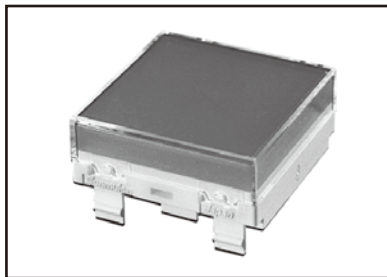


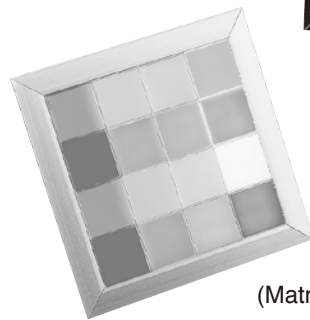
# TL LED Indicator

## Free Size LED Indicator

- Arrange 25 mm square size light cartridge as matrix, and make large size Indicator as you like.
- It is also used as LED backlight. (PCB mounting type available)



(Unit)



(Matrix Indicator)



(Free Size Indicator)



### SPECIFICATIONS

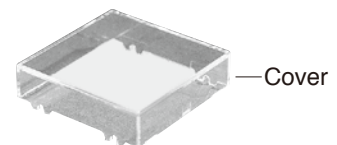
Insulation Resistance	More than 100MΩ at 500V DC
Dielectric Strength	1500V AC RMS between terminals and ground (50/60Hz for 60sec. at normal ambient temperature and humidity)
Reverse Dielectric Strength	150V
Ambient Temperature	-10°C~+40°C
Ambient Humidity	45~80% RH

### LED DATA

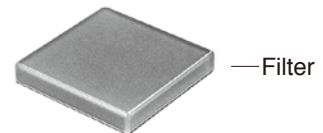
DC Supply Voltage (V)	Current Rating (mA)														
	Mono-Color			3-Color									Mono, Super LED		
	Red	Green	Yellow	Red/Green			Green/Yellow			Yellow/Red			Super Blue	Super Green	Super White
Red				Green	Red/Green	Green	Yellow	Green/Yellow	Yellow	Red	Yellow/Red				
DC12V (±5%)	12	21	17	12	21	18	21	17	19	17	12	18	21	14	9
DC24V (±5%)	7	11	10	7	11	11	11	10	11	10	7	11	11	8	5

### STRUCTURE

(Unit)



Cover



Filter



Light Cartridge (LED mounted)

## DIMENSIONS

<b>Unit</b>		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>□25</p> </div> <div style="text-align: center;"> <p>15 5.74</p> </div> <div style="text-align: center;"> <p>10.16 5.08</p> </div> </div> <div style="text-align: right; margin-top: 10px;"> <p>Sunmulon mark Top View</p> </div>
<b>Free Size Indicator</b>		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Row Sunmulon mark Column</p> <p>25m 25n</p> </div> <div style="text-align: center;"> <p>Panel Cut Dimension</p> <p><math>25n + 20.2^{+1}_0</math> <math>25m + 20.2^0_{+1}</math></p> </div> </div> <p style="text-align: right; font-size: small;">※ Panel Thickness 1mm~6mm ※ n : Row m : Column (Face size : times of 25mm)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><math>25n + 26.8</math> <math>25n + 19.2</math></p> </div> <div style="text-align: center;"> <p>3 34.5 28.6 <math>25n + 26.8</math> <math>25n + 19.2</math></p> </div> </div>
<b>Matrix Indicator</b>		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Row Sunmulon mark Column</p> <p>25m 25n</p> </div> <div style="text-align: center;"> <p>Panel Cut Dimension</p> <p><math>25n + 20.2^{+1}_0</math> <math>25m + 20.2^0_{+1}</math></p> </div> </div> <p style="text-align: right; font-size: small;">※ Panel Thickness 1mm~6mm ※ n : Row m : Column</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><math>25n + 26.8</math> <math>25n + 19.2</math></p> </div> <div style="text-align: center;"> <p>3 28.6 <math>25n + 26.8</math> <math>25n + 19.2</math></p> </div> </div>

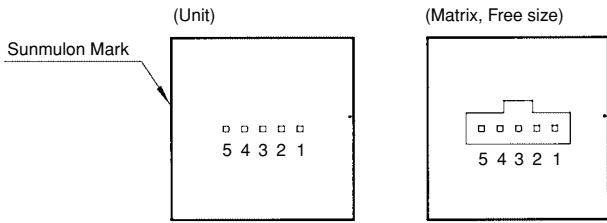
Tolerance : ±0.4mm

## INTERNAL CONNECTION ARRANGEMENTS

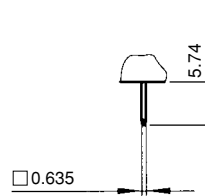
<b>Mono-color</b>	<b>Red/Green/Yellow</b>	
12V	<p>No.1, 2 ○ — D — No.3</p>	24V
24V	<p>No.1, 2 ○ — D — No.3</p>	
<b>3-Color</b>	<b>Red/Green/Yellow combination</b>	
12V	<p>No.1, 2 ○ — D — No.3 No.5 No.4</p>	24V
24V	<p>No.1, 2 ○ — D — No.3 No.5 No.4</p>	
<b>Mono-color, Bright</b>	<b>Blue/Green/White</b>	
12V	<p>No.1, 2 ○ — D — No.3</p>	24V
24V	<p>No.1, 2 ○ — D — No.3</p>	

## TERMINAL

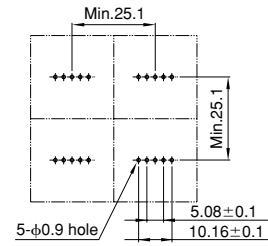
### ● TERMINAL LAYOUT



### ● TERMINAL SHAPE

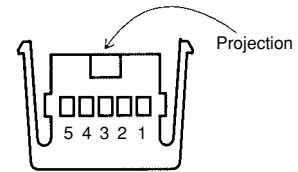


### ● PCB HOLE DIMENSIONS (UNIT)



Terminal No.	Mono Color	Mono Color Bright	3-Color (G/R)	3-Color (Y/R)	3-Color (G/Y)
1	Anode (+)	Anode (+)	Anode (+)	Anode (+)	Anode (+)
2	Cathode (-)	Anode (+)	Anode (+)	Anode (+)	Anode (+)
3	Cathode (-)	Cathode (-)	Cathode (-) Green	Cathode (-) Yellow	Cathode (-) Yellow
4	/	/	Cathode (-) Red	Cathode (-) Red	Cathode (-) Green
5	/	/	Cathode (-) G/R	Cathode (-) Y/R	Cathode (-) G/Y

### ● CONNECTOR

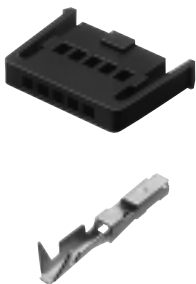


### ● Suitable wire

Wire size	Diameter
AWG #24-28	φ1.0~1.5mm

## ACCESSORIES

### ● CONNECTOR (to be appended to Free Size/ Matrix Indicator)



Part No. BL-0077

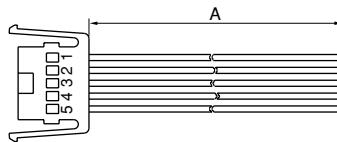
Housing

Contact Pin  
Honda Tsushin Kogyo  
made (HKP-F403)

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

### ● Wire Harness

Wire : UL1061, AWG26



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

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

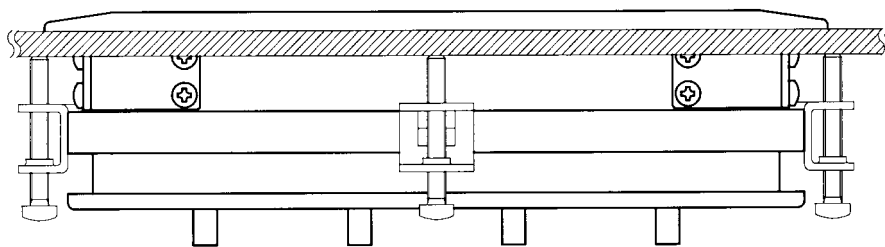
### ● Contact Pin press Tool



Honda Tsushin Kogyo made  
(KP-309)

## MOUNTING

### ● Mounting method for Free size/Matrix Indicators.



Fix with mounting screws(appended) from back side.

ORDERING CODE

UNIT

TL - [ ] [1] [2] [ ] [ ] C [ ]

● ILLUMINATION

S0	Mono-color	※1)
S3	3-color	
S4	Mono-color, super LED	

● LED COLOR

7	Red	Mono-color : Put color no. into the frame 1 3-Color : Put color no. into the frame 1, 2 (color combination : 87, 89, 97) ※2)
8	Green	
9	Yellow	
18	Super Green	Mono-color, super LED : Put color no. into the frame 1(3-color type is not provided)
14	Super Blue	
16	Super White	

※1) In case of 3-color type, filter to be selected 4 (Milk White).  
Simultaneous lighting while no.3 & 4 terminal is impossible.

※2) 87 Green, Red, G/R  
89 Green, Yellow, G/Y  
97 Yellow, Red, Y/R

● SUPPLY VOLTAGE

2	12V
3	24V

● TERMINAL

C	PCB terminal
---	--------------

● FILTER COLOR

1	Red
2	Green
3	Yellow
4	Milk White
6	Blue
8	Lemon Yellow
×	Without Filter

● COVER

C	Transparent
×	Without cover

◆ "Yellow" color for LED/Filter is actually "Orange Yellow".  
◇ Lemon Yellow Filter to be used with Green LED(8).

FREE SIZE INDICATOR

TL - [ ] × [ ] [ ] [1] [2] C [ ] K [ ] [ ]

● COLUMN

01	1
⋮	⋮
10	10

● ROW

01	1
⋮	⋮
10	10

● ILLUMINATION

S0	Mono-color	※1)
S3	3-color	
S4	Mono-color, super LED	

● LED COLOR

7	Red	Mono-color : Put color no. into the frame 1 3-Color : Put color no. into the frame 1, 2 (color combination : 87, 89, 97) ※2)
8	Green	
9	Yellow	
18	Super Green	Mono-color, super LED : Put color no. into the frame 1(3-color type is not provided)
14	Super Blue	
16	Super White	

● Face size : times of 25mm  
● 01(column) × 01(row) not available.  
● Free Size Indicator is full order made.

● MATRIX FRAME

K	Black
S	Silver

● SUPPLY VOLTAGE

2	12V
3	24V

● TERMINAL

K	Connector
---	-----------

● FILTER COLOR

1	Red
2	Green
3	Yellow
4	Milk White
6	Blue
8	Lemon Yellow

● COVER

C	Transparent
---	-------------

◆ "Yellow" color for LED/Filter is actually "Orange Yellow".  
◇ Lemon Yellow Filter to be used with Green LED(8).

MATRIX INDICATOR

TL - [ ] × [ ] K [ ] [ ] [ ] [ ]

● COLUMN

01	1
⋮	⋮
10	10

● ROW

01	1
⋮	⋮
10	10

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

● MATRIX FRAME

K	Black
S	Silver

● TERMINAL

K	Connector
---	-----------

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