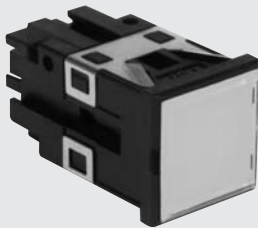


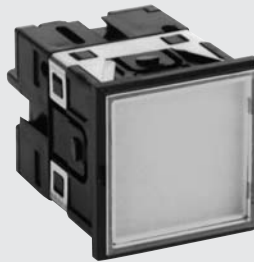
LED Square Lights

FU Series

FU20FD



FU30FD



FU30HD



■ Features

- Configured with a TFLED to provide even lighting.
- The snap-on mounting methods enables tight panel mounting.
- Model FU20FD comes with full window/alternate colors.
- Model FU30HD comes with full window/alternate colors, and split window/two colors.
- Five vivid lighting colors are available: milky white, red, green, orange, and yellow.
- A built-in protective diode efficiently resists reverse voltage.
- LED units can be easily replaced from the front surface.
- RoHS directive compliant.

■ Model Designation

FU ※1 ※2 - 4 ※3

Lighting Colors

Rated Voltage (4 : 24V DC)

Lighting Method

Model Name

Note: The bezel color is black.

※1

Model Name	Dimensions	
	Vertical	Horizontal
20FD	20mm	20mm
30FD	30mm	30mm
30HD	30mm	60mm

※2

Code	Lighting Method
A	Full window/one color
B	Split window/two colors (only model 30HD)
C	Full window/alternate colors (red + another color) (only models 20FD and 30HD)

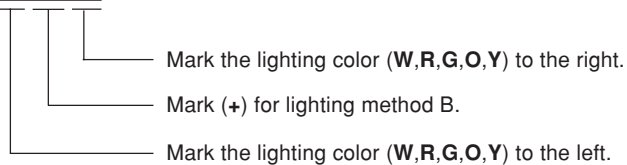
※3

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

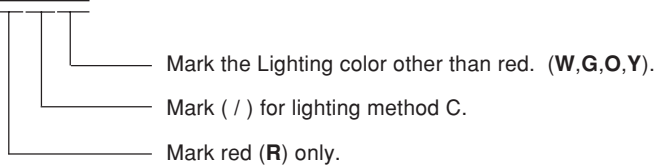
■ Coding for Each Lighting Method

Lighting Method A: Mark the lighting color (**W**: milky white, **R**: red, **G**: green, **O**: orange, **Y**: yellow)

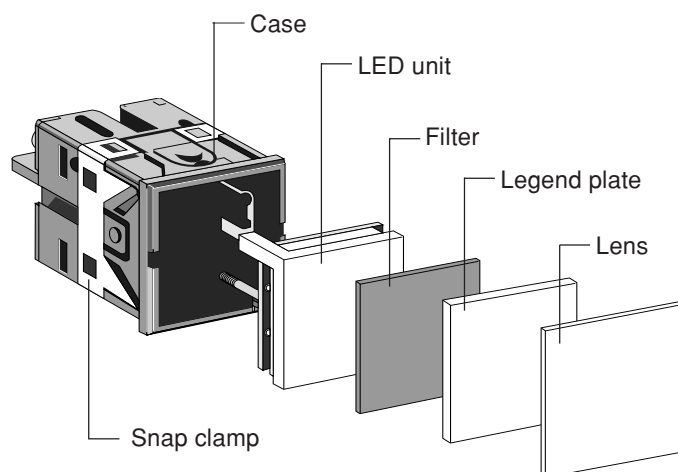
Lighting Method B: **W + O**



Lighting Method C: **R / G**



■ Product Configuration



■ Specifications

Model		FU20FD	FU30FD	FU30HD
Item				
Rated Voltage		24V DC $\pm 10\%$		
Rated Current	Lighting Method A	17mA		34mA
	Lighting Method B	—		17 + 17mA
	Lighting Method C	15/15mA	—	34 + 34mA
Insulation Resistance		100M Ω 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 -40°C and 2 hours at $70 \pm 3^{\circ}\text{C}$		
Humidity Resistance		For 96 hours at $40 \pm 2^{\circ}\text{C}$ and 95% RH		
Vibration Resistance		3-dimensional vibration for 1 hour with a sweep time of 1 minute (amplitude: 1.5mm, frequency: 10 ~ 50Hz)		
Shock Resistance		3-dimensional shock of 500m/s ² to 6 surfaces, 5 times		
Operating Environment		Temperature: $-10 \sim 40^{\circ}\text{C}$, Humidity: 45 ~ 85% RH (No freezing or condensation)		
Reverse Voltage		400V		
Lighting Color		Milky white (W), Red (R), Green (G), Orange (O), Yellow(Y)		
Panel Thickness		1 ~ 6mm		
Wiring		Connector wiring (0.3mm ²)*	M3.5 \times 10 square screws (torque: 1.0 ~ 1.3N·m)	
Weight		10g	29g	46g

* Applicable Connectors (order separately)

Housing : P I 011 - 04F (SUMIKO TEC)

Receptacle : 702062-2M (SUMIKO TEC)

Crimp Tool : F-1-702062 (SUMIKO TEC)

Wire harnesses for FU20FD is optional.

■ Materials

Lens	Acrylic resin	(transparent)	UL94HB
Legend Plate	Acrylic resin	(milky white)	thickness: 1.5mm (20FD·moulded), 2mm (30FD/HD)
Filter	Acrylic resin	(transparent, red, green, orange, yellow)	
	Thickness: 1.5mm	(20FD·moulded), 1mm (30FD), 2mm (30HD)	
Case	Polycarbonate resin	(similar to N1.5)	UL94V-0
Reflector	PBT resin		
Terminal Screws	Carbon steel	(zinc plated with chromate treatment)	M3.5 \times 10 *connector wiring for FU20FD
Mounting Clamp	Luster-finish steel	(zinc plated with chromate treatment)	
Mounting Screws	Carbon steel	(zinc plated with chromate treatment)	M3.5 \times 40

■ Mounting

Insert the unit from the front surface of the control panel. The unit will be locked in position by the side snap clamps.

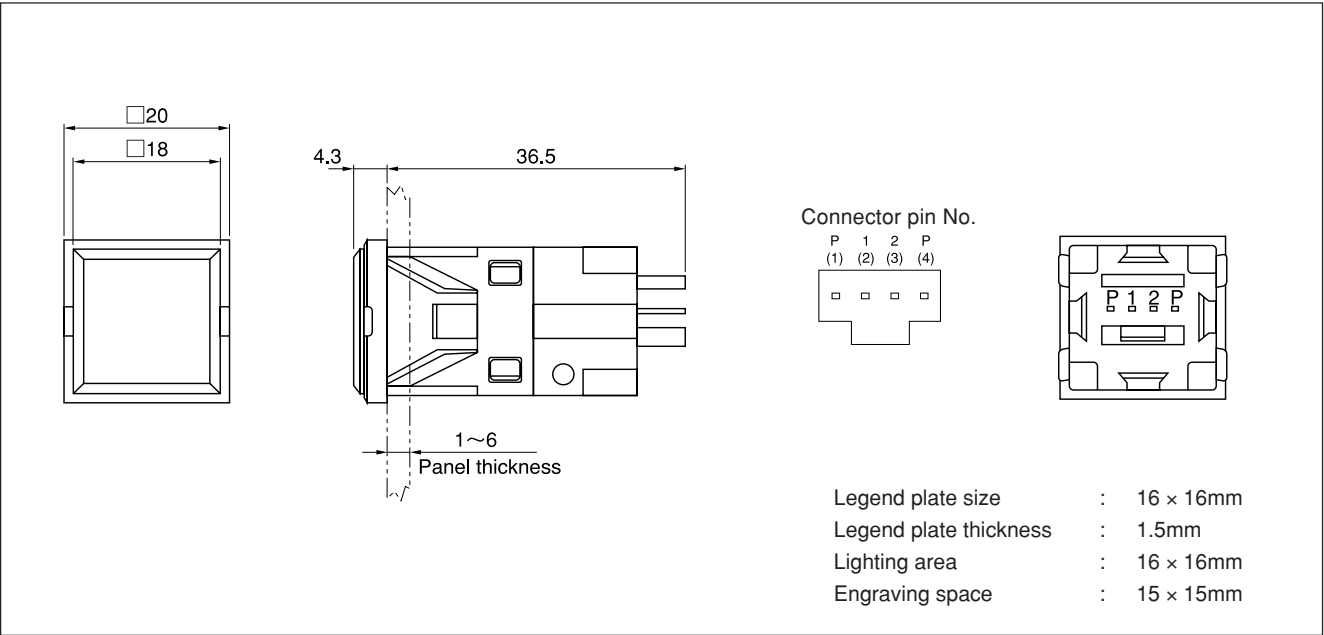


NOTICE

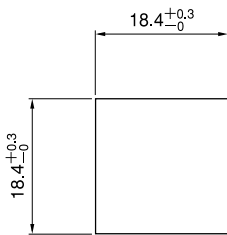
- When used in a circuit with induced voltage or leakage current, the LED may light unintentionally. To prevent this malfunction, insert a resistor parallel to the indicator terminal.
- Unless otherwise mentioned, all dimensions are indicated in "mm" in this book.

■ Dimensions

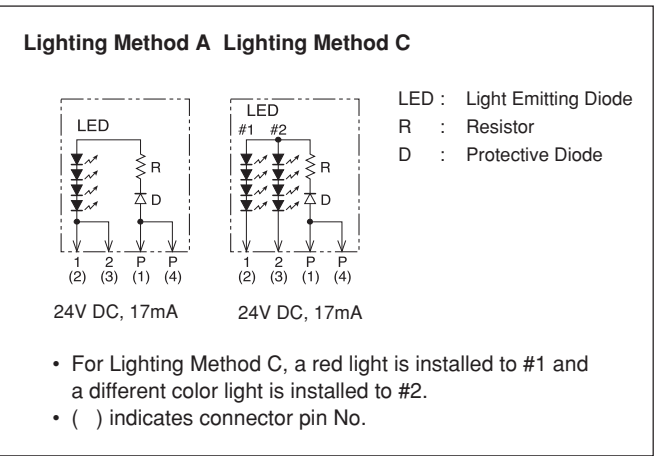
FU20FD



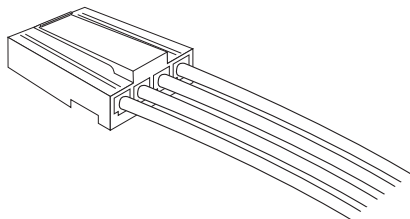
■ Panel Cut Diagram



■ LED Unit Circuit Diagram (Connector wiring)



■ Wire Harness for FU20F (Option)



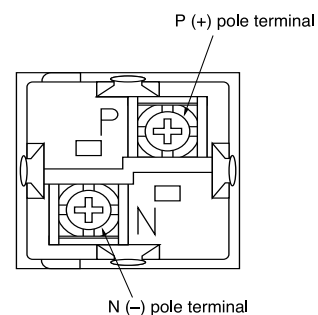
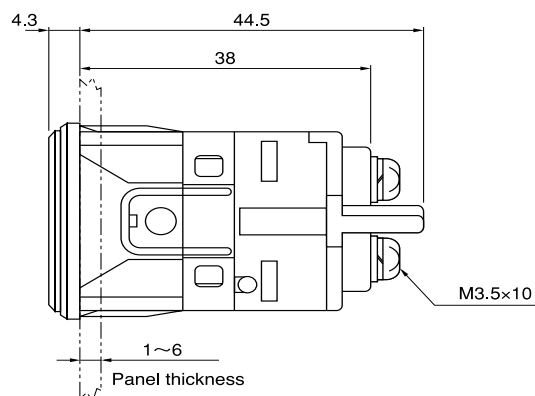
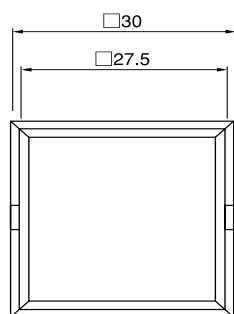
WH - 20 - 2

Lead wire length: 2m (standard)
Model name

Housing	PI011-04F	SUMIKO TEC
Receptacle	702062-2M	SUMIKO TEC
Wires	0.3 mm ²	WLH wire blue

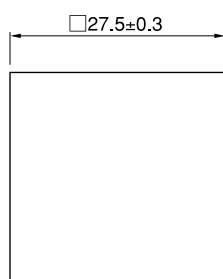
■ Dimensions

FU30FD



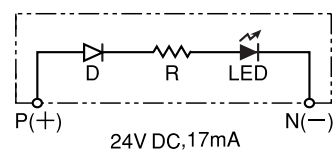
Legend plate size	: 25 × 25mm
Legend plate thickness	: 2mm
Lighting area	: 25 × 25mm
Engraving space	: 23 × 23mm

■ Panel Cut Diagram



■ LED Unit Circuit Diagram

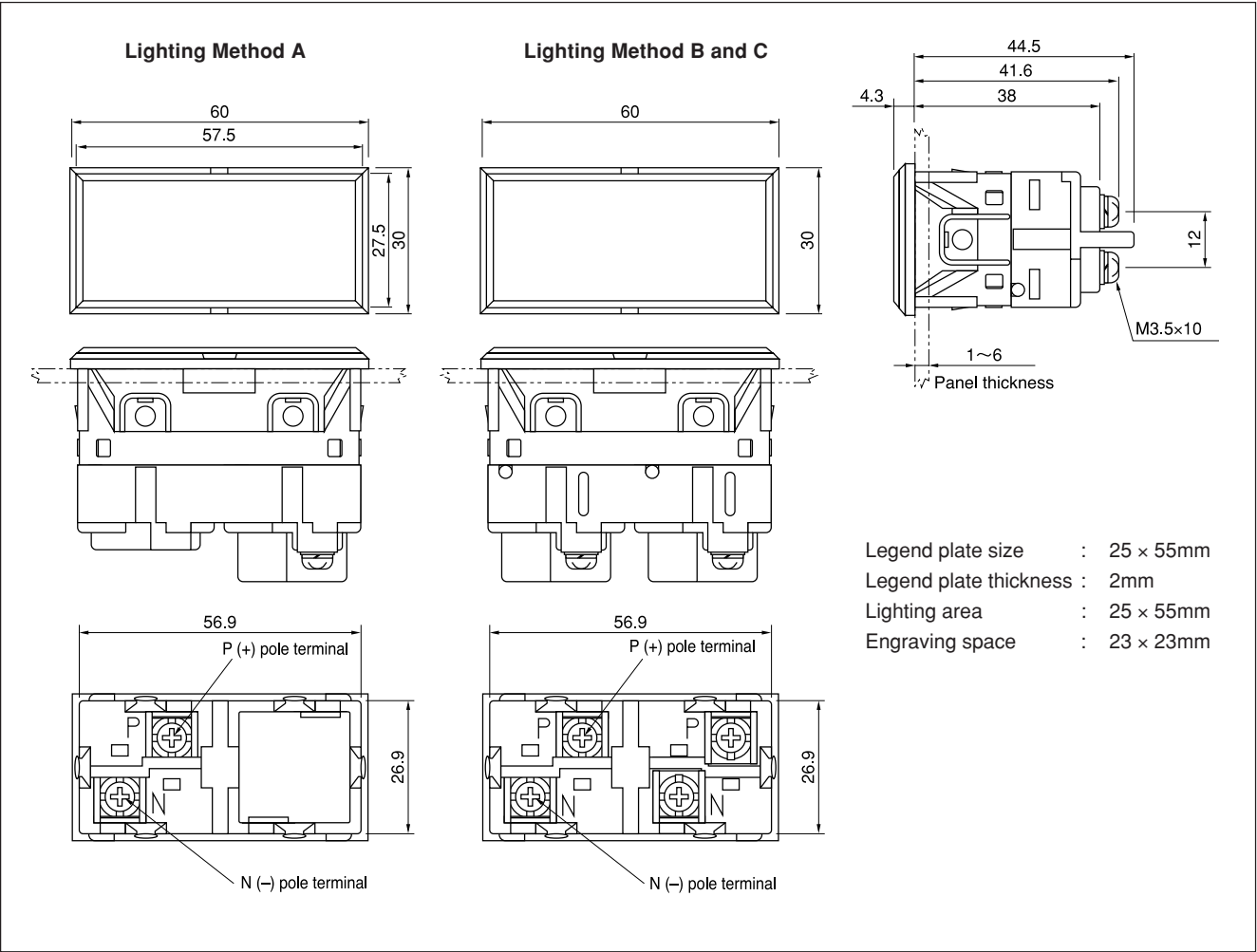
LED refers to the installation of 8 LEDs.



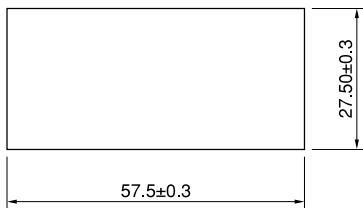
LED : Light Emitting Diode
 R : Resistor
 D : Protective Diode

■ Dimensions

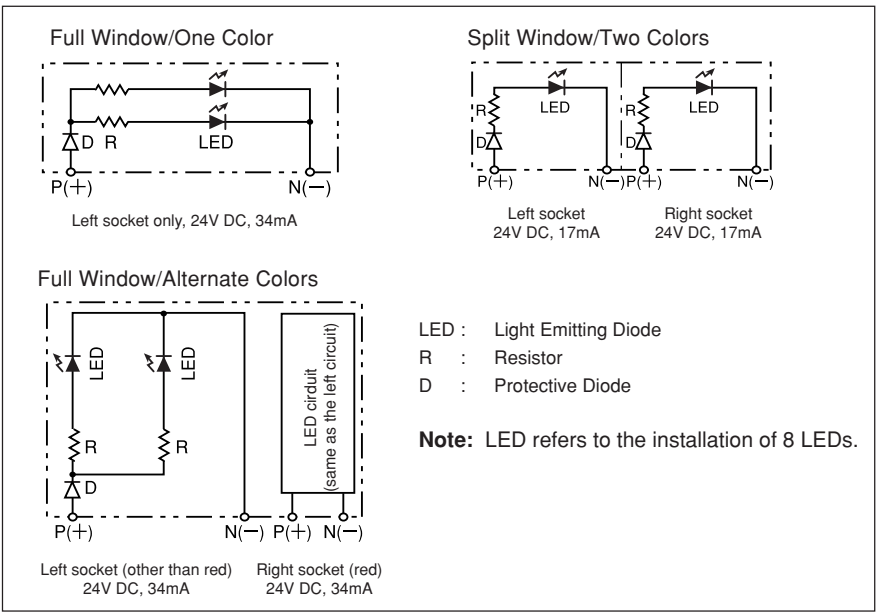
FU30HD



■ Panel Cut Diagram



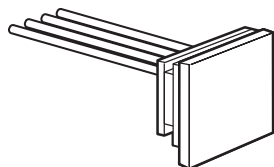
■ LED Unit Circuit Diagram (rear view of the indicator)



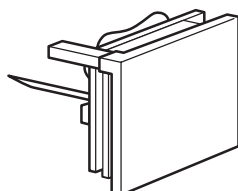
Accessories & Replacement Parts

LED Units

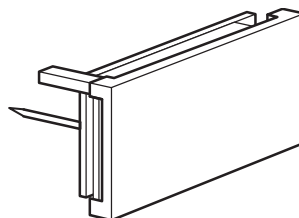
▼ UN-20F



▼ UN-30F



▼ UN-30H



Model Item	20F	30F	30H
Lens	LN20F	LN30F	LN30H
Legend plat	NP20F	NP30F	NP30H

* Lenses and legend plates are sold separately

Model Designation

Full window/One color

UN - ※1 - ※2 A - ※3

Split window/Two colors

UN - ※1 - ※2 B - ※3 + ※3

Left light Right light
(viewed from the front)

Full window/Alternate colors

UN - ※1 - ※2 C - R/ + ※3

Lighting color other than red

※1

Code	Applicable Products
20	Model 20
30	Model 30

※2

Code	LED Unit
F	F-type
H	H-type*

* 30H only.

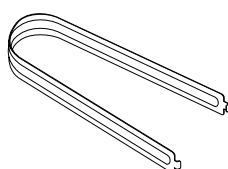
※3

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

Tools for Removing Lenses and LED Units

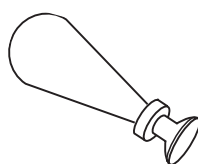
- KX-20 is used to remove lenses.
- KX-7, KX-7W are used to remove LED units, legend plates and filters.

▼ KX-20 (For FU20FD/30FD/30HD)



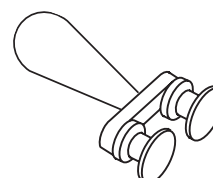
Weight: 8.5g

▼ KX-7 (For FU20FD/30FD)



Weight: 8.4g

▼ KX-7W (For FU30HD)



Weight: 8.4g