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".)
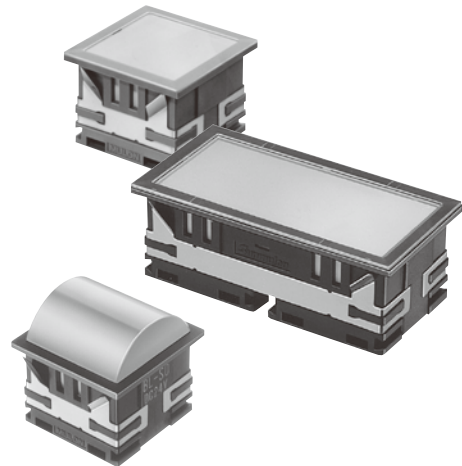
SPECIFICATIONS

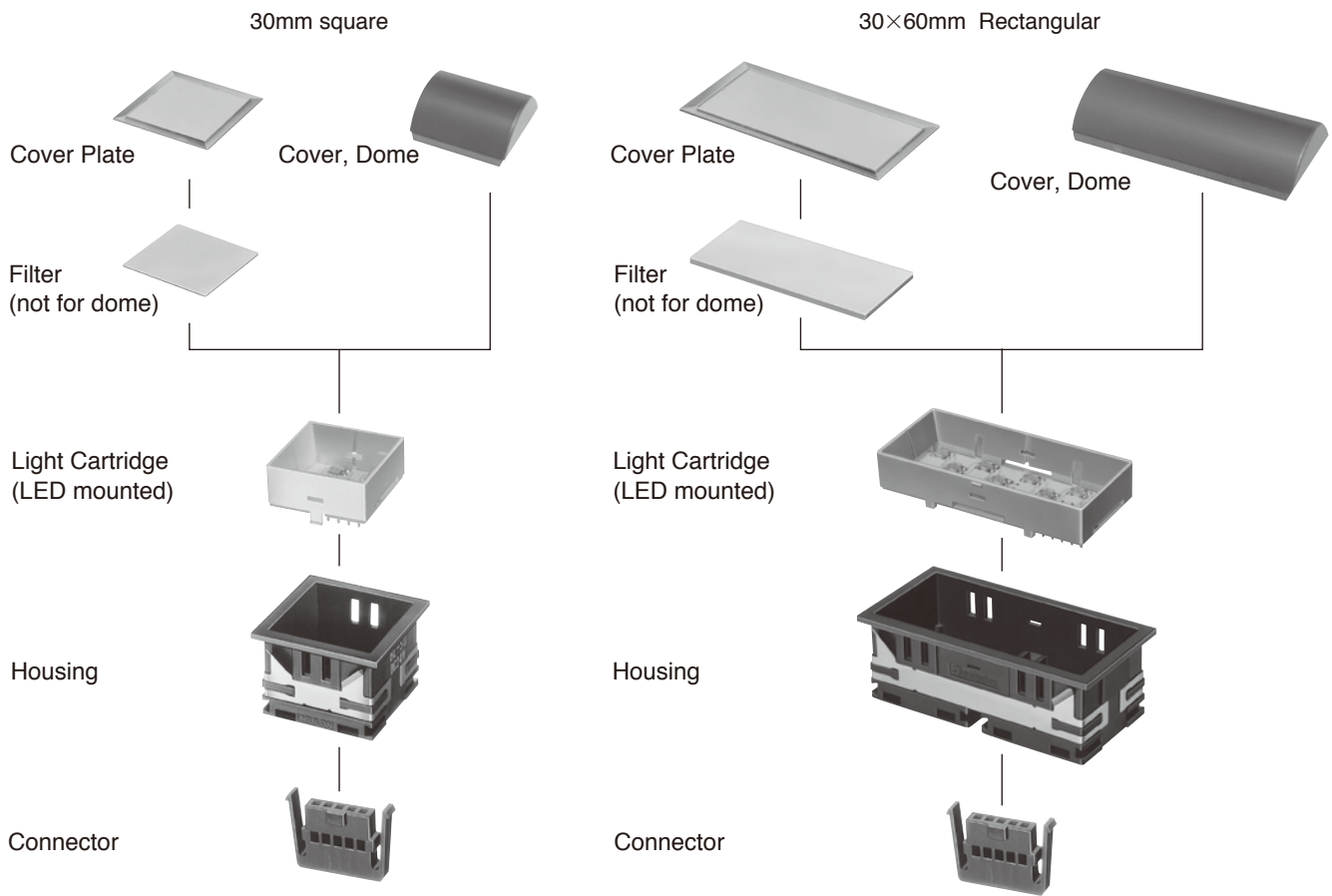|	
Insulation Resistance	More than 100MΩ at 500V DC
Dielectric Strength	1500V AC RMS between terminals and ground (50/60Hz for 60sec. at normal ambient temperature and humidity)
Reverse Dielectric Strength	150V
Ambient Temperature	10 C～ 40 C
Ambient Humidity	45~80% RH

LED DATA

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

LED DATA （Super BL LED COLOR）

	DC Supply Voltage (V)	Current Rating (mA)											
		Mono-Color						Split-Face			3-Color		
		Red	Green	Yellow	Super Blue	Super White	Super Green	Red	Green	Yellow	Red	Green	Yellow
30×30	DC12 （±5%）	16	34	20	15	11	11	8	17	10	16	34	37
	DC24 （±5%）	8	17	10	8	6	6	8	17	10	8	17	21
30×60	DC12 （±5%）	31	67	41	31	22	22	16	34	20	31	67	67
	DC24 （±5%）	16	34	20	15	11	11	8	17	10	16	34	38

BL

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STRUCTURE

30mm square	30×60mm Rectangular

Cover Plate

Cover, Dome

Filter
(not for dome)

Light Cartridge
(LED mounted)

Housing

Connector

Cover Plate

Cover, Dome

Filter
(not for dome)

Light Cartridge
(LED mounted)

Housing

Connector
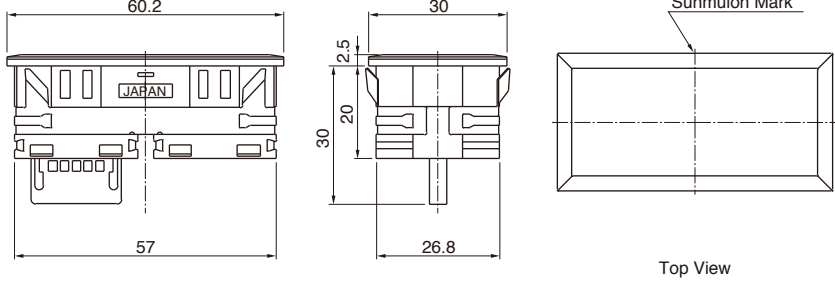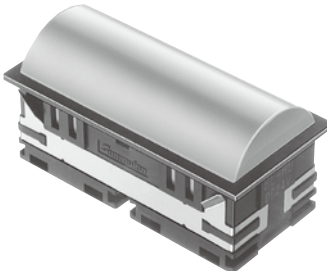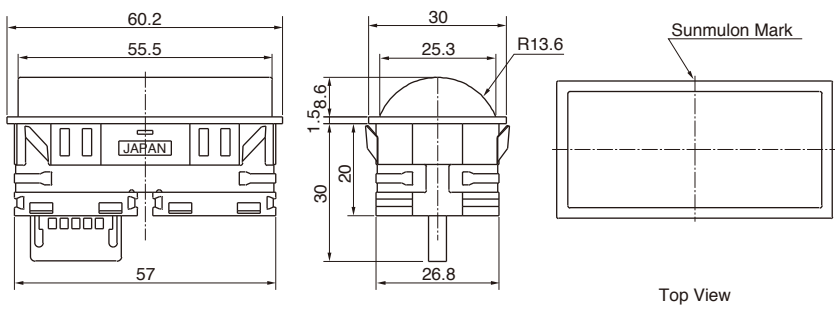
DIMENSIONS

30mm square

Flat type

□30

2.5

30

20

□26.8

JAPAN

MULON Mark

Top View

Dome type

□30

□25.3

1.5 8.6

R13.6

30

20

□26.8

JAPAN

MULON Mark

Top View
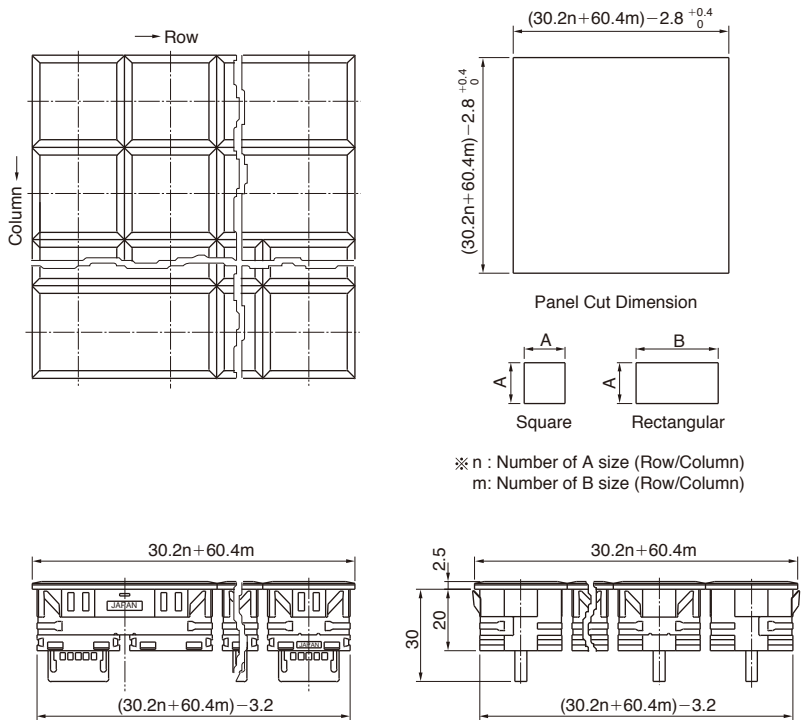
Tolerance : ±0.4mm

DIMENSIONS

30×60mm Rectangular	**Flat type**		60.2 / 30 / 2.5 / 20 / 30 / JAPAN / 57 / 26.8	Sunmulon Mark / Top View
	Dome type		60.2 / 55.5 / 30 / 25.3 / R13.6 / 1.5 / 8.6 / JAPAN / 20 / 30 / 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

JAPAN

$(30.2n + 60.4m) - 3.2$

2.5 / 20 / 30

30.2n+60.4m

$(30.2n + 60.4m) - 3.2$

Tolerance : ±0.4mm

BL

INTERNAL CONNECTION ARRANGEMENTS

		Full-Face	3-Color	Split, Horiz.
30mm square	**12V**	BOTTOM VIEW TOP VIEW MULON mark 5 4 2 1 3	No.4 (Green) No.5 (Yellow) No.3 (Red) No.1, No.2	No.3 No.2 No.1
	24V	BOTTOM VIEW TOP VIEW MULON mark 5 4 2 1 3	No.4 (Green) No.5 (Yellow) No.3 (Red) No.1, No.2	No.3 No.2 No.1

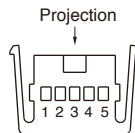Tolerance : α0.4mm

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
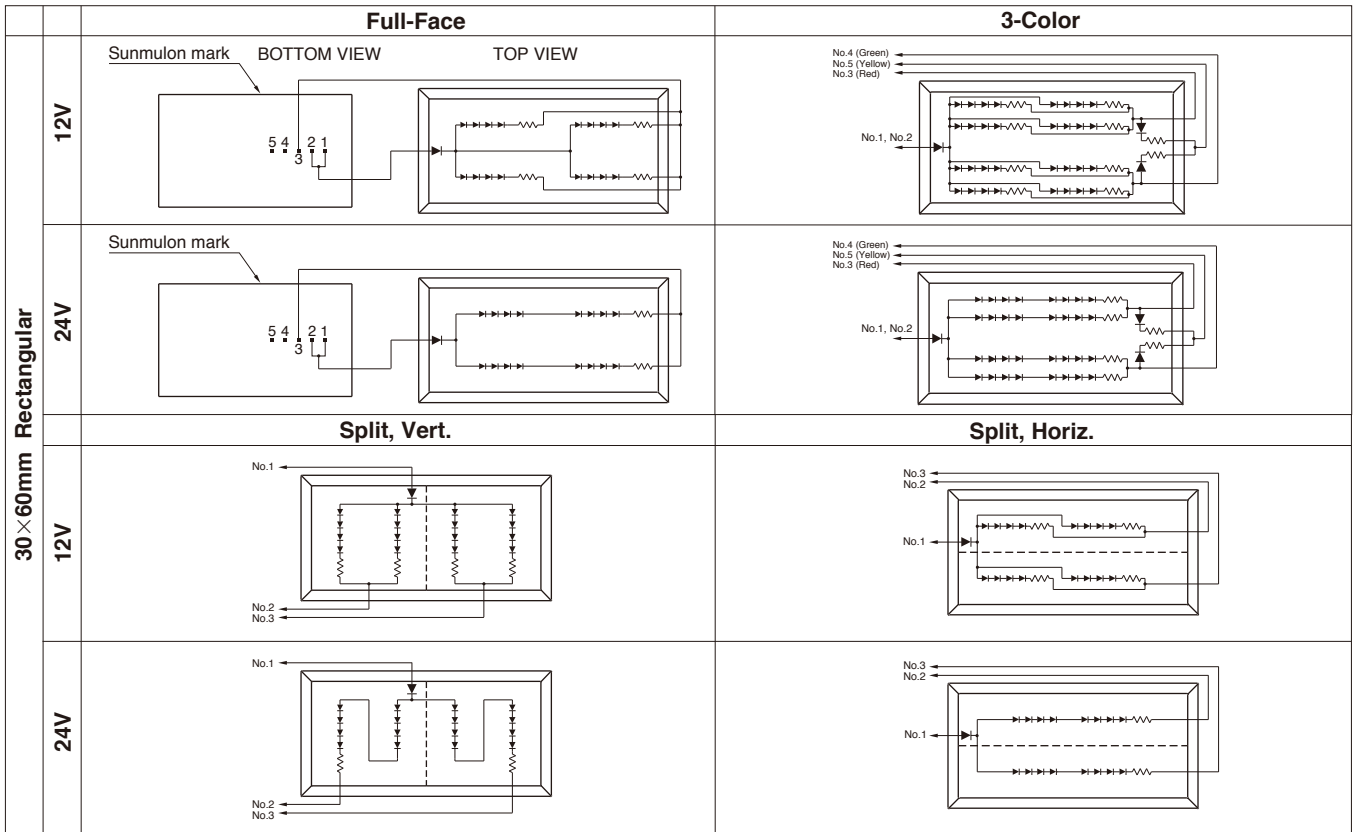
TERMINAL

● **TERMINAL LAYOUT**

1 2 3 4 5

1 2 3 4 5

● **CONNECTOR**

Projection

1 2 3 4 5
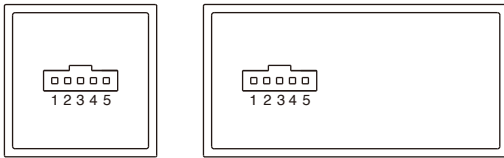
● **Suitable wire**

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

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

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.

● **Super BL LED COLOR**

Pin No.	Full-Face		Split	3-Color
	R, G, Y	SB, SW, SG		
1	Anode (+)	Anode (+)	Anode (+)	Anode (+)
2	Anode (+)	Anode (+)	Cathode (−)	Anode (+)
3	Cathode (−)	Cathode (−)	Cathode (−)	Cathode (−) Red
4		Cathode (−)		Cathode (−) Green
5				Cathode (−) Yellow

Panel Cut Dimensions

Panel thickness : 1~4mm

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

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 Harness

Wire : UL1061, AWG26

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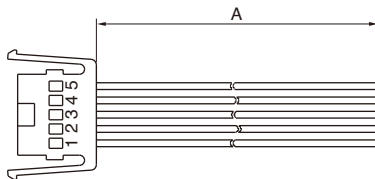
Pin no.	1	2	3	4	5
Color	Red	Green	Yellow	Blue	Grey

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

Contact Pin press Tool

Honda Tsushin Kogyo made (KP-309)

ORDERING CODE I

UNIT

BL－□ 1 2 □ □ 1 2 □ □ □

● **SHAPE & ILLUMINATION**

S0	30mm square, Full-Face
S2	30mm square, Split, Horiz.
S3	30mm square, 3-Color
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)

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

※4) ※5)
※4)
※4) ※5)

● **LED COLOR** ※3)

	7	Red	
※	8	Green	Full-Face : Put color no. into the frame 1
	9	Yellow	Split-Face : Put color no. into the frame 1, 2
	X	Without LED	3-Color : Put color no. 7080 into the frame 1, 2 ※2)

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

30mm square,　　30×60mm Rect.,　　30×60mm Rect.,
Split, Horiz.　　Split, Vert.　　Split, Horiz.

Sunmulon mark　　Sunmulon mark　　Sunmulon mark

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

● **MOUNTING**

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

● **SUPPLY VOLTAGE**

2	12V
3	24V
X	Without LED

● **TERMINAL**

K	With Connector
N	Without Connector

● **HOUSING COLOR**

K	Black
H	Grey

● **FILTER COLOR** ※3)

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

● **COVER PLATE**

C	Transparent
SK	Semitransparent (for Negative) ※1)

● **DOME COVER**

R	Red
G	Green

※	Y	Yellow
	M	Milk-White

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

MATRIX INDICATOR

BL－□ X □ □ □ □ □ □

● **COLUMN**

01	1
⋮	⋮
10	10

● **ROW**

01	1
⋮	⋮
10	10

According to user's specification,
suffix no. will be given.

● **MATRIX FRAME**

K	Black
H	Gray
X	Without Frame

● In case of Matrix Indicator, please inquiry us how to order.

ORDERING CODE II (Super BL LED COLOR)

UNIT

BL – ☐ 1 2 ☐ ☐ 1 2 ☐ ☐ ☐

● SHAPE & ILLUMINATION

S0	30mm square, Full-Face	
S2	30mm square, Split, Horiz.	
S3	30mm square, 3-Color	※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)

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)

70	Red
80	Green
※ 90	Yellow
14	Super Blue
16	Super White
18	Super Green
X	Without LED

Full-Face : Put color no. into the frame 1
Split-Face : Put color no. into the frame 1, 2
(7070, 7080, 7090
8070, 8080, 8090
9070, 9080, 9090
combination only)
3-Color : Put color no. 7080 into the frame 1, 2 ※2)

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

30mm square,
Split, Horiz.
Sunmulon mark
| 1 |
| 2 |

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

30×60mm Rect.,
Split, Horiz.
Sunmulon mark
| 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.
※6) Snap-spring metal plates come out Left/Right direction for Vertical Mounting, and Top/Bottom direction for Horizontal Mounting to avoid interfering mutually in case of serial mounting. Therefore, in case of independent use, it does not matter. (select 2 Horizontal ordinary)

● MOUNTING

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

● SUPPLY VOLTAGE

2	12V
3	24V
X	Without LED

● TERMINAL

| K | With Connector |
| N | Without Connector |

● HOUSING COLOR

| K | Black |
| H | Grey |

● FILTER COLOR ※3)

1	Red
2	Green
※ 3	Yellow
4	Milk-White
X	Without Filter

Full-Face : Put color no. into the frame 1
Split-Face : Put color no. into the frame 1, 2
3-Color : Put color no. 4 into the frame 1

● COVER PLATE

| C | Transparent |
| SK | Semitransparent (for Negative) ※1) |

● DOME COVER

R	Red
G	Green
※ Y	Yellow
M	Milk-White

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

MATRIX INDICATOR

BL – ☐ X ☐ ☐ ☐ ☐ ☐

● COLUMN

01	1
⋮	⋮
10	10

● ROW

01	1
⋮	⋮
10	10

According to user's specification, suffix no. will be given.

● MATRIX FRAME

K	Black
H	Gray
X	Without Frame

● In case of Matrix Indicator, please inquiry us how to order.