

SIRCO VM1

Manually operated Transfer Switching Equipment
from 63 to 125 A



SIRCO VM1
I-0-II 4-pole 100 A

The solution for

> Energy production
> Critical buildings



Strong points

> Safe isolation
> Modular product

Conformity to standards

> IEC 60947-3

Function

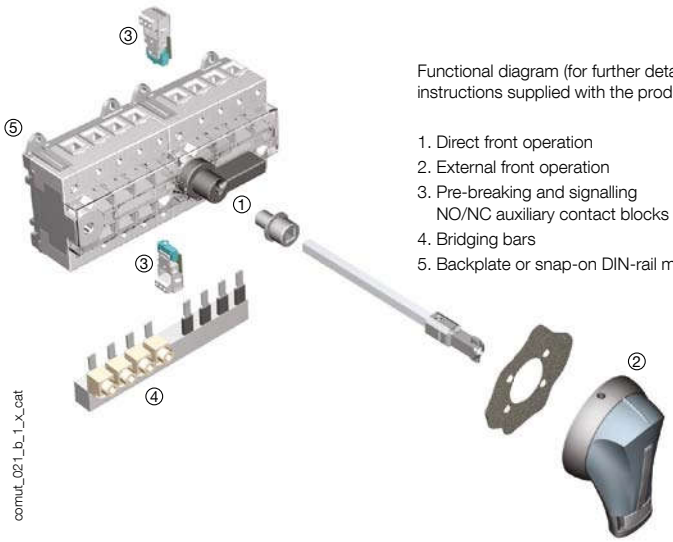
SIRCO VM1 are 3 or 4 pole modular manual transfer switches with visible breaking.
They provide on-load transfer between two sources for any low voltage power circuit, as well as safety isolation. Other applications include source inversion (e.g. to change the direction of a motor) or grounding/earthing.

Advantages

Safe isolation
SIRCO VM1 transfer switches enable completely secure isolation owing positive break indication and double visible breaking. The user can view the status of the device either during preventive checks or before working on the system.

Modular product
SIRCO VM1 transfer switches offer a number of mounting options: DIN rail, back plate or modular panel-mounted.

Configurations



Functional diagram (for further details see the installation instructions supplied with the product).

1. Direct front operation
2. External front operation
3. Pre-breaking and signalling
   NO/NC auxiliary contact blocks
4. Bridging bars
5. Backplate or snap-on DIN-rail mounting.

socomec
Innovative Power Solutions

References

VM1 switch I-0-II

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	IP20(2) bridging bar	Auxiliary contact
63 A	3 P	4430 **3006**(1)	Black 4439 **5012**	S1 type Black IP65 1413 **2113**	200 mm 1402 **0820** 320 mm 1402 **0832**	3 P 4499 **3006** 4 P 4499 **4006**	1 NO/NC auxiliary contact 4439 **0001**
	4 P	4430 **4006**(1)					
80 A	3 P	4430 **3008**(1)					
	4 P	4430 **4008**(1)					
100 A	3 P	4430 **3010**(1)					
	4 P	4430 **4010**(1)					
125 A	3 P	4430 **3012**					
	4 P	4430 **4012**					

VM1 switch I - I+II - II

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	IP20(2) bridging bars
63 A	3 P	4440 **3006**	Black 4449 **5012**	S1 type Black IP65 1413 **2114**	200 mm 1403 **0820** 320 mm 1403 **0832**	3 P 4499 **3006** 4 P 4499 **4006**
	4 P	4440 **4006**				
80 A	3 P	4440 **3008**				
	4 P	4440 **4008**				
100 A	3 P	4440 **3010**				
	4 P	4440 **4010**				
125 A	3 P	4440 **3012**				
	4 P	4440 **4012**				

(1) Device available enclosed (see "Enclosed transfer switches" page 726).
(2) IP: protection index according to IEC 60529.

Accessories

Direct operation handle

Rating (A)	Switching type	Reference
63 ... 125	I - 0 - II	4439 **5012**
63 ... 125	I - I+II - II	4449 **5012**



acces_111_a_1_cat

External operation handle

Use

Door interlocked external front operation handles include an escutcheon, are padlockable and must be utilised with an extension shaft.

Rating (A)	Switching type	Padlockable	External IP(1)	Reference
63 ... 125	I - 0 - II	1 position	IP55	1411 **2113**
63 ... 125	I - 0 - II	1 position	IP65	1413 **2113**
63 ... 125	I - 0 - II	3 positions	IP65	1413 **2813**
63 ... 125	I - I+II - II	1 position	IP65	1413 **2114**
63 ... 125	I - I+II - II	3 positions	IP65	1413 **2814**

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



acces_149_a_2_cat

Type S handle adapter

Use

Enables S-type handles to be fitted in place of existing older style SOCOMEC handles. Adapter can also be utilised as a spacer to increase the distance between the panel door and the handle lever.
Dimensions: adds 12 mm to the depth of the handle.

Colour	To be ordered in multiples of	External IP(1)	References
Black	1	IP65	1493 **0000**

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



acces_187_a_2_cat

Alternative S-type handle covers

Colour	To be ordered in multiples of	Reference
Light grey	50	1401 **0001**
Dark grey	50	1401 **0011**

Use

For single lever type S1 handles.
Other colours available: consult us.



acces_198_a_1_cat

Accessories (continued)

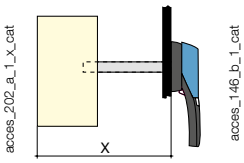
Shaft for external operation

Use

Standard lengths:
- 200 mm,
- 320 mm.

Other lengths available: consult us.





SIRCO VM1 I - 0 - II			
Rating (A)	**Side X (mm)**	**Shaft length (mm)**	**Reference**
63 … 125	128 … 290	200 mm	1402 **0820**
63 … 125	128 … 410	320 mm	1402 **0832**

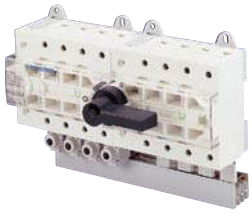
SIRCO VM1 I - I+II - II			
Rating (A)	**Side X (mm)**	**Shaft length (mm)**	**Reference**
63 … 125	128 … 290	200 mm	1403 **0820**
63 … 125	128 … 410	320 mm	1403 **0832**

IP20 bridging bar

Use

For creating a common connection between switches I & II, on the top or bottom side of the SIRCO VM1, to enable, for example, the load to be fed from either incoming source (I or II).

The bridging bar does not reduce the connection capacity of the cage clamp terminals.



conut_005_a_1_cat

Rating (A)	No. of poles	Reference
63 … 125	3 P	4499 **3006**
63 … 125	4 P	4499 **4006**

NO/NC auxiliary contact

Use

Pre-breaking and signalling of positions I and II: 1 NO/NC auxiliary contact for each position.

Characteristics

- Snaps on and is secured by a screw.
- Connector block with a maximum capacity of up to 2 x 1.5 mm^2 per terminal.

Rating (A)	Switching type	Contact(s)	Reference
63 … 125	I - 0 - II	1	4439 **0001**(1)

(1) Not available for overlapping contact switch (I-I+II-II).

Enclosed solutions

General characteristics



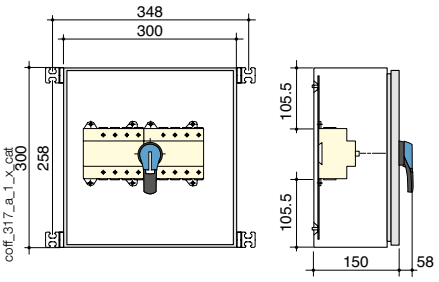
coff_293_b_1_cat

- Operating handle: S-type padlockable black handle.
- Protection degree: IP54 / IK 09.
- Colour: RAL 7035
- Closing plates: top and bottom.
- Material: 1.5 mm thick XC steel.
- Coating: epoxy polyester powder.
- Wall mounting: 4 mounting brackets supplied (not fitted).
- Door: solid with hinges.
- Locking device: 3 mm double bar key (key supplied).
- Miscellaneous: 2 earth connection bolts, double door locking.

References

Rating (A)	No. of poles	Top/bottom connection Reference
63 A	3 P	4413 **3006**
	4 P	4413 **4006**
80 A	3 P	4413 **3008**
	4 P	4413 **4008**
100 A	3 P	4413 **3010**
	4 P	4413 **4010**

Dimensions



Rating (A)	Max. connection cross-section (mm^2)	Weight (kg)
3 x 63 / 4 x 63	50	9
3 x 80 / 4 x 80	50	9
3 x 100 / 4 x 100	50	9

Characteristics according to IEC 60947-3

63 to 125 A

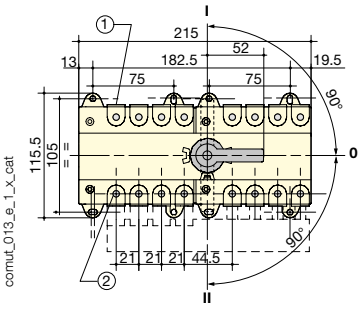
Thermal current I_{th} (40 °C)		**63 A**	**80 A**	**100 A**	**125 A**
Rated insulation voltage U_i (V)		800	800	800	800
Rated impulse withstand voltage U_{imp} (kV)		8	8	8	8
Rated operational currents I_e (A) according to IEC 60947-3					
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
415 VAC	AC-21 A / AC-21 B	63/63	80/80	100/100	125/125
415 VAC	AC-21 A / AC-21 B	63/63	80/80	100/100	125/125
415 VAC	AC-22 A / AC-22 B	63/63	80/80	100/100	125/125
415 VAC	AC-23 A / AC-23 B	63/63	63/63	63/63	63/63
690 VAC(2)	AC-20 A / AC-20 B	63/63	80/80	100/100	125/125
690 VAC(2)	AC-21 A / AC-21 B	63/63	80/80	80/80	80/80
690 VAC(2)	AC-22 A / AC-22 B	40/40	40/40	40/40	40/40
690 VAC(2)	AC-23 A / AC-23 B	25/25	25/25	25/25	25/25
220 VDC(3)	DC-20 A / DC-20 B	63/63	80/80	100/100	125/125
220 VDC(3)	DC-21 A / DC-21 B	63/63	80/80	100/100	125/125
220 VDC(3)	DC-22 A / DC-22 B	63/63	80/80	100/100	100/100
220 VDC(3)	DC-23 A / DC-23 B	63/63	63/63	63/63	63/63
Operational power in AC-23 (kW)					
At 400 VAC without pre-break aux. contact in AC-23 (4)		30/30	30/30	30/30	30/30
At 690 VAC without pre-break aux. contact in AC-23 (4)		22/22	22/22	22/22	22/22
Reactive power (kvar)					
At 400 VAC (4)		28	37	45	55
Current rated as conditional short-circuit with fuse gG DIN					
Prospective short-circuit current (kA rms) (5)		100	100	100	50
Associated fuse rating (A) (5)		63	80	100	125
Current rated as conditional short-circuit with any brand of circuit breaker that ensures tripping in less than 0.3s(6)					
Current rated as short-time withstand I_{cw} 0.3s (kA rms)		4.5	4.5	4.5	4.5
Short-circuit operation (switch only)					
Current rated as short-time withstand I_{cw} 1s (kA rms)		2.5	2.5	2.5	2.5
Peak short-circuit breaking capacity I_{cm} (peak kA)		3.55	3.55	3.55	3.55
Connection					
Minimum Cu cable cross-section (mm^2)		4	4	4	4
Minimum Cu cable cross-section (mm^2)		50	50	50	50
Min./max. tightening torque (Nm)		6	6	6	6
Mechanical specifications					
Durability (number of operating cycles)		10 000	10 000	10 000	10 000
Weight of one 3 P device (kg)		1.2	1.2	1.4	1.4
Weight of one 4 P device (kg)		1.4	1.4	1.6	1.6

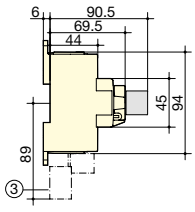
(1) Category with index A = frequent operation / Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(3) 4-pole device with 2 poles in series per polarity.
(4) The power value is given for information only, the current values vary from one manufacturer to another.
(5) For a rated operational voltage U_e = 400 VAC.
(6) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s. For coordination with specific circuit-breaker parts, higher short-circuit current values are available. Please contact us.

Dimensions

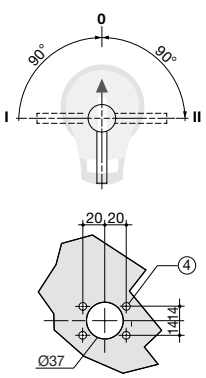
63 to 125 A

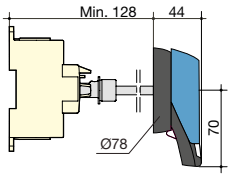
Direct front operation





External front operation





1. Max. connection:
   - Rigid: 50 mm^2,
   - Flexible: 35 mm^2
2. 5 mm Allen key - Pozidriv no. 1, 4.5 mm-slot
3. Bridging bar
4. Fix with 2 or 4 screws, 7 mm Ø