

30 mm
Push Button Switches



SQ3PF Series PRODUCT MANUAL

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.

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. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime / disaster prevention devices, etc.)**
Failure to follow this instruction may result in personal injury, economic loss or fire.
- 02. Do not use or store the unit in the place where flammable / explosive / corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.**
Failure to follow this instruction may result in explosion or fire.
- 03. Install on a device panel to use.**
Failure to follow this instruction may result in fire or electric shock.
- 04. Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in fire or electric shock.
- 05. Do not disassemble or modify the unit.**
Failure to follow this instruction may result in fire or electric shock.

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

- 01. This unit shall not be used outdoors.**
Failure to follow this instruction may result in shortening the life cycle of the product or electric shock.
- 02. Use the unit within the rated specifications.**
Failure to follow this instruction may result in fire or product damage.
- 03. Do not use the load beyond rated switching capacity contact.**
Failure to follow this instruction may result in fire, relay broken, contact melt, insulation failure or contact failure.
- 04. For wiring the product, do not pull the wiring excessively or apply excessive force.**
Failure to follow this instruction may result in product damage or malfunction.
- 05. Use dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in fire or electric shock.
- 06. Keep the product away from metal chip, dust, and wire residue which from flowing into the unit.**
Failure to follow this instruction may result in fire or product damage.

Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

Specifications

Series	SQ3PF Series
Actuation distance	5.0 to 5.5 mm
Actuation force	0.5 kgf (4.9 N) (per 1 contact)
Installation	Flush
Shock	300 m/s ² (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s ² (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	Returned: ≥ 1 million operations (20 operations/min)
Ambient temperature	-15 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)
Protection structure	Control unit: IP52 (IEC standard)
Certification	CE  UL  FCC  IEC  PS
Control unit weight	≈ 22 g
Housing weight	≈ 7 g

Contact blocks

Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	Between the charging part and the case : 3,000 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Certification	CE  UL  FCC  IEC  PS
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g

LED blocks

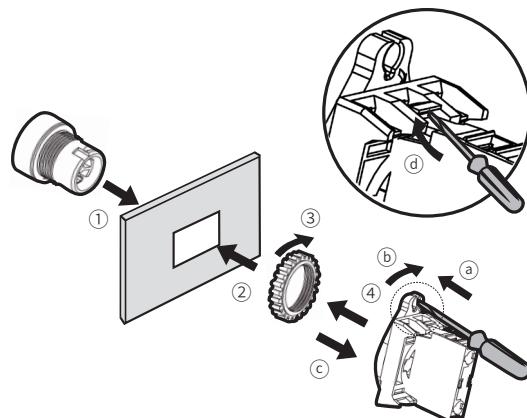
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC AC voltage type: 110-220 VAC~ 50/60 Hz
Current consumption	≤ 20 mA
Certification	CE  UL  FCC  IEC  PS
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g

Sold Separately

- Contact blocks (SA□-C□□)
- LED blocks (SA□-L□□□□)
- Locking handle (SA□-LH)

Assembly / Disassembly

- Assembly order: ①→②→③→④
- Disassembly order: ④→③→②→①



Control Switches	Panel thickness	Tightening torque
Ø 22/25/30 mm	Max. 6 mm	≤ 1.47 N·m

Ordering Information

This is only for reference. For selecting the specified model, follow the Autonics website.

Model is based on control unit+block combination. Control units or blocks are sold separately. In case of block, refer to control switch accessories.

■ Non-illuminated

SQ3	①	-	②	③	④	⑤
Control unit				Block		

① Switch type

PFS: Square push button switch (flush)

② Illuminated

P1: Non-illuminated

③ Color

R: Red

B: Blue

G: Green

Y: Yellow

K: Black

④ Contact block

A: 1 A contact

2A: 2 A contacts

3A: 3 A contacts

B: 1 B contact

2B: 2 B contacts

3B: 3 B contacts

AB: 1 A contact, 1 B contact

2AB: 2 A contacts, 1 B contact

A2B: 1 A contact, 2 B contacts

⑤ Block type

No mark: Singular type

M: Modular type

Model	Contact block		LED block	
	A contact	B contact	AC/DC voltage	AC voltage
SQ3PFS-P1□A(M)	1	-	-	-
SQ3PFS-P1□2A(M)	2	-	-	-
SQ3PFS-P1□3A(M)	3	-	-	-
SQ3PFS-P1□B(M)	-	1	-	-
SQ3PFS-P1□2B(M)	-	2	-	-
SQ3PFS-P1□3B(M)	-	3	-	-
SQ3PFS-P1□AB(M)	1	1	-	-
SQ3PFS-P1□2AB(M)	2	1	-	-
SQ3PFS-P1□A2B(M)	1	2	-	-

■ Illuminated

SQ3	①	②	-	③	④	⑤	⑥	⑦	⑧
Control unit					Block				

① Switch type

PFS: Square push button switch (flush)

④ Arrow direction

No mark: None

L: Left / Right

U: Up / Down

② Character marking

No mark: Push (control unit + singular type block)⁰¹

No mark: None (control unit + modular type block)

U: None (control unit)⁰²

⑤ Contact block

A: 1 A contact

2A: 2 A contacts

B: 1 B contact

2B: 2 B contacts

AB: 1 A contact, 1 B contact

③ Illuminated

P3: Illuminated

⑦ LED block

D: 1 AC/DC voltage type

L: 1 AC voltage type

⑧ Block type

No mark: Singular type

M: Modular type

Model	Contact block		LED block	
	A contact	B contact	AC/DC voltage	AC voltage
SQ3PFS-P3□AD(M)	1	-	-	-
SQ3PFS-P3□2AD(M)	2	-	-	-
SQ3PFS-P3□BD(M)	-	1	-	-
SQ3PFS-P3□2BD(M)	-	2	-	-
SQ3PFS-P3□ABD(M)	1	1	-	-
SQ3PFS-P3□AL(M)	1	-	-	-
SQ3PFS-P3□2AL(M)	2	-	-	-
SQ3PFS-P3□BL(M)	-	1	-	-
SQ3PFS-P3□2BL(M)	-	2	-	-
SQ3PFS-P3□ABL(M)	1	1	-	-
SQ3PFS-P3□LAD(M)	1	-	-	-
SQ3PFS-P3□L2AD(M)	2	-	-	-
SQ3PFS-P3□LBD(M)	-	1	-	-
SQ3PFS-P3□L2BD(M)	-	2	-	-
SQ3PFS-P3□LBD(M)	1	1	-	-
SQ3PFS-P3□LAL(M)	1	-	-	-
SQ3PFS-P3□2AL(M)	2	-	-	-
SQ3PFS-P3□LBL(M)	-	1	-	-
SQ3PFS-P3□L2BL(M)	-	2	-	-
SQ3PFS-P3□ABL(M)	1	1	-	-
SQ3PFS-P3□UAD(M)	1	-	-	-
SQ3PFS-P3□U2AD(M)	2	-	-	-
SQ3PFS-P3□UBD(M)	-	1	-	-
SQ3PFS-P3□U2BD(M)	-	2	-	-
SQ3PFS-P3□UABD(M)	1	1	-	-
SQ3PFS-P3□UAL(M)	1	-	-	-
SQ3PFS-P3□U2AL(M)	2	-	-	-
SQ3PFS-P3□UBL(M)	-	1	-	-
SQ3PFS-P3□U2BL(M)	-	2	-	-
SQ3PFS-P3□UABL(M)	1	1	-	-

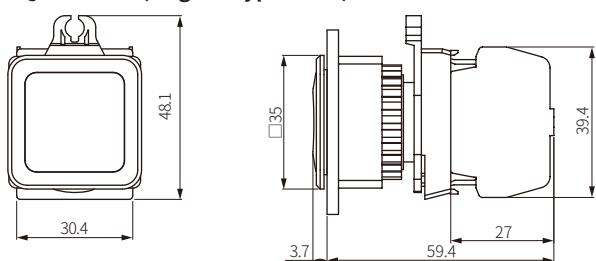
01) Only for non arrow direction model.

02) Only available for control unit. Select the block separately.

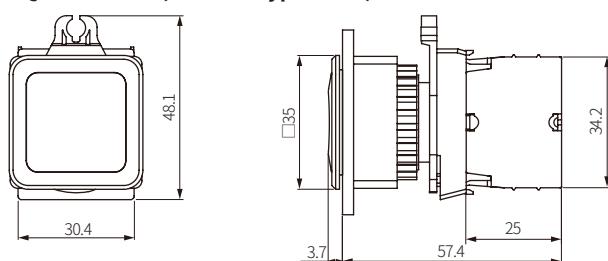
Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
- Panel thickness: ≤ 6 mm

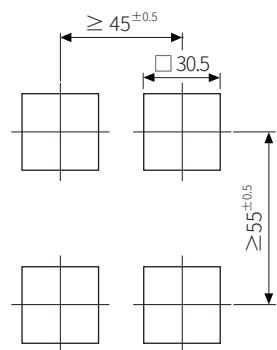
■ SQ3PF-P (singular type block)



■ SQ3PF-P M (modular type block)

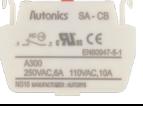


■ Panel cut-out



Ø 22/25 mm, Ø 30 mm, □ 30 mm Control Switches Accessories

Contact Blocks (SA□-C□□)

Model	Contact	Features	Applied switches	Appearance
SA-CAM	A contact (normally open)	<ul style="list-style-type: none"> Modular type Ring / Fork terminal available Modular connection (up to 3 units) 	Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches	
SA-CBM	B contact (normally closed)		Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches	
SA-CA	A contact (normally open)	<ul style="list-style-type: none"> Singular type (dust-resistant contact point) Fork terminal available Loose screw prevention 	Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches	
SA-CB	B contact (normally closed)		Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches	

Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	Between the charging part and the case : 3,000 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC= megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Certification	    
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g

■ Removal

Separate the unit using a flat-head (-) screwdriver. Same as contact removal method.



LED Blocks (SA□-L□□)

Model	Power supply	Features	Applied switches	Appearance
SA-LD□ M	AC/DC voltage type 12-24 VAC~ 50/60 Hz 12-24 VDC=	<ul style="list-style-type: none"> Modular type Ring / Fork terminal available Modular connection (up to 3 units) 	Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches, Pilot lights	
SA-LA□ M	AC voltage type 110-220 VAC~ 50/60 Hz		Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches, Pilot lights	
SA-LD□	AC/DC voltage type 12-24 VAC~ 50/60 Hz 12-24 VDC=	<ul style="list-style-type: none"> Singular type (dust-resistant contact point) Fork terminal available Loose screw prevention 	Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches, Pilot lights	
SA-LA□	AC voltage type 110-220 VAC~ 50/60 Hz		Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches, Pilot lights	

• □ : Color (R: Red / B: Blue / G: Green / Y: Yellow / W: White)

Rated voltage AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC= AC voltage type: 110-220 VAC~ 50/60 Hz

Current consumption ≤ 20 mA

Certification    

Weight AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g

■ Removal

Separate the unit using a flat-head (-) screwdriver. Same as contact removal method.

Locking Handle (SA□-LH)

• For locking switch nuts behind the panels.

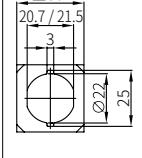
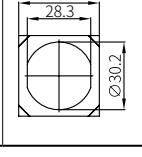
Model	Applied switches	Appearance
SA-LH	Ø 22/25 mm, Ø 30 mm, □ 30 mm Control switches, Pilot lights	

01) Except Ø 30 mm round pressure switches (extended).

Switch Washer (SA-SW□)

• The washer helps to improve switch tightening force.

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

Model	Applied switches	Dimensions	Appearance
SA-SW2	Ø 22/25 mm Control switches, Pilot lights		
SA-SW3	Ø 30 mm Control switches, Pilot lights		

Switch Enclosures (SA-□ B□)

Model	Certification	Shape	Applied switches	Appearance
SA-SB□	CE	Square	Ø 22/25 mm Control switches	
SA-TB□	CE	Triangle		

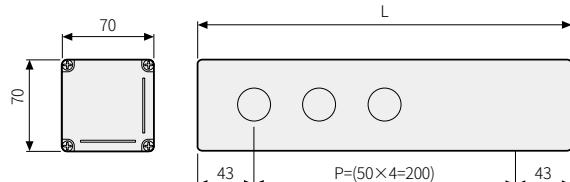
- : Number of holes (1 to 5)
- You can order the other size and the number of holes.

Dimensions

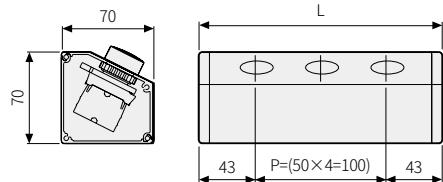
- Unit: mm, For the detailed drawings, follow the Autonics web site.

Model	Holes	L
SA-□ B1	1	86
SA-□ B2	2	136
SA-□ B3	3	186
SA-□ B4	4	236
SA-□ B5	5	286

- SA-SB□



- SA-TB□



Switch Waterproof Cap (SA-W□)

- IP65 protection structure with waterproof cap
- Unit: mm, For the detailed drawings, follow the Autonics web site.

Model	Applied switches	Dimensions	Appearance
SA-WP	Ø 22/25 mm Round non-illuminated / extended push button switches		
SA-WL	Ø 22/25 mm Round illuminated / extended push button switches		

Emergency Switch Nameplates (SA-N□)

- Unit: mm, For the detailed drawings, follow the Autonics web site.
- Standard color is yellow. Luminous nameplates are optional.

Model	Applied switches	Appearance
SA-NS	Ø 22/25 mm Emergency switches	<ul style="list-style-type: none"> D60 x d25
SA-NL	Ø 22/25 mm Emergency switches	<ul style="list-style-type: none"> D80 x d25

01) Except Ø 22/25 mm Emergency switch D60.

Emergency Switch Protective Shrouds (SA-EG□)

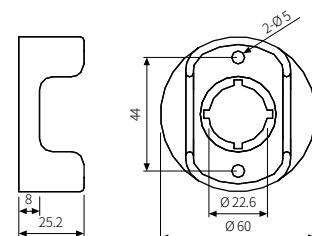
- Protective shrouds to prevent accidental/incorrect operation.

Model	Applied switches	Appearance
SA-EG1		
SA-EG2 / SA-EG3	Ø 22/25 mm Emergency switches	

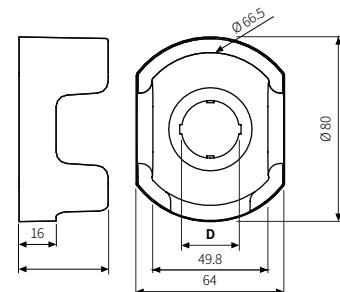
01) Except Ø 22/25 mm Emergency switch D60.

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics web site.
- SA-EG1



- SA-EG2 / EG3



Model	D
SA-EG2	Ø 22.5
SA-EG3	Ø 25.5