Safety Grip Type Enabling Switches

SFEN Series
CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

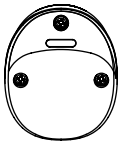
- Models: Standard / Stop button / Momentary button type
- High operation sensitivity with 3-position snap action
- Enable operation indicator (green LED)
- Various contact types
  : Standard type N.O. 2 + N.C. 1
  : Stop button type N.O. 2 + N.C. 2
  : Momentary button type N.O. 2 + N.O. 2
- Secure connection with cable gland
- Holding key SFEN-HK (sold separately)
  : for connection with safety door switch (SFD 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.

SFEN - ❶

❶ Type

No mark: Standard type	B: Stop button type	M: Momentary button type
		

Product Components

- Product × 1
- Instruction manual × 1
- Cable gland × 1

Sold Separately

- Mounting bracket: BK-SFEN
- Holding key: SFEN-HK

CE (TUV NORD) c UL us LISTED

Specifications

• **Enable switch**

Rated Insulation Voltage	250 VAC~
Rated through current	2.5 A
Rated inductive load	AC-15 (0.75 A / 240 VAC~), DC-13 (0.55 A / 125 VDC⎓)
Rated resistive load 01)	0.75 A / 240 VAC~, 0.55 A / 125 VDC⎓
Controller strength 02)	Operation direction: 200 N, for 1 min
Operating frequency	Electrical: ≤ 20 / min, Machanical: ≤ 20 / min
Dielectric strength	Between terminals of same polarity, between terminals of different polarity, between terminal and non-live part : 2,500 VAC~ 50 / 60 Hz for 1 min (impulse dielectric strenght)
Electrical life cycle	≥ 100,000 operations (rated load)
Machanical life cycle	OFF → ON → OFF: ≥ 100,000 opertions / OFF → ON: ≥ 1,000,000 operations

01) Use a 10 A fuse gl or gG conforming to IEC60269 as short-circuit protection. The body does not have a built-in fuse.
02) Do not use the switch more than the controller strength. Failure to follow this instruction may result in product damage.

• **Stop button**

Rated Insulation Voltage	250 VAC~
Rated through current	3 A
Rated resistive load 01)	AC-12 (3 A / 250 VAC~), DC-12 (3 A / 30 VDC⎓)
Controller strength 02)	Operation direction: 400 N, for 1 min (operation direction: 0.5 N m, for 1 min)
Operating frequency	Electrical: ≤ 10 / min, Machanical: ≤ 10 / min
Dielectric strength	Between terminals of same polarity: 1,000 VAC~ 50 / 60 Hz for 1 min. between terminals of different polarity, between terminal and non-live part : 2,000 VAC~ 50 / 60 Hz for 1 min.
Electrical life cycle	≥ 100,000 operations (rated load) (Push / Release 1 time)
Mechanical life cycle	≥ 100,000 operations (Push / Release 1 time)

01) Use a 10 A fuse gl or gG conforming to IEC60269 as short-circuit protection. The body does not have a built-in fuse.
02) Do not use the button more than the controller strength. Failure to follow this instruction may result in product damage.

• **Momentary button**

Rated Insulation Voltage	125 VAC~
Rated through current	0.1 A
Rated resistive load 01)	AC-12 (0.1 A / 125 VAC~), DC-12 (0.1 A / 30 VDC⎓)
Controller strength 02)	Operation direction: 10 N, for 1 min
Operating frequency	Electrical: ≤ 25 / min, Machanical: ≤ 60 / min
Dielectric strength	Between terminals of same polarity: 600 VAC~ 50 / 60 Hz for 1 min. between terminals of different polarity, between terminal and non-live part : 1,000 VAC~ 50 / 60 Hz for 1 min.
Electrical life cycle	≥ 100,000 operations (rated load)
Machanical life cycle	≥ 1,000,000 operations

01) Use a 10 A fuse gl or gG conforming to IEC60269 as short-circuit protection. The body does not have a built-in fuse.
02) Do not use the button more than the controller strength. Failure to follow this instruction may result in product damage.

■ Common spec.

Conditional short circuit current	100 A
Min. applied load	DC24 V 4 mA
Directing opening force	30 N ± 10
Directing opening distance	4.8 mm ± 0.5
Insulation resistance	≥ 100 MΩ (500 VDC⎓ megger)
Vibration (malfunction)	1.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 min
Shock (malfunction)	150 m/s² (≈ 15 G) in each X, Y, Z direction for 3 times
Ambient temperature	-10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Insulation class	Class II (double insulation)
Indicator	Enable operation indicator (green)
Protection structure	SFEN: IP66 (IEC standard) SFEN-B, SFEN-M: IP65 (IEC standard)
Applicable wire	AWG 20 to 18 (0.5 to 0.75 mm²)
Connection type	M20 connector cable grand
Meterial	Cover: PA66, button: PC, rubber grip: Silicone
International standards	IEC 60947-5-1, IEC 60947-5-8, UL 60947-5-1
Approval	CE (TUV NORD) cULus LISTED KC
Unit weight (package)	SFEN: ≈ 238 g (≈ 363 g) SFEN-B: ≈ 268 g (≈ 388 g) SFEN-M: ≈ 252 g (≈ 376 g)

■ Contact composition

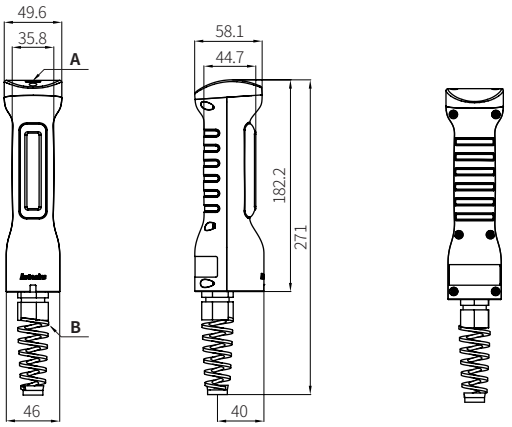
	SFEN	SFEN-B	SFEN-M
Enable switch	2 N.O.	2 N.O.	2 N.O.
Option output	1 N.C.	-	-
Stop button	-	2 N.C.	-
Momentary button	-	-	2 N.O.

Dimensions

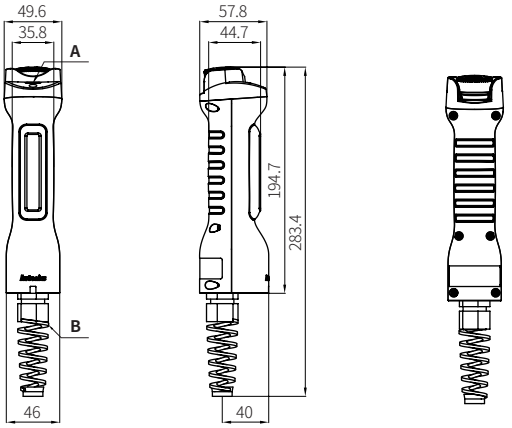
• Unit: mm, For the detailed drawings, follow the Autonics website.

A	Enable operation indicator (green)	**B**	Cable grand
C	Push button B	**D**	Push button A

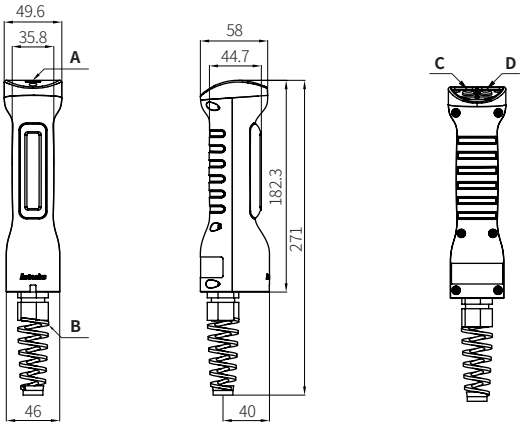
■ SFEN



■ SFEN-B

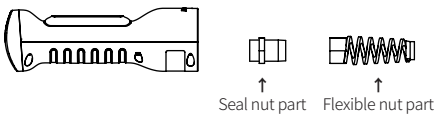


■ SFEN-M



Connecting Cable Gland

• When tightening or replacing the cable gland, assemble the seal nut part and then the flexible nut part in order.



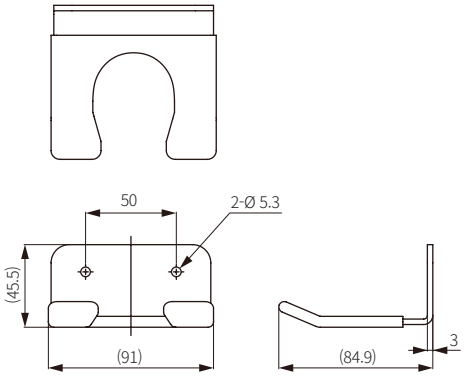
• Cable gland specification and recommended product

Manufacturer	Model	Cable Ø
LAPP	SKINTOP BS ISO M20×1.5 RAL 9005 BK / 5311-1720	7 - 13 mm

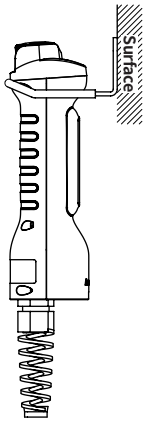
Sold Separately: Mounting Bracket

• Unit: mm, For the detailed drawings, follow the Autonics website.

■ **BK-SFEN**



• **Installation**



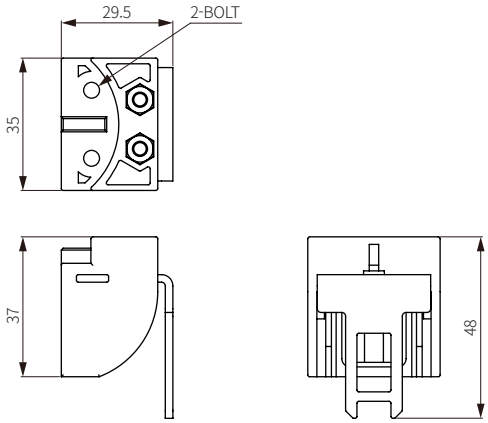
• It is recommended to use the rated M5 screw. It is recommended to use a washer.

Screw	Tightening torque
Mounting bracket screw (M5)	2.4 to 2.8 N m

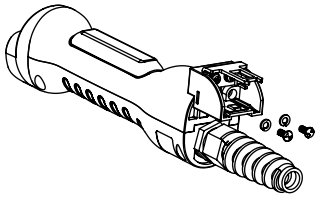
Sold Separately: Holding Key

• Unit: mm, For the detailed drawings, follow the Autonics website.

■ **SFEN-HK**



• **Installation**



• Assemble the unit perpendicular to the door switch.
• Use the included dedicated spring washers and screws.

Screw	Tightening torque
Holding key assembly screw	0.5 to 0.7 N m