

Safety Door Switch

SFD Series INSTRUCTION MANUAL

TCD210163AC



Thank you for choosing our Autonics product. Read and understand the instruction manual and manual thoroughly before using the product. For your safety, read and follow the below safety considerations before using. For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website. Keep this instruction manual in a place where you can find easily. The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice. Follow Autonics website for the latest information.

Safety Considerations

- Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.
Symbol indicates caution due to special circumstances in which hazards may occur.

Warning Failure to follow instructions may result in serious injury or death.

- 01. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.
02. System manager means followings;
03. The product has to be installed, set, and combined with machine control system by the qualified system manager.
04. Before using the product, check that function of the product operates as intended while machine is turned off after installation.
05. Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact, salinity, moisture, or steam, or dust may be present.
06. Do not disassemble or modify the unit.
07. Be cautious about the installing place of the operation key in order to protect worker from hitting the operation key when the door is opened.
08. Do not use a head of the door lock switch (SFDL Series).
09. Install separate safety device to fix door closed, or door can be opened because of vibration or weight of the door.
10. Check the installed status of the switch, operating status of the switch, and signs of damage, modification, tampering of the switch at the following situation and on a weekly basis.
11. Check 'Connections' before wiring.

Caution Failure to follow instructions may result in injury or product damage.

- 01. Use the unit within the rated specifications.
02. Use a dry cloth to clean the unit, and do not use water or organic solvent.
03. Keep the door switch away from debris and tighten the screw securely when replacing the head.
04. Keep the product away from metal chip, dust, and wire residue which might flow into the unit.
05. Do not use the switch as a guard door stopper. Install separate mechanical stopper.
06. Carefully manage the spare operation key in order to prevent use of the key without permission.
07. Use only Autonics operation key.
08. Install the operation key tightly within the range written in 'Installation' with welding, rivet, or special bolt in order not to be easily released from the switch.

Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
Use the switch with the dedicated controller. Do not use the switch with another controller randomly.
This unit may be used in the following environments:
- Indoors (in the environment condition rated in 'Specifications')
- Altitude max. 2,000m
- Pollution degree 3
- Installation category III
- Enclosure Type I

Sold Separately

- Operation key: SFD-K-
M12 Connector cable: CID / CLD Series

Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.

SFD - 1 2 - 3 4

- 1 Head materials
2 Contact composition
3 Connection outlet
4 Connection outlet specification

Contact Composition and Operation

Contact composition represents the locked status with the operation key inserted. ON, OFF

Table with 4 columns: Model, Contact, Contact composition, Contact operation. Shows various wiring configurations for different SFD models.

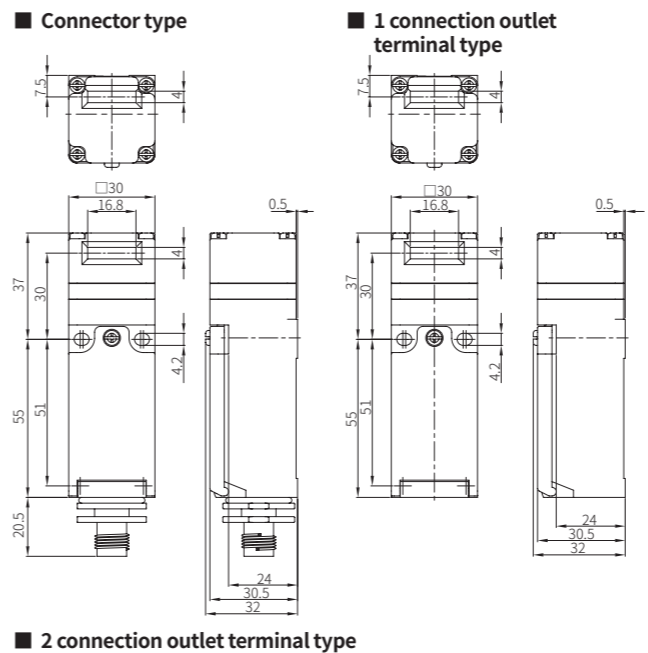
Specifications

Table with 4 columns: Model, Rated voltage/current for load, Directing opening force, Operating speed, etc. Lists technical specifications for SFD models.

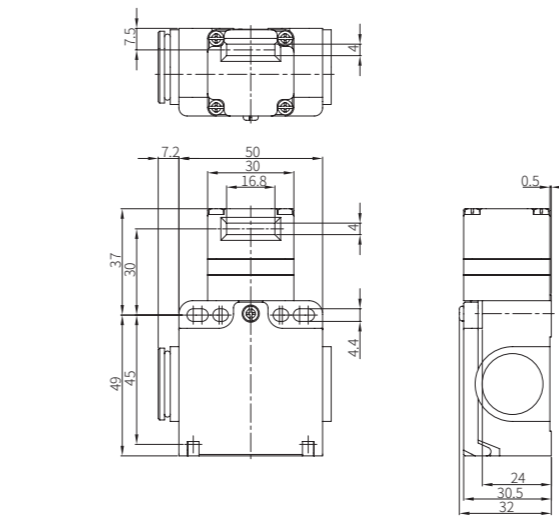
01) UL approved ambient temperature: 65°C
02) Rated protection structure is for the switch body. Be cautious about preventing the head part from entering the foreign materials such as dust and water.

Dimensions

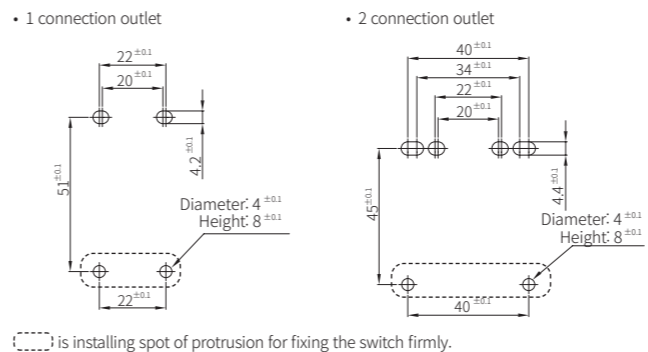
- Unit: mm, For the detailed dimensions of the product, follow the Autonics web site.



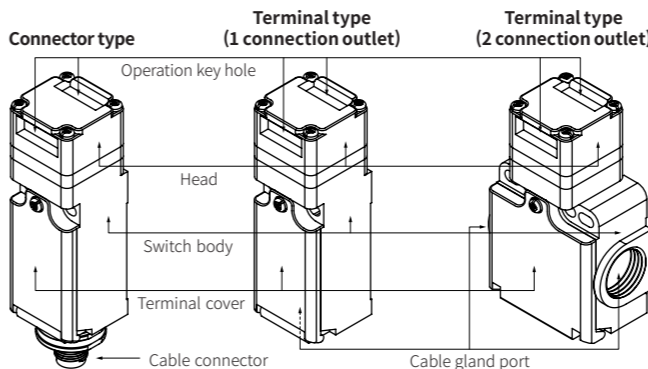
2 connection outlet terminal type



Mounting hole cut-out



Unit Description



Installation

- The head of the switch can be rotated by loosening the four screws from the corners of the head and reinstalling the head in the desired orientation.
Be sure to install the switch with the minimum radius at a hinged door as shown in the table.

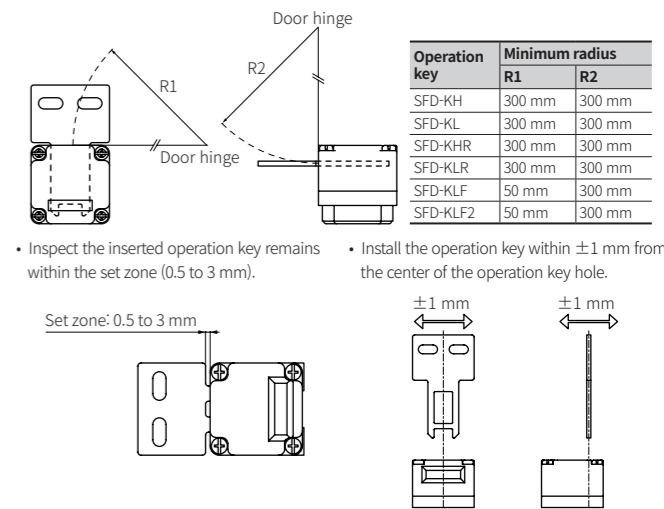


Table for Recommended screw tightening torque. Columns: Screw, Tightening torque. Lists torques for terminal screw, terminal block screw, terminal cover screw, head mounting screw, cable gland, and nut.

Connections

- When wiring with the ring crimp terminal, connect the terminals as shown in figure for the cable not to override to the case and cover.
M12 connector pin arrangement
Use the UL approved ring crimp terminal listed in below. Bend the terminal as following figure to use.
Use lead wire sizes AWG20 (0.518 mm²) and prepare lead wires using the length given in the following diagram. If lead wires are too long or short, the cover may not be properly closed.

Tables for Cable gland specification and recommended product. Includes manufacturer (JST) and model (FN0.5-3.7) information, and a table for thread spec, MFR, Model, and Cable Ø.

- In case of using the cable gland with the 9 mm screw thread or longer, a gap between the switch and cable may affect the protection structure.
Do not use metallic duct. Using metallic duct can result in electric shock due to the damage on the service entrance.

