

## International, LLC

- Innovation Quality Service
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FS-61-R Series



AC Series

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2020
Industrial Foot Switch

# SCN ${ }^{\circledR}$ International, LLC 



SUNS International is a leading manufacturer of high quality medical and industrial control products. We have developed a complete range of medical and industrial foot switches to suit your application. We also offer an extensive line of limit switches, safety switches, micro switches and proximity switches. Manufactured in ISO9001:2008 certified facilities and certified by UL, CSA, CE and CCC, SUNS products are reliable, competitive and are widely used in:
Surgical \& Dental Applications
Hospital Bed Control
X-ray Machines

## Robotics

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Metal Forming Machines
Packaging Machinery
Aerial Lift Equipments
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FS-1 Series Light Duty Foot Switches

## Features

- Low cost foot switch for light to medium duty applications
- Available in standard model and ergonomic (front hinged) model
- Black painted steel housing with nonskid base pad and foot treadle pad
- UL/CSA/CE/CCC certified


## Selection Guide:

## Dimensions:

FS-1-15 (Not wired)
FS-1-10-2-18/3 (Prewired 2 meters 18AWGx3 1NO)
FS-1-10-P-8F-18/3 (Prewired 8ft 18AWG×3 with series plug)


FS-1-15-H (Front hinged, not wired)
FS-1-10-H-2-18/3 (Front hinged, prewired 2 meters 18AWGx3 1NO)


FS-1 Series Light Duty Foot Switches

FS-1-15-D (Not wired)
FS-1-10-D-2-18/3 (P rewired 2 meters 18AWG x3 1NO)



FS-1-15 (Twin) (Not wired)
FS-1-10 (Twin)-2-18/4 (P rewired 2 meters 18AWGx4 1NOx2)


FS-1G-15 (Not wired)
FS-1G-10-2-18/3 (Prewired 2 meters 18AWGx3 1NO)


FS-1 Series Light Duty Foot Switches

FS-1G-15 (Twin) (not wired)
FS-1G-10 (Twin)-2-18/4 (prewired 2 meters 18AWGx4 1NO)


FS-1G


## FS-TG




## FS-81 Series Foot Switches

## Features

- Robust glass fiber reinforced plastic or zinc die cast body
- UL/CSA/CE/CCC certified
- Custom color/wiring available


## Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :--- | :--- |
| Insulation Resistance | $>100 \mathrm{M} \Omega @ 500 \mathrm{~V} \mathrm{DC}$ |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Rated Current/Voltage | $10 \mathrm{~A} / 15 \mathrm{~A}, 1 / 2 \mathrm{HP}, 125 / 250 \mathrm{VAC}$ |
| Dielectric Strength | 1000 VAC for 1 min between current carrying parts <br> 2500 VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br> Electrically $\quad 5 \times 10^{5}$ (operations) |
| Operating Temperature | $-20 \sim+80^{\circ} \mathrm{C} \quad\left(-4 \sim 176^{\circ} \mathrm{F}\right)$ |
| Degree of Protection | IP20/NEMA 1 (IP68/NEMA 6,6P available upon request) |

## Selection Guide:



| Part Number | Description | Guard | Anti-Trip | Protective <br> Gate | Stage | Circuit | Degree of <br> Protection | Electrical Ratings |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FS-81-15 | Momentary | No | No | No | 1 | SPDT | IP20 | 15A/250VAC |
| FS-81-10-2-18/2 | Momentary | No | No | No | 1 | SPDT | IP20 | 10A/250VAC |
| FS-81-15-D | Maintained | No | No | No | 1 | SPDT | IP20 | 15A/250VAC |
| FS-81-10-D-2-18/2 | Maintained | No | No | No | 1 | SPDT | IP20 | 10A/250VAC |
| FS-81-15-T | Momentary | No | No | No | 1 | DPDT | IP20 | 15A/250VAC |
| FS-81-15-S | Momentary | No | No | No | 2 | DPDT | IP20 | 15A/250VAC |

## Dimensions:

## FS-81



## FS-81 Series Foot Switches

FS-81-15(Twin)(not wired)
FS-81-10(Twin)-2-18/4(prewired 2 meters 18AWG*4 1NO)


FS-81G-15(not wired)
FS-81G-10-2-18/2(perwired 2 meters 18AWG*2 1NO)


FS-81G-15(Twin) (not wired)
FS-81G-10(Twin)-2-18/4 (prewired 2 meters 18AWG*4 1NO)


FSP-1G(Plastic)


## FS-9 Series Compact Foot Switches

## Features

- Robust glass fiber reinforced plastic or zinc die cast body
- Four switch ratings available: 10A:1/2HP 125/250VAC 15A:3/4HP 125VAC, 1-1/2HP 250VAC 20A:1-1/2HP 125VAC, 2HP 250VAC 25A:1-1/2HP 125VAC, 2HP 250VAC
- UL/CSA/CE/CCC certified
- Custom color/wiring available

Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :--- | :--- |
| Insulation Resistance | $>100 \mathrm{M} \Omega @ 500 \mathrm{~V} \mathrm{DC}$ |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Dielectric Strength | 1000 VAC for 1 min between current carrying parts <br>  <br> 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br>  <br> Electrically $5 \times 10^{5}$ (operations) |
| Operating Temperature | $-20 \sim+80^{\circ} \mathrm{C} \quad\left(-4 \sim 176^{\circ} \mathrm{F}\right)$ |
| Degree of Protection | IP20/NEMA 1 (IP68/NEMA 6,6P available upon request) |

## Selection Guide:



| Part Number | Description | Guard | Anti-Trip | Protective Gate | Stage | C ircuit | Degree of Protection | Electrical Ratings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FS-91-20 | Momentary | No | No | No | 1 | SPDT | IP20 | 20A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-91-20-M | Momentary | No | No | No | 1 | SPDT | IP20 | 20A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-91-10-2-18/3 | Momentary | No | No | No | 1 | SPDT | IP20 | 10A:1/2HP 125/250VAC |
| FS-91-10M-2-18/3 | Momentary | No | No | No | 1 | SPDT | IP20 | 10A:1/2HP 125/250VAC |
| FS-91-15-2-14/3 | Momentary | No | No | No | 1 | SPDT | IP20 | 15A:3/4HP 125VAC,1-1/2HP 250VAC |
| FS-91-15-M-2-14/3 | Momentary | NO | No | No | 1 | SPDT | IP20 | 15A:3/4HP 125VAC,1-1/2HP 250VAC |
| FS-92-20 | Momentary | No | No | No | 1 | SPDT | IP 20 | 20A:1-1/2HP 125VAC,2HP 250VAC |
| FS-92-20-M | Momentary | No | No | No | 1 | SPDT | IP20 | 20A:1-1/2HP 125VAC,2HP 250VAC |
| FS-92-10-2-18/4 | Momentary | No | No | No | 1 | SPDT | IP20 | 10A:1/2HP 125/250VAC |
| FS-92-10-M-2-18/4 | Momentary | No | No | No | 1 | SPDT | IP20 | 10A:1/2HP 125/250VAC |
| FS-92-15-2-14/4 | Momentary | No | No | No | 1 | SPDT | IP20 | 15A:3/4HP 125VAC,1-1/2HP 250VAC |
| FS-92-15-M-2-14/4 | Momentary | No | No | No | 1 | SPDT | IP20 | 15A:3/4HP 125VAC, 1-1/2HP 250VAC |

## Dimensions:



## SuMs

 SUNSFSC-3 Series Medium Duty Foot Switches

## Features

- Robust Aluminum alloy body
- Four switch ratings available:

10A:1/2HP 125/250VAC
15A:3/4HP 125VAC, 1-1/2HP 250VAC
20A:1-1/2HP 125VAC, 2HP 250VAC
25A:1-1/2HP 125VAC, 2HP 250VAC

- UL/CSA/CE/CCC certified
- Custom color/wiring available

Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :--- | :--- |
| Insulation Resistance | $>100 \mathrm{M} \Omega @ 500 \mathrm{~V} \mathrm{DC}$ |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Dielectric Strength | 1000 VAC for 1 min between current carrying parts <br> 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br> Electrically $5 \times 10^{5}$ (operations) |
| Operating Temperature | $-30 \sim+80^{\circ} \mathrm{C} \quad\left(-22 \sim 176^{\circ} \mathrm{F}\right)$ |
| Degree of Protection | $\mathrm{IP} 20 / \mathrm{IP} 65$ |

## Selection Guide:



| P art Number | Description | Guard | Anti-Trip | Protective Gate | Stage | Circuit | Degree of Protection | Electrical R atings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FSC-31-20 | Momentary | No | No | No | 1 | SPDT | IP65 | 20A:1-1/2HP 125VAC,2HP 250VAC |
| FSC-31G-20 | Momentary | Yes | No | No | 1 | SPDT | IP 65 | 20A:1-1/2HP 125VAC,2HP 250VAC |
| FSC-31-10-2-18/3 | Momentary | No | No | No | 1 | SPDT | IP65 | 10A:1/2HP 125/250VAC |
| FSC-31-15-2-14/3 | Momentary | No | No | No | 1 | SPDT | IP65 | 15A:3/4HP 125VAC, 1-1/2HP 250VAC |
| FSC-31-10-TD | Momentary | No | No | No | 1 | DPDT | IP65 | 10A:1/2HP 125/250VAC |
| FSC-31-20-D | Maintained | No | No | No | 1 | SPDT | IP20 | 20A:1-1/2HP 125VAC,2HP 250VAC |
| FSC-31-10-D-2-18/3 | Maintained | No | No | No | 1 | SPDT | IP 20 | 10A:1/2HP 125/250VAC |
| FSC-31-15-D-2-14/3 | Maintained | No | No | No | 1 | SPDT | IP20 | 15A:3/4HP 125VAC, 1-1/2HP 250VAC |
| FSC-31-15-T | Momentary | No | No | No | 1 | DPDT | IP20 | 15A:3/4HP 125VAC, 1-1/2HP 250VAC |
| FSC-31-15-S | Momentary | No | No | No | 2 | DPDT | IP20 | 15A:3/4HP 125VAC, 1-1/2HP 250VAC |
| FSC-32-20 | Momentary | No | No | No | 1 | SPDT | IP 65 | 20A:1-1/2HP 250VAC,2HP 250VAC |
| FSC-32G-20 | Momentary | Yes | No | No | 1 | SPDT | IP65 | 20A:1-1/2HP 250VAC, 2HP 250VAC |
| FSC-32-15-2-14/4 | Momentary | No | No | No | 1 | SPDT | IP65 | 15A:3/4HP 125VAC, 1-1/2HP 250VAC |

## Dimensions:

FSC-31-20


FSC-3 Series Medium Duty Foot Switches

## FSC-32-20



FSC-31G-20


FSC-32G-20


FS-1G


FS-TG


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## FS-4 Series Medium Duty Foot Switches

## Features

- Robust zinc metal die cast body
- Four switch ratings available:

10A:1/2HP 125/250VAC
15A:3/4HP 125VAC, 1-1/2HP 250VAC
20A:1-1/2HP 125VAC, 2HP 250VAC
25A:1-1/2HP 125VAC, 2HP 250VAC

- UL/CSA/CE/CCC certified
- Custom color/wiring available

Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :--- | :--- |
| Insulation Resistance | $>100 \mathrm{MW@} @ 00 \mathrm{~V} \mathrm{DC}$ |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Dielectric Strength | 1000VAC for 1 min between current carrying parts <br>  <br> 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br>  <br> Electrically $5 \times 10^{5}$ (operations) <br> Operating Temperature <br> Degree of Protection |

## Selection Guide:



| Part Number* | Description | Guard | Anti-Trip | Protective Gate | Stage | Circuit | Degree of Protection | Electrical Ratings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FS-41-25 | Momentary | No | No | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-41G-25 | Momentary | Yes | No | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-41-25-D | Maintained | No | No | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-41-25-A | Momentary | No | Yes | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-41-25-T | Momentary | No | No | No | 1 | DPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-41-25-S | Momentary | No | No | No | 2 | DPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FSM-41-25 | Momentary | No | No | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FSM-41G-25 | Momentary | Yes | No | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FSM-41-25-D | Maintained | No | No | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FSM-41-25-A | Momentary | No | Yes | No | 1 | SPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FSM-41-25-T | Momentary | No | No | No | 1 | DPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FSM-41-25-S | Momentary | No | No | No | 2 | DPDT | IP68 | 25A:1-1/2HP 125VAC, 2HP 250VAC |
| FS-41-10-2-18/2 | Momentary | No | No | No | 1 | SPDT | IP68 | 10A:1/2HP 125/250VAC |
| FSM-41-10-2-18/3 | Momentary | No | No | No | 1 | SPDT | IP68 | 10A:1/2HP 125/250VAC |
| FSM-41-15-2-14/3 | Momentary | No | No | No | 1 | SPDT | IP68 | 15A:3/4HP 125VAC, $1-1 / 2 \mathrm{HP} 250 \mathrm{VAC}$ |

* Add conduit type suffix to get the complete part numbers


## Dimensions:

FS-41


FS-81R Series Medical Foot Switches (IPx8)
FS-81R-10W-W-2-20/4S (20AWGx4, shielded, 2 meters, $2 \times 1$ NO, cable diameter 7.0 mm )
FS-81R-10W-W-B1-20/4S (20AWGx4, shielded, 2 meters, $3 \times 1$ NO, cable diameter 7.0 mm )
FS-82R-10W-W-B2-22/5S (22AWGx5, shielded, 2 meters, $4 x$ 1NO, cable diameter 5.6 mm )


FS-81R-10W-W(TWIN)-2-22/5S (22AWGx5, shielded, 2 meters, $4 \times 1 \mathrm{NO}$, cable diameter 5.6 mm )


FS-82R-10W-W-2-22/5S (22AWGx5, shielded, 2 meters, 4 x 1 NO , cable diameter 5.6 mm )
FS-82R-10W-W-B1-26/7 (26AWGx7, PUR, coiled, $5 \times 1$ NO, cable diameter 5.3 mm )
FS-82R-10W-W-B2-23/7 (23AWGx7, PUR, coiled, $6 \times 1$ NO, cable diameter 6.0 mm )


FS-83R-10W-W-2-22/5S (22AWGx5, shielded, 2 meters, $4 \times 1 \mathrm{NO}$, cable diameter 5.6 mm ) FS-83R-10W-W-B1-26/7 (26AWGx7, PUR, coiled, $5 \times 1$ NO, cable diameter 5.3 mm )


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## FS-5 Series Heavy Duty Foot Switches

## Features

- Treadle and housing constructed from cast iron for strength and durability
- Strong cast aluminum guard construction
- Features an anti-trip treadle mechanism that helps prevent accidental actuation through unintentional stepping on foot treadle
- Anti-skid rubber feet and three holes for rigid mounting to floor or equipment
- UL/CSA/CE/CCC certified
- Conduit available in: 3/4NPT, 1/2NPT, M20, 1/2NPTx2, M20x2


## Selection Guide:



* Add conduit type suffix to get the complete part numbers

Dimensions:


FS-5 Series Heavy Duty Foot Switches
FS-5G-20


FS-5G-20D(Maintained)


FS-5G-20-AG(Anti--trip with gate)


## FS-6 Series Safety Foot Switches

## Features

- Robust aluminum alloy die cast body
- Choice of different type of contact blocks
- Galvanically separated contacts
- Double break contacts
- Screw terminals with self-lifting clamps for easy wiring
- Positive opening of NC contacts
- Safety reset option available
- UL/CSA approval(E216958)
- Threaded hole available in: PG13.5, M20x1.5 and 1/2NPT

Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :--- | :--- |
| Insulation Resistance | $>100 \mathrm{M} \Omega @ 500 \mathrm{~V}$ DC |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Rated Current/Voltage | 10A/600V AC A600/AC15 Q300/DC13 |
| Inrush Current | Complies with IEC947-5-1: AC15/DC13 |
| Dielectric Strength | 1000VAC for 1 min between current carrying parts <br> 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $\quad 1 \times 10^{6}$ (operations) <br> Electrically <br> $5 \times 10^{5}$ <br> (operations) |
| Operating Temperature | $-30 \sim+80^{\circ} \mathrm{C} \quad\left(-22 \sim 176^{\circ} \mathrm{F}\right)$ |
| Degree of Protection | IP65, NEMA type $2,4,13$ <br> (IP68, NEMA type 6, 6P available on request) |

## Selection Guide:



| Part Number* | Description | Guard | Anti-Trip | Protective Gate | Stage | Circuit | Degree of Protection | Electrical Ratings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FS-61-SP | Momentary | No | No | No | 1 | SPDT | IP65 | 10A/600VAC A600/AC15 Q300/DC13 |
| FS-61-SP-A | Momentary | No | Yes | No | 1 | SPDT | IP65 |  |
| FS-61-SP-T | Momentary | No | No | No | 1 | DPDT | IP65 |  |
| FS-61-SP-S | Momentary | No | No | No | 2 | DPDT | IP65 |  |
| FS-61-SP-A-T | Momentary | No | Yes | No | 1 | DPDT | IP65 |  |
| FS-61-SP-A-S | Momentary | No | Yes | No | 2 | DPDT | IP65 |  |
| FS-61G-SP | Momentary | Yes | No | No | 1 | SPDT | IP65 |  |
| FS-61G-SP-A | Momentary | Yes | Yes | No | 1 | SPDT | IP65 |  |
| FS-61G-SP-T | Momentary | Yes | No | No | 1 | DPDT | IP65 |  |
| FS-61G-SP-S | Momentary | Yes | No | No | 2 | DPDT | IP65 |  |
| FS-61G-SP-A-T | Momentary | Yes | Yes | No | 1 | DPDT | IP65 |  |
| FS-61G-SP-A-S | Momentary | Yes | Yes | No | 2 | DPDT | IP65 |  |
| FS-62-SP | Momentary | No | No | No | 1 | SPDT | IP65 |  |
| FS-62-SP-A | Momentary | No | Yes | No | 1 | SPDT | IP65 |  |
| FS-62-SP-T | Momentary | No | No | No | 1 | DPDT | IP65 |  |
| FS-62-SP-S | Momentary | No | No | No | 2 | DPDT | IP65 |  |
| FS-62-SP-A-T | Momentary | No | Yes | No | 1 | DPDT | IP65 |  |
| FS-62-SP-A-S | Momentary | No | Yes | No | 2 | DPDT | IP65 |  |
| FS-62G-SP | Momentary | Yes | No | No | 1 | SPDT | IP65 |  |
| FS-62G-SP-A | Momentary | Yes | Yes | No | 1 | SPDT | IP65 |  |
| FS-62G-SP-T | Momentary | Yes | No | No | 1 | DPDT | IP65 |  |
| FS-62G-SP-S | Momentary | Yes | No | No | 2 | DPDT | IP65 |  |
| FS-62G-SP-A-T | Momentary | Yes | Yes | No | 1 | DPDT | IP65 |  |
| FS-62G-SP-A-S | Momentary | Yes | Yes | No | 2 | DPDT | IP65 |  |

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FS-6 Series Safety Foot Switches

Dimensions:


FS-61G(IP65)




FS-61G (Anti-trip)


FS-6 Series Safety Foot Switches

## Dual Pedals Safety Foot Switches

Dimensions:

FS-62



62 mm (2.44 in)


FS-62G




FS-62G (Anti-trip)


FS-6 Series Safety Foot Switches with Emergency Stop

## Features

This is a special design foot switch with two stage momentary contacts. There is noticable resistance between stage one and stage two When pressing the pedal without reaching the pressure point, the foot switch operates in the normal model. In case of emergency, the user depresses the foot pedal even harder instead of releasing the pedal. This special safety foot switch will break the electrical contact and lock. The manual reset button needs to be pushed before it can operate in normal model again. This can quickly prevent damage to the machine or injury to human life.

Wiring Diagram


## Operating Sequence:

"OFF"
"ON"
"EMERGENCY - OFF"
"RESET" Step 4: The push button on the side of the foot switch must be pushed by hand to enable the foot switch to start the machine function again.
Step 5: Return to condition described in Step 2.

Dimensions:


## Three-Position Safety Foot Switches (FS-61G-SP-S-ZR Single Pedal)

These foot switches are designed for some critical applications such press brake machine control. These foot switches have at least one of the pedals with 3 positions, with a pressure point, to control dangerous movements.

For press brake control as an example:
press the pedal to lower down a press brake. It has 4 working contacts ( $2 N C+2 N O$ ) to drive the movement and one safety switches (1 positive opening NC contact +1NO) to stop the movement. Pressing the foot pedal, until the pressure point where resistance is noticeable. This allows the changeover of the 2 working contacts and press is moving downward. When press harder beyond the pressure point, the 2 working contacts return to their first position and the positive opening safety contact is activated as redundant safety circuit in order to initiate immediately the dangerous movement. A restart of the machine is only possible after releasing the foot switch.

Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :---: | :---: |
| Insulation Resistance | >100MW@ 500V DC |
| Contact Resistance | $<25 \mathrm{~mW}$ |
| R ated Current/Voltage | 10A/600V AC A600/AC15 Q300/DC13 |
| Inrush Current | Complies with IEC947-5-1: AC15/DC13 |
| Dielectric Strength | 1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br> Electrically $5 \times 10^{5}$ (operations) |
| O perating Temperature | $-30 \sim+80^{\circ} \mathrm{C} \quad\left(-22 \sim 176{ }^{\circ} \mathrm{F}\right)$ |
| Degree of P rotection | IP65, NEMA type 2, 4, 13 <br> (IP 68, NEMA type 6, 6P available on request) |

## Dimensions (mm)



## Actuation Sequence Diagram:



Three-Position Safety Foot Switches (FS-62G-SP-1S-ZR Two Pedal)
These foot switches are designed for critical applications such press brake machine control. The safety pedal has three positions with a pressure point to control hazardous movement. Four working contacts (2NC +2NO) handle normal operation and one safety switch ( 1 positive opening NC contact +1 NO ) provides emergency stop control.

For example, when normal force is applied, the working contacts switch and the press moves downward. Additional force beyond the pressure point will cause the working contacts to return to their initial position and activate the positive opening safety contact. This redundant safety circuit will prevent any further hazardous movement.


Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :--- | :--- |
| Insulation Resistance | $>100 \mathrm{M} \Omega @ 500 \mathrm{~V} \mathrm{DC}$ |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ |
| Rated Current/VoItage | $10 \mathrm{~A} / 600 \mathrm{~V} \mathrm{AC} \mathrm{A600/AC15} \mathrm{Q300/DC13}$ |
| Inrush Current | Complies with IEC947-5-1: AC15/DC13 |
| Dielectric Strength | 1000VAC for 1 min between current carrying parts <br> 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $\quad 1 \times 10^{6}$ (operations) <br> Electrically $\quad 5 \times 10^{5}$ (operations) |
| Operating Temperature | $-30 \sim+80^{\circ} \mathrm{C} \quad\left(-22 \sim 176^{\circ} \mathrm{F}\right)$ <br> Degree of Protection |

## Dimensions (mm)



Actuation Sequence Diagram (Right Pedal Only)

## Left Pedal



## Start Position

 $\begin{array}{cc}\text { 1301014 } 130 \text { o14 } \\ \Theta 210 \text { oto } 22 & 210 \text { oto } 22\end{array}$Before PressurePoint



After Pressure Point
ㅇ


## FSC-6 Series Push-on/Push-off Foot Switches

## Features

- Robust aluminum alloy die cast body
- Three special styles:
- High current carrying capacity
- AC variable speed control
- Push-on/push-off
- CSA approval
- Threaded hole available in: PG13.5, M20x1.5 and 1/2NPT

Specifications

| Operating Frequency | $60 \mathrm{ops} / \mathrm{min}$ |
| :--- | :--- |
| Insulation Resistance | $>100 \mathrm{M} \Omega @ 500 \mathrm{~V}$ DC |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Rated Current/Voltage | $8 \mathrm{~A} / 125 \mathrm{VAC} \mathrm{4A/250VAC}$ |
| Inrush Current | Complies with IEC947-5-1: AC15/DC13 |
| Dielectric Strength | 1000VAC for 1 min between current carrying parts <br> 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $\quad 1 \times 10^{6}$ (operations) <br> Electrically $5 \times 10^{5}$ (operations) |
| Operating Temperature | $-30 \sim+80^{\circ} \mathrm{C} \quad\left(-22 \sim 176^{\circ} \mathrm{F}\right)$ <br> Degree of Protection |
| IP65, NEMA type 2, 4, 13 <br> (IP68, NEMA type 6, 6P available on request) |  |

## Dimensions:

## FSC-61-08D



## FSC-62-08D



## AC Variable Speed Control Foot Switches

## Features

- Hands free, variable speed motor control
- Supplied with series plug
- UL/CSA and CE approved


## Dimensions:

FSC-61-10V-A-8F-18/3P
(P rewired 8 ft with serial plug)


## Specifications

Operating Frequency $60 \mathrm{ops} / \mathrm{min}$

| Insulation Resistance | $>100 \mathrm{M} \Omega$ @ 500V DC |
| :--- | :--- |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Rated Current/Voltage | $10 \mathrm{~A} / 125 \mathrm{~V} \mathrm{AC}$ |
| Dielectric Strength | 1000 VAC for 1 min between current carrying parts <br> 2500 VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br> Electrically $5 \times 10^{5}$ (operations) |
| Operating Temperature | $-30 \sim+80^{\circ} \mathrm{C} \quad\left(-22 \sim 176^{\circ} \mathrm{F}\right)$ |
| Degree of Protection | IP65/NEMA 2,4,13 |



## FSC-6 Series Heavy Duty Foot Switches

## Features

- R obust aluminum alloy die cast body
- High current carrying capacity
- UL/ULC approval(E 321073)
- Threaded hole available in: PG13.5, M20x1.5 and 1/2NPT

Selection Guide:

Specifications

| Operating Frequency | 60 ops/min |
| :---: | :---: |
| Insulation Resistance | >100M $\Omega$ @ 500V DC |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Rated Current/Voltage | 20A or 25 A 1.5HP/125VAC $2 \mathrm{HP} / 250 \mathrm{VAC}$ |
| Inrush Current | Complies with IEC947-5-1: AC15/DC13 |
| Dielectric Strength | 1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br> Electrically $5 \times 10^{5}$ (operations) |
| Operating Temperature | $-30 \sim+80^{\circ} \mathrm{C} \quad\left(-22 \sim 176^{\circ} \mathrm{F}\right)$ |
| Degree of Protection | IP 65, NEMA type 2, 4, 13 <br> (IP68, NEMA type 6, 6P available on request) |

## Dimensions:

FSC-61


FSC-61G




FSC-6 Series Heavy Duty Foot Switches

FSC-61G (Anti-trip)




Dual Pedals Specialty Foot Switches
Dimensions:

FSC-62


62 mm (2.44 in)


FSC-62G


## FAS Series Air Actuated Switches

## Features

- Long life air bulb actuator
- Remotely located air operated electric snap switch
- Supplied with a 10 foot 1/8" ID PVC tubing connecting the foot pedal to the remote airswitch
- Remote switch equipped with a 9/16" U.N.F.
bulkhead mount
- Isolating the electrically live snap switch from the floor
- Offers environmental protection from short or shock

Specifications
Operating Frequency $\quad 60 \mathrm{ops} / \mathrm{min}$

| Insulation Resistance | $>100 \mathrm{M} \Omega$ @ 500V DC |
| :--- | :--- |
| Contact Resistance | $<25 \mathrm{~m} \Omega$ (initial) |
| Rated Current/Voltage | $15 \mathrm{~A}, 1 / 2 \mathrm{HP}, 125 / 250 \mathrm{VAC}$ or 21A 1HP 125VAC, 2HP 250VAC |
| Dielectric Strength | 1000VAC for 1 min between current carrying parts <br> 2500VAC for 1 min between non-current carrying parts |
| Service Life | Mechanically $1 \times 10^{6}$ (operations) <br> Electrically $5 \times 10^{5}$ (operations) |


| Operating Temperature | $-20 \sim+80^{\circ} \mathrm{C}\left(-4 \sim 176^{\circ} \mathrm{F}\right)$ |
| :--- | :--- |
| Degree of Protection | IP $68($ NEMA $4,4 \mathrm{x}, 6,6 \mathrm{P})$ |

## Selection Guide:



## Dimensions:



## Cables for Foot Switches

Selection Guide:


| Order code | Gauge | J acket Material | O.D. | Type | Color |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 18/2 | 18AWG $\times 2$ | PVC | 7.5 mm (0.30") | SJT | Black |
| 18/3 | 18AWG $\times 3$ | PVC | 7.8 mm (0.307") | SJT | Black |
| 16/4 | 16AWG $\times 4$ | PVC | 9.3 mm (0.366") | SJT | Black |
| 14/3 | $14 \mathrm{AWG} \times 3$ | PVC | 9.3 mm (0.366") | SJT | Black |
| 14/4 | 14AWG $\times 4$ | PVC | $10.3 \mathrm{~mm}\left(0.406{ }^{\prime \prime}\right)$ | SJT | Black |
| 20/4S(7032) | 20AWG $\times 4$ | PVC (shield) | 7.0 mm (0.276") | AWM | RAL7032 |
| 20/4S(7030) | 20AWG $\times 4$ | PVC (shield) | 7.0 mm (0.276") | AWM | RAL7030 |
| 22/4S | 22AWG $\times 4$ | PVC (shield) | 7.0 mm (0.276") | AWM | Black |
| 22/5S | $22 A W G \times 5$ | PVC (shield) | 5.6 mm (0.22") | AWM | RAL7030 |
| 26/7-PUR-C | 26AWG x 7 | PUR | 5.3 mm (0.209") | Coil Cord | Black |
|  |  |  |  |  |  |
| 23/7-PUR-C | 23AWG $\times 7$ | PUR | 6.0 mm (0.236") | Coil Cord | Black |
|  |  |  |  |  |  |



23/7-PUR-C


Connectors for Foot Switches

| Order Code | Connectors | Pictures | Gauge | Standard cable length |
| :---: | :---: | :---: | :---: | :---: |
| MON3.5 | 3.5 mm mono plug |  | 24AWG x 2 | 2050 mm (6.7ft) |
| STO3.5 | 3.5 mm stereo plug |  | 20AWG x 3 | 2050 mm (6.7ft) |
| RJ 45 | RJ 45 plug |  | 26AWG $\times 4$ | 2050 mm (6.7ft) |
| USB | USB plug |  | 28AWG $\times 4$ | 2200 mm (7.1ft) |
|  |  |  | 18AWG x 3 |  |
|  |  |  | 14AWG $\times 3$ |  |
| DB9 | 9 pin D sub |  |  |  |
| ODU | ODU \#S22LOCP10MJ G P-6200 (10 pin) |  |  |  |
| C13/C14 | C13/C14 power cord |  |  |  |
|  |  |  |  |  |

* Contact us for other connectors


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## SUNS Product Overview

## SNAP SWITCHES

Large assortment of snap switches with your choice of operating force, actuator, and electrical rating. Ratings include 10, 15, 20 and 25A, up to 600 V and waterproof (IP67) available.


## LIMIT SWITCHES

The widest range of limit switches with over 3,000+ models. Whether your application requires a standard IP65 or an explosions-proof NEMA style body we have your switch.


## SAFETY SWITCHES

Extensive offering of reliable safety switch models including key interlock, solenoid key interlock, cable-pull, hinge and remote reset.


## FOOT SWITCHES

The highest quality industrial and medical foot switch product for any application. Choose from various robust glass reinforced plastic or aluminum die cast bodies. USB and wireless (RF or bluetooth) versions also available.


## PUSHBUTTON SWITCHES

Full line of $16 \mathrm{~mm}, 22 \mathrm{~mm}$ and 30 mm NEMA style pushbutton switches. Available in both plastic and metal heads.


## PENDANT AND CONTROL STATIONS

Pendant and control stations ideal for crane, lift, and various industrial applications. Customize your button configuration with maintained, interlock, or 2-speed features available.


## PROXIMITY/MAGNETIC SWITCHES

 Inductive, capacitive and magnetic proximity sensors with various detection distances. NPN/ PNP, NC/NO, and AC/DC options available.

## AND MORE!

SUNS also offers following products:
Terminal blocks, Indicator light, Signal lights, Tower Lights, Alarm bells


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The Right Switch For Your Applications



[^0]:    * Add conduit type suffix to get the complete part numbers

[^1]:    * All SUNS products are manufactured according to the highest manufacturing starndards.
    * All products are UL/CSA/CE Certified and are also RoHS, REACH compliant.

