


|   |               |         |   |      |
|---|---------------|---------|---|------|
|  EXCEL CELL ELECTRONIC CO., LTD. | NO.           | A31229  |   |      |
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## ECS - INDUSTRIAL CONTROL SWITCH PILOT LAMP

### 1. FEATURES

- Detachable contact block for easy installation and removal. It can meet variety of needs and improve work efficiency.
- IP65 waterproof type. It is designed for liquid and oil prevention and enables to be used in different environment.
- In accordance with the standards of UL, cUL, CE, CCC, and TUV.

### 2. SPECIFICATIONS

#### 2-1. LED

2-1-1. LED type

BA9S-T8

2-1-2. Durability [ref.]

Approx. 50,000 Hrs.

2-1-3. Voltage mark

Printed on the LED

2-1-4

| Rated voltage | Rated current(±10% mA )                            |
|---------------|--|
| 6V AC/DC      | 12 mA (Red /Yellow)<br>10 mA (Blue /Green /White ) |
| 12V AC/DC     | 18 mA (Red /Yellow)<br>16 mA (Blue /Green /White ) |
| 24V AC/DC     | 10 mA  |
| 110V AC       | 2 mA   |
| 220V AC       | 1 mA   |

#### 2-2. MECHANICAL AND ENVIRONMENTAL

2-2-1. Operating temperature

-25°C ~ +55°C (without icing or condensation)

2-2-2. Storage temperature

-40°C ~ +85°C

2-2-3. Humidity

45% ~ 85% RH

2-2-4. Degree of protection

IP65 (from the front of the panel)

2-2-5. Degree of contamination

3 (IEC 60947-5-1)

2-2-6. Vibration resistance

10-55Hz single amplitude 0.5mm

2-2-7. Shock resistance

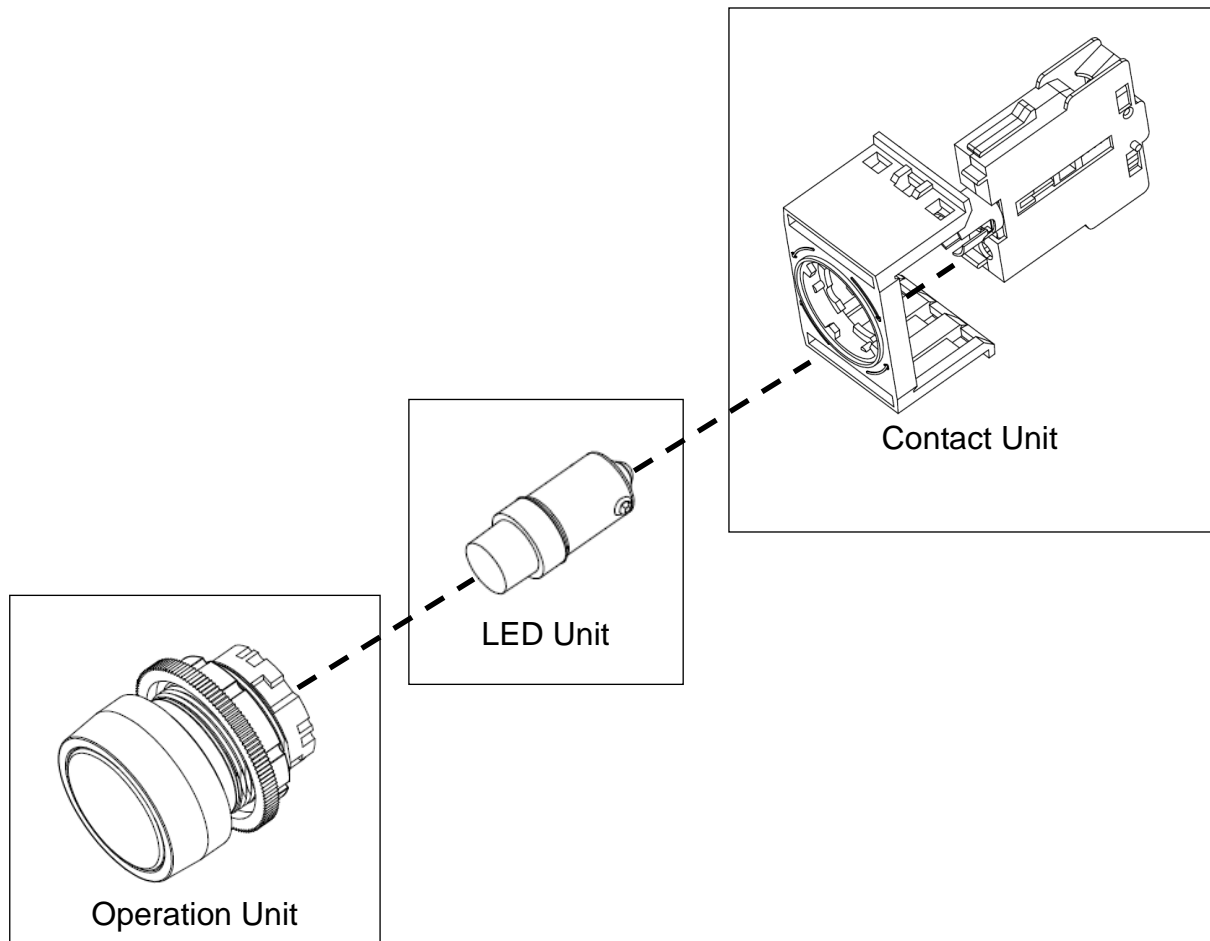
1000 m/s<sup>2</sup>(100G)(destruction)

2-2-8. Connection type


M3.5 screw connection

|            |                                 |               |         |   |      |
|------------|---------------------------------|---------------|---------|---|------|
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### 3. CONSTRUCTION

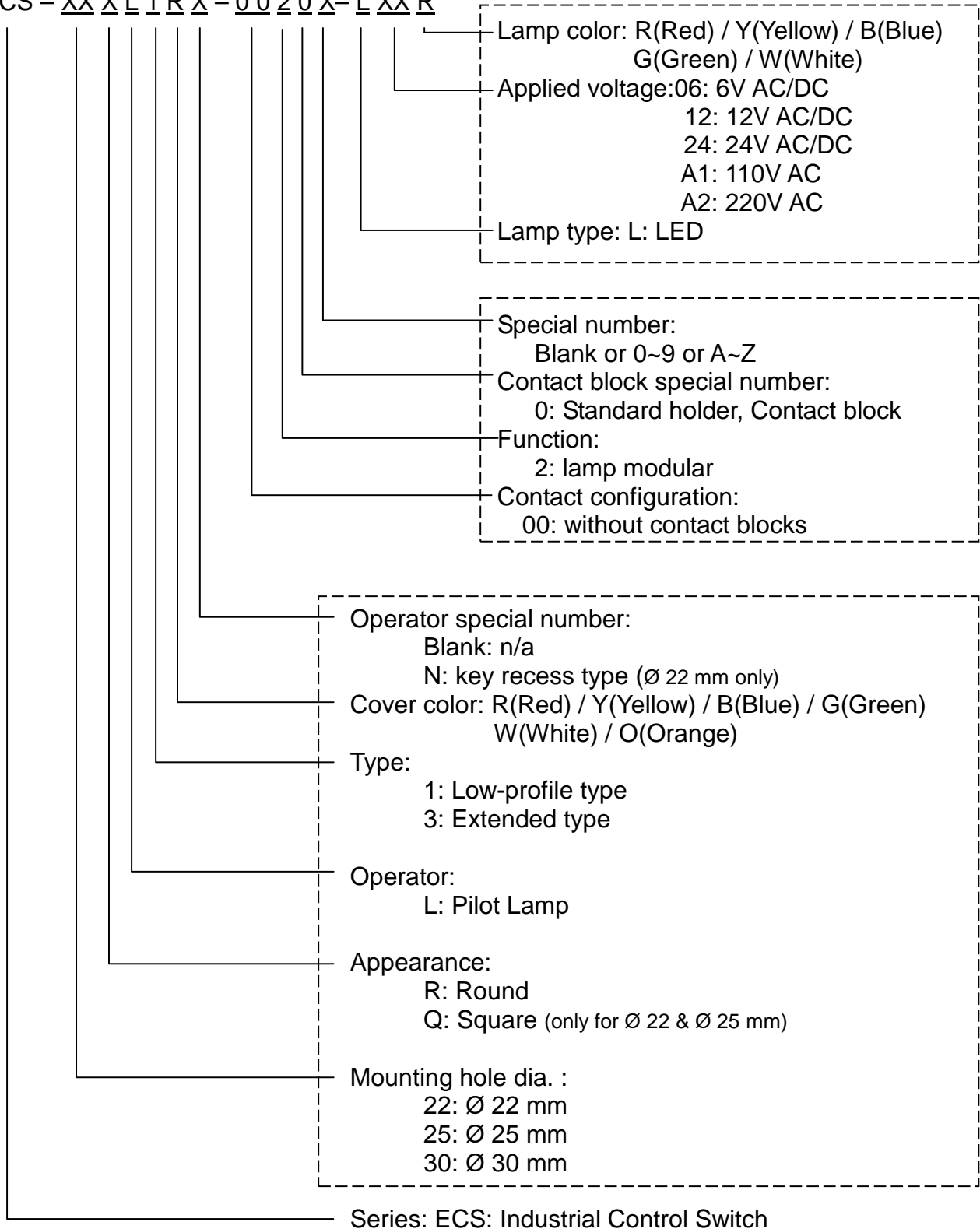


- Operation unit, LED unit, and contact unit (contact blocks) can be sold separately.
- Please see [4.Part numbering system] for operation unit part number. For other accessories (LED lamp, contact block, etc.), please refer to accessory part in catalog.

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#### 4. PART NUMBERING SYSTEM

ECS - XX X L 1 R X - 00 20 X - L XX R



|            |  |            |                      |  |          |
|------------|--|------------|----------------------|--|----------|
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|            |  |            | <b>SPECIFICATION</b> |  | <b>4</b> |

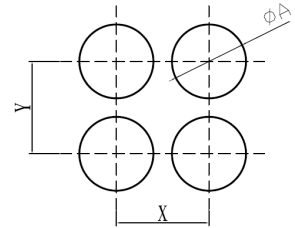
## 5. INSTALLATION

### 5-1. Panel thickness

- The panel thickness must be 1 to 7 mm.
- Take into consideration about the thickness of accessories (such as name plate, switch guard, etc.) while using.

### 5-2. Panel cutout

- Cutout diameter and distance



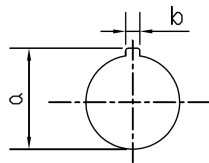
Unit: mm

|   | 22R / 25R  | 22Q / 25Q  | 30R   |
|---|--|--|---|
| A | 22.3/25.3 $\begin{matrix} +0.4 \\ -0 \end{matrix}$ | 22.3/25.3 $\begin{matrix} +0.4 \\ -0 \end{matrix}$ | 30.5 $\begin{matrix} +0.5 \\ -0 \end{matrix}$ |

Unit: mm

|   | 22R / 25R | 22Q / 25Q | 30R | Long Lever Selector Switch<br>Emergency Stop Switch |
|---|-----------|-----------|-----|---|
| X | 30        | 32        | 50  | 50  |
| Y | 50        | 50        | 65  | 50  |

- Key recess cutout (Ø 22mm only)



Unit: mm


| Mounting Hole(Ø) | a   | b  |
|------------------|---|--|
| 22               | 24.1 $\begin{matrix} +0.5 \\ -0 \end{matrix}$ | 3.2 $\begin{matrix} +0.2 \\ -0 \end{matrix}$ |

- Panel installation

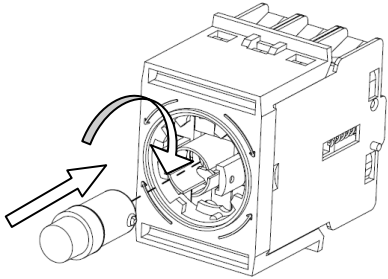
|  |  |
|--|--|
|  | <ol style="list-style-type: none"> <li>1. Place the operation unit through panel mounting hole.</li> <li>2. Install the nut by using tightening tool.</li> <li>3. Make sure the operation unit fix on the panel firmly.</li> </ol> |
|--|--|

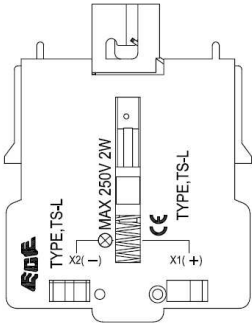
### 5-3. Operation unit and contact unit installation

|  |   |
|--|---|
|  | <ol style="list-style-type: none"> <li>1. Fix the operation unit on the panel.</li> <li>2. Connect the operation unit with snap-fit joint part of contact unit.</li> <li>3. Rotate contact unit to fix firmly as shown in the left figure.</li> </ol> |
|--|---|

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#### 5-4. LED lamp installation

|   |  |
|---|--|
|  | <ol style="list-style-type: none"> <li>1. Aim LED lamp to the lamp holder and press down to the bottom.</li> <li>2. Rotate the LED lamp to make sure the lamp is firmly installed.</li> <li>3. While installation and removal, please hold the metal part of LED lamp to avoid damaging LED lamp.</li> </ol> |
|---|--|

|  |   |
|--|---|
|  | <ol style="list-style-type: none"> <li>1. When using DC LED lamp, please connect the positive pole (+) to X1 terminal as shown in left figure.</li> <li>2. The LED lamp may be erroneously lightened by a leaking current from the circuit. The malfunction can be prevented by connecting a shunt resistor in parallel with the LED lamp.</li> </ol> |
|--|---|

#### 6. PACKAGING

6.1. ECS product is packed without assembly (packed by set), 10 sets per box.

##### 6.2. Label information

- |                   |                         |
|-------------------|-------------------------|
| (1) part number   | (6) QC inspection stamp |
| (2) Lot number    | (7) Company mark        |
| (3) Quantity      | (8) Company name        |
| (4) Tester number | (9) Notice              |
| (5) Date code     |                         |

#### 7. DIMENSIONS


7-1. See attached drawings

#### 8. OPTIONS

8-1. Key recess type operation unit is available (Ø 22mm only)

8-2. Ø22mm and Ø25mm type have the same structure. Different thickness of O-rings can be ordered separately to fit into Ø22mm and Ø25mm hole in the panel.

8-3. For other accessories (name plate, control box, and etc.), please refer to accessory part in the catalog.

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9. REMARK

9-1. Safety Certification

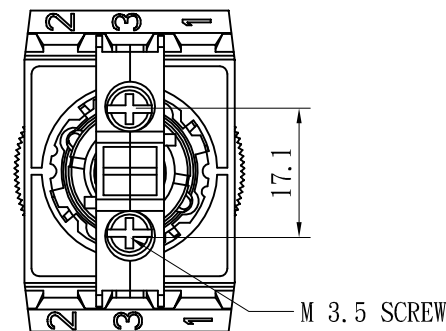
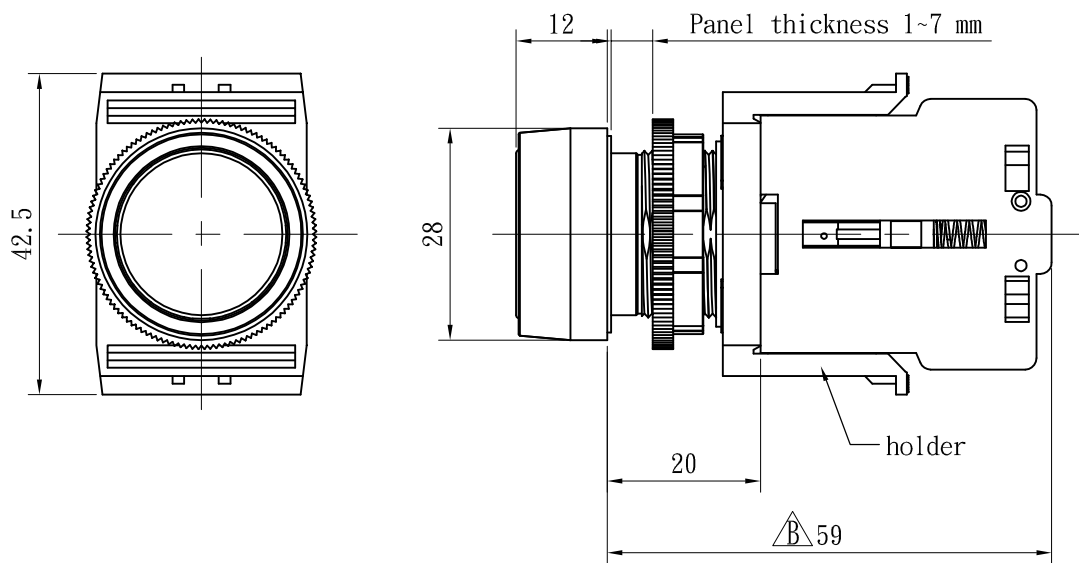
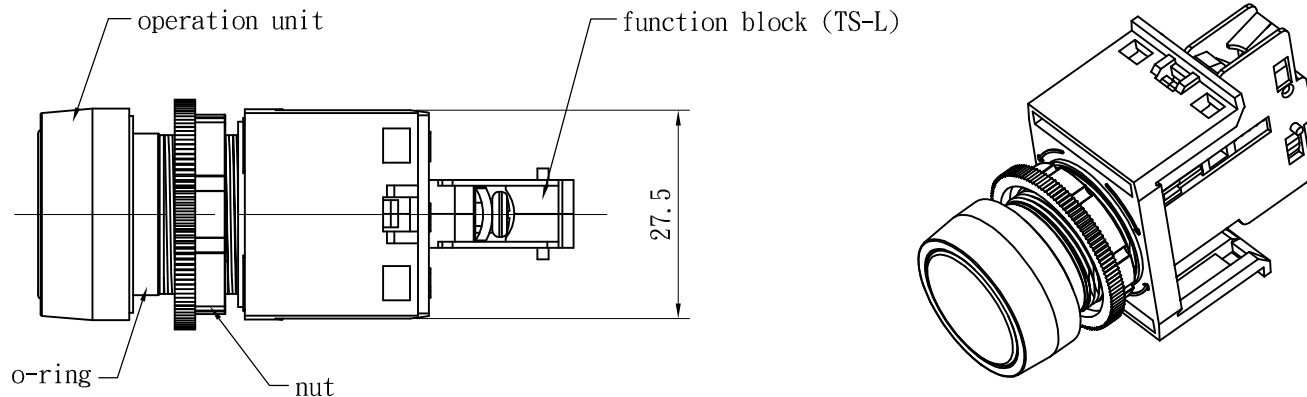
| Safety Standard                     | Certification               |
|-------------------------------------|-----------------------------|
| UL-508                              | UL / cUL , file NO. E155181 |
| CSA C22.2 NO.14                     |                             |
| EN60947-5-1                         | R50363071                   |
| EN60947-5-5 (Emergency Stop Switch) | R50362996                   |

9-2. CAUTION

To prevent injury, this device must be disconnected from all power sources prior to wiring and other initiating work.

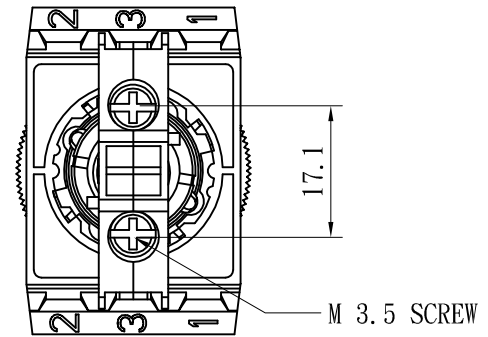
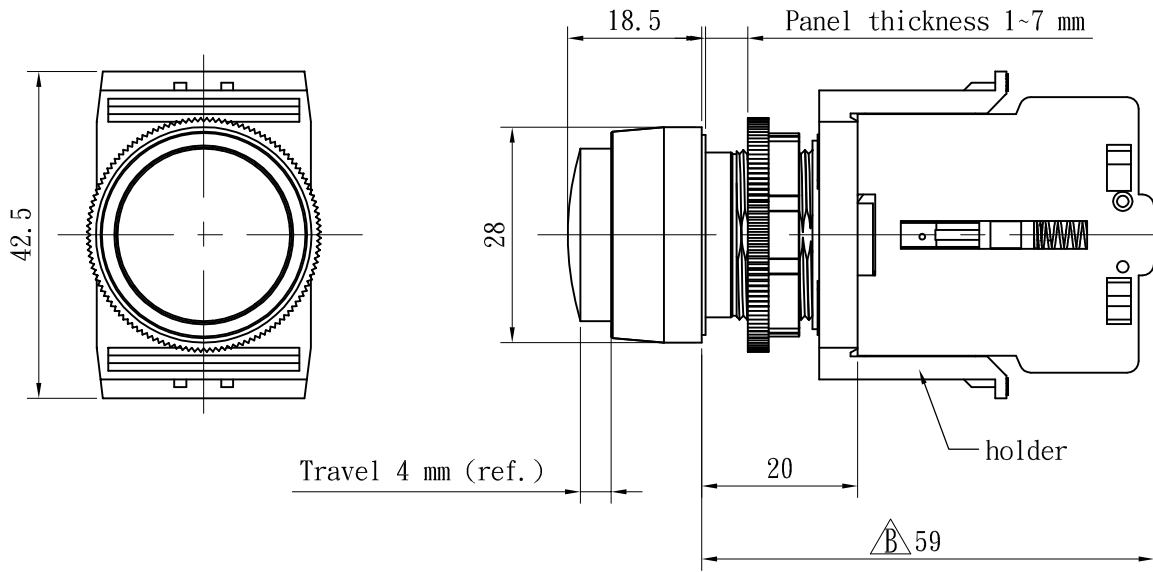
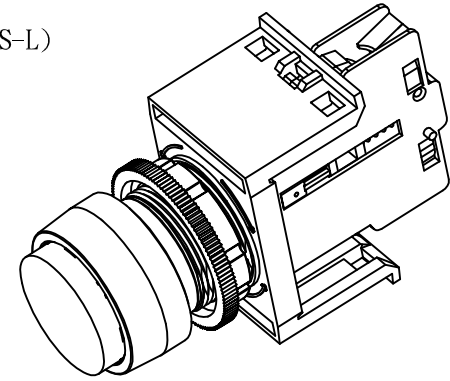
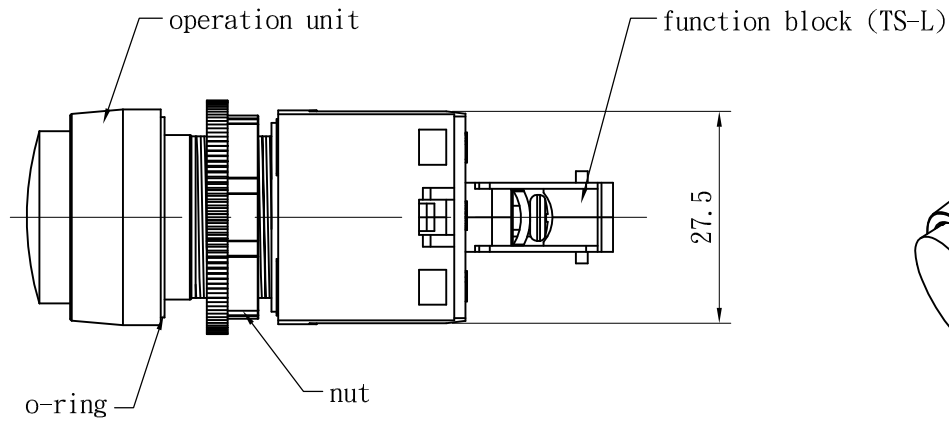
Use tightening tool when installing the operation unit in the panel cutout. Do not use pliers and do not tighten excessively, otherwise the operation unit may be damaged. Make sure contact blocks are firmly fixed on contact holder during assembly. It will avoid contact blocks separated from holder during operation.

# ECS-22RL1X-0020



|     |                          |            |            |                  |           |  |           |        |           |             |                 |            |                |
|-----|--------------------------|------------|------------|------------------|-----------|--|-----------|--------|-----------|-------------|-----------------|------------|----------------|
|     |                          |            |            | NORMAL TOLERANCE |           | <b>ECE</b> EXCEL CELL ELECTRONIC CO., LTD. |           |        |           | PART NUMBER | ECS-22RL1X-0020 |            |                |
|     |                          |            |            | RANGE            | TOLERANCE |  |           |        |           | UNIT        | MM (INCH)       | PART NAME  | ECS            |
|     |                          |            |            | 0-1              | ±0.1      |  |           |        |           | SCALE       | 1:1             | TYPE       | Pilot Lamp     |
|     |                          |            |            | 1-4              | ±0.3      |  |           |        |           | SIZE        | A4              | FILE NAME  | 76922RLXXB.dwg |
|     |                          |            |            | 4-16             | ±0.5      | CHECK                                      | Marcus Li | DESIGN | Alice Lin | DRAWN       | Alice Lin       | EDITION    | B              |
|     |                          |            |            | 16-63            | ±0.8      |  |           |        |           |             |                 | PROJECTION |                |
|     | Marking position changes | Alice      | 2018/01/25 | 63-250           | ±1.0      |  |           |        |           |             |                 |            |                |
| NO. | DETAILS                  | ALTERED BY | DATE       |                  |           |  |           |        |           |             |                 |            |                |

# ECS-22RL3X-0020



|     |                          |            |            |                  |           |  |           |           |             |             |                 |                |                |
|-----|--------------------------|------------|------------|------------------|-----------|--|-----------|-----------|-------------|-------------|-----------------|----------------|----------------|
|     |                          |            |            | NORMAL TOLERANCE |           | <b>ECE</b> EXCEL CELL ELECTRONIC CO., LTD. |           |           | PART NUMBER |             | ECS-22RL3X-0020 |                |                |
|     |                          |            |            | RANGE            | TOLERANCE |  |           |           | UNIT        | MM ( INCH ) | PART NAME       | ECS            |                |
|     |                          |            |            | 0-1              | ±0.1      | CHECK                                      | DESIGN    | DRAWN     | SCALE       | SIZE        | TYPE            | FILE NAME      | 76922RLXXB.dwg |
|     |                          |            |            | 1-4              | ±0.3      |  |           |           |             |             |                 |                |                |
|     |                          |            |            | 4-16             | ±0.5      |  |           |           |             |             |                 |                |                |
|     |                          |            |            | 16-63            | ±0.8      |  |           |           |             |             |                 |                |                |
|     |                          |            |            | 63-250           | ±1.0      |  |           |           |             |             |                 |                |                |
|     | Marking position changes | Alice      | 2018/01/25 |                  |           | Marcus Li                                  | Alice Lin | Alice Lin | UNIT        | MM ( INCH ) | PART NAME       | ECS            |                |
| NO. | DETAILS                  | ALTERED BY | DATE       |                  |           |  |           |           | SCALE       | 1:1         | TYPE            | Pilot Lamp     |                |
|     |                          |            |            |                  |           |  |           |           | SIZE        | A4          | FILE NAME       | 76922RLXXB.dwg |                |
|     |                          |            |            |                  |           |  |           |           | PROJECTION  |             | EDITION         | B              |                |