

LED Indicator Lights

KRE-300 Series



■ Features

- Greater brightness obtained by adding a lens with knurling. (KRE-316/322)
- Wide angle of visibility, clearly seen from the side when lit.
- Five identically shaped types from diameter $\phi 8 \sim \phi 22$.
- Dome (A types) • Round flat (F types) are the protection structure of protection against dust and water (IP65).
- Because it is a new circuit method, tolerance of the inductivity and tolerance of a noise are strengthened than a conventional product.
- KRE-316 • 322 are the terminal protection cover can be attached. (Optional)
- RoHS directive compliant (12V: R2 noncompliant)

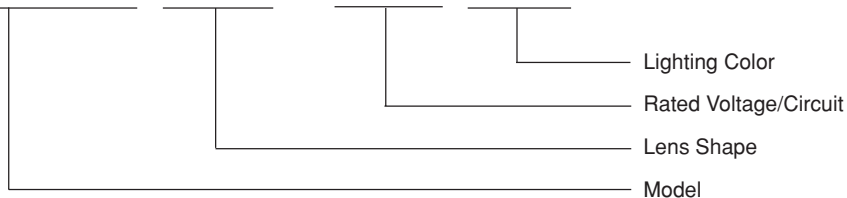


NOTICE

- The lens and LED of the KRE-308 • 310 • 312 series are not replaceable.
- Solder the KRE-308 • 310 • 312 at a soldering iron temperature of 270 degrees or less, for under 5 seconds.
- The LED works on a few mill amperes. Accordingly, when used in a circuit with induced or leakage current, the LED may be unintentionally lit. To prevent this error, insert a resistor in parallel across the indicator terminals.
- The KRE-316A-F/KRE-322A-F have an IP65 protective construction, but when the lens was removed at LED light source replacement, check that the internal O-ring has not fallen out and is fit tightly to the round holder when the lens is retightened. If a lens with missing internal O-ring or is not fit tightly to the round holder, IP65 performance cannot be maintained.

Model Designation

KRE - ※1 - ※2 - ※3 - ※4



Lighting Color

Rated Voltage/Circuit

Lens Shape

Model

Note: The bezel color is black.

KRE-308, KRE-310, KRE-312

※1

Model Name	Mounting Hole
308	φ 8.1
310	φ 10.1
312	φ 12.1

※2

Code	Lens Shape
A	Dome
F	Round flat
Q	Square

※3

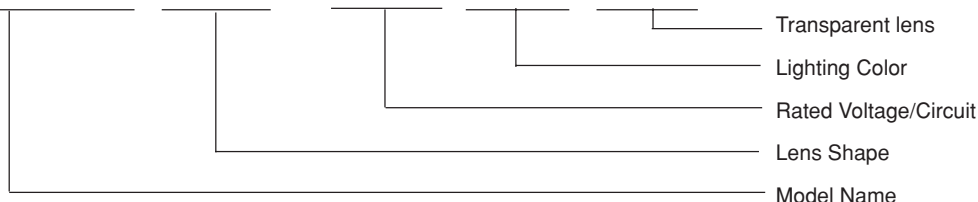
Code	Rated Voltage	Circuit Type
R2	12V DC	Resistor type
R4	24V DC	

Production on orders

※4

Code	Lens Color
W	Milky white
R	Red
G	Green
O	Orange
Y	Yellow

KRE - ※1 - ※2 - ※3 - ※4 - ※5



Transparent lens

Lighting Color

Rated Voltage/Circuit

Lens Shape

Model Name

KRE-316, KRE-322

※1

Code	Mounting Hole
316	φ 16.2
322	φ 22.3

※2

Code	Lens Shape
A	Dome
F	Round flat
Q	Square
H	Rectangle
CA	circular type
CF	circular flat type

※3

Code	Rated Voltage
2	12V AC/DC
4	24V AC/DC
6	48V AC/DC
8	100V/110V AC/DC
G	125V AC/DC
U	200V/220V AC/DC

Production on orders

※4

Code	Lens Color
HW	Milky white
HR	Red
HG	Green
HO	Orange
HY	Yellow
HB	Blue

※5

Transparent lens
—
C*
—

*Lens with knurling
CA (circular type) and CF (circular flat type).

■ Specifications

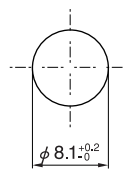
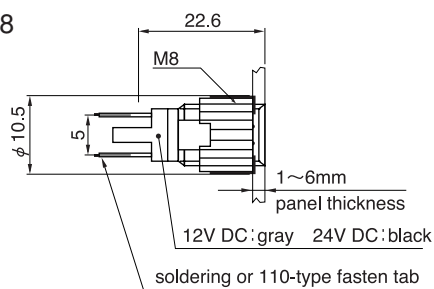
Item	Model	KRE-308	KRE-310	KRE-312	KRE-316	KRE-322
Lighting Method	Illumination by bright LED					
Rated Voltage	12V DC ±10% 24V DC ±10%				12V AC/DC, 24V, 48V (±10%) 110V AC/DC (90~121V AC/DC) 125V AC/DC (±10%) 220V AC/DC (180~242V AC/DC)	
Available LED Light Source	_____				LE-316A	
Rated Current	Approx. 10mA				4~6mA	
Insulation Resistance	100ΩW or more between live parts and ground measured by 500V DC megohmmeter					
Withstand Voltage	2000V AC for 1 minute between live parts and ground					
Heat Resistance	For 2 hours at −25°C and +55°C respectively					
Humidity Resistance	For 2 hours at 40°C and 95% RH					
Vibration Resistance	3-dimensional vibration for 1 hour with sweep time of 1 minute (double amplitude: 1.5mm, frequency: 10~55Hz)					
Shock Resistance	3-dimensional shock of 500m/s ² to 6 surfaces 5 times					
Protection Structure	Dome and flat types: Dust and water resistant (IP65) Square type: Dust and water proof (IP54)				Dome and flat types: Protection against dust and water (IP65) Square and rectangle type: Enclosed for 1.0mm object (IP40)	
Operating Enviroment	Temperature: −10~40°C, Humidity: 45~85% RH (No freezing or condensation)					
Reverse Voltage	+10% of rated voltage					
Lighting Color	Milky white, red, green, orange, yellow and Transparent					
Weight	2g	3g	4g	15g	22g	

■ Materials

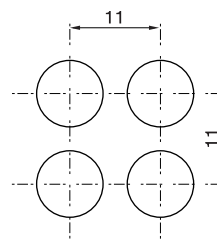
Lens Shape	Dome, round flat and square	Dome, round flat, square and rectangle
Panel Thickness	1~6mm	
Wiring	Soldering or 110 type fasten tab (+ or – display)	M3 screw fastening (+ or – display)
Bezel Color	Black	
Applicable Standards	JIS 8151 industrial pilot lamp	
Lens	Polycarbonate resin (milky white, red, green, orange, yellow and Transparent) UL94V-2	
Holder	PBT resin (black) UL94V-0	PPE resin (black) UL94V-0
Terminal Shape	Soldering or 110 type fasten tab	M3 \times 6 brass (nickel plated)
Terminal Metal	Brass (nickel-plated)	Phosphor bronze (nickel plated)
Mounting Washer	_____	Stainless steel
Mounting Nut	PPE resin (black) UL94V-0	
Terminal Cover	_____	Polycarbonate resin (LC-3) UL94HB

■ Dimensions

▼ KRE-308

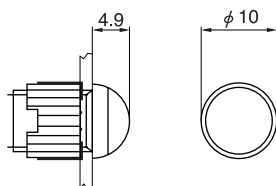


Cut-out

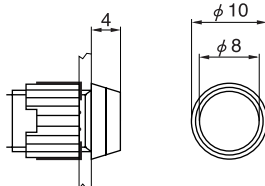


Minimum Mounting Pitch

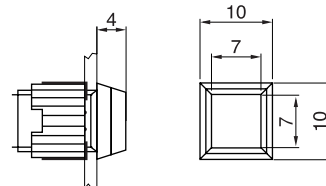
▼ KRE-308A



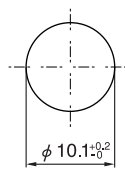
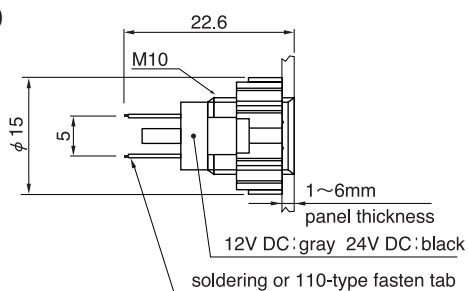
▼ KRE-308F



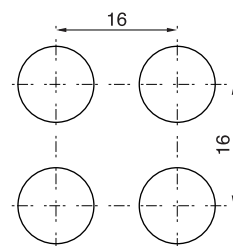
▼ KRE-308Q



▼ KRE-310

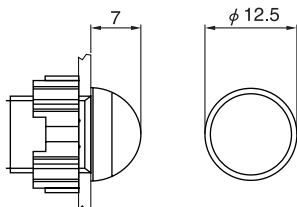


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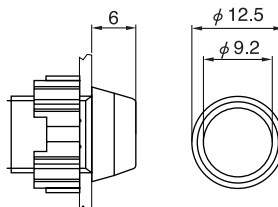


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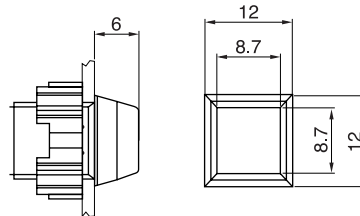
▼ KRE-310A



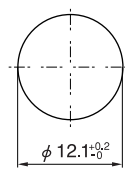
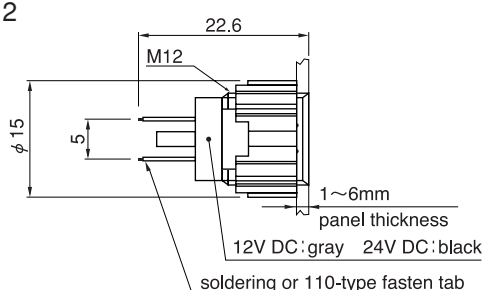
▼ KRE-310F



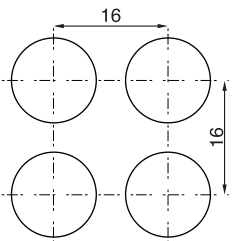
▼ KRE-310Q



▼ KRE-312

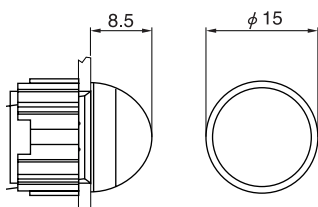


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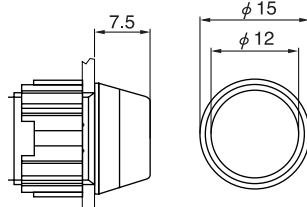


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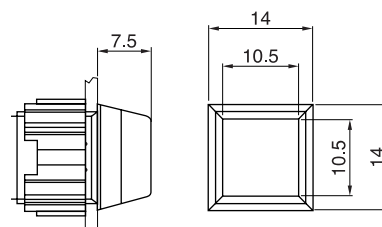
▼ KRE-312A



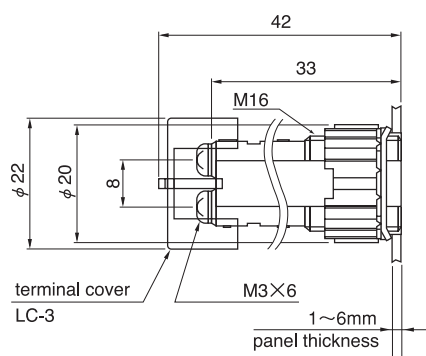
▼ KRE-312F



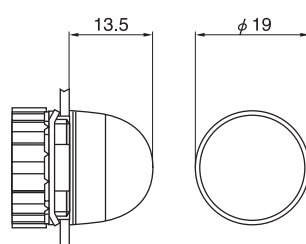
▼ KRE-312Q



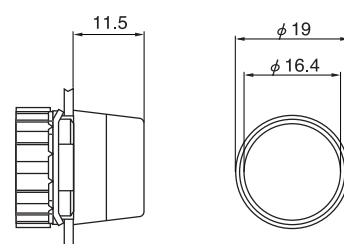
▼ KRE-316



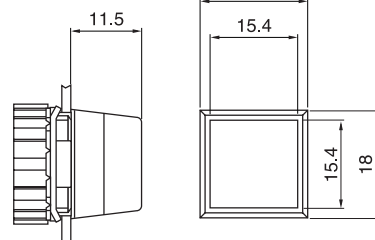
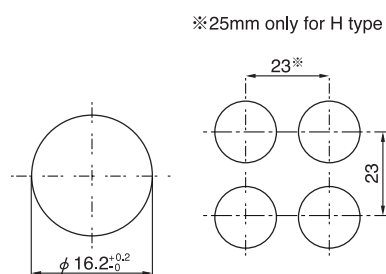
▼ KRE-316A



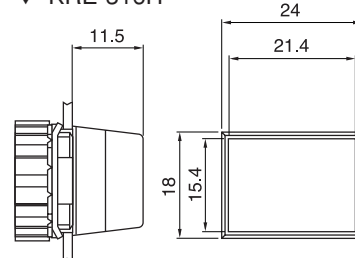
▼ KRE-316F



▼ KRE-316Q

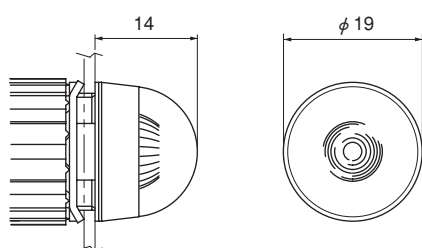


▼ KRE-316H

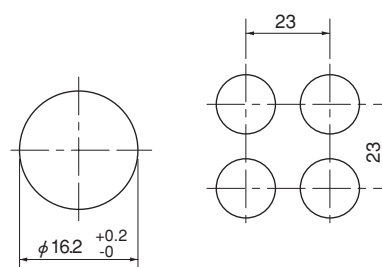
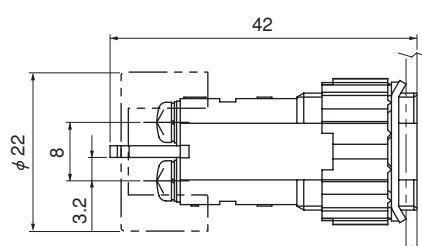
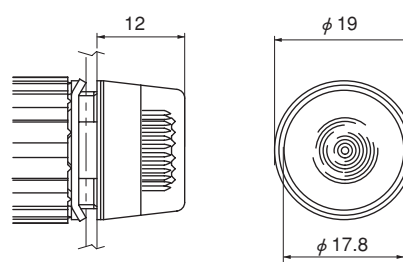


Cut-out Minimum Mounting Pitch

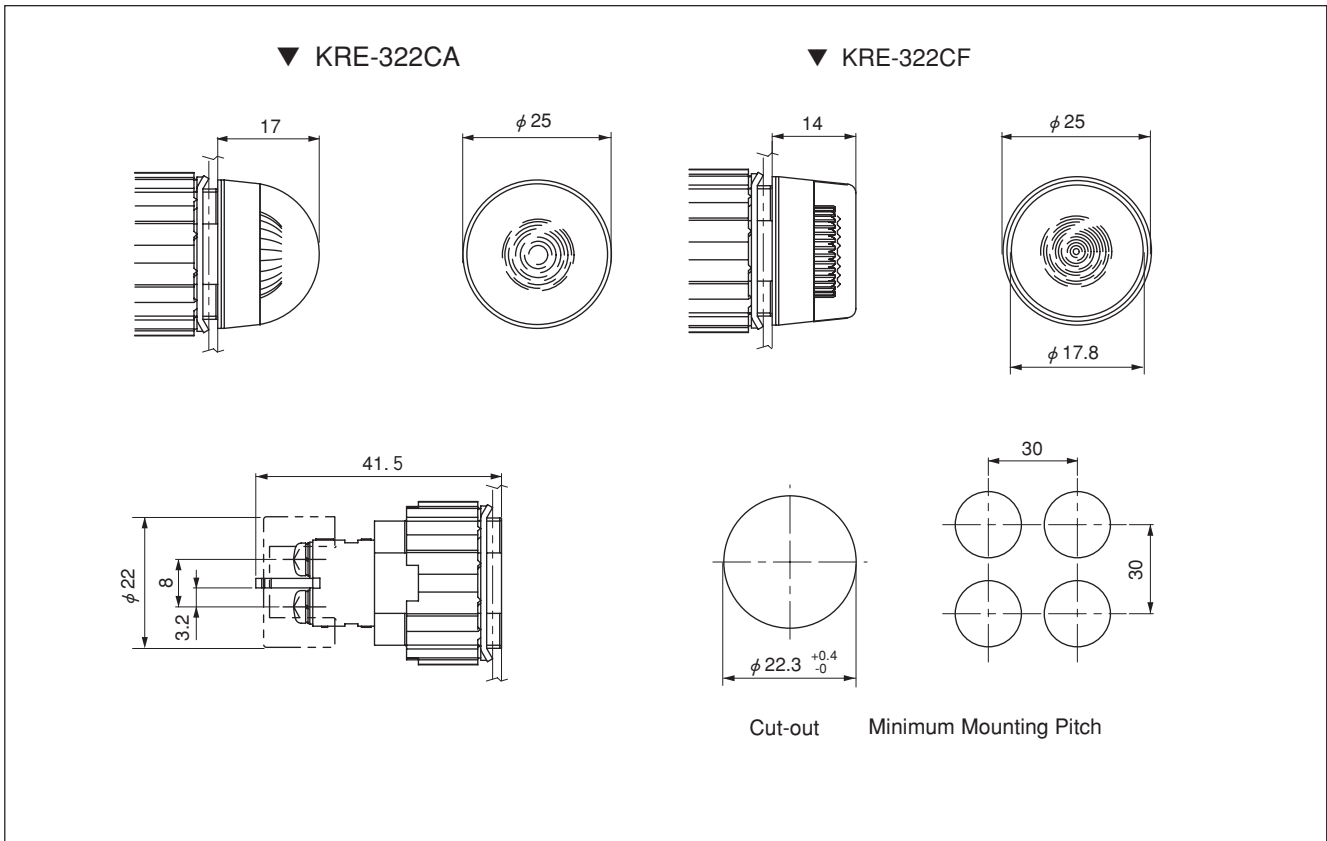
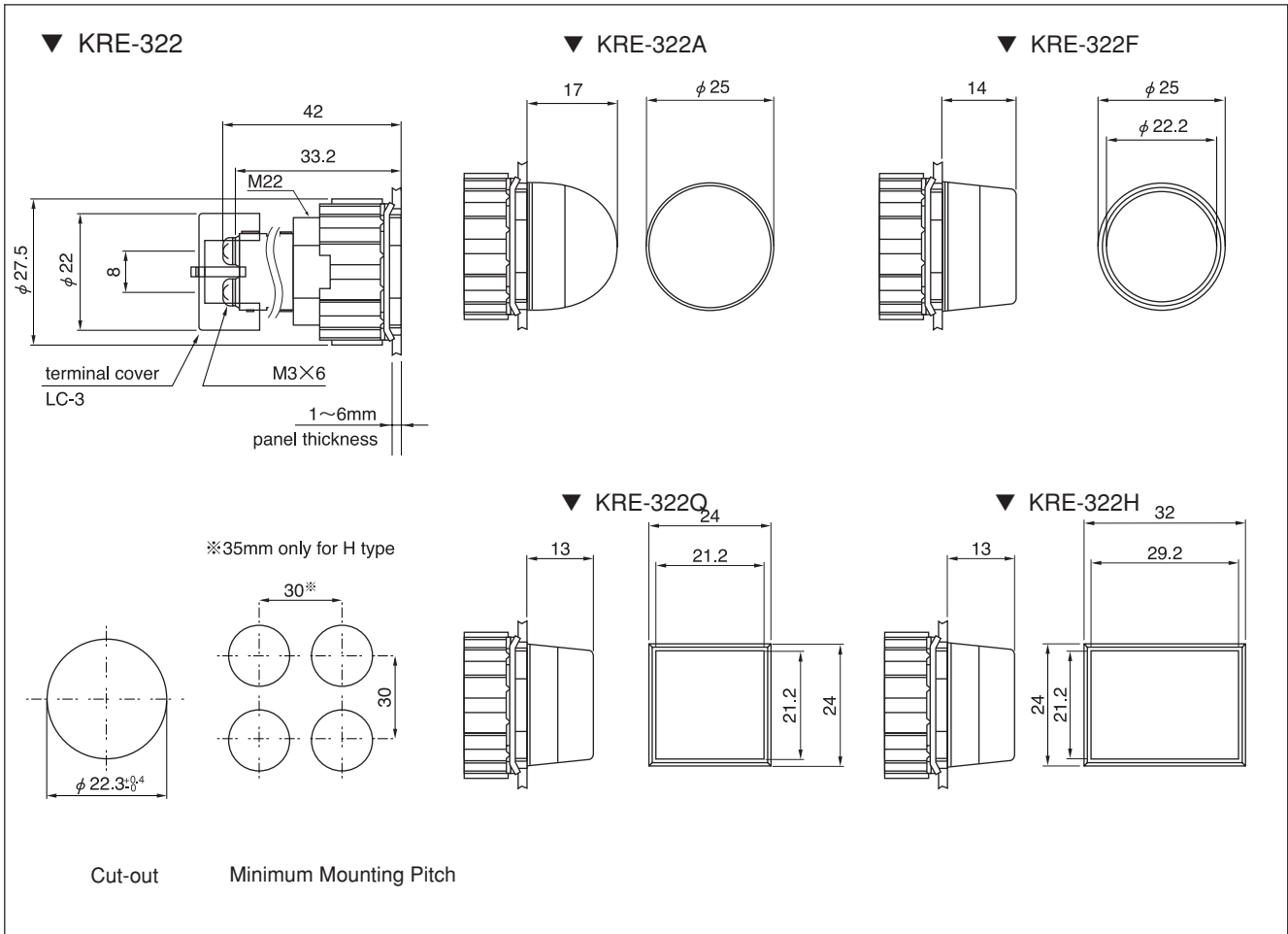
▼ KRE-316CA



▼ KRE-316CF



Cut-out Minimum Mounting Pitch

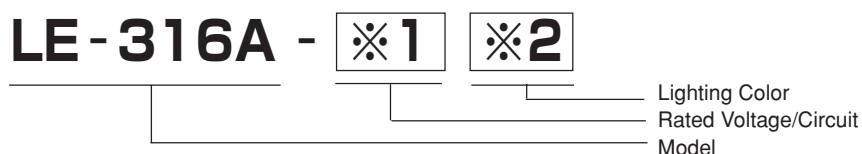


Accessories & Replacement Parts

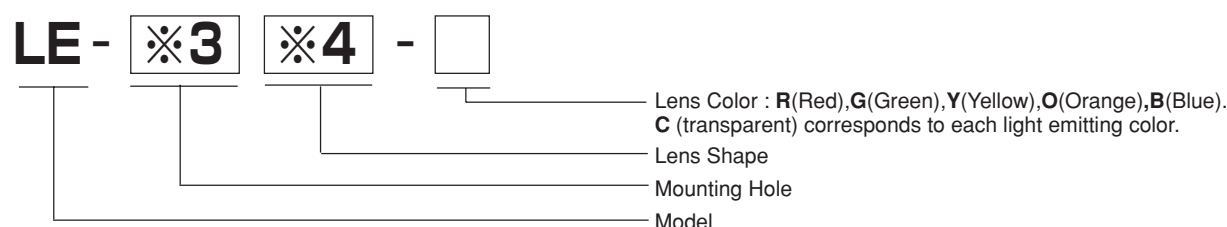
LED Unit

Model Designation

- Only the light emitting color of the lens can be changed.
- Procure the LED unit and lens separately.



Lens Designation



※1

Code	Rated Voltage
2	12V AC/DC
4	24V AC/DC
6	48V AC/DC
8	100V/110V AC/DC
G	125V AC/DC
U	200V/220V AC/DC

Production on orders

※2

Code	Lens Color	Colors of Combination Lenses
HR	Red	Red
HG	Green	Green
HY	Yellow	Milky white and Yellow
HO	Orange	Orange
HB	Blue	Blue

※3

Code	Mounting Hole
316	φ 16.2
322	φ 22.3

※4

Code	Lens Shape
A	Dome
F	Round flat
Q	Square
H	Rectangle
CA *	Circular type
CF *	Circular flat type

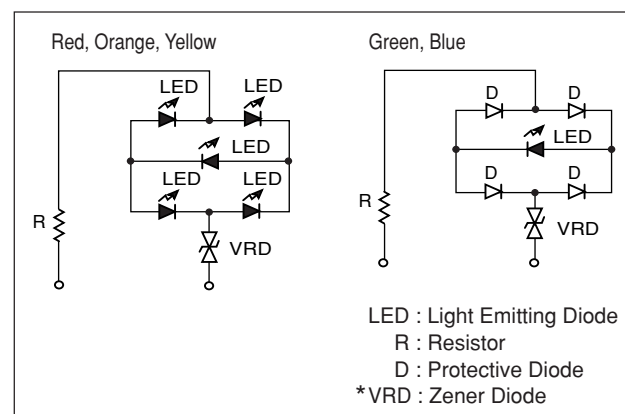
* Lens with knurling

Ratings

Rated Voltage	12V AC/DC, 24V, 48V (±10%) 100/110V AC (90 ~ 121V AC/DC) 125V AC/DC (±10%) 220V AC/DC (180 ~ 242V AC/DC)
Rated Current	4 ~ 6mA
Lighting Color	Red, green, orange, yellow, and blue

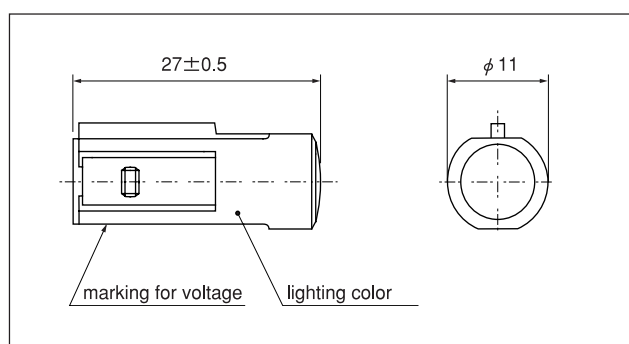
■ **Weight** 3g

Circuit Diagram



*: It builds in the Product beyond 100V.

Dimensions



■ Mounting Method

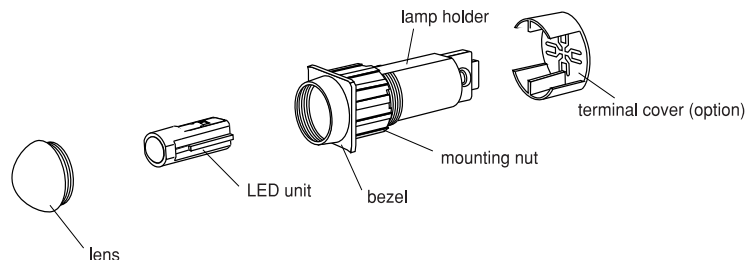
Insert the indicator from the panel surface and fasten it with mounting nuts on the back side.
Use KX-16 (for KRE-308, KRE-310 and KRE-312) or KX-18 (for KRE-316 and KRE-322) as fastening tool for mounting nuts.

Model	Recommended torque
KRE-308	0.2~0.4 N・m
KRE-310	0.3~0.5 N・m
KRE-312	0.5~0.8 N・m
KRE-316	0.8~1.1 N・m
KRE-322	1.2~2.0 N・m

■ LED Units Exchanging Method for Models KRE-316 and KRE-322

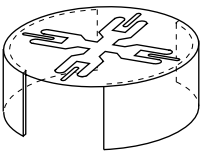
The product consists of a lens, a holder, and a LED unit.
Remove the lens and pull it towards you with LED unit exchanging tool (KX-17). To mount the LED unit, insert the key of LED unit into the key hole of the main unit. Please note that the combination of luminous color of LED unit and lens color is fixed.
Neither LED unit not lenses for models KRE-308, KRE-310 and KRE-312 can be exchanged.

Composition of Models KRE-316 and 322



Terminal Cover

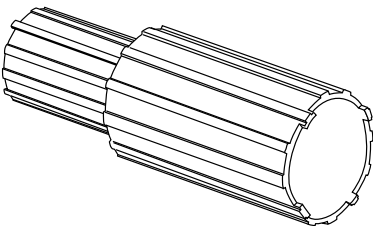
▼ LC-3 Weight approx: 1g



(KRE-316 and 322)

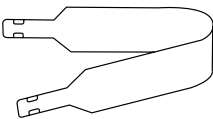
Tool

▼ KX-16 Weight: 12g



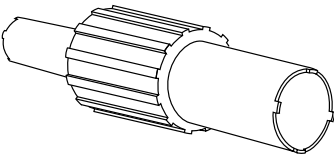
(KRE-316, KRE-322)

▼ KX-17 Weight: 2g



(KRE-316, KRE-322)

▼ KX-18 Weight: 8g



(KRE-308, KRE-312)