Sunmulon

ML

ML Indicator

30 mm square and round shape,
ϕ 25 mm hole mounting, IP65

■ Display surface：27.7 mm Square flat,
   30 mm Square dome, 27.7 mm Round flat and dome
■ Depth behind panel：29 mm
■ Terminal：#187 Tab・Soldering and screw
■ Mounting：Screw mounting
■ Illumination type：Full-Face, Dual-Color
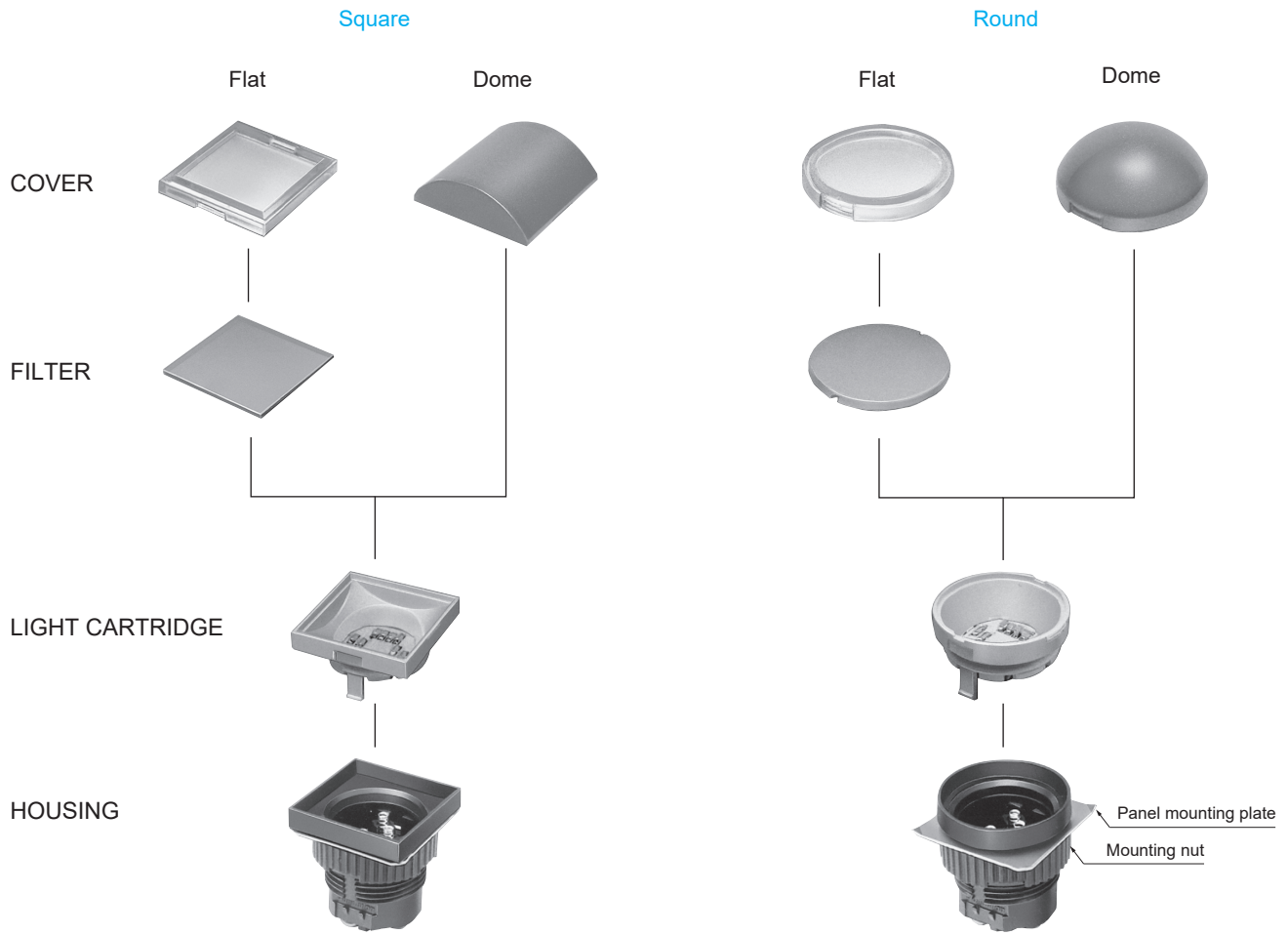■ Accessories：AC/DC 100 V Unit, shade hood and terminal cover

CHARACTERISTICS

Display Surface Size	□ 30 mm, ϕ 30 mm
Illumination Color	Red, Green, Yellow, Super Bule, Super White, Super Green
Illumination Type	Full-Face, Dual-Color
Display Surface Shape	Flat, Dome
Supply Voltage	DC 12 V, 24 V $\pm$ 5%
Consumption Current	40 mA max.
Terminal Shape	Screw terminal, #187 Tab・Soldering
Insulation Resistance	More than 100 MΩ at DC 500 V
Dielectric Strength	AC 1500 V RMS between terminals and ground 50/60 Hz for 60 sec. at normal ambient temperature and humidity
Peak Reverse Voltage	150V
Ambient Operating Temperature	-10°C to 40°C　（No Freeze, No Condensation）
Ambient Operating Humidity	45 to 85%RH max.（No Condensation）
Ambient Storage Temperature	-25°C to 65°C　（No Freeze, No Condensation）
Ambient Storage Humidity	85%RH max.　（No Condensation）
RoHS（10 Substances）	Conform to standards

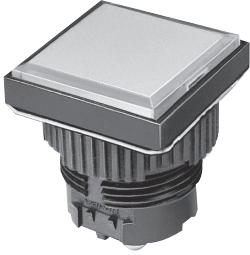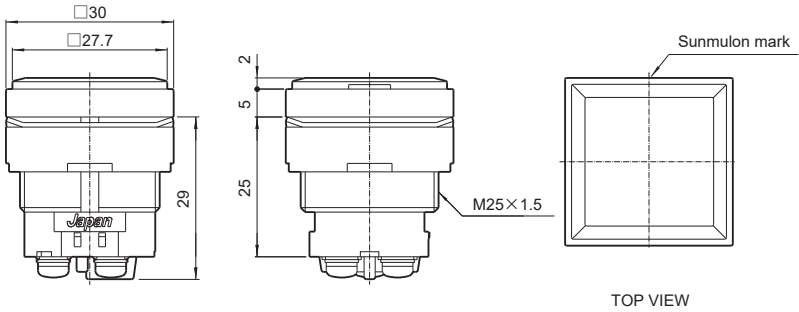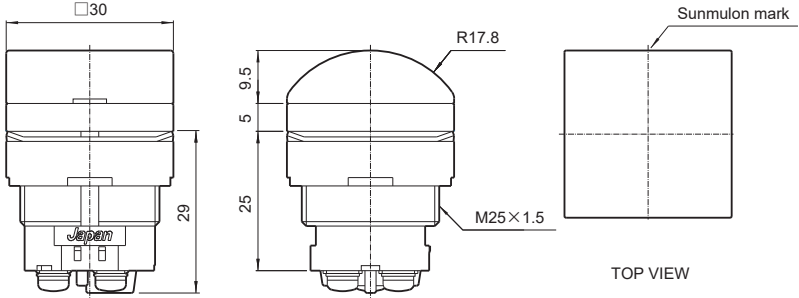https://www.sunmulon.co.jp/english/products/led_e/ml.html
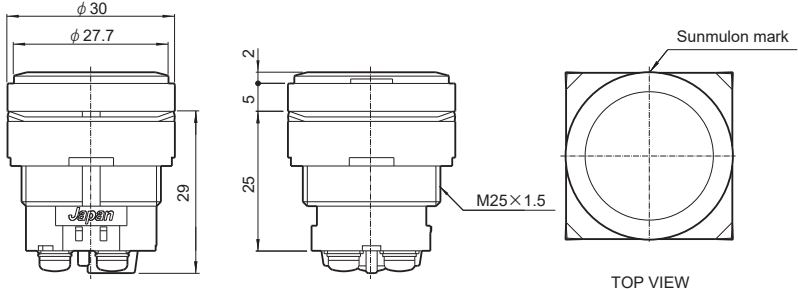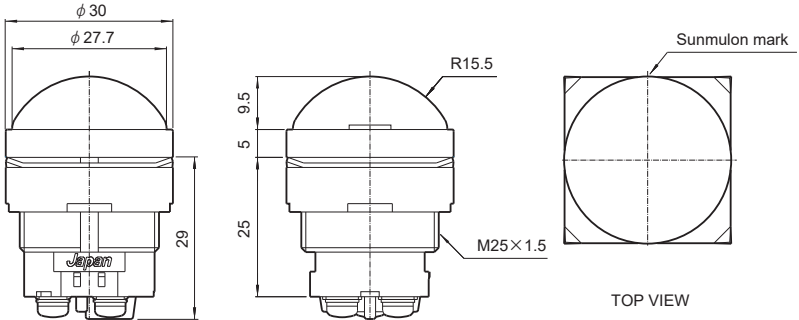
◇Dimensions：page ML-3～4
◇Internal connection arrangements：page ML-11
◇Mounting design / Panel cutout：page ML-12
◇Accessories：page ML-5
◇LED specifications：page ML-11
◇Ordering code：page ML-6～9
◇Terminals：page ML-12

Square

Round

Flat

Dome

Flat

Dome

COVER

FILTER

LIGHT CARTRIDGE

HOUSING

Panel mounting plate

Mounting nut

● Screw mounting terminal type

Square Flat

3D
DXF

□30
□27.7
29
2
5
25
M25×1.5
Sunmulon mark
TOP VIEW
Japan

Square Dome

3D
DXF

□30
29
9.5
5
25
R17.8
M25×1.5
Sunmulon mark
TOP VIEW
Japan

Round Flat

3D
DXF

φ30
φ27.7
29
2
5
25
M25×1.5
Sunmulon mark
TOP VIEW
Japan

Round Dome

3D
DXF

φ30
φ27.7
29
9.5
5
25
R15.5
M25×1.5
Sunmulon mark
TOP VIEW
Japan

※ ML indicator is different in height compared to MLC indicator.

3D・DXF data download site ： **https://www.sunmulon.co.jp/download/**

Tolerance：± 0.4 mm

● #187 Tab・Soldering terminal type

Square Flat

3D
DXF

□30
□27.7

2
5
25
10
29

Japan

M25×1.5

Sunmulon mark

TOP VIEW

Square Dome

3D
DXF

□30

R17.8

9.5
5
25
10
29

Japan

M25×1.5

Sunmulon mark

TOP VIEW

Round Flat

3D
DXF

φ30
φ27.7

2
5
25
10
29

Japan

M25×1.5

Sunmulon mark

TOP VIEW

Round Dome

3D
DXF
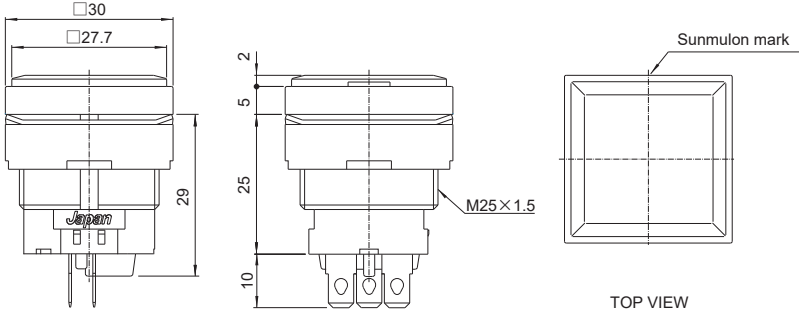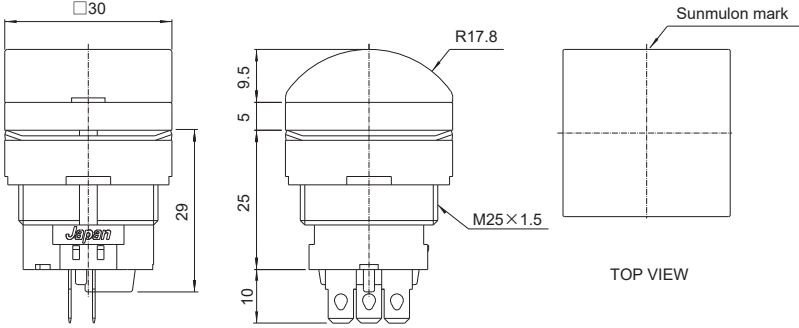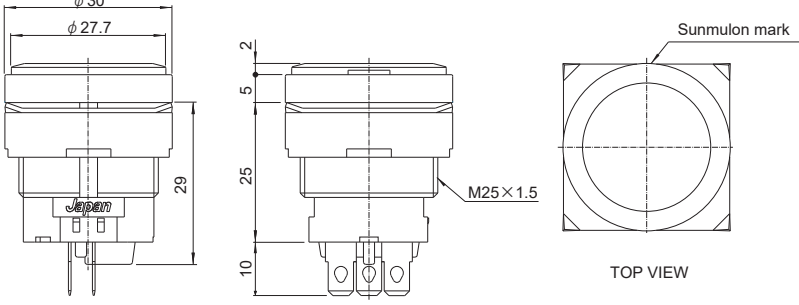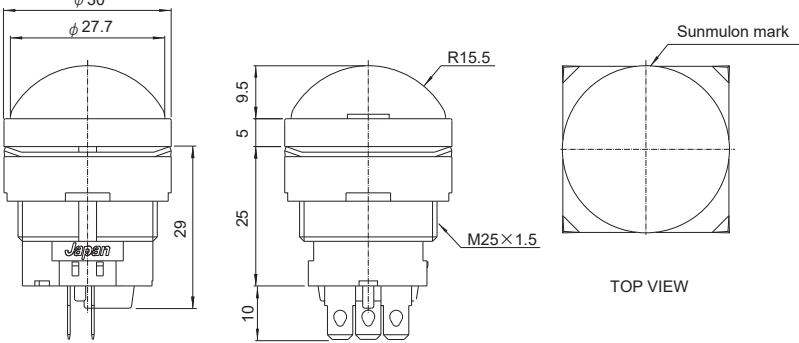
φ30
φ27.7

R15.5

9.5
5
25
10
29

Japan

M25×1.5

Sunmulon mark

TOP VIEW

※ ML indicator is different in height compared to MLC indicator.

3D・DXF data download site ： **https://www.sunmulon.co.jp/download/**

Tolerance：± 0.4 mm

ACCESSORIES

Name	Appearance	Classification	Part no.	Precautions for use
AC/DC 100V Unit		For Full-Face	ML-0607	- AC/DC 90 to 110V input is possible when the unit is attached to #187・Tab soldering terminal type housing. ※ Cannot be used to Dual-Color.
Terminal cover DXF		For screw mounting	ML-1561	- Use screw mounting termial type for housing, AC/DC 100V Unit.
Shade hood DXF		For square	ML-1568	※One rubber packing is attached. - When used as a water-tight type, use with rubber packing.
		For round	ML-1567	
Tightening tool		For removal button	SJ-0001	- Be used to remove button from housing.
Tightening tool		For tightening housing screw	ML-0610	- Be used to tightening housing screw.

AC/DC 100V Unit

Part no. ML-0607

※ Cannot be used for Dual-Color.
※ When use with AC/DC100V Unit, use Full-Face, #187 Tab・Soldering terminal, DC24V for the housing.
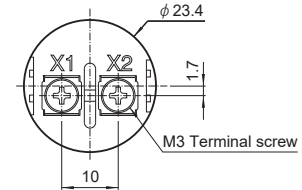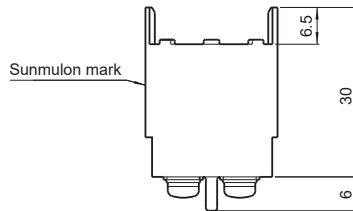
φ23.4 ・ X1 X2 ・ M3 Terminal screw ・ Only screw terminals can be used. No terminal polarity for X1 and X2 terminals.

Terminal cover for Screw terminal

Part no. ML-1561
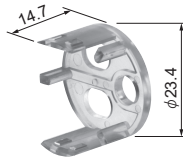
Shade hood

| Square | ML-1568 |
| Round | ML-1567 |

※ One rubber packing is set.
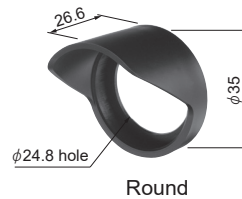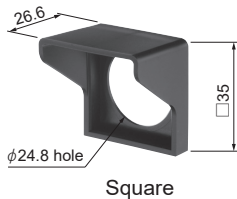
● Installing the terminal cover
※ Only screw terminals can be mounted.

Align the groove on the terminal cover, the projection on the housing, and fit the terminal cover until click.

Square □35 φ24.8 hole   Round φ35 φ24.8 hole
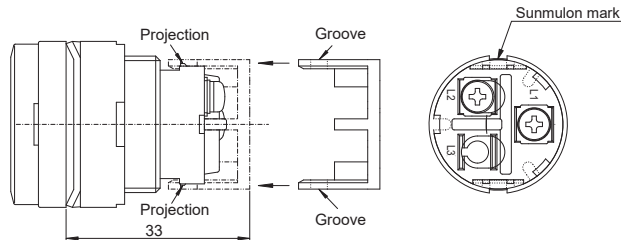
● Installing the shade hood（Square and Round）
※ With water resistant structure（Otherwise rubber packing is not required）
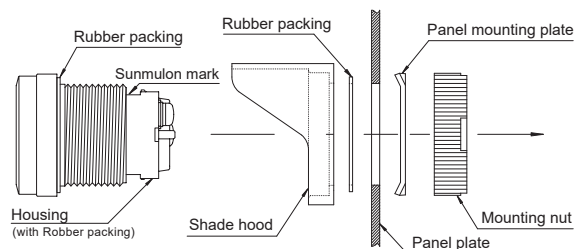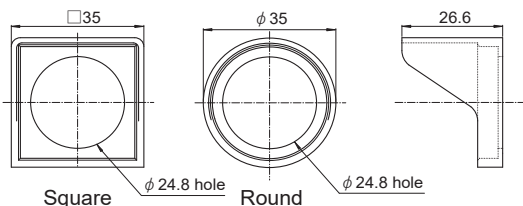
3D・DXF data download site ： https://www.sunmulon.co.jp/download/

Tolerance：±0.4 mm

Sunmulon Co., Ltd. ML-5

Assembled Part
Flat

ML－□ □□ C □ □ □ □ □

● **PROTECTION**

A	No Protection
B	Oil and Water-tight (IP65) version
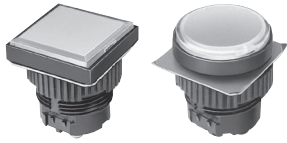
● **SHAPE**

S0	Square Flat
R0	Round Flat

● **LED COLOR**

7	Red
8	Green
9	Yellow ※1)
14	Super-Blue
16	Super-White
18	Super-Green
X	Without LED ※4)

● **COVER COLOR**

C	Clear

● **HOUSING COLOR**

K	Black
H	Gray

● **Supply Voltage to LED**

2	DC12V
3	DC24V ※3)
X	Without LED

● **TERMINAL** ※4)

B	Screw
P	＃187 Tab・Soldering ※3)
X	Without terminal（Without LED only）

● **FILTER COLOR**

1	Red
2	Green
3	Orange yellow ※1)
4	Milk-white
6	Blue
8	Lemon yellow ※2)
X	Without filter

Assembled Part
Dome

ML－□ □□ □□ X □ □ □

● **PROTECTION**

A	No Protection
B	Oil and Water-tight (IP65) version

● **SHAPE**

T0	Square Dome
M0	Round Dome

● **LED COLOR**

7	Red
8	Green
9	Yellow ※1)
14	Super-Blue
16	Super-White
18	Super-Green
X	Without LED ※4)

● **COVER COLOR**

R	Red
G	Green
O	Orange yellow ※1)
Y	Lemon yellow ※2)
B	Blue
M	Milk-white

● **Supply Voltage to LED**

2	DC12V
3	DC24V ※3)
X	Without LED

● **TERMINAL** ※4)

B	Screw
P	＃187 Tab・Soldering ※3)
X	Without terminal（Without LED only）

● **FILTER COLOR**

X	Without filter

● **HOUSING COLOR**

K	Black
H	Gray

● **NOTES**

※1) The color of "Yellow" for LED (9) is actually "Orange Yellow" not Lemon Yellow.

※2) When using Lemon Yellow filter (8) or cover (Y), specify LED color Super-White (16).

※3) Using AC/DC100V unit, specify supply voltage to LED DC24V (3) and ＃187 Tab・Soldering terminal (P).

※4) The terminal without LED can be specified as B, P, X, but they are dummy terminals.

LIGHT CARTRIDGE ※1)

ML－□ □ □ □

● **PROTECTION**

A	No Protection
B	Oil and Water-tight (IP65) version

● **SHAPE**

S0	Square
R0	Round

● **LED COLOR**

7	Red
8	Green
9	Yellow
14	Super-Blue
16	Super-White
18	Super-Green
X	Without LED ※3)

Yellow (9) is actually "Orange Yellow" not Lemon Yellow.

● **Supply Voltage to LED**

2	DC12V	
3	DC24V	※2)
X	Without LED	

HOUSING

ML－□ □ □ □

● **PROTECTION**

A	No Protection
B	Oil and Water-tight (IP65) version

● **SHAPE**

S0	Square
R0	Round

● **HOUSING COLOR**

K	Black
H	Gray

● **TERMINAL** ※3)

B	Screw	
P	#187 Tab・Soldering	※2)
X	Without terminal（Without LED only）	

● **NOTES**

※1) If cover or filter are required, please order separately.

※2) Using AC/DC100V unit, specify supply voltage to LED DC24V (3) and #187 Tab・Soldering terminal (P).

※3) The terminal without LED can be specified as B, P, X, but they are dummy terminals.

ORDERING CODE 〔Dual-Color〕

Assembled Part
Flat

$$ML-\boxed{}\;\boxed{1\;2}\;C\;\boxed{}\;4\;\boxed{}\;\boxed{}\;\boxed{}$$
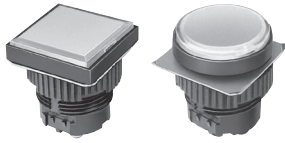
● **SHAPE**

S3	Square Flat
R3	Round Flat

● **LED COLOR**

7	Red	Putt the color numbers into frame 1, 2. （Dual-Color combination） 78・89・97 147・148・149 167・168・169 187・188・189 Simultaneous lighting is possible.
8	Green	
9	Yellow	
14	Super-Blue	
16	Super-White	
18	Super-Green	

Yellow (9) is actually "Orange Yellow" not Lemon Yellow.

● **COVER COLOR**

C	Clear

● **HOUSING COLOR**

K	Black
H	Gray

● **FILTER COLOR**

4	Milk-white

● **TERMINAL**

B	Screw
P	#187 Tab・Soldering

● **Supply Voltage to LED**

2	DC12V	
3	DC24V	※3)

● **PROTECTION**

A	No Protection
B	Oil and Water-tight (IP65) version

Assembled Part
Dome

$$ML-\boxed{}\;\boxed{1\;2}\;M\;\boxed{}\;X\;\boxed{}\;\boxed{}\;\boxed{}$$

● **SHAPE**

T3	Square Dome
M3	Round Dome

● **LED COLOR**

7	Red	Putt the color numbers into frame 1, 2. （Dual-Color combination） 78・89・97 147・148・149 167・168・169 187・188・189 Simultaneous lighting is possible.
8	Green	
9	Yellow	
14	Super-Blue	
16	Super-White	
18	Super-Green	

Yellow (9) is actually "Orange Yellow" not Lemon Yellow.

● **COVER COLOR**

M	Milk-white

● **HOUSING COLOR**

K	Black
H	Gray

● **FILTER COLOR**

X	Without filter

● **TERMINAL**

B	Screw
P	#187 Tab・Soldering

● **Supply Voltage to LED**

2	DC12V	
3	DC24V	※3)

● **PROTECTION**

A	No Protection
B	Oil and Water-tight (IP65) version

LIGHT CARTRIDGE ※1)

ML－☐ 1 2 ☐ ☐

● SHAPE

S3	Square
R3	Rectangle

● Supply Voltage to LED

2	DC12V
3	DC24V

● PROTECTION

A	No Protection
B	Oil and Water-tight (IP65) version

● LED COLOR

7	Red	Putt the color numbers into frame 1, 2. （Dual-Color combination） 78・89・97 147・148・149 167・168・169 187・188・189
8	Green	
9	Yellow	
14	Super-Blue	
16	Super-White	
18	Super-Green	Simultaneous lighting is possible.

Yellow (9) is actually "Orange Yellow" not Lemon Yellow.

HOUSING ※2)

ML－☐ ☐ ☐ ☐ ☐ ☐

● SHAPE

S3	Square
R3	Rectangle

● PROTECTION

A	No Protection
B	Oil and Water-tight (IP65) version

● Supply Voltage to LED

2	DC12V	
3	DC24V	※3)

● LED COLOR

78	Red・Green	167	Super-White・Red
89	Green・Yellow	168	Super-White・Green
97	Yellow・Red	169	Super-White・Yellow
147	Super-Blue・Red	187	Super-Green・Red
148	Super-Blue・Green	188	Super-Green・Green
149	Super-Blue・Yellow	189	Super-Green・Yellow

● TERMINAL

B	Screw
P	#187 Tab・Soldering

● HOUSING COLOR

K	Black
H	Gray

● NOTES

※1) If cover or filter are required, please order separately.
(Flat type cover should be clear and milk-white filter. Use milk-white for the cover of the dome type.)

※2) Housing has a built-in resistor, so when replacing the light cartridge, please use the same color and voltage as the LED currently in use.

● Full-Face COVER／FILTER

		Shape	Transparent	Red	Green	Yellow	Lemon Yellow	Blue	Milk-white
COVER	Square	Flat	ML-0566-CC						
		Dome		ML-0568-LR	ML-0568-LG	ML-0568-LO	ML-0568-LY	ML-0568-LB	ML-0568-LM
	Round	Flat	ML-0567-CC						
		Dome		ML-0569-LR	ML-0569-LG	ML-0569-LO	ML-0569-LY	ML-0569-LB	ML-0569-LM
FILTER	Square	Flat		ML-0570-LR	ML-0570-LG	ML-0570-LO	ML-0570-LY	ML-0570-LB	ML-0570-LM
	Round	Flat		ML-0572-LR	ML-0572-LG	ML-0572-LO	ML-0572-LY	ML-0572-LB	ML-0572-LM

※ Filer cannot be used with the dome cover.

● Dual-Color COVER／FILTER

		Shape	Transparent	Milk-white
COVER	Square	Flat	ML-0566-CC	
		Dome		ML-0568-LM
	Round	Flat	ML-0567-CC	
		Dome		ML-0569-LM
FILTER	Square	Flat		ML-0570-LM
	Round	Flat		ML-0572-LM

※ Filter cannot be used with the dome cover.

FILTER DIMENSIONS

□24.8

LEGEND FACE

1.2

Sandblasted

ML-0570

22.9

1.2

Housing
Sunmulon mark
JAPAN mark

ϕ 24.8 $-^{0}_{0.1}$

LEGEND FACE

1.2

Sandblasted

ML-0572
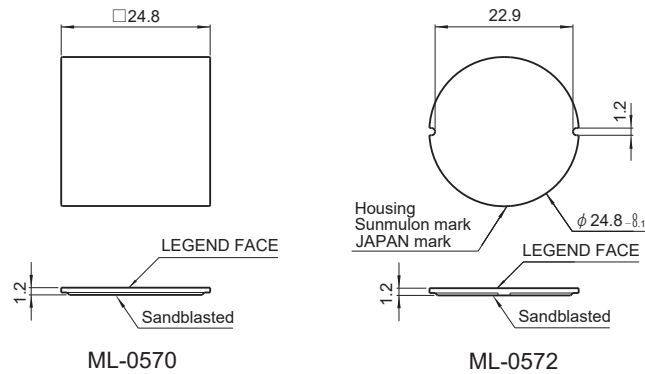
Tolerance : ± 0.4 mm

INTERNAL CONNECTION ARRANGEMENTS

● Full-Face (Common for Square, Round)

Voltage	LED (7・8・9)	LED (14・16・18)
DC12V		
DC24V		
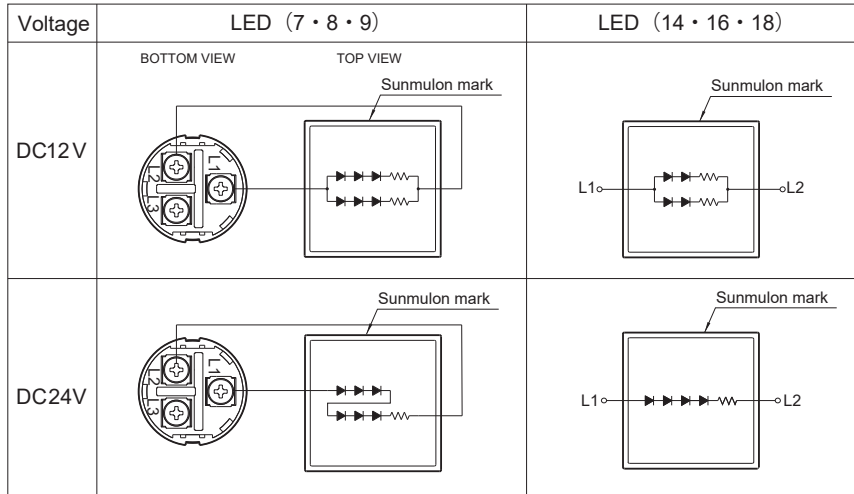
LED color : 7 (Red), 8 (Green), 9 (Yellow), 14 (Super-Blue), 16 (Super-White), 18 (Super-Green)

● Dual-Color (Common for Square, Round)

Voltage	LED (78・89・97)	LED (147・148・149・167・ 168・169・187・188・189)
DC12V		
DC24V		
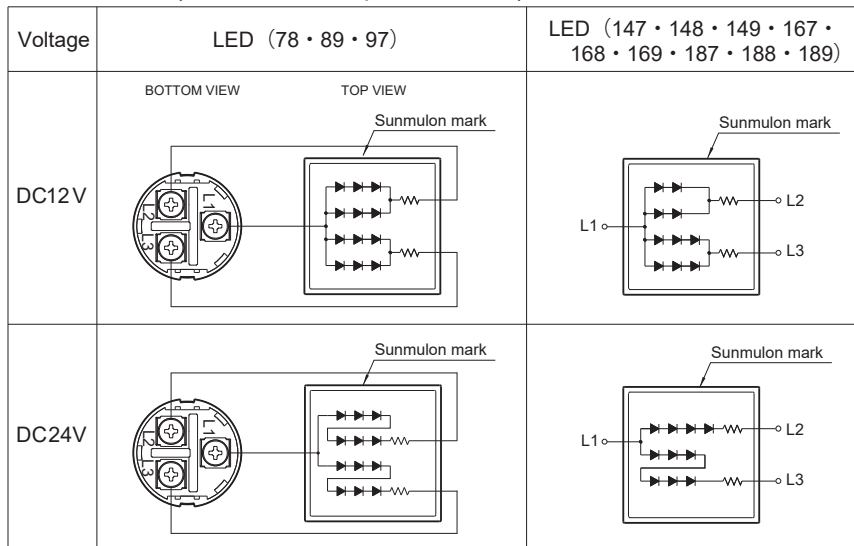
LED color : 7 (Red), 8 (Green), 9 (Yellow), 14 (Super-Blue), 16 (Super-White), 18 (Super-Green)

● Dual-Color combination (Common for each voltage)

Terminals	LED Color											
LC-L2	Red	Green	Yellow	Super Blue	Super Blue	Super Blue	Super White	Super White	Super White	Super Green	Super Green	Super Green
LC-L3	Green	Yellow	Red	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow

LED SPECIFICATIONS

● Full-Face

Voltage	Rated Current (mA)					
	Red	Green	Yellow	Super-Blue	Super-Blue	Super-Blue
DC12V ±5%	12	28	28	22	10	24
DC24V ±5%	6	14	14	11	5	12

● Dual-Color

Voltage	Rated Current (mA)					
	Red	Green	Yellow	Super-Blue	Super-Blue	Super-Blue
DC12V ±5%	12	22	16	9	6	9
DC24V ±5%	6	11	8	5	4	5

Sunmulon Co., Ltd. **ML-11**

TERMINALS

● TERMINALS LAYOUT (BOTTOM VIEW)

Sunmulon mark

Sunmulon mark
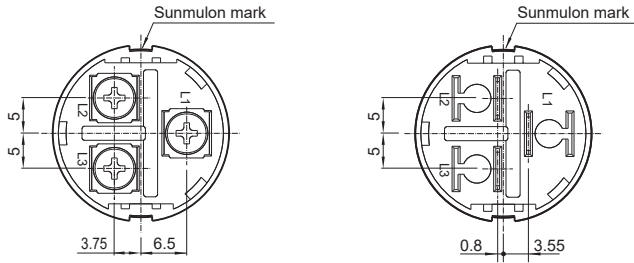
Screw Terminal

#187 Tab・Soldering Terminal

Pin No.	Full-Face	Dual-Color
L1	Anode（＋）	Anode（＋）
L2	Cathode（－）	Cathode（－）
L3		Cathode（－）

TERMINAL SHAPE

M3 spring washers,flat whashers installed
Cross socket head cap screw
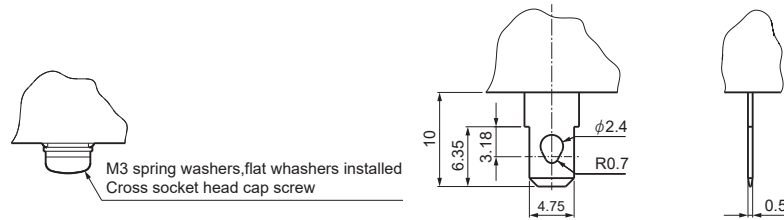
Screw Terminal

#187 Tab・Soldering Terminal

MOUNTING DESIGN／PANEL CUTOUT

Mounting design	Panel cutout
Square Flat $30m$ / $30n$	Recommended panel thickness : 1 to 6 mm
Square Dome $30m$ / $30n$	
Round Flat $30m$ / $30n$	$\phi 25^{+0.2}_{0}$ Min. 30 Min. 30
Round Dome $30m$ / $30n$	n：Number of Units (Horizontal) m：Number of Units (Vertical)
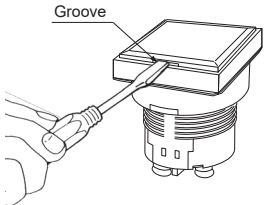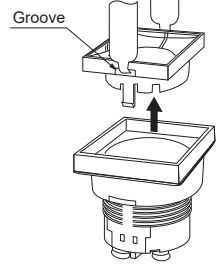
※ If the panel is to be finished (e.g. coated), make sure that the panel meets the specified dimensions after the coating.

※ After the panel-cutting process, make sure to remove burrs on the surface.

Torelance：± 0.4 mm

ASSEMBLY & DISASSEMBLY

1. Removing Cover

Insert a flat head screwdriver in the groove in the center and turn it.
Please be careful not to damage the cover.

Groove

2. Removing Light cartridge

Hang the cartridge with the removing tool (SJ-0001) in the groove, and pull it straight out.

Groove

3. Fitting Cover and Filter

Place the filter with the flat face upward on to the light cartridge, then align the groove on the cover and projection on the light cartridge, and fit the cover until click.
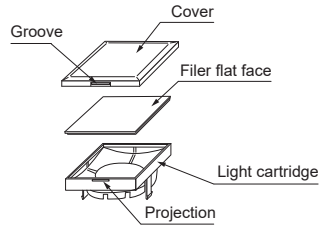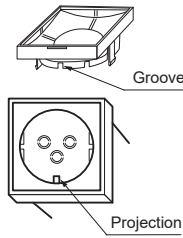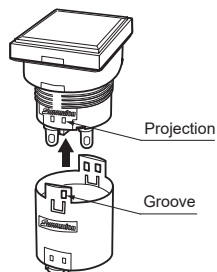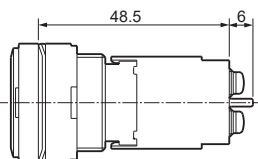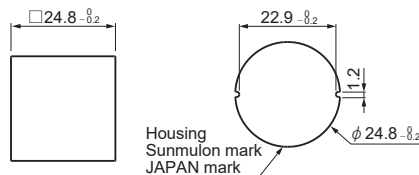
Cover
Groove
Filer flat face
Light cartridge
Projection

4. Fitting Light cartridge

Align the groove on the light cartridge, the projection on the housing and fit the light crtridge until click.
Make sure the light cartridge is properly incorporated.

Do not press hard on the water proofing plate as it will crack.

Groove
Projection

5. Installing AC/DC100V Unit

Align the Sunmulon mark on housing and AC/DC100V Unit, then insert the housing until click.

To remove the unit, push and spread the claws on both sides of the unit outward without breaking them and pull out the housing.

Projection
Groove

48.5   6

AC/DC100V Unit mounting dimension

PRECAUTIONS FOR CORRECT USE

1. Solder quickly and correctly at 380℃ max. and for 3 seconds or less.
2. MLC series diamond-cut covers, shade hoods, and terminal covers can also be attached to ML series. Please purchase separately.
3. The tightening torque for screw terminals should be less than 0.88 N・m.
4. When using the product outdoors, please use it within the IP65 standard and the specifications specified by us. Install the panel without any bumps, debris, or burrs on the panel surface, and with no kinks or bends in the packing.
5. The tightening torque of the mounting nut when attaching to the panel should be 0.98 to 1.47 N・m or less for Oil and water-tight type and 1.47 N・m or less for No protection type.
6. Character films are not included. If preparing the character film separetely, use a heat-resistant film with a thickness of 0.1 mm. For dimentions, please refer to the figure below.

$\square 24.8 ^{\ 0}_{-0.2}$ $22.9 ^{\ 0}_{-0.2}$

1.2

Housing
Sunmulon mark
JAPAN mark

$\phi 24.8 ^{\ 0}_{-0.2}$

For handling instructions and precautions other than the above, please refer to "Safety Precautions for All Indicators".

Tolerance : ± 0.4 mm

As of December 2024

Safety Precautions for All Indicators

1. Notes on contents of Catalogs

(1) Rated values, performance values, and specification values of Sumulon products listed in this catalog are values acquired under respective conditions in independent testing, and do not guarantee values gained in combined conditions.

(2) The ambient operating temperature(humidity) is guaranteed by evaluation based on characteristics, and does not guarantee continuous use for a long period of time near the upper or lower limit of the ambient operating temperature(humidity) or permanent use at that temperature(humidity).

(3) Reference data and reference values listed in catalogs are for reference purposes only, and do not guarantee that the product will always operate appropriately in that range.

(4) The specifications / appearance and accessories of Sunmulon products listed in catalogs are subject to change or termination of sales without notice, for improvemnet or other reasons.

(5) The content of catalogs is subject to change without notice.

2. Note on applications

(1) If using Sunmulon products in combination with other products, confirm the following suitability by yourself. Sunmulon shall provide no guarantees regarding the combination suitability.
    (a) Regulations, satndards, or laws to which your machinery, equipment, ect. must conform
    (b) Functionality and safety of your machinery and equipment

(2) Wiring and installation that ensures the Sunmulon product used in your system, machine, device, or the like can perform and function according to its specifications.

(3) When using Sunmulon products, be cautious when implementing the following.
    (a) Use of Sunmulon products with sufficient allowance for rating and performance.
    (b) Safety design, including redundant design and malfunction prevention design that prevents other danger and damage even in the event that Sumulon product fails.

(4) Sunmulon products are designed and manufactured as general-purpose products for general industrial products. They are not intended for use in the following applications, and in the event that you use Sunmulon product for these applications, unless otherwise agreed upon between you and Sunmulon, Sunmulon shall provide no guarantees whatsoever regarding Sunmulon products.
    (a) Safety devices intended for human body protection
    (b) Direct control of transport equipmnt (railroads / airplanes / ships / vehicles / vehicle instruments, etc.)
    (c) Space equipment, submarine equipment
    (d) Nuclear power control equipment, radiation related equipment
    (e) Combustion equipment, electric heat equipment
    (f) Disaster prevention and security equipment
    (g) Elevating equipment
    (h) Amusement facilities
    (i) Facilities subject to government or industry regulations
    (j) Use in applications that require a high degree of safety, any other equipment, instruments, or the like that could endanger life or human health

3. Warranty

(1) The warranty period for Sunmulon products shall be 1 year after purchase or delivery to the specified location.

(2) Warranty scope should a failure occur in Sunmulon product during the above warranty period for reasons attributable to Sunmulon, then Sunmulon shall provide that product, free of charge, the same quantity. Further, in no event shall liability of Sunmulon exceed the individual price of the product on which liability is asserted.

(3) Failures cause by the following reasons shall be deemed outside the scope of this warranty.
    (a) The product was handled or used deviating from conditions / environment listed in the catalogs
    (b) The failure was caused by reasons other than Sunmulon product
    (c) Modification or repair was performed by a party other than Sunmulon
    (d) Replacement of maintenance parts, installation of accessories, or the like was not performed properly in accordance with the user's manual and catalogs
    (e) The failure could not have been predicted with the scientific and technical standards at the time when the product was shipped from Sunmulon
    (f) The failure was due to other causes not attributable to Sunmulon (including cases of force majeure such as natural disasters and other disasters)

(4) The warranty listed in this Safety Precautions is the full and complete warranty for Sunmulon products, and Sunmulon shall bear no liability whatsoever regarding special damages, indirect damages, incidental damages, or passive damages that occurred due to Sunmulon product.

4. Handling precautions for indicator

(1) Wire the terminals with correct polarity. Connecting connectors backwards may cause a power short, resulting in burnout.

(2) Turn off the power to the product before starting installation, removal, wiring, maintenance, or inspection. Failure to turn power off may cause electrical shock or fire.

(3) Be careful of electrostatic breakdown when handling.

(4) Do not drop or otherwise apply strong force to the indicator.

(5) Do not place heavy objects on the indicator.

(6) Do not operate or use the housing by itself. Use the indicator with assembled the cover.

(7) When removing the cover and filter, using a sharp object (screwdrivers, tweezers, etc.), hard object (metal, etc.), or with a large or sudden force, may cause deform or damage the indicator.

(8) Do not use the indicator under loads that exceed the rated capacity or other ratings. Doing so may result in burnout accidents.

(9) Assemble correctly according to the handing instructions. Do not assemble or disassemble the product other than as described in the catalog, as this may cause defects or accidents.

(10) Illumination
  (a) Do not apply a voltage between the LED terminal that is greater than the rated voltage. Doing so may damage the LED, cause lighting failure.
  (b) LEDs cannot be lit directly by AC circuit should be provided rectifier smoothing circuit for products other than AC input type.

Correct	Incorrect
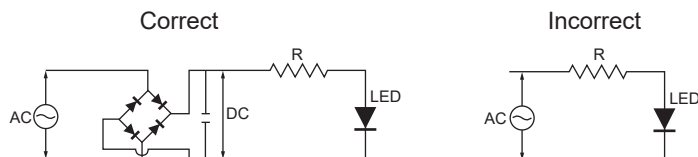
  (c) When wiring, pay attention to the polarity of the terminals.
  (d) Simultaneous lighting may not be possible with Dual-Color, 3-Color illumination or Split-Face illumination, check the catalog.
  (e) Apply voltage directly to LEDs of Non-built-in resistor type will damage the LEDs, so connect an appropriate external resistor.

(11) Wiring
  (a) When tightening terminals or connecting connectors, do not apply more force than necessary from the back side.
      Support the indicator with one hand as it may slip out of the front of the panel.
  (b) Use the applicable connectors listed in the catalog for each model.
  (c) Do not apply a soldering iron to the indicator housing. Doing so may deform the terminals and cause defects.
  (d) Hand solder with the terminals facing down to prevent flux from penetrating into the indicator.

Correct	Incorrect
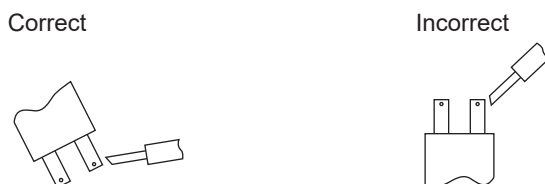
  (e) Use the appropriate wire size for the applied voltage and current, and solder properly. Use of the product with incomplete soldering may cause abnormal heat generation, resulting in a fire hazard.

(12) Usage environment
  (a) Do not use in the presence of flammable or explosive gases such as gasoline, thinner, LPG, etc.
  (b) Avoid using the product in places where corrosive or silicon gas is generated, high temperature, high humidity, sea breeze or direct sunlight.
  (c) Provide appropriate protection when using the product in places where it is exposed to water, oil, metal powder, or dust.
  (d) Do not use the product in a place subject to vibration or shock. It may cause malfunction or damage.
  (e) When installed in a close grouping or continuously lit, the ambient temperature may exceed the specified value due to heat generation.
      Take measures such as ventilation and lowering the operating voltage.
  (f) When checking the actual equipment, load conditions and operating environment should be the same as the actual operating conditions.
  (g) The ambient temperature for storage is $-25\,^{\circ}\mathrm{C}$ to 65 $^{\circ}\mathrm{C}$ (No freeze, no condensation).

(13) When wiping off dirt on the indicator, wipe lightly with a soft, dry cloth. Organic solvents such as thinner, benzene, alcohol, or other acidic chemicals may cause deformation, discoloration, or malfunction.

(14) Store the product away from malignant gases, dust, high temperature and high humidity, and keep it in our packing condition.

(15) Periodic inspection and replacement
  (a) Although mechanical and electrical durability are listed in the specifications column, deterioration of various parts (deterioration of resins and corrosion of metal parts) is possible due to the operating environment and method of use. We ask that you implement inspections for Sunmulon products to prevent accidents from occurring by conducting periodic inspections and replacements.

(16) Service scope
  The price of Sunmulon products do not include the cost of services, such as dispatching technicians.