

# Changeover switches

Safety and reliability for your switching applications ..... p. 310

ATyS solution: three ranges of motorised/automatic changeover switches ..... p. 311

Manual changeover switch selection guide ..... p. 312

Motorised and automatic changeover switch selection guide ..... p. 314

The new ATyS range ..... p. 380

## Manual changeover switches



**COMO C**  
25 to 100 A  
p. 316



**SIRCO M**  
25 to 125 A  
p. 320



**SIRCO VM1**  
63 to 125 A  
p. 324



**SIRCOVER**  
125 to 3200 A  
p. 328



**SIRCOVER Bypass**  
125 to 1600 A  
p. 328



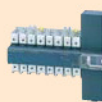
**SIRCOVER ATS Bypass**  
125 to 1600 A  
p. 346

## Modular motorised and automatic changeover switches

From 40 to 160 A



**ATyS M 3s**  
Single-phase  
p. 366



**ATyS M 3s**  
p. 366



**ATyS M 6s**  
p. 366



**ATyS M 6**  
p. 366

## Back-to-back motorised and automatic changeover switches

From 40 to 3200 A



**ATyS S**  
**ATyS Sd**  
p. 374



**ATyS d**  
**ATyS d**  
p. 382



**ATyS t**  
p. 384



**ATyS g**  
p. 386



**ATyS p**  
p. 388

## Universal ATS controller

Automatic control of different switching technologies: circuit breakers, contactors, switches.



**ATyS C30 / C40**  
p. 404

## Photovoltaic applications



**SIRCOVER PV**  
200 to 630 A  
p. 365

## More about our products

### Enclosed changeover switches

SOCOMECC offers a range of pre-equipped enclosures in steel or polyester.



Enclosed **SIRCOVER**  
p. 625



Enclosed **ATS Bypass**  
p. 642



Enclosed **ATyS M**  
p. 630



Enclosed **ATyS**  
p. 636

### Special requests

SOCOMECC develops specific products. We will help you find the best solution for your application.

*Please feel free to consult us.*

## UL range



**SIRCOVER UL**  
p. 350



# Safety and reliability for your switching applications

A world-renowned manufacturer and undisputed leader in changeover switching technology, SOCOMEC constantly innovates to ensure ever more efficient continuity in electrical distribution.

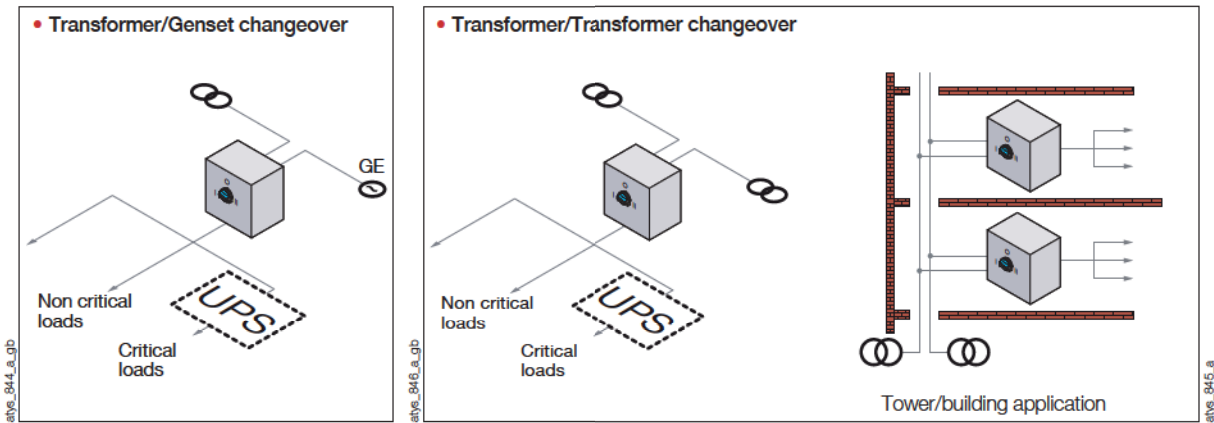
From the 'small' COMO C manual changeover switch (from 25 A) to the ATyS p automatic changeover switch (up to 3200 A), our standard range of changeover switches covers most applications.

## Services & Technical Assistance

Our Services & Technical Assistance department will study and define your installation, commission selected equipment and train personnel in charge of its use.

For more information, please get in touch with your usual SOCOMEC contact.

## Secure switching for all your applications



### Also available

All our changeover switches are available in enclosed versions.



### The complete solution

From 40 to 3200 A, our ATS Bypass solution enables the automatic changeover switch to be completely isolated while guaranteeing the continuity of the installation's power supply.



### A specific need?






The experience we have gained from different projects has led us to develop numerous special products (make-before-break contact or mixed pole motorised changeover switches, specific software, etc.). Please contact us if you have any specialist requirements.

Trust the experts with all your applications - even the most critical.

# ATyS solution: three ranges of motorised/automatic changeover switches for an adapted solution to your application

With over 400 000 motorised changeover switches in service since 1990, the ATyS range is Trusted by Major Players Worldwide.

<p><b>ATyS S range</b> Back-to-back configuration from 40 to 125 A</p> 	<p><b>ATyS M range</b> Modular profile from 40 to 160 A</p> 	<p><b>ATyS range</b> Back-to-back configuration from 125 to 3200 A</p> 
<p><b>ATyS S</b>   <b>ATyS Sd</b></p> <p>Switching applications with Genset(s)</p>	<p><b>ATyS M 3s</b>   <b>ATyS M 6s</b>   <b>ATyS M 6e</b></p> <p>Switching applications for industrial or office buildings</p>	<p><b>ATyS</b>   <b>ATyS d</b>   <b>ATyS t</b>   <b>ATyS g</b>   <b>ATyS p</b></p> <p>Any switching application with Transformers and/or Gensets</p>

#### Motorised automatic or remote controlled version

Remotely controlled (RTSE)	•	•	•	•	•	•	•	•	•	•
Automatic (ATSE)	•	•	•	•	•	•	•	•	•	•
Dual power supply										
Integrated		•		•	•		•	•	•	•
Automatic controller switching functionalities										
Not integrated	•	•	•			•	•			
Transformer/Transformer application				•	•			•	•	
Transformer/Genset application				•	•			•	•	•
Specific functionalities										
On load and off load tests				• <sup>(1)</sup>	•				•	•
Programming of genset startup										•
Power management										•
Communication options					•					•
Integrated webserver option										•

(1) Test on load only.

#### Glossary as per standard IEC 60947-6-1 for changeover switches

##### Terms:

- **RTSE** (Remote operated Transfer Switching Equipment)
- **ATSE** (Automatic Transfer Switching Equipment)

Contrary to RTSE, ATSE offer an automatic controller functionality. **ATSE products ensure the supervision of the availability of sources, the genset startup if needed and the automatic transfer to the available source.**

**RTSE products require an external control device** to provide transfer switching orders.






# Selection guide

## Manual changeover switches

Changeover switches

How many poles ?

			
	<b>COMO C</b> 25 to 100 A <i>p. 316</i>	<b>SIRCO M</b> 25 to 125 A <i>p. 320</i>	<b>SIRCO VM1</b> 63 to 125 A <i>p. 324</i>

### Number of poles

3 P	•	•	•
4 P	•	•	•

### Switch operation

I-0-II	•	•	•
I-II-II	•	•	•
Bypass	•		

### Indication of breaking

Positive break indication	•	•	•
Visible contacts			•





### Operating handle

Front direct/external operation	•	•	•
Door mountable switch	•		

(1) Depending on the version. From 125 to 3200 A for SIRCOVER I-0-II; from 125 to 1800 A for SIRCOVER I-II-II and from 125 to 1600 A for SIRCOVER Bypass.

What kind of operations ?

What kind of breaking indication ?

				
	<b>SIRCOVER</b> 125 to 3200 A <sup>(1)</sup> <i>p. 328</i>	<b>SIRCOVER ATS Bypass</b> 125 to 1600 A <i>p. 346</i>	<b>SIRCOVER PV</b> 200 to 630 A <i>p. 358</i>	<b>SIRCOVER UL</b> 100 to 1200 A <i>p. 350</i>
	•	•	•	•
	•	•	•	•
	•		•	•
	•	•		
	•	•	•	•
	•	•	•	•






# Selection guide

## Motorised and automatic changeover switches ATyS

Which rating?

Which type of transfer?

ATyS M range: modular products		
40 to 160 A		
		
<b>ATyS M 3s</b> <i>p. 366</i>	<b>ATyS M 6s</b> <i>p. 366</i>	<b>ATyS M 6e</b> <i>p. 366</i>

### Type of transfer

Manual emergency transfer using handle	•	•	•
Remote controlled transfer through volt-free contacts (RTSE)	•		
Automatic transfer (ATSE)		•	•

### number of poles

2 P	•	•	
3 P			
4 P	•	•	•

### Type of power supply

Power supply 12, 24 or 48 VDC			
Single power supply 230 VAC	•		
Dual power supply 230 VAC		•	•

### Connection of remote control interface

ATyS D10 remote indicator			•
ATyS D20 remote control interface			•

### Automatic controller configuration

Configuration using potentiometers and dip switches		•	
Configuration using display and keyboard			•
Voltage and frequency auto-configuration		•(1)	
Fixed function inputs/outputs		•	
Programmable Inputs/Outputs			•

### Automatic controller functionalities

Transformer/Genset application		•	•
Transformer/Transformer application		•	•
Contact for product availability		•	•
Monitoring of voltages and frequency		•	•
Phase rotation check			•
Unbalanced phase checking			•
LED indication of source availability		•	•
LED position indication			•
Display of counters and voltage/frequency measurements			•
On load and off load test		•(3)	•
Load shedding			
Display and measurement of powers and energy (when utilising CTs)			

### Supervision (with optional module)

Programming of genset startup			•
RS485 JBUS/MODBUS communication			•(2)
Ethernet communication			
Webserver via Ethernet module			
Data logging			

(1) Only available on the 2 pole version.

(2) Only available on the version with COM.

(3) Test on load only.

(4) Indicates availability of 230 VAC supplies for switch operation.





# COMO C

Manual changeover switches  
from 25 to 100 A

Changeover  
switches



como\_179\_a\_1

**COMO C**  
I-H-II 4P 63 A



como\_178\_a\_1

**COMO C**  
I-O-II 3P 25 A

## Function

COMO C are manual multipolar changeover switches with positive break indication. They provide changeover, source inversion or switching under load between two low voltage power circuits, as well as their safety isolation.

## Advantages

### High number of operations

COMO C can perform up to 100 000 operation cycles.

### Flexibility

Four types of changeover switches are available as standard (I-II, I-O-II, I-H-II & Bypass I-O-II). Other switching options are available on request.

### Bridging bars

Bridging bars are supplied factory fitted as standard.

### Compact design

With its small frame size, the COMO C can be installed where limited space is available.

## The solution for

- > Industry (machine control).



## Strong points

- > High number of operations.
- > Flexibility.
- > Pre-installed bridging bars.
- > Compact Design.

## Conformity to standards

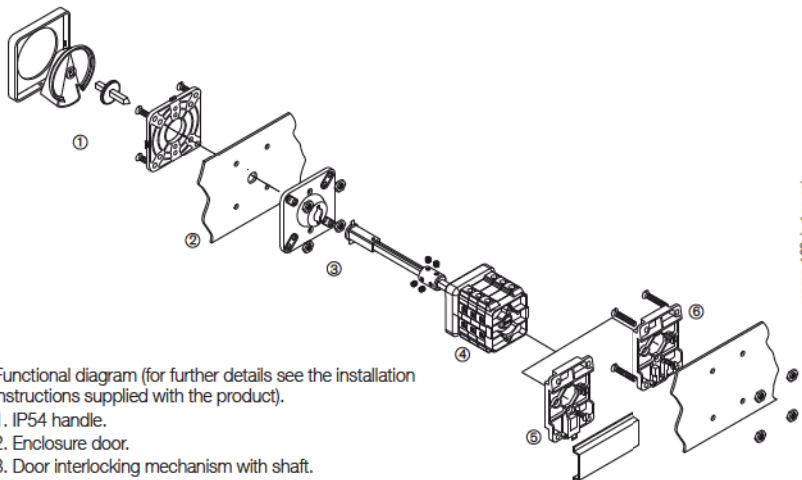
- > IEC 60947-3



- > UL 508



## Configurations



como\_168\_b\_1\_x\_cat

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

1. IP54 handle.
2. Enclosure door.
3. Door interlocking mechanism with shaft.
4. Switch body
5. DIN rail mounting device.
6. Back plate mounting device.



## References

Rating (A)	No. of poles	Switching type	Switch body	IP54 padlockable handle	IP54 non-padlockable white handle	Shaft and escutcheon for external handle	Back plate mounting device	IP65 gasket
25 A	3 P	I - II	4220 3002 <sup>(1)</sup>	Black/Grey 4259 1042 Red/Yellow 4259 1043	I - II 4259 2022 I - 0 - II and Bypass 4259 3022 I - I+II - II 4259 4022	200 mm 4259 5042	DIN rail mounted 4259 9001 Base-mounted 4259 9040	4299 5001 <sup>(2)</sup>
	4 P	I - II	4220 4002 <sup>(1)</sup>					
	3 P	I - 0 - II	4230 3002 <sup>(1)(3)</sup>					
	4 P	I - 0 - II	4230 4002 <sup>(1)(3)</sup>					
	3 P	I - I+II - II	4240 3002 <sup>(1)</sup>					
	4 P	I - I+II - II	4240 4002 <sup>(1)</sup>					
	3 + 6 P	Bypass I - 0 - II	4250 3002					
	4 + 8 P	Bypass I - 0 - II	4250 4002					
40 A	3 P	I - II	4220 3004 <sup>(1)</sup>	Black/Grey 4259 1042 Red/Yellow 4259 1043	I - II 4259 2042 I - 0 - II and Bypass 4259 3042 I - I+II - II 4259 4042	200 mm 4259 5042	DIN rail mounted 4259 9001 Base-mounted 4259 9040	4299 5001 <sup>(2)</sup>
	4 P	I - II	4220 4004 <sup>(1)</sup>					
	3 P	I - 0 - II	4230 3004 <sup>(1)(3)</sup>					
	4 P	I - 0 - II	4230 4004 <sup>(1)(3)</sup>					
	3 P	I - I+II - II	4240 3004 <sup>(1)</sup>					
	4 P	I - I+II - II	4240 4004 <sup>(1)</sup>					
	3 + 6 P	Bypass I - 0 - II	4250 3004					
	4 + 8 P	Bypass I - 0 - II	4250 4004					
63 A	3 P	I - II	4220 3006 <sup>(1)</sup>	Black/Grey 4259 1082 Red/Yellow 4259 1083	I - II 4259 2082 I - 0 - II and Bypass 4259 3082 I - I+II - II 4259 4082	200 mm 4259 5082	DIN rail mounted 4259 9001 Base-mounted 4259 9080	4299 5002 <sup>(2)</sup>
	4 P	I - II	4220 4006 <sup>(1)</sup>					
	3 P	I - 0 - II	4230 3006 <sup>(1)(3)</sup>					
	4 P	I - 0 - II	4230 4006 <sup>(1)(3)</sup>					
	3 P	I - I+II - II	4240 3006 <sup>(1)</sup>					
	4 P	I - I+II - II	4240 4006 <sup>(1)</sup>					
	3 + 6 P	Bypass I - 0 - II	4250 3006					
	4 + 8 P	Bypass I - 0 - II	4250 4006					
80 A	3 P	I - II	4220 3008 <sup>(1)</sup>	Black/Grey 4259 1082 Red/Yellow 4259 1083	I - II 4259 2082 I - 0 - II and Bypass 4259 3082 I - I+II - II 4259 4082	200 mm 4259 5082	DIN rail mounted 4259 9001 Base-mounted 4259 9080	4299 5002 <sup>(2)</sup>
	4 P	I - II	4220 4008 <sup>(1)</sup>					
	3 P	I - 0 - II	4230 3008 <sup>(1)(3)</sup>					
	4 P	I - 0 - II	4230 4008 <sup>(1)(3)</sup>					
	3 P	I - I+II - II	4240 3008 <sup>(1)</sup>					
	4 P	I - I+II - II	4240 4008 <sup>(1)</sup>					
	3 + 6 P	Bypass I - 0 - II	4250 3008					
	4 + 8 P	Bypass I - 0 - II	4250 4008					
100 A	3 P	I - II	4220 3010	Black/Grey 4259 1082 Red/Yellow 4259 1083	I - II 4259 2082 I - 0 - II and Bypass 4259 3082 I - I+II - II 4259 4082	200 mm 4259 5082	DIN rail mounted 4259 9001 Base-mounted 4259 9080	4299 5002 <sup>(2)</sup>
	4 P	I - II	4220 4010					
	3 P	I - 0 - II	4230 3010					
	4 P	I - 0 - II	4230 4010					
	3 P	I - I+II - II	4240 3010					
	4 P	I - I+II - II	4240 4010					
	3 + 6 P	Bypass I - 0 - II	4250 3010					
	4 + 8 P	Bypass I - 0 - II	4250 4010					

(1) Available enclosed (see page 624).

(2) IP65: protection degree according to IEC 60529 standard.

(3) References available with 1 or 2 A/C, please consult us.

### Accessories

#### IP54 handle

Padlockable handle		
Rating (A)	Handle colour	Reference
25 ... 40	Black/Grey	4259 1042
25 ... 40	Red/Yellow	4259 1043
63 ... 100	Black/Grey	4259 1082
63 ... 100	Red/Yellow	4259 1083

Non-padlockable handle		
Rating (A)	Switching type	Reference
25	I - II	4259 2022
25	I - 0 - II and Bypass	4259 3022
25	I - I+II - II	4259 4022
40	I - II	4259 2042
40	I - 0 - II and Bypass	4259 3042
40	I - I+II - II	4259 4042
63 ... 100	I - II	4259 2082
63 ... 100	I - 0 - II and Bypass	4259 3082
63 ... 100	I - I+II - II	4259 4082



#### Shaft and escutcheon for external handle

##### Use

Standard length: 200 mm.

Other lengths: Please consult us.

Rating (A)	Length (mm)	Reference
25 ... 40	200 mm	4259 5042
63 ... 100	200 mm	4259 5082



### Characteristics according to IEC 60947-3

#### 25 to 100 A

Thermal current $I_{th}$ (40 °C)	25 A	40 A	63 A	80 A	100 A
Rated insulation voltage $U_i$ (V)	660	660	660	660	660
Rated impulse withstand voltage $U_{imp}$ (kV)	4	4	4	4	4
Rated operational currents $I_o$ (A)					
Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
400 VAC	AC-21 A	25/25	40/40	63/63	80/80
400 VAC	AC-22 A	25/25	40/40	63/63	80/80
400 VAC	AC-23 A	20/20	32/32	63/63	63/63
Operational power in AC-23 (kW)					
At 400 VAC without pre-break <sup>(1)(2)</sup>	9/9	15/15	22/22	30/30	30/30
Reactive power (kvar)					
At 400 VAC <sup>(3)</sup>	14	18	28	37	
Fuse protected short-circuit withstand (kA rms prospective)					
Prospective short-circuit (kA rms) <sup>(3)</sup>	6	6	8	8	8
Associated fuse rating (A) <sup>(3)</sup>	25	40	63	80	100
Short-circuit capacity					
Closing capacity on short-circuit (kA peak) <sup>(3)</sup>	2	2.6	5.8	5.8	6.5
Connection					
Minimum Cu cable cross-section (mm <sup>2</sup> )	2.5	10	16	16	16
Maximum Cu cable cross-section (mm <sup>2</sup> )	6	16	50	50	50
Tightening torque min (Nm)	2	2	3.5	3.5	3.5
Mechanical characteristics					
Durability (number of operating cycles)	100 000	100 000	100 000	100 000	100 000
Weight of 3 P switch (kg)	0.25	0.3	0.55	0.63	0.63
Weight of 4 P switch (kg)	0.31	0.4	0.7	0.8	0.8

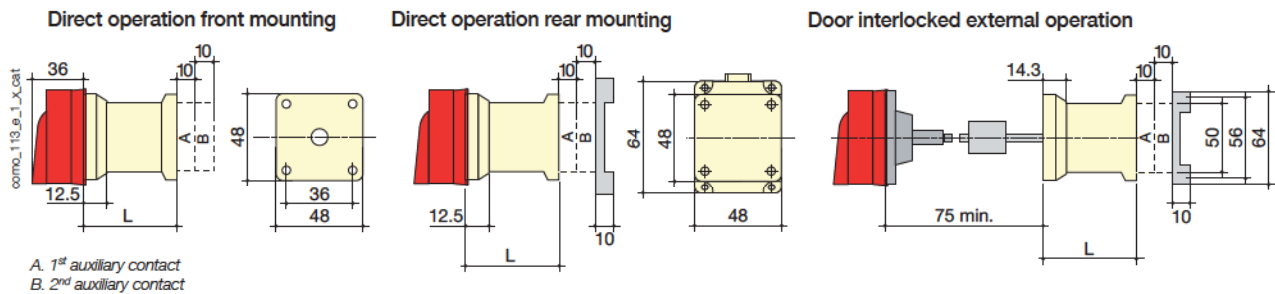
(1) Category with index A = frequent operation - Category with index B = infrequent operation.

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

(3) For a rated operational voltage  $U_o = 400$  VAC.

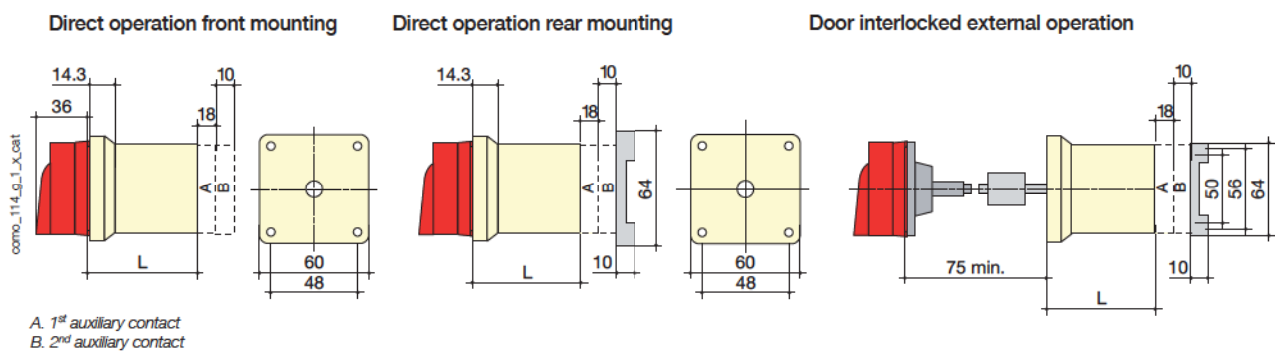
## Dimensions

### COMO C 25 A



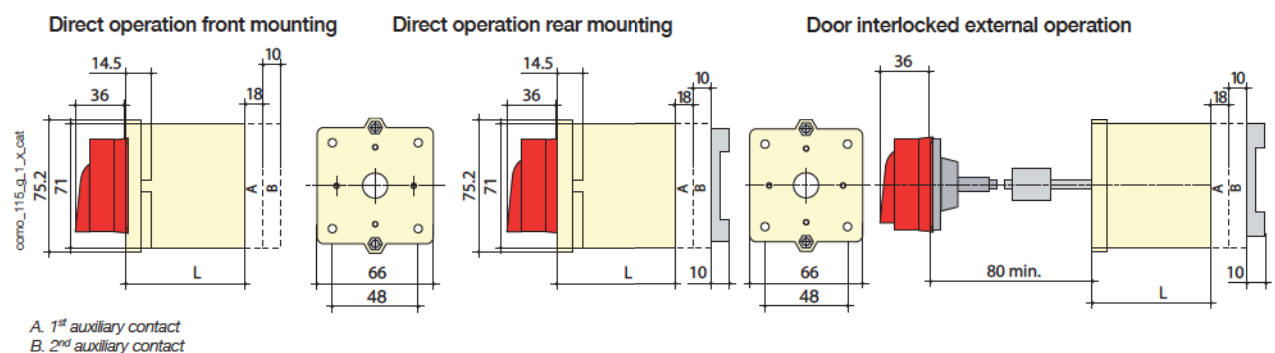
Switching type	L 3p.	L 4p.
I - II	50.5	60.5
I - 0 - II	50.5	60.5
I - I+II - II	50.5	60.5
Bypass I - 0 - II	70.5	80.5

### COMO C 40 A



Switching type	L 3p.	L 4p.
I - II	60.3	72.3
I - 0 - II	60.3	72.3
I - I+II - II	60.3	72.3
Bypass I - 0 - II	84.3	96.3

### COMO C 63 to 100 A



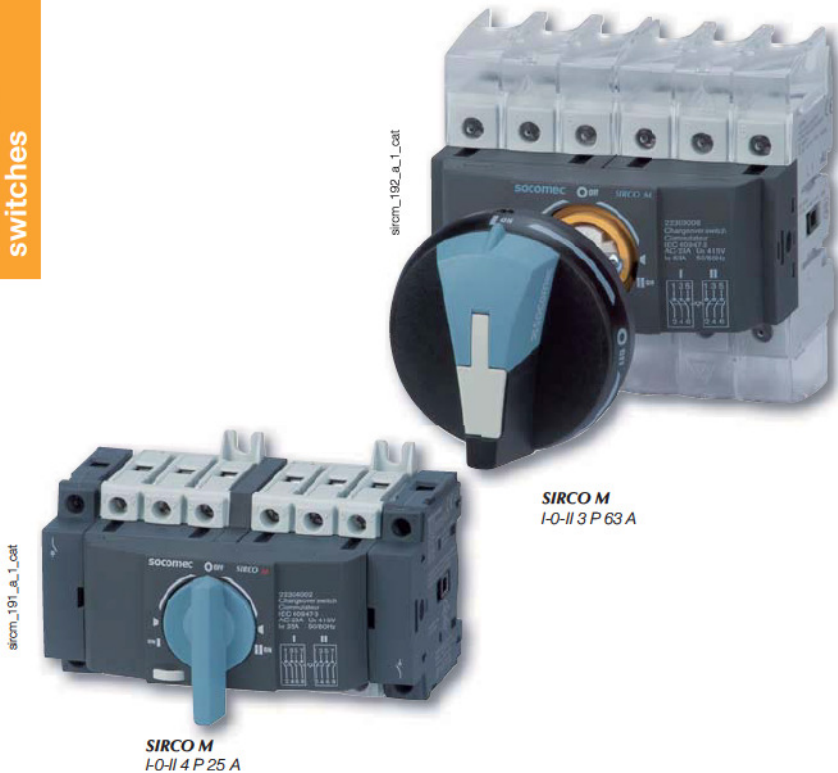
Switching type	L 3p.	L 4p.
I - II	82	99.5
I - 0 - II	82	99.5
I - I+II - II	82	99.5
Bypass I - 0 - II	117	134.5



# SIRCO M

## Manual changeover switches from 25 to 125 A

Changeover  
switches



### The solution for

- > Healthcare buildings.
- > Manufacturing industry.



### Strong points

- > Secured breaking.
- > Modular device.
- > On load switching.

### Conformity to standards

- > IEC 60947-3



### Function

SIRCO M are manually operated three or four pole modular switches with positive break indication. They provide changeover, source inversion or switching under load between two low voltage power circuits, as well as their safety isolation.

### Advantages

#### Secured breaking.

SIRCO M switches include contact point technology and double break per phase as standard, enabling safe, optimal operation of LV electrical circuits.

#### Modular device

Thanks to their modular format, SIRCO M changeover switches can be fixed to a DIN rail, a backplate or a modular panel.

#### On load switching

The SIRCO M changeover switch comprises two mechanically interlocked load break switches which are tested in accordance with IEC 60947-3. Its AC23 characteristics enable it to perform on load changeover switching.

### What you need to know

- There are two types of operating handle available for the SIRCO M changeover:
  - direct front operation
  - door interlocked external front operation
- The SIRCO M changeover switch is available in 3 and 4 pole, from 25 to 125 A, with pre-break or signalisation auxiliary contacts (accessories).



## References

Rating (A)	No. of poles	Switch body	Direct handle	External handle with position 0 padlocking	External handle with 3 position padlocking	Shaft extension for external front handle	Auxiliary contact	Terminal shrouds	Bridging kit													
25 A	3 P	2230 3002	Blue 2239 5012 Red 2239 5013	S00 type I - 0 - II Black IP65 1463 5113 <sup>(1)</sup>		S00, S000 type 150 mm 1407 0515	M type contact NO + NC 2299 0001	1 P 2294 1005 <sup>(2)</sup> 3 P 2294 3005 <sup>(2)</sup>	3 P 2299 3005 4 P 2299 4005													
	4 P	2230 4002				200 mm 1407 0520																
40 A	3 P	2230 3004								S00 type I - 0 - II Black IP65 1473 1113 <sup>(1)</sup>	S01 type I - 0 - II Black IP65 1403 2813	320 mm 1407 0532	1 P 2294 1009 <sup>(2)</sup> 3 P 2294 3009 <sup>(2)</sup>	3 P 2299 3009 4 P 2299 4009								
	4 P	2230 4004										S01 type I - 0 - II Black IP65 1404 0520										
63 A	3 P	2230 3006													S00 type I - 0 - II Black IP65 1403 2113 <sup>(1)</sup>		320 mm 1404 0532	M type contact 2 NO 2299 0011	1 P 2294 1011 <sup>(2)</sup> 3 P 2294 3016 <sup>(2)</sup>			
	4 P	2230 4006															S00 type I - 0 - II Black IP65 1409 0615 200 mm 1409 0620 320 mm 1409 0632					
80 A	3 P	2230 3008		Blue 2239 5022 Red 2239 5023	S00 type I - 0 - II Black IP65 1473 0113																	
	4 P	2230 4008																				
100 A	3 P	2230 3010																				
	4 P	2230 4010																				
125 A	3 P	2230 3011																				
	4 P	2230 4011																				

(1) Defeatable handle.

(2) 2 pieces: For upstream or downstream protection on one side of the changeover switch.

## Accessories

See "SIRCO M switches", page 31.

## Characteristics according to IEC 60947-3

Thermal current $I_{th}$ (40 °C)	25 A	40 A	63 A	80 A	100 A	125 A
Rated insulation voltage $U_i$ (V)	800	800	800	800	800	800
Rated impulse withstand voltage $U_{imp}$ (kV)	8	8	8	8	8	8

### Rated operational currents $I_e$ (A)

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	25/25	40/40	63/63	80/80	100/100	125/125
415 VAC	AC-21 A / AC-21 B	25/25	40/40	63/63	80/80	100/100	125/125
415 VAC	AC-22 A / AC-22 B	25/25	40/40	63/63	80/80	100/100	125/125
415 VAC	AC-23 A / AC-23 B	25/25	40/40	63/63	80/80	100/100	125/125

### Operational power in AC-23 (kW)

At 400 VAC without pre-break in AC-23 (kW) <sup>(2)</sup>	11.3	18	28.4	35.5	45	56.3
---	------	----	------	------	----	------

### Fuse protected short-circuit withstand (kA rms prospective)

Prospective short-circuit (kA rms) <sup>(3)</sup>	50	50	50	50	50	25
Associated fuse rating (A) <sup>(3)</sup>	25	40	63	80	100	125

### Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s<sup>(4)</sup>

Rated short-time withstand current 0.3s $I_{sc}$ (kA rms)	2.3	2.3	2.74	2.74	5	5
---	-----	-----	------	------	---	---

### Short-circuit capacity (without protection)

Rated short-time withstand current 1s. $I_{sc}$ (kA rms)	1.26	1.26	1.5	1.5	2.75	2.75
Rated short-circuit making capacity $I_{sc}$ (kA peak)	1.8	1.8	2.1	2.1	3.9	3.9

### Connection

Minimum Cu cable cross-section (mm <sup>2</sup> )	1.5	1.5	2.5	2.5	10	10
Maximum Cu cable cross-section (mm <sup>2</sup> )	16	16	35	35	70	70
Tightening torque mini / maxi (Nm)	2 / 2.2	2 / 2.2	3.5 / 3.85	3.5 / 3.85	4 / 4.4	4 / 4.4

### Mechanical characteristics

Durability (number of operating cycles)	10000	10000	10000	10000	10000	8000
Weight of a 3 pole device (kg)	0.41	0.41	0.58	0.58	1.1	1.1
Weight of a 4 pole device (kg)	0.51	0.51	0.75	0.75	1.46	1.46

(1) Category with index A = frequent operation - Category with index B = infrequent operation.

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

(3) For a rated operational voltage  $U_e = 400$  VAC.

(4) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s. For coordination with specific a-breaker references, higher short-circuit current values are available. Please consult us.

# SIRCO M

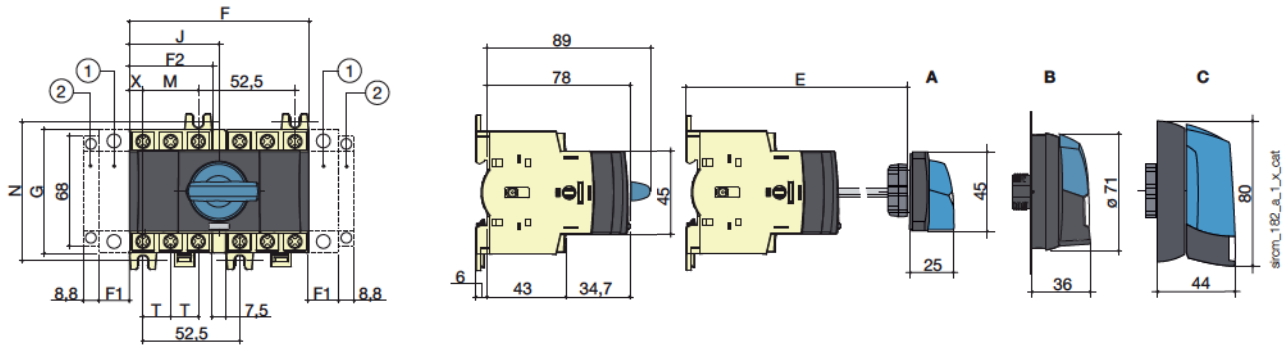
Manual changeover switches  
from 25 to 125 A

## Dimensions

### 25 to 80 A

Direct front operation for 3/4 pole changeover switches

External front operation for 3/4 pole changeover switches



1. Location for: 1 main pole or 1 auxiliary contact (See accessories page 34).

2. Position for 1 auxiliary contact only (for 3 pole changeover the 2<sup>nd</sup> auxiliary contact is for signalisation only).

Note: Maximum 4 additional blocks (3 pole changeover can be fitted with either one main pole and one A/C block, or two A/C blocks per side; 4 pole changeover can be fitted with only one A/C block per side).

A. S000 handle

B. S00 handle

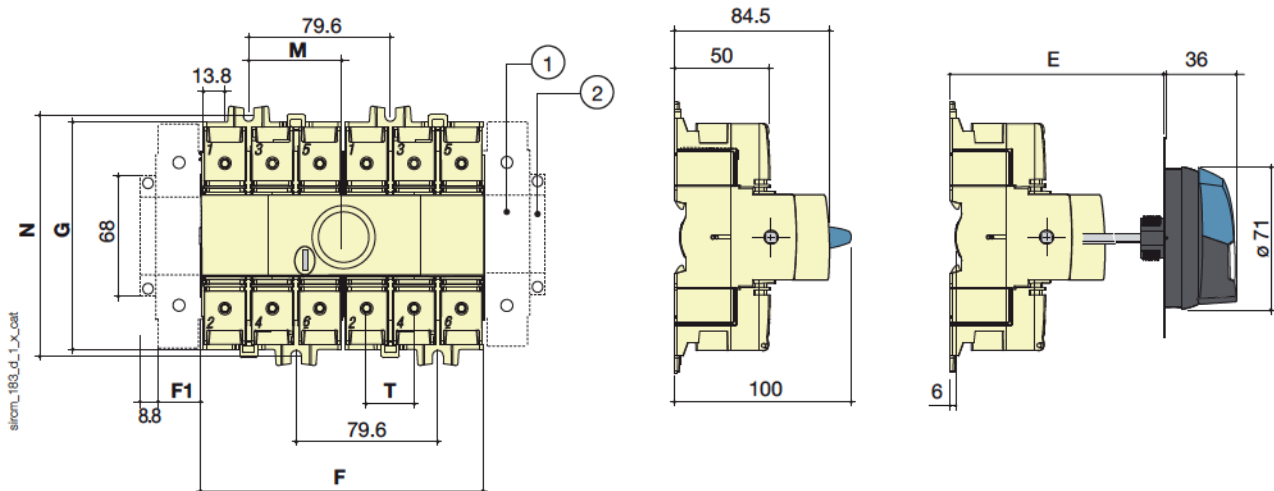
C. S01 handle

Rating (A)	Overall dimensions		Switch body					Switch mounting		Connection	
	E min	E max	F	F1	F2	G	J	M	N	T	X
25 ... 40	105	372	97.5	15	45	68	48.75	30	75	15	7.5
63 ... 80	105	372	105	17.5	52.5	76	52.5	35	85	17.5	8.75

### 100 to 125 A

Direct front operation for 3/4 pole changeover switches

External front operation for 3/4 pole changeover switches



1. Location for: 1 main pole or 1 auxiliary contact (See accessories page 34).

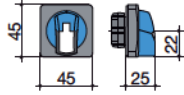
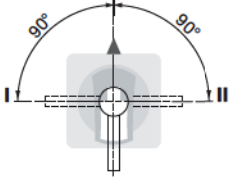
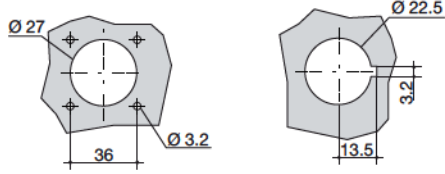
2. Position for 1 auxiliary contact only (this contact is for signalisation only).

Note: Maximum 4 additional blocks (3 pole changeover can be fitted with either one main pole and one A/C block, or two A/C blocks per side; 4 pole changeover can be fitted with only one A/C block per side).

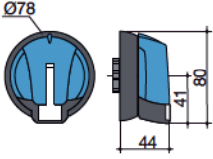
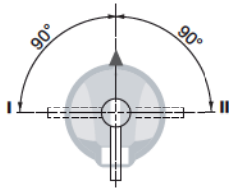
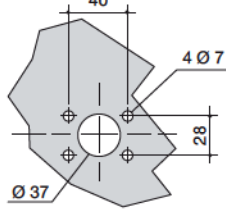
Rating (A)	Overall dimensions		Switch body			Switch mounting		Connection
	E min	E max	F	F1	G	M	N	T
100 ... 125	105	372	159	26	124.5	52.8	131.5	26

Dimensions for external handles

25 to 80 A

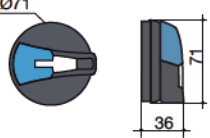
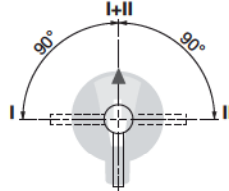
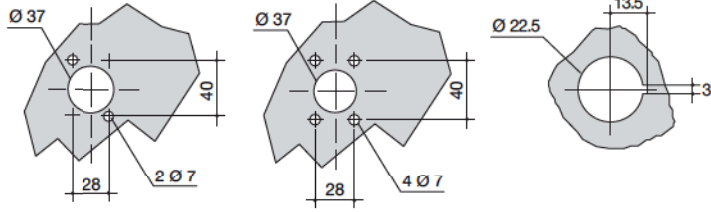
Handle type	Front operation Direction of operation	Door drilling
<p><b>S000 type</b> Changeover switches I-0-II and I - I+II - II</p> 	<p>0 OR I+II</p> 	<p>With 4 fixing screws      With fixing nut</p> 

poign\_017\_b\_1\_1\_gb\_cat

Handle type	Front operation Direction of operation	Door drilling
<p><b>S01 type</b> Changeover switches I-0-II and I - I+II - II</p> 	<p>0 OR I+II</p> 	<p>IP65 with 4 fixing screws</p> 

poign\_019\_b\_1\_1\_gb\_cat

25 to 125 A

Handle type	Front operation Direction of operation	Door drilling
<p><b>S00 type</b> Changeover switches I-0-II and I - I+II - II</p> 	<p>0 OR I+II</p> 	<p>IP55 with 2 fixing clips      IP65 with 4 fixing screws      With fixing nut</p> 

poign\_025\_b\_1\_1\_gb\_cat



# SIRCO VM1

## Manual changeover switches from 63 to 125 A

Changeover  
switches



SIRCO VM1 I-O-II 4P 100 A

### Function

SIRCO VM1 changeover switches are manually operated three or four pole changeover switches with visible breaking. They provide changeover, source inversion or switching under load between two low voltage power circuits, as well as their safety isolation.

### Advantages

#### Safety isolation

SIRCO VM1 changeovers enable completely secure switching thanks to positive break indication and double visible breaking. The user can assess the condition of the device either during a preventive check or before an operation.

#### Modular device

SIRCO VM1 changeover switches offer a range of installation configurations: DIN rail, backplate or modular panel.

#### Reduced depth

With its side-by-side switch arrangement, the SIRCO VM1 changeover can be utilised in panels with a reduced depth.

### The solution for

- > Energy production.
- > Critical buildings.



### Strong points

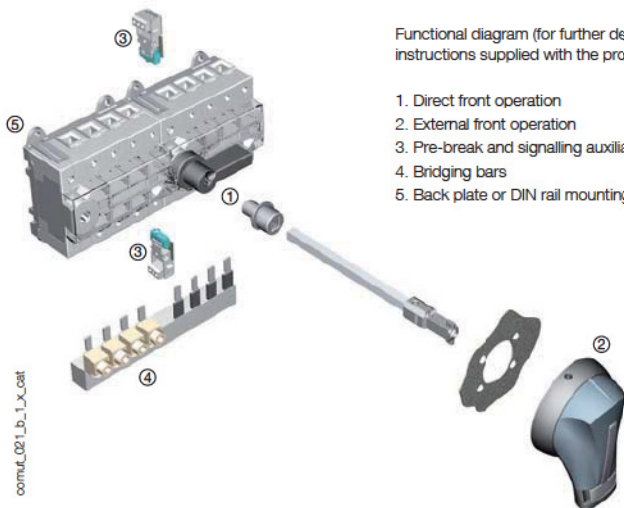
- > Safety isolation.
- > Modular device.
- > Reduced depth.

### Conformity to standards

- > IEC 60947-3



### Configurations



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

1. Direct front operation
2. External front operation
3. Pre-break and signalling auxiliary contacts
4. Bridging bars
5. Back plate or DIN rail mounting



## References

### VM1 changeover switches I-0-II

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	IP20 bridging bars <sup>(2)</sup>	Auxiliary contact
63 A	3 P	4430 3006 <sup>(1)</sup>	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 auxiliary contact NO/NC 4439 0001
	4 P	4430 4006 <sup>(1)</sup>					
80 A	3 P	4430 3008 <sup>(1)</sup>					
	4 P	4430 4008 <sup>(1)</sup>					
100 A	3 P	4430 3010 <sup>(1)</sup>					
	4 P	4430 4010 <sup>(1)</sup>					
125 A	3 P	4430 3012					
	4 P	4430 4012					

(1) Available enclosed (see "Enclosed changeover switches" page 600).

(2) IP: protection degree according to IEC 60529 standard.

### VM1 changeover switches I - I+II - II

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	IP20 bridging bars <sup>(1)</sup>
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) IP: protection degree according to IEC 60529 standard.

## Accessories

### Direct operation handle

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



access\_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 <sup>(1)</sup>	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



access\_146\_a\_1\_cat

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

# SIRCO VM1

Manual changeover switches  
from 63 to 125 A

## Accessories (continued)

### Alternative S-type handle cover colours

#### Use

For single lever type S1 handles.

Other colours: Please consult us.

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



access\_198\_a\_1\_cat

### S-type 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.

Colour	To be ordered in multiples of	External IP <sup>(1)</sup>	Reference
Black	1	IP65	1493 0000

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



access\_187\_a\_2\_cat

### Shaft for external handle

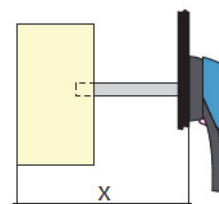
#### Use

Standard lengths:

- 200 mm,
- 320 mm.

Other lengths: Please consult us.

Switching type I - 0 - II			
Rating (A)	Dimension X (mm)	Shaft length (mm)	Reference
63 ... 125	128 ... 290	200 mm	1402 0820
63 ... 125	128 ... 410	320 mm	1402 0832
Switching type I - I + II - II			
Rating (A)	Dimension X (mm)	Shaft length (mm)	Reference
63 ... 125	128 ... 290	200 mm	1403 0820
63 ... 125	128 ... 410	320 mm	1403 0832



access\_146\_b\_1\_cat

access\_202\_a\_1\_x\_cat

### IP20 bridging bar

#### Use

For creating a common connection between switches I & II, on the top or bottom side of the SIRCO VM1

changeover, to enable, for example, the load to be fed from either incoming source (I or II).

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



comm\_005\_a\_1\_cat

### NO/NC changeover auxiliary contacts

#### 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<sup>2</sup> per terminal.

Rating (A)	Switching type	Contact(s)	Reference
63 ... 125	I - 0 - II	1	4439 0001 <sup>(1)</sup>

(1) Not available for the make before break changeover switch (I-I-II-II).

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  $I_o$  (A) according to IEC 60947-3

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
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 <sup>(2)</sup>	AC-20 A / AC-20 B	63/63	80/80	100/100	125/125
690 VAC <sup>(2)</sup>	AC-21 A / AC-21 B	63/63	80/80	80/80	80/80
690 VAC <sup>(2)</sup>	AC-22 A / AC-22 B	40/40	40/40	40/40	40/40
690 VAC <sup>(2)</sup>	AC-23 A / AC-23 B	25/25	25/25	25/25	25/25
220 VDC <sup>(3)</sup>	DC-20 A / DC-20 B	63/63	80/80	100/100	125/125
220 VDC <sup>(3)</sup>	DC-21 A / DC-21 B	63/63	80/80	100/100	125/125
220 VDC <sup>(3)</sup>	DC-22 A / DC-22 B	63/63	80/80	100/100	100/100
220 VDC <sup>(3)</sup>	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 in AC-23 <sup>(4)</sup>	30/30	30/30	30/30	30/30
At 690 VAC without pre-break in AC-23 <sup>(4)</sup>	22/22	22/22	22/22	22/22

Reactive power (kvar)

At 400 VAC <sup>(4)</sup>	28	37	45	55
---------------------------	----	----	----	----

Fuse protected short-circuit withstand (kA rms prospective)

Prospective short-circuit (kA rms) <sup>(5)</sup>	100	100	100	50
Associated fuse rating (A) <sup>(5)</sup>	63	80	100	125

Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s<sup>(6)</sup>

Rated short-time withstand current 0.3s. $I_{cw}$ (kA rms)	4.5	4.5	4.5	4.5
--	-----	-----	-----	-----

Short-circuit capacity (without protection)

Rated short-time withstand current 1s. $I_{cw}$ (kA rms)	2.5	2.5	2.5	2.5
Rated short-circuit making capacity $I_{cm}$ (kA peak)	3.55	3.55	3.55	3.55

Connection

Minimum Cu cable cross-section (mm <sup>2</sup> )	4	4	4	4
Maximum Cu cable cross-section (mm <sup>2</sup> )	50	50	50	50
Tightening torque mini / maxi (Nm)	6	6	6	6

Mechanical characteristics

Durability (number of operating cycles)	10 000	10 000	10 000	10 000
Weight of 3 P switch (kg)	1.2	1.2	1.4	1.4
Weight of 4 P switch (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.

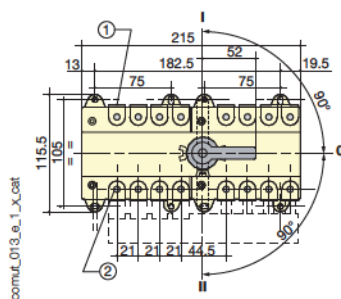
(5) For a rated operational voltage  $U_o = 400$  VAC.

(6) Value for coordination with any circuit-breaker ensuring tripping in less than 0.3s. For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

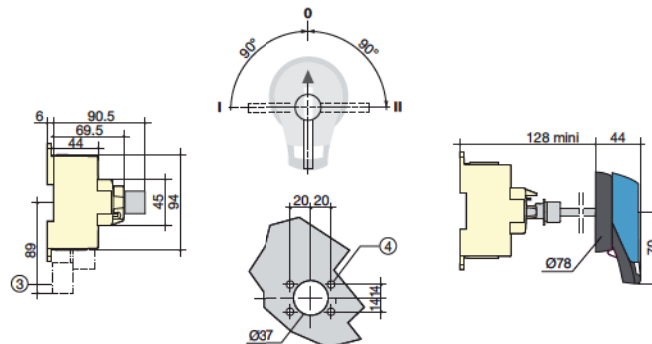
Dimensions

63 to 125 A

Direct front operation



External front operation



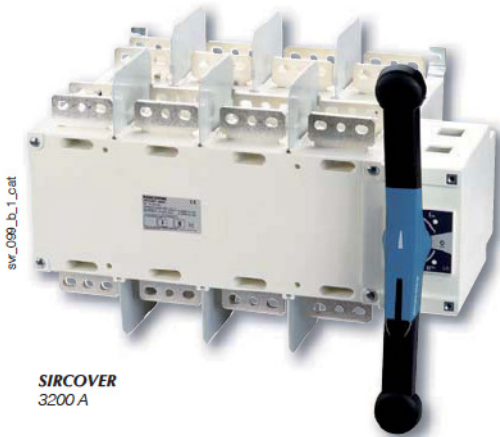
- Max connection
  - Rigid: 50 mm<sup>2</sup>
  - Flexible: 35 mm<sup>2</sup>
- 6-sided 5 - Pozidriv no. 1 slot 4.5 mm.
- Bridging bar
- Handle mounting with 2 or 4 screws Ø 7 mm.



# SIRCOVER

Manual changeover switches  
from 125 to 3200 A

Changeover  
switches



SIRCOVER  
3200 A



SIRCOVER Bypass  
125 A

## Function

SIRCOVER are manual multipolar changeover switches with positive break indication.

The family includes three ranges:

- SIRCOVER AC for dead time switching (I-0-II),
- SIRCOVER for overlapping contact switching (I-II-II), and
- SIRCOVER Bypass. This version is a combination of three interlocked switches enabling use with 3 + 6 poles or 4 + 8 poles.

They provide switching, source inversion and changeover under load for two low voltage power circuits, as well as their safety isolation by double breaking per pole.

## Advantages

### A complete product range

Three versions of the SIRCOVER are available to ensure compatibility with the maximum number of applications: SIRCOVER AC (I-0-II) with improved on load switching characteristics and isolation position, SIRCOVER with overlapping contacts (I-II-II) and a Bypass version.

### Easy connections

A copper bar connection kit is available for 2000 to 3200 A ratings. It enables various types of connection: Flat or edgewise connection with top or bottom bridging.

### Stable positions

SIRCOVERs have three stable positions which are not affected by voltage drops or vibrations, thus protecting your load against network interference.

### Improved on load switching

Thanks to its AC-23 and AC-33 characteristics, which are tested in accordance with standards IEC 60947-3 and IEC 60947-6-1, the SIRCOVER AC enables secure and reliable switching on all types of load, without the need for pre-breaking upstream.

## The solution for

- > Manufacturing industry.
- > Power distribution.



## Strong points

- > A complete range.
- > Easy connections.
- > Stable positions.
- > Improved on load switching.

## Specific features SIRCOVER AC I-0-II

- > On load switching AC-33.

## Conformity to standards

- > IEC 60947-3
- > IEC 60947-6-1



## Approvals and certifications<sup>(1)</sup>



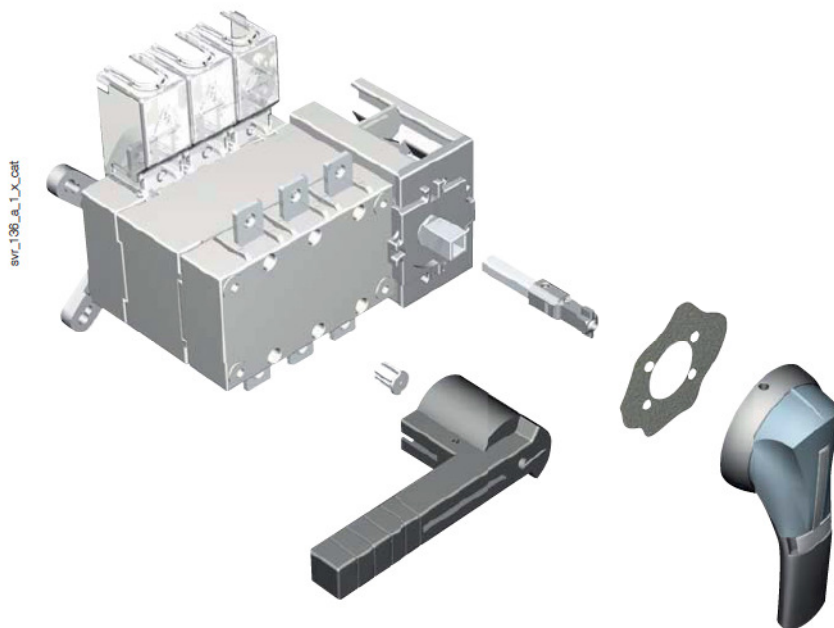
(1) Product reference on request.

## Enclosed solution

- > Available enclosed from 125 to 1600 A.

### What you need to know

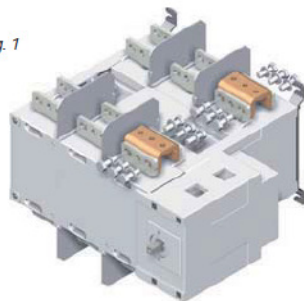
- **SIRCOVER AC (I-0-II)** switches have **3 stable positions**, and are available as 3 or 4 pole devices from 125 to 3200 A. They are available enclosed in a steel or polyester enclosure from 125 to 1600 A.
- **SIRCOVER** with overlapping contacts (I-I-II-II) are 3 or 4 pole devices available from 125 to 1800 A. They are available in a steel enclosure from 125 to 1600 A.
- With 3 stable positions (I-0-II), **SIRCOVER Bypass** are a combination of three interlocked switches enabling the use with 3+6 poles or 4+8 poles from 125 to 1600 A. All ratings are available in a steel enclosure.
- All SIRCOVER can be utilised with a **direct front** or **external operation** handle.



- **Copper bar connection kits** enable the connection between the two power terminals of the same pole (fig.1 & fig.2) and the bridging of the poles on the top or bottom side of the switch (fig.3), for ratings 2000, 2500 and 3200 A.

Fig. 1

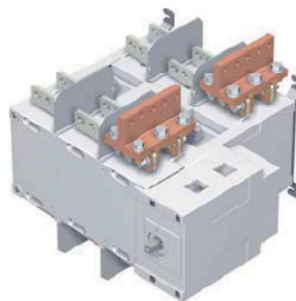
ecoss\_228\_c\_2\_cat



Top or bottom flat connection

Fig. 2

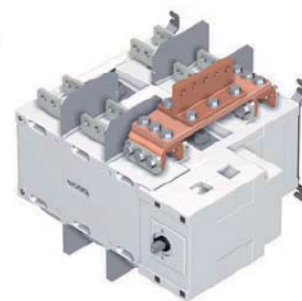
ecoss\_228\_b\_2\_cat



Edgewise connection  
Top or bottom

Fig. 3

ecoss\_231\_a\_1\_cat



Top or bottom bridging  
connection

# SIRCOVER

Manual changeover switches  
from 125 to 3200 A

## References

### SIRCOVER AC I-0-II

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contact	Terminal shrouds	Terminal screens
125 A	3 P	41AC 3013	J2 type Blue 1122 1111 Red 1123 1111	S2 type Black IP55 1421 2113 Black IP65 1423 2113 <sup>(1)</sup>	200 mm 1400 1020 320 mm 1400 1032 <sup>(1)</sup>	4109 0019		3 P 2694 3014 <sup>(3)(4)</sup> 4 P 2694 4014 <sup>(3)(4)</sup>	3 P 1509 3012 4 P 1509 4012
	4 P	41AC 4013							
180 A	3 P	41AC 3016							
	4 P	41AC 4016							
200 A	3 P	41AC 3020							
	4 P	41AC 4020							
250 A	3 P	41AC 3025							
	4 P	41AC 4025							
315 A	3 P	41AC 3031							
	4 P	41AC 4031							
400 A	3 P	41AC 3039							
	4 P	41AC 4039							
500 A	3 P	41AC 3050							
	4 P	41AC 4050							
630 A	3 P	41AC 3063							
	4 P	41AC 4063							
800 A	3 P	41AC 3080							
	4 P	41AC 4080							
1000 A	3 P	41AC 3100							
	4 P	41AC 4100							
1250 A	3 P	41AC 3120							
	4 P	41AC 4120							
1800 A	3 P	41AC 3160							
	4 P	41AC 4160							
1800 A	3 P	41AC 3180							
	4 P	41AC 4180							
2000 A	3 P	41AC 3200							
	4 P	41AC 4200							
2500 A	3 P	41AC 3250							
	4 P	41AC 4250							
3200 A	3 P	41AC 3320							
	4 P	41AC 4320							
			J3 type Blue 1132 1111 Red 1133 1111	S4 type Black IP65 1443 3113	200 mm 1401 1520 320 mm 1401 1532 <sup>(1)</sup>	4109 0120		3 P 1509 3080 <sup>(5)</sup> 4 P 1509 4080 <sup>(5)</sup>	
						4109 0160		3 P 1509 3160 <sup>(5)</sup> 4 P 1509 4160 <sup>(5)</sup>	
			S5 type Black 2799 7042	S5 type Black IP65 1453 8113	200 mm 2799 3015 320 mm 2799 3018 <sup>(1)</sup> 450 mm 2799 3019	<sup>(6)</sup>	1 <sup>st</sup> contact NO/NC included	included	

(1) Standard.

(2) 2 pieces supplied, one for position I and one for position II.

(3) To fully shroud front, rear, top and bottom 4 references required.

(4) To shroud front switch top and bottom 2 references required.

(5) 2 pieces supplied, one for top side and another for bottom side.

(6) See "Copper bar connection kits" page 335.

SIRCOVER I - I+II - II

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bar	Auxiliary contact	Terminal shrouds	Terminal screens
125 A	3 P	4190 3013 <sup>(1)</sup>	Black 4199 5012 <sup>(2)</sup>	S2 type Black IP65 1423 2114 <sup>(2)</sup>	200 mm 1400 1020 320 mm 1400 1032 <sup>(2)</sup>	4109 0019		3 P 2694 3014 <sup>(4)(6)</sup> 4 P 2694 4014 <sup>(4)(6)</sup>	3 P 1509 3012 4 P 1509 4012
	4 P	4190 4013 <sup>(1)</sup>							
160 A	3 P	4190 3016 <sup>(1)</sup>							
	4 P	4190 4016 <sup>(1)</sup>							
200 A	3 P	4190 3019							
	4 P	4190 4019							
250 A	3 P	4190 3025 <sup>(1)</sup>							
	4 P	4190 4025 <sup>(1)</sup>							
400 A	3 P	4190 3039 <sup>(1)</sup>							
	4 P	4190 4039 <sup>(1)</sup>							
500 A	3 P	4190 3050 <sup>(1)</sup>							
	4 P	4190 4050 <sup>(1)</sup>							
630 A	3 P	4190 3063 <sup>(1)</sup>							
	4 P	4190 4063 <sup>(1)</sup>							
800 A	3 P	4190 3080 <sup>(1)</sup>	Black 2799 7052 <sup>(2)</sup>	S4 type Black IP65 1443 3114 <sup>(2)</sup>	200 mm 1401 1520 320 mm 1401 1532 <sup>(2)</sup>	4109 0050	1 <sup>st</sup> /2 <sup>nd</sup> contact NO/NC 4109 0021 <sup>(3)</sup>	3 P 2694 3051 <sup>(4)(6)</sup> 4 P 2694 4051 <sup>(4)(6)</sup>	3 P 1509 3063 <sup>(6)</sup> 4 P 1509 4063 <sup>(6)</sup>
	4 P	4190 4080 <sup>(1)</sup>							
1250 A	3 P	4190 3120 <sup>(1)</sup>							
	4 P	4190 4120 <sup>(1)</sup>							
1600 A	3 P	4190 3160 <sup>(1)</sup>							
	4 P	4190 4160 <sup>(1)</sup>							
1800 A	3 P	4190 3180							
	4 P	4190 4180							

(1) Available enclosed (see "Enclosed changeover switches" page 625).

(2) Standard.

(3) 2 pieces supplied, one for position I and one for position II.

(4) To fully shroud front, rear, top and bottom 4 references required.

(5) To shroud front switch top and bottom 2 references required.

(6) 2 pieces supplied, one for top side and another for bottom side.

# SIRCOVER

Manual changeover switches  
from 125 to 3200 A

## References (continued)

### SIRCOVER Bypass

Rating (A)	No. of poles	Switch body I-O-II	Direct handle	External handle	Shaft for external handle	Bridging bar	Auxiliary contact	Terminal shrouds	Terminal screens							
125 A	3 + 6 P	4100 7013 <sup>(1)</sup>	Black 4199 5012	S2 type Black IP65 1421 2113 <sup>(2)</sup> Black IP65 1423 2113	200 mm 1400 1020 320 mm 1400 1032 <sup>(2)</sup>	4109 0019		3 P 2694 3014 <sup>(4)(5)</sup> 4 P 2694 4014 <sup>(4)(5)</sup>	3 P 1509 3012 4 P 1509 4012							
	4 + 8 P	4100 9013 <sup>(1)</sup>														
180 A	3 + 6 P	4100 7016 <sup>(1)</sup>														
	4 + 8 P	4100 9016 <sup>(1)</sup>														
200 A	3 + 6 P	4100 7019														
	4 + 8 P	4100 9019														
250 A	3 + 6 P	4100 7025 <sup>(1)</sup>								Black 2799 7052	S3 type Black IP65 1433 3113	200 mm 1401 1520 320 mm 1401 1532 <sup>(2)</sup>	4109 0025	1 <sup>st</sup> /2 <sup>nd</sup> contact NO/NC 4109 0021 <sup>(3)</sup>	3 P 2694 3021 <sup>(4)(5)</sup> 4 P 2694 4021 <sup>(4)(5)</sup>	3 P 1509 3025 4 P 1509 4025
	4 + 8 P	4100 9025 <sup>(1)</sup>														
400 A	3 + 6 P	4100 7039 <sup>(1)</sup>														
	4 + 8 P	4100 9039 <sup>(1)</sup>														
500 A	3 + 6 P	4100 7050 <sup>(1)</sup>														
	4 + 8 P	4100 9050 <sup>(1)</sup>														
630 A	3 + 6 P	4100 7063 <sup>(1)</sup>														
	4 + 8 P	4100 9063 <sup>(1)</sup>														
800 A	3 + 6 P	4100 7080 <sup>(1)</sup>	Black 2799 7012	Black IP65 4199 7146	200 mm 2799 3015 320 mm 2799 3018 <sup>(2)</sup> 450 mm 2799 3019	4109 0080		3 P 2694 3051 <sup>(4)(5)</sup> 4 P 2694 4051 <sup>(4)(5)</sup>	3 P 1509 3080 <sup>(6)</sup> 4 P 1509 4080 <sup>(6)</sup>							
	4 + 8 P	4100 9080 <sup>(1)</sup>														
1250 A	3 + 6 P	4100 7120 <sup>(1)</sup>														
	4 + 8 P	4100 9120 <sup>(1)</sup>														
1800 A	3 + 6 P	4100 7160 <sup>(1)</sup>														
	4 + 8 P	4100 9160 <sup>(1)</sup>														

(1) Available enclosed (see "Enclosed changeover switches" page 625).

(2) Standard.

(3) 2 pieces supplied, one for position I and one for position II.

(4) To shroud front switch top and bottom 3 references required.

(5) To fully shroud front, rear, top and bottom 6 references required.

(6) 2 pieces supplied, one for top side and another for bottom side.



## Accessories

### Direct operation handle

SIRCOVER AC I-0-II			
Rating (A)	Handle colour	Handle type	Reference
125 ... 630	Blue	J2 type	1122 1111
125 ... 630	Red	J2 type	1123 1111
800 ... 1800	Blue	J3 type	1132 1111
800 ... 1800	Red	J3 type	1133 1111
2000 ... 3200	Black	S5 type	2799 7042 <sup>(1)</sup>

SIRCOVER I - I+II - II			
Rating (A)	Handle colour	Handle type	Reference
125 ... 630	Black	B3 type	4199 5012
800 ... 1800	Black	C1 type	2799 7052

SIRCOVER Bypass			
Rating (A)	Handle colour	Handle type	Reference
125 ... 200	Black	B3 type	4199 5012
250 ... 630	Black	C1 type	2799 7052
800 ... 1800	Black	C2 type	2799 7012 <sup>(1)</sup>

(1) Double lever handle



### External operation handle

#### Use

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

SIRCOVER AC I-0-II and SIRCOVER I-I+II-II				
Rating (A)	Switching type	External IP <sup>(1)</sup>	Handle	Reference
125 ... 630	I - 0 - II	IP55	S2 type	1421 2113
125 ... 630	I - 0 - II	IP65	S2 type	1423 2113
125 ... 630	I - I+II - II	IP65	S2 type	1423 2114
800 ... 1800	I - 0 - II	IP65	S4 type	1443 3113 <sup>(2)</sup>
800 ... 1800	I - I+II - II	IP65	S4 type	1443 3114 <sup>(2)</sup>
2000 ... 3200	I - 0 - II	IP65	S5 type	1453 8113 <sup>(2)</sup>

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

(2) Double lever handle.

SIRCOVER Bypass				
Rating (A)	Switching type	External IP <sup>(1)</sup>	Handle	Reference
125 ... 200	I - 0 - II	IP55	S2 type	1421 2113
125 ... 200	I - 0 - II	IP65	S2 type	1423 2113
250 ... 630	I - 0 - II	IP65	S3 type	1433 3113
800 ... 1600	I - 0 - II	IP65	V2 type	4199 7146

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



### Alternative S-type handle cover colours

#### Use

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

Colour	To be ordered in multiples of	Handle	Reference
Light grey	50	S2, S3 type	1401 0001
Dark grey	50	S2, S3 type	1401 0011
Light grey	50	S4 type	1401 0031
Dark grey	50	S4 type	1401 0041



### S-type 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.

Colour	To be ordered in multiples of	External IP <sup>(1)</sup>	Reference
Black	1	IP65	1493 0000

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



# SIRCOVER

Manual changeover switches  
from 125 to 3200 A

## Accessories (continued)

### Shaft guide for external operation

#### Use

To guide the shaft extension into the external handle.

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

Required for shaft lengths over 320 mm.

Description	Reference
Shaft guide	1429 0000



access\_290\_a\_2\_cat

### Shaft for external handle

#### Use

Standard lengths:

- 200 mm,
- 320 mm,
- 450 mm.

Other lengths: Please consult us.

SIRCOVER AC I-0-II and SIRCOVER I-I+II-II			
Rating (A)	Length (mm)	Dimension X (mm)	Reference
125 ... 400	200	210 ... 310	1400 1020
125 ... 400	320	210 ... 430	1400 1032
500 ... 630	200	280 ... 390	1400 1020
500 ... 630	320	280 ... 510	1400 1032
800 ... 1800	200	425 ... 577	1401 1520
800 ... 1800	320	425 ... 697	1401 1532
2000 ... 3200	200	653 ... 803	2799 3015
2000 ... 3200	320	653 ... 923	2799 3018
2000 ... 3200	450	653 ... 1053	2799 3019

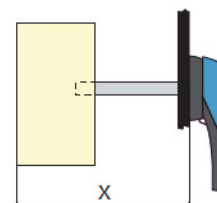


access\_369\_a\_1\_cat



access\_144\_b\_1\_cat

SIRCOVER Bypass			
Rating (A)	Length (mm)	Dimension X (mm)	Reference
125 ... 200	200	320 ... 450	1400 1020
125 ... 200	320	320 ... 570	1400 1032
250 ... 400	200	298 ... 420	1401 1520
250 ... 400	320	298 ... 540	1401 1532
500 ... 630	200	417 ... 539	1401 1520
500 ... 630	320	417 ... 659	1401 1532
800 ... 1800	200	550 ... 680	2799 3015
800 ... 1800	320	550 ... 800	2799 3018
800 ... 1800	450	550 ... 930	2799 3019



access\_202\_a\_1\_x\_cat

### Bridging bars

#### Use

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

For SIRCOVER Bypass, two sets of bridging bars are needed as the switch is composed of three basic switch frames.

Rating (A)	Section (mm)	Reference
125 ... 200	20 x 2.5	4109 0019
250	25 x 2.5	4109 0025
315 ... 400	32 x 5	4109 0039
500	32 x 5	4109 0050
630	50 x 5	4109 0063
800 ... 1000	50 x 6	4109 0080
1250	60 x 8	4109 0120
1800 ... 1800	90 x 10	4109 0160

#### SIRCOVER AC I-0-II and SIRCOVER I-I+II-II

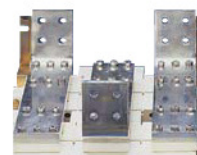


access\_205\_a\_2\_cat

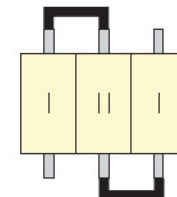
#### SIRCOVER Bypass



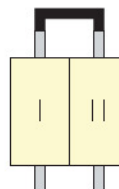
access\_208\_a\_2\_cat



access\_041\_a\_1\_cat



svr\_069\_a\_1\_x\_cat



svr\_124\_a\_1\_cat

Copper bar connection kits from 2000 to 3200 A - SIRCOVER

**Use**

Enables:

- connection between the two power terminals of the same pole for 2000 to 3200 A ratings (Fig. 1 and Fig 2).
- top or bottom bridging connection (Fig. 3).

For 3200 A rating, the connection pieces (part A) are delivered bridged from factory. Bolt sets must be ordered separately.

Further details for these specific accessories are available in the user guide downloadable from [www.socomec.com](http://www.socomec.com).

Fig. 1

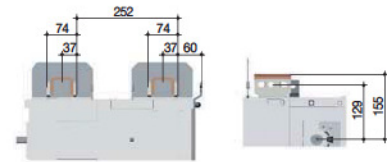


accos\_228\_b\_1\_x\_cat

**Top or bottom flat connection - Fig. 1**

Rating (A)	Piece	Quantity to order per pole <sup>(1)</sup>	Reference
2000 ... 2500	Connection - part A	2	2619 1200
2000 ... 2500	Bolt set - part B	2	2699 1200
3200	Connection - part A		included
3200	Bolt set - part B	2	2699 1200

(1) Example for 3 pole device equipped upstream only: Order 3 times the indicated quantities.



accos\_232\_a\_1\_cat

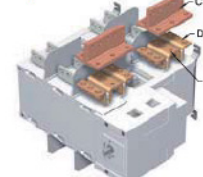
**Top or bottom edgewise connection - Fig. 2**

Rating (A)	Piece	Quantity to order per pole <sup>(1)</sup>	Reference
2000 ... 2500	Connection - part A	2	2619 1200
2000 ... 2500	T piece - part C	2	2629 1200 <sup>(2)</sup>
2000 ... 2500	Bracket- part D	2	2639 1200 <sup>(2)</sup>
3200	Connection - part A		included
3200	T piece - part C	2	2629 1200 <sup>(2)</sup>
3200	Bracket- part D	2	2639 1200 <sup>(2)</sup>

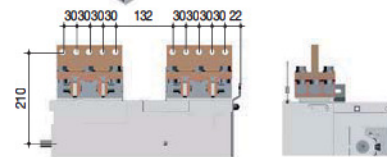
(1) Example for 3 pole device equipped upstream only: Order 3 times the indicated quantities.

(2) Bolt set is provided with the accessories.

Fig.2



accos\_228\_b\_1\_x\_cat



accos\_233\_a\_1\_cat

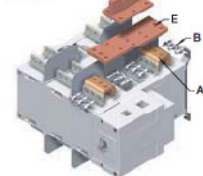
**Top or bottom bridging connection - Fig. 3**

Rating (A)	Piece	Quantity to order per pole <sup>(1)</sup>	Reference
2000 ... 2500	Connection - part A	2	2619 1200
2000 ... 2500	Bolt set - part B	2	2699 1200
2000 ... 2500	Bar - part E	1	4109 0250 <sup>(2)</sup>
2000 ... 2500	T piece - part C	1	2629 1200 <sup>(2)</sup>
3200	Connection - part A		included
3200	Bolt set - part B	2	2699 1200
3200	Bar - part E	1	4109 0320 <sup>(2)</sup>
3200	T piece - part C	1	2629 1200 <sup>(2)</sup>

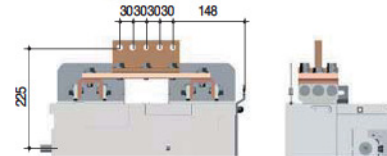
(1) Example for 3 pole device equipped upstream only: Order 3 times the indicated quantities.

(2) Bolt set is provided with the accessories.

Fig. 3



accos\_230\_b\_1\_x\_cat



accos\_234\_a\_1\_cat

**Auxiliary contact**

**Use**

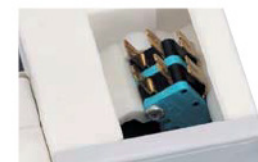
Pre breaking and signalling of positions I and II: 1 or 2 NO/NC auxiliary contacts in each position.  
Low level auxiliary contacts: Please consult us.

**Connection to the control circuit**

6.35 mm fast-on terminal.

**Electrical characteristics**

30 000 operations.



svr\_058\_a\_1\_cat



accos\_065\_a\_1\_cat

**Characteristics**

Rating (A)	Nominal current (A)	Operating current I <sub>o</sub> (A)			
		A - 250 13 VAC	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
125 ... 3200	16	12	8	14	6

**NO/NC changeover contact**

Rating (A)	Contact(s)	Reference
125 ... 1800	1 <sup>st</sup> /2 <sup>nd</sup>	4109 0021
2000 ... 3200	1 <sup>st</sup>	included

# SIRCOVER

Manual changeover switches  
from 125 to 3200 A

## Accessories (continued)

### Terminal shrouds

#### Use

Protection against direct contact with terminals or connecting parts.

#### Advantage

Perforations allow remote thermographic inspection without the need to remove the shrouds.

Rating (A)	No. of poles	Position	Reference
125 ... 200	3 P	top / bottom / front (I) / rear (II)	2694 3014 <sup>(1)(2)</sup>
125 ... 200	4 P	top / bottom / front (I) / rear (II)	2694 4014 <sup>(1)(2)</sup>
250 ... 400	3 P	top / bottom / front (I) / rear (II)	2694 3021 <sup>(1)(2)</sup>
250 ... 400	4 P	top / bottom / front (I) / rear (II)	2694 4021 <sup>(1)(2)</sup>
500 ... 630	3 P	top / bottom / front (I) / rear (II)	2694 3051 <sup>(1)(2)</sup>
500 ... 630	4 P	top / bottom / front (I) / rear (II)	2694 4051 <sup>(1)(2)</sup>

(1) To shroud front switch top and bottom 4 references required for a SIRCOVER and 6 references for a SIRCOVER Bypass.

(2) To shroud front switch top and bottom 2 references required for a SIRCOVER and a SIRCOVER Bypass.



access\_206\_a\_2\_cat

### Terminal screens

#### Use

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

Rating (A)	No. of poles	Position	Reference
125 ... 200	3 P	top / bottom	1509 3012
125 ... 200	4 P	top / bottom	1509 4012
250 ... 400	3 P	top / bottom	1509 3025
250 ... 400	4 P	top / bottom	1509 4025
500 ... 630	3 P	top / bottom	1509 3063
500 ... 630	4 P	top / bottom	1509 4063
800 ... 1250	3 P	top / bottom	1509 3080
800 ... 1250	4 P	top / bottom	1509 4080
1600 ... 1800	3 P	top / bottom	1509 3160
1600 ... 1800	4 P	top / bottom	1509 4160
2000 ... 3200	3 / 4 P	top / bottom	included



access\_207\_a\_2\_cat

## Key handle interlocking system

### Padlocking in position I, 0 or II

Rating (A) SIRCOVER	Rating (A) SIRCOVER Bypass	Operation	Figure	Reference
125 ... 630	125 ... 200	external	1	1423 2813

### Locking using RONIS EL11AP lock in position 0 (not included)

Rating (A) SIRCOVER	Rating (A) SIRCOVER Bypass	Operation	Figure	Reference
125 ... 630	125 ... 200	direct	2	4109 1006 <sup>(1)</sup>
	250 ... 630	direct	3	Please consult us
800 ... 1800	800 ... 1600	direct	3	4109 1004 <sup>(2)</sup>
2000 ... 3200		direct	3	4109 2007 <sup>(2)</sup>
125 ... 1800	125 ... 630	external	4	1499 7701 <sup>(2)</sup>
2000 ... 3200	800 ... 1600	external	4	2799 7002 <sup>(2)</sup>

<sup>(1)</sup> Specific handle included.

<sup>(2)</sup> This locking facility can be configured by the user in the 3 positions.

### Locking using RONIS EL11AP lock in position I, 0, II (not included)

Rating (A) SIRCOVER	Rating (A) SIRCOVER Bypass	Operation	Figure	Reference
125 ... 630	125 ... 200	direct	2	4109 1002 <sup>(1)</sup>
	250 ... 630	direct	3	Please consult us
800 ... 1800	800 ... 1600	direct	3	4109 1004 <sup>(2)</sup>
2000 ... 3200		direct	3	4109 2007 <sup>(2)</sup>
125 ... 1800	125 ... 630	external	4	1499 7701 <sup>(2)</sup>
2000 ... 3200	800 ... 1600	external	4	2799 7002 <sup>(2)</sup>

<sup>(1)</sup> Specific handle included.

<sup>(2)</sup> This locking facility can be configured by the user in the 3 positions.

### Locking using 230 VAC undervoltage coil in position (factory fitted)

Rating (A) SIRCOVER	Rating (A) SIRCOVER Bypass	Operation	Figure	Reference
800 ... 3200	800 ... 1600	direct	3	Please consult us

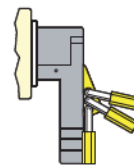
### Locking using type K CASTELL lock (not supplied)

Rating (A) SIRCOVER	Rating (A) SIRCOVER Bypass	Operation	Figure	Reference
125 ... 1800	125 ... 630	external	4	1499 7702
2000 ... 3200	800 ... 1600	external	4	2799 7003

### Use

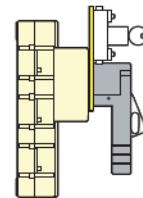
- Using padlock (not supplied). This device is factory mounted in the direct or external operation handle and allows the use of up to 3 padlocks.
- Locking:
  - - using lock (not supplied)
  - - using undervoltage coil.
- The interlocking positions are either determined as standard or configured by the user by removing the pre-formed tabs.
- Padlocking and locking can be combined.

Fig. 1



access\_061\_a\_1\_x\_cat

Fig. 2



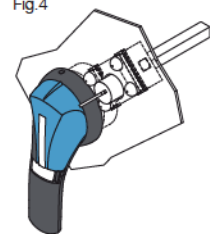
access\_001\_a\_1\_x\_cat

Fig. 3



access\_132\_a\_1\_x\_cat

Fig. 4



access\_169\_a\_1\_x\_cat

## Other specific accessories



bd\_08\_04\_01

- Customised protection screens (for specific dimensions or high ambient temperatures).
- Inter phase barrier.
- Connection accessories.
- Low level auxiliary contacts.

## SIRCOVER AC I-0-II - Characteristics according to IEC 60947-3 and IEC 60947-6-1

### 125 to 630 A

Thermal current $I_{th}$ at 40°C	125 A	160 A	200 A	250 A	315A	400 A	500 A	630 A
Rated insulation voltage $U_i$ (V)	800	800	800	1000	1000	1000	1000	1000
Rated impulse withstand voltage $U_{imp}$ (kV)	8	8	8	12	12	12	12	12

### Rated operational currents $I_o$ (A)

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-23 A / AC-23 B	125/125	160/160	200/200	200/200	315/315	400/400	500/500	630/630
500 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
500 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
500 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	200/250	200/315	200/400	500/500	500/500
500 VAC	AC-23 A / AC-23 B	80/80	80/80	80/80	200/200	200/200	200/200	400/400	400/400
690 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
690 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	200/200	200/200	200/200	500/500	500/500
690 VAC	AC-22 A / AC-22 B	125/125	125/125	125/125	160/160	160/160	160/160	400/400	400/400
690 VAC	AC-23 A / AC-23 B	63/80	63/80	63/80	125/125	125/125	125/125	400/400	400/400
220 VDC <sup>(2)</sup>	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
220 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	125/125	160/160	200/200	250/250	250/250	250/250	500/500	630/630
220 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	125/125	160/160	200/200	250/250	250/250	250/250	500/500	630/630
220 VDC <sup>(2)</sup>	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630
440 VDC <sup>(2)</sup>	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
440 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630
440 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630
440 VDC <sup>(2)</sup>	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630

### Operational power in AC-23 (kW)

At 400 VAC without pre-break in AC <sup>(3)</sup>	63/63	80/80	80/80	132/132	132/132	280/280	280/280	450/450
At 690 VAC without pre-break in AC <sup>(3)</sup>	55/75	55/75	55/75	90/110	90/110	150/185	150/185	185/220

### Reactive power (kvar)

At 400 VAC <sup>(3)</sup>	55	75	90	115	145	185	230	290
---------------------------	----	----	----	-----	-----	-----	-----	-----

### Rated operational currents $I_e$ (A) according to IEC 60947-6-1

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-31 A / AC-31 B	125	160	200	250	315	400	500	630
415 VAC	AC-32 A / AC-32 B				200	315	400	500	500
415 VAC	AC-33 A / AC-33 B				200	200	200	400	400

### Fuse protected short-circuit withstand as per IEC 60947-3 at 690 VAC

Prospective short-circuit current (kA rms)	100 <sup>(5)</sup>	100 <sup>(5)</sup>	50 <sup>(5)</sup>	50	50	50	50	50
Associated fuse rating (A)	125	160	200	250	315	400	500	630

### Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s<sup>(4)</sup>

Rated short-time withstand current 0.3s low (kA rms)	12 <sup>(5)</sup>	12 <sup>(5)</sup>	12 <sup>(5)</sup>	15	15	15	17	17
--	-------------------	-------------------	-------------------	----	----	----	----	----

### Short-circuit withstand without protection as per IEC 60947-3 at 690 VAC

Rated short-time withstand current 1s low (kA rms)	7 <sup>(5)</sup>	7 <sup>(5)</sup>	7 <sup>(5)</sup>	8	8	8	10	10
Rated short-circuit making capacity $I_{cm}$ (kA peak)	11.9	11.9	11.9	22	22	22	17	17
Rated short-time withstand current 60ms low (kA rms) as per IEC 60947-6-1 at 415 VAC				10 <sup>(5)</sup>	10 <sup>(5)</sup>	10 <sup>(5)</sup>	10	12.6

### Connection

Minimum Cu cable cross-section (mm <sup>2</sup> )	35	50	70	95	150	185	240	2 x 150
Minimum Cu busbar cross-section (mm <sup>2</sup> )								2 x 30 x 5
Maximum Cu cable cross-section (mm <sup>2</sup> )	50	95	120	150	240	240	2 x 185	2 x 300
Maximum Cu busbar width (mm)	25	25	25	32	32	32	50	50
Tightening torque mini / maxi (Nm)	9/13	9/13	9/13	20/26	20/26	20/26	20/26	20/26

### Mechanical characteristics

Durability (number of operating cycles)	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
Weight of 3 P switch (kg)	2.9	2.9	2.9	3.8	3.9	3.9	8.6	9.1
Weight of 4 P switch (kg)	4.1	4.1	4.1	4.6	4.9	4.9	10.4	11.1

(1) Category with index A = frequent operation - Category with index B = infrequent operation.

(2) 3-pole device with 2 pole in series for the "+" and 1 pole for the "-". 4-pole device with 2 pole in series by polarity.

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

(4) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s.

For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

(5) Data at 415 VAC

(6) Data at 30 ms

800 to 3200 A

Thermal current $I_{th}$ at 40°C	800 A	1000 A	1250 A	1600 A	1800 A	2000 A	2500 A	3200 A
Rated insulation voltage $U_i$ (V)	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage $U_{imp}$ (kV)	12	12	12	12	12	12	12	12

Rated operational currents  $I_o$  (A)

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200
415 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800	-/2000	-/2500	-/3200
415 VAC	AC-22 A / AC-22 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800	-/2000	-/2500	-/3200
415 VAC	AC-23 A / AC-23 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250	-/1600	-/1600	-/1600
500 VAC	AC-20 A / AC-20 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200
500 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800	-/2000	-/2500	-/3200
500 VAC	AC-22 A / AC-22 B	630/630	800/800	1000/1000	1000/1000	1000/1000			
500 VAC	AC-23 A / AC-23 B	400/400	630/630	800/800	800/800	800/800			
690 VAC	AC-20 A / AC-20 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200
690 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800	-/2000	-/2500	-/3200
690 VAC	AC-22 A / AC-22 B	630/630	800/800	1000/1000	1600/1600	1800/1800			
690 VAC	AC-23 A / AC-23 B	400/400	630/630	800/800	1000/1000	1000/1000			
220 VDC <sup>(2)</sup>	DC-20 A / DC-20 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800			
220 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250			
220 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250			
220 VDC <sup>(2)</sup>	DC-23 A / DC-23 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250			
440 VDC <sup>(2)</sup>	DC-20 A / DC-20 B	800/800	1000/1000	1250/1250	1600/1600	1800/1800			
440 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250			
440 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250			
440 VDC <sup>(2)</sup>	DC-23 A / DC-23 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250			

Operational power in AC-23 (kW)

At 400 VAC without pre-break in AC <sup>(3)</sup>	710/710	710/710	710/710	710/710	710/710	710/710		
At 690 VAC without pre-break in AC <sup>(3)</sup>	185/220	475/475	475/475	750/750	750/750	750/750		

Reactive power (kvar)

At 400 VAC <sup>(5)</sup>	365	460	575					
---------------------------	-----	-----	-----	--	--	--	--	--

Rated operational currents  $I_e$  (A) according to IEC 60947-6-1

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-31 A / AC-31 B	800	1000	1250	1600	1800	2000	2500	3200
415 VAC	AC-32 A / AC-32 B	800	1000	1250	1600	1600	2000	2000	2000
415 VAC	AC-33 A / AC-33 B	800	800	800	1000	1000	1250	1250	1250

Fuse protected short-circuit withstand as per IEC 60947-3 at 415 VAC

Prospective short-circuit current (kA rms)	50	100	100	100	100			
Associated fuse rating (A)	800	1000	1250	2 x 800	2 x 800			

Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s<sup>(4)</sup>

Rated short-time withstand current 0.3s low (kA rms)	47	64	64	78	78	78	78	78
--	----	----	----	----	----	----	----	----

Short-circuit withstand without protection as per IEC 60947-3 at 415 VAC

Rated short-time withstand current 1s low (kA rms)	26	35	35	50	50	50	50	50
Rated short-circuit making capacity $I_{om}$ (kA peak)	48	73.5	73.5	110	110	110	110	110
Rated short-time withstand current 60ms low (kA rms) as per IEC 60947-6-1 at 415 VAC	16	20	25	32	32	40	50	50

Connection

Minimum Cu cable cross-section (mm <sup>2</sup> )	2 x 185	2 x 240						
Minimum Cu busbar cross-section (mm <sup>2</sup> )	2 x 40 x 5	2 x 50 x 5	2 x 60 x 5	2 x 80 x 5	3 x 100 x 5	2 x 100 x 10	2 x 100 x 10	2 x 100 x 10
Maximum Cu cable cross-section (mm <sup>2</sup> )	2 x 300	4 x 185	4 x 185	6 x 185	6 x 185			
Maximum Cu busbar width (mm)	63	63	63	100	100	100	100	100
Tightening torque min (Nm)	20/26	20/26	20/26	40/45	40/45	40/45	40/45	40/45

Mechanical characteristics

Durability (number of operating cycles)	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
Weight of 3 P switch (kg)	20.5	21.0	21.6	25.7	25.7	42.0	42.0	52.3
Weight of 4 P switch (kg)	24.8	25.8	26.2	32.0	32.0	52.9	52.9	66.6

(1) Category with index A = frequent operation - Category with index B = infrequent operation.

(2) 3-pole device with 2 pole in series for the "+" and 1 pole for the "-". 4-pole device with 2 pole in series by polarity.

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

(4) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s. For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

(5) Data at 415 VAC.

# SIRCOVER

Manual changeover switches

from 125 to 3200 A

## SIRCOVER I-I+II -II and SIRCOVER Bypass - Characteristics according to IEC 60947-3

### 125 to 400 A

Thermal current $I_{th}$ at 40°C		125 A	160 A	200 A	250 A	400 A
Rated insulation voltage $U_i$ (V)		800	800	800	800	800
Rated impulse withstand voltage $U_{imp}$ (kV)		8	8	8	8	8
Rated operational currents $I_e$ (A)						
Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	400/400
415 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	400/400
415 VAC	AC-22 A / AC-22 B	125/125	160/160	160/160	250/250	250/250
415 VAC	AC-23 A / AC-23 B	125/125	160/160	160/160	250/250	250/250
690 VAC <sup>(2)</sup>	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	400/400
690 VAC <sup>(2)</sup>	AC-21 A / AC-21 B	125/125	160/160	160/160	200/250	200/250
690 VAC <sup>(2)</sup>	AC-22 A / AC-22 B	125/125	125/125	125/125	125/160	125/160
690 VAC <sup>(2)</sup>	AC-23 A / AC-23 B	63/80	63/80	63/80	100/125	100/125
220 VDC	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	400/400
220 VDC	DC-21 A / DC-21 B	125/125	160/160	160/160	250/250	250/250
220 VDC	DC-22 A / DC-22 B	125/125	160/160	160/160	250/250	250/250
220 VDC	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200
440 VDC	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	400/400
440 VDC	DC-21 A / DC-21 B	125 <sup>(3)</sup> /125 <sup>(3)</sup>	125 <sup>(3)</sup> /125 <sup>(3)</sup>	125 <sup>(3)</sup> /125 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>
440 VDC	DC-22 A / DC-22 B	125 <sup>(3)</sup> /125 <sup>(3)</sup>	125 <sup>(3)</sup> /125 <sup>(3)</sup>	125 <sup>(3)</sup> /125 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>
440 VDC	DC-23 A / DC-23 B	125 <sup>(4)</sup> /125 <sup>(4)</sup>	125 <sup>(4)</sup> /125 <sup>(4)</sup>	125 <sup>(4)</sup> /125 <sup>(4)</sup>	200 <sup>(4)</sup> /200 <sup>(4)</sup>	200 <sup>(4)</sup> /200 <sup>(4)</sup>
Operational power in AC-23 (kW)						
At 400 VAC without pre-break in AC <sup>(1)(5)</sup>		63/63	80/80	80/80	132/132	132/132
At 690 VAC without pre-break in AC <sup>(1)(5)</sup>		55/75	55/75	55/75	90/110	90/110
Reactive power (kvar)						
At 400 VAC <sup>(6)</sup>		55	75	90	115	185
Fuse protected short-circuit withstand as per IEC 60947-3 at 400 VAC						
Prospective short-circuit current (kA rms)		100	100	50	50	18
Associated fuse rating (A)		125	160	200	250	400
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s <sup>(6)</sup>						
Rated short-time withstand current 0.3s low (kA rms)		15	15	15	17	17
Short-circuit capacity (without protection)						
Rated short-time withstand current 1s low (kA rms)		8	8	8	9	9
Connection						
Minimum Cu cable cross-section (mm <sup>2</sup> )		35	50	50	95	185
Minimum Cu busbar cross-section (mm <sup>2</sup> )						
Maximum Cu cable cross-section (mm <sup>2</sup> )			50	95	95	150
Maximum Cu busbar width (mm)		25	25	25	32	32
Tightening torque min (Nm)		9	9	9	20	20
Mechanical characteristics						
Durability (number of operating cycles)		10000	10000	10000	10000	10000
Weight of 3 P switch (kg)		2.9	2.9	2.9	3.8	3.9
Weight of 4 P switch (kg)		4.1	4.1	4.1	4.6	4.9

(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) 3-pole device with 2 pole in series for the "+" and 1 pole for the "-".

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

(6) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s.

For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.



## 500 to 1800 A

Thermal current $I_{th}$ at 40°C		500 A	630 A	800 A	1250 A	1600 A	1800 A
Rated insulation voltage $U_i$ (V)		800	1000	1000	1000	1000	1000
Rated impulse withstand voltage $U_{imp}$ (kV)		8	12	12	12	12	12
Rated operational currents $I_o$ (A)							
Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	500/500	630/630	800/800	1250/1250	1600/1600	1800/1800
415 VAC	AC-21 A / AC-21 B	500/500	630/630	800/800	1250/1250	1600/1600	1800/1800
415 VAC	AC-22 A / AC-22 B	500/500	630/630	800/800	1250/1250	1600/1600	1800/1800
415 VAC	AC-23 A / AC-23 B	500/500	500/500	800/800	1250/1250	1250/1250	1250/1250
690 VAC <sup>(2)</sup>	AC-20 A / AC-20 B	500/500	630/630	800/800	1250/1250	1600/1600	1800/1800
690 VAC <sup>(2)</sup>	AC-21 A / AC-21 B	400/400	500/500	800/800	800/800	1000/1000	1000/1000
690 VAC <sup>(2)</sup>	AC-22 A / AC-22 B	250/315	315/315	800/800	800/800	1000/1000	1000/1000
690 VAC <sup>(2)</sup>	AC-23 A / AC-23 B	160/200	160/200	200/250	200/250	500/500	500/500
220 VDC	DC-20 A / DC-20 B	500/500	630/630	800/800	1250/1250	1600/1600	1800/1800
220 VDC	DC-21 A / DC-21 B	500/500	630/630	800/800	1250/1250	1250/1250	1250/1250
220 VDC	DC-22 A / DC-22 B	400/500	500/500	800/800	1250/1250	1250/1250	1250/1250
220 VDC	DC-23 A / DC-23 B	400/500	500/500	800/800	1250/1250	1250/1250	1250/1250
440 VDC	DC-20 A / DC-20 B	500/500	630/630	800/800	1250/1250	1600/1600	1800/1800
440 VDC	DC-21 A / DC-21 B	400 <sup>(3)</sup> /400 <sup>(3)</sup>	500 <sup>(3)</sup> /500 <sup>(3)</sup>	800 <sup>(3)</sup> /800 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>
440 VDC	DC-22 A / DC-22 B	315 <sup>(3)</sup> /400 <sup>(3)</sup>	500 <sup>(3)</sup> /500 <sup>(3)</sup>	800 <sup>(3)</sup> /800 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>
440 VDC	DC-23 A / DC-23 B	400 <sup>(4)</sup> /400 <sup>(4)</sup>	500 <sup>(4)</sup> /500 <sup>(4)</sup>	800 <sup>(3)</sup> /800 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>	1250 <sup>(3)</sup> /1250 <sup>(3)</sup>
Operational power in AC-23 (kW)							
At 400 VAC without pre-break in AC <sup>(1)(5)</sup>		280/280	280/280	450/450	710/710	710/710	710/710
At 690 VAC without pre-break in AC <sup>(1)(5)</sup>		150/185	150/185	185/220	185/220	475/475	475/475
Reactive power (kvar)							
At 400 VAC <sup>(5)</sup>		230	290	365	575		
Fuse protected short-circuit withstand as per IEC 60947-3 at 400 VAC							
Prospective short-circuit current (kA rms)		100	70	50	100	100	100
Associated fuse rating (A)		500	630	800	1250	2 x 800	2 x 800
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s <sup>(6)</sup>							
Rated short-time withstand current 0.3s low (kA rms)		25	25	50	65	100	100
Short-circuit capacity (without protection)							
Rated short-time withstand current 1s low (kA rms)		14	25	50	65	100	100
Connection							
Minimum Cu cable cross-section (mm <sup>2</sup> )		240	2 x 150	2 x 185			
Minimum Cu busbar cross-section (mm <sup>2</sup> )			2 x 30 x 5	2 x 40 x 5	2 x 60 x 5	2 x 80 x 5	2 x 80 x 5
Maximum Cu cable cross-section (mm <sup>2</sup> )		240	240	2 x 300	2 x 300	4 x 185	6 x 185
Maximum Cu busbar width (mm)		40	50	63	63	100	100
Tightening torque min (Nm)		20	20	20	20	40	40
Mechanical characteristics							
Durability (number of operating cycles)		5000	5000	3000	3000	3000	3000
Weight of 3 P switch (kg)		9.1	9.1	20.5	21.6	25.7	25.7
Weight of 4 P switch (kg)		11.1	11.1	24.8	26.2	32	32

(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) 3-pole device with 2 pole in series for the "+" and 1 pole for the "-".

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

(6) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s. For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

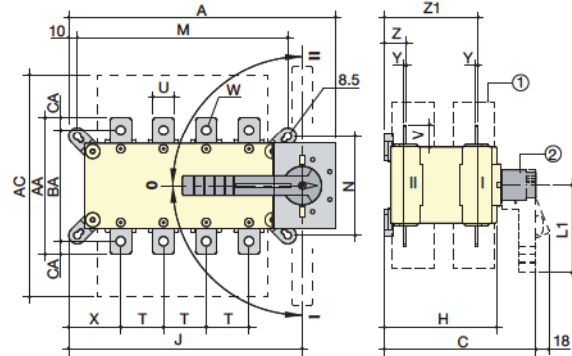
# SIRCOVER

Manual changeover switches  
from 125 to 3200 A

## Dimensions

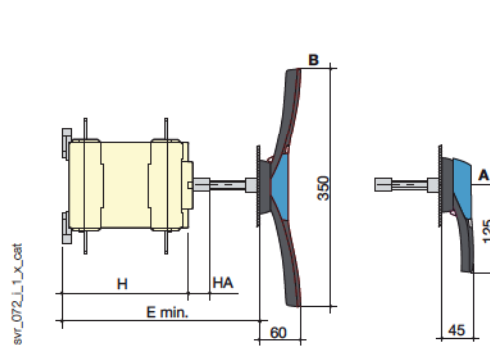
### SIRCOVER 125 to 1800 A

#### Direct front operation



A. S2 type handle for external operation: 125 to 630 A  
B. S4 type handle for external operation: 800 to 1800 A

#### External front operation

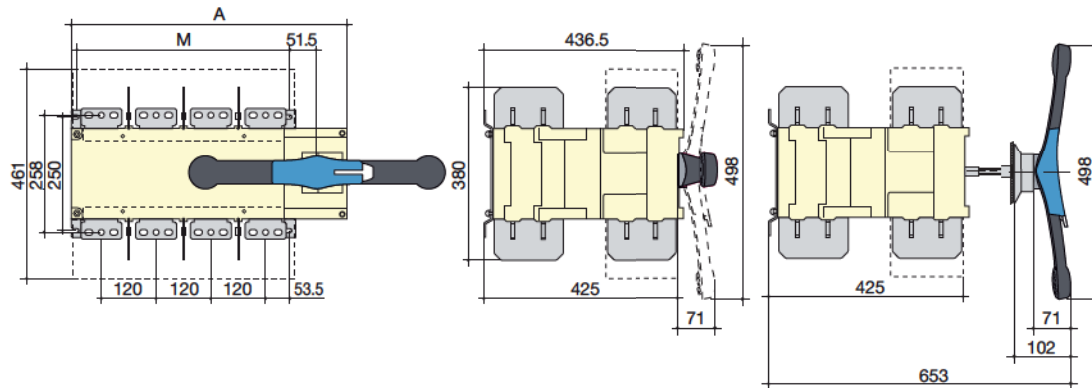


1. Terminal shrouds  
2. Direct handle operation:  
- 125 to 630 A: L1 = 140 mm,  
- 800 to 1800 A: L1 = 210 mm.

Rating (A)	Overall dimensions				Terminal shrouds	Switch body				Switch mounting				Connection										
	A 3p.	A 4p.	C	E min		AC	H	HA	J 3p.	J 4p.	M 3p.	M 4p.	N	T	U	V	W	X 3p.	X 4p.	Y	Z	Z1	AA	BA
125	221	251	218	208 ... 436	235	148	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	135	115	10
160	221	251	218	208 ... 436	235	148	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	135	115	10
200	221	251	218	208 ... 436	235	148	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	135	115	10
250	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	25	30	11	61	61	3.5	30	124	160	130	15
315	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	35	35	11	61	61	3.5	30	124	170	140	15
400	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	35	35	11	61	61	3.5	30	124	170	140	15
500	319	379	295	285 ... 513	401	225	25	272	332	246	306	176	65	32	37	13	70.5	65.5	5	43	180	235	205	15
630	319	379	295	285 ... 513	400	225	25	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	260	220	20
800	386	466	375	425 ... 577	459	298	29	306.5	386.5	255	336	250	80	50	60.5	15	48	48	7	66.5	253.5	321		26.5
1000	386	466	375	425 ... 577	459	298	29	306.5	386.5	255	336	250	80	50	60.5	15	48	48	7	66.5	253.5	321		26.5
1250	386	466	375	425 ... 577	459	298	29	306.5	386.5	255	336	250	80	60	65	16x11	48	48	7	66.5	255.5	330		29.5
1600	478	598	375	425 ... 577	461	298	29	388.5	518.5	347	467	250	120	90	43.5	12.5x5	54	54	8	66.5	255.5	288		15
1800	478	598	375	425 ... 577	461	298	29	388.5	518.5	347	467	250	120	90	43.5	12.5x5	54	54	8	66.5	255.5	288		15

### SIRCOVER 2000 to 3200 A

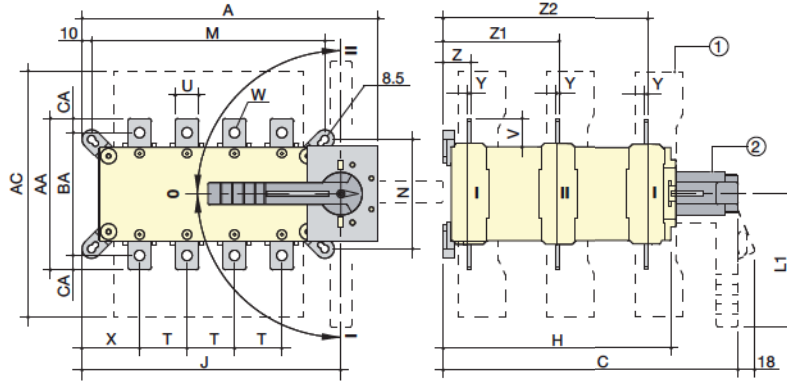
#### Direct front operation



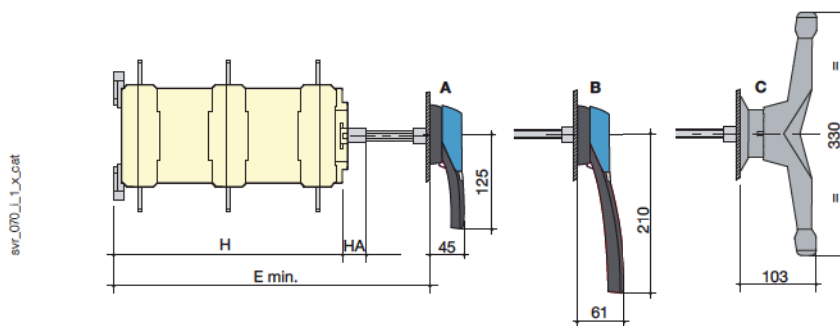
Rating (A)	Overall dimensions		Switch mounting	
	A 3p.	A 4p.	M 3p.	M 4p.
2000 ... 3200	478	598	347	467

**SIRCOVER Bypass 125 to 1600 A**

**Direct front operation**



**External front operation**



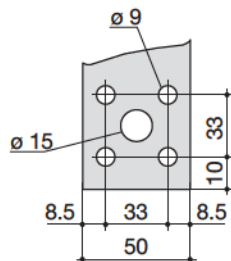
- A. S2 type handle for external operation:  
125 to 200 A  
B. S3 type handle for external operation:  
250 to 630 A  
C. External double lever handle: 800 to  
1600 A

1. Terminal shrouds  
2. Direct handle operation:  
- 125 to 200 A: L1 = 140 mm,  
- 250 to 630 A: L1 = 210 mm,  
- 800 to 1600 A: L1 = Ø 330 mm.

Rating (A)	Overall dimensions				Terminal shrouds	Switch body				Switch mounting				Connection											
	A 3+6p.	A 4+8p.	C	E min	AC	H	HA	J 3+6 p.	J 4+8 p.	M 3+6 p.	M 4+8 p.	N	T	U	V	W	X 3+6p.	X 4+8p.	Y	Z	Z1	Z1	AA	BA	CA
125	221	251	313	320	235	243	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
160	221	251	313	320	235	243	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
200	221	251	313	320	235	243	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
250	262	312	313	298	280	243	25	223	273	196	246	116	50	25	30	11	61	61	3.5	30	124	219	160	130	10
400	262	312	313	298	280	243	25	223	273	196	246	116	50	35	35	11	61	61	3.5	30	124	219	170	140	15
500	319	379	432	417	401	362	25	272	332	246	306	176	65	32	37	13	70.5	65.5	5	43	180	317	235	205	15
630	319	379	432	417	400	362	25	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	317	260	220	20
800	386	466	560	550	459	479	29	306.5	386.5	255	335	250	80	50	60.5	15	48	48	7	66.5	253.5	439.5	321		26.5
1250	386	466	560	550	459	479	29	306.5	386.5	255	335	250	80	60	65	16x11	48	48	7	66.5	253.5	439.5	320		29.25
1600	478	598	560	550	461	479	29	388.5	518.5	347	467	250	120	90	43.5	12.5x5	54	54	8	66.5	253.5	439.5	288		15

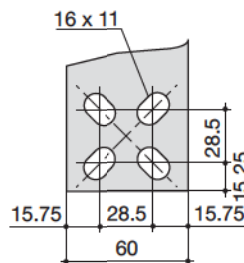
**Connection terminals**

SIRCOVER and SIRCOVER  
Bypass 800 A



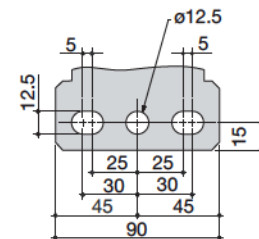
svr\_077\_a\_1\_x\_cat

SIRCOVER and SIRCOVER  
Bypass 1250 A



svr\_078\_b\_1\_x\_cat

SIRCOVER 1600 to 3200 A  
SIRCOVER Bypass 1600 A



svr\_098\_a\_1\_x\_cat

# SIRCOVER

Manual changeover switches  
from 125 to 3200 A

## Dimensions for external handles

### SIRCOVER 125 to 630 A

Handle type	Direction of operation	Front operation	
		Door drilling	
<b>S2 type</b> 			

(1) Ø31 to Ø37: Rear screw mounting Ø37: front clip mounting.

poign\_030\_a\_1\_gb\_cat

### SIRCOVER 800 to 1800 A

Handle type	Direction of operation	Front operation	
		Door drilling	
<b>S4 type</b> 			

(1) Ø31 to Ø37: Rear screw mounting Ø37: front clip mounting.

(2) Ø6 to Ø7: clip mounting.

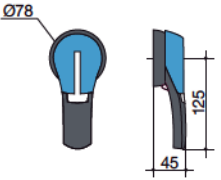
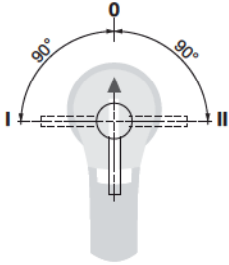
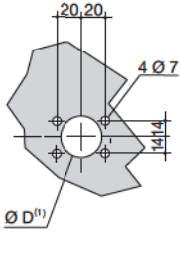
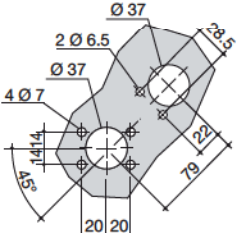
poign\_031\_a\_1\_gb\_cat

### SIRCOVER 2000 to 3200 A

Handle type	Direction of operation	Front operation	
		Door drilling	
<b>S5 type</b> with V Escutcheon 			

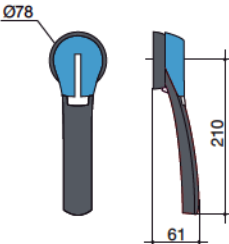
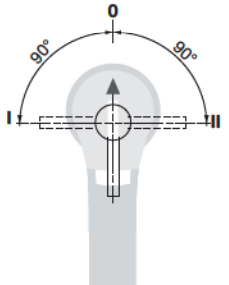
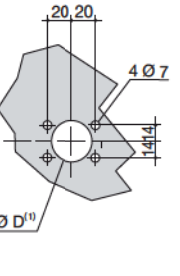
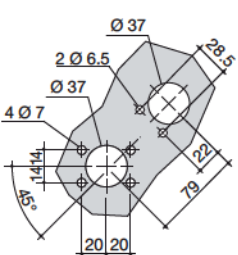
poign\_023\_a\_1\_gb\_cat

SIRCOVER Bypass 125 to 200 A

Handle type	Direction of operation	Front operation	
		Door drilling	
<p><b>S2 type</b></p> 		<p>With lock RONIS EL11AP</p> 	<p>With lock CASTELL K</p> 

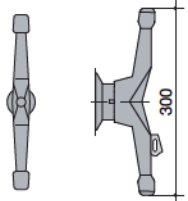
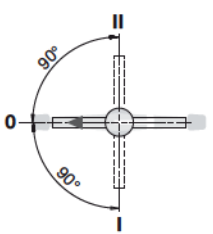
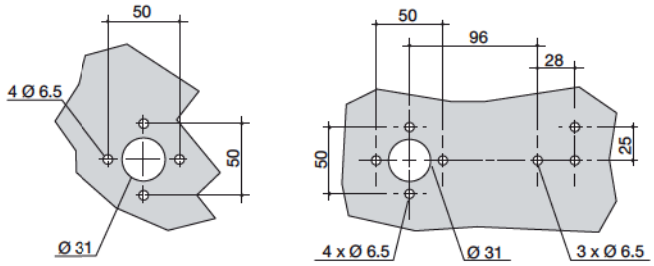
(1) Ø31 to Ø37: Rear screw mounting Ø37: front clip mounting.

SIRCOVER Bypass 250 to 630 A

Handle type	Direction of operation	Front operation	
		Door drilling	
<p><b>S3 type</b></p> 		<p>With lock RONIS EL11AP</p> 	<p>With lock CASTELL K</p> 

(1) Ø31 to Ø37: Rear screw mounting Ø37: front clip mounting.

SIRCOVER Bypass 800 to 1600 A

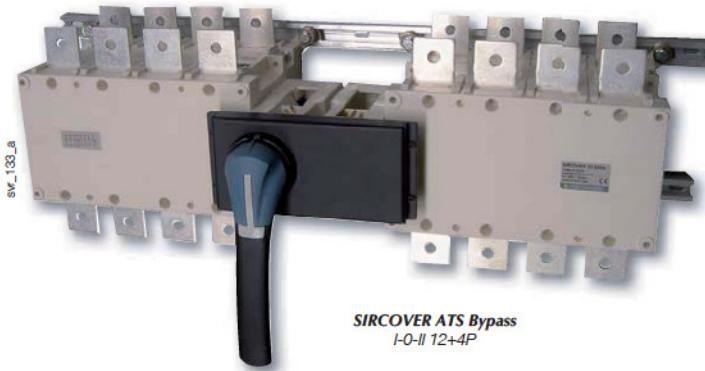
Handle type	Direction of operation	Door drilling	
<p><b>C type</b></p> 	<p>Front operation</p> 	<p>With lock CASTELL K</p> 	



# SIRCOVER ATS Bypass

Manual changeover switches  
from 125 to 1600 A

Changeover  
switches



SIRCOVER ATS Bypass  
I-0-II 12+4P

## Function

SIRCOVER ATS Bypass switches are manual four pole changeover switches with positive break indication. They are designed to isolate ATS type electrical equipment (automatic transfer switch) or UPS, with minimum interruption to the load supply. Integrating a SOCOMEC changeover switch into the installation enables source selection when in Bypass (see operating principle below).

## Advantages

### Stable positions

SIRCOVER ATS Bypass switches have 3 stable positions which are not affected by voltage drops or vibrations.

### On load switching

Thanks to its AC-22 characteristics, tested in accordance with standard IEC 60947-3, the SIRCOVER ATS Bypass enables on load switching.

### Secured breaking

Simultaneous upstream and downstream isolation and fully visualised breaking.

### A complete solution

The SIRCOVER ATS Bypass is a single product offering a genuine solution incorporating both an equipment isolation function and a switching function.

## The solution for

- > Industry.
- > Healthcare buildings.



## Strong points

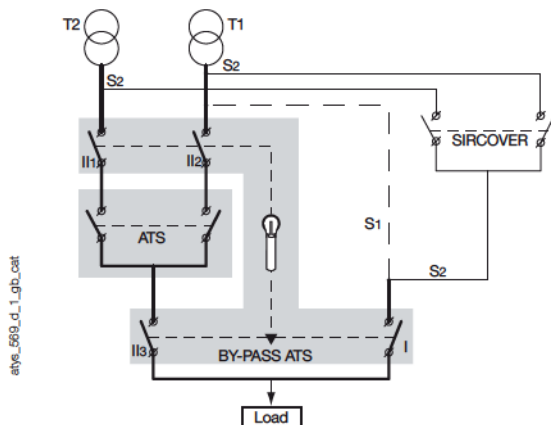
- > Stable positions.
- > Secured breaking.
- > On load switching.
- > A complete solution.

## Conformity to standards

- > IEC 60947-3



## Operating principle



### In Bypass position:

- Without SIRCOVER: The load is supplied directly by one of the two power sources (transformer T1 for example).
- With a SIRCOVER: The supply source can be selected.

## References

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contact	Terminal shrouds	Terminal screens
125 A	12 + 4 P	4100 9813	S3 type Black IP65 I - O - II 1433 3113	S3 type Black IP65 I - O - II 1433 3113	200 mm 1401 1520	4 P 4109 4019	1 <sup>st</sup> contact NO/NC included 2 <sup>nd</sup> contact NO/NC 4109 0021 <sup>(1)</sup>	4 P 2694 4014 <sup>(2)(3)</sup>	4 P 1509 4012 <sup>(4)</sup>
160 A	12 + 4 P	4100 9816				4 P 4109 4025		4 P 2694 4021 <sup>(2)(3)</sup>	4 P 1509 4025 <sup>(4)</sup>
250 A	12 + 4 P	4100 9825				4 P 4109 4039		4 P 2694 4051 <sup>(2)(3)</sup>	4 P 1509 4063 <sup>(4)</sup>
400 A	12 + 4 P	4100 9840				4 P 4109 4063		Please consult us	4 P 1509 4080 <sup>(4)</sup>
630 A	12 + 4 P	4100 9863				4 P 4109 4080			
800 A	12 + 4 P	4100 9880	4 P 4109 4160						
1000 A	12 + 4 P	4100 9881	Black 2799 7062	Black IP65 I - O - II 2799 7147	Included with the external handle	4 P 4109 4080	Please consult us	4 P 1509 4080 <sup>(4)</sup>	
1250 A	12 + 4 P	4100 9882							
1600 A	12 + 4 P	4100 9886							

(1) 2 pieces: one for position I and one for position II.

(2) To fully shroud front, rear, top and bottom 8 references required.

(3) To shroud front switch top and bottom 4 references required.

(4) For complete front protection, order the reference twice.

## Accessories

### Key handle interlocking system

Locking in position 0 with RONIS EL11AP (lock not supplied)			
Rating (A)	Operation	Figure	Reference
125 ... 630	direct	1	4109 1006 <sup>(1)</sup>
125 ... 630	external	3	1499 7701
800 ... 1600	direct and external	2	Please consult us

(1) Specific handle included.

Locking in positions I, O, II with RONIS EL11AP (lock not supplied)			
Rating (A)	Operation	Figure	Reference
125 ... 630	direct	1	4109 1002 <sup>(1)</sup>
800 ... 1600	direct	2	Please consult us

(1) Specific handle included.

Locking with CASTELL K type lock (lock not supplied)			
Rating (A)	Operation	Figure	Reference
125 ... 630	external	3	1499 7702
800 ... 1600	external		Please consult us

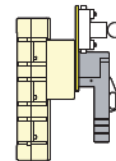


Fig. 1



Fig. 2

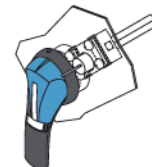


Fig. 3

access\_001\_a\_1\_x\_cat

access\_132\_a\_1\_x\_cat

access\_168\_a\_1\_x\_cat

# SIRCOVER ATS Bypass

Manual changeover switches

from 125 to 1600 A

## Characteristics according to IEC 60947-3

### 125 to 1600 A

Thermal current $I_{th}$ at 40°C	125 A	160 A	250 A	400 A	630 A	800 A	1000 A	1250 A	1600 A
Rated insulation voltage $U_i$ (V)	800	800	800	800	1000	1000	1000	1000	1000
Rated impulse withstand voltage $U_{imp}$ (kV)	8	8	8	8	12	12	12	12	12

### Rated operational currents $I_n$ (A)

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	125/125	160/160	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
415 VAC	AC-21 A / AC-21 B	125/125	160/160	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
415 VAC	AC-22 A / AC-22 B	125/125	160/160	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
415 VAC	AC-23 A / AC-23 B	125/125	160/160	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
690 VAC <sup>(2)</sup>	AC-20 A / AC-20 B	125/125	160/160	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
690 VAC <sup>(2)</sup>	AC-21 A / AC-21 B	125/125	160/160	200/250	200/250	500/500	800/800	800/800	800/800	1000/1000
690 VAC <sup>(2)</sup>	AC-22 A / AC-22 B	125/125	125/125	125/160	125/160	315/315	800/800	800/800	800/800	1000/1000
690 VAC <sup>(2)</sup>	AC-23 A / AC-23 B	63/80	63/80	100/125	100/125	160/200	200/250	200/250	200/250	500/500
220 VDC	DC-20 A / DC-20 B	125/125	160/160	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
220 VDC	DC-21 A / DC-21 B	125/125	160/160	250/250	250/250	630/630	800/800	1000/1000	1250/1250	1250/1250
220 VDC	DC-22 A / DC-22 B	125/125	160/160	250/250	250/250	500/500	800/800	1000/1000	1250/1250	1250/1250
220 VDC	DC-23 A / DC-23 B	125/125	125/125	200/200	200/200	500/500	800/800	1000/1000	1250/1250	1250/1250
440 VDC	DC-20 A / DC-20 B	125/125	160/160	250/250	400/400	630/630	800/800	1000 <sup>(9)</sup> /1000 <sup>(9)</sup>	1250/1250	1600/1600
440 VDC	DC-21 A / DC-21 B	125 <sup>(3)</sup> /125 <sup>(3)</sup>	125 <sup>(3)</sup> /125 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>	500 <sup>(3)</sup> /500 <sup>(3)</sup>	800 <sup>(4)</sup> /800 <sup>(4)</sup>	1000 <sup>(9)</sup> /1000 <sup>(9)</sup>	1250 <sup>(9)</sup> /1250 <sup>(9)</sup>	1250 <sup>(9)</sup> /1250 <sup>(9)</sup>
440 VDC	DC-22 A / DC-22 B	125 <sup>(3)</sup> /125 <sup>(3)</sup>	125 <sup>(3)</sup> /125 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>	200 <sup>(3)</sup> /200 <sup>(3)</sup>	500 <sup>(3)</sup> /500 <sup>(3)</sup>	800 <sup>(4)</sup> /800 <sup>(4)</sup>	1000 <sup>(9)</sup> /1000 <sup>(9)</sup>	1250 <sup>(9)</sup> /1250 <sup>(9)</sup>	1250 <sup>(9)</sup> /1250 <sup>(9)</sup>
440 VDC	DC-23 A / DC-23 B	125 <sup>(4)</sup> /125 <sup>(4)</sup>	125 <sup>(4)</sup> /125 <sup>(4)</sup>	200 <sup>(4)</sup> /200 <sup>(4)</sup>	200 <sup>(4)</sup> /200 <sup>(4)</sup>	500 <sup>(4)</sup> /500 <sup>(4)</sup>	800 <sup>(4)</sup> /800 <sup>(4)</sup>	1000 <sup>(9)</sup> /1000 <sup>(9)</sup>	1250 <sup>(9)</sup> /1250 <sup>(9)</sup>	1250 <sup>(9)</sup> /1250 <sup>(9)</sup>

### Operational power in AC-23 (kW)

At 400 VAC without pre-break in AC <sup>(1)(5)</sup>	63/63	80/80	132/132	132/132	280/280	450/450	710/710	710/710	710/710
At 690 VAC without pre-break in AC <sup>(1)(5)</sup>	55/75	55/75	90/110	90/110	150/185	185/220	185/220	185/220	475/475

### Reactive power (kvar)

At 400 VAC <sup>(5)</sup>	55	75	115	185	290	365	575	575	
---------------------------	----	----	-----	-----	-----	-----	-----	-----	--

### Fuse protected short-circuit withstand (kA rms prospective)

Prospective short-circuit (kA rms) <sup>(6)</sup>	100	100	50	18	70	50	100	100	100
Associated fuse rating (A) <sup>(6)</sup>	125	160	250	400	630	800	1000	1250	2 x 800

### Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s<sup>(7)</sup>

Rated short-time withstand current 0.3s low (kA rms)	15	15	17	17	25	50	65	65	100
--	----	----	----	----	----	----	----	----	-----

### Short-circuit capacity (without protection)

Thermal current $I_{th}$ at 40°C	125 A	160 A	250 A	400 A	630 A	800 A	1000 A	1250 A	1600 A
Rated short-time withstand current 1s low (kA rms)	8	8	9	9	14	27	36	36	50
Rated short-circuit making capacity								75	75

### Connection

Minimum Cu cable cross-section (mm <sup>2</sup> )	35	50	95	185	2 x 150	2 x 185			
Minimum Cu busbar cross-section (mm <sup>2</sup> )					2 x 30 x 5	2 x 40 x 5	2 x 60 x 5	2 x 60 x 5	2 x 80 x 5
Maximum Cu cable cross-section (mm <sup>2</sup> )		50	95	150	240	2 x 300	2 x 300	2 x 300	4 x 185
Maximum Cu busbar width (mm)	25	25	32	32	50	63	63	63	100
Tightening torque min (Nm)	9	9	20	20	20	20	20	20	40

### Mechanical characteristics

Durability (number of operating cycles)	10000	10000	10000	10000	5000	3000	3000	3000	3000
Weight of 3 P switch (kg)	8.3	8.3	10	10.3	20.7	44.3	45.4	46.4	54.7
Weight of 4 P switch (kg)	10.6	10.6	11.7	12.4	24.8	53	54.4	55.8	67.3

(1) Category with index A = frequent operation  
Category with index B = infrequent operation.

(2) With terminal shrouds.

(3) 3-pole device with 2 poles in series for the "+" and 1 pole for the "-".

(4) 4-pole device with 2 poles in series per polarity.

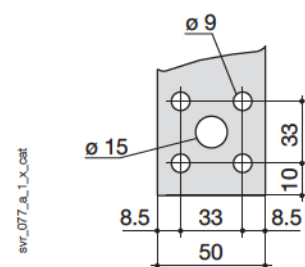
(5) The power value is given for information only, the current values vary from one manufacturer to another.

(6) For a rated operational voltage  $U_n = 400$  VAC.

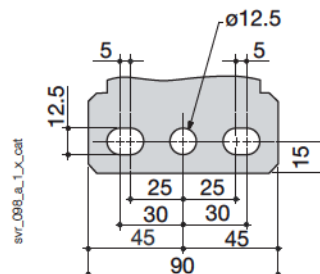
(7) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s. For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

## Connection terminals

### SIRCOVER ATS Bypass 800 to 1000 A



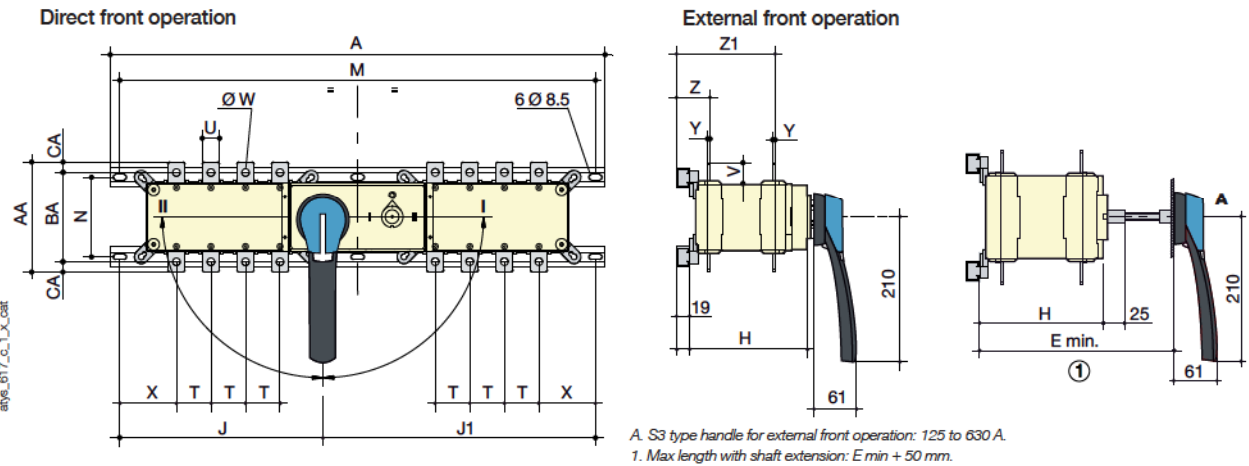
### SIRCOVER ATS Bypass 1250 to 1600 A





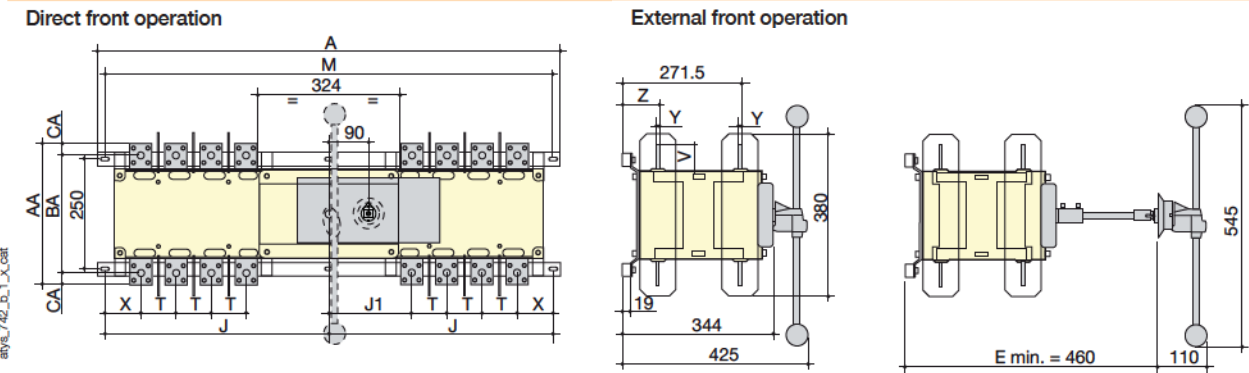
## Dimensions

### SIRCOVER ATS Bypass 125 to 630 A



Rating (A)	Overall dimensions		Switch body				Switch mounting			Connection								
	A 8p.	E min	H	J 8p.	J1 8p.	M 8p.	N	T	U	V	W	X 8p.	Y	Z	Z1	AA	BA	AC
125	610	260±1	193	238	338	576	101	36	20	25	8.5	76	3.5	47	143	135	115	10
160	610	260±1	193	238	338	576	101	36	20	25	8.5	76	3.5	47	143	135	115	10
250	725	260±1	193	295	396	691	116	50	25	30	11	83.5	3.5	49	143	160	130	10
400	725	260±1	193	295	396	691	116	50	35	35	11	83.5	3.5	49	143	170	140	15
630	850	337±1	270	358	458	816	176	65	45	50	13	91.5	5	62	199	235	220	20

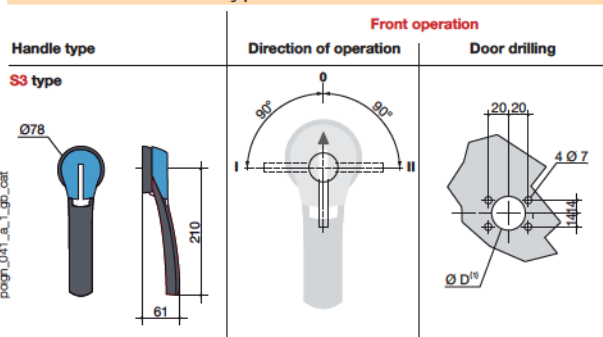
### SIRCOVER ATS Bypass 800 to 1600 A



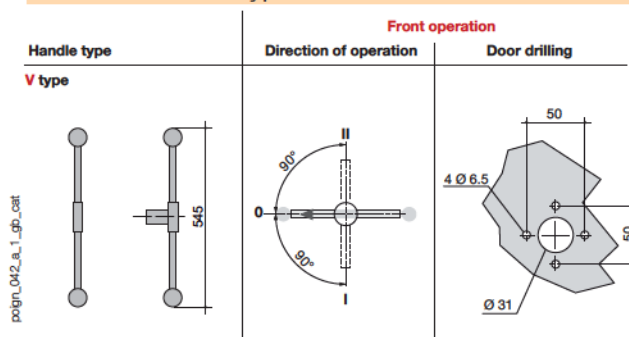
Rating (A)	Overall dimensions		Switch body		Switch mounting		Connection					
	A 8p.	J 8p.	J1 8p.	M 8p.	T	V	X 8p.	Y	Z	AA	BA	AC
800	1 055	510.5	189	1 021	80	60.5	81.5	7	84.5	321	268	26.5
1000	1 055	510.5	189	1 021	80	60.5	81.5	7	84.5	321	268	26.5
1250	1 320	643	195	1 286	120	44	88	8	85.5	288	258	15
1600	1 320	643	195	1 286	120	44	88	8	85.5	288	258	15

## Dimensions for external handles

### SIRCOVER ATS Bypass 125 to 630 A



### SIRCOVER ATS Bypass 800 to 1600 A

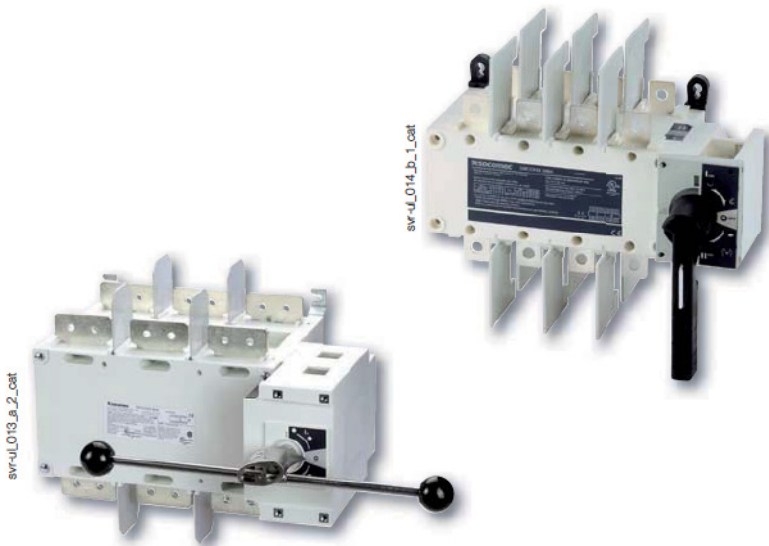




# SIRCOVER UL1008/98

Changeover switches standards UL and CSA  
100 to 1200 A

Changeover  
switches



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

- > IEC 60947-3
- > UL98, Guide WHTY, file 201138
- > UL1008, Guide WPYV, file 317092
- > CSA 22.2#4, Class 4651-02



(1) Product reference on request.

## Function

**SIRCOVER UL UL1008/98** are heavy duty manual transfer switches. They ensure switching transfer of sources or transfer of two low voltage circuits on load as well as their safety disconnection.

These switches are extremely durable and are tested and approved for use in the most demanding applications, such as resistive load or total system applications.

## Advantages

### Stable positions

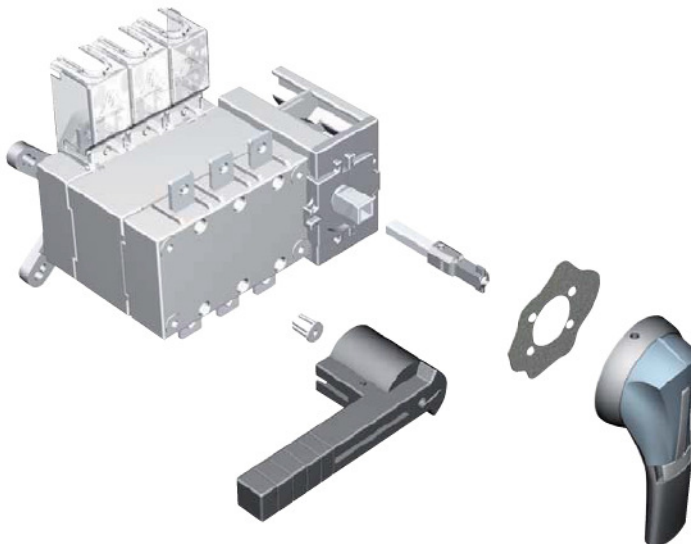
SIRCOVERs have three stable positions which are not affected by voltage drops or vibrations, thus protecting your load against network interference.

### On load switching

The SIRCOVER UL enables secure and reliable switching, without the need for pre-breaking upstream.

### Compact design

The Sircover are based on a back-to-back switching technology, providing a compact solution.



References

UL 1008 and UL98

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contacts	Terminal screens
100 A	2 P	4150 2011	Black 4199 4012	S2 type Black I - 0 - II 4, 4X 142D 2113	S2 type 200 mm 7.9 inches 1400 1020	2P 4159 2021 3P 4159 3021 4P 4159 4021	Contact NO/NC 4159 0021 Low level 4159 0022	2P & 3P 4158 3021 4P 4158 4021
	3 P	4150 3011						
	4 P	4150 4011						
200 A	2 P	4150 2021		S2 type Black I - 0 - II 4, 4X 142D 2813 <sup>(1)</sup>	320 mm 12.6 inches 1400 1032  400 mm 15.7 inches 1400 1040	2P 4159 2041 3P 4159 3041 4P 4159 4041		
	3 P	4150 3021						
	4 P	4150 4021						
400 A	2 P	4150 2041	S3 type Black I - 0 - II 4, 4X 143D 3113	S3, S4 type 200 mm 7.9 inches 1401 1520  320 mm 12.6 Inches 1401 1532  400 mm 15.7 Inches 1401 1540	3 P 4159 3063 4 P 4159 4063			
	3 P	4150 3041						
	4 P	4150 4041						
600 A	3 P	4150 3060	Black 4199 7012	S4 type Black I - 0 - II 4, 4X 144D 3813 <sup>(1)</sup>	3 P 4159 3080 4 P 4159 4080			
	4 P	4150 4060						
800 A	3 P	4150 3080	Black 4199 7062	S4 type Black I - 0 - II 4, 4X 144D 3813 <sup>(1)</sup>	3 P 4159 3080 4 P 4159 4080			
	4 P	4150 4080						
1200 A	3 P	4150 3120	Black 4199 7062	S4 type Black I - 0 - II 4, 4X 144D 3813 <sup>(1)</sup>	3 P 4159 3080 4 P 4159 4080			
	4 P	4150 4120						

(1) Padlockable in all 3 positions.

# SIRCOVER UL1008/98

Changeover switches standards UL and CSA  
100 to 1200 A

## Accessories

### Direct handle

Rating (A)	Colour	Handle type	Reference
100 ... 400	Black	1 lever	4199 4012
600 ... 1200	Black	2 lever	2799 7042



access\_129\_a\_1\_cat

### External handle

Rating (A)	Handle type	Colour	Nema type	Lockable in 3 positions	Reference
100 ... 200	S2	Black	4, 4X	no	142D 2113
100 ... 200	S2	Red/Yellow	4, 4X	no	142E 2113
100 ... 200	S2	Black	1, 3R, 12	no	142F 2113
100 ... 200	S2	Red/Yellow	1, 3R, 12	no	142G 2113
100 ... 200	S2	Black	4, 4X	yes	142D 2813
100 ... 200	S2	Red/Yellow	4, 4X	yes	142E 2813
100 ... 200	S2	Black	1, 3R, 12	yes	142F 2813
100 ... 200	S2	Red/Yellow	1, 3R, 12	yes	142G 2813
400 ... 600	S3	Black	4, 4X	no	143D 3113
400 ... 600	S3	Red/Yellow	4, 4X	no	143E 3113
400 ... 600	S3	Black	1, 3R, 12	no	143F 3113
400 ... 600	S3	Red/Yellow	1, 3R, 12	no	143G 3113
400 ... 600	S3	Black	4, 4X	yes	143D 3813
400 ... 600	S3	Red/Yellow	4, 4X	yes	143E 3813
400 ... 600	S3	Black	1, 3R, 12	yes	143F 3813
400 ... 600	S3	Red/Yellow	1, 3R, 12	yes	143G 3813
800 ... 1200	S4	Black	4, 4X	no	144D 3113
800 ... 1200	S4	Black	1, 3R, 12	no	144E 3113
800 ... 1200	S4	Black	1, 3R, 12	no	144E 3113
800 ... 1200	S4	Red/Yellow	1, 3R, 12	no	144G 3113
800 ... 1200	S4	Black	4, 4X	yes	144D 3813
800 ... 1200	S4	Red/Yellow	4, 4X	yes	144E 3813
800 ... 1200	S4	Black	1, 3R, 12	yes	144F 3813
800 ... 1200	S4	Red/Yellow	1, 3R, 12	yes	144G 3813
800 ... 1200	S5	Black	1, 3R, 12 <sup>(1)</sup>	no	1453 8113
800 ... 1200	S5	Red/Yellow	1, 3R, 12 <sup>(1)</sup>	no	1454 8113
800 ... 1200	V1	Black	1, 3R, 12 <sup>(1)</sup>	no	4199 7149

(1) For 4, 4X please consult us.

### Use

The handle interlocking function prevents the user from opening the door of the enclosure when the switch is in the "ON" position. Opening the door when the switch is in the "ON" position is possible by defeating the interlocking function (Not S5 and V handles) with the use of a tool (authorized persons only).

The interlocking function is restored when the door is re-closed.



access\_150\_a\_1\_cat



access\_151\_a\_1\_cat



access\_152\_a\_1\_cat



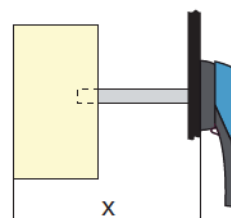
access\_286\_a\_2\_cat

### Shaft for external handle

Rating (A)	Handle type	Length (in)	Length (mm)	Dimension X (in)	Dimension X (mm)	Reference
100 ... 200	S2 type	7.9	200	10 ... 14.3	254 ... 362	1400 1020
100 ... 200	S2 type	12.6	320	10 ... 19	254 ... 482	1400 1032
100 ... 200	S2 type	15.7	400	10 ... 22.1	254 ... 562	1400 1040
400	S3 type	7.9	200	12 ... 18.4	305 ... 467	1401 1520
400	S3 type	12.6	320	12 ... 23.1	305 ... 587	1401 1532
400	S3 type	15.7	400	12 ... 26.3	305 ... 667	1401 1540
600	S3 type	7.9	200	20 ... 23.4	508 ... 594	1401 1520
600	S3 type	12.6	320	20 ... 28.1	508 ... 714	1401 1532
600	S3 type	15.7	400	20 ... 31.3	508 ... 794	1401 1540
800 ... 1200	S4 type	7.9	200	20 ... 23.4	508 ... 594	1401 1520
800 ... 1200	S4 type	12.6	320	20 ... 28.1	508 ... 714	1401 1532
800 ... 1200	S4 type	15.7	400	20 ... 31.3	508 ... 794	1401 1540
800 ... 1200	V1 / S5 type	12.6	320	20 ... 28.1	508 ... 714	4199 3018
800 ... 1200	V1 / S5 type	15.7	400	20 ... 31.3	508 ... 794	4199 3019



access\_389\_a\_1\_cat



access\_202\_a\_1\_x\_cat

## Bridging bars

### Use

Creation of a common point, above or below the switch, between positions I and II.

Rating (A)	No. bridging bar	Reference
100 ... 200	2	4159 2021
100 ... 200	3	4159 3021
100 ... 200	4	4159 4021
400	2	4159 2041
400	3	4159 3041
400	4	4159 4041
600	3	4159 3063
600	4	4159 4063
800 ... 1200	3	4159 3080
800 ... 1200	4	4159 4080



accos\_205\_a\_1\_cat

## Terminal protection screen

### Use

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

Rating (A)	No. of poles	Reference
100 ... 200	2P / 3P	4158 3021
100 ... 200	4 P	4158 4021
400	2P / 3P	4158 3041
400	4 P	4158 4041
600	6 P	1609 3063
600	4 P	1609 4063
800 ... 1200	3 P	1609 3080
800 ... 1200	4 P	1609 4080



accos\_207\_a\_1\_cat

## Auxiliary contacts

### Use

Pre-break and signalisation of positions .  
For low level ACs and other ACs contact us.

**Electrical characteristics**  
A300.

### NO/NC auxiliary contact

Rating (A)	Contact (s)	Reference
100 ... 400	NO/NC on position 1 and 2	4159 0021
100 ... 400	Low level NO/NC on position 1 and 2	4159 0022
600 ... 1200	NO/NC on position 1 and 2	as standard



accos\_065\_a\_1\_cat

## Terminal lugs

### Use

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

Rating (A)	Wires range	No wires per lug	Lugs per kit	Wires	Reference
100 ... 200	6 - 300MCM	1	2	Cu / Al	3954 2020
100 ... 200	6 - 300MCM	1	3	Cu / Al	3954 3020
100 ... 200	6 - 300MCM	1	4	Cu / Al	3954 4020
400	4 - 600MCM	1	2	Cu / Al	3954 2040
400	4 - 600MCM	1	3	Cu / Al	3954 3040
400	4 - 600MCM	1	4	Cu / Al	3954 4040
400	2x (#6 - 350MCM)	2	2	Cu / Al	3954 2041
400	2x (#6 - 350MCM)	2	3	Cu / Al	3954 3041
400	2x (#6 - 350MCM)	2	4	Cu / Al	3954 4041
600	2x (#2 - 600MCM)	2	3	Cu / Al	3954 3060
600	2x (#2 - 600MCM)	2	4	Cu / Al	3954 4060
800 ... 1200	2x 2x(#2 - 600MCM)	2	6	Cu / Al	3954 3120
800 ... 1200	2x 2x(#2 - 600MCM)	2	8	Cu / Al	3954 4120



ul\_032\_a

# SIRCOVER UL1008/98

Changeover switches standards UL and CSA  
100 to 1200 A

## Characteristics

### Characteristics according to UL1008

	100 to 1200 A					
General use rating (A)	100 A	200 A	400 A	600 A	800 A	1200 A
Operation voltage	600	600	600	600	600	600
Short circuit rating at 600 VAC (kA)	100	100	65	100	100	100
Type of fuse	J	J	J	L	L	L
Max. fuse rating (A)	200	400	600	800	1000	1600
Short circuit rating with circuit breaker (kA/ms)	10 / 25	10 / 25	14 / 50	35 / 50	35 / 50	35 / 50
<b>Operational power / current max Operational 1 ph</b>						
240 VAC Total system (A)	100	100	200			
240 VAC Resistive load (A)	100	200	400			
<b>Operational power / current max Operational 3 ph</b>						
240 VAC Total System (A)	100	100	200	400	700	700
240 VAC Resistive load (A)	100	200	400	600	800	1200
480 VAC Total System (A)	100	100	200	350	600	600
480 VAC Resistive load (A)	100	200	400	600	800	1200
600 VAC Resistive load (A)	100	200	400	600	800	1200
<b>Mechanical endurance</b>						
Endurance (number of operating cycles)	6050	6050	6050	6050	3550	3550
<b>Connection terminals</b>						
Min. connection section / AWG	#6	#6	#4 / 2 x #6	2x #2	4x #2	4x #2
Max. connection section / AWG	300MCM	300MCM	600MCM / 2x 350MCM	2x 600MCM	4x 600MCM	4x 600MCM

### Characteristics according to UL98/GSA22.2#4

	100 to 1200 A					
General use rating at 600VAC and 250VDC (A)	100 A <sup>(1)</sup>	200 A <sup>(1)</sup>	400A <sup>(1)</sup>	600 A	800 A	1200 A
Short circuit rating at 600 VAC (kA)	200	200	200	200	100	100
Type of fuse	J	J	J	J	L	L
Max. fuse rating (A)	100	200	400	600	800	1200
<b>Max. motor, hp / FLA 1 ph motor max.</b>						
240 VAC	10 / 50	10 / 50				
<b>Max. motor, hp / FLA 3 ph motor max.</b>						
220-240 VAC	30 / 80	72 / 192	125 / 312	200 / 480		
440-480 VAC	75 / 96	150 / 180	250 / 302	400 / 477		
600 VAC	100 / 99	200 / 192	350 / 336	500 / 472		
<b>Max. motor power, hp / DC FLA motor max.</b>						
125 VDC <sup>(1)</sup>	10 / 76	15 / 112	20 / 148			
250 VDC <sup>(2)</sup>	15 / 55	15 / 55	50 / 173			
<b>Mechanical characteristics</b>						
Endurance (number of operating cycles)	10000	8000	6000	6000	3500	3500
Operating torque (lbs.in/Nm)	88.5/10	88.5/10	128.3/14.5	327.5/37	442.5/50	442.5/50
<b>Auxiliary contacts</b>						
Electrical characteristics	A300	A300	A300	A300	A300	A300

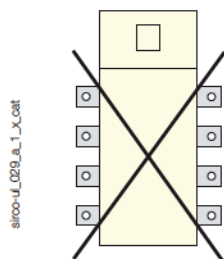
(1) With 2 poles in series

(2) With 3 poles in series

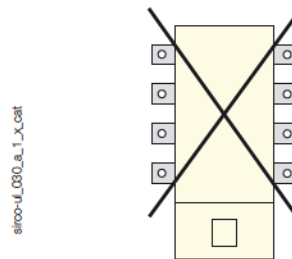
(3) General use rating at 600 VDC with 3 poles in series

## Mounting orientation

### SIRCOVER - 100 to 400 A

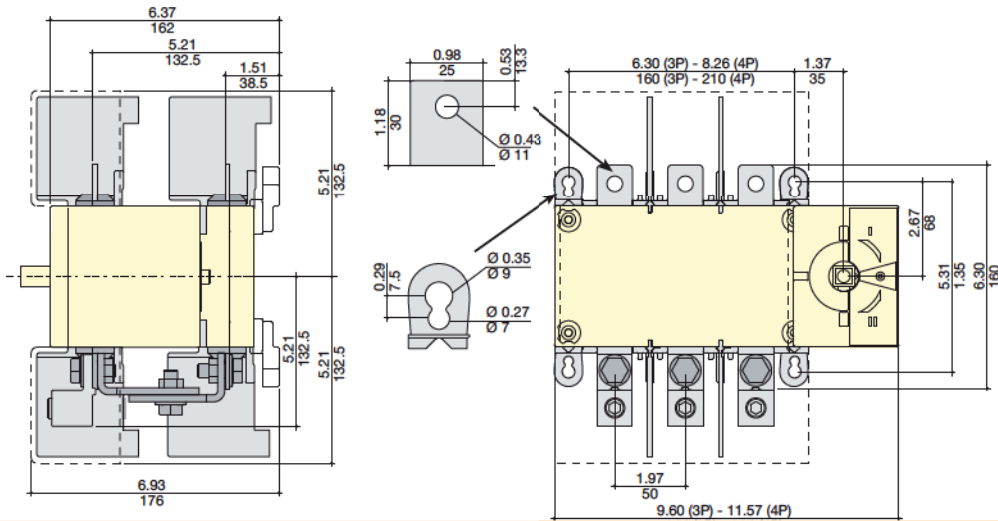


### SIRCOVER - 600 to 1200 A



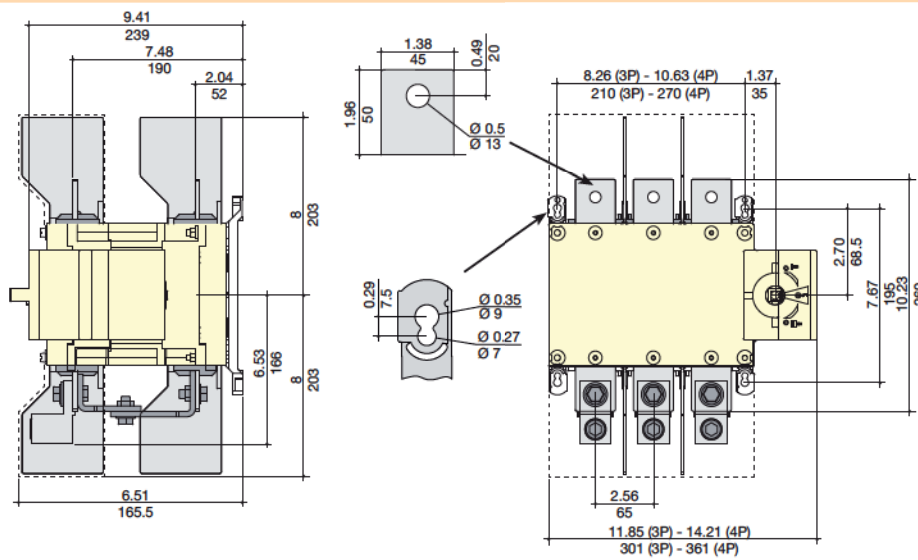
Dimensions (in/mm)

100 to 200 A



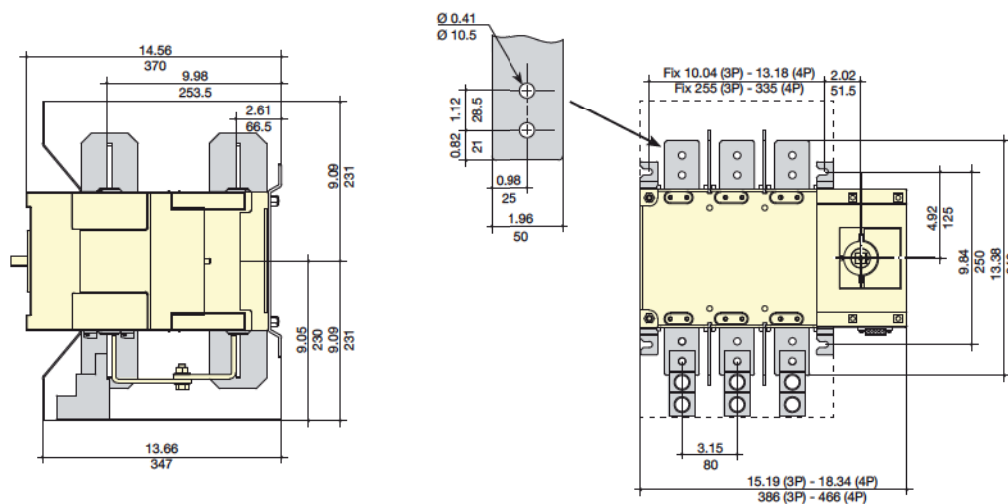
svr-ul\_015\_a\_x\_cat

400 A



svr-ul\_016\_a\_x\_cat

600 A



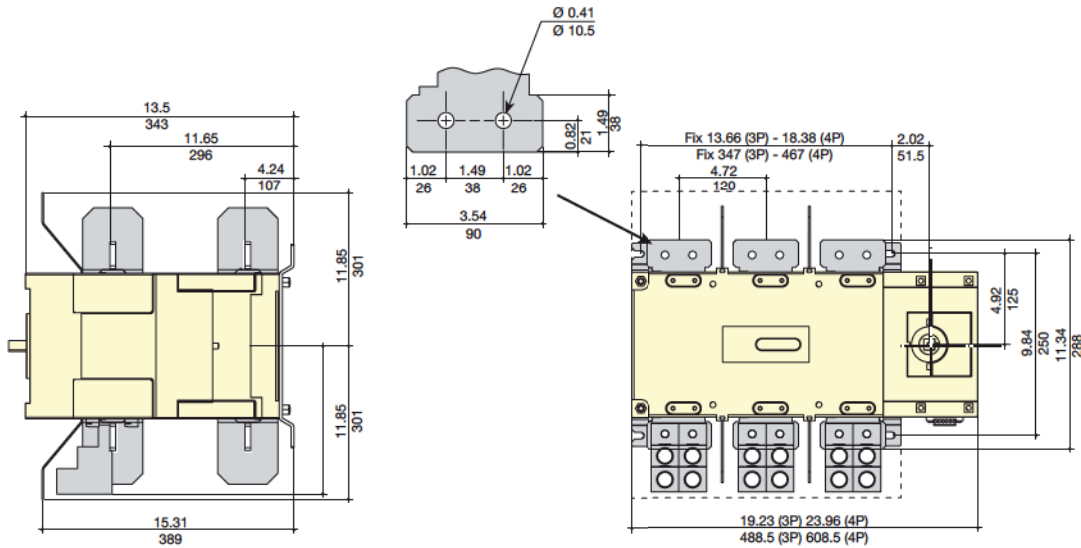
svr-ul\_003\_b\_x\_cat

# SIRCOVER UL1008/98

Changeover switches standards UL and CSA  
100 to 1200 A

## Dimensions (in/mm) (continued)

800 to 1200 A



svr-ul004\_b\_x\_cat

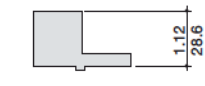
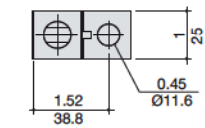
## Terminal lugs (in/mm)

SIRCOVER 100 to 200 A

SIRCOVER 400 A

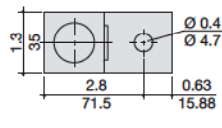
SIRCOVER 400 A

SIRCOVER 600 to 1200 A



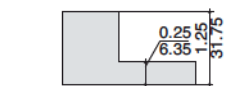
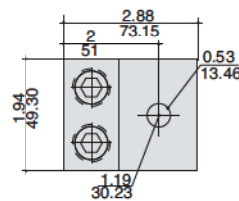
300 kcmil

svrco\_115\_b\_1\_x\_cat



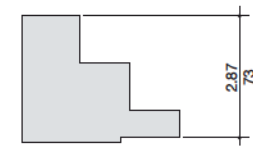
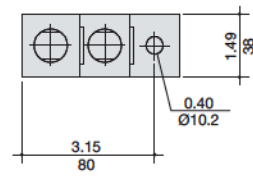
600 kcmil

svrco-ul010\_a\_1\_x\_cat



2 x 350 kcmil

svrco-ul028\_b\_1\_cat



2 x 600 kcmil

svrco\_116\_b\_1\_x\_cat

## External handles dimensions (in/mm)

SIRCOVER 100 and 200 A

Handle type	Front operation Direction of operation	Door drilling
<b>S2 type</b>  		

svr-ul010\_a\_1\_gp\_cat



External handles dimensions (in/mm)

SIRCOVER 400 and 600 A

Handle type	Front operation Direction of operation	Door drilling
<p><b>S3 type</b></p>		

svr-ul\_012\_a\_1\_gp\_cat

SIRCOVER 800 to 1200 A

Handle type	Front operation Direction of operation	Door drilling
<p><b>S4 type</b></p>		

svr-ul\_011\_a\_1\_gp\_cat

SIRCOVER 800 to 1200 A

Handle type	Front operation Direction of operation	Door drilling
<p><b>S5 type</b> with V Escutcheon</p>		

poign\_023\_a\_1\_gp\_cat

Handle type	Front operation Direction of operation	Door drilling
<p><b>V1 type</b></p>		

svr-ul\_031\_a\_1\_gp\_cat



# SIRCOVER PV

Changeover switches for photovoltaic applications  
from 200 to 630 A

Changeover  
switches



## Function

**SIRCOVER PV** switches are manual multipolar changeover switches with positive break indication. They ensure source inversion or changeover under load of two photovoltaic installation circuits.

## Advantages

### Stable positions

SIRCOVER PV switches have three stable positions which are not affected by voltage drops or vibrations.

### Secured breaking

Simultaneous upstream and downstream isolation and positive break indication.

### Patented safety disconnection

A glass fibre reinforced polyester break chamber with an arc extinguishing system provides a patented safety disconnection system offering rapid extinguishing of the electric arc up to 1000 VDC and current interruption up to 630 A.

## What you need to know

A photovoltaic electrical installation is an application that requires switching devices which fully meet the needs of operational reliability and operational safety intervention for this type of installation.

According to IEC 60364 (Part 7-7-12), the characteristics must withstand overcurrents up to 1.25 times the rated short-circuit current ( $I_{sc}$ ,  $S_{sc}$ ).

To date, as there is no specific standard regarding 'switchgear for PV installation', the manufacturer can only refer to IEC 60947 and related use categories depending on the type of loads and normal overload conditions.

The utilisation category DC21 defines a device withstand capacity up to 1.5 times the rated current of the installation, with a time constant L/R 1ms, which is significantly above the requirements by the standard IEC 60364-7-712 and PV needs on the basis of these criteria.

However, the manufacturer has the responsibility to propose, according to his expertise, devices meeting the specific requirements of these applications, even if they are not necessarily defined in standards.

## The solution for

- > Energy management.
- > Continuity of supply for PV applications.



## Strong points

- > Stable positions.
- > Secured breaking.
- > Patented safety disconnection.

## Conformity to standards

- > IEC 60947-3



## A compact solution.

- > The products are available in enclosures.

## Application

The choice of the material cannot be separated from the concept of energy management.

Many applications may require continuous power supply during a PV generator fault, when an isolated site has been electrified, in developing countries, in telecommunications or pumping. SIRCOVER PV changeover switches ensure source inversion or switching under load between two circuits.

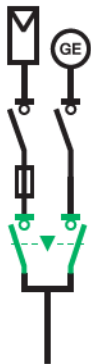
Example: Switching from DC to AC photovoltaic grid.

**Source transfer:** manual changeover between two photovoltaic sources or a photovoltaic source and a generator set.

**Equipment earthing** as for a string of photovoltaic panels.

**Load inverter :** switching the power supply from one load to another in order to guarantee continuous power supply during maintenance operations.

comut\_035\_a\_1\_x\_cat



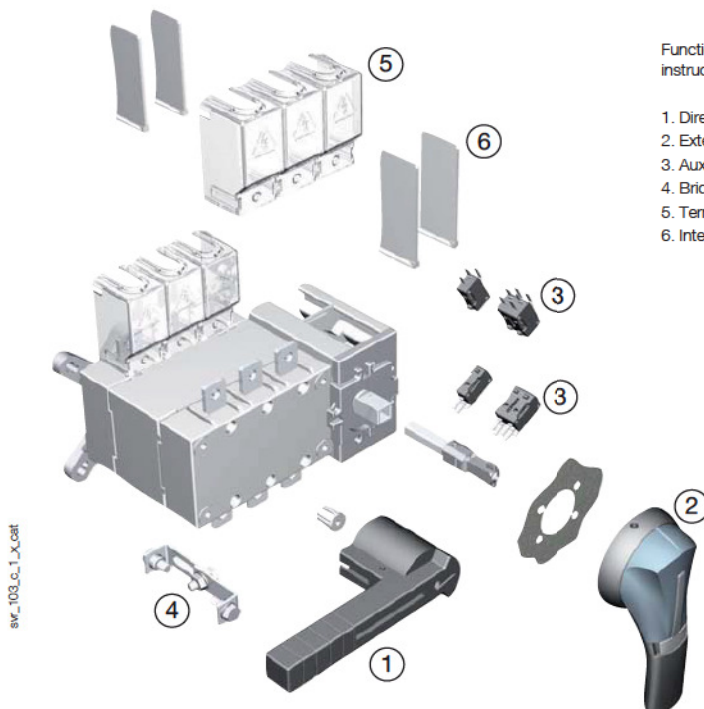
comut\_038\_a\_1\_x\_cat



comut\_037\_a\_1\_x\_cat



## Functional diagram



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

1. Direct front operation
2. External front operation
3. Auxiliary contacts
4. Bridging bar.
5. Terminal shrouds.
6. Inter-phase barrier.

# SIRCOVER PV

Changeover switches for photovoltaic applications  
from 200 to 630 A

## References

### SIRCOVER PV I-0-II

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bar	Auxiliary contact	Terminal screens	Terminal shrouds
200 A	3 P	41PV 3020	Black 4199 5012	S2 type Black IP55 1421 2113 Black IP65 1423 2113 <sup>(1)</sup>	200 mm 1400 1020 320 mm 1400 1032 <sup>(1)</sup>	2 P 4109 2025	2 <sup>nd</sup> contact NO/NC 4109 0021 <sup>(2)</sup>	3 P 1509 3025 4 P 1509 4025	
	250 A	4 P							
3 P		41PV 3025							
400 A	4 P	41PV 4025							
	3 P	41PV 3040							
500 A	4 P	41PV 4040		S3 type Black IP65 1433 3113	200 mm 1401 1520 320 mm 1401 1532 <sup>(1)</sup>	2 P 4109 2063		3 P 1509 3063 <sup>(3)</sup> 4 P 1509 4063 <sup>(3)</sup>	3 P 2694 3051 <sup>(4)</sup> 4 P 2694 4051 <sup>(4)</sup>
	630 A	3 P							
4 P		41PV 4063							

(1) Standard.

(2) 2 pieces: one for position I and one for position II.

(3) 2 pieces: one for top side and another for bottom side.

(4) To shroud switch top and bottom 2 references required.

## Accessories

### Direct operation handle

Rating (A)	Handle colour	Handle type	Reference
200 ... 630	Black	Single lever	4199 5012



access\_114\_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)	External IP <sup>(1)</sup>	Handle type	Reference
200 ... 250	IP55	S2 type	1421 2113
200 ... 250	IP65	S2 type	1423 2113
400 ... 630	IP65	S3 type	1433 3113

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

access\_150\_a\_1\_cat



S2 type handle

access\_151\_a\_2\_cat



S3 type handle

## S-type 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.

Handle colour	External IP <sup>(1)</sup>	To be ordered in multiples of	Reference
Black	IP65	1	1493 0000

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



acoss\_197\_a\_1\_cat

## Alternative S-type handle cover colours

### Use

For single lever handles type S2 and S3.

Other colours: Please consult us.

Colour	To be ordered in multiples of	Handle	Reference
Light grey	50	S2, S3 type	1401 0001
Dark grey	50	S2, S3 type	1401 0011



acoss\_198\_a\_2\_cat

## Shaft guide for external operation

### Use

To guide the shaft extension into the external handle.

This accessory enables the handle to engage the extension shaft with a misalignment of up to 15 mm. Required for a shaft length over 320 mm.



acoss\_260\_a\_2\_cat

Description	Reference
Shaft guide	1429 0000

## Shaft for external handle

### Use

Standard lengths:

- 200 mm,
- 320 mm.

Other lengths: Please consult us.

Rating (A)	Length (mm)	Dimension X (mm)	Type	Reference
200 ... 250	200	210 ... 310	10 x 10	1400 1020
200 ... 250	320	210 ... 430	10 x 10	1400 1032
400 ... 630	200	425 ... 577	15 x 12	1401 1520
400 ... 630	320	425 ... 697	15 x 12	1401 1532



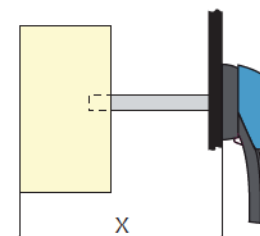
Type 10x10

acoss\_369\_a\_1\_cat



Type 10x10

acoss\_144\_b\_1\_cat



acoss\_202\_a\_1\_cat

# SIRCOVER PV

Changeover switches for photovoltaic applications  
from 200 to 630 A

## Accessories (continued)

### Bridging bars

#### Use

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

Rating (A)	No. of poles	Section (mm)	Mounting	Reference
200 ... 250	1 P	25 x 2.5	client	4109 0025
200 ... 250	2 P	25 x 2.5	client	4109 2025
400 ... 630	1 P	50 x 5	client	4109 0063
400 ... 630	2 P	50 x 5	client	4109 2063



### Bridging bars for connecting poles in series

#### Use

The bridging bars facilitate the connection of the poles in series, allowing the following configurations:

- Bottom/Bottom
- Top/Top
- Top/Bottom
- Top/Bottom

Connection diagrams: See "Poles connections in serie", page 365.

Rating (A)	Number of poles of the device in series	Pack	Reference
200 ... 250	2 <sup>(1)</sup>	1 piece	2609 0025
200 ... 250	4 <sup>(1)</sup>	2 pieces	2609 2025
400 ... 630	2 <sup>(1)</sup>	1 piece	2609 0063
400 ... 630	4 <sup>(1)</sup>	2 pieces	2609 2063

(1) on one source

### Auxiliary contact

#### Use

Pre breaking and signalling of positions I and II: 1 or 2 NO/NC auxiliary contacts in each position. Low level auxiliary contacts: please consult us.

#### Connection to the control circuit

6.35 mm fast-on terminal.

#### Electrical characteristics

30 000 operations.

#### Characteristics

Rating (A)	Nominal current (A)	Operating current $I_o$ (A)			
		250 VAC AC-13	400 VAC AC-13	24 VDC AC-13	48 VDC AC-13
200 ... 630	16	12	8	14	6

#### References

NO/NC changeover contact		
Rating (A)	Contact(s)	Reference
200 ... 630	1 <sup>st</sup> /2 <sup>nd</sup>	4109 0021



### Terminal shrouds

#### Use

Protection against direct contact with terminals or connecting parts.

#### Advantage

Perforations allow remote thermographic inspection without the need to remove the shrouds.

Rating (A)	No. of poles	Position	Reference
400 ... 630	3 P	top / bottom	2694 3051 <sup>(1)</sup>
400 ... 630	4 P	top / bottom	2694 4051 <sup>(1)</sup>

(1) To shroud switch top and bottom 2 references required.



## Terminal screens

### Use

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

Rating (A)	No. of poles	Position	Pack	Reference
200 ... 250	3 P	top / bottom	1	1509 3025
200 ... 250	4 P	top / bottom	1	1509 4025
400 ... 630	3 P	top / bottom	2	1509 3063
400 ... 630	4 P	top / bottom	2	1509 4063



accoss\_207\_b\_2\_cat

## Key handle interlocking system

### Use

Using padlock (not supplied). This device is factory mounted in the direct or external operation handle and allows the use of up to 3 padlocks.

### Locking:

- a special handle which receives the lock bolt on SIRCOVER CD 125 to CD 630 A (Fig. 2)  
The interlocking positions are either determined as standard or configured by the user by removing the pre-formed tabs. Padlocking and locking can be combined.

Padlocking in position I, 0 or II			
Rating (A)	Operation	Figure	Reference
200 ... 250	external	1	1423 2813

Locking using RONIS EL11AP lock in position 0 (not supplied)			
Rating (A)	Operation	Figure	Reference
200 ... 630	direct	2	4109 1006 <sup>(1)</sup>
200 ... 630	external	3	1499 7701

(1) Specific handle included.

Locking using RONIS EL11AP lock in positions I, 0, II (not supplied)			
Rating (A)	Operation	Figure	Reference
200 ... 630	direct	2	4109 1002 <sup>(1)</sup>
200 ... 250	external	3	1499 7701

(1) Specific handle included.

Locking using type K CASTELL lock (not supplied)			
Rating (A)	Operation	Figure	Reference
200 ... 630	external	3	1499 7702

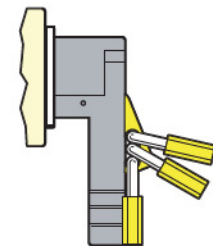


Fig. 1

accoss\_061\_a\_2\_x\_cat

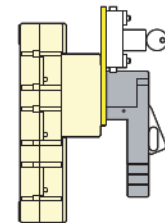


Fig. 2

accoss\_001\_a\_1\_x\_cat

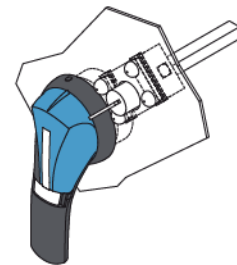


Fig. 3

accoss\_169\_a\_1\_x\_cat

## Other specific accessories

- Low level auxiliary contacts.

# SIRCOVER PV

Changeover switches for photovoltaic applications

from 200 to 630 A

## Characteristics according to IEC 60947-3

### 200 to 630 A

Thermal current $I_{th}$ at 40°C	200 A	250 A	400 A	500 A	630 A
Rated insulation voltage $U_i$ (V)	1200	1200	1200	1200	1200
Rated impulse withstand voltage $U_{imp}$ (kV)	8	8	12	12	12

### Rated operational currents $I_o$ (A)

Rated voltage	Utilisation category	Number of poles of the device	Number of pole(s) in series per polarity	(A)	(A)	(A)	(A)	(A)
750 VDC	DC-21 B	3 P	2 P + and 1 P -	200	250	400	500	630
1000 VDC	DC-21 B	4 P	2 P + and 2 P -	200	250	400	500	630

### Connection

Rigid Cu cable cross-section (mm <sup>2</sup> )	95	120	240	2 x 150	2 x 185
Maximum Cu busbar width (mm)	32	32	32	40	40
Tightening torque min (Nm)	20	20	20	40	40

### Mechanical characteristics

Durability (number of operating cycles) <sup>(1)</sup>	10000	10000	5000	5000	5000
Weight of a 3 pole device (kg)	3,8	3,8	9	9	9
Weight of a 4 pole device (kg)	4,6	4,6	11	11	11

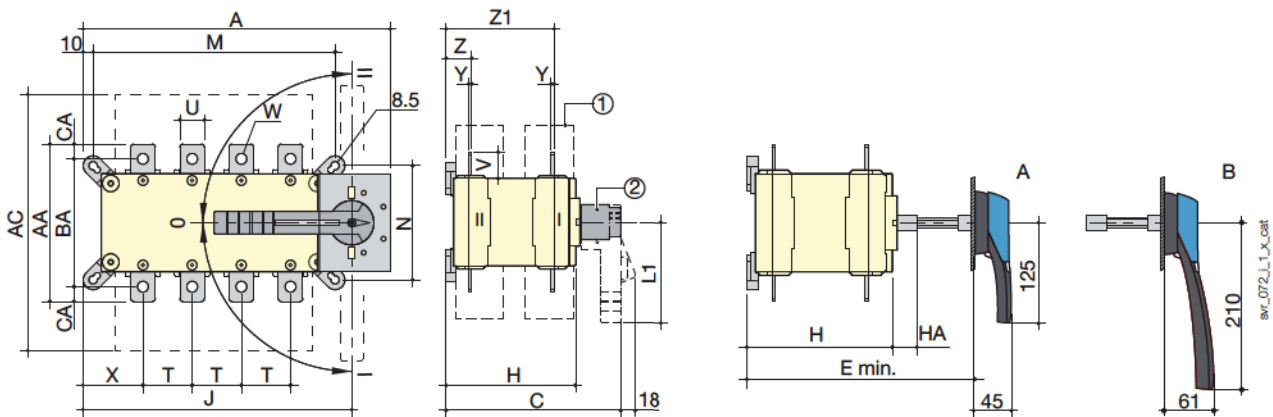
(1) Improved endurance: Please consult us.

## Dimensions

### SIRCOVER 200 to 630 A

#### Direct front operation

#### External front operation



A. S2 type handle for external operation: 200 to 400 A.  
B. S3 type handle for external operation: 500 to 630 A.

1. Terminal shrouds.  
2. Direct handle operation:

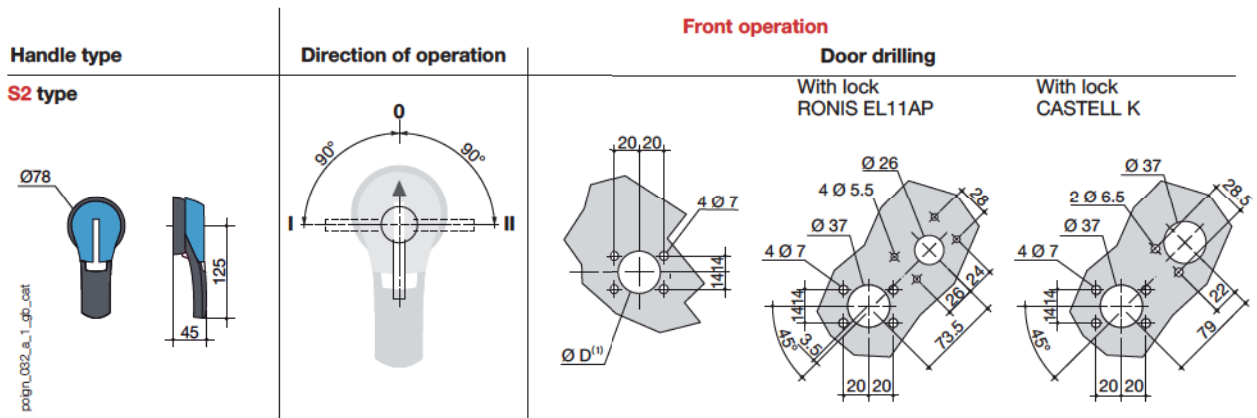
- 200 to 400 A: L1 = 140 mm.  
- 500 to 630 A: L1 = 210 mm.

Rating (A)	Overall dimensions				Terminal shrouds	Switch body				Switch mounting				Connection										
	A 3p.	A 4p.	C	E min	AC	H	HA	J 3p.	J 4p.	M 3p.	M 4p.	N	T	U	V	W	X 3p.	X 4p.	Y	Z	Z1	AA	BA	CA
200	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	25	30	11	61	61	3,5	30	124	180	130	15
250	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	25	30	11	61	61	3,5	30	124	180	130	15
400	319	379	295	285 ... 514	400	225	25	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	260	220	20
500	319	379	295	285 ... 514	400	225	25	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	260	220	20
630	319	379	295	285 ... 514	400	225	25	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	260	220	20

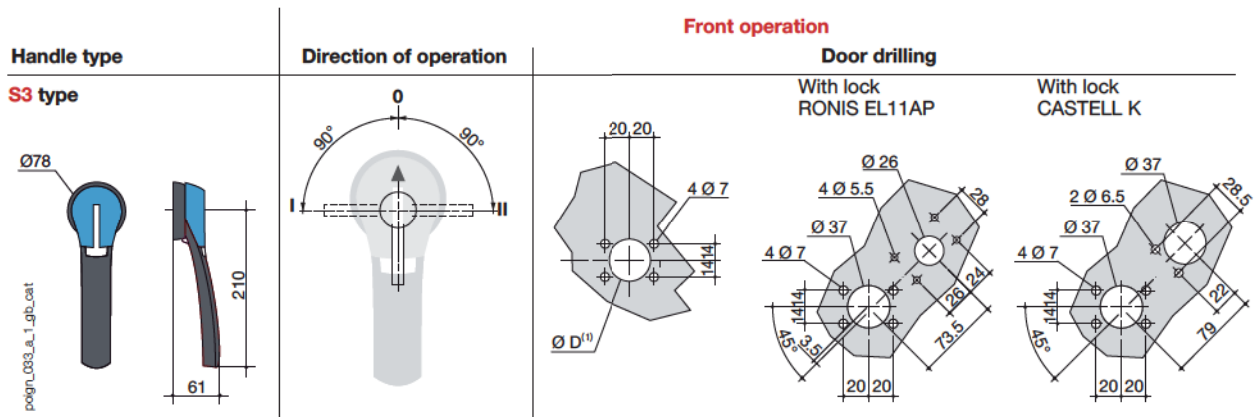


## Dimensions for external handles

### SIRCOVER 200 to 600 A



(1) Ø31 to Ø37: Rear screw mounting Ø37: front clip mounting.

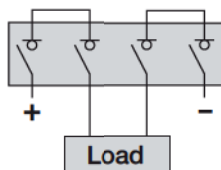
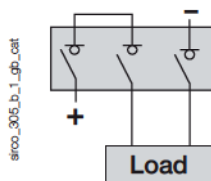


(1) Ø31 to Ø37: Rear screw mounting Ø37: front clip mounting.

## Pole connections in series<sup>(1)</sup>

3 poles - bottom / top

4 poles - bottom / bottom



(1) Other connections: refer to mounting instructions