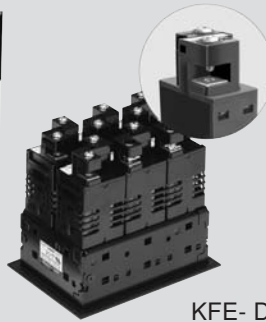


# LED Annunciator Lights

## KFE-D8/D8P Series



KFE- D8 Series



KFE- D8P Series



Point illumination

### ■ Features

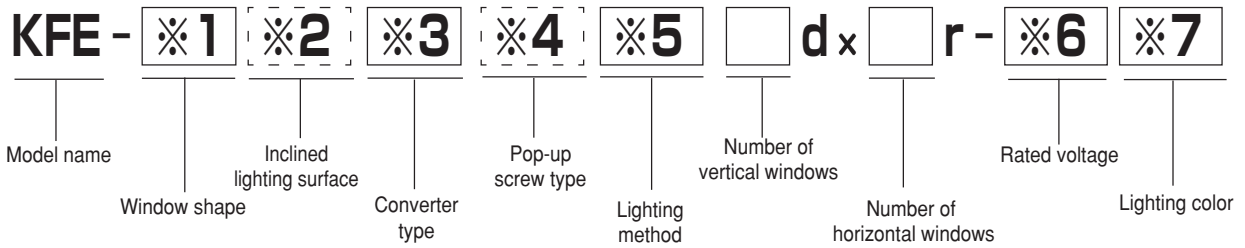
- Point brightness part 1000cd/m<sup>2</sup> or more realized in addition to high visibility point illumination system
- Terminal screw are pop-up type and wiring saving and prevention of dropping out of the screws are realized.
- The screw pop-up type D8P Series realize a shorter body by means of a finger protect construction that does not require a terminal cover.
- Offers the low cost realized by the automated production.
- Employed AlGaInP Gan LED offers vivid color and high brightness, four times at maximum as bright as those obtained by conventional technology.
- Pursuing reduced current consumption to one third or two third.
- Variety of lighting area for selection, ranging from 28 × 28mm to 38 × 78mm.
- Inclined lighting surface available for fine visibility in the special installation. (Model KFE-27E, -37E, -37H)
- Full voltage 24V AC/DC compatible, and applicable to various power sources with the separate type adapter.
- Equipped with the prevention circuits against erroneous lighting caused by induced voltage.
- Seven vivid lighting colors available: milky white, red, green, orange, yellow and white.
- The LED section is of detachable structure, which enables access for change or maintenance servicing of the lighting color from the front surface.
- Either two-split lighting left/right, or full window/two colors lighting is available with the Model KFE-27H or -37H.
- It in standard attachment about the terminal protective cover which can be detached and attached.
- Panel rear surface material has an oxygen index of 26 or more.
- Point illumination system is only 1 window total surface illumination, and there is no tilted type illumination.
- RoHS directive compliant.



#### NOTICE

- The LED works on a few mill amperes and may be unintentionally lit when used in a circuit with induced or leakage current.
- Do not use the products in excess of the ratings or specified conditions. Doing so may cause troubles.
- When multiple LED's are installed close each other and operated in continuous lighting, the maximum number of the LED's should be limited according to the generated heat. Consult with our representative.
- If the operating ambient temperature exceeds the ratings owing to any heating parts installed nearby, the product quality may be deteriorated. In such a case, take measures for a heat release.
- Be sure to turn the power OFF when wiring or replacing any LED unit. Failure to do so may cause an electric shock or a break of the unit.
- Use the dedicated tools to remove the LED units properly.
- In the state that any LED unit has been removed, do not touch inside the main body case. Doing so may cause an electric shock.
- The LED units and the attached resistors are heated to a high temperature during and immediately after lighting. Be sure to protect any part of your body from touching such heated parts.
- Use the terminal protection covers for safety in case that any part of human body may touch the terminals.
- Do not use the products under the hazardous environment with vibration, shocks, corrosive substances or dust.
- The products are designed for uses indoors. Do not use them for outdoor uses.
- Unless otherwise mentioned, the dimensions are indicated in "mm" in this book.

## Model Designation



※1	※2
Code	Pitch dimensions
27F	30 × 30mm
27H	30 × 60mm
37F	40 × 40mm
37H	40 × 80mm

- For mixed uses, designate as 27F·H.
- Point illumination is made to order part.
- Designate as **N** for the inclined lighting surface.
- For point illumination, there is no tilted type.

※3	※6		
Code	Converter Type	Rated Voltage	Code
<b>D8</b>	Full voltage	AC/DC 24V±10%	<b>4</b>
<b>T8</b>	Transformer (ET-8P, ET-8N)	AC 100/110V±10%	<b>8</b>
		AC 200/220V±10%	<b>U</b>
<b>R8</b>	Resistor (ER-8P, ER-8N)	AC/DC 48V±10%	<b>6</b>
		AC/DC 100/110V±10%	<b>8</b>
		AC/DC 125V±10%	<b>G</b>

※4  
Enter **P** only for pop-up screw type.

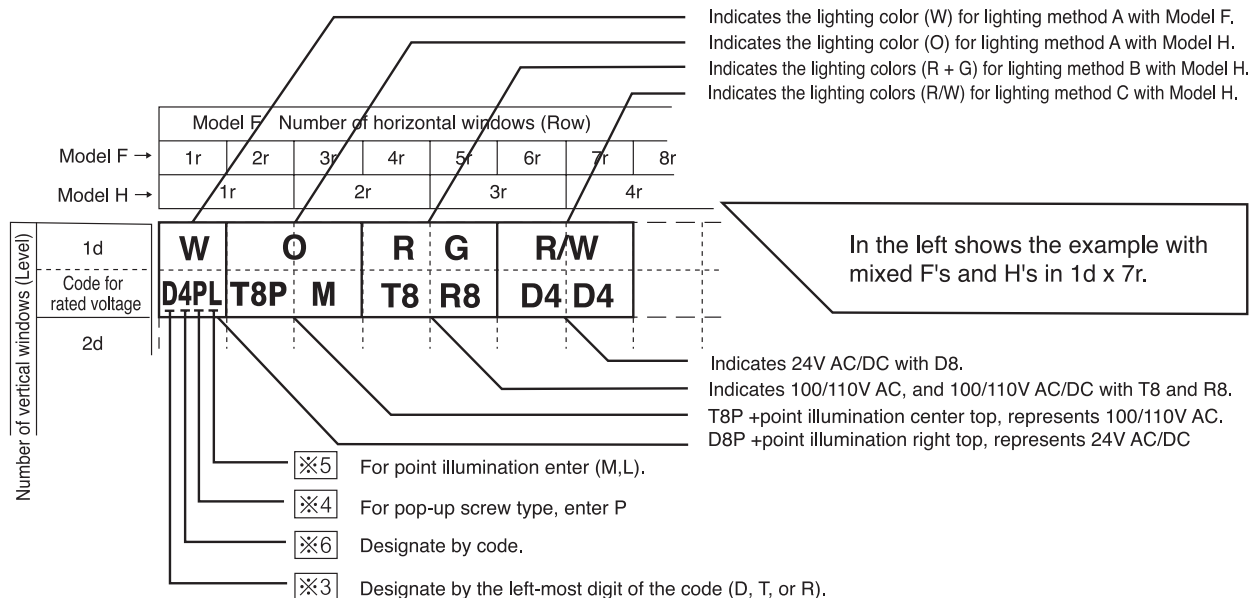
※5	Code	Lighting method
<b>A</b>	Full window/one color	
<b>B</b>	2-split window left and right/two colors, with separator (Model 27H or 37H only)	
<b>C</b>	Full window/two colors Full window/red and green is the standard combination Production on order for another combination with red (Model 27H or 37H only)	
<b>M</b>	1 window overall 1 color illumination + point illumination center top	
<b>L</b>	1 window overall 1 color illumination + point illumination right top	

- Light emitting color of point illumination section is red only.

※7	Code	Lighting Color
<b>W</b>	Milky white	
<b>R</b>	Red	
<b>G</b>	Green	
<b>O</b>	Orange	
<b>Y</b>	Yellow	
<b>B</b>	Blue	
<b>PW</b>	White	

- Point illumination is made to order part.

## Lighting Color Coding Example



# Options

## Model UA (LED Unit)

### Model Designation

- LED annunciator light emitting color change is not by color filter only. Please procure one LED unit.
- Please procure the illumination system by referring to the "Illumination system combination table" at the right.

#### One Color / Full Window

UA - ※1 ※2 ※3 D8 A - 4 ※4

#### Two Colors / Two-split Window

UA - ※1 ※2 ※3 D8 B - 4 ※4 + ※4

In the left as viewing from the lighting surface.      In the right as viewing from the lighting surface.

#### Alternate Colors / Full Window

UA - ※1 ※2 ※3 D8 C - 4R/ ※4

Lighting color other than red.

#### 1 window overall 1 color illumination + point illumination center top

UA - ※1 ※2 D8 M - 4 ※4

#### 1 window overall 1 color illumination + point illumination right top

UA - ※1 ※2 D8 L - 4 ※4

Combination of lighting methods list

Unit Model	Lighting Method	Unit Model	Point lighting
UA-27FD8	A	UA-27FD8	M
UA-27HD8	A	UA-27FD8	L
UA-27HD8	B	UA-37FD8	M
UA-27HD8	C	UA-37FD8	L
UA-37FD8	A	UA-27HD8	M
UA-37HD8	A	UA-27HD8	L
UA-37HD8	B	UA-37HD8	M
UA-37HD8	C	UA-37HD8	L

※1

Code	Matching Products
27	Model 27
37	Model 37

※2

Code	Window
F	Model F
H	Model H

Point illumination is made to order part.

※3

Designate **N**; only for the inclined lighting surface. No inclined lighting surface is available with KFE-27F.

※4

Code	Lighting Color
W	Milky white*
R	Red
G	Green
O	Orange
Y	Yellow
B	Blue
PW	White

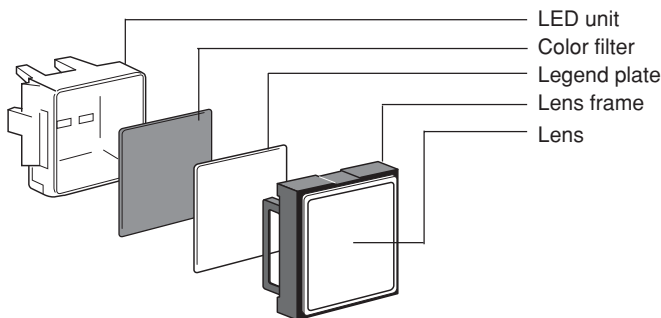
\* Milky white is the similar color to that of incandescent lamps.

Point illumination is made to order part.

### Unit Configuration

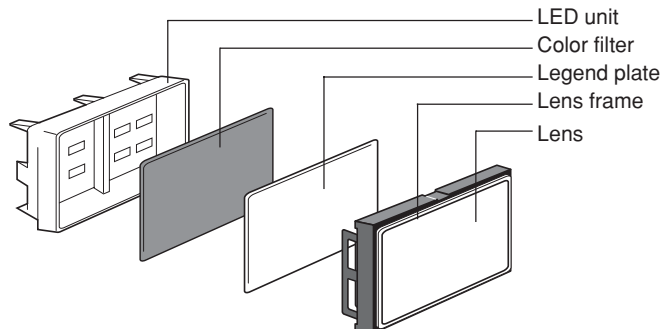
- ▼ UA-27FD8
- ▼ UA-37FD8

[LED Unit Set]




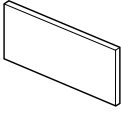
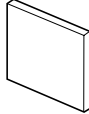
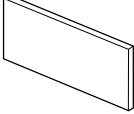

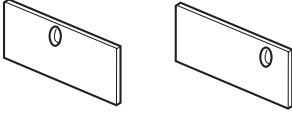
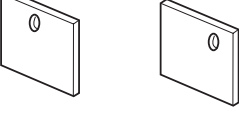
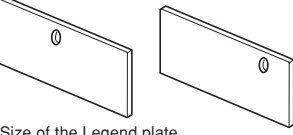
- ▼ UA-27HD8
- ▼ UA-37HD8

[LED Unit Set]

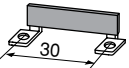
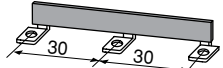
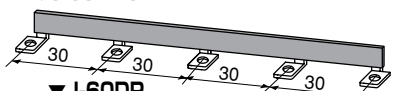
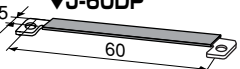
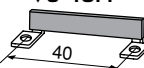
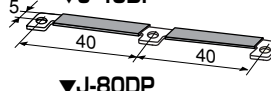
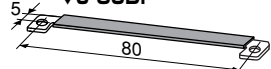
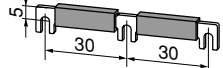
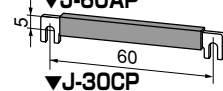
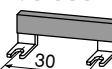
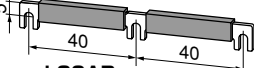
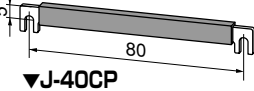
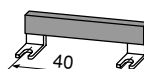


- Drill holes at the specified point illumination section for the point illumination name tag and color filter.

## Legend Plate (A legend plate is attached to the LED unit.)

<p>▼ NP-27FD8</p> 	<p>▼ NP-27HD8</p> 	<p>▼ NP-37FD8</p> 	<p>▼ NP-37HD8</p> 
<p>▼ NP-27FD8M ▼ NP-27FD8L</p> 	<p>▼ NP-27HD8M ▼ NP-27HD8L</p> 	<p>▼ NP-37FD8M ▼ NP-37FD8L</p> 	<p>▼ NP-37HD8M ▼ NP-37HD8L</p> 
<p>Size of the Legend plate 26.7<sup>+0.2</sup> × 26.7<sup>+0.2</sup> mm Sculpture Space 25×25mm Thickness of the Legend plate 1.5mm</p> <p>Weight: 1.3g KFE-27F□8□□(Square)</p>	<p>Size of the Legend plate 26.7<sup>+0.2</sup> × 56.7<sup>+0.2</sup> mm Sculpture Space 25×25mm Thickness of the Legend plate 1.5mm</p> <p>Weight: 2.8g KFE-27H□8□□(Rectangular)</p>	<p>Size of the Legend plate 36.7<sup>+0.2</sup> × 36.7<sup>+0.2</sup> mm Sculpture Space 35×35mm Thickness of the Legend plate 1.5mm</p> <p>Weight: 2.5g KFE-37F□8□□(Square)</p>	<p>Size of the Legend plate 36.7<sup>+0.2</sup> × 76.7<sup>+0.2</sup> mm Sculpture Space 35×75mm Thickness of the Legend plate 1.5mm</p> <p>Weight: 5.3g KFE-37H□8□□(Rectangular)</p>

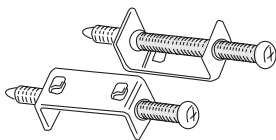
## Short-circuiting Bar

<p>KFE-27□8P</p> <p>▼ J-30FP-2</p>  <p>▼ J-30FP-3</p>  <p>▼ J-30FP-5</p>  <p>▼ J-60DP</p> 	<p>KFE-37□8P</p> <p>▼ J-40FP</p>  <p>▼ J-40DP</p>  <p>▼ J-80DP</p> 	<p>KFE-27□8</p> <p>▼ J-30AP</p>  <p>▼ J-60AP</p>  <p>▼ J-30CP</p> 	<p>KFE-37□8</p> <p>▼ J-40AP</p>  <p>▼ J-80AP</p>  <p>▼ J-40CP</p> 										
Model	J-30FP-2	J-30FP-3	J-30FP-5	J-60DP	J-40FP	J-40DP	J-80DP	J-30AP	J-40AP	J-30CP	J-60AP	J-80AP	J-40CP
Matching Models	KFE-27F□8P KFE-27H□8P			KFE-27H□8P	KFE-37F□8P KFE-37H□8P	KFE-37F□8P	KFE-37H□8P	KFE-27F□8 KFE-37F□8	KFE-27F□8 KFE-27H□8	KFE-27F□8 KFE-27H□8	KFE-27H□8 KFE-37H□8	KFE-37F□8 KFE-37H□8	
Wiring method	27F-For vertical and horizontal 27H-For vertical			For horizontal	For vertical	For horizontal	For horizontal	For horizontal		For vertical	For horizontal		For vertical
Current Capacity	5A												
Weight	1.8g	3g	5.8g	2g	2.3g	2.4g		2g	2.4g	2g		2.4g	2.3g
Materials	Brass board(Nickel-plated)												

## Mounting Clamp

Tighten with torque 0.4 ~ 0.5N·m

▼ CA-1

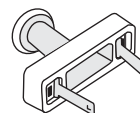


Weight: 6.2g

To be attached to the main body.

## Tool for Removing LED Unit

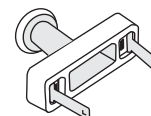
▼ KX-12



Weight: 7g

KFE-27F,27H□8

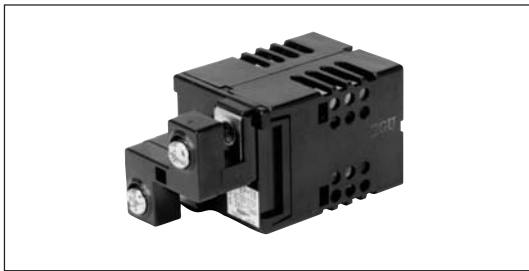
▼ KX-13



Weight: 7g

KFE-37F,37H□8

## ET / ER-8P (Separate Type Power Adaptor)



### ■ Features

- The separate type power adaptor to be used for the KFE-D8P Series LED Annunciator Lights.
- Attaching this adaptor enables the lights to be compatible with various voltages of power source.
- Two kinds of circuit configurations are available; transformer and resistor types.

### ■ Model Designation



Rated voltage  
 Rated secondary current  
 Model name

※1		※2		※3		
Code	Circuit Configuration	Code	Rated Secondary	Matching Models	Code	Rated Voltage
ET	Transformer AC100/110V AC200/220V	1	13mA	KFE-27FT8PA, M,L KFE-27H□T8PA,M,L KFE-27HT8PM,L KFE-37F□T8PA KFE-37FT8M,L KFE-37H□T8PB KFE-37H□T8PA, C KFE-37HT8PM,L	8	AC100/110V
		3	26mA		U	AC200/220V
ER	Resistor AC/DC 48V AC/DC100/110V AC/DC125V	1	13mA	KFE-27FR8PA, M,L KFE-27H□R8PA, B, C KFE-27HR8PM,L KFE-37FR8PA KFE-37FR8PM,L KFE-37H□R8PB	6	AC/DC48V
					8	AC/DC100/110V
		3	26mA	KFE-37H□R8PA, C KFE-37HR8PM,L	G	AC/DC125V

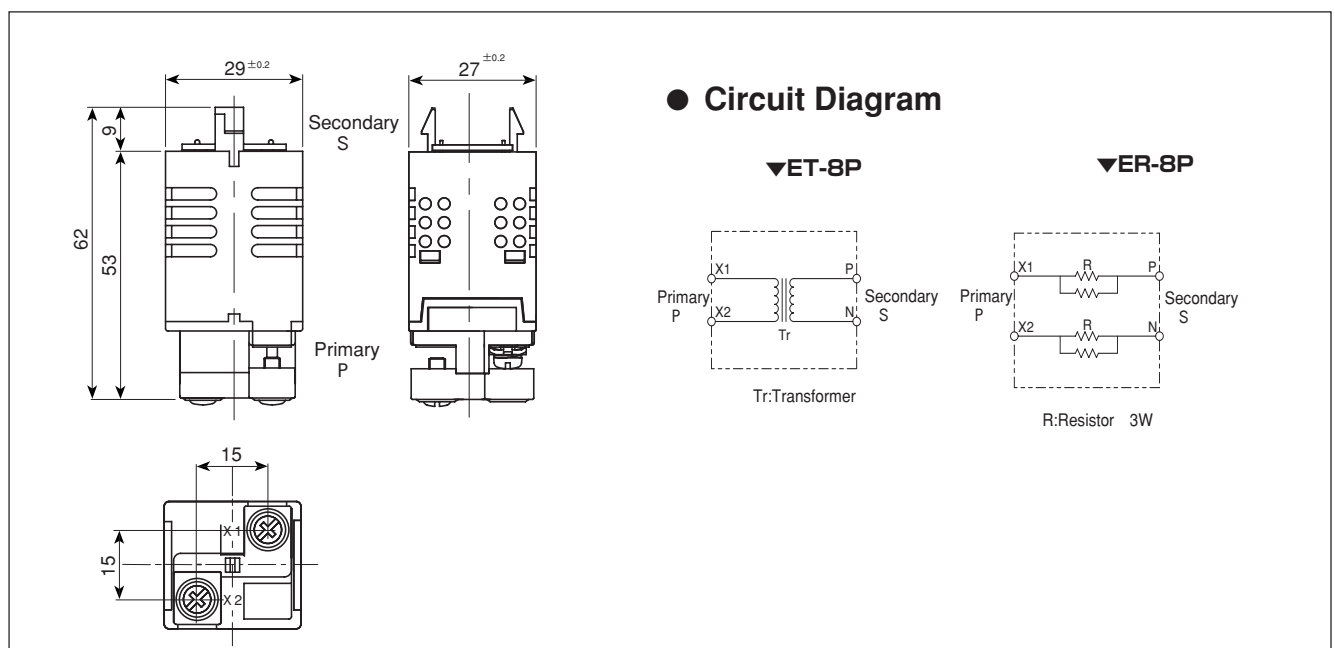
## ■ Specifications

Item \ Model	ET-8P	ER-8P		
Rated Voltage	100/110V ±10% AC 200/220V ±10% AC	48V±10% AC/DC 100/110V±10% AC/DC 125V±10% AC/DC		
Rated Current	Primary	Secondary	13mA	26mA
	100/110V AC, 25mA or less 200/220V AC, 13mA or less	13mA or 26mA		
Capacity	1VA	6W	12W	
Secondary Voltage	24V AC	24V AC/DC		
Transformer Coil	Multiple coils		—	
Insulation Resistance	Primary-Secondary: 100MΩ or more measured by 500V DC megohmmeter		Live parts - ground: 100MΩ or more measured by 500V DC megohmmeter	
	Primary-Core: 100MΩ or more measured by 500V DC megohmmeter			
	Secondary-Core: 100MΩ or more measured by 500V DC megohmmeter			
Withstand Voltage	Primary-Core: 2000V AC for 1 minute		Live parts - ground: 2000V AC for 1 minute	
	Primary-Secondary: 2000V AC for 1 minute			
	Secondary-Core: 500V AC for 1 minute			
Operating Environment	-10 ~ 40°C, 45 ~ 85%RH (No freezing or condensation)			
Wiring	M3.5 × 8 self-up screws (torque: 1.0 ~ 1.3N·m)			
Letter Color on Model Name Seal	Blue	Black		
Weight	Approx. 72g	Approx. 27g		

## ■ Materials

Model Name Seal	YUPO#80	
Terminal	PBT resin	Black
Terminal Screw	Carbon steel	Nickel-plated M3.5 × 8
Printed Circuit Board	Glass epoxy	
Terminal Clamp	Brass board	
Case	Polycarbonate resin	Black

## ■ Dimensions



# Options

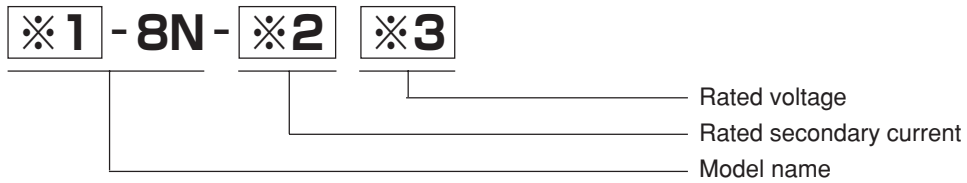
## ET / ER-8N (Separate Type Power Adaptor)



### ■ Features

- The separate type power adaptor to be used for the KFE-D8 Series LED Annunciator Lights.
- Attaching this adaptor enables the lights to be compatible with various voltages of power source.
- Two kinds of circuit configurations are available; transformer and resistor types.

### ■ Model Designation



※1		※2		※3		
Code	Circuit Configuration	Code	Rated Secondary	Matching Models	Code	Rated Voltage
ET	Transformer AC100/110V AC200/220V	1	13mA	KFE-27FT8A, M,L KFE-27H□T8A,M,L KFE-27HT8M,L KFE-37F□T8A KFE-37FT8M,L KFE-37H□T8B	8	AC100/110V
		3	26mA	KFE-37H□T8A, C KFE-37HT8M,L	U	AC200/220V
ER	Resistor AC/DC 48V AC/DC100/110V AC/DC125V	1	13mA	KFE-27FR8A, M,L KFE-27H□R8A, B, C KFE-27HR8M,L KFE-37FR8A KFE-37FR8M,L KFE-37H□R8B	6	AC/DC48V
		3	26mA	KFE-37H□R8A, C KFE-37HR8M,L	8	AC/DC100/110V
					G	AC/DC125V

### ■ Terminal Protection Cover

▼ LC-15(For full voltage type)

Weight: 2.2g

To be attached to the socket.

▼ LC-16(For type with transformer and resistor)

Weight: 2.3g

To be attached to the adaptor

# Options

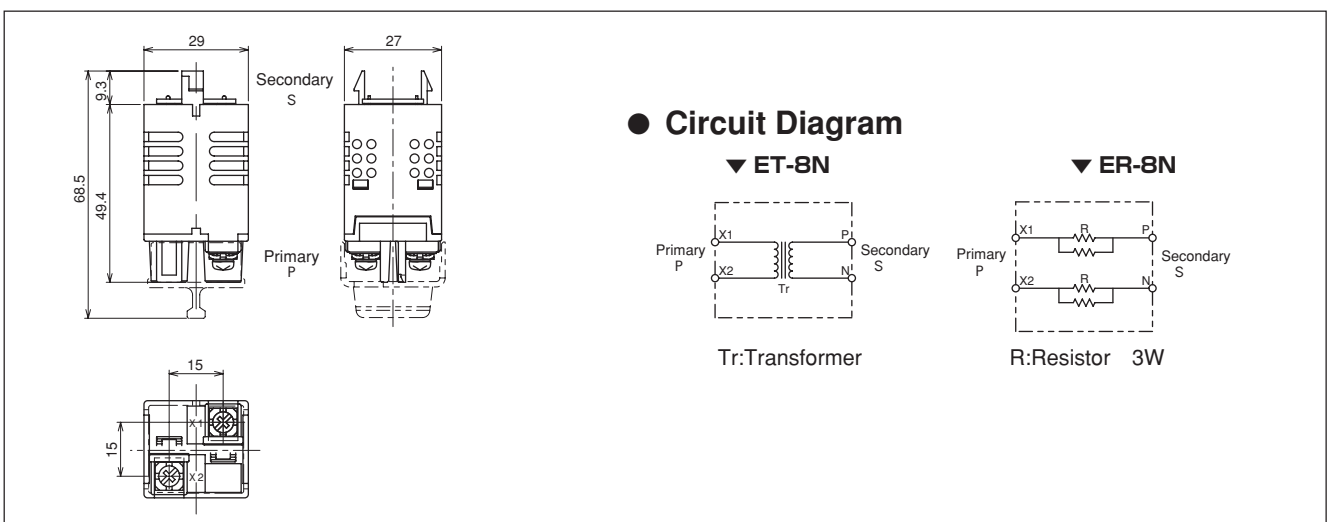
## Specifications

Item \ Model	ET-8N	ER-8N
Rated Voltage	100/110V ±10% AC 200/220V ±10% AC	48V±10% AC/DC 100/110V±10% AC/DC 125V±10% AC/DC
Rated Current	Primary	13mA or 26mA
	Secondary	
Capacity	1VA	6W or 12W
Secondary Voltage	24V AC	24V AC/DC
Transformer Coil	Multiple coils	—
Insulation Resistance	Primary-Secondary: 100MΩ or more measured by 500V DC megohmmeter Primary-Core: 100MΩ or more measured by 500V DC megohmmeter Secondary-Core: 100MΩ or more measured by 500V DC megohmmeter	Live parts - ground: 100MΩ or more measured by 500V DC megohmmeter
Withstand Voltage	Primary-Core: 2000V AC for 1 minute Primary-Secondary: 2000V AC for 1 minute Secondary-Core: 500V AC for 1 minute	Live parts - ground: 2000V AC for 1 minute
Operating Environment	-10 ~ 40°C, 45 ~ 85%RH (No freezing or condensation)	
Wiring	M3.5 × 8 self-up screws (torque: 1.0 ~ 1.3N·m)	
Letter Color on Model Name Seal	Blue	Black
Weight	Approx. 72g	Approx. 27g

## Materials

Model Name Seal	YUPO#80
Terminal Protection Cover	Polycarbonate resin    Transparent    Attached
Terminal Screw	Carbon steel    Galvanized M3.5 × 8
Printed Circuit Board	Glass epoxy
Terminal Clamp	Brass board    Galvanized
Case	Polycarbonate resin    Black

## Dimensions





● **Weight of unit**

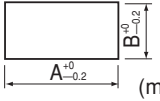
Weight of integrated type case

Model	Weight of AC/DC24V Unit	Weight of Resistor and Transformer Unit
KFE-27FD8□A-1dX1r	40g	+20g× Number of Resistor +64g×Number of Transformer
1dX2r	75g	
1dX3r	110g	
1dX4r	145g	
KFE-27H□D8□□-1dX1r	65g	
1dX2r	123g	
KFE-37F□D8□□-1dX1r	55g	
1dX2r	100g	
KFE-37H□D8□□-1dX1r	90g	

※Refer to the table below for product weight calculation expression of other than the above.

Model	Weight of AC/DC24V Unit	Weight of Resistor and Transformer Unit
KFE-27FD8□□	37g×Total number of windows+45g	+20g×Number of Resistor +64g×Number of Transformer
KFE-27H□D8□□	65g×Total number of windows+45g	
KFE-37F□D8□□	52g×Total number of windows+55g	
KFE-37H□D8□□	95g×Total number of windows+55g	

■ **Legend Film (Options)**

Item	Model	Matching Model	Dimensions 		Number of Print Windows	Size	Thickness (mm)	Package *	Materials
			A	B					
	NF-27FD8J	KFE-27F□8	26.7	26.7	48	A4	0.1	10 sheets	PET resin (specially processed for printing)
	NF-27HD8J	KFE-27H□8	56.7	26.7	24				
	NF-37FD8J	KFE-37F□8	36.7	36.7	24				
	NF-37HD8J	KFE-37H□8	76.7	36.7	12				

\* Minimum 10 sheets for a pack.

**Information for Handling**

1. "Template for legend film" is prepared under the same model name.
2. The films can be printed by the ink-jet printer which is commercialized in the market. Printers manufactured by EPSON or Canon are recommended.
3. When printing with the printer, supply the film one by one to prevent displacement of the prints.
4. The films are already cut in the size except a part which can easily be cut manually. In this process, using a pair of thin gloves is recommended to avoid finger prints on the film.
5. The legend films are heat and weather resistant to the excellent levels.
6. The films are only for printing with an ink-jet printer. Do not print with the laser printer or other types of printer.

(Please contact the sales representative for requirements.)

● **Use of OHP film available in the market.**

1. "Template for legend film", that enables printing on the OHP film with a laser printer or an ink-jet printer. Please contact the sales representative for requirements. "Name film use template" can be downloaded from our home page (<http://www.kimden.co.jp>).
2. Name film with characters can be easily created with a local printer.



NOTICE

- When used in direct sunlight, since the characters will be faded by ultra violet rays and become difficult to see, when using in such places, naming by inscription is recommended.
- Please consult the printer manufacturer for the light resistance of the printed characters.

## ■ Ratings

Item Model	Rated Voltage	Rated Current
KFE-27FD8□A KFE-27FD8□M KFE-27FD8□L	AC/DC 24V±10%	13mA
KFE-27H□D8□A KFE-27H□D8□B KFE-27H□D8□C	AC/DC 24V±10%	13mA 13+13mA 13/13mA
KFE-27HD8□M KFE-27HD8□L	AC/DC 24V±10%	13mA

Item Model	Rated Voltage	Rated Current
KFE-37F□D8□A KFE-37FD8□M KFE-37FD8□L	AC/DC 24V±10%	13mA
KFE-37H□D8□A KFE-37H□D8□B KFE-37H□D8□C	AC/DC 24V±10%	26mA 13+13mA 26/26mA
KFE-37HD8□M KFE-37HD8□L	AC/DC 24V±10%	26mA

Item Model	Rated Voltage	Rated Current
KFE-27FT8□A	AC 100/110V±10% AC 200/220V±10%	13mA
KFE-27FT8□M KFE-27FT8□L	AC 100/110V±10% AC 200/220V±10%	13mA
KFE-27FR8□A KFE-27FR8□M KFE-27FR8□L	AC/DC 48V±10% AC/DC 100/110V±10% AC/DC 125V±10%	13mA
KFE-27H□T8□A KFE-27H□T8□B KFE-27H□T8□C	AC 100/110V±10% AC 200/220V±10%	13mA 13+13mA 13/13mA
KFE-27HT8□M KFE-27HT8□L	AC 100/110V±10% AC 200/220V±10%	13mA
KFE-27H□R8□A KFE-27H□R8□B KFE-27H□R8□C	AC/DC 48V±10% AC/DC 100/110V±10% AC/DC 125V±10%	13mA 13+13mA 13/13mA
KFE-27HR8□M KFE-27HR8□L	AC/DC 48V±10% AC/DC 100/110V±10% AC/DC 125V±10%	13mA

Item Model	Rated Voltage	Rated Current
KFE-37FT8□A	AC 100/110V±10% AC 200/220V±10%	13mA
KFE-37FT8□M KFE-37FT8□L	AC 100/110V±10% AC 200/220V±10%	13mA
KFE-37FR8□A KFE-37FR8□M KFE-37FR8□L	AC/DC 48V±10% AC/DC 100/110V±10% AC/DC 125V±10%	13mA
KFE-37H□T8□A KFE-37H□T8□B KFE-37H□T8□C	AC 100/110V±10% AC 200/220V±10%	26mA 13+13mA 26/26mA
KFE-37HT8□M KFE-37HT8□L	AC 100/110V±10% AC 200/220V±10%	26mA
KFE-37H□R8□A KFE-37H□R8□B KFE-37H□R8□C	AC/DC 48V±10% AC/DC 100/110V±10% AC/DC 125V±10%	26mA 13+13mA 26/26mA
KFE-37HR8□M KFE-37HR8□L	AC/DC 48V±10% AC/DC 100/110V±10% AC/DC 125V±10%	26mA

- "00+00mA" for the rated current means 00mA flowing in each of the left and right with the lighting method B.
- "00/00mA" for the rated current means 00mA flowing either of the left or right with the lighting method C.

## ■ Specifications

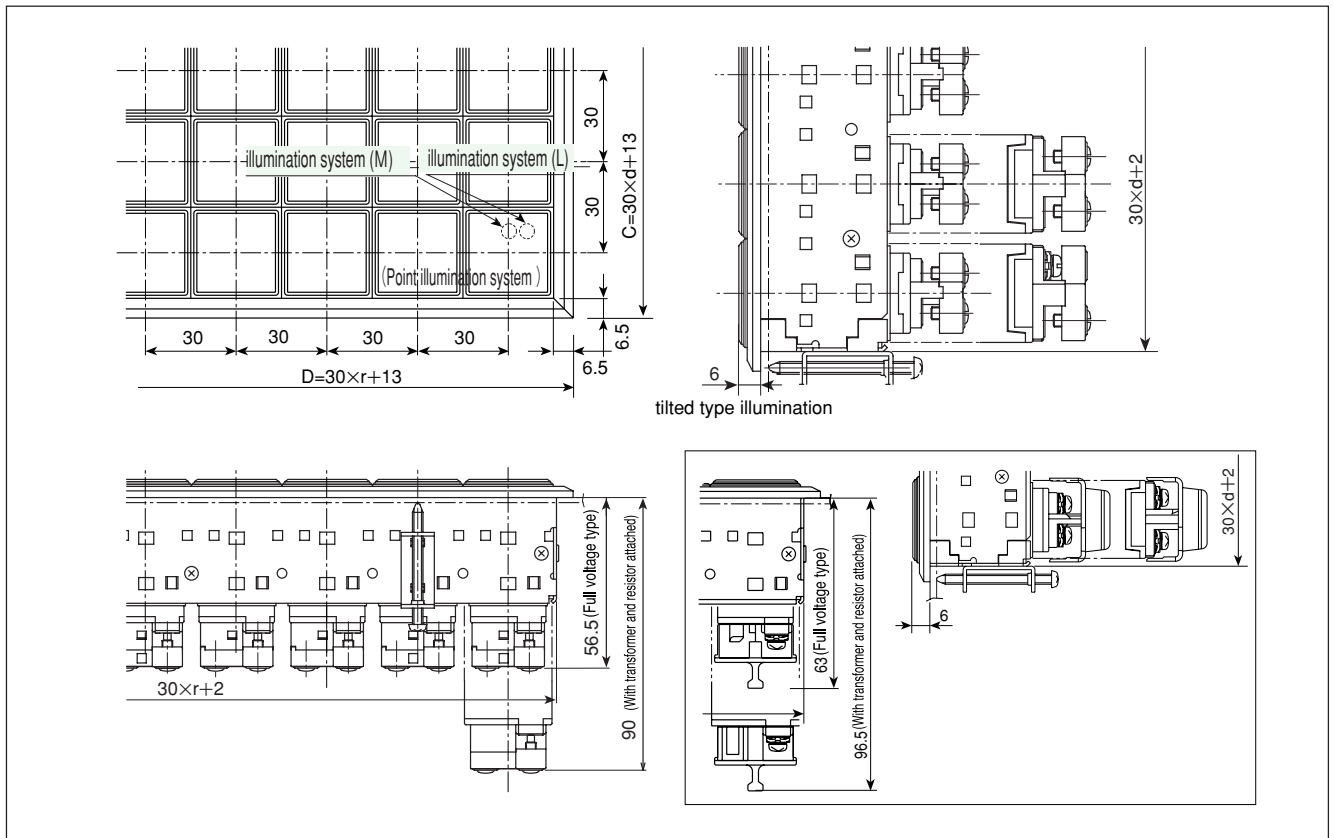
Insulation Resistance	Between live parts (unit - unit), and between live part and ground (unit - indicator case) each	100MΩ or more measured by 500V DC megohmmeter
Withstand Voltage	Between live parts (unit - unit), and between live part and ground (unit - indicator case) each	2000V AC for 1 minute
Temperature Resistance	For 1 hour at normal temperatures after 2 hours at -40±3°C, and 1 hour at normal temperatures after 2 hours at 70±3°C	
Humidity Resistance	Normal insulation resistance and withstand voltage after being left for 96 at 40±2°C under 95%RH	
Vibration Resistance	3-dimensional vibration of amplitude 1.5mm and frequency ranging 10 ~ 55Hz for 1 hour with a sweep time of 1 minute	
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 (W), red (R), green (G), orange (O), yellow (Y), blue (B), white (PW), and point/red (R)	
Wiring	M3.5 × 8 screws (recommended torque: 1.0 ~ 1.3N·m)	
Oxygen index	More than 26	

## ■ Materials

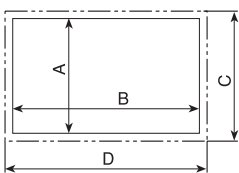
Lens	Polycarbonate resin	(Transparent)	Oxygen index is More than 26, UL-94V-0
Lens Frame	Polycarbonate resin	(Approximate N1.5)	Oxygen index is More than 26, UL-94V-0
Legend Plate	Acryl board (molding)	(Milky white)	
Filter	Acryl board (molding)	(Transparent, red, green orange, yellow, blue)	Thickness 1.5mm
Decoration Frame	Noryl resin	(Approximate N1.5)	Oxygen index is More than 26, UL-94V-0
Frame Plate	Polished steel	(Black)	
Reflector	Polycarbonate resin	(White)	
Terminal Screw	Carbon steel	(Galvanized chromate treatment D8 Series) (Nickel-plated chromate treatment D8P Series)	M3.5 × 8
Mounting Clamp	Polished steel	(Galvanized chromate treatment)	
Mounting Screw	Carbon steel	(Galvanized chromate treatment)	M3.5 × 40
Terminal Cover	Polycarbonate resin	(Transparent)	

## ■ Dimensions

KFE-27F□8□□ (Lighting area size : 28×28mm)



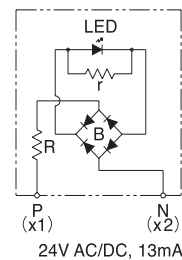
### ● Panel cut dimensions



- Calculating Panel Cut Dimensions (unit: mm with allowance  $^{+0.5}$ )  
 $A = 30 \times \text{number of windows (vertical)} + 5$   
 $B = 30 \times \text{number of windows (horizontal)} + 5$
- Calculating External Dimensions (unit: mm)  
 $C = 30 \times \text{number of windows (vertical)} + 13$   
 $D = 30 \times \text{number of windows (horizontal)} + 13$

### ■ LED Unit Circuit Diagram

Lighting method A (Full window/one color)



- LED : Light emitting diode
- R : Resistor (1W)
- r : Resistor (1/4W)
- B : Rectifier bridge

## ■ Dimension Table (unit: mm)

### ● Vertical Windows (Level)

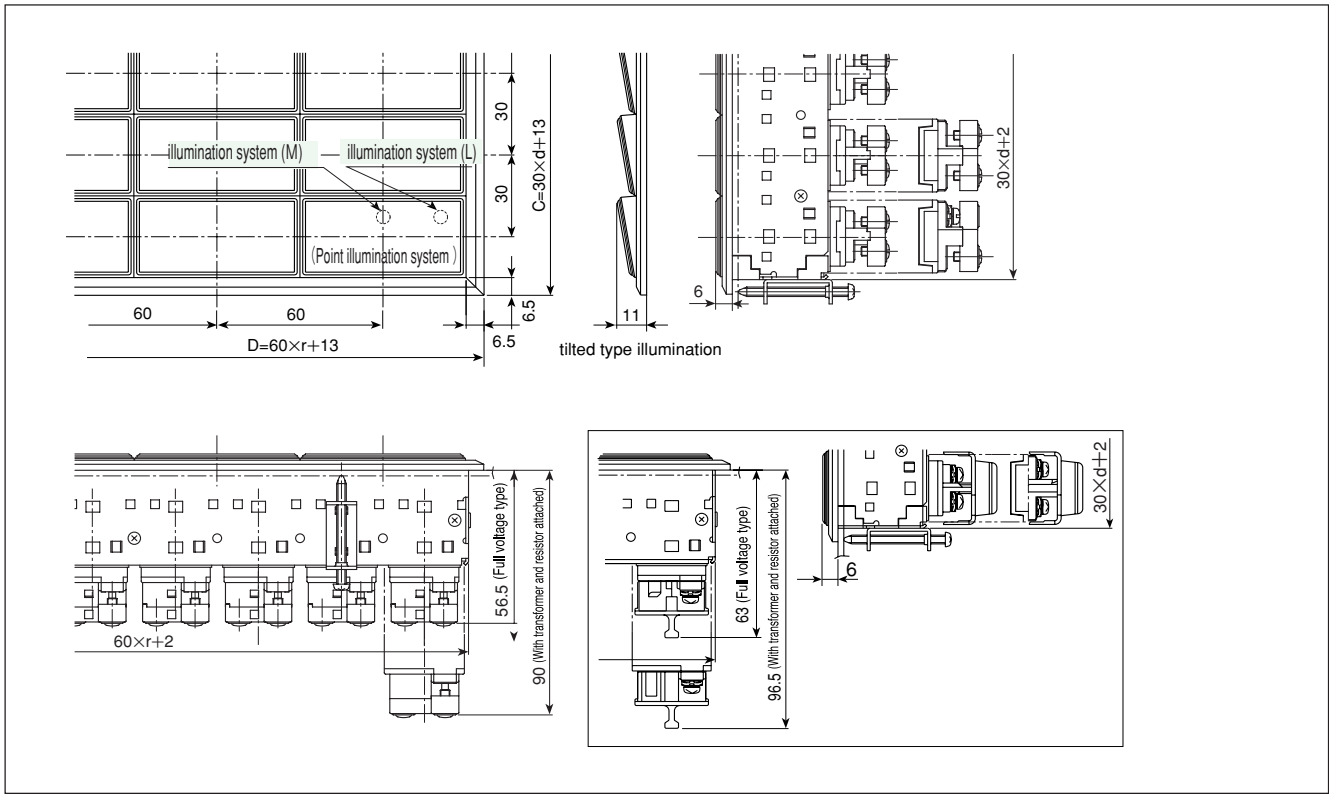
Number of Windows d	Panel Cut Dimensions A <sup>+0.5</sup> <sub>-0</sub>	External Dimensions C
1d	35	43
2d	65	73
3d	95	103
4d	125	133
5d	155	163
6d	185	193

### ● Horizontal Windows (Row)

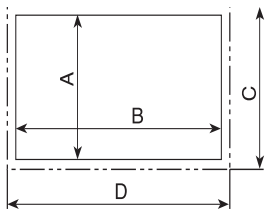
Number of Windows r	Panel Cut Dimensions B <sup>+0.5</sup> <sub>-0</sub>	External Dimensions D	Number of Windows r	Panel Cut Dimensions B <sup>+0.5</sup> <sub>-0</sub>	External Dimensions D
1r	35	43	11r	335	343
2r	65	73	12r	365	373
3r	95	103	13r	395	403
4r	125	133	14r	425	433
5r	155	163	15r	455	463
6r	185	193	16r	485	493
7r	215	223	17r	515	523
8r	245	253	18r	545	553
9r	275	283	19r	575	583
10r	305	313	20r	605	613

## ■ Dimensions

KFE-27H□8□□ (Lighting area size : 28×58mm)

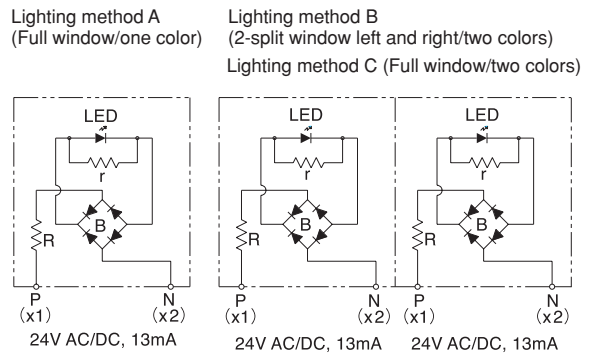


### ● Panel cut dimensions



- Calculating Panel Cut Dimensions (unit: mm with allowance  $+0.5$  /  $-0$ )  
 $A = 30 \times \text{number of windows (vertical)} + 5$   
 $B = 60 \times \text{number of windows (horizontal)} + 5$
- Calculating External Dimensions (unit: mm)  
 $C = 30 \times \text{number of windows (vertical)} + 13$   
 $D = 60 \times \text{number of windows (horizontal)} + 13$

### ■ LED Unit Circuit Diagram



- LED : Light emitting diode
- R : Resistor (1W)
- r : Resistor (1/4W)
- B : Rectifier bridge

### ■ Dimension Table (unit: mm)

#### ● Vertical Windows (Level)

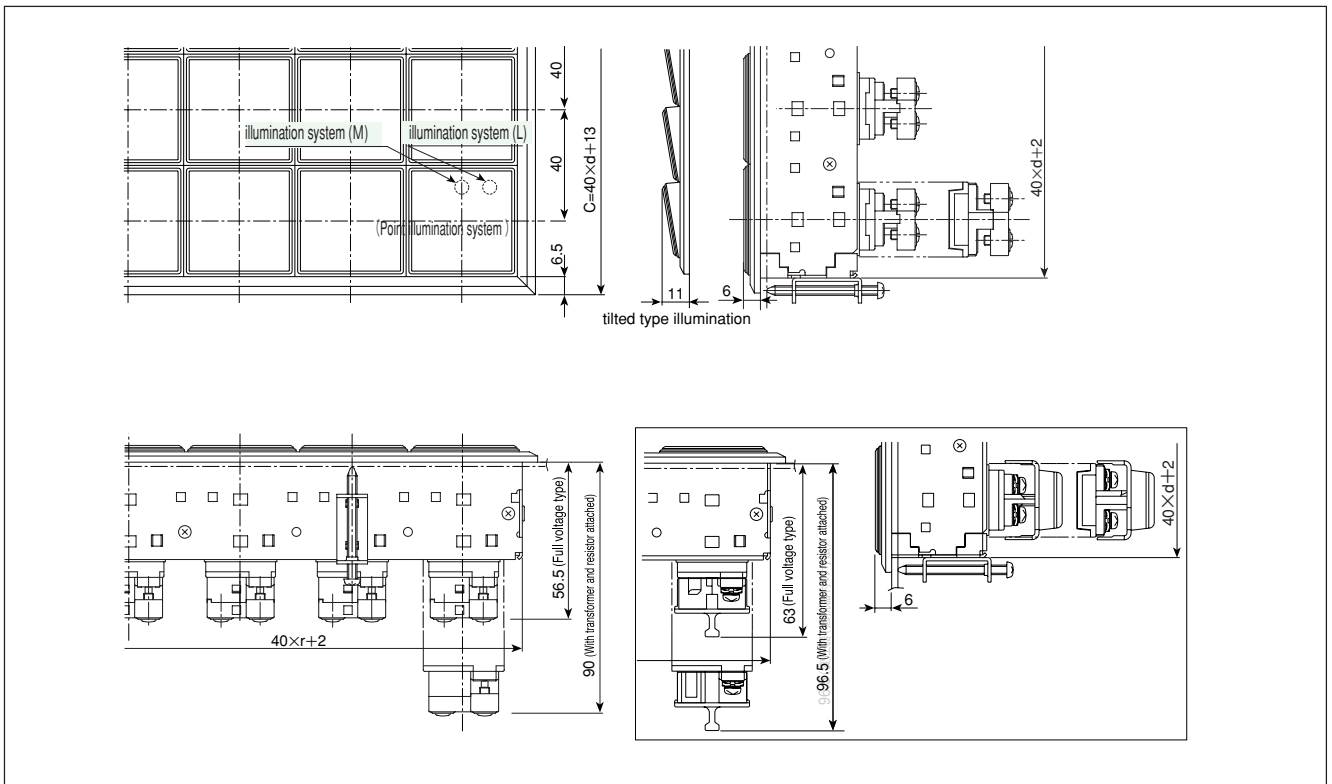
Number of Windows d	Panel Cut Dimensions $A_{-0}^{+0.5}$	External Dimensions C
1d	35	43
2d	65	73
3d	95	103
4d	125	133
5d	155	163
6d	185	193

#### ● Horizontal Windows (Row)

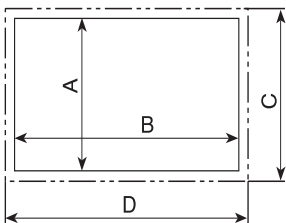
Number of Windows r	Panel Cut Dimensions $B_{-0}^{+0.5}$	External Dimensions D	Number of Windows r	Panel Cut Dimensions $B_{-0}^{+0.5}$	External Dimensions D
1r	65	73	11r	665	673
2r	125	133	12r	725	735
3r	185	193	13r	785	793
4r	245	253	14r	845	853
5r	305	313	15r	905	913
6r	365	373	16r	965	973
7r	425	433	17r	1025	1033
8r	485	493	18r	1085	1093
9r	545	553	19r	1145	1153
10r	605	613	20r	1205	1213

## ■ Dimensions

KFE-37F□8□□ (Lighting area size : 38×38mm)



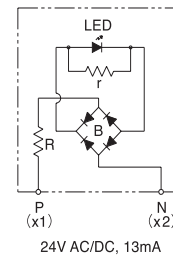
### ● Panel cut dimensions



- Calculating Panel Cut Dimensions (unit: mm with allowance  $^{+0.5}_{-0}$ )  
 $A = 40 \times \text{number of windows (vertical)} + 5$   
 $B = 40 \times \text{number of windows (horizontal)} + 5$
- Calculating External Dimensions (unit: mm)  
 $C = 40 \times \text{number of windows (vertical)} + 13$   
 $D = 40 \times \text{number of windows (horizontal)} + 13$

### ■ LED Unit Circuit Diagram

Lighting method A (Full window/one color)



- LED : Light emitting diode
- R : Resistor (1W)
- r : Resistor (1/4W)
- B : Rectifier bridge

## ■ Dimension Table (unit: mm)

### ● Vertical Windows (Level)

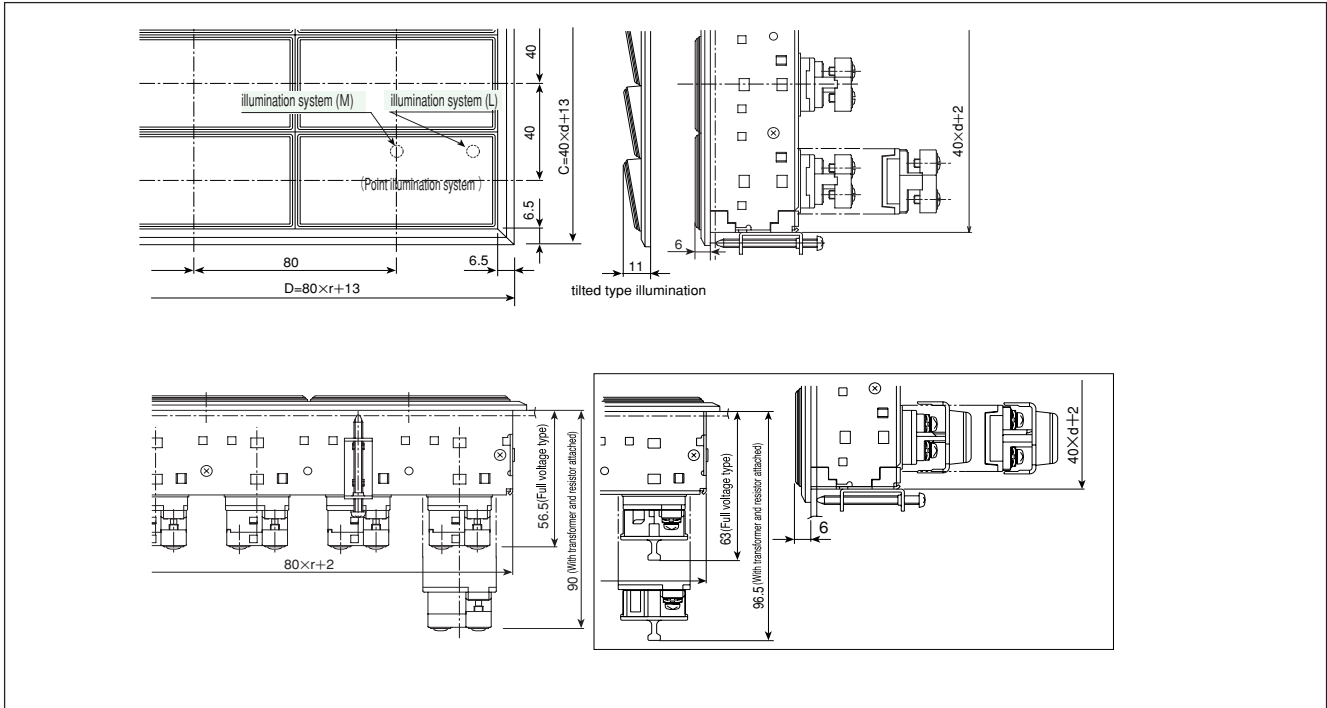
Number of Windows d	Panel Cut Dimensions $A^{+0.5}_{-0}$	External Dimensions C
1d	45	53
2d	85	93
3d	125	133
4d	165	173
5d	205	213
6d	245	253

### ● Horizontal Windows (Row)

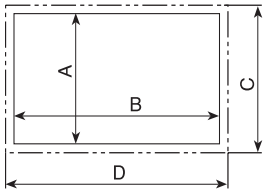
Number of Windows r	Panel Cut Dimensions $B^{+0.5}_{-0}$	External Dimensions D	Number of Windows r	Panel Cut Dimensions $B^{+0.5}_{-0}$	External Dimensions D
1r	45	53	11r	445	453
2r	85	93	12r	485	493
3r	125	133	13r	525	533
4r	165	173	14r	565	573
5r	205	213	15r	605	613
6r	245	253	16r	645	653
7r	285	293	17r	685	693
8r	325	333	18r	725	733
9r	365	373	19r	765	773
10r	405	413	20r	805	813

## ■ Dimensions

KFE-37H□8□□ (Lighting area size : 38×78mm)



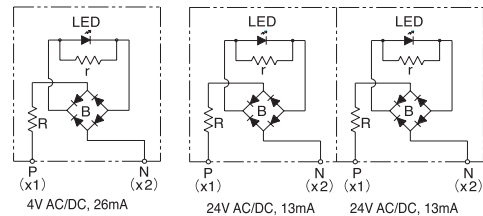
### ● Panel cut dimensions



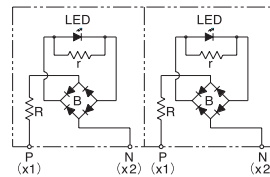
- Calculating Panel Cut Dimensions (unit: mm with allowance  $^{+0.5}_{-0}$ )  
 $A=40 \times \text{number of windows (vertical)} + 5$   
 $B=80 \times \text{number of windows (horizontal)} + 5$
- Calculating External Dimensions (unit: mm)  
 $C=40 \times \text{number of windows (vertical)} + 13$   
 $D=80 \times \text{number of windows (horizontal)} + 13$

### ■ LED Unit Circuit Diagram

Lighting method A (Full window/one color)      Lighting method B (2-split window left and right/two colors)



Lighting method C (Full window/two colors)



LED : Light emitting diode  
 R : Resistor (1W)  
 r : Resistor (1/4W)  
 B : Rectifier bridge

24V AC/DC, 26mA    24V AC/DC, 26mA

### ■ Dimension Table (unit: mm)

#### ● Vertical Windows (Level)

Number of Windows d	Panel Cut Dimensions A $^{+0.5}_{-0}$	External Dimensions C
1d	45	53
2d	85	93
3d	125	133
4d	165	173
5d	205	213
6d	245	253

#### ● Horizontal Windows (Row)

Number of Windows r	Panel Cut Dimensions B $^{+0.5}_{-0}$	External Dimensions D	Number of Windows r	Panel Cut Dimensions B $^{+0.5}_{-0}$	External Dimensions D
1r	85	93	9r	725	733
2r	165	173	10r	805	813
3r	245	253	11r	885	893
4r	325	333	12r	965	973
5r	405	413	13r	1,045	1,053
6r	485	493	14r	1,125	1,133
7r	565	573	15r	1,205	1,213
8r	645	653			

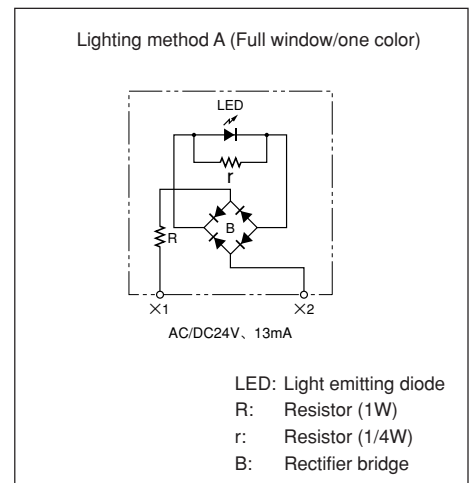
## Technical Information (D8P Series)

### ■ Prevention from Erroneous Lighting

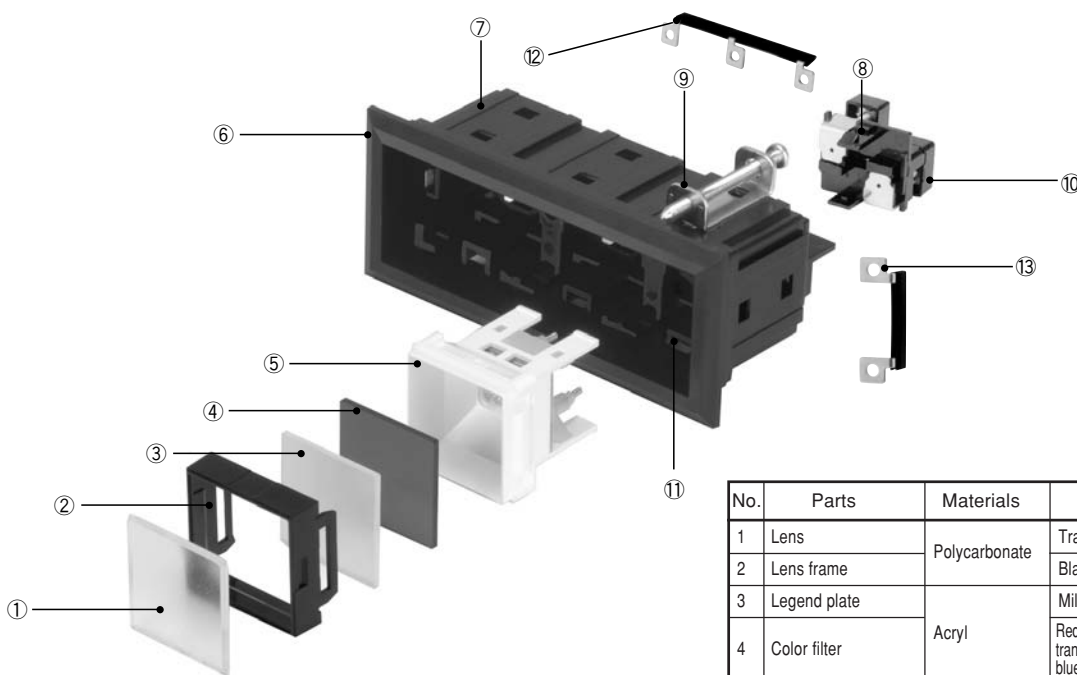
- A resistor (r) is incorporated to prevent erroneous lighting which may be caused by induced voltage in use; however, influences by complex induction may be assumed at the actual installation site. For surer measures, connect a resistor or the like in parallel across the LED terminals.

### ■ Continuous Lighting

- Continuous lighting of the all windows is possible with the full voltage 24V AC/DC type.
- The resistor or transformer type may be heated by the voltage reduction unit, and its continuous lighting should be regulated. For the details, contact our representative.



### ■ Materials of Parts



No.	Parts	Materials	Color	Remarks
1	Lens	Polycarbonate	Transparent	UL94V-0 Oxygen index: 26 or over
2	Lens frame		Black (N1.5)	
3	Legend plate	Acryl	Milky white	t=1.5 Glossy surface should be the front side
4	Color filter		Red, green, orange, transparent, yellow, or blue	
5	LED unit	Polycarbonate	White	
6	Decoration frame	Noryl	Black (N1.5)	UL94V-0 Oxygen index: 26 or over
7	Frame plate	Polished steel	Black	
8	Terminal screw	Carbon steel	Galvanized chromate	M3.5 ¥ 8
9	Mounting clamp	Polished steel	Galvanized chromate	
10	Socket	Polycarbonate	Black	UL94V-2
11	Case			
12	Short bar (horizontal)	Brass	Nickel plating	With the cover
13	Short bar (vertical)			



## Technical Information (D8 Series)

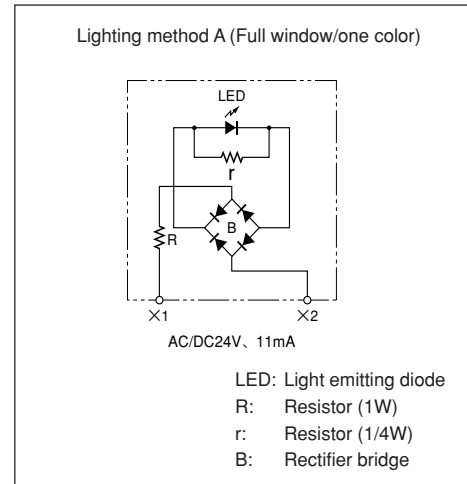
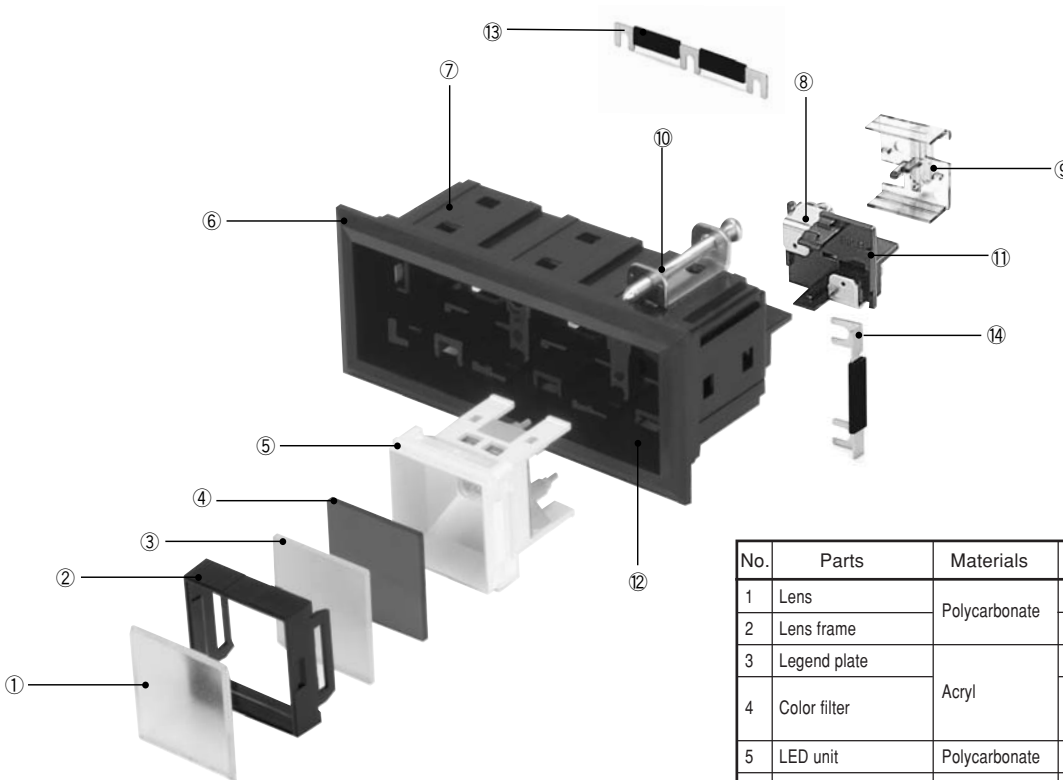
### ■ Prevention from Erroneous Lighting

- A resistor (r) is incorporated to prevent erroneous lighting which may be caused by induced voltage in use; however, influences by complex induction may be assumed at the actual installation site. For surer measures, connect a resistor or the like in parallel across the LED terminals.

### ■ Continuous Lighting

- Continuous lighting of the all windows is possible with the full voltage 24V AC/DC type.
- The resistor or transformer type may be heated by the voltage reduction unit, and its continuous lighting should be regulated. For the details, contact our representative.

### ■ Materials of Parts

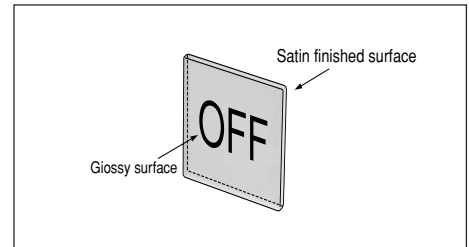


No.	Parts	Materials	Color	Remarks
1	Lens	Polycarbonate	Transparent	UL94V-0 Oxygen index: 26 or over
2	Lens frame		Black (N1.5)	
3	Legend plate	Acryl	Milky white	t=1.5 Glossy surface should be the front side
4	Color filter		Red, green, orange, transparent, yellow, or blue	
5	LED unit	Polycarbonate	White	
6	Decoration frame	Noryl	Black (N1.5)	UL94V-0 Oxygen index: 26 or over
7	Frame plate	Polished steel	Black	
8	Terminal screw	Carbon steel	Galvanized chromate	M3.5 ¥ 8
9	Terminal Protection Cover	Polycarbonate	Transparent	
10	Mounting clamp	Polished steel	Galvanized chromate	
11	Socket	Polycarbonate	Black	UL94V-2
12	Case			
13	Short bar (horizontal)	Brass	Nickel plating	With the cover
14	Short bar (vertical)			

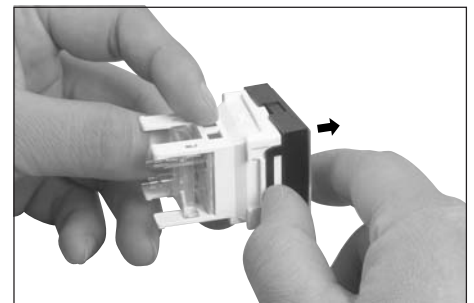
## Instructions for Use

### ■ Assembling Legend Plate into LED Unit

1. Give engraving or printing on the glossy surface side.

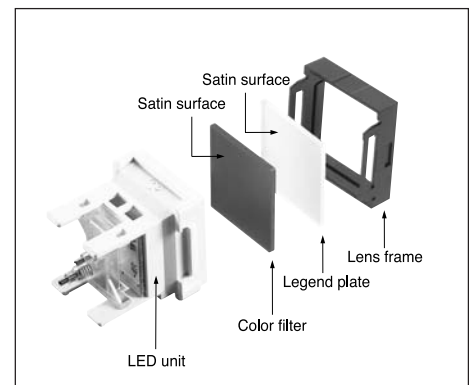


2. Lift the fittings of the LED unit lens frame to remove the cap.



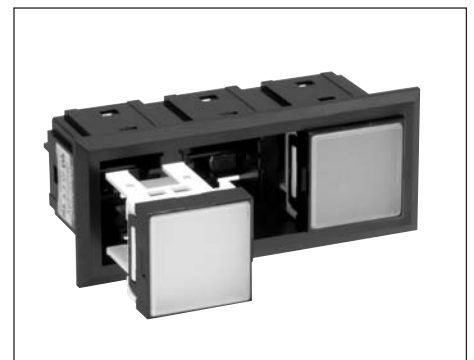
3. Assemble the legend plate into the LED unit.

- Assemble the color filter and legend plate with the satin finished surface inside.
- Even when the legend plate is neither engraved nor printed, assemble it for better light diffusion.



### ■ Assembling LED Unit into Main Body

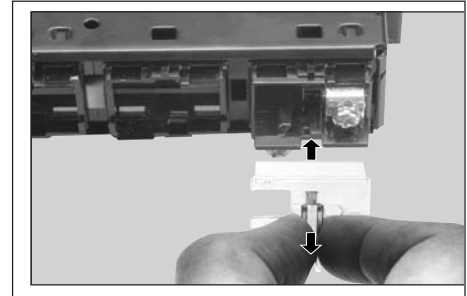
Holding the main body frame with its model name seal in the left and the LED unit with its relief TOP side upwards, push in the unit to the frame until it clicks.



## ■ Wiring

1. As the product is equipped with the rectifier bridge circuit, disregard the polarity when wiring.
2. Be sure to keep the power OFF when wiring. Failure to do so may cause an electric shock.
3. Fasten the terminal screw with the torque 1.0 ~ 1.3N·m.
4. The attached short bar may be used for wiring among the terminals.
5. Use crimp contact with insulation.
6. After wiring, use the attached terminal protection cover for safe use, which prevents faulty contact to the terminals. (The terminal protection cover must be mounted after all the terminals are fastened and the wiring is completed.)
7. To remove the terminal protection cover, pull it out by hand.

\*Only the D8 type is manufactured for (6) and (7) above.



## ■ Mounting Main Body to Panel

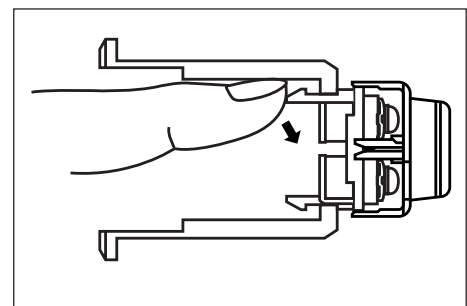
1. Place the main body frame with its model name seal in the left, insert the main body from the front. Then, hook the claw of the attached mounting clamp (CA-1) in the rectangular hole of the frame board from the rear, and fasten the screw.
2. The mounting clamps in even number are attached. Use them allocating equally over the opposite sides and fasten with the torque 0.4 ~ 0.5N·m.

## ■ Removing LED Unit

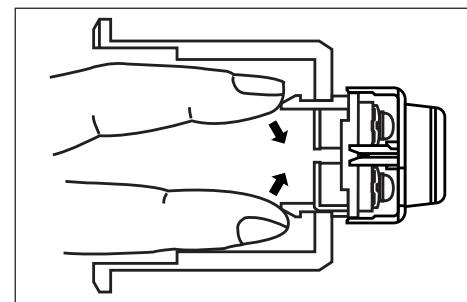
Use the removing tool Model KX-12 (for KFE-27F, 27H□8) or KX-13 (for KFE-37F, 37H□8), inserting its edges into the gaps above and below the lighting window to the depth and pull out the unit. The slot in the side of the LED unit can be hooked and the unit pulled out using a small flat bladed screwdriver. (When 1 unit is pulled out the other units are pulled out with your finger.)

## ■ Removing Socket

1. Turn the power OFF and remove the LED unit.
2. With the Model KFE-27F, 37H□8, pinch the both connection claws of the socket by fingers from the front of the main body to push it out.  
Also applies to the D8P type (pop-up screw type).



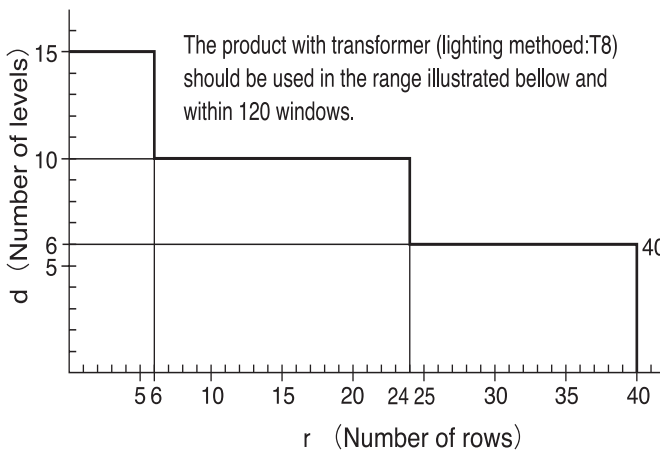
3. With the Model KFE-37F, 37H□8 of which inner space is small, turn one of the connection claws inwards with a finger or a screwdriver and push the socket to remove.  
Also applies to the D8P type (pop-up screw type).



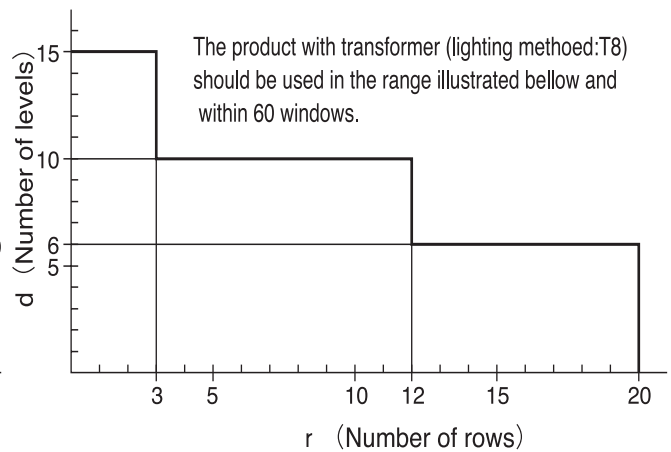
# Integration Chart

The charts show the range in which the LED unit integration is possible, but not the range of continuous lighting units.

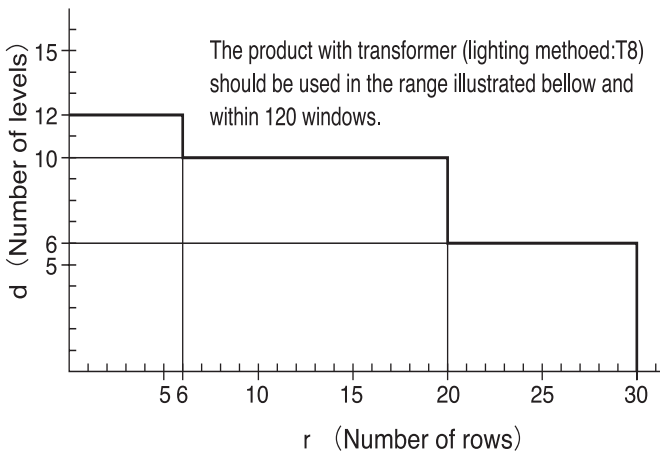
▼KFE-27F□8□□



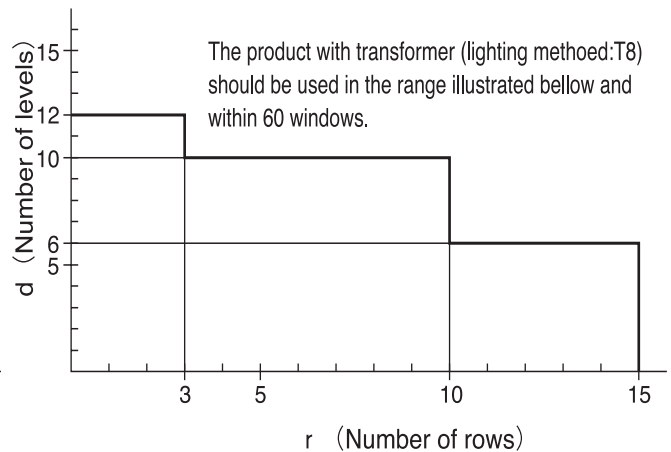
▼KFE-27H□□8□□



▼KFE-37F□□8□□



▼KFE-37H□□8□□



- For possible integration range other than the above, contact the sales representative.



**NOTICE**

- The above charts show the range in which the LED unit integration is possible, but not the range of continuous lighting units.
- For number of continuous lighting units, demand the separate documents.
- Unless otherwise mentioned, the dimensions are indicated in "mm" in this book.