

# SFS-UFS Single Foot Switches

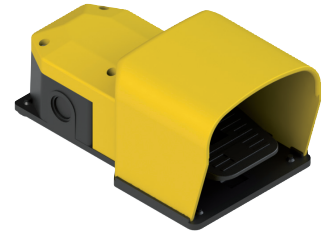
- Technopolymer housing, shock proof
- Protection degree IP53 or IP65
- 13 contact blocks available
- Various auxiliary devices available



UFS Series



SFS Series



## Options & Ordering Codes

Note: The feasibility of a code number does not mean the effective availability of a product

**SFS** **YE** **01** **1** **1** - **A** **20** **X**

### Footswitches

shrouded version	<b>SFS</b>
unshrouded version	<b>UFS</b>

### Colour of Cover

yellow RAL 1023	<b>YE</b>
red RAL 3020	<b>RE</b>
grey RAL 7035	<b>GY</b>
black RAL 9017	<b>BL</b>
blue RAL 5017	<b>BU</b>

### Contact Block Combinations

1NO+1NC, snap action (AC-C501*)	<b>01</b>
2x (1NO+1NC), snap action (AC-C501+AC-C501*)	<b>02</b>
1NO+1NC, slow action (AC-C601*)	<b>03</b>
2x (1NO+1NC), slow action (AC-C601+AC-C601*)	<b>04</b>
2x 2NO, slow action (AC-C1001+AC-C1001*)	<b>05</b>
2x 2NC, slow action (AC-C901+AC-C901*)	<b>06</b>
2NC, slow action (AC-C901*)	<b>07</b>
2NO, slow action (AC-C1001*)	<b>08</b>
1NO+1NC, slow action, make before break (AC-C701*)	<b>09</b>
2NO, snap action (AC-C1201*)	<b>14</b>
2NC, snap action (AC-C1101*)	<b>15</b>
2x (1NO+1NC), snap action shifted (AC-C501+AC-C501*)	<b>20</b>
(1NO+1NC)+(2NC), snap action, shifted (AC-C501+AC-C1101*)	<b>24</b>

Other combinations on request

\* Denotes contact block type used in unit. Also available separately.

### External Metallic Parts

	zinc-plated steel (standard)
<b>X</b>	stainless steel

### Threaded Conduit Entry

	PG 13.5
<b>20</b>	M20 x 1.5

### Accessories (SFS series only)

	without accessories
<b>A</b>	with technopolymer carrying rod (400mm)
<b>B</b>	with M25 hole for AC-KIT31
<b>C</b>	with M25 hole for AC-KIT31 with stabilising plate
<b>D</b>	with technopolymer carrying rod (660mm)

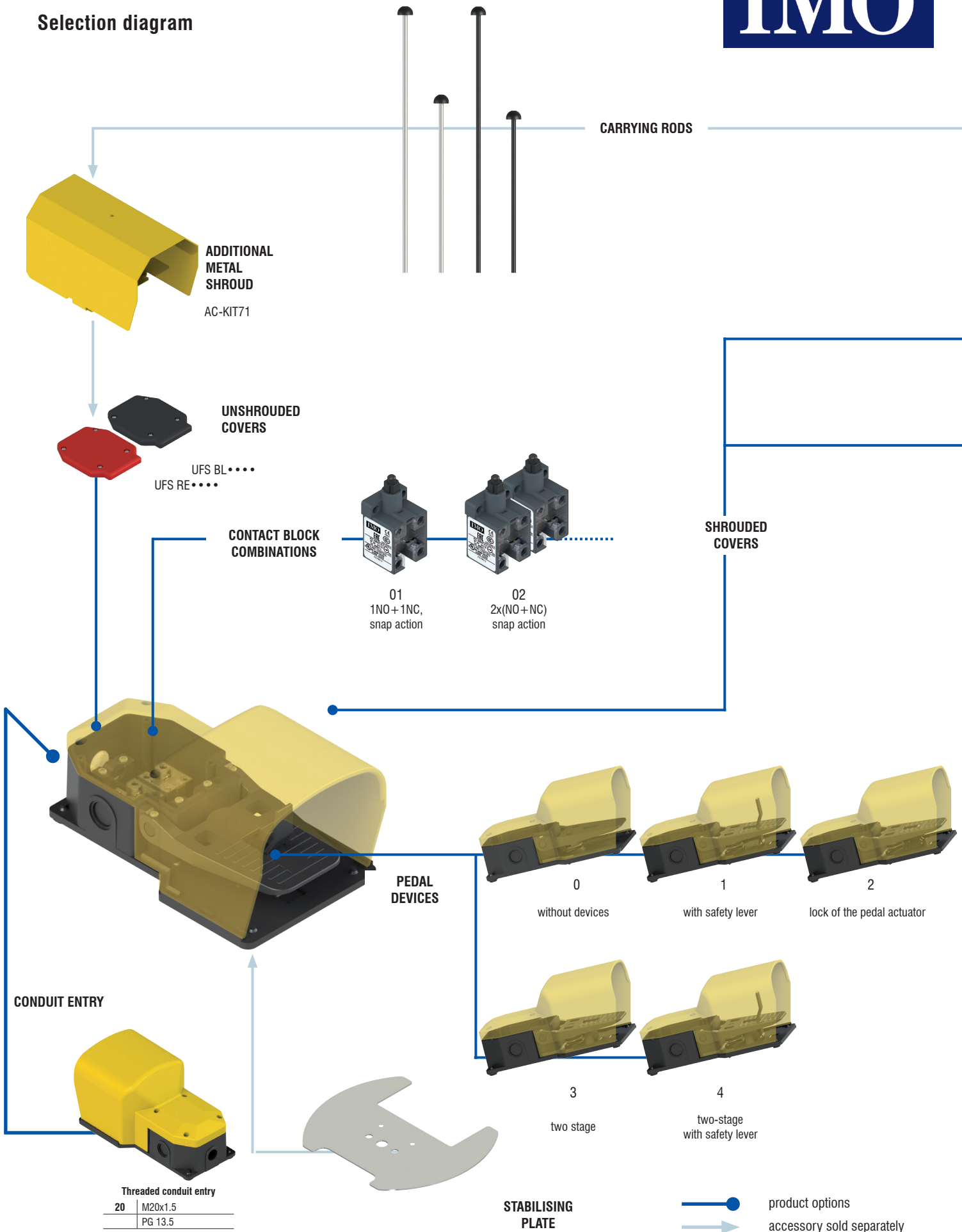
### Protection Degree

<b>0</b>	IP53
<b>1</b>	IP65

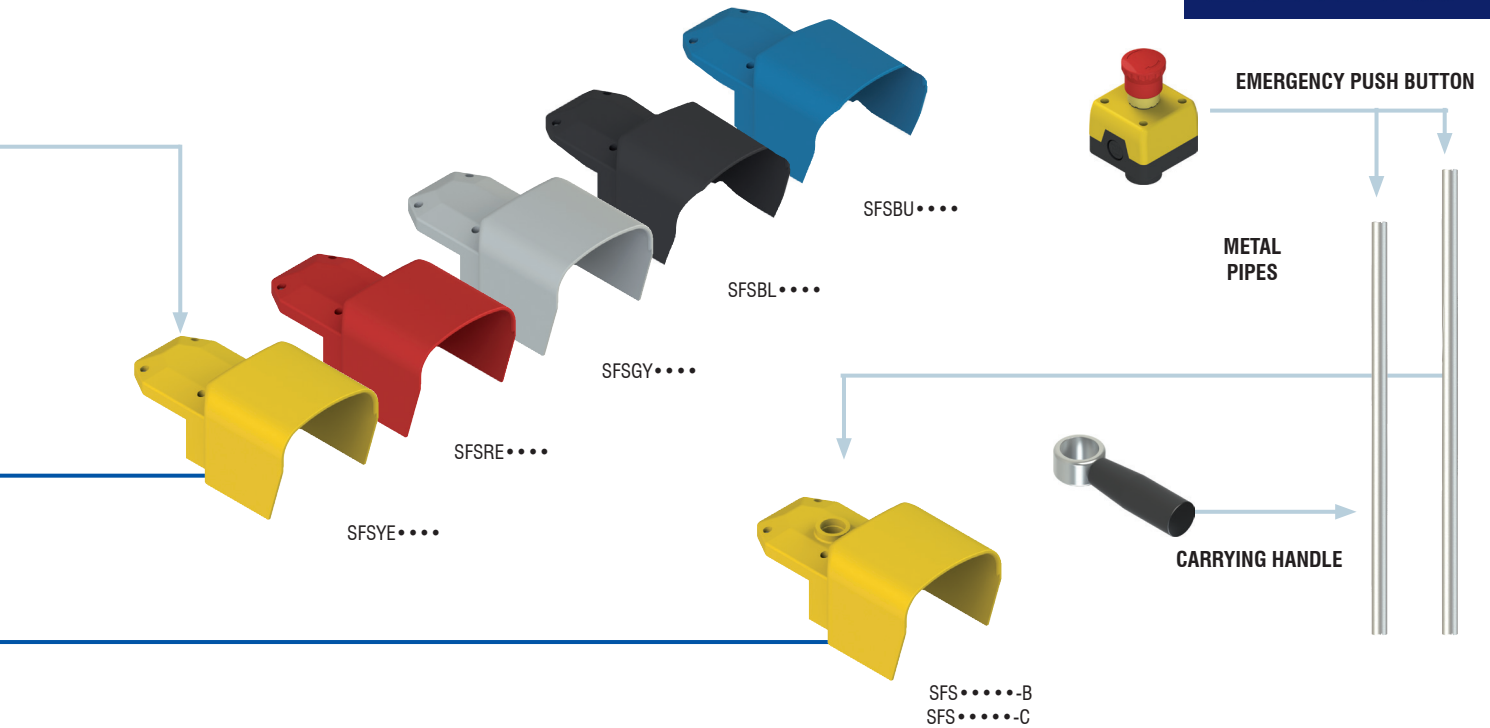
### Devices

<b>0</b>	without devices
<b>1</b>	with safety lever
<b>2</b>	lock of the pedal actuator
<b>3</b>	without safety lever and with two-stage actuating force (only with contact block combinations 20 & 24)
<b>4</b>	with safety lever and with two-stage actuating force (only with contact block combinations 20 & 24)

Selection diagram



Threaded conduit entry	
20	M20x1.5
	PG 13.5



**Specifications**

**Housing**

Housing with double insulation:  
Base:

Cap:

Tightening torque, cover screws:  
Actuating force:  
One threaded conduit entry:  
Tightening torque, cable clamp screws:  
Protection degree:

□ glass fibre reinforced technopolymer, self-extinguishing and shock-proof  
technopolymer, self-extinguishing and shock-proof  
0.8 ... 1.2 Nm  
16 N  
PG13.5  
0.8 ... 1 Nm  
IP53 (\*FS•••••0) or IP65 (\*FS•••••1)  
acc. to EN 60529 with cable gland having equal or higher protection degree

**General data**

Ambient temperature: -25°C ... +80°C  
Safety parameters:  
B<sub>10d</sub>: 20,000,000 for NC contacts  
Max. operation frequency: 3600 operating cycles<sup>1</sup>/hour  
Mechanical endurance: 10 million operating cycles<sup>1</sup>  
(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1.

**Electrical data**

Thermal current (I<sub>th</sub>): 10 A  
Rated insulation voltage (U<sub>i</sub>): 500 Vac 600 Vdc  
Rated impulse withstand voltage U<sub>imp</sub>: 6 kV  
Conditional short circuit current: 1000 A acc. to EN 60947-5-1  
Protection against short circuits: type aM fuse 10 A 500 V  
Pollution degree: 3

**Cable cross section (flexible copper strands)**

Contact block combinations (all):  
min. 1 x 0.5 mm<sup>2</sup> (1 x AWG 20)  
max. 2 x 2.5 mm<sup>2</sup> (2 x AWG 14)  
Terminal screw tightening torque: 0.6 ... 0.8 Nm

**Utilization categories**

Alternating current: AC15 (50/60 Hz)  
U<sub>e</sub> (V) 250 400 500  
I<sub>e</sub> (A) 6 4 1  
Direct current: DC13  
U<sub>e</sub> (V) 24 125 250  
I<sub>e</sub> (A) 6 1.1 0.4

**In conformity with standards:**

IEC 60947-5-1, EN 60947-5-1, IEC 60947-1, EN 60947-1, EN 60529.

**In conformity with the requirements of:**

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

**Positive contact opening in conformity with standards:**

IEC 60947-5-1, EN 60947-5-1.

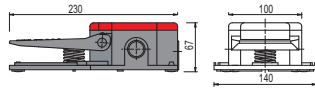
Dimensional drawings

All measures in the drawings are in mm

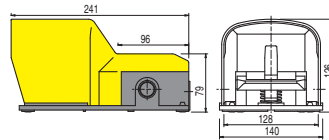
Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action  
make before break
- RS** = snap action  
shifted

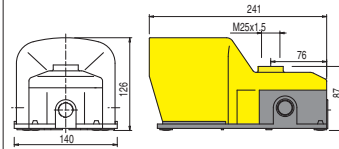
Unshrouded



Shrouded



Shrouded version with M25 hole for AC-KIT31



Contact block combinations

01	<b>R</b>	UFSRE0100	➔ 1NO+1NC	SFSYE0110	➔ 1NO+1NC	SFSYE0110-B20	➔ 1NO+1NC
02	<b>R</b>	UFSRE0200	➔ 2x (1NO+1NC)	SFSYE0210	➔ 2x (1NO+1NC)	SFSYE0210-B20	➔ 2x (1NO+1NC)
03	<b>L</b>	UFSRE0300	➔ 1NO+1NC	SFSYE0310	➔ 1NO+1NC	SFSYE0310-B20	➔ 1NO+1NC
04	<b>L</b>	UFSRE0400	➔ 2x (1NO+1NC)	SFSYE0410	➔ 2x (1NO+1NC)	SFSYE0410-B20	➔ 2x (1NO+1NC)
05	<b>L</b>	UFSRE0500	2x 2NO	SFSYE0510	2x 2NO	SFSYE0510-B20	2x 2NO
06	<b>L</b>	UFSRE0600	➔ 2x 2NC	SFSYE0610	➔ 2x 2NC	SFSYE0610-B20	➔ 2x 2NC
07	<b>L</b>	UFSRE0700	➔ 2NC	SFSYE0710	➔ 2NC	SFSYE0710-B20	➔ 2NC
08	<b>L</b>	UFSRE0800	2NO	SFSYE0810	2NO	SFSYE0810-B20	2NO
09	<b>LO</b>	UFSRE0900	➔ 1NO+1NC	SFSYE0910	➔ 1NO+1NC	SFSYE0910-B20	➔ 1NO+1NC
14	<b>R</b>	UFSRE1400	2NO	SFSYE1410	2NO	SFSYE1410-B20	2NO
15	<b>R</b>	UFSRE1500	➔ 2NC	SFSYE1510	➔ 2NC	SFSYE1510-B20	➔ 2NC
20	<b>RS</b>	UFSRE2000	➔ 1NO+1NC (1 cont.) 1NO+1NC (2 cont.)	SFSYE2010	➔ 1NO+1NC (1 cont.) 1NO+1NC (2 cont.)	SFSYE2010-B20	➔ 1NO+1NC (1 cont.) 1NO+1NC (2 cont.)
24	<b>RS</b>	UFSRE2400	➔ 1NO+1NC (1 cont.) 2NC (2 cont.)	SFSYE2410	➔ 1NO+1NC (1 cont.) 2NC (2 cont.)	SFSYE2410-B20	➔ 1NO+1NC (1 cont.) 2NC (2 cont.)

Contact block data on page 31.

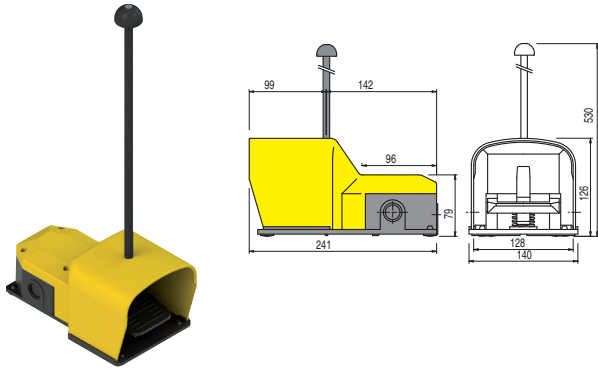
Legend

- Closed contact
- Open contact
- Positive opening travel
- Pushing the switch / Releasing the switch

Combination examples

All measures in the drawings are in mm

Shrouded foot switch with 400 mm technopolymer carrying rod

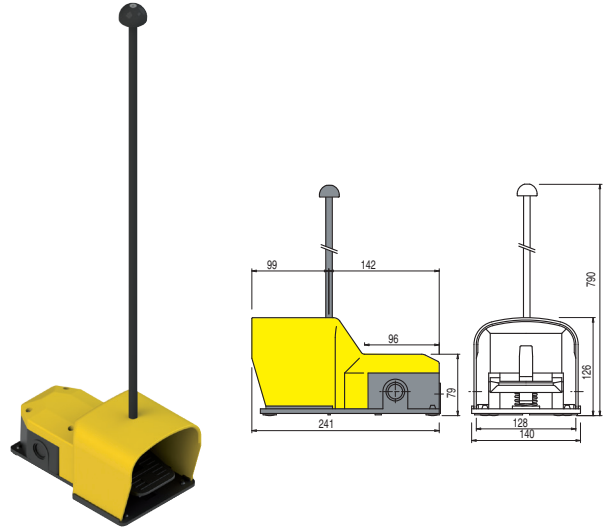


How to order:

SFSYE0110-20	AC-KIT21		

SFSYE0110-20 is supplied pre-drilled for fixing the carrying rod kit. These articles can also be purchased together using part number SFSYE0110-A20.

Shrouded foot switch with 660 mm technopolymer carrying rod

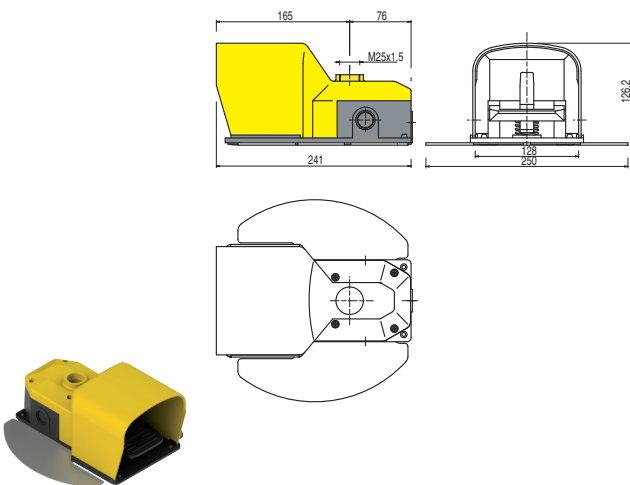


How to order:

SFSYE0110-20	AC-KIT22		

SFSYE0110-20 is supplied pre-drilled for fixing the carrying rod kit. These articles can also be purchased together using part number SFSYE0110-D20.

Shrouded foot switch with M25x1.5 hole and stabilizing plate

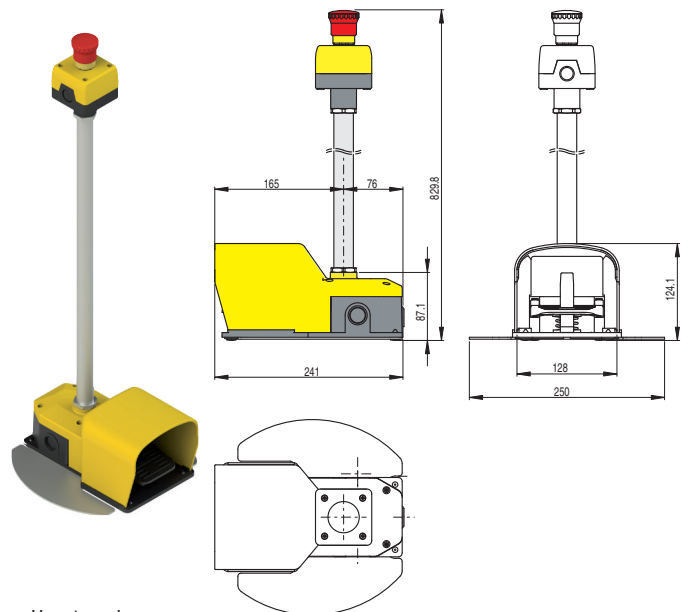


How to order:

SFSYE0110-B20	AC-KIT60		

This article can also be purchased with single code SFSYE0110-C20.

Shrouded foot switch with metal pipe, stabilizing plate and emergency button 1 NC



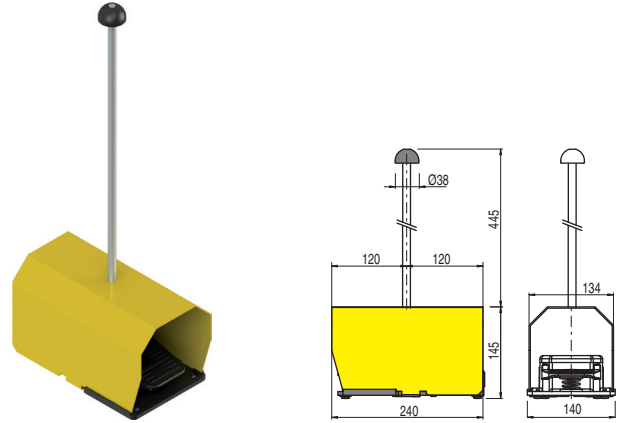
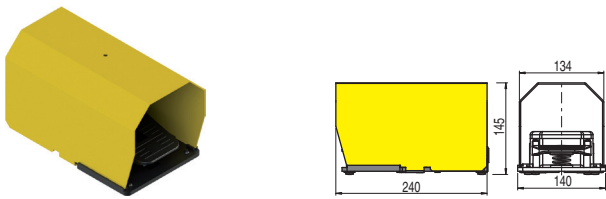
How to order:

SFSYE0110-B20	AC-KIT60	AC-KIT31	AC-KIT32

Combination examples

Unshrouded foot switch with additional metal protection. Ideal for heavy duty applications with safety shoes.

Unshrouded foot switch and metal protection with 400 mm metal carrying rod for heavy-duty work environments, cap with increased dimensions for safety shoes.



How to order:

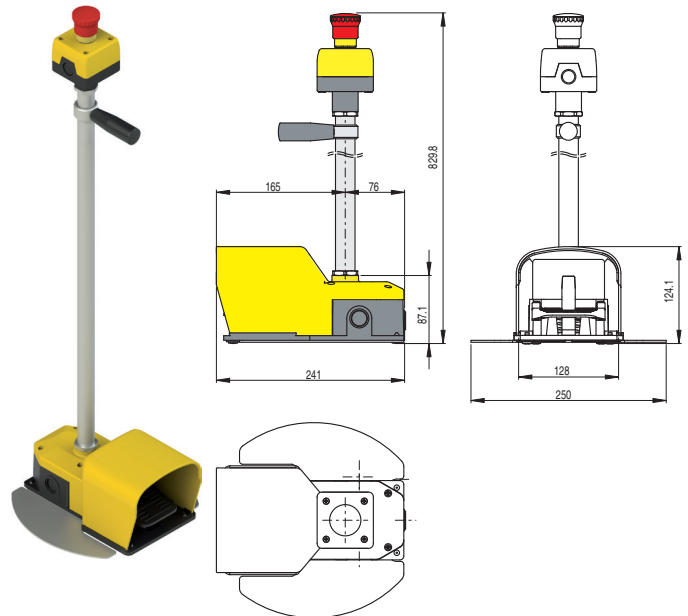
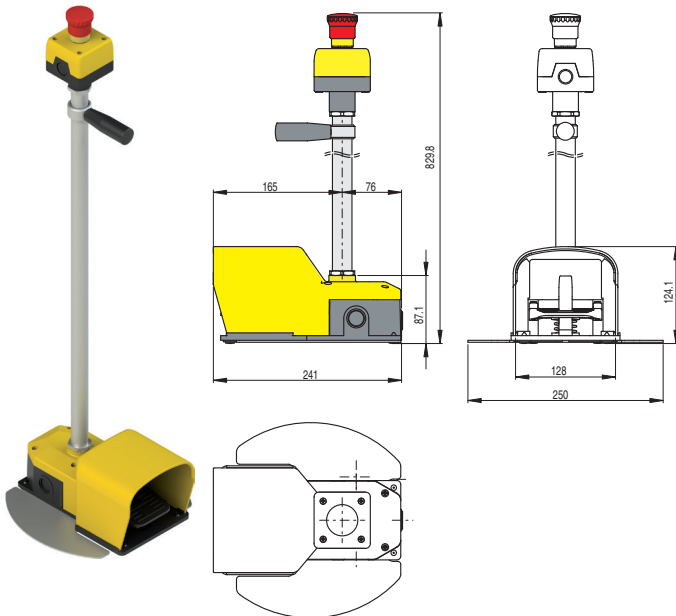
UFSRE0100	AC-KIT71		

How to order:

UFSRE0100	AC-KIT71	AC-KIT25	

Shrouded foot switch with metal pipe, stabilizing plate, carrying handle and emergency button 1 NC

Shrouded two stage foot switch where partial force on the pedal actuates one contact block and an increased force actuates the second contact block. Includes: metal rod; stabilising plate; carrying handle; emergency button 1 NC



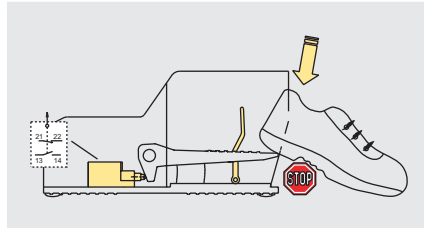
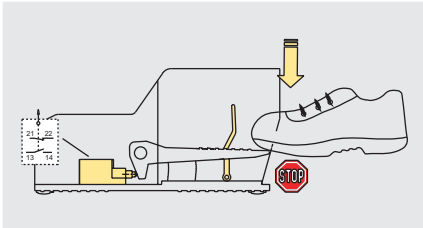
How to order:

SFSYE01102-B20	AC-KIT60	AC-KIT31	AC-KIT32	AC-KIT50

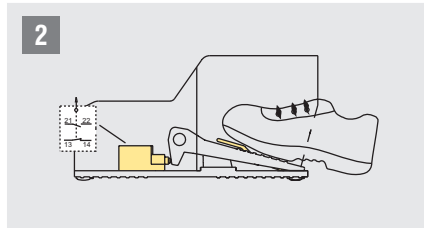
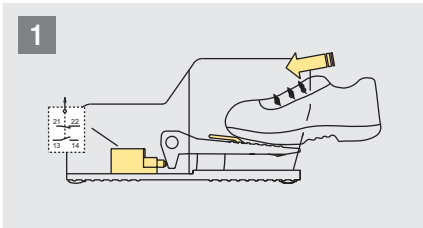
How to order:

SFSYE2040-B20	AC-KIT60	AC-KIT31	AC-KIT32	AC-KIT50

**Safety lever**

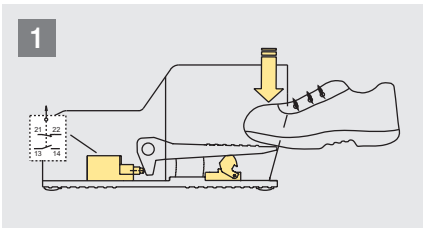


The safety lever prevents the lowering of the pedal actuator in case the foot is not fully inserted into the pedal. This prevents the accidental activation of the pedal.

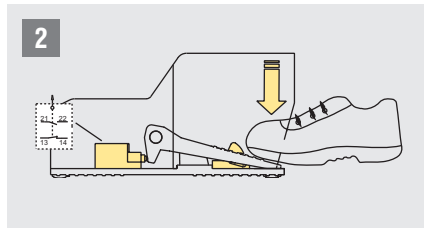


The foot must be completely inserted in order to lower the safety lever and push down the pedal actuator.

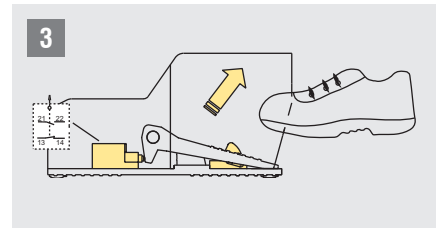
**Lock of the pedal actuator**



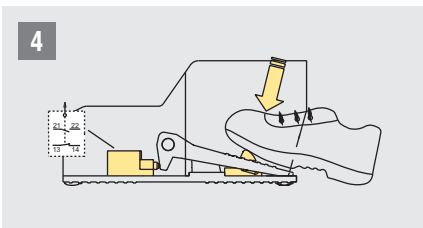
Insertion of the foot in the pedal



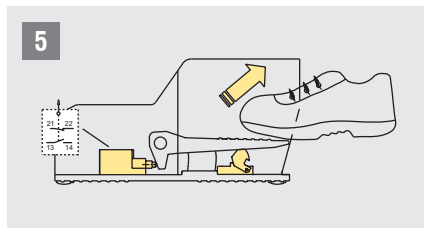
Pushing down the pedal actuator, the contact switches and the device locks the actuator



Releasing the pedal actuator, the lock device keeps it down.

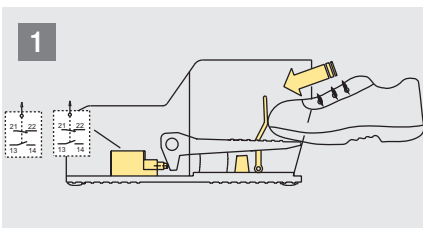


To unlock the pedal actuator, push the locking device

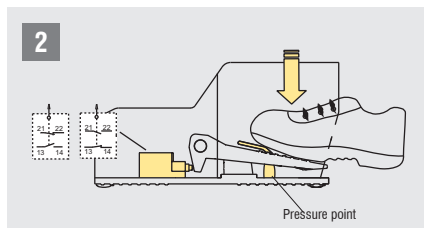


Upon drawing the foot from the foot switch, the pedal actuator and the contacts return to their initial positions

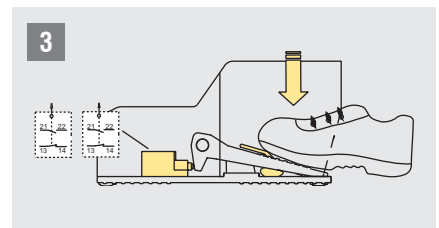
**2-stage actuating force**



SFS foot switches with two overlapped snap action contact blocks (2x 1NO+1NC), two steps actuation force and safety lever.



With a light pressure (~19 N) on the pedal actuator, the first contact block switches while the second keeps its state. The pedal actuator stops at pressure point.



Pushing down with higher force (~180 N) on the pedal actuator, the second contact block switches as well. In this position both contact blocks have been switched.

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