SIRCO M UL 98

Non-fusible disconnect switches standards UL and CSA
from 30 to 100 A



Rotary switch
SIRCO M *3 x 100 A*

The solution for

> OEM/Machine Builders
> Industrial Control Panel Manufacturers (UL 508A)
> Switchboard Manufacturers (UL 891)
> Distributors



Strong points

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

Conformity to standards

> UL 98, CSA-C22.2 No. 4, Guide WHTY, File E201138
> CSA-C22.2 No. 4, Class 4651-02, File 112964
> IEC 60947-3

Function

SIRCO M UL 98 are compact non-fusible disconnect switches that 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 non-fusible disconnect switches

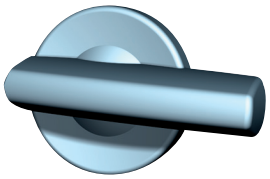
Rating (A)	No. of poles	Switch body	Direct handle	External front and right side handles	Shafts for external front and side handles	Switched fourth pole module	Unswitched neutral pole	Ground module	Auxiliary contacts	Terminal shrouds
30 A	3 P	2201 **3003**	Blue 2299 **5032**	S0 type I - 0 Black 4, 4X 148D **1111** Red/Yellow 4, 4X 148E **1111**	5.9 in 150 mm 1407 **0515** 7.9 in 200 mm 1407 **0520** 12.6 in 320 mm 1407 **0532**(2)	1 P 2201 **1003**	1 P 2200 **5011**	1 P 2200 **9011**	M type 1 AC NO + NC 2299 **0001** M type 1 AC 2 NC 2299 **0011**	1 P 2294 **1011**(3) 3 P 2294 **3016**(3)
60 A	3 P	2201 **3006**				1 P 2201 **1006**				
100 A	3 P	2200 **3010**				1 P 2200 **1010**				

(1) Common accessories - more available on next pages.
(2) Shaft guide reference 14190000, is required for shaft length over 12.6 in / 320 mm.
(3) Top and bottom.

Accessories

Direct operation handle

Rating (A)	Handle color	Handle type	Reference
30 ... 100	Blue	M01	2299 **5032**



M01 handle

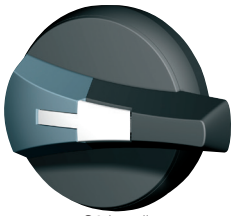
External operation handle

Use

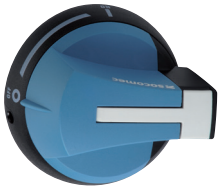
The handle locking function prevents the user from opening the door of the enclosure when the switch is in the "ON" position (only if the handle is fitted on the door).

No interlock in the “OFF” position for S0 handles.

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



S0 handle



S01 handle

Front and right side handles I - 0

Rating (A)	Handle color	Handle type	Nema/UL type	Reference
30 ... 100	Black	S0	1, 3R, 12	1483 **1111**
30 ... 100	Red/Yellow	S0	1, 3R, 12	1484 **1111**
30 ... 100	Black	S0	4, 4X	148D **1111**
30 ... 100	Red/Yellow	S0	4, 4X	148E **1111**
30 ... 100	Black	S01	3R, 12	140F **2111**
30 ... 100	Red/Yellow	S01	3R, 12	140G **2111**
30 ... 100	Black	S01	4, 4X	140D **2111**
30 ... 100	Red/Yellow	S01	4, 4X	140E **2111**

Front handle for heavy duty I - 0 with metallic lever

Rating (A)	Handle color	Handle type	Nema / UL type	Reference
16 ... 100 CD	Black	S01	4, 4X	140D **2911**
16 ... 100 CD	Red / Yellow	S01	4, 4X	140E **2911**

Shafts for external handle

Use

Standard lengths:
- 5.9 in / 150 mm,
- 7.9 in / 200 mm,
- 12.6 in / 320 mm,
- 15.7 in / 400 mm.

Other lengths: please consult us.

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



For 3/4 pole

Rating (A)	Handle type	Length		Reference
		(inches)	(mm)	
30 ... 100	S0	5.9	150	1407 **0515**
30 ... 100	S0	7.9	200	1407 **0520**
30 ... 100	S0	12.6	320	1407 **0532**
30 ... 100	S01	7.9	200	1404 **0520**
30 ... 100	S01	12.6	320	1404 **0532**
30 ... 100	S01	15.7	400	1404 **0540**

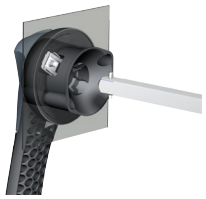
Accessories (continued)

Shaft guide for external handle

Use

This accessory makes shaft introduction easier with up to 0.59 in / 15 mm misalignment.
Required for a shaft length over 12.6 in / 320 mm.

Handle type	Reference
S0	1419 **0000**



Additional pole for SIRCO M

4th 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 non-fusible disconnect switch from 3 poles to 4 poles.

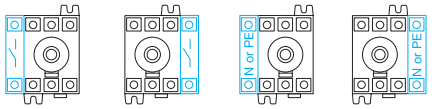


Solid neutral pole

Rating (A)	No. of poles	Type	Reference
30 … 100	1 P	unswitched	2200 **5011**

Use

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

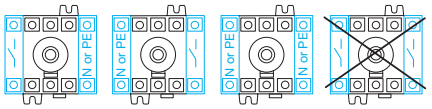


Ground module

Rating (A)	No. of poles	Type	Reference
30 … 100	1 P	unswitched	2200 **9011**

Use

Adds 1 ground module pole to the switch-disconnector.



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**

M type auxiliary contacts

Use

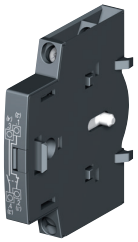
Pre-break and signaling of positions 0 and I by NO+NC or 2 NO auxiliary contacts.

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

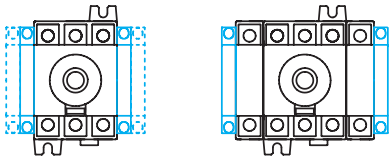
Max 4 auxiliary contacts (2 modules).

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**



Auxiliary contacts configurations for SIRCO M

Characteristics

Characteristics according to UL 98 and CSA-C22.2 No. 4

General use rating	30 A	60 A	100 A
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
Max. motor hp / FLA 3 ph motor max.			
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
Max. motor hp / FLA 1 ph motor max.			
120 VAC	2/24	3/34	5/56
240 VAC	5/28	10/50	10/50
Connection terminals			
Solid - 1 wire	#10	#10	#10
Stranded - 1 wire	#10 - 2/0	#10 - 2/0	#10 - 2/0
Solid - 2 wires	2 x #10	2 x #10	2 x #10
Stranded - 2 wires	2 x (#10 - #1)	2 x (#10 - #1)	2 x (#10 - #1)
Mechanical characteristics			
Endurance (number of operating cycles)	10000	10000	10000
Operating torque (ibs.in/Nm)	12.4 / 1.4	12.4 / 1.4	12.4 / 1.4
Auxiliary Contacts			
Electrical Characteristics	A300	A300	A300

Characteristics according to IEC 60647-3

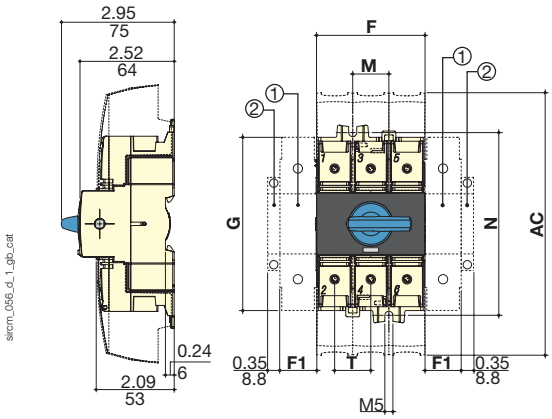
Thermal current I_{th} at 40°C (A)		30 A	60 A	100 A
Rated insulation voltage U_i (V)		800	800	800
Rated impulse withstand voltage U_{imp} (kV)		8	8	8
Rated operational currents I_e (A)				
Rated voltage	**Utilization category**	**A[1]**	**A[1]**	**A[1]**
400 VAC	AC-22 A	32	63	100
400 VAC	AC-23 A	32	63	100
690 VAC	AC-22 A	32	63	80
690 VAC	AC-23 A	32	63	63
Operational power in AC-23 (kW)				
At 400 VAC without prebreak AC in AC23 (kW)[2][3]		15	30	45
At 500VAC without prebreak AC in AC23 (kW)[2][3]		15	30	45
At 690VAC without prebreak AC in AC23 (kW)[2][3]		18.5	30	45
Overload capacity (U_e 415 VAC)				
Rated short-circuit making capacity I_{cm} (kA peak)[4]		12	12	12
Connection				
Min. connection section/ (mm^2)		2.5	2.5	10
Max. connection section/ (mm^2)		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_e = 400 VAC.

Dimensions (in/mm)

30 to 100 A

Direct operation with handle

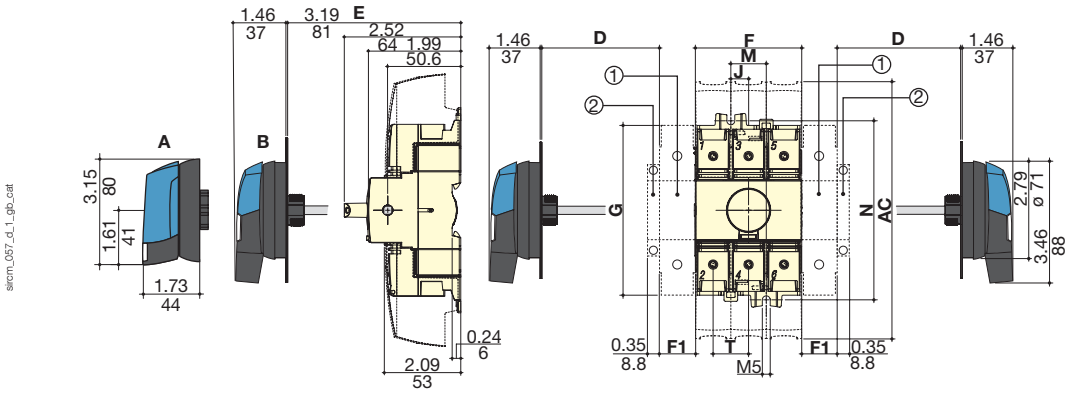


1. Location for: 1 switched fourth pole module (1 per device max.) **or** 1 unswitched neutral pole **or** 1 protective earth module **or** 1 auxiliary contact.
2. Position for 1 auxiliary contact module only.

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.

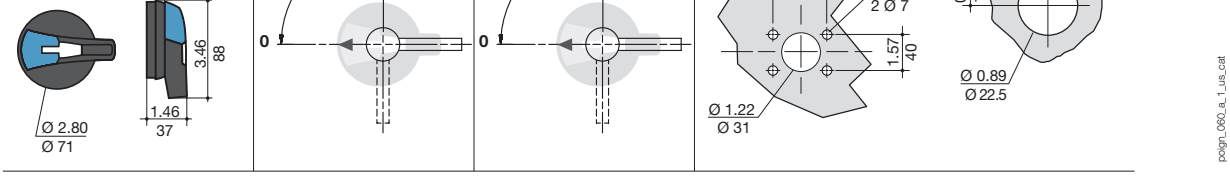
A. S01 handle
B. S00 handle

Rating (A) / Frame size		Overall dimensions				Terminal shrouds	Switch body				Switch mounting		Connection
		D min	D max	E min	E max	AC	F	F1	G	J	M	N	T
30 … 100 / 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 handle dimensions (in/mm)

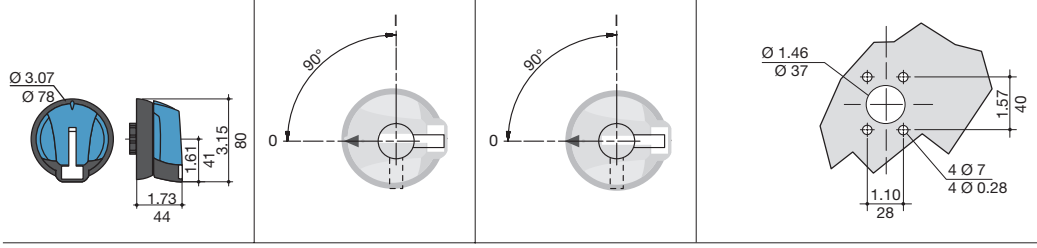
30 to 100 A

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



poign_060_a_1_us_cat

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S01 type			With 4 fixing screws



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