

Miniature, high accuracy, pre-cabled limit switches with robust 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



Options and ordering codes

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

Versions available with 5 metre cable.
Contact IMO for price and availability

Specifications

Rated thermal current Ith	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

Contact ratings

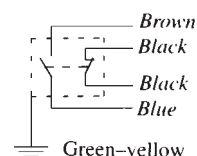
BS/EN 60947-5-1 AC15 – Control of AC electromagnetic loads >72VA sealed – replaces AC11

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

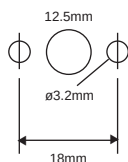
24VDC	2.5A
125VDC	0.55A
250VDC	0.27A

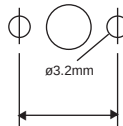
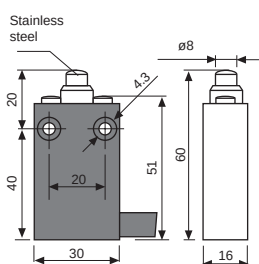
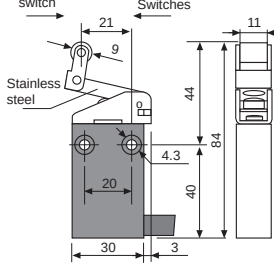
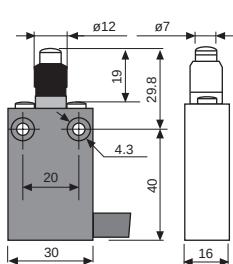
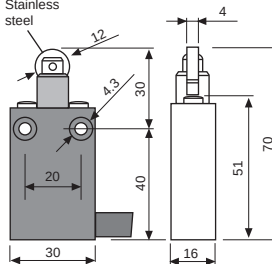
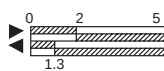
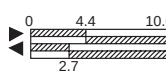
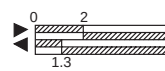
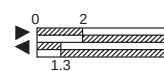
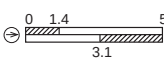
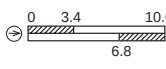
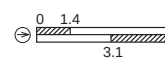
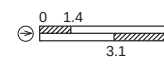
Wiring connections



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.

Note: Top
mounting panel
holes



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	1NO+1NC Snap action FA 4101 	FA 4102 	FA 4108 	FA 4115 
	1NO+1NC Slow action FA 4601 	FA 4602 	FA 4608 	FA 4615 
	Max speed 0.5 m/sec	0.5 m/sec with cam 30°	0.5 m/sec	0.3 m/sec with cam 15°
	Min force 10 N (20 N)	5 N (15 N)	10 N (20 N)	10 N (20 N)

Note: force figure in brackets is the recommended minimum force to ensure positive break of the NC contacts

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	1NO+1NC Snap action FA 4117	FA 4131	FA 4140	FA 4150
	1NO+1NC Slow action FA 4617	FA 4631	FA 4640	FA 4650
	Max speed 0.3 m/sec with cam 15°	1.5 m/sec with cam 30°	1.5 m/sec with cam 30°	1.5 m/sec
	Min force 10 N (20 N)	6.5 Ncm (10 Ncm)	6.5 Ncm (10 Ncm)	6.5 Ncm (10 Ncm)

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

Secured by threaded head only

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Note: Slow action models, minimum operating speed 1mm/s				
1NO+1NC Snap action	FA 4110	FA 4111	FA 4112	FA 4113
1NO+1NC Slow action	FA 4610	FA 4611	FA 4612	FA 4613
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)