**sunmulon**

BL

BL LED Indicator

Bright and Various Illumination makes easy planning of multiple design.
Easy Matrix Mounting available.
Dome Cover type (easy to look) provided.

Various illumination (Mono Color, Split-Face, 3-color, Negative) available.

■ FEATURES
・Size : 30mm square type.
・30×60mm rectangular type.
・Depth behind panel : Only 20mm
・Illumination : Mono-Color, Split-Face, 3-Color (Red, Green, Yellow), Negative
・Dome Cover type (easy to look) available.
・Terminal : Connector Type
 Mounting : Snap-in Type
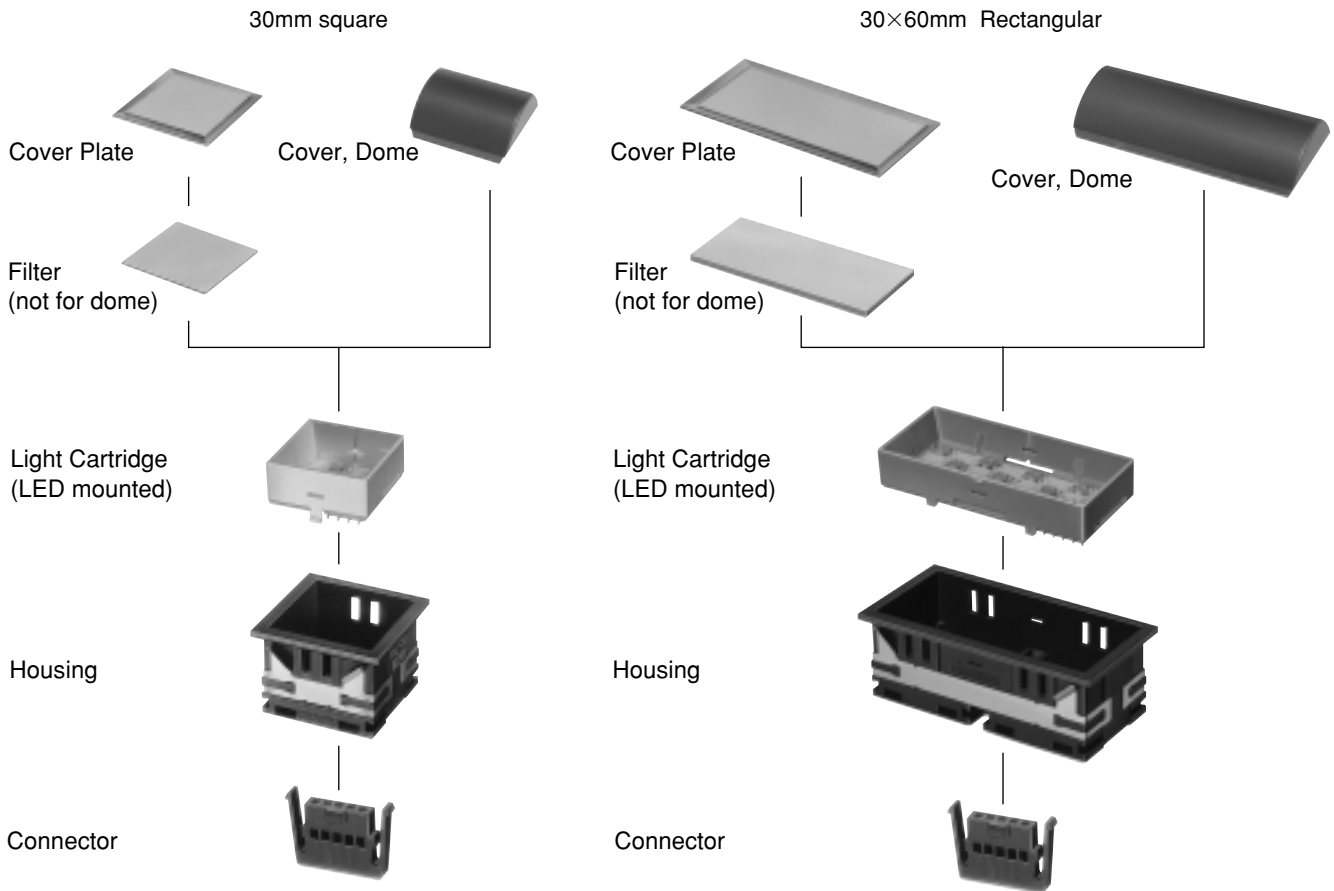 (Matrix mounting is possible to use "joint".)
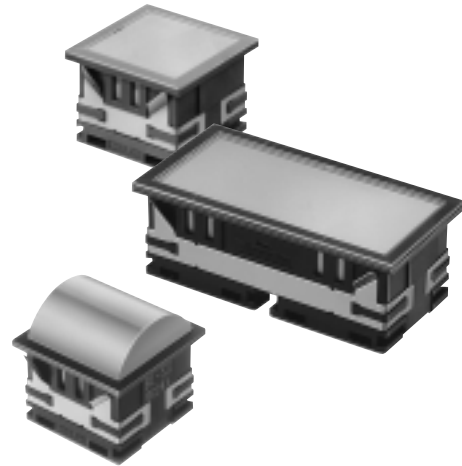
SPECIFICATIONS

Insulation Resistance	More than 100MΩ at 500V DC
Dielectric Strength	1500V AC RMS between terminals and ground (50/60Hz for 60sec. at normal ambient temperature and humidity)
Reverse Dielectric Strength	150V
Ambient Temperature	−10℃~+40℃
Ambient Humidity	45~80% RH

LED DATA

	DC Supply Voltage (V)	Current Rating (mA)								
		Mono-Color		Split-Face		Split-Face, Dual		3-Color		
		Red	Green/Yellow	Red	Green/Yellow	Red	Green	Red	Green	Yellow
30×30	DC12 (±5%)	26	40	13	20	13×2	20×2	26	40	40
	DC24 (±5%)	13	20	13	20	13×2	20×2	13	20	20
30×60	DC12 (±5%)	52	80	26	40	26×2	40×2	52	80	80
	DC24 (±5%)	26	40	13	20	13×2	20×2	26	40	40

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STRUCTURE

30mm square

Cover Plate

Cover, Dome

Filter
(not for dome)

Light Cartridge
(LED mounted)

Housing

Connector

30×60mm Rectangular

Cover Plate

Cover, Dome

Filter
(not for dome)

Light Cartridge
(LED mounted)

Housing

Connector
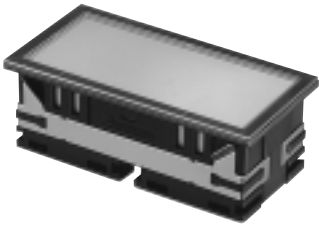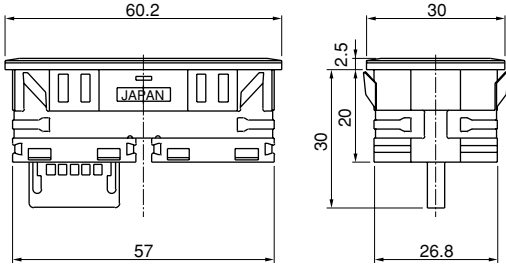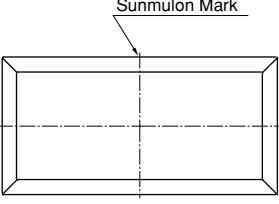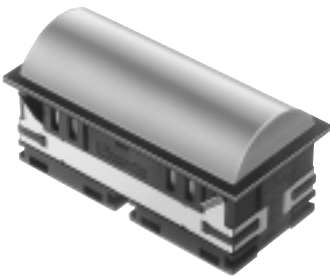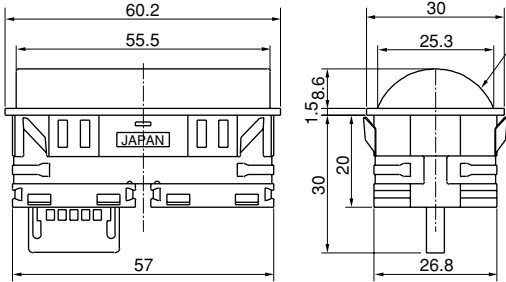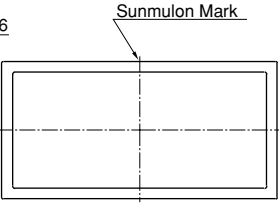
DIMENSIONS

30mm square	**Flat type**		□30 / □26.8 / JAPAN / 2.5 / 30 / 20	MULON Mark / Top View
	Dome type		□30 / □25.3 / □26.8 / JAPAN / R13.6 / 1.5 / 8.6 / 30 / 20	MULON Mark / Top View

Tolerance : ±0.4mm

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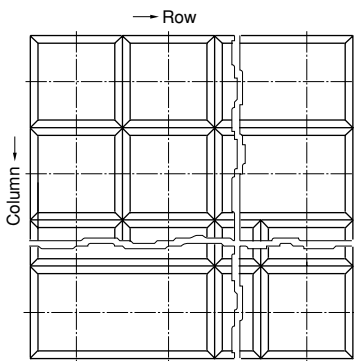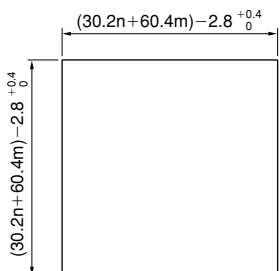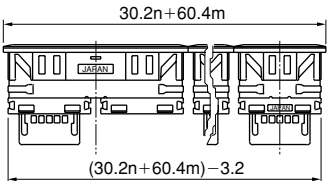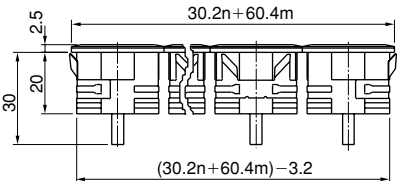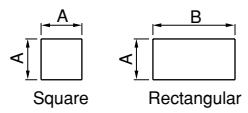
DIMENSIONS

30×60mm Rectangular

Flat type

60.2
30
2.5
20
30
57
26.8

Sunmulon Mark

Top View

Dome type

60.2
55.5
30
25.3
R13.6
1.5 8.6
20
30
JAPAN
57
26.8

Sunmulon Mark

Top View

Panel Thickness 1mm~4mm

Matrix Mounting (Without Matrix Frame)

Row

Column

$(30.2n+60.4m)-2.8\ ^{+0.4}_{0}$

$(30.2n+60.4m)-2.8\ ^{+0.4}_{0}$

Panel Cut Dimension

A

A

Square

B

A

Rectangular

※ n : Number of A size (Row/Column)
m: Number of B size (Row/Column)

30.2n+60.4m

JAPAN

$(30.2n+60.4m)-3.2$

2.5
20
30

30.2n+60.4m

$(30.2n+60.4m)-3.2$

Tolerance : ±0.4mm

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INTERNAL CONNECTION ARRANGEMENTS

Tolerance : ±0.4mm

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INTERNAL CONNECTION ARRANGEMENTS

		Full-Face	**3-Color**
30×60mm Rectangular	**12V**	Sunmulon mark BOTTOM VIEW TOP VIEW	No.4 (Green) No.5 (Yellow) No.3 (Red) No.1, No.2
	24V	Sunmulon mark	No.4 (Green) No.5 (Yellow) No.3 (Red) No.1, No.2
		Split, Vert.	**Split, Horiz.**
	12V	No.1 No.2 No.3	No.3 No.2 No.1
	24V	No.1 No.2 No.3	No.3 No.2 No.1
		Split, Vert.,Dual	**Split, Horiz.,Dual**
	12V	No.1 No.2 (Red) No.4 (Green) No.3 (Red) No.5 (Green)	No.5 (Green) No.3 (Red) No.4 (Green) No.2 (Red) No.1
	24V	No.1 No.2 (Red) No.4 (Green) No.3 (Red) No.5 (Green)	No.5 (Green) No.3 (Red) No.4 (Green) No.2 (Red) No.1

TERMINAL

● TERMINAL LAYOUT

1 2 3 4 5   1 2 3 4 5

● CONNECTOR

Projection

1 2 3 4 5
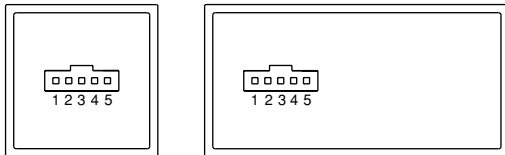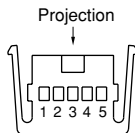
● Suitable wire

Wire size	Diameter
AWG #24-28	1.0-1.5mm

Pin No.	Full-Face	Split, Vert.	Split, Horiz.	3-Color	Split, Vert.,Dual	Split, Horiz.,Dual
1	Anode (+)	Anode (+)	Anode (+)	Anode (+)	Anode (+)	Anode (+)
2	Anode (+)	Cathode (−)	Cathode (−)	Anode (+)	Cathode (−) Red	Cathode (−) Red
3	Cathode (−)	Cathode (−)	Cathode (−)	Cathode (−) Red	Cathode (−) Red	Cathode (−) Red
4				Cathode (−) Green	Cathode (−) Green	Cathode (−) Green
5				Cathode (−) Yellow	Cathode (−) Green	Cathode (−) Green

Note: Simultaneous lighting is impossible while pin no. 3, 4, 5 for 3-Color Type, also impossible while pin no. 2, 4 and 3, 5 for Split-Face Dual Color Type.

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Panel Cut Dimensions

Panel thickness : 1~4mm

		Panel Layout	Panel Cut Dimensions
30mm square	Serial Mounting	30 / 30n$^{\pm1}$	27.2$^{+0.4}_{-0}$ / 27.2+30.2(n−1)$^{+0.4}_{-0}$
Rectangular	Vert., Serial Mounting	60.2 / 30n$^{\pm1}$	57.8$^{+0.4}_{-0}$ / 27.2+30.2(n−1)$^{+0.4}_{-0}$
30×60mm	Horiz. Serial Mounting	30 / 60.2n$^{\pm1}$	27.2$^{+0.4}_{-0}$ / 57.8+60.5(n−1)$^{+0.4}_{-0}$

n : number of indicators

ACCESSORIES

Connector (appended)

Part No.	BL-0077

Housing

Contact Pin
Honda Tsushin Kogyo made (HKP-F403)

Connector (1Housing & 5 Contact Pins) to be appended.

Joint (Use for Matrix mounting)

Part No.	BL-0065

Tolerance : ±0.4mm

Wire Hearness

Wire : UL1061, AWG26

A
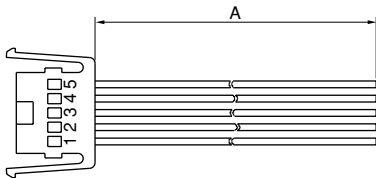
Pin no.	1	2	3	4	5
Color	Red	Green	Yellow	Blue	Grey

A Length	Part No.
50cm	CL-0230
100cm	CL-0231

Contact Pin press Tool

Honda Tsushin Kogyo made (KP-309)

ORDERING CODE I

BL – □ 1 2 □ □ 1 2 K □ □

● **SHAPE & ILLUMINATION**

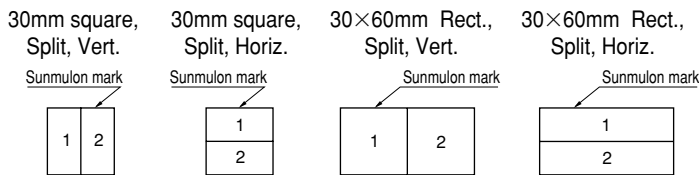|	
S0	30mm square, Full-Face
S1	30mm square, Split,Vert.
S2	30mm square, Split, Horiz.
S3	30mm square, 3-Color ※1)
S4	30mm square, Split, Vert.,Dual ※1)
S5	30mm square, Split, Horiz., Dual ※1)
W0	30×60mm Rect., Full-Face
W1	30×60mm Rect., Split,Vert.
W2	30×60mm Rect., Split, Horiz.
W3	30×60mm Rect., 3-Color ※1)
W4	30×60mm Rect., Split, Vert.,Dual ※1)
W5	30×60mm Rect., Split, Horiz., Dual ※1)

T0	30mm square, Full-Face, Dome
T3	30mm square, 3-Color, Dome ※4) ※5)
H0	30×60mm Rect., Full-Face,Dome ※4)
H3	30×60mm Rect., 3-Color,Dome ※4) ※5)

● **LED COLOR** ※3)

7	Red	Full-Face : Put color no. into the frame 1
8	Green	Split-Face : Put color no. into the frame 1, 2
※ 9	Yellow	3-Color : Put color no. 7,8 into the frame 1, 2 ※2)
×	Without LED	Split,Dual : Put color no. 7,8 into the frame 1, 2 ※2)

● **MOUNTING**

1	For Horiz. Mtg.
2	For Vert. Mtg.

● **HOUSING COLOR**

K	Black
H	Grey

● **SUPPLY VOLTAGE**

2	12V
3	24V
×	Without LED

● **FILTER COLOR** ※3)

1	Red	Full-Face : Put color no. into the frame 1
2	Green	Split-Face : Put color no. into the frame 1, 2
※ 3	Yellow	3-Color : Put color no. 4 into the frame 1
4	Milk-White	Split,Dual : Put color no. 4,4 into the frame 1, 2
×	Without Filter	

● **COVER PLATE**

C	Transparent
SK	Semitransparent (for Negative) ※1)

● **DOME COVER**

R	Red	※	Y	Yellow
G	Green		M	Milk-White

※ "Yellow" color for LED/Filter is actually "Orange Yellow".

● NOTES

※1) In case of Negative illumination, please select Milk-White filter.
(Black silk printing to be applied on Milk-White filter)

※2) Simultaneous lighting is impossible for 3-Color Type, and Split-Face Dual Color Type.

※3) In case of Split-Face, LED and Filter color location should be specified as follow:

30mm square, Split, Vert.	30mm square, Split, Horiz.	30×60mm Rect., Split, Vert.	30×60mm Rect., Split, Horiz.
Sunmulon mark	Sunmulon mark	Sunmulon mark	Sunmulon mark
1 | 2	1 / 2	1 | 2	1 / 2

※4) In case of selecting Dome type, filter is not needed, so please select Without Filter(X)

※5) Milk-White color filter or dome cover must be selected for 3-Color type and Split-Face Dual Color Type.

※6) Snap-spring metal plates come out Left/Right direction for Vertical Mounting, and Top/Bottom direction for Horizontal Mounting to avoid interferring mutually in case of serial mounting. Therefore, in case of independent use, it does not matter. (select 2 Horizontal ordinary)