

Miniature Pre-Cabled Limit Switches FA



Miniature, high accuracy, pre-cabled limit switches with robust plastic or metal cases conforming to standards NF C63-140 and NF C63-145 class Y2

- Positive break versions for safety circuits in conformity with BS60947-5-1, VDE 0660 part 206 and IEC 337-1
- Double-break Zb contacts with electrically separate NO and NC circuits
- Snap-action types
- Mounting holes are counterbored to keep screw heads within switch housing dimensions
- Standard types can be mounted using side holes or the screws in the top which also secure the actuator
- Threaded-head mounting models
- Actuator heads can be removed and rotated
- Plunger types are suitable for gang-mounting
- Lever type – Lever can be adjusted over 360° in 10° increments
- IP67
- UL and CUL approved



Options and ordering codes

	FA	4	1	01	- 2DN*
Plastic	FF				
Metal	FA				
		1NO + 1NC contacts	4		
Snap action contacts				1	
Slow-action contacts with positive break for safety circuits				6	
					Actuators: Switch mounted by the case
				01	Stainless steel piston plunger
				02	One way operation roller
				08	Sealed piston plunger
				15	In-line roller piston plunger
				17	Transverse roller piston plunger
				31	Roller lever with small offset
				40	Roller lever with large offset
				50	Adjustable stainless steel rod lever
					Switch mounted by threaded head
				10	Stainless steel piston plunger
				11	In-line roller piston plunger
				12	Transverse roller piston plunger
				13	Sealed piston plunger

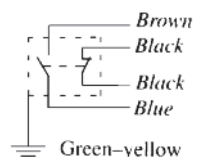
*Versions available with 5 metre cable. Contact IMO for other available options

Contact ratings

BS/EN 60947-5-1 AC15 – Control of AC electromagnetic loads >72VA sealed – replaces AC11	120VAC	6A
	240VAC	4A
	400VAC	3A
DC13 – Control of DC electromagnetic loads where the time taken to reach 95% of the rated current is equal to 6 times the power of the load (where P>50W) – replaces DC11	24VDC	2.5A
	125VDC	0.55A
	250VDC	0.27A

Wiring connections

Note: The positive break applies to the NC wires of the type 6 contacts only. Connections to safety circuits should be made to the black wires only. Connections to safety circuits should NOT be made using the type 1 contacts. Slow action contacts are break before make. To ensure positive breaking of the NC contacts on the type 6 models, exceed the pre-travel by 1.5mm or 25°, according to the model.



Miniature Pre-Cabled Limit Switches FA



continued

Specification

Rated thermal current I _{th}	10A
Rated working voltage	500VAC/600VDC
Maximum operating frequency	6000/hour
Mechanical life	20 million operations
Contact form	1NO + 1NC
Initial contact resistance	<20 mOhms
Contact material	silver
Repeat accuracy	0.01mm
Dielectric strength	4000V between current carrying parts and ground
Protection rating	IP67
Ambient operating temperature	-25 to +75 deg. C
Cable	5 core, 0.75mm ² x 2 metres long
Short-circuit protection required	10A HRC quick blow max.
Housing material	die cast metal alloy

Dimensions and characteristics

<p>Note: Top mounting panel holes</p>				
	<p>1NO+1NC Snap action</p> <p>FA 4101-*DN</p>	<p>FA 4102-*DN</p>	<p>FA 4108-*DN</p>	<p>FA 4115-*DN</p>
<p>1NO+1NC Slow action</p> <p>FA 4601-*DN</p>	<p>FA 4602-*DN</p>	<p>FA 4608-*DN</p>	<p>FA 4615-*DN</p>	
<p>Max speed</p> <p>0.5 m/sec</p>	<p>0.5 m/sec with cam 30°</p>	<p>0.5 m/sec</p>	<p>0.3 m/sec with cam 15°</p>	
<p>Min force</p> <p>10 N (20 N)</p>	<p>5 N (15 N)</p>	<p>10 N (20 N)</p>	<p>10 N (20 N)</p>	
<p>Note: force figure in brackets is the recommended minimum force to ensure positive break of the NC contacts</p>				
	<p>1NO+1NC Snap action</p> <p>FA 4117-*DN</p>	<p>FA 4131-*DN</p>	<p>FA 4140-*DN</p>	<p>FA 4150-*DN</p>
<p>1NO+1NC Slow action</p> <p>FA 4617-*DN</p>	<p>FA 4631-*DN</p>	<p>FA 4640-*DN</p>	<p>FA 4650-*DN</p>	
<p>Max speed</p> <p>0.3 m/sec with cam 15°</p>	<p>1.5 m/sec with cam 30°</p>	<p>1.5 m/sec with cam 30°</p>	<p>1.5 m/sec</p>	
<p>Min force</p> <p>10 N (20 N)</p>	<p>6.5 Ncm (10 Ncm)</p>	<p>6.5 Ncm (10 Ncm)</p>	<p>6.5 Ncm (10 Ncm)</p>	

Miniature Pre-Cabled Limit Switches FA

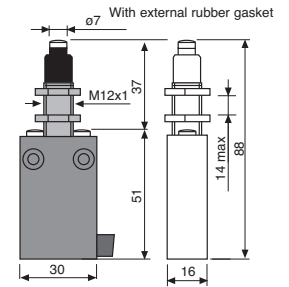
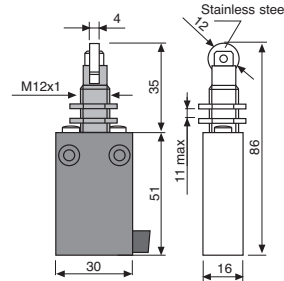
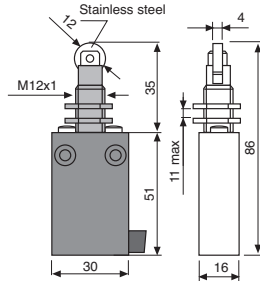
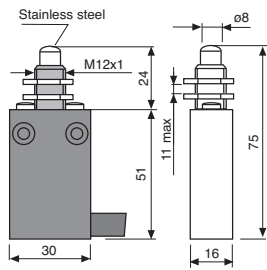


continued

Dimensions and characteristics continued

Secured by threaded head only

Note: Slow action models, minimum operating speed 1mm/s



1NO+1NC Snap action	FA 4110-*DN	FA 4111-*DN	FA 4112-*DN	FA 4113-*DN
1NO+1NC Slow action	FA 4610-*DN	FA 4611-*DN	FA 4612-*DN	FA 4613-*DN
Max speed	0.5 m/sec	0.3 m/sec with cam 15°	0.3 m/sec with cam 15°	0.5 m/sec
Min force	10 N (20 N)	10 N (20 N)	10 N (20 N)	10 N (20 N)

* = Cable length