install the LH indicator by attaching the lens only, such as by taping down on the lens as the internal components may come loose.
Note 2: Make sure that the back of the indicator is securely attached to the mounting surface so that the lens cannot be easily removed.

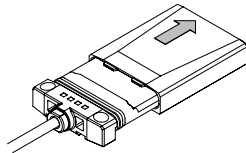## Inserting Marking Film into Flat Type Lens

1. Insert a flat screwdriver into the groove between the base and lens.
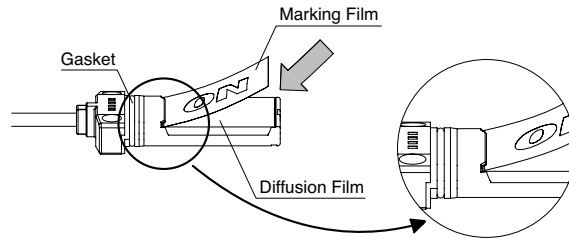
Base

Lens

2. Twist the screwdriver and disengage the lens from the base.
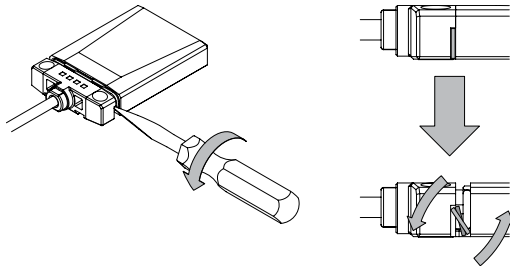
3. Remove the lens from the base.

4. Insert the edge of a marking film into the gap between the base and the diffusion plate, and place the marking film on top of the diffusion plate.

Marking Film

Gasket

Diffusion Film

5. Replace the lens. Ensure that the lens is installed snugly.

No gap

Lens installed on the base snugly.
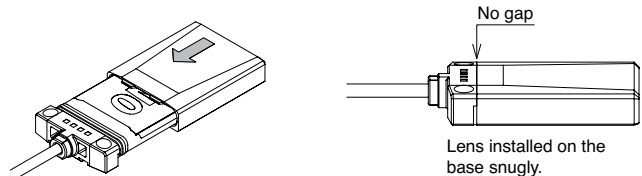
Note 1: Do not touch the gasket, as this may affect its waterproof characteristics.
Note 2: Do not touch the diffusion plate.

Markings

Legends and symbols can be printed on marking film that can be used with the flat lens. One 0.1mm-thick film can be inserted.

Marking films are not inlcuded and must be supplied by the user.

Recommended marking film: Polyester

□35 mm

Thickness: = 0.1 mm
Marking Area (□33 mm)