

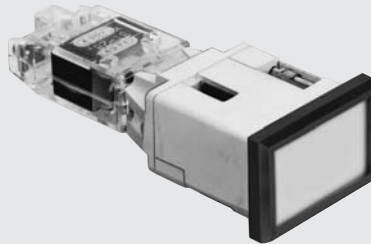
# Incandescent Square Lights

## KP/KT/KR-345

KP-345



KT-345



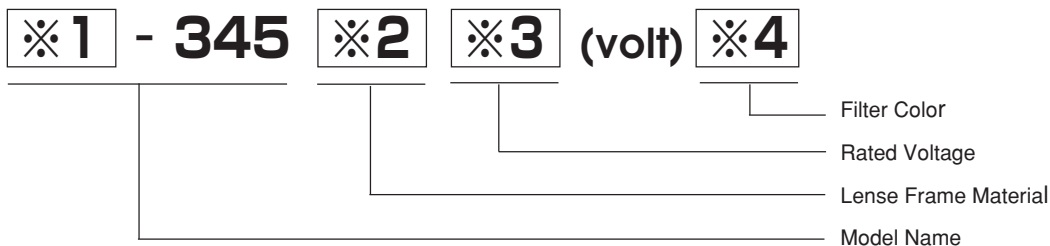
KR-345



### ■ Features

- Lamps, legend plates, and color filters can be easily mounted and replaced from the front surface of the control panel.
- Full voltage, transformer, and resistor types are available.
- Built-in transformers and resistors can be easily replaced even after being mounted on the control panel.

### ■ Model Designation



※1

Model Name	Lighting Method
KP	Full Voltage*
KT	Transformer
KR	Resistor

※2

Code	Lense Frame Material
B	Polycarbonate (black)
M	Brass (chrome plated)

※3

Rated Voltage	Model
18V, 24V, 28V, 48V, 110V	KP
100V, 110V, 200V, 220V	KT
100V, 110V	KR

※4

Code	Filter Color
W	Milky white
R	Red
G	Green
O	Orange

\* When using KP-345 at primary voltage 100 ~ 110V AC, use a 140V/5W bulb.



WARNING

- Because resistors become very hot, there is a possibility that wires or other flammable objects may catch on fire. Therefore, wires and flammable objects must be placed at least 50mm away from the resistor.
- KR-345 may be very hot when lit, or immediately after turning off. To avoid being burned, do not touch KR-345 under these circumstances.

## ■ Specifications

Model Item	KP-345	KT-345	KR-345
Lamp Voltage	110V AC, 48V DC max.	—	—
Rated Voltage	—	100V, 110V, 200V, 220V AC	100V, 110V AC/DC
Applicable Lamps	T-20 50L,140V-5W max. E-12 base*	T-14 34L, 18V, 2W E-12 base	
Insulation Resistance	100MΩ or more between live parts and ground (unit - display box) measured by 500V DC megohmmeter		
Withstand Voltage	2000V AC for 1 minute between live parts and ground (unit - display box)		
Heat Resistance	For 2 hours at −25 ±3°C and 2 hours at 55 ±3°C		
Humidity Resistance	For 96 hours at 40 ±2°C and 95% RH		
Vibration Resistance	3-dimensional vibration for 1 hour with a sweep time of 1 minute (amplitude: 0.4mm, frequency: 50Hz, and acceleration: 2G)		
Shock Resistance	3-dimensional shock of 500m/s <sup>2</sup> to 6 surfaces, 5 times		
Operating Environment	Temperature: −10~40°C, Humidity: 45~85% RH (No freezing or condensation)		
Lighting Color	Milky white, red, green, orange		
Panel Thickness	1.2~10mm		
Wiring	M3.5×8 screws (torque:1.0~1.3N·m)		M3×6 screws (torque:0.6~0.9N·m)
Weight	48g	121g	96g

\* T-14, 2W, E-12 base lamps can also be used.

## ■ Materials

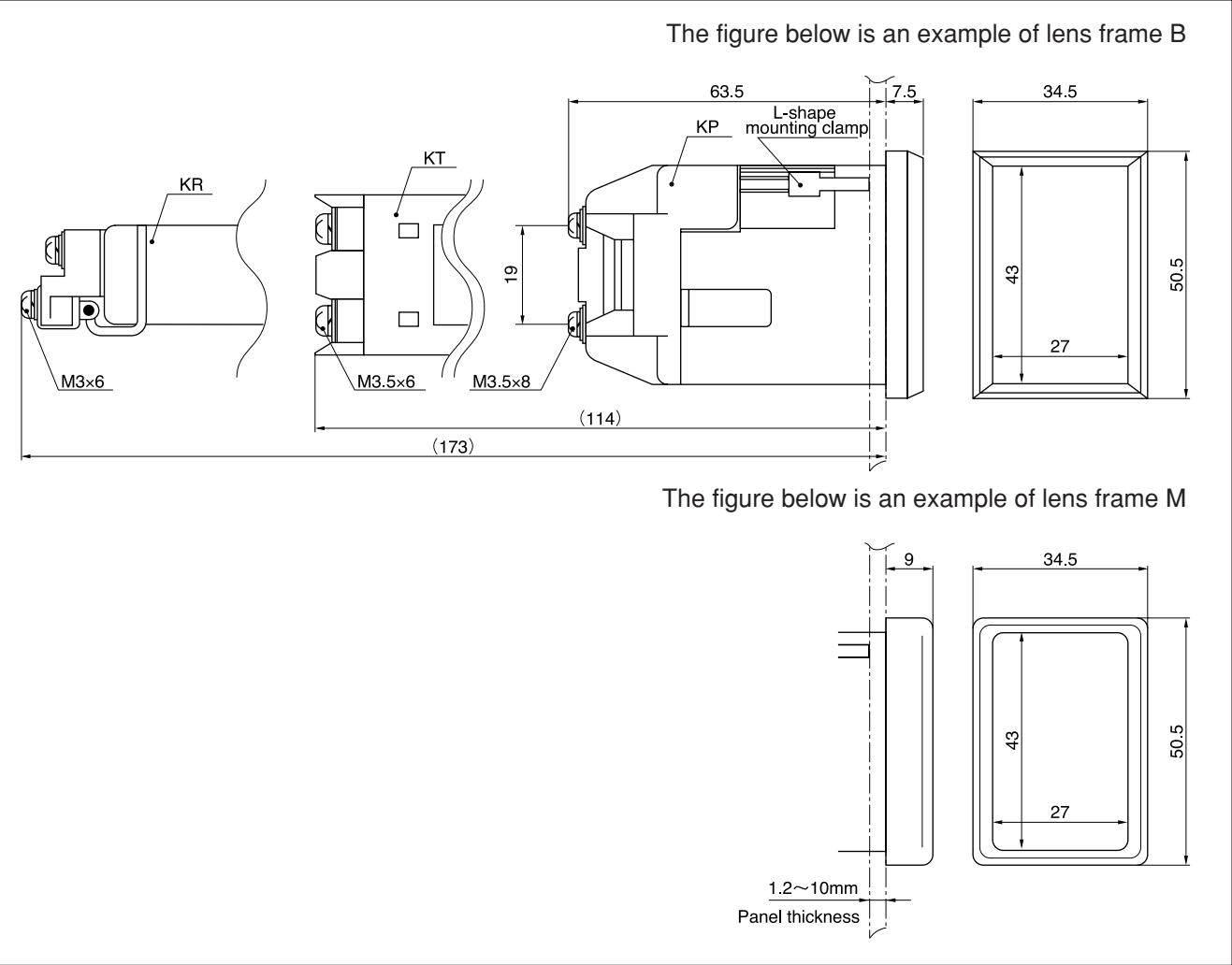
Lens	Acrylic resin		UL94HB
Legend Plate	Acrylic resin		
Filter	Acrylic resin		
Case	Noryl resin		UL94V-0
Lens Frame	B-type	Polycarbonate resin (black)	UL94HB
	M-type	Brass (chrome plated)	
Terminal Screws	Carbon steel (zinc plated with chrome treatment)		M3.5×8 or M3×6



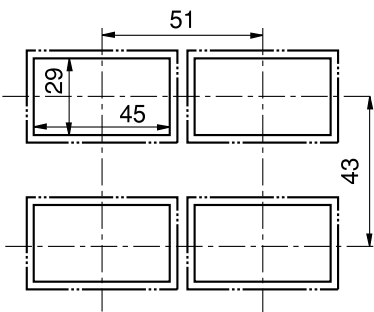
NOTICE

• Unless otherwise mentioned, all dimensions are indicated in “mm” in this book.

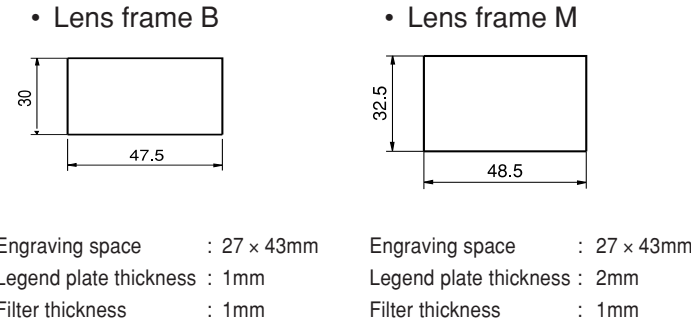
■ Dimensions



■ Panel Cut Dimensions · Minimum Pitch (unit: mm)



■ Legend Plate Color Filter Dimensions (unit: mm)

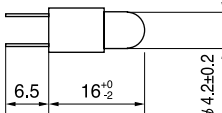
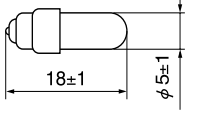
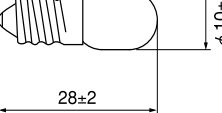
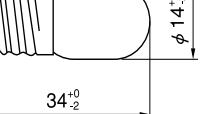
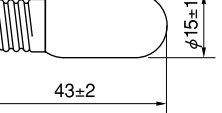




■ Mounting

Remove the lens section from the unit and then insert the unit from the front surface of the control panel. Screw tightly using the L-shaped mounting clamp inside the unit (M3 screws). Recommended torque is 0.5~0.6N·m.

## Accessories & Replacement Parts

### Applicable Bulbs

Model	Item	Applicable Model	Voltage AC / DC	Power (W)	Brightness (lm)	Average Life (hours)	Weight (g)
<b>T-4.2</b> Bi-pin base		KP-166B·F	6.3 12 18 24 28	0.6±0.09	(2.1) (2.0) (2.5) (1.6) (1.0)	5,000 10,000 2,000 10,000 10,000	0.4
<b>T-5</b> Stepped base		KP-164D·F·FL	6.3 12 18 24 28	0.6±0.09	(2.1) (2.0) (2.5) (1.6) (1.0)	5,000 10,000 2,000 10,000 10,000	0.6
<b>T-10</b> E-10 base		GP-10N KP-132 KP-142A·F·F <sub>2</sub>	18 24 28 30 48	2±0.2 2±0.2 2±0.2 2±0.2 2±0.3	(11) (6) (8) (8) (8)	2,000 5,000 2,000 2,000 1,500	1.9
<b>T-14</b> E-12 base		KT/KR-88H·N KT/KR-345 KP/KT/KR-337 KP/KT/KR-357 GP-12N	18 24 28 30 48	2±0.2 2±0.2 2±0.2 2±0.2 2±0.3	(11) (6) (8) (8) (8)	2,000 5,000 2,000 2,000 1,500	3.3
<b>T-15</b> E-12 base		KH-88H/N (for 3 bulbs)	18 24 28 48 110 140 220	2±0.2 2±0.2 2±0.2 2±0.3 5±0.6 5±0.6 5±0.6	(11) (6) (8) (8) (20) (16) (7)	2,000 5,000 2,000 1,500 1,500 1,500 1,500	4.0
<b>T-20</b> E-12 base		KH-88H/N (for 1, 2 bulbs) KP-345 KH-2011B KH-2010 KH-2100	18 24 28 48 110 140 220	2±0.2 2±0.2 2±0.2 2±0.3 5±0.6 5±0.6 5±0.6	(11) (6) (8) (8) (20) (16) (7)	2,000 5,000 2,000 1,500 1,500 1,500 1,500	4.6
<b>T-26</b> E-26 base		KH-2001A	110 220	15±1.5 15±1.8	(85) (60)	1,500 1,500	15.5

- Average Life refers to the time until the lamp filament burns out with the bulb in a stationary and vertical position. Average life may be reduced depending on the indicator size and environmental conditions.
- Longer life can be achieved by reducing bulb voltage to 80~90% of the rated voltage.
- These bulbs are not designed to be vibration-resistant.
- Coated resistors (model HS) are recommended for 100~200V DC lighting.

#### Applicable Standards

- JIS C 7801: Bulbs for testing method/JIS C 7521: Bulbs for telephone switchboard.
- JIS C 7709: Bulbs for base dimensions/JIS C 7509: Bulbs for radio panel.
- JIS C 7516: Bulbs for control panel.