



## ECS - INDUSTRIAL CONTROL SWITCH PUSHBUTTON ( SMALL COMPACT SIZE)

### 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.
- Short contact unit design to save more space.
- The safety design of slide locking holder is not only for easy installation and removal, but also for prevention of inappropriate installation of contact blocks.
- In accordance with the standards of UL, cUL, CE, CCC, and TUV.
- RoHS Compliant
- Halogen Free series available


### 2. SPECIFICATIONS

#### 2.1. ELECTRICAL

2-1-1. Rated thermal current	10A
2-1-2. Rated insulation voltage	650V
2-1-3. Utilization category	AC-15(A600) or Ue 240V / Ie 3A Ue 380V / Ie 1.9A DC-13(P600) or Ue 250V / Ie 0.55A
2-1-4. Minimum switching capacity [ref.]	3V DC/AC, 5mA
2-1-5. Dielectric strength	2500V AC, 1 min.
2-1-6. Insulation resistance	100MΩ min. at 500V DC
2-1-7. Contact resistance	50mΩ max. (initial)

#### 2-2. MECHANICAL AND ENVIRONMENTAL

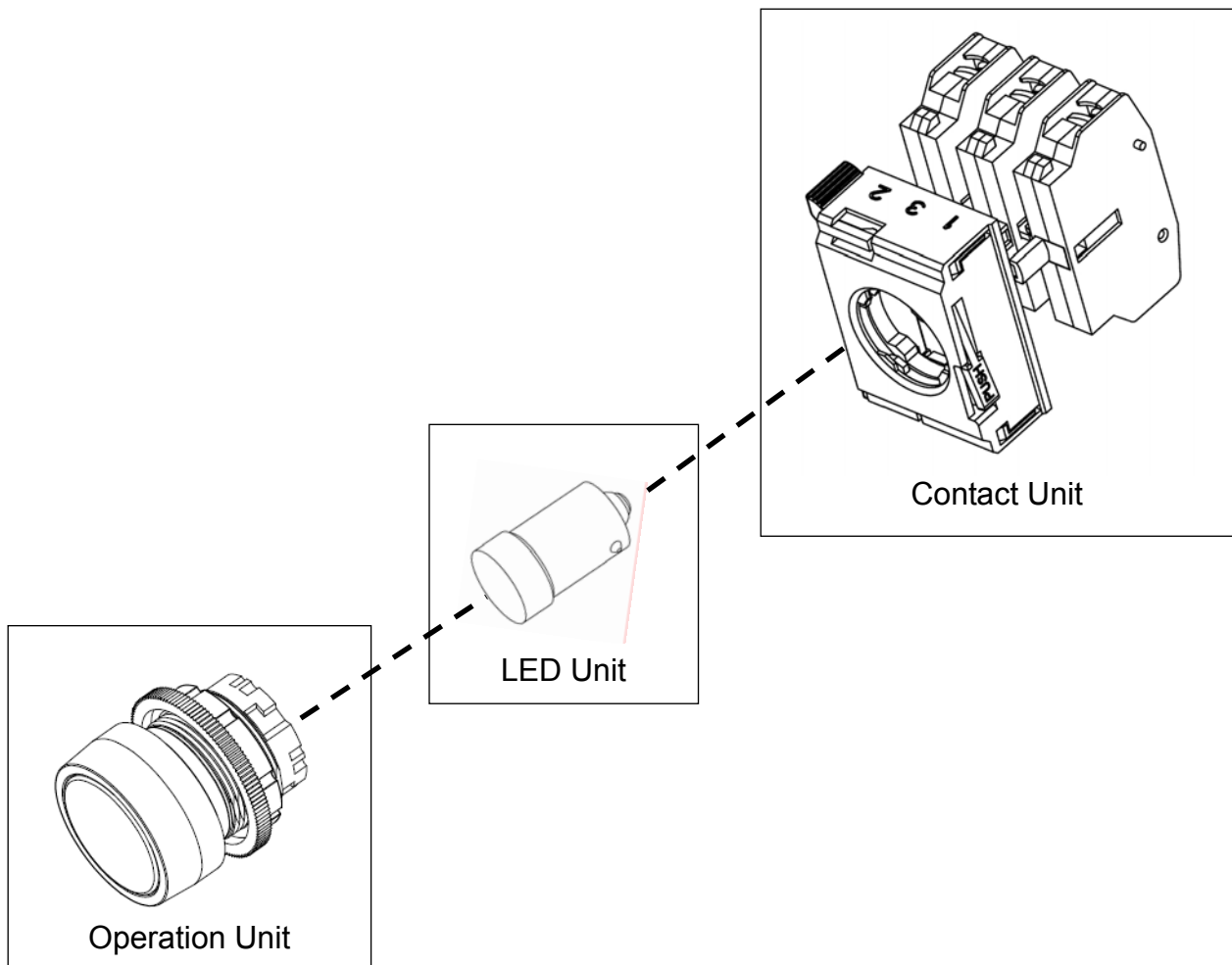
2-2-1. Operating temperature	-25°C ~ +70°C (without icing or condensation) -25°C ~ +55°C (for illuminated type)
2-2-2. Storage temperature	-40°C ~ +85°C
2-2-3. Humidity	45% ~ 85% RH
2-2-4. Degree of protection	IP65 (from the front of the panel)
2-2-5. Degree of contamination	3 (IEC 60947-5-1)
2-2-6. Vibration resistance	10-55Hz single amplitude 0.5mm
2-2-7. Shock resistance	100 m/s <sup>2</sup> (10G)(malfunction) 1000 m/s <sup>2</sup> (100G)(destruction)
2-2-8. Mechanical Life	5,000,000 operations(for momentary type) frequency 3600 operations/hr 500,000 operations(for maintained type) frequency 1800 operations/hr
2-2-9. Electrical Life	500,000 operations frequency 1800 operations/hr
2-2-10. Operation Force(from 1a1b)[ref.]	25N (for momentary type) 15N (for maintained type)
2-2-11. Operation travel	over 4 mm

 <b>EXCEL CELL ELECTRONIC CO., LTD.</b>	<b>NO.</b>	<b>A31257</b>		
<b>SPECIFICATION</b>	<b>Edition</b>	<b>3</b>	<b>Page</b>	<b>2</b>

2-2-12. Connection type  
2-2-13. Direct opening action

M3.5 screw connection  
Direct opening mechanism of NC contact to open the circuit⤵

### 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.



## 4. PART NUMBERING SYSTEM

ECS - XX X E1 R X - XX X Q X - L XX R

Lamp color: R(Red) / Y(Yellow) / B(Blue)  
G(Green) / W(White)Applied voltage: 06: 6V AC/DC  
12: 12V AC/DC  
24: 24V AC/DC  
A1: 110V AC  
A2: 220V AC

Lamp type: L: LED

Special number:

Blank or 0~9 or A~Z

H: Halogen Free series

Contact block special number:

Q: Quick release holder, Small compact size

Function

0: N/A

2: Lamp modular

Contact configuration: 10: 1a 01: 1b (see 9-2)

Operator special number:

Q : Quick release holder (Illuminated type)

1Q : Quick release holder( Non-illuminated type)

M1Q : Quick release holder( Mushroom type)

M2Q : Quick release holder (Mushroom type (Big Mushroom type))

NQ : Quick release holder (key recess type (Ø 22 mm only))

Cover color:

R(Red) /G(Green)

Operator Type:

E1: Emergency Stop Switch

Appearance:

R: Round

Q: Square (only for Ø22 &amp; Ø 25 mm)


Mounting hole dia. :

22: Ø 22 mm

25: Ø 25 mm

30: Ø 30 mm

Series: ECS: Industrial Control Switch

 <b>EXCEL CELL ELECTRONIC CO., LTD.</b>	<b>NO.</b>	<b>A31257</b>		
<b>SPECIFICATION</b>		<b>Edition</b>	<b>3</b>	<b>Page</b>
				<b>4</b>

## 5. INSTALLATION

### 5-1. Panel thickness

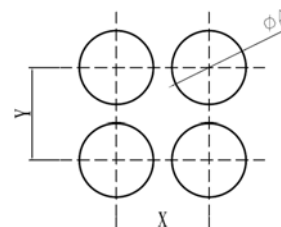
- The panel thickness must be 1 to 6 mm.
- Take into consideration about the thickness of accessories (such as name plate, switch guard, etc.) while using.

### 5-2. Panel cutout

- Cutout diameter and distance

Unit: mm

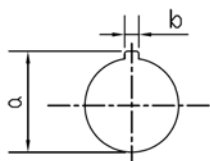
	22R / 25R	22Q / 25Q	30R
A	22.3/25.3 <sup>+0.4</sup> <sub>-0</sub>	22.3/25.3 <sup>+0.4</sup> <sub>-0</sub>	30.5 <sup>+0.5</sup> <sub>-0</sub>



Unit: mm

	22R / 25R	22Q / 25Q	30R	Long Lever Selector Switch Emergency Stop Switch
X	50	50	50	50
Y	55	55	65	55

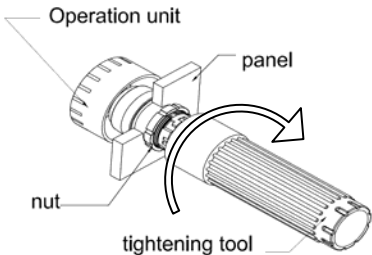
- Key recess cutout (Ø 22mm only)



Unit: mm

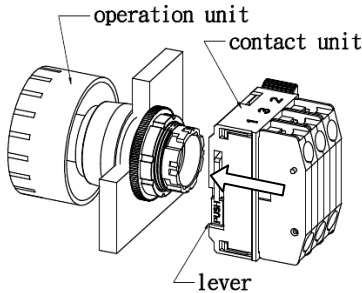
Mounting Hole(Ø)	a	b
22	24.1 <sup>+0.5</sup> <sub>-0</sub>	3.2 <sup>+0.2</sup> <sub>-0</sub>

- Panel installation




1. Place the operation unit through panel mounting hole.
2. Install the nut by using tightening tool.
3. Make sure the operation unit fix on the panel firmly.

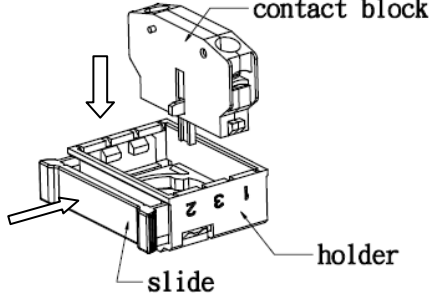
### 5-3. Operation unit and contact unit installation



1. Fix the operation unit on the panel.
2. Press the lever and connect the operation unit with contact unit.
3. Release the lever.

 EXCEL CELL ELECTRONIC CO., LTD.	NO.	A31257		
SPECIFICATION	Edition	3	Page	5

#### 5-4. Contact block installation

	<ol style="list-style-type: none"> <li>1. Open the slide.</li> <li>2. Contact block needs to fit with holder position correctly.</li> <li>3. Close the slide completely.</li> </ol> <p>(If you are unable to close the slide completely, please check the correctness of contact block installation.)</p>
---	---

#### 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 (Ø22mm 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. LED Specification


LED Type	BA9S-T8
Durability(reference)	Approx. 50,000 Hrs.
Voltage	Printed on the LED

8-4 For other accessories (name plate, control box, and etc.), please refer to accessory part in the catalog.

#### 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
CCC GB14048.5	CQC2018010305138937

	EXCEL CELL ELECTRONIC CO., LTD.	NO.	A31257		
SPECIFICATION		Edition	3	Page	6

## 9-2. Contact Configuration

Code	Contact block		without function block	with function block
	NO	NC		
10	1	0	●	●
01	0	1	●	●
11	1	1	●	●
20	2	0	●	●
02	0	2	●	●
12	1	2	●	
21	2	1	●	
30	3	0	●	
03	0	3	●	

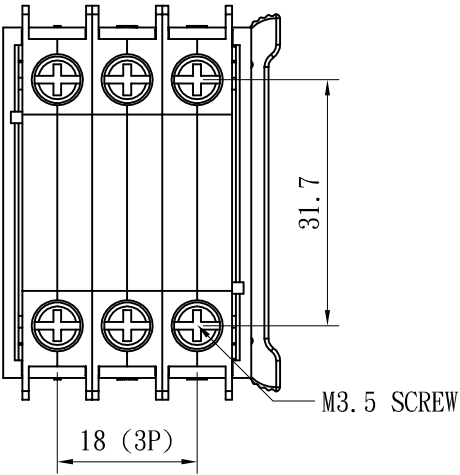
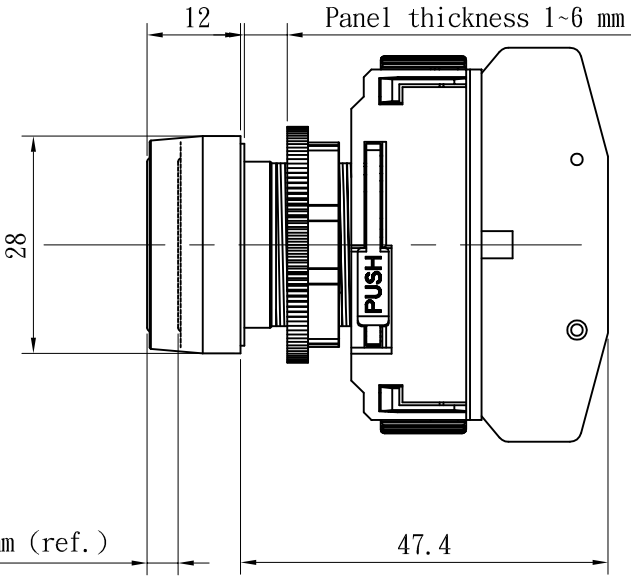
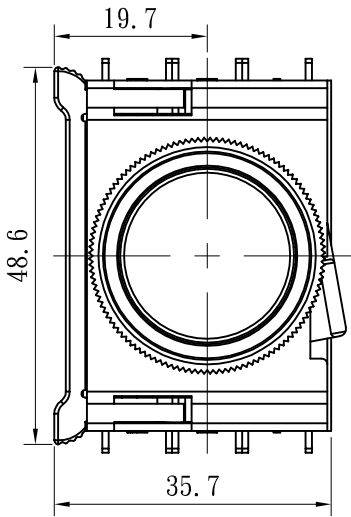
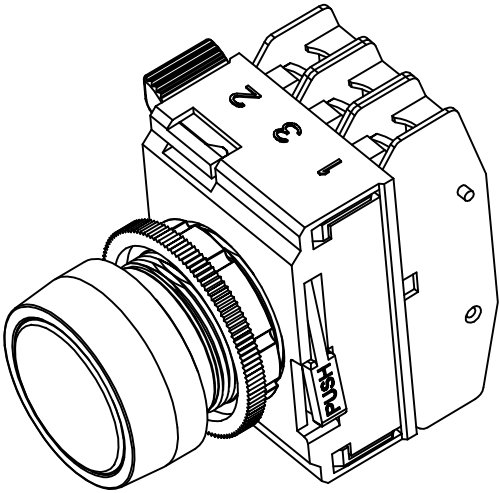
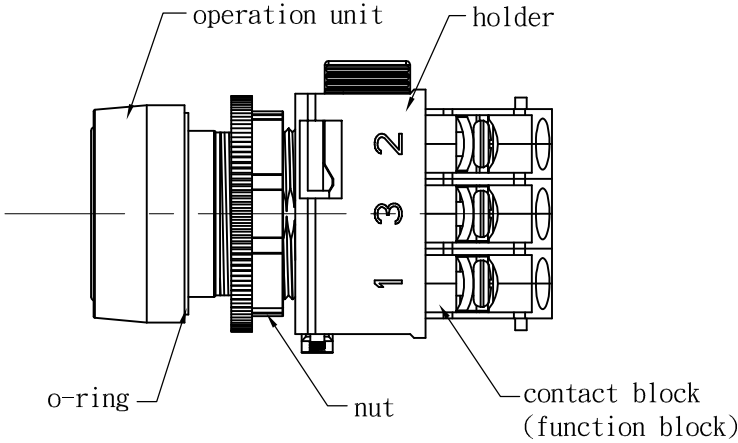
Remark:


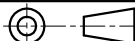
- The colors of contact block are the followings: 1 NO: blue, 1 NC: red
- Maximum 3 contact blocks for every contact unit.

## 9-3. CAUTION

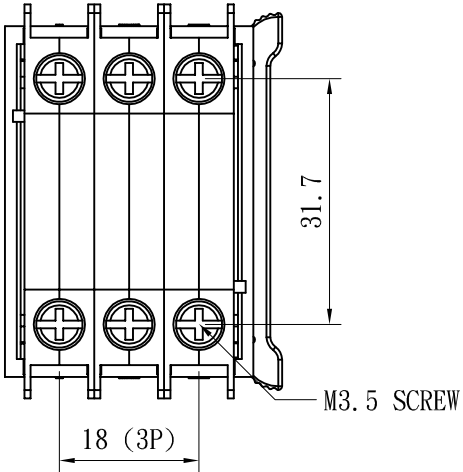
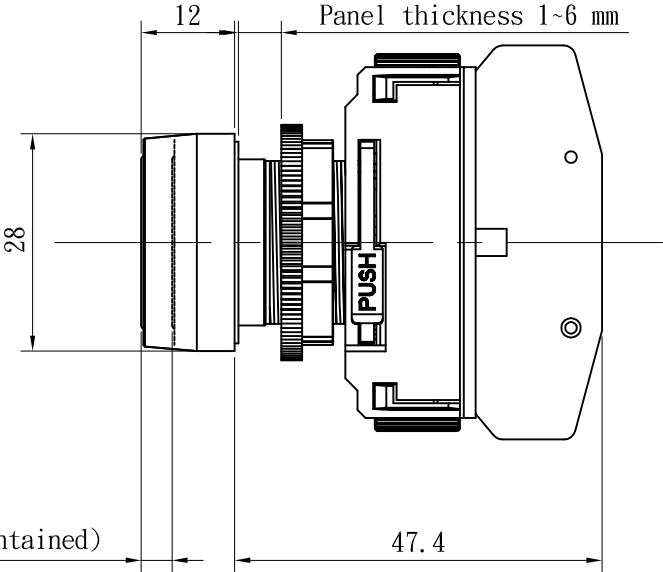
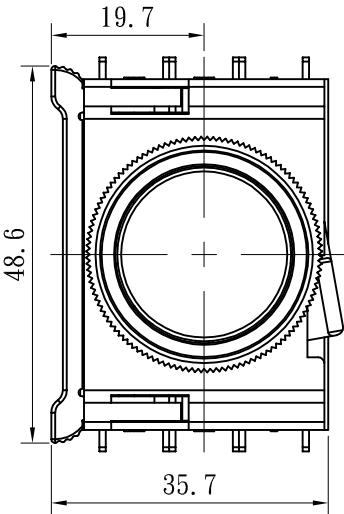
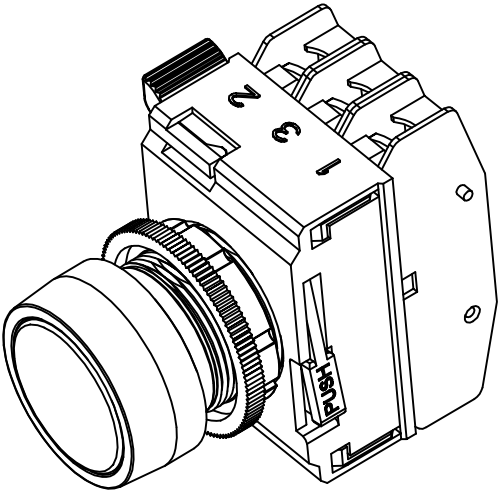
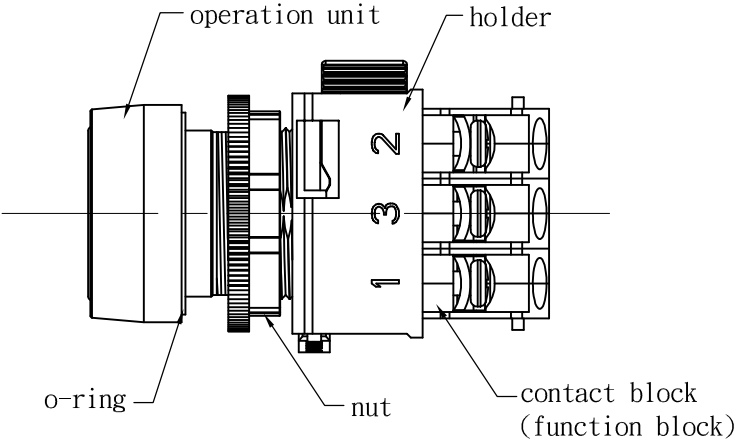
- To prevent injury, this device must be disconnected from all power sources prior to wiring and other initiating work.
- Use tightening tool when installing the operation unit in the panel cutout. Do not use pliers and do not tighten excessively, otherwise the operation unit may be damaged.
- Make sure contact blocks are firmly fixed on contact holder during assembly. it will avoid contact blocks separated from holder during operation.


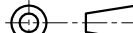
ECS-22RP1XX-XXXQ



				NORMAL TOLERANCE		 EXCEL CELL ELECTRONIC CO., LTD.						PART NUMBER		ECS-22RP1XX-XXXQ	
				RANGE	TOLERANCE										
				0-1	±0.1	CHECK	Marcus Li	DESIGN	Allen Shi	DRAWN	Allen Shi	UNIT	MM ( INCH )	PART NAME	ECS
				1-4	±0.3							SCALE	1:1	TYPE	Pushbutton
				4-16	±0.5							SIZE	A4	FILE NAME	76922RPXXQA.DWG
				16-63	±0.8							PROJECTION		EDITION	A
				63-250	±1.0										
NO.	DETAILS	ALTERED BY	DATE												

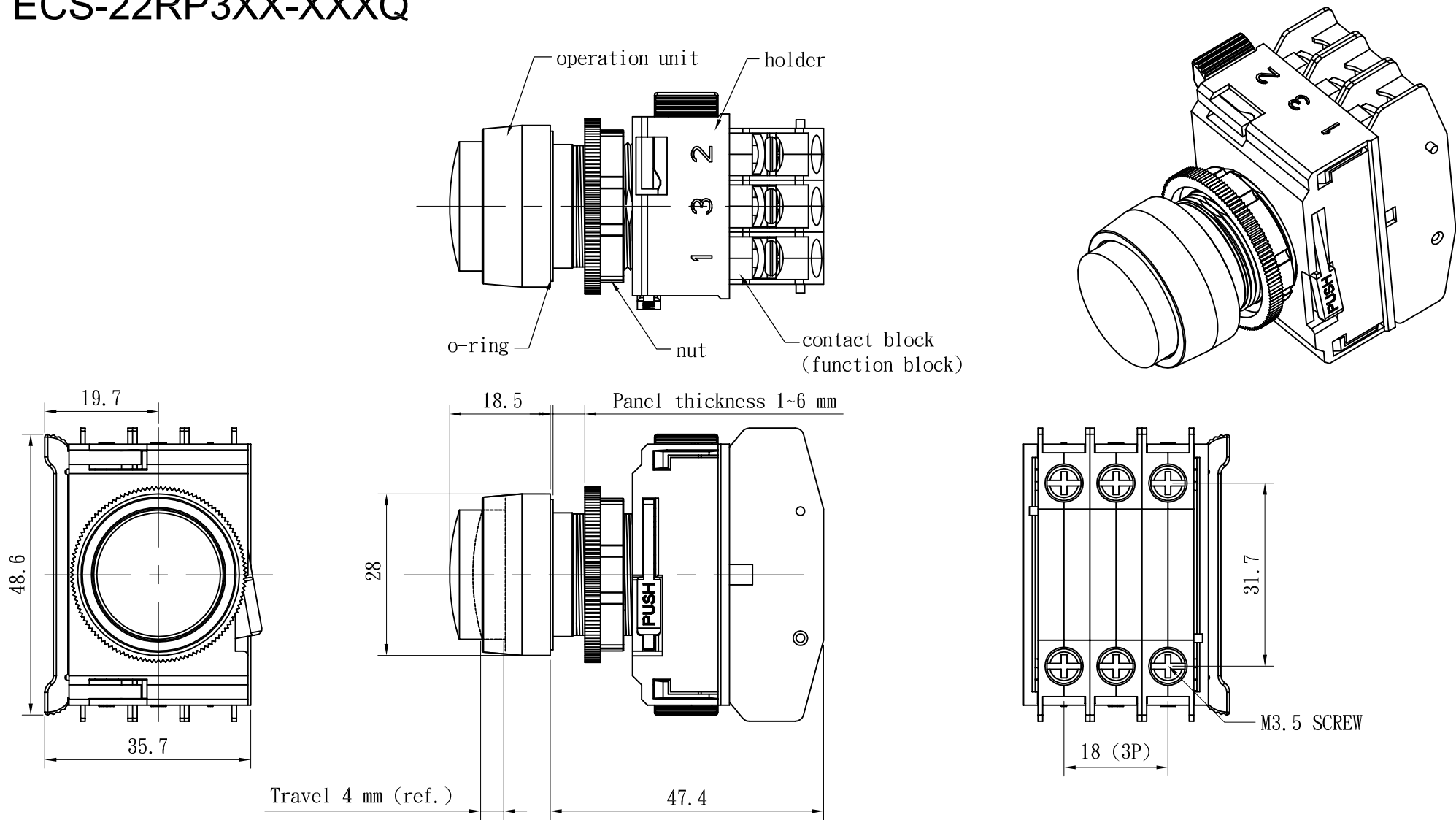
ECS-22RP2XX-XXXQ





				NORMAL TOLERANCE		 EXCEL CELL ELECTRONIC CO., LTD.						PART NUMBER		ECS-22RP2XX-XXXQ	
				RANGE	TOLERANCE							UNIT		MM ( INCH )	
				0-1	±0.1	CHECK	Marcus Li	DESIGN	Allen Shi	DRAWN	Allen Shi	SCALE	1:1	TYPE	Pushbutton
				1-4	±0.3							SIZE	A4	FILE NAME	76922RPXXQA.DWG
				4-16	±0.5							PROJECTION		EDITION	A
				16-63	±0.8										
				63-250	±1.0										
NO.	DETAILS	ALTERED BY	DATE												

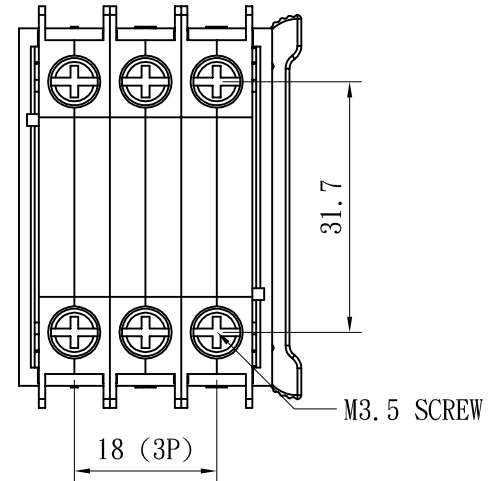
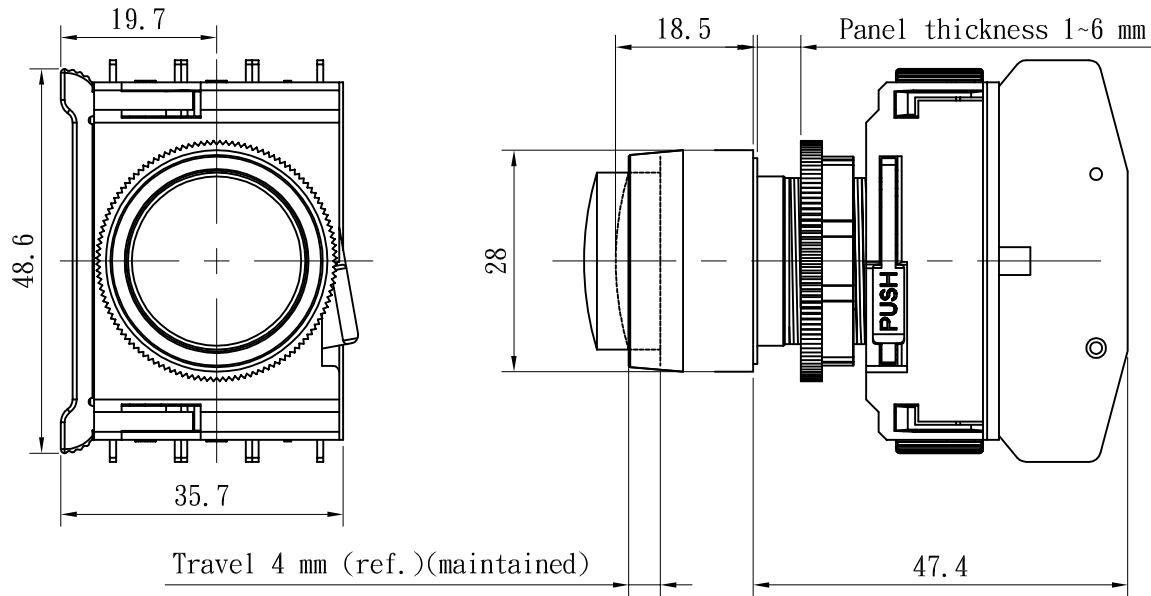
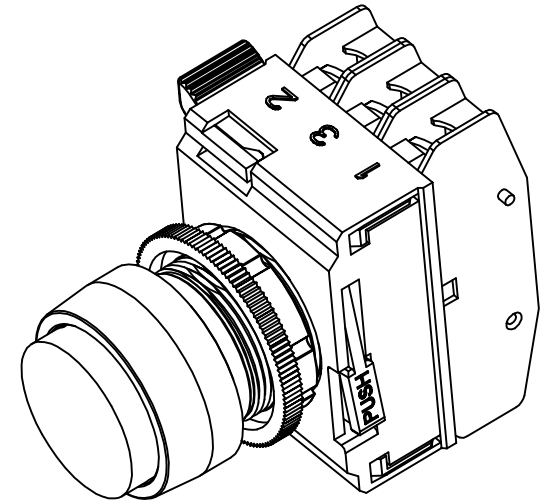
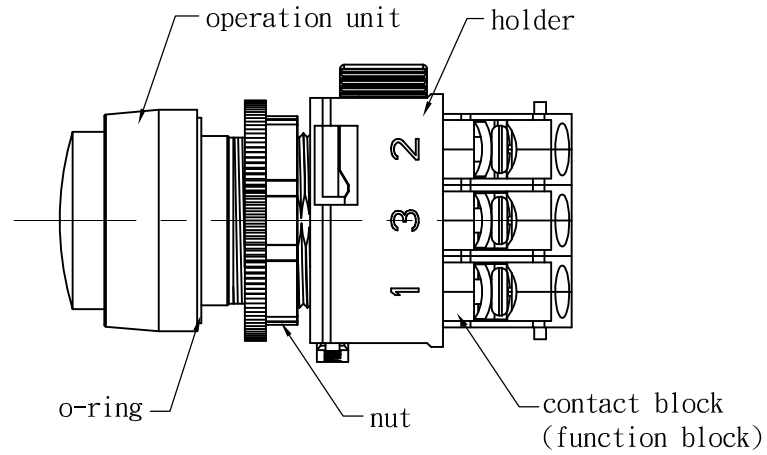


ECS-22RP3XX-XXXQ



				NORMAL TOLERANCE		 EXCEL CELL ELECTRONIC CO., LTD.						PART NUMBER		ECS-22RP3XX-XXXQ	
				RANGE	TOLERANCE							UNIT		MM ( INCH )	
				0-1	±0.1	CHECK	Marcus Li	DESIGN	Allen Shi	DRAWN	Allen Shi	SCALE	MM ( INCH )	TYPE	ECS
				1-4	±0.3							SCALE	1:1	TYPE	Pushbutton
				4-16	±0.5							SIZE	A4	FILE NAME	76922RPXXQA.DWG
				16-63	±0.8							PROJECTION			
				63-250	±1.0										
NO.	DETAILS	ALTERED BY	DATE												

ECS-22RP4XX-XXXQ

[illegible]