

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.




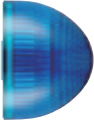
Part Numbers

Style	Cable	Part No.
 Dome ø37 One Color	1m	LH1D-D2HQ4C10-Ⓞ
	3m	LH1D-D2HQ4C30-Ⓞ
	5m	LH1D-D2HQ4C50-Ⓞ
 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-Ⓞ
	3m	LH1D-H2HQ4C30-Ⓞ
	5m	LH1D-H2HQ4C50-Ⓞ
 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-Ⓞ
		3m	LH1D-D3HQ4C30-Ⓞ
		5m	LH1D-D3HQ4C50-Ⓞ
	Connector	LH1D-D3HQ4CN1-Ⓞ	
 Jumbo Dome (two color)	Cable	1m	LH1D-D3HQ4C10-Ⓞ
		3m	LH1D-D3HQ4C30-Ⓞ
		5m	LH1D-D3HQ4C50-Ⓞ
	Connector	LH1D-D3HQ4CN1-Ⓞ	
 Jumbo Dome (three color)	Cable	1m	LH1D-D3HQ4C10-Ⓞ
		3m	LH1D-D3HQ4C30-Ⓞ
		5m	LH1D-D3HQ4C50-Ⓞ
	Connector	LH1D-D3HQ4CN1-Ⓞ	

1. Specify a color code in place of Ⓞ 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 Ⓞ 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 Ⓞ 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 Ⓞ 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 <sup>2</sup> , 5 to 55 Hz, amplitude 0.5 mm
Shock Resistance	1000m/s <sup>2</sup>
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 SÜD
EN 60598-2-1 EN 60947-5-1		EC Low Voltage Directive
UL508		UL, cUL

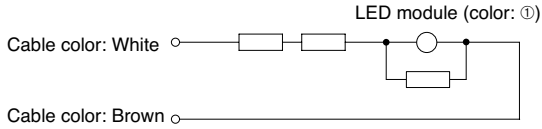


LH series surface mount indicators are approved by TÜV as class III lighting fixtures.

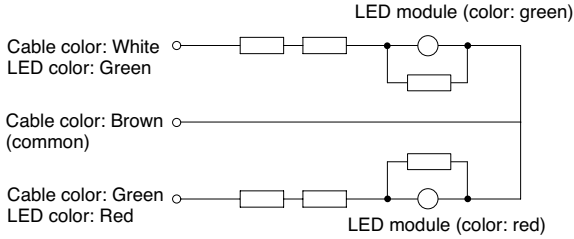
## Specifications

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.)

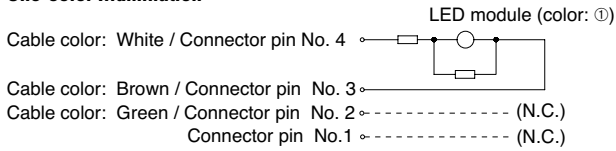
### Internal Circuit One-color Illumination (Dome)



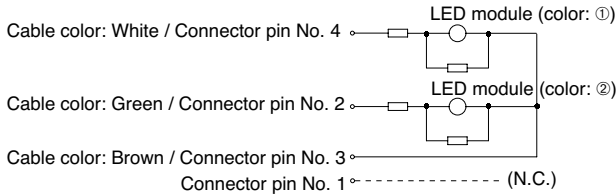
### Two-color (Dome)



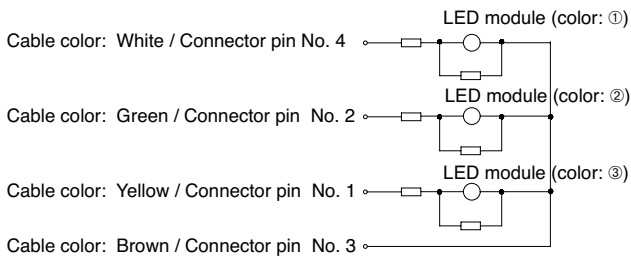
### Internal Circuit One-color Illumination



### Two-color Alternate Illumination

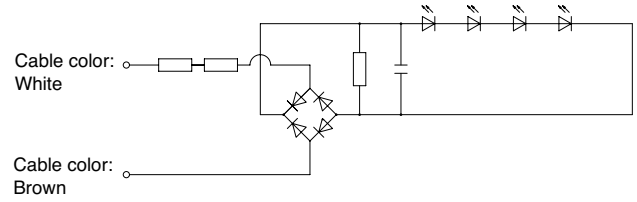


### Three-color Alternate Illumination

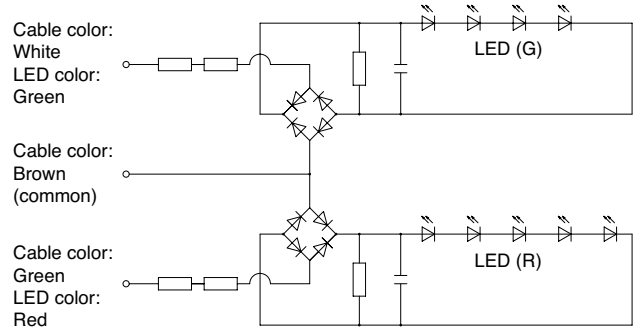


Note: For the schematic of the LED module, see "LED Module Internal Circuit" on the right.  
N.C. means No connection

### One-color Illumination (Flat)

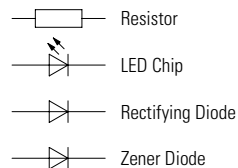


### (Flat)



### 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
	Red/Green/Pure White	White	

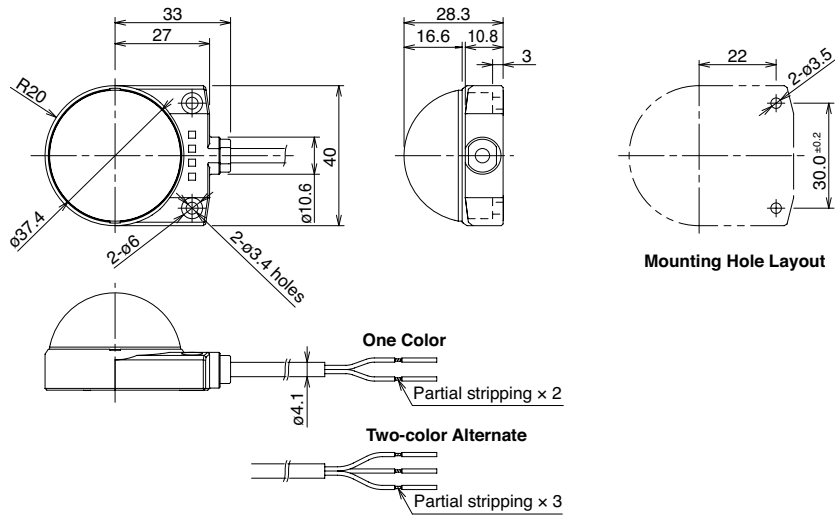


Note: Because lenses have a white diffusion cover inside, cool white, warm white, and red/green types look white when the light is off.

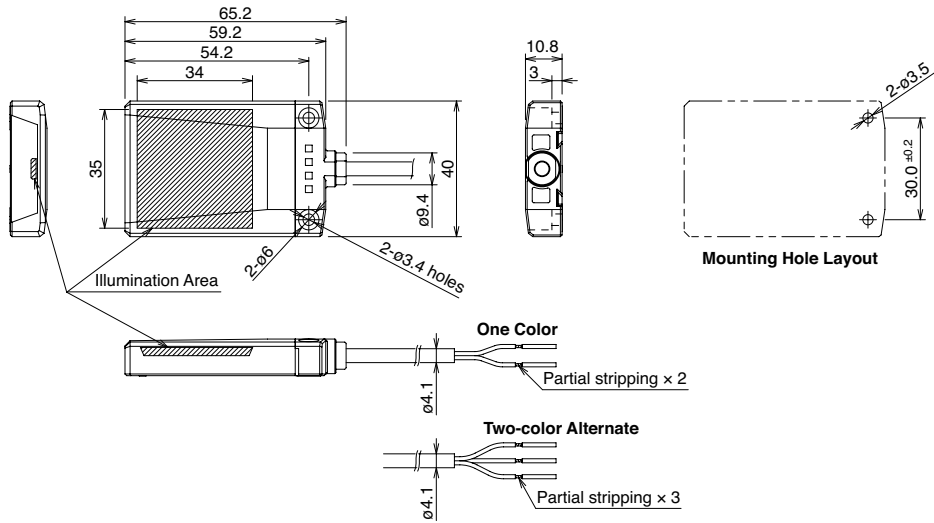
## Dimensions (mm)

### Dome

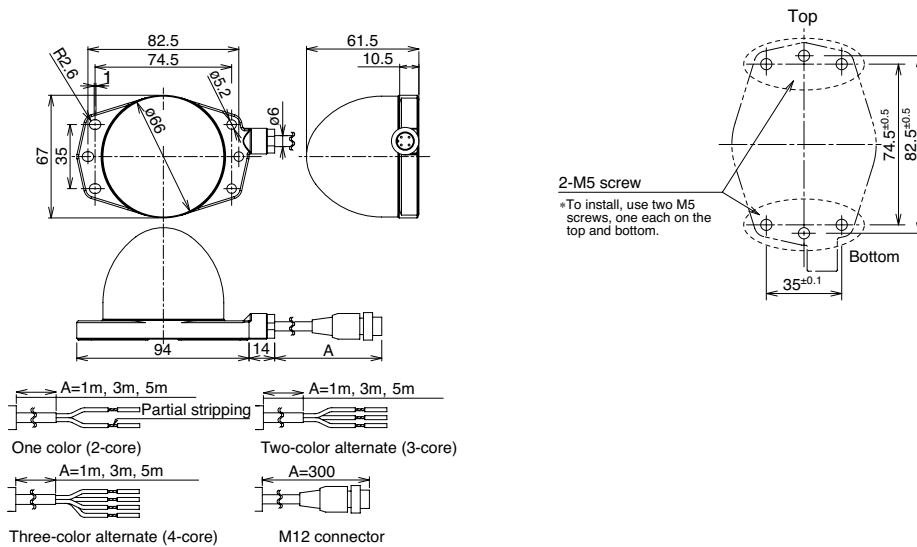
Not to scale.



### Flat



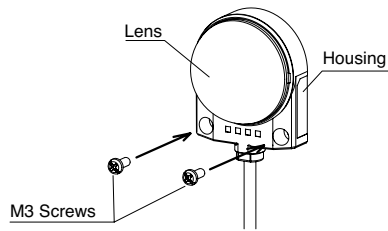
### Jumbo Dome



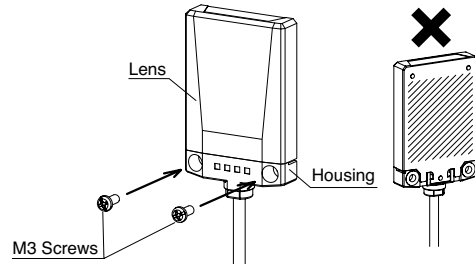
## Instructions

## 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.



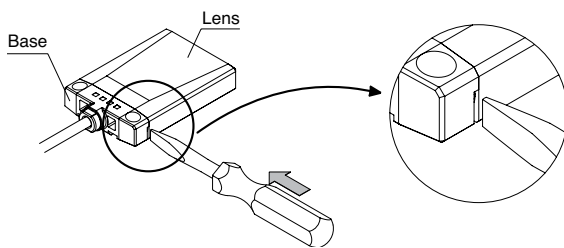
Note: The standard dome lens is not removable. Do not attempt to remove or damage may occur. However, the jumbo dome lens is removable and replaceable.



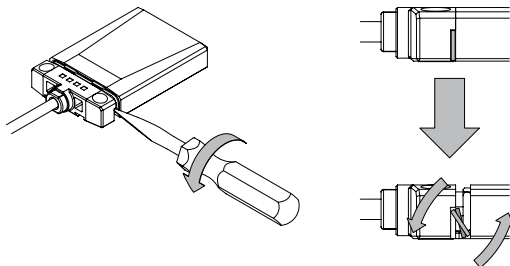
Note 1: Do not install the LH indicator by attaching the lens only, such as by taping down on the lens as the internal components may come loose.  
Note 2: Make sure that the back of the indicator is securely attached to the mounting surface so that the lens cannot be easily removed.

## Inserting Marking Film into Flat Type Lens

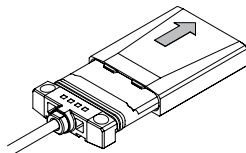
1. Insert a flat screwdriver into the groove between the base and lens.



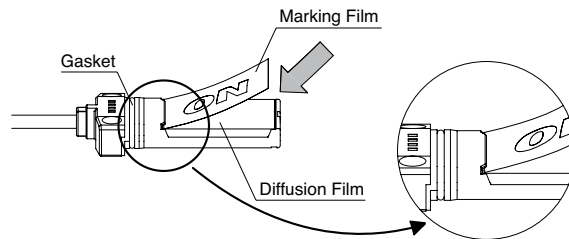
2. Twist the screwdriver and disengage the lens from the base.



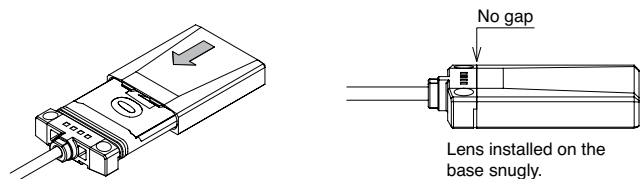
3. Remove the lens from the base.



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.



5. Replace the lens. Ensure that the lens is installed 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 included and must be supplied by the user.

Recommended marking film: Polyester

