

# SIRCO M UL 98

Load break switches standards UL and CSA  
from 30 to 100 A



Rotary switch  
SIRCO M 3 x 100 A

### The solution for

- > Power distribution



### Strong points

- > Positive break indication
- > Touch safe
- > DIN rail or back plate-mounted
- > Direct or external operation handle
- > Contact point technology

### Conformity to standards<sup>(1)</sup>

- > IEC 60947-3
- > UL 98, Guide WHTY, file E201138
- > CSA 22.2#4, Class 4651-02, file 112964



<sup>(1)</sup> Product reference on request.

### Function

SIRCO M load break switches are compact switches. They make and break under on and off load conditions and provide safe isolation.

These switches are extremely durable and are tested and approved for use in the most demanding applications.

### General characteristics

- Positive break indication.
- Touch safe.
- DIN rail or back plate-mounted.
- Direct or external operation handle.

### Specific characteristics

- Contact point technology.

### References

#### UL 98 Load break switches

Rating (A)	No. of poles	Switch body	Direct handle	External front and right side handles	Shafts for external front and side handles	Switched fourth pole module	Unswitched neutral pole	Ground module	Auxiliary contacts	Terminal shrouds
30 A	3 P	2201 3003	Blue 2299 5032	S00 type 1 - 0 Black 4, 4X 147D 1111	150 mm 5.9 in 1407 0515	1 P 2201 1003	1 P 2200 5011 <sup>(2)</sup>	1 P 2200 9011 <sup>(2)</sup>	M type 1 AC NO + NC 2299 0001	1 P 2294 1011 <sup>(3)</sup>
60 A	3 P	2201 3006		S0 type 1 - 0 Black 4, 4X 147E 1111	200 mm 7.9 in 1407 0520	1 P 2201 1006				
100 A	3 P	2200 3010		S0 type 1 - 0 Black 4, 4X 148D 1111	320 mm 12.6 in 1407 0532 <sup>(1)</sup>	1 P 2200 1010				
				Red/Yellow 4, 4X 148E 1111						

<sup>(1)</sup> Shaft guide reference 14190000, is required for shaft length over 15.7 inches (400 mm).

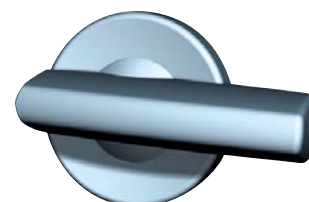
<sup>(2)</sup> Not UL.

<sup>(3)</sup> Top and bottom.

## Accessories

### Direct operation handle

Rating (A)	Handle colour	Handle type	Reference
30 ... 100	Blue	M01	2299 <b>5032</b>



M01 handle

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### External operation handle

#### Use

The handle locking function prevents the user from opening the door of the enclosure when the switch is in the "ON" position (only if the handle is fitted on the door).

Opening the door when the switch is in the "ON" position is possible by defeating the interlocking function with the use of a tool (authorised persons only). The interlocking function is restored when the door is closed. The handle is padlockable with 3 padlocks.



S0 handle

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### Front and right side handles I - 0

Rating (A)	Handle colour	Handle type	Nema/UL type	Reference
16 ... 80	Black	S0	1, 3R, 12	1483 <b>1111</b>
16 ... 80	Red/Yellow	S0	1, 3R, 12	1484 <b>1111</b>
16 ... 80	Black	S0	4, 4X	148D <b>1111</b>
16 ... 80	Red/Yellow	S0	4, 4X	148E <b>1111</b>
16 ... 80	Black	S01	3R, 12	140F <b>2111</b>
16 ... 80	Red/Yellow	S01	3R, 12	140G <b>2111</b>
16 ... 80	Black	S01	4, 4X	140D <b>2111</b>
16 ... 80	Red/Yellow	S01	4, 4X	140E <b>2111</b>



S01 handle

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### Shafts for external handle

#### Use

Standard lengths:

- 5.9 in / 150 mm,
- 7.9 in / 200 mm,
- 12.6 in / 320 mm.

Other lengths: please consult us.

For 3/4 pole switches, shaft extensions for external front and side handle.

For 6/8 pole switches and SIRCOVER M transfer switches.



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### For 3/4 pole

Rating (A)	Handle type	Length		Reference
		(inches)	(mm)	
16 ... 80	S0	5.9	150	1407 <b>0515</b>
16 ... 80	S0	7.9	200	1407 <b>0520</b>
16 ... 80	S0	12.6	320	1407 <b>0532</b>
16 ... 80	S01	7.9	200	1404 <b>0520</b>
16 ... 80	S01	12.6	320	1404 <b>0532</b>
16 ... 80	S01	15.7	400	1404 <b>0540</b>

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## Accessories (continued)

### Shaft guide for external handle

#### Use

This accessory makes shaft introduction easier with up to 15 mm misalignment.  
Required for a shaft length from 12.6 in / 320 mm.

Handle type	Reference
S0	1419 0000



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### Additional pole for SIRCO M

#### 4<sup>th</sup> pole

Rating (A)	No. of poles	Type	Reference
30	1 P	switched	2201 1003
60	1 P	switched	2201 1006
100	1 P	switched	2200 1010

#### Use

Adding one or two additional poles transforms a Load break switch from 3 poles to 4 poles.



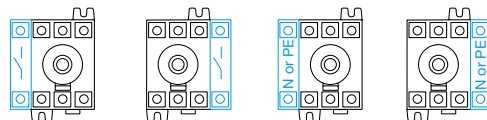
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#### Solid neutral pole

Rating (A)	No. of poles	Type	Reference
30 ... 100	1 P	unswitched	2200 5011 <sup>(1)</sup>

#### Use

Transforms the 3-pole switch into a 3-pole + solid neutral.



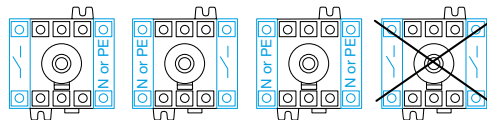
(1) Not UL.

#### Ground module

Rating (A)	No. of poles	Type	Reference
30 ... 100	1 P	unswitched	2200 9011 <sup>(1)</sup>

#### Use

Adds 1 ground module pole to the load break switch.



(1) Not UL.

### Terminal shrouds

#### Use

Top and bottom additional protection against direct contact with the terminals or connection parts. 1 or 3 pole are available.

Perforation on each terminal cover enables remote thermographic inspection without dismantling.

Rating (A)	No. of poles	Position	Reference
30 ... 100	1 P	top and bottom	2294 1011
30 ... 100	3 P	top and bottom	2294 3016



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### M type auxiliary contacts

#### Use

Pre-break and Signalling of positions 0 and I by NO+NC or 2 NO auxiliary contacts.

They can be mounted on the left or on the right side of the switch.

Max 4 auxiliary contacts (2 modules).

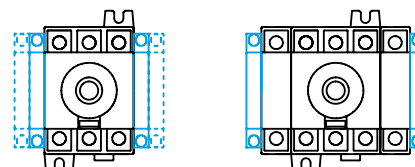
#### Characteristics

A300.

Rating (A)	No. of AC	AC type	Reference
30 ... 100	1 AC	NO + NC	2299 0001
30 ... 100	1 AC	2 NO	2299 0011



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Auxiliary contacts configurations for SIRCO M

## Characteristics

### Characteristics according to UL 98/CSA22.2#4

<b>General use rating</b>	<b>30 A</b>	<b>60 A</b>	<b>100 A</b>
Short-circuit rating at 480 VAC (kA)	100	100	100
Short circuit rating at 600 VAC (kA)	100	100	25
Type of fuse	J	J	J
Max fuse rating (A)	30	60	100
<b>Max. motor hp / FLA 3 ph motor max.</b>			
220-240 VAC	10 / 28	20 / 54	20 / 54
440-480 VAC	20 / 27	40 / 52	50 / 65
600 VAC	25 / 27	50 / 52	50 / 52
<b>Max. motor hp / FLA 1 ph motor max.</b>			
120 VAC	2 / 24	3 / 34	5 / 56
240 VAC	5 / 28	10 / 50	10 / 50
<b>Connection terminals</b>			
Solid - 1 wire	#12 - #10	#12 - #10	#12 - #10
Stranded - 1 wire	#12 - 2/0	#12 - 2/0	#12 - 2/0
<b>Mechanical characteristics</b>			
Endurance (number of operating cycles)	10000	10000	10000
Operating torque (lbs.in/Nm)	12.4 / 1.4	12.4 / 1.4	12.4 / 1.4
<b>Auxiliary contacts</b>			
Electrical characteristics	A300	A300	A300

### Characteristics according to IEC 60647-3

<b>Thermal current I<sub>th</sub> at 40°C (A)</b>	<b>30 A</b>	<b>60 A</b>	<b>100 A</b>	
Rated insulation voltage U <sub>i</sub> (V)	800	800	800	
Rated impulse withstand voltage U <sub>imp</sub> (kV)	8	8	8	
<b>Rated operational currents I<sub>e</sub> (A)</b>				
<b>Rated voltage</b>	<b>Utilisation category</b>	<b>A<sup>(1)</sup></b>	<b>A<sup>(1)</sup></b>	<b>A<sup>(1)</sup></b>
400 VAC	AC-22 A	32	63	100
400 VAC	AC-23 A	32	63	100
690 VAC	AC-22 A	32	63	80
690 VAC	AC-23 A	32	63	63
<b>Operational power in AC-23 (kW)</b>				
At 400 VAC without prebreak AC in AC23 (kW) <sup>(2)(3)</sup>	15	30	45	
At 500VAC without prebreak AC in AC23 (kW) <sup>(2)(3)</sup>	15	30	45	
At 690VAC without prebreak AC in AC23 (kW) <sup>(2)(3)</sup>	18.5	30	45	
<b>Overload capacity (U<sub>e</sub> 415 VAC)</b>				
Rated short-circuit making capacity I <sub>cm</sub> (kA peak) <sup>(4)</sup>	12	12	12	
<b>Connection</b>				
Min. connection section/ (mm <sup>2</sup> )	2.5	2.5	10	
Max. connection section/ (mm <sup>2</sup> )	70	70	70	

(1) Category with index A = frequent operation.

(2) A/B: Category with index A = frequent operation - Category with index B = infrequent operation.

(3) The power value is given for information only, the current values vary from one manufacturer to another.

(4) For a rated operating voltage U<sub>e</sub> = 400 VAC.

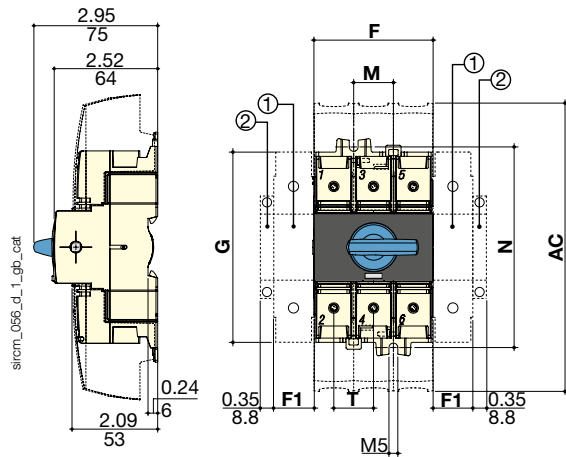
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## Dimensions (in/mm)

### 30 to 100 A

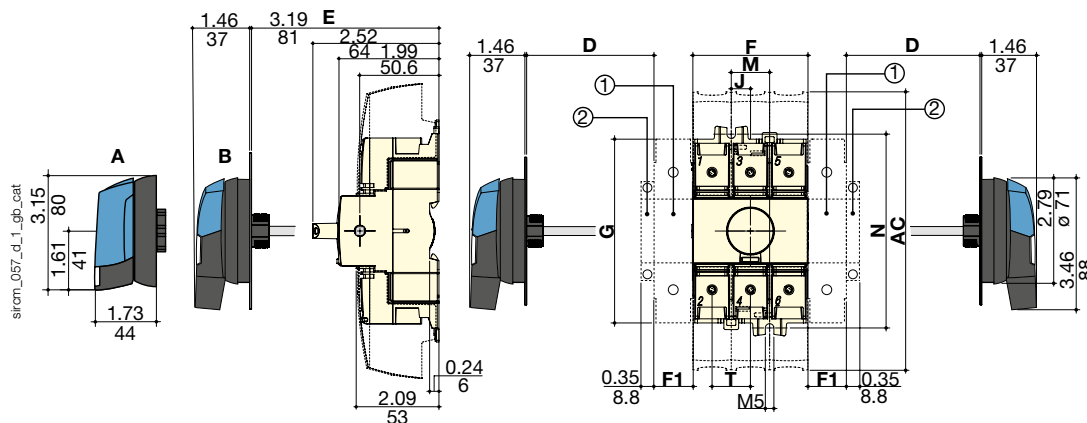
Direct operation with handle



1. Location for: 1 switched fourth pole module (1 per device max.) or 1 unswitched neutral pole or 1 protective earth module or 1 auxiliary contact.
  2. Position for 1 auxiliary contact module only.
- Note: max 2 additional blocks.**

External front operation

External side operation



1. Location for: 1 switched fourth pole module (1 per device max.) or 1 unswitched neutral pole or 1 protective earth module or 1 auxiliary contact.

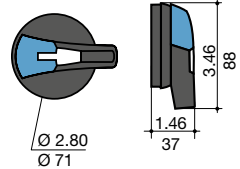
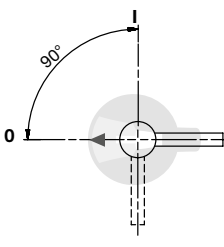
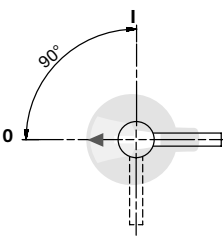
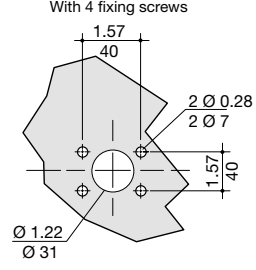
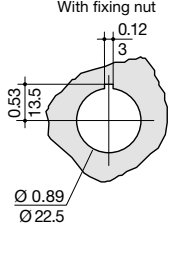
2. Position for 1 auxiliary contact module only.
- Note: max 2 additional blocks.**

A. S01 handle  
B. S00 handle

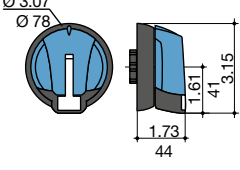
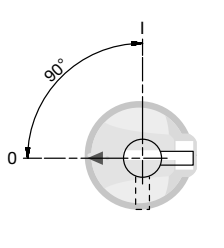
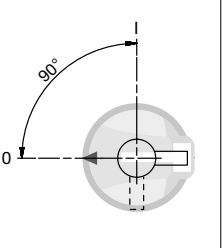
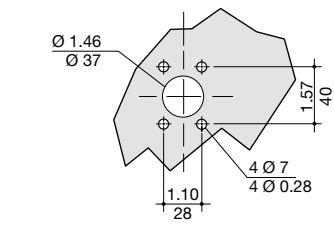
Rating (A) / Frame size	Overall dimensions				Terminal shrouds AC	Switch body F	Switch body F1	Switch body G	Switch body J	Switch mounting		Connection T	
	D min	D max	E min	E max						M	N		
100 ... 125 / M3	mm	30	201	100	372	189	78	26	124,6	13	26	131,4	26
	in	1.18	7.93	3.94	14.64	7.44	3,07	1.02	4,90	0.51	1.02	5.17	1.02

External handles dimensions (in/mm)

30 to 100 A

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
<b>S0 type</b> 			<p>With 4 fixing screws</p>  <p>With fixing nut</p> 

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Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
<b>S01 type</b> 			<p>With 4 fixing screws</p> 

polgn\_018\_a\_1\_us\_cat