



What you need to know

- In front direct or external operation, SIRCO DC is available in 3 and 4-pole versions from 125 to 1250 A. The switch can be enclosed in a polyester or sheet metal housing from 125 to 1250 A.

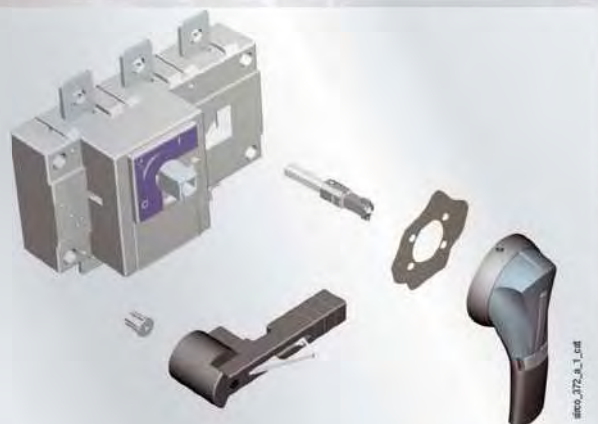
DC disconnecting switch from 40 to 1250 A

Function

SIRCO DC are manually operated multipolar load break switches. They break on and off under load and provide safety isolation for any low voltage circuit of photovoltaic applications.

General characteristics

- Fully visible breaking.
- Backplate or DIN rail mounting with 45 mm cut-out up to 40 A.
- High thermal and dynamic withstand.
- $U_i = 1\,000\text{ VDC}$.



Available on request

- Motorised switch-disconnectors.
- Other ratings: please consult us.
- Enclosed devices: please consult us.

Conformity to standards

- IEC 60947-3
- EN 60947-3
- VDE 0660-107 (1992)
- IEC 60364-4-410 (protection against electric shock)
- IEC 60364-7-712 (building electrical installations - Part 7-712: rules for special installations or placements - Photovoltaic power supplies)
- DIN VDE 0126

References



Front operation

Rating (A)	No. of poles	Switch body	Direct front operation handle	External handle	Shaft extensions for external handle	Auxiliary contacts	Terminal shrouds	Terminal screen	Inter phase barrier						
40 A	3 P	25DC 4004	Black 3629 4012 ⁽¹⁾ Red 3629 4013	Type S1 Black IP55 1411 2111 ⁽¹⁾ Black IP65 1413 2111 Red/Yellow IP65 1414 2111	200 mm 1401 0520 ⁽¹⁾ 320 mm 1401 0532	1 NC contact 3999 0701 ⁽²⁾ 1 NO contact 3999 0702 ⁽²⁾ 1 NO/NC contact 3999 0001 2 NO/NC contacts 3999 0002									
	4 P														
125 A	3 P	26DC 3014	Black 2699 5042 ⁽¹⁾ Red 2699 5043	Type S2 Black IP55 1421 2111 ⁽¹⁾ Black IP65 1423 2111	200 mm 1400 1020 320 mm 1400 1032 ⁽¹⁾ 500 mm 1400 1050	1 st NO/NC contact 2699 0031 2 nd NO/NC contact 2699 0032	3 P 2694 3014 ⁽³⁾ 4 P 2694 4014 ⁽³⁾	3 P 2698 3012 ⁽³⁾ 4 P 2698 4012 ⁽³⁾	3 P 2998 0033 4 P 2998 0034						
	4 P	26DC 4014													
250 A	3 P	26DC 3026	Black 2699 5052 ⁽¹⁾ Red 2699 5053	Red IP65 1424 2111			3 P 2694 3021 ⁽³⁾ 4 P 2694 4021 ⁽³⁾	3 P 2698 3020 ⁽³⁾ 4 P 2698 4020 ⁽³⁾	3 P 2998 0023 4 P 2998 0024						
	4 P	26DC 4026													
315 A	3 P	26DC 3032					3 P 2694 3051 ⁽³⁾ 4 P 2694 4051 ⁽³⁾	3 P 2698 3050 ⁽³⁾ 4 P 2698 4050 ⁽³⁾	3 P 2998 0013 4 P 2998 0014						
	4 P	26DC 4032													
630 A	3 P	26DC 3064	Black 2799 7012 Red 2799 7013	Type S4 Black IP65 1443 3111 Red/Yellow IP65 1444 3111	200 mm 1401 1520 320 mm 1401 1532 400 mm 1401 1540				3 P 2698 3080 4 P 2698 4080						
	4 P	26DC 4064													
800 A	3 P	26DC 3081													
	4 P	26DC 4081													
1000 A	3 P	26DC 3100													3 P 2698 3120 4 P 2698 4120
	4 P	26DC 4100													
1250 A	3 P	26DC 3121													
	4 P	26DC 4121													

(1) Standard.

(2) For external operation.

(3) Top / bottom.

SIRCO DC - Accessories

Handles and shafts

Direct operation handle



Direct front operation handle SIRCO DC 40 A Direct front operation handle SIRCO DC 125 ... 315 A Direct front operation handle SIRCO DC 630 ... 1250 A

Rating (A)	Handle colour	Reference
40	Black	3629 4012
40	Red	3629 4013
125	Black	2699 5042
125	Red	2699 5043
250 ... 315	Black	2699 5052
250 ... 315	Red	2699 5053
630 ... 1 250	Black	2799 7012
630 ... 1 250	Red	2799 7013

External operation handle

S1-type handle



S4-type handle



S2-type handle



Use

The door interlocked external operation includes a padlockable handle, an escutcheon and must be combined with a shaft extension.

Front operation

Rating (A)	Handle	Handle colour	external IP ⁽¹⁾	Reference
40	Type S1	Black	IP55	1411 2111
40	Type S1	Black	IP65	1413 2111
40	Type S1	Red/Yellow	IP65	1414 2111
125 ... 315	Type S2	Black	IP55	1421 2111 ⁽²⁾
125 ... 315	Type S2	Black	IP65	1423 2111
125 ... 315	Type S2	Red/Yellow	IP65	1424 2111
630 ... 1 250	Type S4	Black	IP65	1443 3111 ⁽²⁾
630 ... 1 250	Type S4	Red	IP65	1444 3111

(1) IP: protection index according to the IEC 60529 standard.
(2) Standard.

S type handle adapter



Use

Enables new S type handles to be mounted using old fixing holes.

Dimensions

Adds 12 mm to the depth.

Handle colour	external IP ⁽¹⁾	To be ordered in multiples of	Reference
Black	IP65	10	1493 0000

(1) IP: protection index according to the IEC 60529 standard.

Alternative S-type handle cover colours

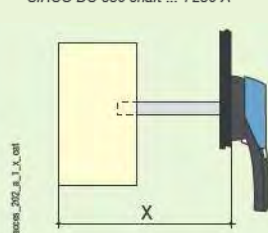


Use

For single lever handles type S1, S2, S3 and double arm lever handle, type S4. Other colours: please consult us.

Handle colour	To be ordered in multiples of	Handle	Reference
Light grey	50	Type S1, S2	1401 0001
Dark grey	50	Type S1, S2	1401 0011
Light grey	50	Type S4	1401 0031
Dark grey	50	Type S4	1401 0041

Shaft extensions for external handle



Use

Standard lengths:

- 200 mm,
- 250 mm,
- 320 mm,
- 400 mm,
- 500 mm,
- 750 mm,

Other lengths: please consult us.

For 3/4 pole

Rating (A)	Dimension X (mm)	Shaft length (mm)	Reference
40	100 ... 245	200 mm	1401 0520
40	100 ... 365	320 mm	1401 0532
250	95 ... 230	200 mm	1400 1020
125	125 ... 300	250 mm	1400 1025
125	125 ... 370	320 mm	1400 1032 ⁽¹⁾
125	125 ... 550	500 mm	1400 1050
125	125 ... 850	750 mm	1400 1075
250	135 ... 265	200 mm	1400 1020
250	135 ... 315	250 mm	1400 1025
250	135 ... 385	320 mm	1400 1032 ⁽¹⁾
250	135 ... 565	500 mm	1400 1050
250	135 ... 880	750 mm	1400 1075
315	165 ... 295	200 mm	1400 1020
315	165 ... 345	250 mm	1400 1025
315	165 ... 415	320 mm	1400 1032 ⁽¹⁾
315	165 ... 595	500 mm	1400 1050
315	165 ... 940	750 mm	1400 1075
630 ... 1 250	221 ... 343	200 mm	1401 1520
630 ... 1 250	221 ... 463	320 mm	1401 1532 ⁽¹⁾
630 ... 1 250	221 ... 543	400 mm	1401 1540

(1) Standard.

Other accessories

Shaft guide for external operation



Use

To guide the shaft extension in the external handle.

This accessory enables the handle to engage extension shaft with a misalignment of up to 15 mm

Required for a shaft length over 320 mm.

Description	Reference
Shaft guide	1429 0000

Door mounting kit

Use

This kit allows easy door mounting for the SIRCO range.

For 3 and 4-pole for frontal direct operation

Rating (A)	No. of poles	Reference
125	3 P	2699 3312
125	4 P	2699 4312
250	3 P	2699 3420
250	4 P	2699 4420

6/8 pole kit



Use

This accessory enables the assembly of 2 SIRCO DC 4x40A switches in order to obtain:

- an 8-pole load break switch,
- a 4-pole combination switch.

For 3 and 4-pole for frontal direct operation

Rating (A)	No. of poles	Reference
40	6 / 8 pole	3629 7710

Auxiliary contacts



A type auxiliary contacts



U type auxiliary contacts



Use

Pre-break and signalling of positions 0 and I:

- 1 to 2 NO/NC auxiliary contacts,
- 1 to 4 NO+NC auxiliary contacts,
- 1 to 2 low level NO/NC auxiliary contacts.

NO/NC contact for 3 and 4 pole SIRCO

Rating (A)	AC position	Type	Reference
40	1 st	A-type	3999 0001
40	2 nd	A-type	3999 0002
125 ... 1 250	1 st	-	2699 0031
125 ... 1 250	2 nd	-	2699 0032

NO/NC contact for 3 and 4 pole SIRCO

Rating (A)	AC position	Type	Reference
125 ... 1 250	1 st	-	2699 0141
125 ... 1 250	2 nd	-	2699 0142

Low level NO/NC contact for 3/4 pole SIRCO

Rating (A)	AC position	Type	Reference
125 ... 1 250	1 st	-	2699 0301
125 ... 1 250	2 nd	-	2699 0302

NO/NC contact for 3 and 4 pole SIRCO

Rating (A)	AC position	Type	Reference
40	1	U-type	3999 0701

NO/NC contact for 3 and 4 pole SIRCO

Rating (A)	AC position	Type	Reference
40	1	U-type	3999 0702

Characteristics

For SIRCO DC 40A: Bifunction type NO/NC auxiliary contact.

- low level from 1 mA and 5 V
- standard up to 5 A and 250 V

For SIRCO DC 1250A:

NO/NC AC: IP2 with front and side operation.

Connection to the control circuit

6.35 mm fast-on connection.

Electrical characteristics

30 000 operations.

Characteristics

Rating (A)	Contact type	Current Nominal current (A)	Rated operational currents I _n (A)									
			230 VAC		400 VAC		24 VDC			48 VDC		
			AC-12	AC-13/15	AC-12	AC-13/15	DC-12	DC-13	DC-14	DC-12	DC-13	DC-14
125 ... 1 250	NO/NC	16	16	4	12	3	2.5	2.5	1	2.5	1.2	0.2
125 ... 1 250	NO+NC	16	16	4	16	3	16	5	1	2.5	1.2	0.2

Terminal shrouds



Use

Top or bottom protection against direct contact with terminals or connection parts.

Advantage

Perforations allowing remote thermographic without removal. The terminal shrouds also provide phase separation for SIRCOs from 125 to 315 A.

For 3/4 pole

Rating (A)	No. of poles	Position	Reference
125	3 P	top / bottom	2694 3014
125	4 P	top / bottom	2694 4014
250	3 P	top / bottom	2694 3021
250	4 P	top / bottom	2694 4021
315	3 P	top / bottom	2694 3051
315	4 P	top / bottom	2694 4051

Terminal screen



Use

Top and bottom protection against direct contacts with terminals or connecting parts.

For 3/4 pole

Rating (A)	No. of poles	Position	Reference
125	3 P	top / bottom	2698 3012
125	4 P	top / bottom	2698 4012
250	3 P	top / bottom	2698 3020
250	4 P	top / bottom	2698 4020
315	3 P	top / bottom	2698 3050
315	4 P	top / bottom	2698 4050
630 ... 800	3 P	top / bottom	2698 3080
630 ... 800	4 P	top / bottom	2698 4080
1 000 ... 1 250	3 P	top / bottom	2698 3120
1 000 ... 1 250	4 P	top / bottom	2698 4120

Shrouded distribution block



Use

Easy connection of several equipotential conductors, can be clipped onto a symmetric DIN rail.

Rating (A)	No. of poles	No. of connections per section (mm ²)	Reference
125	3 / 4-pole	2 x 25 + 7 x 10	5420 4108
125	3 / 4-pole	2 x 25 + 2 x 16 + 9 x 10	5420 4112

Bottom distribution kit



Use

Easy connection of several equipotential conductors, downstream mounting of the SIRCO DC.

Rating (A)	No. of poles	No. of connections per section (mm ²)	Reference
125	3 P	1 x 95 + 8 x 25	5411 3016
125	4 P	1 x 95 + 8 x 25	5411 4016
250	3 P	1 x 150 + 8 x 50	5411 3025
250	4 P	1 x 150 + 8 x 50	5411 4025
315	3 P	1 x 240 + 8 x 95	5411 3040
315	4 P	1 x 240 + 8 x 95	5411 4040

Cage terminals



Use

Connection of bare copper cables onto the terminals (without spade lugs).

Rating (A)	No. of poles	Reference
125	3 P	5400 3016
125	4 P	5400 4016
250	3 P	5400 3025
250	4 P	5400 4025
315	3 P	5400 3040
315	4 P	5400 4040

Connections

Rating (A)	Cable section flexible (mm ²)	Cable section rigid (mm ²)	flexible bar width (mm)	Split over (mm)
125	16 ... 95	16 ... 95	13	22
250	16 ... 185	16 ... 185	18	27
315	50 ... 240	50 ... 300	20	34

Dimensions

Rating (A)	A	A1	C	R	ØX	X1	Z
125	47.5	22.5	25	20	8.5	M12	10
250	62	31.5	31.5	25	10.5	M16	14
315	71.5	32	38	32	10.5	M20	15

Inter phase barrier

access_006_a_1_cab



Use

Safety isolating separation between the terminals.
The terminal shrouds also provide phase separation for SIRCOs from 125 to 315 A.

Rating (A)	No. of poles	Reference
125	3 P	2998 0033
125	4 P	2998 0034
250	3 P	2998 0023
250	4 P	2998 0024
315	3 P	2998 0013
315	4 P	2998 0014
630 ... 1 250	3 / 4-pole	standard

Handle key interlocking accessories

Fig. 1

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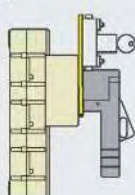


Fig. 2

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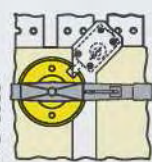


Fig. 3

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Use

Locking in position 0 of the front operation handle:
- using a padlock (not supplied) and factory integrated into the handle. From 125 to 1250 A, the padlock on the external front operation handle also locks the door,
- using lock (not included): see diagrams opposite,
- using undervoltage coil: the SIRCO can only be closed if the coil is live.

References

Locking using RONIS EL11AP lock (not included)

Rating (A)	No. of poles	Operation	Figure	Reference
125 ... 315	3 / 4-pole	front direct	1	2699 6008 ⁽¹⁾
630 ... 1 250	3 / 4-pole	front direct	2	2699 6027
125 ... 1 250	3 / 4-pole	external front	3	1499 7701

(1) Front operation handle included.

Locking using 230 VAC undervoltage coil (other voltages: please consult us)

Rating (A)	No. of poles	Operation	Reference
125 ... 315	3 / 4-pole	external front	2699 9063 ⁽¹⁾
630 ... 1 250	3 / 4-pole	front direct	2699 9315 ⁽¹⁾

(1) The locking system is directly mounted on the switch.

Other special accessories

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- Mechanical coupling device for making switches with "n" poles of the same or different ratings.
- Mechanical interlocking device.

Enclosed switches

cof_330_a



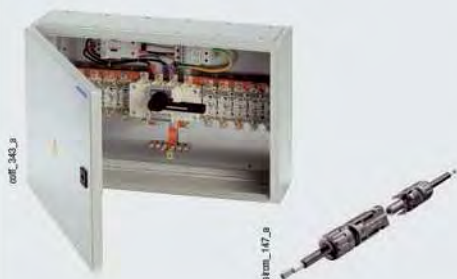
When they are not intended to be mounted in a cabinet, load break, changover or fuse protection switches are usually delivered enclosed. Located the nearest possible to the operator, they guarantee:

- protection for the inverters and PV generators against overvoltage coupling,
- disconnection under DC load between the inverters and PV generators (necessary according to the IEC 60364-712 standard).

Specialised in load break, changover and fuse protection, SOCOMEC designs and produces a large number of standard or customised enclosures. This double expertise will allow you to make use of complete systems that meet all your requirements.

Please, feel free to consult us.

Available on request



Our services are regularly sought for producing customised enclosures and panels meeting all your requirements:

- enclosures with simple load break switches,
- enclosed fuse protection switches,
- enclosed changeover switches,
- complete integrated equipment.

Available on request:

- sheet metal, insulated, varnished (seaside) or brushed stainless steel versions,
- special colours (enclosure, handle),
- customised dimensions,
- customised connections: classe II quick connectors.

For any request of customised products, please contact your SOCOMEC agency.

➔ **Characteristics according to IEC 60947-3**

SIRCO DC from 40 to 1250 A

Thermal current I_n (40° C)	40 A	125 A	250 A	315 A	630 A	800 A	1000 A	1250 A
Rated insulation voltage U_i (V)	800	800 ⁽¹⁾	800 ⁽²⁾	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)	8	8	8	12	12	12	12	12

Rated operational currents I_n (A)											
Rated voltage	Load duty category	Number of poles of the device	Number of poles in series per polarity	B	B	B	B	B	B	B	B
220 VDC	DC-21 B	3	1	40	125	250	315	630	800	1000	1250
400 VDC	DC-21 B	4	2	40	125	200	250	630	800	1000	1250
600 VDC	DC-21 B	4	2	20	80	180	250	630	800	1000	1250
800 VDC	DC-21 B	4	2	20	63	125	250	630	800	1000	1250

Overload capacity											
Rated short-time withstand current 0.3 s. I_{cw} (kA eff.)	2	15	17	25	50	50	100	100			
Rated short-circuit making capacity I_{cc} (kA peak) ⁽¹⁾	5.5	20	30	45	55	55	110	110			

Connection											
Minimum Cu cable section (mm²)	2.5	35	95	150	2 x 185	2 x 185	-	-			
Minimum Cu busbar section (mm²)	-	-	-	-	2 x 40 x 5	2 x 40 x 5	2 x 60 x 5	2 x 60 x 5			
Maximum Cu rigid cable section (mm²)	16	50	150	240	2 x 300	2 x 300	4 x 185	4 x 185			
Maximum Cu busbar width (mm)	-	25	32	40	63	63	100	100			
Min. tightening torque (Nm)	2	9	20	20			40	40			

Mechanical characteristics											
Endurance (number of operating cycles)	20 000	10 000	10 000	5 000	3 000	3 000	4 000	4 000			
Operating effort (Nm)	-	6.5	10	14.5	37	37	56	56			
Weight of 3 P switch (kg)	0.4	1	2	3.5	8	8	12	12			
Weight of 4 P switch (kg)	0.4	1.5	2	4	10	10	15	15			

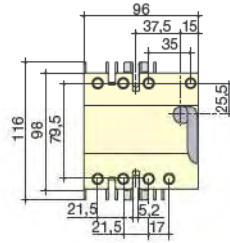
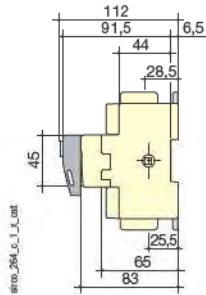
(1) For a rated operation voltage $U_n = 400$ VAC.

(2) 1000 VDC if mounted on an insulation plate.

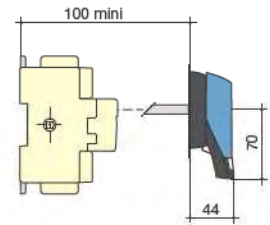
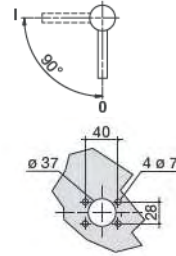
➔ SIRCO DC - Dimensions

SIRCO DC 40 A

Front direct operation

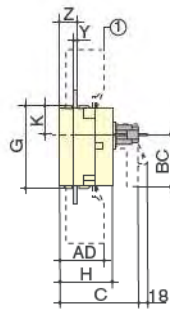
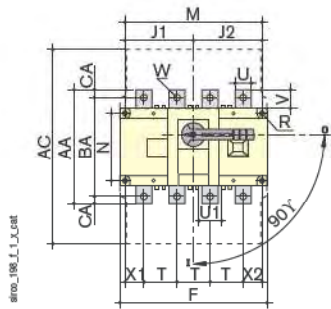


Front external operation

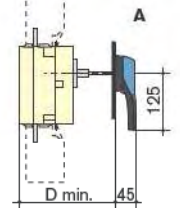
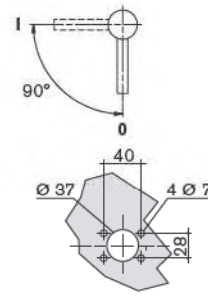


SIRCO DC from 125 to 315 A

Front direct operation



Front external operation



1. Terminal screen
S2-type handle

Rating (A)	Overall dimensions		Terminal shrouds		Switch body									Switch mounting				Connection terminals													
	C	D min	AC	AD	F 3p.	F 4p.	G	H	J1 3p.	J1 4p.	J2	K	BC	M 3p.	M 4p.	N	R	T	U	U1	V	W	X1 3p.	X1 4p.	X2	Y	Z	AA	BA	AC	
125	120	125	235	50	140	170	93	65	45	75	75	31.5	80	120	150	65	5.5	36	20	20.5	25	9	28	22	20	3.5	20.5	135	115	10	10
250	125	135	280	60	180	230	108	75	55	105	105	34	115	160	210	80	5.5	50	25	25.5	30	11	33	33	27	3.5	22.5	160	130	15	15
315	160	165	401	89	230	290	170	110	75	135	135	55	115	210	270	140	7	65	32	45.5	37.5	11	42.5	37.5	37.5	5	36	235	205	15	15

Front direct operation



1. Terminal screen
S3 type handle.
S4 type double lever handle

Front external operation



Rating (A)	Switch body		Switch mounting		Connection terminals							
	F 3p.	F 4p.	M 3p.	M 4p.	T	U	V	Y	X1	X2	Z	AA
630	280	360	255	335	80	50	60.5	7	47.5	47.5	46.5	321
800	280	360	255	335	80	50	60.5	7	47.5	47.5	46.5	321
1 000	372	492	347	467	120	90	44	8	53.5	53.5	47.5	288
1 250	372	492	347	467	120	90	44	8	53.5	53.5	47.5	288

➔ Pole connection in series

4 pole - top / bottom



4 pole - bottom / bottom



2 pole - top / bottom



3 poles

