

Instruction Manual FF01 Series Low Profile E-STOP Switches

We thank you for the recent purchase of our product. Please read the instructions carefully to ensure correct product use.

1. Part No.

Poles	Actuator Size	Actuator Legend	Part Number
SPST	25.0 mm	Arrows	FF0116BACAEA01
SPST	30.0 mm	Arrows	FF0116BBCAEA01
SPST	25.0 mm	No Legend	FF0116BACEEA01
SPST	30.0 mm	No Legend	FF0116BBCEEA01
DPST	25.0 mm	Arrows	FF0126BACAEA01
DPST	30.0 mm	Arrows	FF0126BBCAEA01
DPST	25.0 mm	No Legend	FF0126BACEEA01
DPST	30.0 mm	No Legend	FF0126BBCEEA01

2. Safety Precautions

- Be sure to read the instruction manual and catalog before installation, wiring, operation, maintenance, or inspection of the product.
- Confirm that the power is off before installation, wiring, maintenance, or inspections. Failure to do so may cause electric shock, fire, or malfunctions.
- When the product is installed on other equipment, be sure that the usage is in compliance with all applicable standards and regulations in the country or region as required for the system, machine, or facility.

3. Cautions in Use

[Before using the product]

- Do not use a power supply that exceeds the rated voltage or current indicated in the specifications. Using a power supply that exceeds the ratings may cause overheating or fire.
- Use wires of the appropriate rating. Use of improper wires may cause overheating and fire.
- Follow the recommended Mounting Panel Cutout dimensions and installation instructions or the switch may come loose and not operate properly.
- Remove dirt and dust from the switch mounting surface of the panel before installation.
- Do not disassemble the product because doing so may cause electric shock, fire, or malfunctions.
- Operate the product by hand only. Do not operate using the feet, tools, or other objects.
- Chattering and bouncing
 - Bouncing may occur during the reset operation (pull or turn to reset). Chattering may occur if the switch-mounted equipment is subjected to shock or vibration. Take the appropriate precautions to prevent chattering and bouncing of the equipment.
- Safeguard against excessive shock or vibration, such as dropping. Excessive shock and vibration may result in deformation, damage, degraded performance, or failure.

【Soldering】

- After inserting the lead wire into the terminal hole, use a soldering iron to ensure a secure connection.
Incomplete soldering may cause overheating and fire during use.
- Note that if soldering is performed while the terminal is facing up, flux may enter the interior of the switch. Perform soldering carefully.
- The solder resistant temperature is 390°C. Complete the soldering within four seconds.

【Usage Environment】

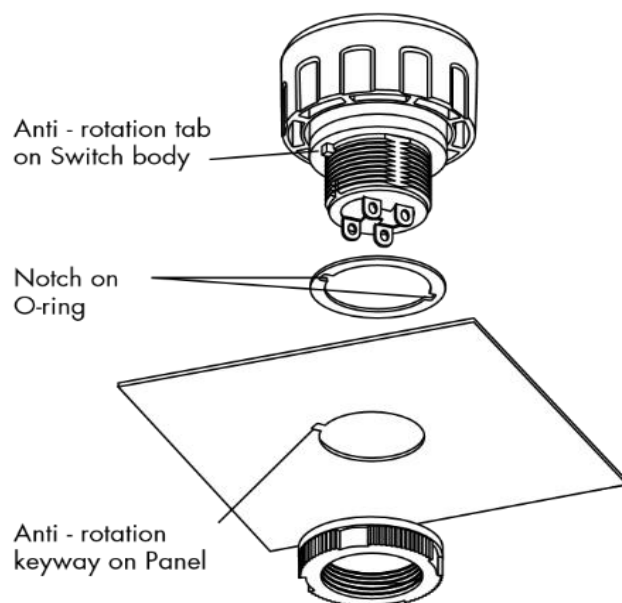
- The product is designed for indoor use.
- Do not install the product in locations subject to frequent splashing of water.
- If the product becomes wet, wipe off with a dry cloth. Using a switch exposed to water may result in water entering the inside; if the water inside freezes, the switch may not function properly.
- When using the product in environments subject to accumulations of dust and dirt, remove such accumulations from the area around the switch before use. Accumulated dust and dirt may affect switch function.

【Routine Care】

- Use a dry cloth to wipe dirt from the actuator. If the actuator is very dirty, wipe with a cloth dampened with a small amount of neutral detergent, then wipe dry. (Actuator material: Fiber-reinforced PBT)

4. Installing the Switch

- (1) Remove the round nut from the switch main body.
- (2) With the notch in the O-ring aligned with the anti-rotation tab on the switch main body, insert the switch body into the panel. In this step, align the anti-rotation tab on the switch main body with the anti-rotation keyway on the panel.
- (3) Using the nut wrench (AT119), tighten the round nut from the back of the panel to the recommended tightening torque of 785 mN·m.



5. General Specifications

Test Specification	UL508/EN60947-5-1/EN60947-5-5
Rated Operating Voltage (Ue)	Resistive Load (DC-12) 24 V DC 0.5 A
Rated Operating Current	※UL, TÜV certified rating
Rated Insulation Voltage (Ui)	36 V DC
Rated Impulse Withstand Voltage	2.5 kV
Sealing	Front panel: IP65 (IEC 60529)
Pollution Degree	3
Short-Circuit Protection Device	gG 10A
Conditional Short-Circuit Current	1000 A
Ambient Operating Temperature	-25°C to +60°C (no freezing)
Ambient Storage Temperature	-45°C to +80°C (no freezing)
Operating Force	Push to lock: 10.8 N Pull to reset: 8.5 N Turn to reset: 0.13 N·m
Minimum force to achieve direct opening action of all break contacts	15 N
Minimum travel including travel beyond the minimum travel position	3.0 mm
Maximum travel of actuator	4.5 mm
Contact Resistance	50 mΩ maximum (initial value)
Insulation Resistance	100 MΩ minimum (500 V DC megger)
Overvoltage Category	II
Operation Frequency	600 operations/hour
Shock Resistance	Durability: 1,000 m/s ² Malfunction: 150 m/s ²
Vibration Resistance	Durability: 10 to 500 Hz half amplitude: 0.35 mm, acceleration: 50 m/s ² Malfunction: 10 to 500 Hz half amplitude: 0.35 mm, acceleration: 50 m/s ²
Electrical Life/ Mechanical Life	Electrical Life/ Mechanical Life:100,000 operations Minimum (resistive load), 6050 times Minimum (inductive load (DC-13))
Recommended Fixing Nut Mounting Torque	785 mN·m
Soldering	390°C within 4 seconds
Effective Panel Thickness	Effective panel thickness of 0.8 to 4.5 mm (Effective panel thickness range with a nameplate or switch guard of 0.5 to 3.0 mm)

* UL, TÜV certified rating

•UL/ TÜV certified rating: 24 V DC, 0.5 A (DC-13)

Minimum applicable load (reference value): 5V DC 1 mA

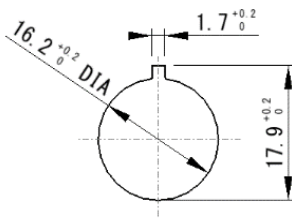
(Usage conditions and load types may affect the allowable operating range.)

6. Mounting panel Cutout

Effective Panel Thickness: 0.8 to 4.5 mm

(The thickness is 0.5 to 3.0 mm when the accessory (optional) nameplate and switch guard are installed.)

Processing should be in accordance with the installation hole drawing to allow the rotation stop function of the main switch unit to function properly.



7. Inquiries

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