Load break switches

Load break switches

SIRCO M/MV
16 to 160 A
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iDE
32 to 160 A
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new
SIRCO SIRCO AC
125 to 5000 A
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SIDER
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Load break switches for photovoltaic applications

new
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Load break switches standards UL and CSA

new
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TVSS SURGE SWITCH
Special designs
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Specific applications

Load break switches
- with overrated neutral
- short-circuit performance
- multipolar switches
- for earthing
- for 1000 V network
- special motorised switches.

p. 180

More about our products

Other product enclosures
SOCOMEC offers you a range of pre-equipped enclosures in steel or in polyester.

p. 596

Special requests
SOCOMEC also makes specific or customised products.
We will help you find the right solution for your application.
Please feel free to consult us.

Load break switches for all your applications

Machine control, power distribution and photovoltaic installations

Operating in the electrical breaking technology market since 1922, SOCOMEC is both a global leader and unrivalled benchmark.

Our range of load break switches is currently one of the widest on the market. Although the SIRCO M and SIRCO products alone meet the majority of requirements, SOCOMEC has set out to cover the entire range of applications.

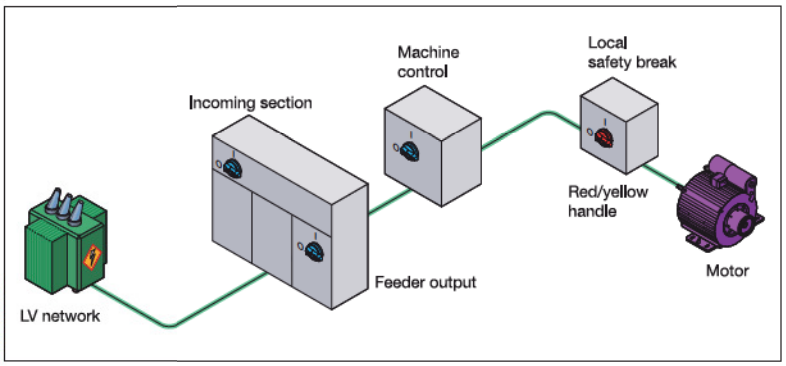
Discover all our products in the selection guides in the following pages.

A specific need?

We have developed numerous special products: switches with overrated neutral, high short circuit capability switches, multipolar switches, earthing switches, switches for 1000 V networks, special motorised switches, etc.
Whatever your requirements, you will find the right solution in the next few pages!

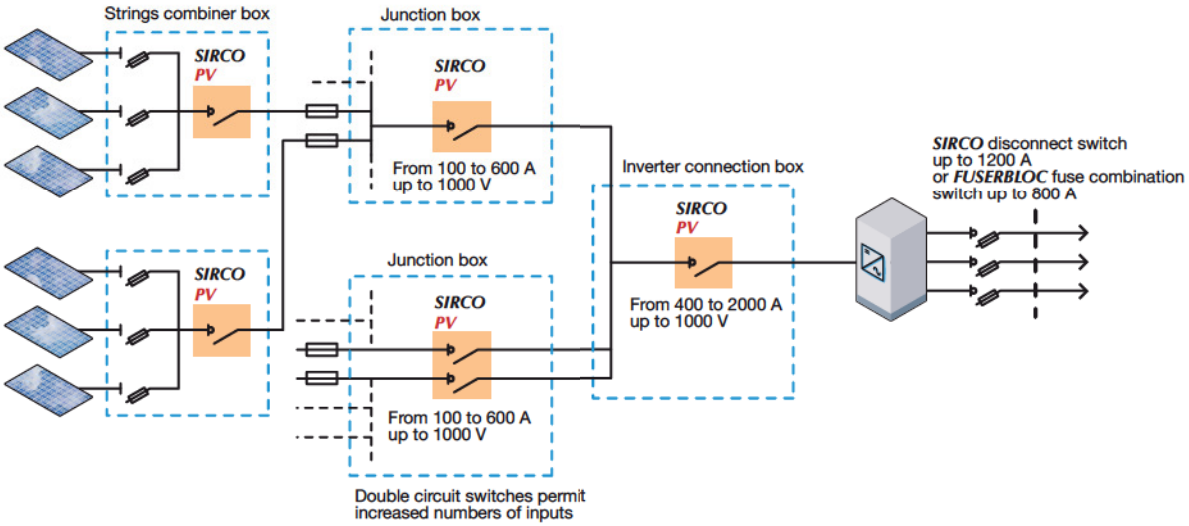
APPLI_312_A

SOCOMEC load break switches in energy distribution and machine control applications



SIRCM_021_E_GB

Load break switches for photovoltaic applications



SIRCO-PV_009_A_GB

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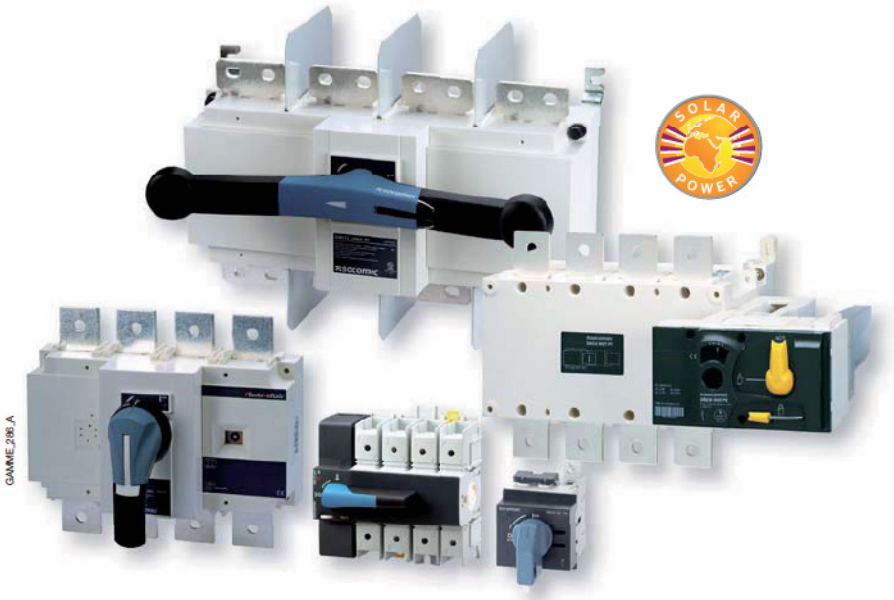
Why choose a load break switch designed for photovoltaic applications?



SIRCO MC PV and SIRCO PV devices available in IEC and UL versions.

Safe operations

To ensure electrical separation during maintenance operations, or for emergency breaking to prevent a risk of fire or electrical shock, it is essential that dedicated photovoltaic switches are used.

These devices must be installed at each functional level of the installation based on its architecture.

In order to disconnect a direct current photovoltaic string, generator or UPS, only SIRCO PV or SIRCO MC PV devices can:

- Isolate the associated high DC voltages ,
- Guarantee safe on-load disconnection several thousand times across the full range of DC currents linked to daily fluctuations in sunlight, up to 1500 VDC.

Devices designed for extreme conditions

SIRCOs have been designed for industrial use. They are extremely robust, with casings made from glass fibre-reinforced thermoset materials, bringing numerous benefits:

- Stable temperatures, unlike some thermoplastics,
- Excellent resistance to high temperatures,
- Good electrical characteristics: Arc and insulation resistance,
- Good mechanical characteristics: Dimensional stability and rigidity over time.

These benefits are particularly important in photovoltaic installations, where the temperature may be below 0°C or above 50°C.

Back-to-back design, an innovative solution

The SOCOMEC range of photovoltaic load break switches enables simultaneous on-load disconnection of two circuits using a single handle.

Advantages

- **Space saving:** The overall width is the same as that of 3 or 4 pole devices. This enables significant savings, as compared to the use of two separate devices.
- **Simple connection** and integration.
- **Increasing the voltage:** Connecting the two devices in series allows on-load disconnection of voltages above 1000 VDC.
- **Doubling the rating:** By connecting the two devices in parallel.

What are the standards that apply to photovoltaic installations?

For installations

Photovoltaic installations are governed by international standards such as IEC and UL. These standards provide the guidelines for commissioning a photovoltaic installation.

- IEC 60364-7-712: Electrical installations of buildings — Requirements for special installations or locations — Solar photovoltaic (PV) power supply systems.
- IEC 62548: Installation and safety requirements for photovoltaic (PV) generators.

For breaking devices

To date there is no specific IEC standard. Manufacturers must therefore refer to standard IEC 60947-3. **In the USA, the reference standard is UL98B.** This standard, which is more stringent than IEC 60947-3, requires strict testing, in particular concerning temperatures and resistance to electrical arcing.

SIRCO PVs have been developed in compliance with both IEC 60947-3 and UL98B.

Selection guide

Load break switches

Which application? ▶ Which function?

	Machine control			Power distribution		
					new 	
	SIRCO M **16 to 125 A** *p. 26*	***SIRCO MV*** **100 to 160 A** *p. 26*	***IDE*** **32 to 160 A** *p. 44*	***SIRCO*** **125 to 5000 A** *p. 52*	***SIRCO AC*** **200 to 4000 A** *p. 52*	
Applications						
Main switchboard	•	•	•	•	•	
Distribution panel	•	•	•	•	•	
Emergency load break	•	•	•	•	•	
Genset output	•	•	•			
Network coupling	•	•		•	•	
Local safety load break	•	•	•	•	•	
Machine control	•	•	•			
Photovoltaic load break						
Enclosed switches	•	•		•		
Functions						
3/4 pole load break switch	•	•	•	•	•	
6/8 pole load break switch	•			•	•(1)	
3/4 pole changeover switch (I-0-II)	•			*p. 328*	*p. 328*	
3/4 pole changeover switch (I-I+II-II)	•			*p. 328*	*p. 328*	
Characteristics						
Operation						
Manual (rotating)	•	•	•	•	•	
Manual toggle	•					
Trippable			•			
Motorised				*p. 181*	*p. 181*	
Direct operation handle						
Front	•	•	•	•	•	
Side						
External operation handle						
Front	•	•	•	•	•	
Right side	•	•		•		
Left side	•	•				
Indication of breaking						
Positive break indication	•	•	•	•	•	
Visible contacts		•				
Switch body						
Modular	•	•	•			

(1) Please consult us.

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Which operation handle? → Which type of breaking? → Which switch body?

	Power distribution		Photovoltaic				
			new 		new 		
	SIDER **125 to 1600 A** *p. 74*	***SIDERMAT*** **250 to 1800 A** *p. 88*	***SIRCO MC PV*** **25 to 40 A** *p. 98*	***SIRCO MV PV*** **63 to 160 A** *p. 110*	***SIRCO PV*** **100 to 3200 A** *p. 116*	***SIRCO DC PV UL*** **100 to 2000 A** *p. 158*	***SIRCO MOT PV*** **200 to 630 A** *p. 128*
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Selection guide

Load break switches - UL products

UL/CSA standards for Disconnect Switches

UL98 - Enclosed and dead front switches (equivalent to CSA-C22.2 no 4)

These requirements cover enclosed or dead front Switches, with or without provision for fuses, at 600 V or less.

These products are used as disconnecting meanswithout restrictions; they are heavy duty products requiring 2 inches (50 mm) minimum of creepage distance, which gives a maximum safety for users and installation. The short circuit withstand of those products goes up to 200 kA.

UL489 - Molded case switches (equivalent to CSA-C22.2 no 5)

This requirements cover Molded-case Circuit Breaker, Molded case switches and fused Molded-case switches, rated at 600 volts or less and 6000 amperes or less.

Typical control panel

UL standards for Electrical Machinery

UL508 - Industrial Control Equipment (equivalent to CSA-C22.2 no 14)

These requirements cover Manual, magnetic and solidstate Starters and Controllers, Overload relays, pushbuttons, selector switches, control lights…

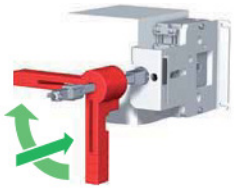
These products are IEC type products, smaller requiring only a creepage distance between phases of 1/2 inch. UL508 standard requested only 5 kA or 10 kA as short circuit withstand with fuse protection. Their use as a disconnecting mean is therefore limited to local disconnection of motors. These products can only be used as a disconnect mean when they have been additionally tested "suitable as motor disconnect". This additional testing ensures that the switch as a proper closing capacity on short circuit. UL508 (switches or Circuit breakers) can not be used as main disconnect of a electrical panel. (i.e. in entrance of control panels).

A manual motor controller marked "Suitable as motor disconnect" shall be installed only on the load side of the branch circuit protective device (UL508A 30.3.3 and NEC 430.109(6)).

NFPA 79 Electrical Standard for industrial machinery

The following types of machines are identified as industrial machinery:

- metalworking machine tools, including machines that cut or form metal,
- plastics machinery,
- wood machinery, including woodworking, laminating, and sawmill machines,
- assembly machines,
- material handling machines, including industrial robots and transfer machines,
- inspection and testing machines, including coordinate measuring and in-process gauging machines.



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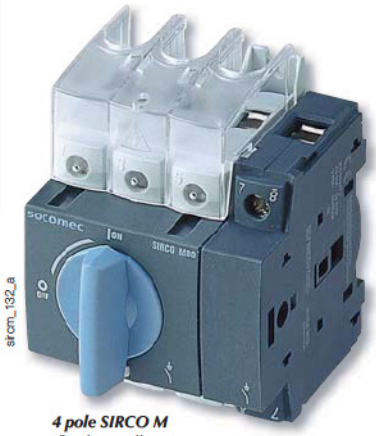
Which application? → Which function? → Which operation handle? → Which type of breaking?

	Machine control			Power distribution	
	new 				
	SIRCO M UL 508 **16 to 80 A** *p. 134*	***SIRCO M UL 98*** **30 to 100 A** *p. 144*	***SIRCO UL 98*** **100 to 1200 A** *p. 150*	***SIRCO DC UL 98B*** **100 to 2000 A** *p. 158*	***TVSS UL 98*** *p. 178*
Applications					
Main switchboard	•	•	•		
Distribution panel	•	•	•		
Emergency load break	•	•	•	•	
Genset output		•	•		
Network coupling		•	•		
Local safety load break	•	•	•		
Machine control	•	•			
Photovoltaic load break				•	
Enclosed switches	•	•	•		
Surge protection					•
Functions					
3/4 pole load break switch	•	•	•	•	•
6/8 pole load break switch	•			•	
3/4 pole changeover switch (I-0-II)	•				
3/4 pole changeover switch (I-I+II-II)	•				
Characteristics					
Operation					
Manual (rotating)	•	•	•	•	•
Manual toggle	•				
Motorised			•	•	
Direct operation handle					
Front	•	•	•	•	•
External operation handle					
Front	•	•	•	•	•
Right side	•				
Indication of breaking					
Positive break indication	•	•	•	•	•
Switch body					
Modular	•	•			

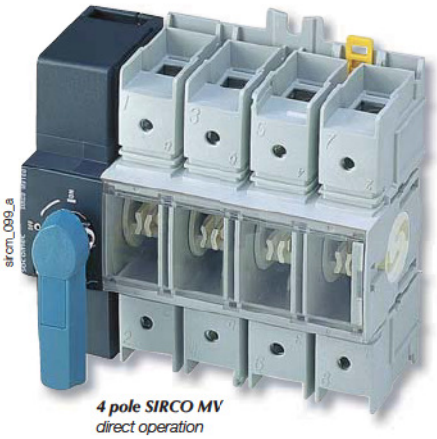
SIRCO M and MV

Universal load break switches

from 16 to 160 A



4 pole SIRCO M
direct operation



4 pole SIRCO MV
direct operation

Function

SIRCO M and **MV** are manually operated and modular multipolar load break switches.
They make and break under load conditions and provide safety isolation for any low voltage circuit, particularly for machine control circuits.

Through the use of accessories, **SIRCO M** can be transformed into multipolar load break or 3/4 pole changeover switches. SIRCO M changeover switches provide on load changeover switching between two sources or two low voltage power circuits, as well as their safety isolation.

Advantages

Total integration

The SIRCO M and MV fully integrate isolation, breaking and switching functions.
Within a single product, SIRCO M offers front, right side or left side operation. Their highly functional design enables SIRCO M to be easily transformed from a load break switch to a changeover switch, offering a highly innovative modular solution for numerous applications.

Wide range of accessories

A single standard 3 pole load break switch module, which can be complemented with a choice of accessories, offers a range of advantages:

- Simplicity when choosing the device.
- Flexibility to adapt to the most varied applications.
- Reduction in the cost of management and storage.

Upgradeability

Its wide range of accessories means that the SIRCO M can be upgraded, even after it has been commissioned, enabling future requirements to be met.

Compliance with major certifications and approvals

The SIRCO M and MV range of load break switches have been designed, qualified and tested according to the criteria defined by standards IEC 60947-3, UL508 and UL98.
This process guarantees a high quality level for the product which is fully adapted to arduous operating environments.

General characteristics

- Double break per pole.
- Mounting options: DIN-rail, panel or modular panel with 45 mm front cut-out.
- IP20 accessories.
- Severe utilisation categories (AC-22 and AC-23).

Specific characteristics

SIRCO M:

- Positive break indication.
- Contact point technology.
- Product can be mounted directly on the door or panel side; see “Door mounting kit” in the accessory section.

SIRCO MV:

- Visible double breaking based.
- Positive break indication.

The solution for

> Main incoming load break.
> Distribution load break.
> Machine control.
> Local safety load break.

Strong points

> Total integration.
> Wide range of accessories.
> Upgradeability.
> Compliance to major certifications and approvals.
> Specific characteristics.

Conformity to standards

> IEC 60947-3

> Other standards available:

**See pages SIRCO UL and CSA range*

Approvals and certifications(1)

(1) Product reference on request.

Local safety enclosures

> Fitted within a polycarbonate enclosure, the SIRCO M can be used, for example, for on-load breaking of a motor (AC23).

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What you need to know

SIRCO M

- SIRCO M can be operated in 3 different ways:

Complete switch body for toggle operation

Direct front operation with handle

External operation
front, left side or right side

- The SIRCO M is a **3 pole** load break switch which is available from **16 to 125 A**. It can be combined with a switched 4th pole, an unswitched neutral or PE pole and pre-break and signalling auxiliary contacts.
- The basic 3 pole device is available enclosed in a polycarbonate enclosure from 16 to 100 A (see page 600).

- From **16 to 125 A**, through the wide range of available accessories, it is possible to convert a **3 pole SIRCO M into a 4, 6 or 8 pole load break switch** or a **3/4 pole changeover switch.**
- Through use of its door mounting kit, SIRCO M load break switches can be mounted on the panel door.

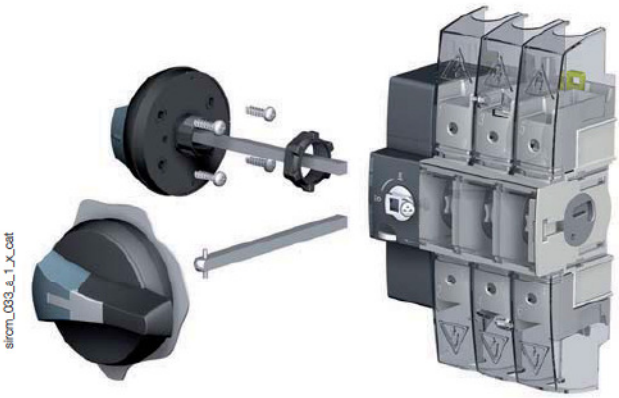
Changeover switches **I - 0 - II**

SIRCO MV

- 3 operations are available:

Direct front operation

External **right side** operation



External **front** and **left side** operation

- SIRCO MV can be ordered in **3** or **4 pole** from **100** to **160 A.**
- Two types of auxiliary contacts are available:
  - U-type pre-break,
  - M-type for signalisation.

References

SIRCO M

Rating (A)	No. of poles	Complete switch body with toggle operation	Switch body	Direct handle	Door interlocked external front and right side handle[5]	External left side handle[5]	External front handle for changeover switch[5]	Shaft for external front and side handle[5]	4th pole
16 A	3 P	2205 **3000**	2200 **3000**[1][2][3]	M00 type Blue 2299 **5012** Red 2299 **5013**	S00 type I -0 Black IP55 1471 **1111**[4] Black IP65 1473 **1111**[4] Red/Yellow IP65 1474 **1111**[4]	S00 type I -0 Black IP65 147A **5111** Red/Yellow IP65 147B **5111**	S00 type I - 0 - II Black IP65 1473 **1113**[4] I - I+II - II Black IP65 1473 **1114**[4]	S0, S00 type 150 mm 1407 **0515** 200 mm 1407 **0520** 320 mm 1407 **0532**	2200 **1000**
20 A	3 P	2205 **3001**	2200 **3001**[1][2][3]						2200 **1001**
25 A	3 P	2205 **3002**	2200 **3002**[1][2][3]						2200 **1002**
32 A	3 P	2205 **3003**	2200 **3003**[1][2][3]						2200 **1003**
40 A	3 P	2205 **3004**	2200 **3004**[1][2][3]						2200 **1004**
63 A	3 P	2205 **3006**	2200 **3006**[1][2][3]						2200 **1006**
80 A	3 P	2205 **3008**	2200 **3008**[1][2][3]						2200 **1008**
100 A	3 P		2200 **3010**[1][2][3]	M01 type Blue 2299 **5032**	S0 type I -0 Black IP55 1481 **1111**[4] Black IP65 1483 **1111**[4] Red/Yellow IP65 1484 **1111**[4]	S0 type I -0 Black IP65 148A **5111** Red/Yellow IP65 148B **5111**			2200 **1010**
125 A	3 P		2200 **3011**[1][2][3]						2200 **1011**

(1) Front and side operation.
(2) For a 6-pole device in direct operation, order 2 x 3 pole device + conversion kit (for external operation, add the shaft + the handle).
(3) For an 8-pole device in direct operation, order 2 x 3 pole device + 2 x 4th poles + conversion kit (for external operation, add the shaft + the handle).
(4) Defeatable handle.
(5) Other handles are available. Please see accessory pages.

SIRCO M

Rating (A)	No. of poles	Complete switch body toggle operation	Switch body	Unswitched neutral pole	Unswitched protective earth module	Auxiliary contact	Terminal shrouds	Door mounting kit
16 A	3 P	2205 **3000**	2200 **3000**(1)(2)(3)	1 P 2200 **5005**	1 P 2200 **9005**	M-type contact NO + NC 2299 **0001**	1 P 2294 **1005**(4) 3 P 2294 **3005**(4)	3/4 P Complete protection IP2X 2299 **3309**(5) Compact design 2209 **3409**(5) 6/8 P Steel support 2299 **3609**(5)
20 A	3 P	2205 **3001**	2200 **3001**(1)(2)(3)					
25 A	3 P	2205 **3002**	2200 **3002**(1)(2)(3)					
32 A	3 P	2205 **3003**	2200 **3003**(1)(2)(3)					
40 A	3 P	2205 **3004**	2200 **3004**(1)(2)(3)					
63 A	3 P	2205 **3006**	2200 **3006**(1)(2)(3)	1 P 2200 **5009**	1 P 2200 **9009**	2 NO 2299 **0011**	1 P 2294 **1009**(4) 3 P 2294 **3009**(4)	
80 A	3 P	2205 **3008**	2200 **3008**(1)(2)(3)					
100 A	3 P		2200 **3010**(1)(2)(3)	1 P 2200 **5011**	1 P 2200 **9011**		1 P 2294 **1011**(4) 3 P 2294 **3016**(4)	3/4 P Steel support 2299 **3609**(5)
125 A	3 P		2200 **3011**(1)(2)(3)					

(1) Front and side operation.
(2) For a 6-pole device in direct operation, order 2 x 3 pole device + conversion kit (for external operation, add the shaft + the handle).
(3) For an 8-pole device in direct operation, order 2 x 3 pole device + 2 x 4th poles + conversion kit (for external operation, add the shaft + the handle).
(4) Top and bottom.
(5) Delivered with a shaft.

References (continued)

SIRCO MV

Rating (A)	No. of poles	Switch body	Direct handle	External front and right side handle [4]	External left side handle[4]	Shaft for external front and side handle[4]	Auxiliary signal contact	Pre-break auxiliary contact	Terminal shrouds
100 A	3 P	2200 **3110**	M0b type Blue 2299 **5042**[1] M0 type Blue 2299 **5022**	S0 type I -0 Black IP55 1491 **0111**[2] Black IP65 1493 **0111**[2] Red/Yellow IP65 1494 **0111**[2]	S0 type I -0 Black IP65 149A **9111** Red/Yellow IP65 149B **9111**	S0 type 150 mm 1409 **0615** 200 mm 1409 **0620** 320 mm 1409 **0632**	M-type contact NO + NC 2299 **0001** 2 NO 2299 **0011**	U type 1 contact NC 3999 **0701** 1 contact NO 3999 **0702**	3 P 2294 **3016**[3] 4 P 2294 **4016**[3]
	4 P	2200 **4110**							
125 A	3 P	2200 **3012**							
	4 P	2200 **4012**							
160 A	3 P	2200 **3016**							
	4 P	2200 **4016**							

(1) Standard.
(2) Defeatable handle.
(3) Top and bottom.
(4) Other handles are available. Please see accessory pages.

Accessories

Direct operation handle

SIRCO M

Rating (A)	Handle colour	Handle	Reference
16 ... 80	Blue	M00 type	2299 **5012**(1)
16 ... 80	Red	M00 type	2200 **5013**
100 ... 125	Blue	M01 type	2200 **5032**(1)

(1) Standard.

SIRCO MV

Rating (A)	Handle colour	Handle	Reference
100 ... 160	Blue	M0b type	2299 **5042**(1)
100 ... 160	Blue	M0 type	2299 **5022**

(1) Standard.

M00 handle

M01 handle

M0 handle

M0b handle

SIRCO M - External operation handle

S000 type handle

Rating (A)	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
16 ... 80	Switch	3/4 P	Front and side operation	Black	IP65	no	1463 **5111**
16 ... 80	Switch	3/4 P	Front and side operation	Red/Yellow	IP65	no	1464 **5111**
16 ... 80	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	no	1463 **5113**
16 ... 80	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	no	1463 **5114**

S000 handle

acces_307_a_1_cat

S00 type handle

Rating (A)	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
16 ... 80	Switch	3/4 P(1)	Front and side operation	Black	IP55	yes	1471 **1111**
16 ... 80	Switch	3/4 P(1)	Front and side operation	Black	IP65	yes	1473 **1111**
16 ... 80	Switch	3/4 P(1)	Front and side operation	Red/Yellow	IP65	yes	1474 **1111**
16 ... 80	Switch	3/4 P	Left side	Black	IP65	no	147A **5111**
16 ... 80	Switch	3/4 P	Left side	Red/Yellow	IP65	no	147B **5111**
100 ... 125	Switch	6/8 P	Front	Black	IP55	yes	1471 **0111**
100 ... 125	Switch	6/8 P	Front	Black	IP65	yes	1473 **0111**
100 ... 125	Switch	6/8 P	Front	Red/Yellow	IP65	yes	1474 **0111**
16 ... 80	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1473 **1113**
16 ... 80	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	yes	1473 **1114**
100 ... 125	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1473 **0113**
100 ... 125	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	yes	1473 **0114**

(1) Can also be used with 6 and 8 poles with front operation.


S00 handle

acces_341_a_1_cat

S0 type handle

Rating (A)	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
100 ... 125	Switch	3/4 P	Front and side operation	Black	IP55	yes	1481 **1111**
100 ... 125	Switch	3/4 P	Front and side operation	Black	IP65	yes	1483 **1111**
100 ... 125	Switch	3/4 P	Front and side operation	Red/Yellow	IP65	yes	1484 **1111**
100 ... 125	Switch	3/4 P	Left side	Black	IP65	no	148A **5111**
100 ... 125	Switch	3/4 P	Left side	Red/Yellow	IP65	no	148B **5111**


S0 handle

acces_343_a

S01 type handle

Rating (A)	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
16 ... 125	Switch	3/4 P(2)	Front and side operation	Black	IP65	yes	1403 **2111**
16 ... 125	Switch	3/4 P(2)	Front and side operation	Red/Yellow	IP65	yes	1404 **2111**
16 ... 125	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1403 **2113**
16 ... 125	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1403 **2813**(1)
16 ... 125	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	yes	1403 **2114**
16 ... 125	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	yes	1403 **2814**(1)

(1) Padlockable in 3 positions
(2) Can also be used with 6 and 8 pole devices from 16 to 40 A.


S01 handle

acces_304_a_1_cat

Accessories (continued)

SIRCO MV - External operation handle

S0 type handle

Rating (A)	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
100 ... 160	Switch	3/4 P	Front and side operation	Black	IP55	yes	1491 **0111**
100 ... 160	Switch	3/4 P	Front and side operation	Black	IP65	yes	1493 **0111**
100 ... 160	Switch	3/4 P	Front and side operation	Red/Yellow	IP65	yes	1494 **0111**
100 ... 160	Switch	3/4 P	Left side	Black	IP65	no	149A **9111**
100 ... 160	Switch	3/4 P	Left side	Red/Yellow	IP65	no	149B **9111**

S0 handle

S1 type handle

Rating (A)	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
100 ... 160	Switch	3/4 P	Front	Black	IP55	yes	1411 **2111**
100 ... 160	Switch	3/4 P	Front	Black	IP65	yes	1413 **2111**
100 ... 160	Switch	3/4 P	Front	Red/Yellow	IP65	yes	1414 **2111**
100 ... 160	Switch	3/4 P	Right side	Black	IP55	no	1415 **2111**
100 ... 160	Switch	3/4 P	Right side	Black	IP65	no	1517 **2111**
100 ... 160	Switch	3/4 P	Right side	Red/Yellow	IP65	no	1418 **2111**
100 ... 160	Switch	3/4 P	Left side	Black	IP65	no	141A **2111**
100 ... 160	Switch	3/4 P	Left side	Red/Yellow	IP65	no	141B **2111**

S1 Handle

Shaft for external handle

SIRCO M 3/4 P

Rating (A)	Handle	Type	Length (mm)	Reference
16 ... 125	S000/S00/S0 type	Switch	150 mm	1407 **0515**
16 ... 125	S000/S00/S0 type	Switch	200 mm	1407 **0520**
16 ... 125	S000/S00/S0 type	Switch	320 mm	1407 **0532**
16 ... 125	S01 type	Switch	200 mm	1404 **0520**
16 ... 125	S01 type	Switch	320 mm	1404 **0532**
16 ... 125	S01 type	Switch	400 mm	1404 **0540**

SIRCO M 6/8 P load break switch and 3/4 P changeover switch

Rating (A)	Handle	Type	Length (mm)	Reference
16 ... 80	S00, S000 type	6/8 P and changeover switch	150 mm	1407 **0515**
16 ... 80	S00, S000 type	6/8 P and changeover switch	200 mm	1407 **0520**
16 ... 80	S00, S000 type	6/8 P and changeover switch	320 mm	1407 **0532**
100 ... 125	S00 type	6/8 P and changeover switch	150 mm	1409 **0615**
100 ... 125	S00 type	6/8 P and changeover switch	200 mm	1409 **0620**
100 ... 125	S00 type	6/8 P and changeover switch	320 mm	1409 **0632**
16 ... 40	S01 type	6/8 P	200 mm	1404 **0520**
16 ... 40	S01 type	6/8 P	320 mm	1404 **0532**
16 ... 40	S01 type	6/8 P	400 mm	1404 **0540**
16 ... 80	S01 type	Changeover switch	200 mm	1404 **0620**
16 ... 80	S01 type	Changeover switch	320 mm	1404 **0532**
16 ... 80	S01 type	Changeover switch	400 mm	1404 **0540**
100 ... 125	S01 type	Changeover switch	150 mm	1409 **0615**
100 ... 125	S01 type	Changeover switch	200 mm	1409 **0620**
100 ... 125	S01 type	Changeover switch	320 mm	1409 **0632**

For SIRCO MV

Rating (A)	Handle	Type	Length (mm)	Reference
100 ... 160	S0 type	Switch	150 mm	1409 **0615**
100 ... 160	S0 type	Switch	200 mm	1409 **0620**
100 ... 160	S0 type	Switch	320 mm	1409 **0632**
100 ... 160	S1 type	Switch	200 mm	1401 **0620**
100 ... 160	S1 type	Switch	320 mm	1401 **0632**
100 ... 160	S1 type	Switch	400 mm	1401 **0640**

Use

Standard lengths:
- 150 mm,
- 200 mm,
- 320 mm,
- 400 mm.

Other lengths: Please consult us.

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

For 6/8 pole switches and changeover switches, shaft extensions are for front operation only.

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 a shaft lengths over 320 mm.

Description	Handle type	To be ordered in multiples of	Reference
Shaft guide	S00 and S0 / S000	10 pieces	1419 **0000**
Shaft guide	S01 and S1	1 piece	1429 **0000**

4th pole- Additional pole for SIRCO M

Use
Installation of this switched pole converts:
- a 3 pole SIRCO M into a 4 pole load break switch,
- a 6 pole SIRCO M into an 8 pole load break switch,
- a 3 pole SIRCO M changeover switch into a 4 pole changeover switch..

4th pole — Protective earth module — Neutral pole

Rating (A)	No. of poles	Type	Reference
16	1 P	switched	2200 **1000**
20	1 P	switched	2200 **1001**
25	1 P	switched	2200 **1002**
32	1 P	switched	2200 **1003**
40	1 P	switched	2200 **1004**
63	1 P	switched	2200 **1006**
80	1 P	switched	2200 **1008**
100	1 P	switched	2200 **1010**
125	1 P	switched	2200 **1011**

Neutral pole

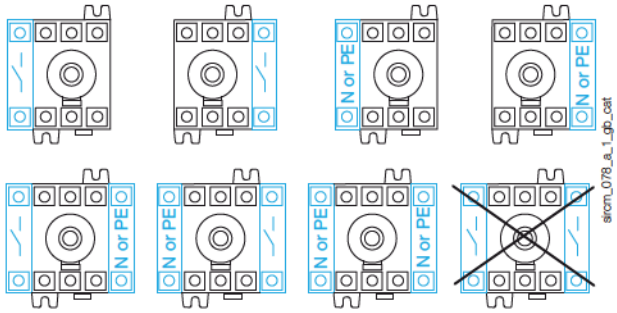
Use
Provides a solid neutral pole for a 3 pole SIRCO M.

Rating (A)	No. of poles	Type	Reference
16 ... 40	1 P	unswitched	2200 **5005**
63 ... 80	1 P	unswitched	2200 **5009**
100 ... 125	1 P	unswitched	2200 **5011**

Protective earth module

Use
Provides a protective earth pole for a 3/4 pole SIRCO M.

Rating (A)	No. of poles	Type	Reference
16 ... 40	1 P	unswitched	2200 **9005**
63 ... 80	1 P	unswitched	2200 **9009**
100 ... 125	1 P	unswitched	2200 **9011**

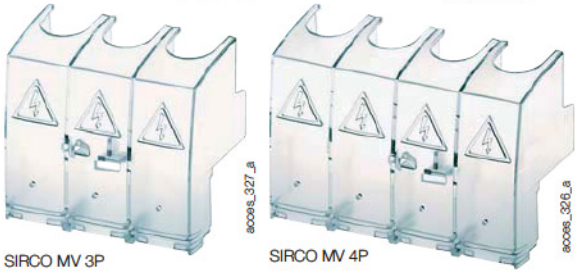


Additional pole configuration

Terminal shrouds

Use
Top and bottom protection against direct contact with the terminals or connection parts.
Available in 1 or 3 pole versions for SIRCO M and in 3 or 4 pole versions for SIRCO MV.
An opening on each terminal cover makes it possible to insert a temperature measurement probe.

SIRCO M 3P — SIRCO M 1P



SIRCO MV 3P — SIRCO MV 4P

For SIRCO M

Rating (A)	No. of poles	Position	Reference
16 ... 40	1 P	top and bottom	2294 **1005**
16 ... 40	3 P	top and bottom	2294 **3005**
63 ... 80	1 P	top and bottom	2294 **1009**
63 ... 80	3 P	top and bottom	2294 **3009**
100 ... 125	1 P	top and bottom	2294 **1011**
100 ... 125	3 P	top and bottom	2294 **3016**

For SIRCO MV

Rating (A)	No. of poles	Position	Reference
100 ... 160	3 P	top and bottom	2294 **3016**
100 ... 160	4 P	top and bottom	2294 **4016**

Accessories (continued)

M type auxiliary contacts

Use

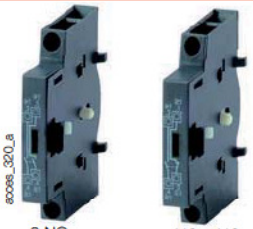
Pre-break and signalisation of positions 0 and I by NO+NC or 2 NO auxiliary contacts.
They allow to anticipate the switching of the main poles. They can be mounted on the left or on the right side of the device.

Max 4 auxiliary contacts (2 modules).
Pre-break is not guaranteed on the SIRCO MV.

Characteristics

NO+NC auxiliary contacts: IP2 with front operation.

M type



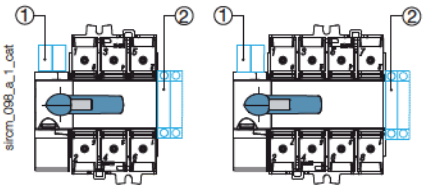
SIRCO M			
Rating (A)	**Number of AC**	**Type of AC**	**Reference**
16 ... 125	1 AC	NO + NC	2299 **0001**
16 ... 125	1 AC	2 NO	2299 **0011**

SIRCO MV			
Rating (A)	**Number of AC**	**Type of AC**	**Reference**
100 ... 160	1 AC	NO + NC	2299 **0001**
100 ... 160	1 AC	2 NO	2299 **0011**

Characteristics

Contact type	Nominal current (A)	Operating current I_e (A) 230 VAC	
		AC-13	AC-15
NO + NC	10	10	6

Auxiliary contact configurations for SIRCO MV



1. Maximum 2 "U" type auxiliary contacts.
2. Maximum 2 "M" type auxiliary contact modules.

For SIRCO MV			
Rating (A)	**Number of AC**	**Type of AC**	**Reference**
100 ... 160	1 AC	NC	3999 **0701**
100 ... 160	1 AC	NO	3999 **0702**

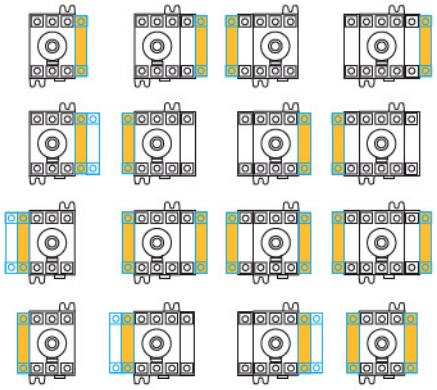
Characteristics

Contact type	Nominal current (A)	Operating current I_e (A)			
		250 VAC AC-15	400 VAC AC-15	24 VDC DC-13	48 VDC DC-13
NC	10	3	1.8	2.8	1.4
NO	10	3	1.8	2.8	1.4

Auxiliary contact configurations for SIRCO M

Max: 2 blocks / Max: 2 AC

Pre-break | No Pre-break



U type

Use

Pre-break and signalisation by NO or NC auxiliary contact.

Maximum 2 auxiliary contacts. Only available for SIRCO MV switches.

Conversion kit

Use

This accessory enables the assembly of two 3 pole switches (+ additional pole) in order to create a:
- 6 or 8 pole SIRCO M load break switch,
- a 3 or 4 pole SIRCO M changeover switch.

SIRCO M changeover switches provide on load changeover switching between two sources or two low voltage power circuits, as well as their safety isolation (I - 0 - II); transfer without interruption of the supply is also possible (I - I+II - II).

Conversion kits are supplied with a direct front operation handle. For external operation the appropriate handle needs to be ordered.

Conversion kit for 6 or 8 pole load break switches

Conversion kit for changeover switches I - 0 - II

Conversion kit for changeover switches I - I+II - II

Load break switches 6/8 P		
Rating (A)	**Type**	**Reference**
16 ... 80	6/8P switch	2269 **6009**
100 ... 125	6/8P switch	2269 **6011**

Changeover switches I - 0 - II		
Rating (A)	**Type**	**Reference**
16 ... 80	Changeover switches I - 0 - II	2209 **6009**
100 ... 125	Changeover switches I - 0 - II	2209 **6011**

Changeover switches I - I+II - II		
Rating (A)	**Type**	**Reference**
16 ... 80	Changeover switches I - I+II - II	2299 **6009**
100 ... 125	Changeover switches I - I+II - II	2299 **6011**

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Door mounting kit

Use

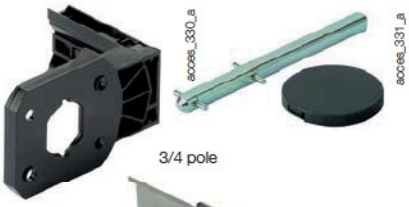
This kit enables the direct mounting of the switch on the panel door, or on the left or right side of the panel.

The connection clamps of the switch are always accessible.

The external handle is quick and easy to install with the supplied locking nut mounted on the inside of the enclosure.

3 kits are available:

- one for complete IP2X protection
- one with compact design
- one in steel for 6/8 P and 3/4 P 100/125 A.



3/4 pole

6/8 pole

For SIRCO M			
Rating (A)	**No. of poles**	**Description**	**Reference**
16 ... 80	3/4 P	Complete IP2X protection	2299 **3309**
16 ... 80	3/4 P	Compact version	2299 **3409**
16 ... 80	6/8 P	Steel support	2299 **3609**
100 ... 125	3/4 P	Steel support	2299 **3609**

Cap for side operation mounting

Use

This accessory enables the front face of the SIRCO M to be capped when the switch is side operated. 20 pieces supplied per pack.

This piece snaps into place directly on the front face of the switch.

For SIRCO M		
Rating (A)	**Pack**	**Reference**
16 ... 125	20 pieces	2299 **9409**

6/8 pole joining accessory

Use

This accessory enables two 3/4 pole switches to be coupled in order to provide a 6 or 8 pole switch for external side operation.40 pieces supplied per pack.

For multi-pole switches, please consult us.

For SIRCO M		
Rating (A)	**Pack**	**Reference**
16 ... 80	40 pieces	2299 **9909**

DIN rail locking clip

Use

This locking clip prevents the SIRCO MV from sliding when DIN rail mounted.

For SIRCO MV		
Rating (A)	**Type**	**Reference**
100 ... 160	Locking clip M4	5000 **0041**
100 ... 160	Locking clip M5	5000 **0051**

Voltage sensing and power supply tap

Use

This single-pole voltage sensing tap allows the connection of 2 x ≤1.5 mm² voltage sensing or power cables to any SIRCO MV power terminal without reducing its connection capacity.

For SIRCO MV		
Rating (A)	**Pack**	**Reference**
100 ... 160	2 pieces	1399 **4006**

Characteristics according to IEC 60947-3

SIRCO M - 16 to 125 A

Thermal current I_{th} (40 °C)		16 A	20 A	25 A	32 A	40 A	63 A	80 A	100 A	125 A
Rated insulation voltage U_i (V)		800	800	800	800	800	800	800	800	800
Rated impulse withstand voltage U_{imp} (kV)		8	8	8	8	8	8	8	8	8
Rated operational currents I_e (A)										
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
415 VAC	AC-20 A / AC-20 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
415 VAC	AC-21 A / AC-21 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
415 VAC	AC-22 A / AC-22 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
415 VAC	AC-23 A / AC-23 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
500 VAC	AC-20 A / AC-20 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
500 VAC	AC-21 A / AC-21 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
500 VAC	AC-22 A / AC-22 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
500 VAC	AC-23 A / AC-23 B	16/16	20/20	25/25	25/25	25/25	63/63	63/63	80/80	100/100
690 VAC	AC-20 A / AC-20 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
690 VAC	AC-21 A / AC-21 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
690 VAC	AC-22 A / AC-22 B	16/16	20/20	25/25	32/32	32/40	40/63	63/80	80/100	100/125
690 VAC	AC-23 A / AC-23 B	16/16	20/20	25/25	25/25	25/25	40/40	40/40	63/63	63/63
110 VDC	DC-20 A / DC-20 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
110 VDC	DC-21 A / DC-21 B	16/16(2)	20/20(2)	25/25(2)	32/32(2)	40/40(2)	63/63(2)	80/80(2)	100/100(2)	125/125(2)
250 VDC	DC-20 A / DC-20 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
250 VDC	DC-21 A / DC-21 B	16/16(3)	20/20(3)	25/25(3)	32/32(3)	40/40(3)	63/63(3)	80/80(3)	100/100(3)	125/125(3)
400 VDC	DC-20 A / DC-20 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100	125/125
400 VDC	DC-21 A / DC-21 B	16/16(4)	20/20(4)	25/25(4)	25/25(4)	25/25(4)	40/40(4)	40/40(4)	63/63(4)	63/63(4)
Operational power in AC-23 (kW)										
400 VAC without pre-break AC(kW)(5)		7.5	9	11	15	18.5	30	37	45	55
500 VAC without pre-break AC(kW)(5)		7.5	9	11	15	18.5	30	37	45	55
690 VAC without pre-break AC(kW)(5)		7.5	11	15	15	15	30	37	45	55
Fuse protected short-circuit withstand (kA rms prospective)(6)										
Prospective short-circuit current (kA rms)		50	50	50	50	50	50	50	25	25
Associated fuse rating (A)		16	20	25	32	40	63	80	100	125
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s										
Rated short-time withstand current 0.3s. I_{cw} (kA rms)		2.5	2.5	2.5	2.5	2.5	3	3	5	5
Short-circuit capacity (without protection)										
Rated short-time withstand current 1s. I_{cw} (kA rms)		1.26	1.26	1.26	1.26	1.26	1.5	1.5	2.75	2.75
Rated short-circuit making capacity without fuses I_{cm} (kA peak)		1.8	1.8	1.8	1.8	1.8	2.1	2.1	3.9	3.9
Connection										
Maximum Cu cable cross-section (mm²)		1.5	1.5	1.5	1.5	1.5	2.5	2.5	10	10
Maximum Cu cable cross-section (mm²)		16	16	16	16	16	35	35	70	70
Tightening torque min/max (Nm)		2 / 2.2	2 / 2.2	2 / 2.2	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)		100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000
Operating effort - 3 pole device (Nm)		1	1	1	1	1	1.4	1.4	1.6	1.6
Operating effort - 4 pole device (Nm)		1.2	1.2	1.2	1.2	1.2	1.6	1.6	2	2
Weight of a 3 pole device (kg)		0.18	0.18	0.18	0.18	0.18	0.27	0.27	0.55	0.55
Weight of a 4 pole device (kg)		0.23	0.23	0.23	0.23	0.23	0.33	0.33	0.72	0.72
Weight of a 6 pole device (kg)		0.40	0.40	0.40	0.40	0.40	0.59	0.59	1.30	1.30
Weight of a 8 pole device (kg)		0.50	0.50	0.50	0.50	0.50	0.69	0.69	1.65	1.65
Weight of a 3 pole device (kg)		0.40	0.40	0.40	0.40	0.40	0.59	0.59	1.30	1.30
Weight of a 4 pole device (kg)		0.50	0.50	0.50	0.50	0.50	0.69	0.69	1.65	1.65

(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) one pole per polarity.
(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 Ue = 415 VAC

Characteristics according to IEC 60947-3

SIRCO MV - 100 to 160 A

Thermal current I_{th} (40 °C)		**100 A**	**125 A**	**160 A**
Rated insulation voltage U_i (V)		800	800	800
Rated impulse withstand voltage U_{imp} (kV)		8	8	8
Rated operational currents I_e (A)				
Rated voltage	**Utilisation category**	**A/B[1]**	**A/B[1]**	**A/B[1]**
415 VAC	AC-20 A / AC-20 B	100/100	125/125	160/160
415 VAC	AC-21 A / AC-21 B	100/100	125/125	160/160
415 VAC	AC-22 A / AC-22 B	100/100	125/125	160/160
415 VAC	AC-23 A / AC-23 B	100/100	125/125	125/160
500 VAC	AC-20 A / AC-20 B	100/100	125/125	160/160
500 VAC	AC-21 A / AC-21 B	100/100	125/125	160/160
500 VAC	AC-22 A / AC-22 B	100/100	125/125	125/160
500 VAC	AC-23 A / AC-23 B	80/80	100/100	100/100
690 VAC	AC-20 A / AC-20 B	100/100	125/125	160/160
690 VAC	AC-21 A / AC-21 B	100/100	125/125	160/160
690 VAC	AC-22 A / AC-22 B	63/80	80/100	100/125
690 VAC	AC-23 A / AC-23 B	63/63	80/80	80/80
110 VDC	DC-20 A / DC-20 B	100/100	125/125	160/160
110 VDC	DC-21 A / DC-21 B	100/100[2]	125/125[2]	160/160[2]
250 VDC	DC-20 A / DC-20 B	100/100	125/125	160/160
250 VDC	DC-21 A / DC-21 B	100/100[3]	125/125[3]	160/160[3]
400 VDC	DC-20 A / DC-20 B	100/100	125/125	160/160
400 VDC	DC-21 A / DC-21 B	100/100[4]	125/125[4]	160/160[4]
Operational power in AC-23 (kW)				
400 VAC without pre-break AC(kW)[5]		45	55	75
500 VAC without pre-break AC(kW)[5]		45	55	75
690 VAC without pre-break AC(kW)[5]		45	75	75
Fuse protected short-circuit withstand (kA rms prospective)[6]				
Prospective short-circuit current (kA rms)		100	65	50
Associated fuse rating (A)		100	125	160
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s				
Rated short-time withstand current 0.3s. I_{cw} (kA rms)		7	7	7
Short-circuit capacity (without protection)				
Rated short-time withstand current 1s. I_{cw} (kA rms)		4	4	4
Rated short-circuit making capacity without fuses I_{cm} (kA peak)		7	7	7
Connection				
Maximum Cu cable cross-section (mm²)		10	10	10
Maximum Cu cable cross-section (mm²)		70	70	70
Tightening torque min/max (Nm)		4 / 4.4	4 / 4.4	4 / 4.4
Mechanical characteristics				
Durability (number of operating cycles)		50 000	50 000	50 000
Operating effort - 3 pole device (Nm)		4	4	4
Operating effort - 4 pole device (Nm)		4.2	4.2	4.2
Weight of a 3 pole device (kg)		0.68	0.68	0.68
Weight of a 4 pole device (kg)		0.85	0.85	0.85

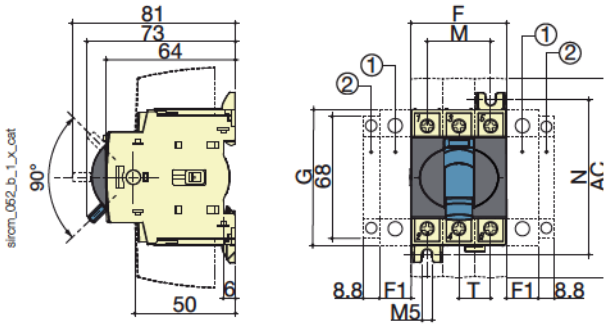
(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) One pole per polarity.
(3) 2 poles in series for the "+" and 1 pole for the "-".
(4) 2 poles in series per polarity.
(5) The power value is given for information only, the current values vary from one manufacturer to another.
(6) For a rated operational voltage U_e = 415 VAC.

Dimensions

SIRCO M

SIRCO M 16 to 80 A

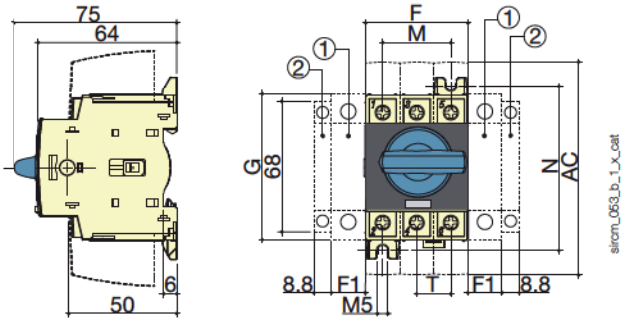
Toggle operation



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

Note: max 2 additional blocks.

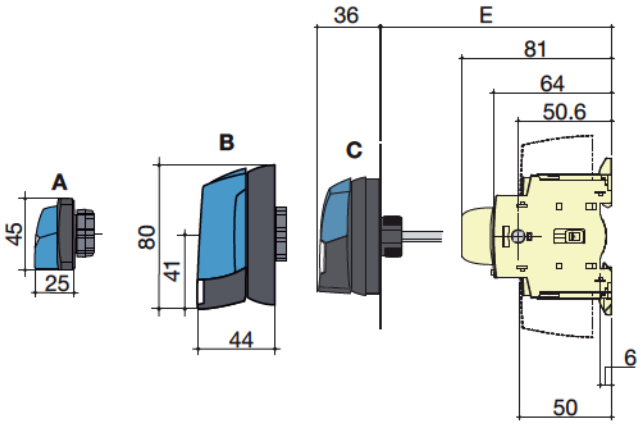
Direct operation with handle



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

Note: max 2 additional blocks.

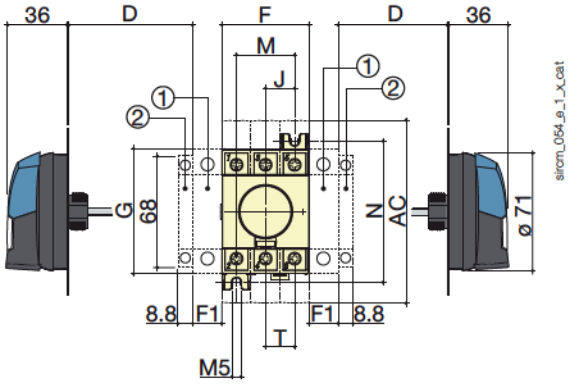
External front operation



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

Note: max 2 additional blocks.

External side operation



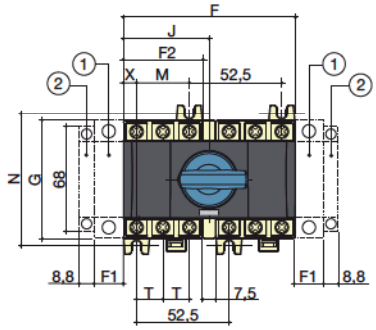
A. S000 Handle
B. S01 Handle.
C. S00 Handle.

Rating (A)	Overall dimensions				Terminal shrouds	Switch body				Switch mounting		Connection
	D min	D max	E min	E max	AC	F	F1	G	J	M	N	T
16…40	30	235	100	372	110	45	15	68	15	30	75	15
63…80	30	235	100	372	110	52.5	17.5	76	17.5	35	85	17.5

SIRCO M

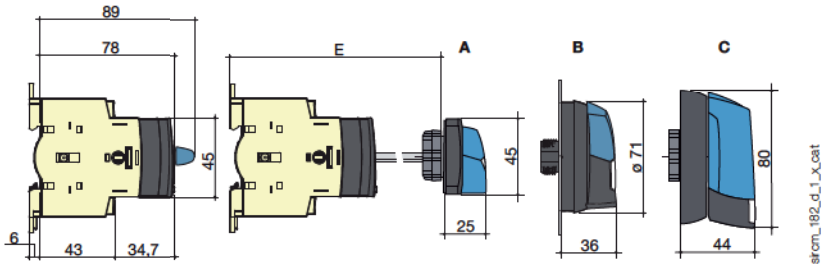
SIRCO M 16 to 80 A (continued)

Direct front operation for 6/8 pole load break switches or 3/4 pole changeover switches.



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

External front operation for 6/8 pole load break switches or 3/4 pole changeover switches.



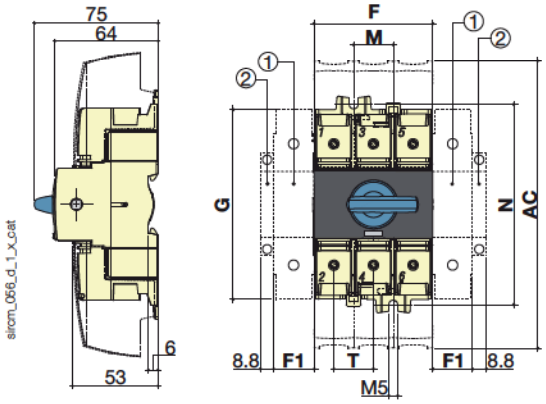
2. Position for 1 auxiliary contact module only.
Note: max 2 additional blocks.

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
16…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

SIRCO M 100 to 125 A

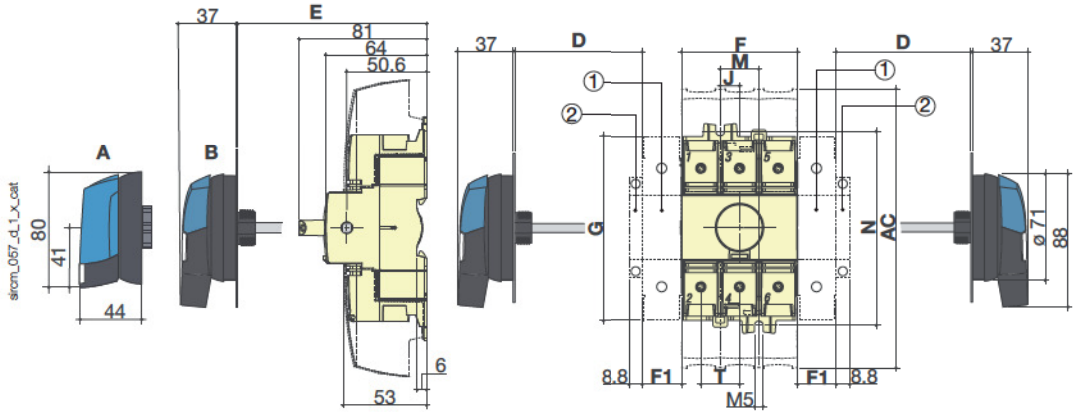
Direct operation with handle



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

External front operation

External side operation



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

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

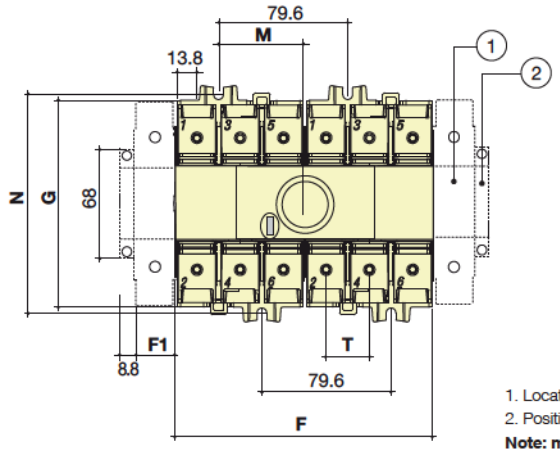
A. S01 Handle.
B. S0 Handle.

Rating (A)	Overall dimensions				Terminal shrouds	Switch body				Switch mounting		Connection
	D min	D max	E min	E max	AC	F	F1	G	J	M	N	T
100 … 125	30	201	100	372	189	78	26	124.6	13	26	131.4	26

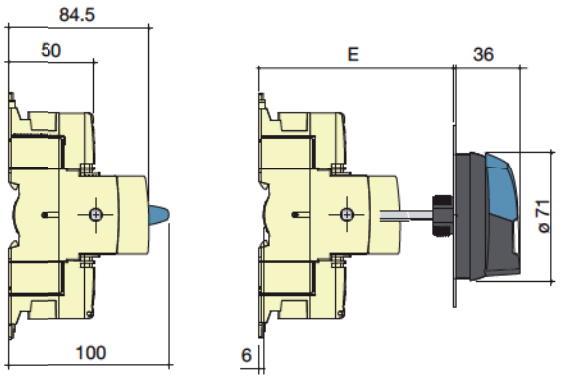
Dimensions (continued)

SIRCO M 100 to 125 A 6/8 P and 3/4 P changeover switch

Direct front operation for 3/4 pole changeover switches



External front operation for 3 and 4 pole changeover switches



sirom_183_e_1_x_cat

1. Location for: 1 main pole **or** 1 auxiliary contact (See accessories page 33 and 34).
2. Position for 1 auxiliary contact module only

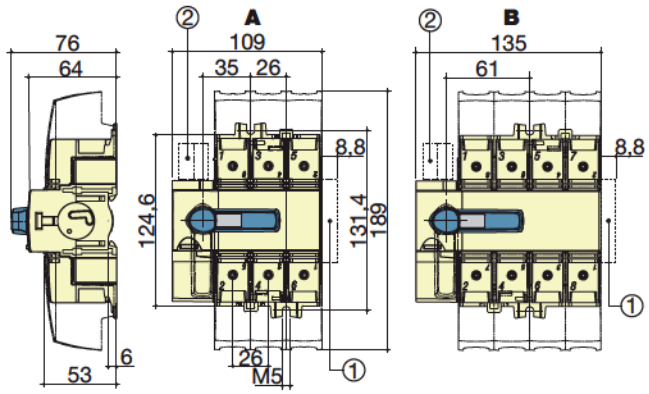
Note: max 2 additional blocks.

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

SIRCO MV

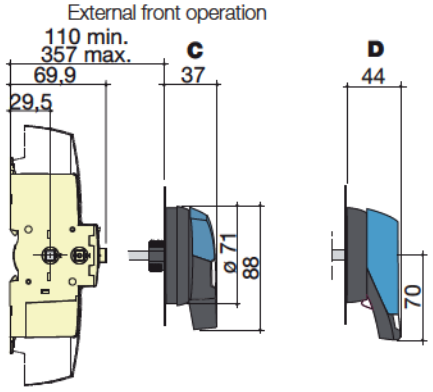
SIRCO MV - 100 to 160 A

Direct front operation



A. 3 poles
B. 4 poles

External front operation

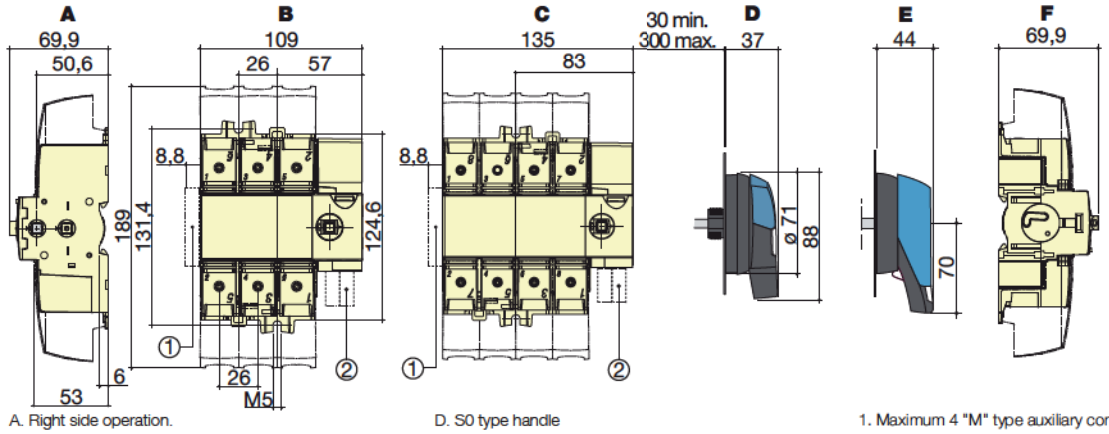


C. S0 type handle
D. S1 type handle

1. Maximum 4 "M" type auxiliary contacts
2. Maximum 2 "U" type auxiliary contacts

sirom_068_c_1_x_cat

External side operation



A. Right side operation.
B. 3 poles
C. 4 poles

D. S0 type handle
E. S1 type handle
F. Left side operation

1. Maximum 4 "M" type auxiliary contacts
2. Maximum 2 "U" type auxiliary contacts

sirom_069_d_1_x_cat

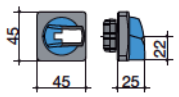
socomec Innovative Power Solutions

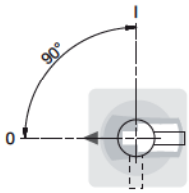
Dimensions for external handles

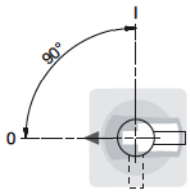
SIRCO M

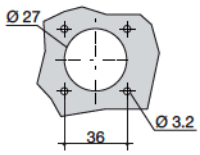
16 to 80 A

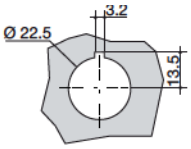
Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S000 type Load break switches		Right side operation	With 4 fixing screws / With fixing nut





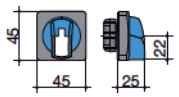


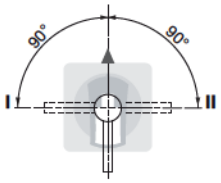


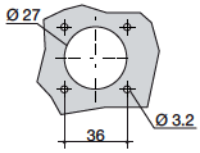


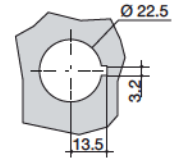
poign_016_a_1_gb_cat

Handle type	Front operation Direction of operation	Door drilling
S000 type Changeover switches I-0-II and I - I+II - II	0 or I+II	With 4 fixing screws / With fixing nut



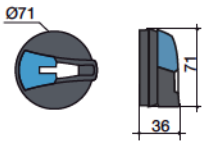


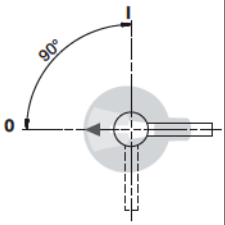


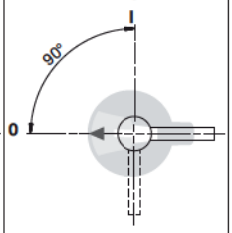


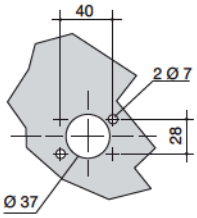
poign_017_b_1_gb_cat

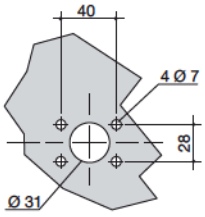
Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S00 type Load break switches		Right side operation	IP55 with 2 fixing clips / IP65 with 4 fixing screws



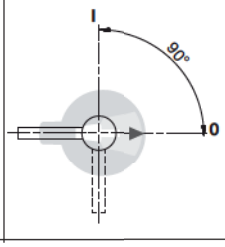




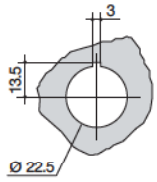




Left side operation

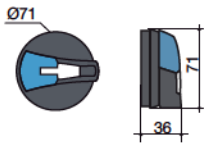


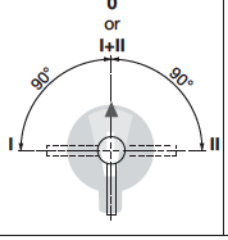
With fixing nut

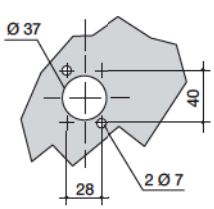


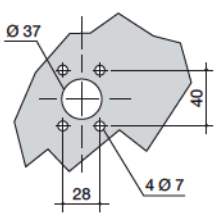
poign_024_a_1_gb_cat

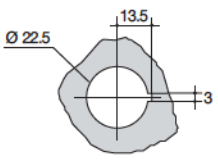
Handle type	Front operation Direction of operation	Door drilling
S00 type Changeover switches I-0-II and I - I+II - II	0 or I+II	IP55 with 2 fixing clips / IP65 with 4 fixing screws / With fixing nut









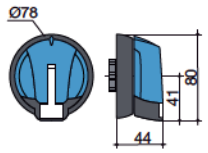
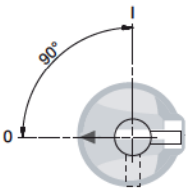
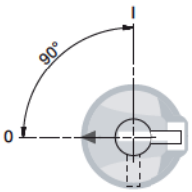
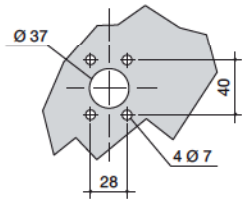


poign_025_b_1_gb_cat

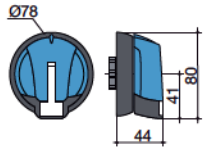
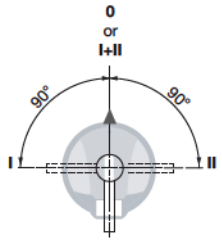
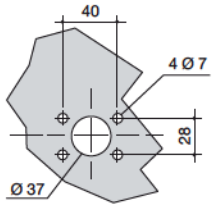
Dimensions for external handles

SIRCO M (continued)

16 to 80 A 3/4 P and 16 to 40 A 6/8 P

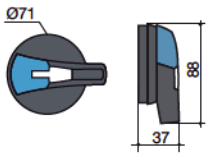
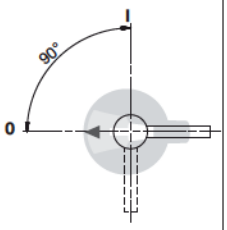
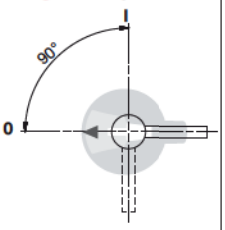
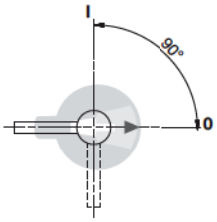
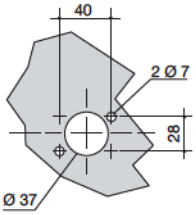
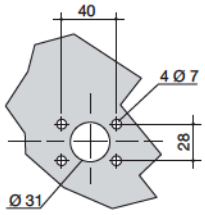
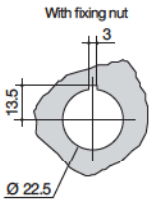
Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S01 type Load break switches 		Right side operation 	IP65 with 4 fixing screws 

poign_018_a_1_gb_cat

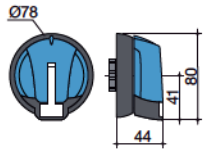
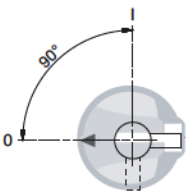
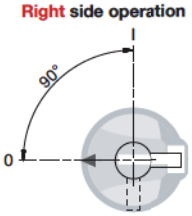
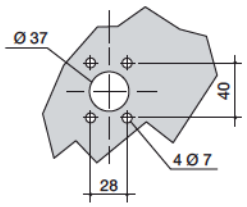
Handle type	Front operation Direction of operation	Door drilling
S01 type Changeover switches I-0-II and I - I+II - II 		IP65 with 4 fixing screws 

poign_019_b_1_gb_cat

100 to 125 A

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S0 type Load break switches 		Right side operation  Left side operation 	IP55 with 2 fixing clips  IP65 with 4 fixing screws  With fixing nut 

poign_026_a_1_gb_cat

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S01 type Load break switches 		Right side operation 	IP65 with 4 fixing screws 

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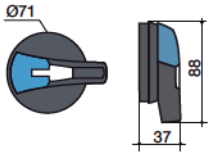
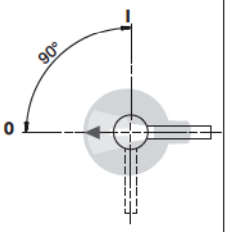
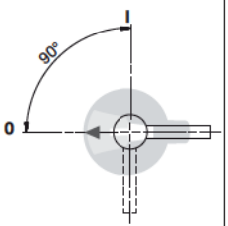
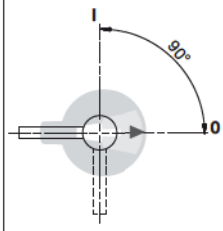
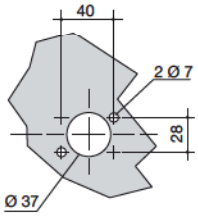
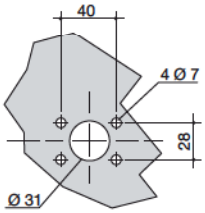
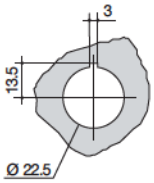
SIRCO MV

100 to 160 A

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S0 type Load break switches 		**Right side operation**  **Left side operation** 	IP55 with 2 fixing clips  IP65 with 4 fixing screws  With fixing nut 

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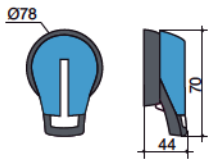
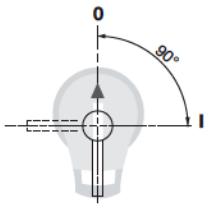
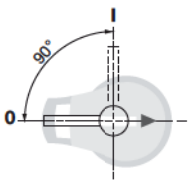
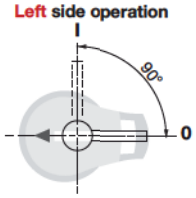
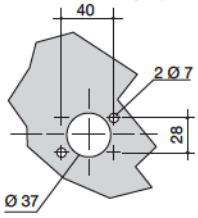
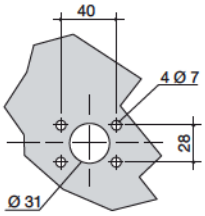
Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S1 type Load break switches 		**Right side operation**  **Left side operation** 	IP55 with 2 fixing clips  IP65 with 4 fixing screws 

poign_027_a_1_gb_cat

IDE

Load break switches for machine control

Remotely trippable switch from 32 to 160 A

***IDE** 4x40 A*
External operation

***IDE** 4x40 A*
Direct operation

The solution for

- Industry.
- Non critical buildings.
- Public Access Sites.
- High Rise Buildings.

Strong points

- Safety.
- Easy to install.
- Low consumption.

Empty enclosure for IDE

- This drilled pre-equipped IP65 enclosure enables immediate installation of a direct control rear mounted IDE without auxiliary contact.

Function

IDE are manually operated multipolar load break switches with a remote tripping function.
They make and break under load conditions and provide safety isolation for any low voltage electric circuit, particularly for compliance with the machine directive.

General characteristics

- Positive break indication.
- IP2X protection with terminal shrouds (accessory).
- Shunt trip or undervoltage trip coil.

Advantages

Safety
Remote tripping is especially adapted for protection against automatic machine restart after isolation and restoration of the mains voltage (EN 60204.1 § 7.5).

Low consumption
The device coils (including undervoltage) have a low consumption, providing increased reliability.

Easy to install
As standard the IDE is supplied with its tripping coil factory fitted and with its connections made internally.
For IDE 125 and 160A a factory fitted auxiliary contact is supplied as standard, simplifying product installation.The various fixing systems (front or rear mount with direct or external operation) enable easy device implementation.

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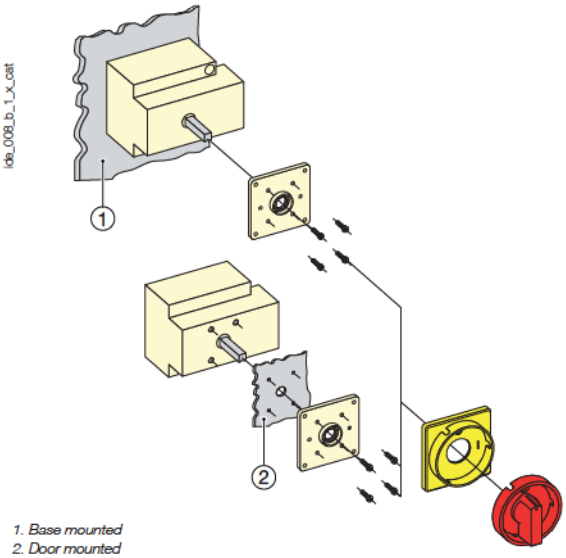
What you need to know

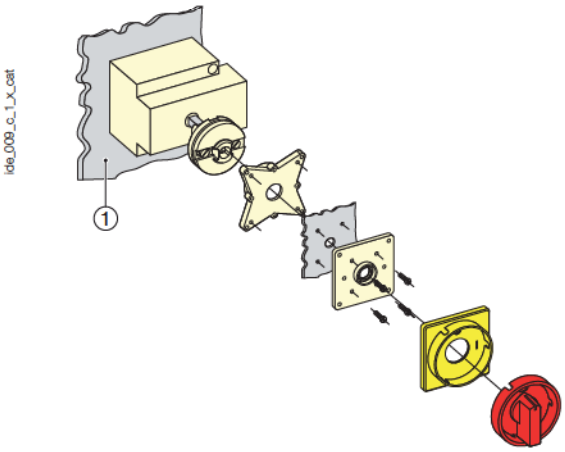
- **Direct** and **external operation** handles are available for the IDE.
- IDEs are supplied in 3 or 4 pole versions, with two mounting types available:
  - rear mounting on **a back-plate** or **DIN-rail**, direct or external operation.
  - **door** or **panel** mounting, direct operation.

Direct operation



1. Base mounted
2. Door mounted

External operation

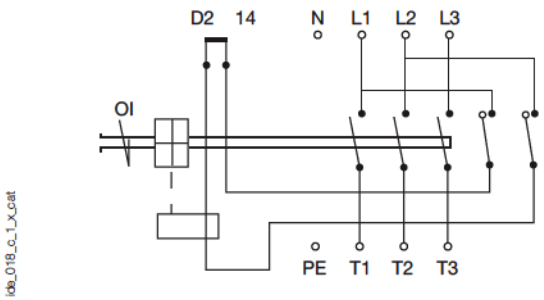


1. Base mounted

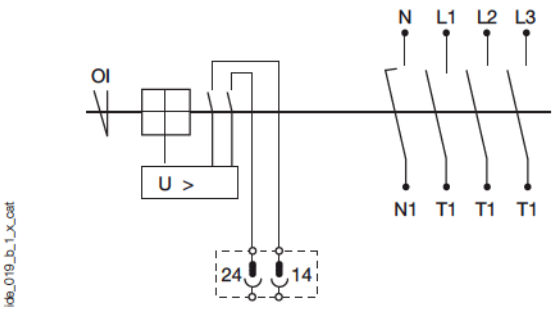
- Available in 230 or 400 VAC versions, the IDEs can be tripped remotely via a **shunt trip** or **undervoltage** coil. They are used to protect against automatic restarting and to prevent damage caused if the network malfunctions and is then re-established.

- Factory fitted, the IDE's tripping coil is connected internally.
  The coil is supplied between:
  - L1 and N for 230 VAC devices.
  - L1 and L2 for 400 VAC devices.
  For an IDE 32 A, an actuator relay can be incorporated between D2 and D14 (other wiring on request).

IDE **32** A



Internal cabling IDE **40** to **160** A



References

Base mounted

Rating (A)	No. of poles	Switch body Undervoltage coil	Switch body Shunt trip coil	Direct handle	External operation 200 mm	Position auxiliary contact	Terminal covers top/ bottom (2 sets)	Empty enclosure
32 A	3 P	1260 **3003**(1)		Black IP65 1299 **5012** Red / Yellow IP65 1299 **5013**	Black IP65 1299 **6022** Red / Yellow IP65 1299 **6023**	1 contact NO+NC 1299 **5001**	3/4 P 1299 **8003**	1295 **9001**(5)
		1270 **3003**(2)						
	4 P							
40 A	3 P	1260 **3004**(1)(3)	1280 **3004**(1)(3)	Black IP65 1299 **6142**(4) Red / Yellow IP65 1299 **6143**(4)	Black IP65 1299 **6032** Red / Yellow IP65 1299 **6033**	1 contact NO+NC 1299 **0031**	3/4 P 1299 **8007**	Please consult us
		1270 **3004**(2)(3)	1290 **3004**(2)(3)					
	4 P	1260 **4004**(1)(3)	1280 **4004**(1)(3)					
		1270 **4004**(2)(3)	1290 **4004**(2)(3)					
63 A	3 P	1260 **3007**(1)(3)	1280 **3007**(1)(3)					
		1270 **3007**(2)(3)	1290 **3007**(2)(3)					
	4 P	1260 **4007**(1)(3)	1280 **4007**(1)(3)					
		1270 **4007**(2)(3)	1290 **4007**(2)(3)					
125 A	3 P	1260 **3013**(1)	1280 **3013**(1)	Black IP65 1299 **5032** Red / Yellow IP65 1299 **5033**	Black IP65 1299 **6042** Red / Yellow IP65 1299 **6043**	1 contact NO+NC 1299 **0021**	3/4 P 1299 **8013**	
		1270 **3013**(2)	1290 **3013**(2)					
	4 P	1260 **4013**(1)	1280 **4013**(1)					
		1270 **4013**(2)	1290 **4013**(2)					
160 A	3 P	1260 **3016**(1)	1280 **3016**(1)					
		1270 **3016**(2)	1290 **3016**(2)					
	4 P	1260 **4016**(1)	1280 **4016**(1)					
		1270 **4016**(2)	1290 **4016**(2)					

(1) 230 VAC.
(2) 400 VAC.
(3) Modular device.
(4) Modular handle.
(5) This drilled pre-equipped enclosure enables immediate installation of a direct control rear mounted IDE without auxiliary contact, with protection rating of IP65.

Door mounted

Rating (A)	No. of poles	Switch body Undervoltage coil	Switch body Shunt trip coil	Direct handle	Auxiliary contact position	Terminal covers top/ bottom (2 sets)
32 A	3 P	1210 **3003**(1)		Black IP65 1299 **5012** Red / Yellow IP65 1299 **5013**	1 contact NO+NC 1299 **5001**	3/4 P 1299 **8003**
		1220 **3003**(2)				
	4 P					
40 A	3 P	1210 **3004**(1)	1230 **3004**(1)	Black IP65 1299 **5022** Red / Yellow IP65 1299 **5023**	1 contact NO+NC 1299 **0031**	3/4 P 1299 **8007**
		1220 **3004**(2)	1240 **3004**(2)			
	4 P	1210 **4004**(1)	1230 **4004**(1)			
		1220 **4004**(2)	1240 **4004**(2)			
63 A	3 P	1210 **3007**(1)	1230 **3007**(1)			
		1220 **3007**(2)	1240 **3007**(2)			
	4 P	1210 **4007**(1)	1230 **4007**(1)			
		1220 **4007**(2)	1240 **4007**(2)			
125 A	3 P	1210 **3013**(1)	1230 **3013**(1)	Black IP65 1299 **5032** Red / Yellow IP65 1299 **5033**	1 contact NO+NC 1299 **0021**	3/4 P 1299 **8013**
		1220 **3013**(2)	1240 **3013**(2)			
	4 P	1210 **4013**(1)	1230 **4013**(1)			
		1220 **4013**(2)	1240 **4013**(2)			
160 A	3 P	1210 **3016**(1)	1230 **3016**(1)			
		1220 **3016**(2)	1240 **3016**(2)			
	4 P	1210 **4016**(1)	1230 **4016**(1)			
		1220 **4016**(2)	1240 **4016**(2)			

(1) 230 VAC.
(2) 400 VAC.

Accessories

Direct operation handle for base mounting

Rating (A)	Handle colour	External IP	Reference
32	Black	IP65	1299 **5012**
32	Red/Yellow	IP65	1299 **5013**
40 ... 63	Black	IP65	1299 **6142**(1)
40 ... 63	Red/Yellow	IP65	1299 **6143**(1)
125 ... 160	Black	IP65	1299 **5032**
125 ... 160	Red/Yellow	IP65	1299 **5033**

(1) Modular handle.

Direct operation handle for door mounting

Rating (A)	Handle colour	External IP	Reference
32	Black	IP65	1299 **5012**
32	Red/Yellow	IP65	1299 **5013**
40 ... 63	Black	IP65	1299 **5022**
40 ... 63	Red/Yellow	IP65	1299 **5023**
125 ... 160	Black	IP65	1299 **5032**
125 ... 160	Red/Yellow	IP65	1299 **5033**

External operation for rear mounting device

Use
Standard shaft length: 200 mm.
Other lengths: Please consult us.

Shaft extension and black handle			
Rating (A)	**Shaft length (mm)**	**External IP**	**Reference**
32	200	IP65	1299 **6022**
40 ... 63	200	IP65	1299 **6032**
125 ... 160	200	IP65	1299 **6042**

Shaft extension and red handle			
Rating (A)	**Shaft length (mm)**	**External IP**	**Reference**
32	200	IP65	1299 **6023**
40 ... 63	200	IP65	1299 **6033**
125 ... 160	200	IP65	1299 **6043**

Position auxiliary contact

Use

1 NO+NC auxiliary contact for position 0 and I signalling.

Connection to the control circuit

By terminal.

Characteristics

Rating (A)	Contact type	Nominal current (A)
32 ... 63	NO + NC	12
125 ... 160	NO + NC	5

Rating (A)	Mounting	Contact(s)	Reference
32	by customer	1 NO+NC	1299 **5001**
40 ... 63	by customer	1 NO+NC	1299 **0031**
125 ... 160	by customer	1 NO+NC	1299 **0021**
125 ... 160	factory fitted	1 NO+NC	1299 **0121**

Terminal shrouds

Use

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

Rating (A)	Position	Reference
32	top / bottom	1299 **8003**(1)
40 ... 63	top / bottom	1299 **8007**(1)
125 ... 160	top / bottom	1299 **8013**(1)

(1) Reference composed of 2 pieces.

IP65 enclosure for direct operation IDE

Use

This drilled pre-equipped IP65 enclosure enables immediate installation of a direct operation, rear mounted IDE without auxiliary contact.

Rating (A)	Reference
32	1295 **9001**
40 ... 160	Please consult us

Characteristics

Characteristics according to IEC 60947-3

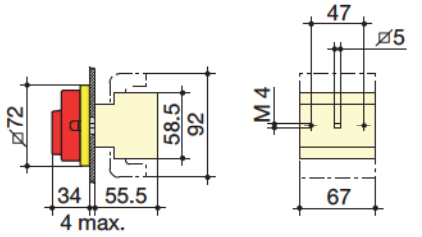
		IDE - 32 to 160 A				
Thermal current I_{th} (40 °C)		**32 A**	**40 A**	**63 A**	**125 A**	**160 A**
Rated insulation voltage U_i (V)		690	690	690	690	690
U_{imp} (kV)		6	6	6	6	6
Rated operational currents I_e (A)						
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
415 VAC	AC-20 A / AC-20 B	32/32	40/40	63/63	125/125	160/160
415 VAC	AC-21 A / AC-21 B	32/32	40/40	63/63	125/125	160/160
415 VAC	AC-22 A / AC-22 B	32/32	40/40	63/63	125/125	160/160
415 VAC	AC-23 A / AC-23 B	14/14	40/40	63/63	125/125	160/160
415 VAC	AC-3	14	30	44	100	100
690 VAC	AC-20 A / AC-20 B	32/32	40/40	63/63	125/125	160/160
690 VAC	AC-21 A / AC-21 B	32/32	40/40	63/63	125/125	160/160
690 VAC	AC-22 A / AC-22 B	13/13	32/32	40/40	125/125	160/160
690 VAC	AC-23 A / AC-23 B	4.9/4.9	17.5/17.5	21/21	42/42	49/49
Operational power in AC-23 A (kW) (2)						
415 VAC without pre-break AC		7.5	22	30	63	80
Operational power in AC-3 A (kW) (2)						
415 VAC without pre-break AC		7.5	15	22	55	55
Fuse protected short-circuit withstand (kA rms prospective)(3)						
Prospective short-circuit current (kA rms)		10	3	3	10	-
Associated fuse rating (A)		32	40	63	125	-
Short-circuit capacity (without protection)						
Rated short-time withstand current 1s. I_{CW} (kA rms)		1	1.5	1.5	2.5	2.5
I_{cm} (prospective kA peak)		3	5.2	5.2	6.6	6.6
Connection						
Minimum Cu cable cross-section (mm^2)		1	2.5	2.5	6	6
Maximum Cu cable cross-section (mm^2)		4	10	10	70	70
Tightening torque min/max (Nm)		1.2/1.5	2/2.5	2/2.5	6/12	6/12
Mechanical characteristics						
Durability (number of operating cycles)		100 000	50 000	50 000	30 000	30 000
Operating effort - 3 pole device (Nm)		0.35	0.38	0.45	1.6	2
Weight of a 3 pole device (kg)		0.26	0.35	0.39	1.35	1.45

(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 Ue = 415 VAC.

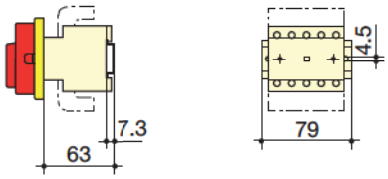
Dimensions

IDE 32 A

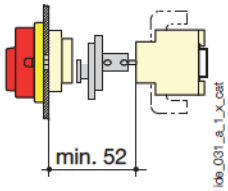
Direct operation with door or panel mounting



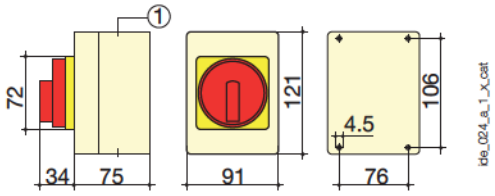
Direct operation with DIN-rail mounting



Door interlocked external front operation with DIN-rail mounting



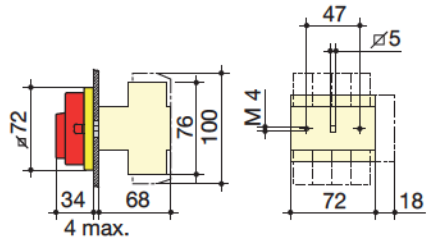
Enclosure for IDE 32 A



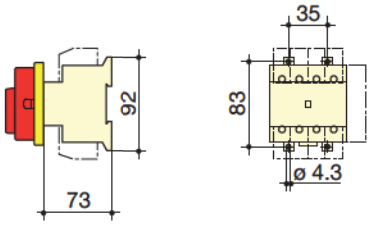
1. For PE 16 mm

IDE 40 to 63 A

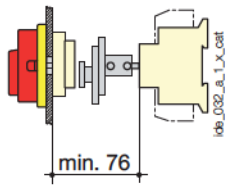
Direct operation with door or panel mounting



Direct operation with DIN-rail or back plate mounting

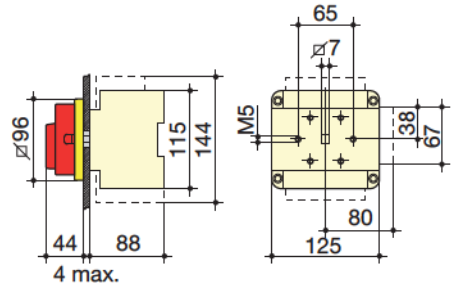


Door interlocked external front operation with DIN-rail or back plate mounting

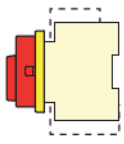


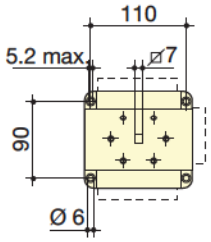
IDE 125 to 160 A

Direct operation with door or panel mounting

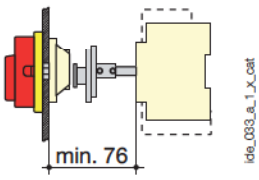


Direct operation with DIN-rail or back plate mounting





Door interlocked external front operation with DIN-rail or back plate mounting



SIRCO

Load break switches for power distribution
from 125 to 5000 A

new

***SIRCO** 3 x 250 A*
direct handle

SIRCO AC 3 x 250 A
direct handle

The solution for

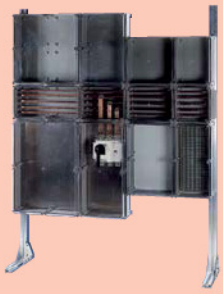
> Main switchboard.
> Distribution panel.
> Emergency breaking.
> Network coupling.
> Local safety breaking.

Strong points

> Reliability and performance.
> Safety of property and personnel.
> Simplicity.
> Easy to install.

Enclosures

> The SIRCO and SIRCO AC range can be easily fitted in our enclosures and cabinets designed for electrical distribution.



Function

SIRCO and **SIRCO AC** are manually operated multipolar load break switches.
They make and break under load conditions and provide safety isolation.
SIRCO are designed for 415 VAC and DC low voltage electrical circuits.
SIRCO AC are designed for heavy duty applications up to 690 VAC - AC 23.

General characteristics

- Double positive break indication given through a position indication window, located directly on the product, and by the operating handle.
- Severe utilisation categories (AC-22 and AC-23).
- High resistance to damp heat (supplied "tropicalised").

Advantages

Reliability and performance
The SIRCO's double breaking per pole, achieved through its sliding bar contact system, is a proven design that offers very high durability and short-circuit withstand. The quick opening and rapid closure of the SIRCO's contacts, combined with specifically designed arcing chambers, provides the SIRCO AC with improved breaking performance.

Safety of property and personnel
The position indicator is located directly on the sliding bar contact mechanism, ensuring it can be seen in all circumstances.
The use of glass fibre reinforced polyester gives the SIRCO and SIRCO AC both high mechanical and thermal resistance.

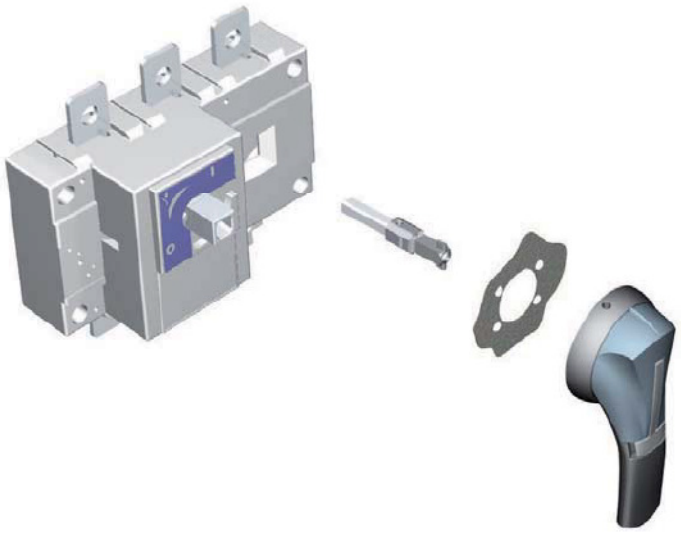
Simplicity
The standardisation of the SIRCO and SIRCO AC range enables a cost reduction in stock management and storage thanks to their shared accessories.

Easy to install
Easy installation is facilitated thanks to:
- A good centre-to-centre distance (up to 120 mm).
- Connection up to 6x185 mm².
- Connection accessories which facilitate connection, both flat and edgewise connections.

socomec
Innovative Power Solutions

What you need to know

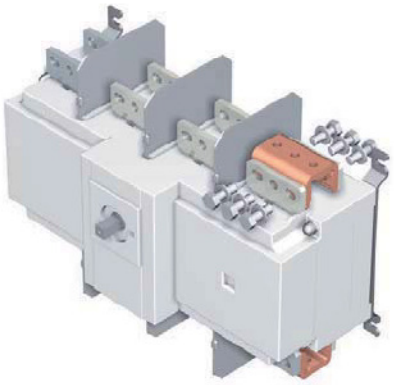
- In front **direct** or **external** operation, SIRCO is available in 3 and 4 pole versions from 125 to 5000 A.
- It can be ordered in 6 or 8 pole versions from 125 to 1600 A.
- The switch is available in a polyester or sheet metal enclosure from 125 to 1250 A.



sirco_372_b_1_cat

For ratings 2000, 2500 and 3200A, a **copper bar connection kit** enables the connection between the two power terminals of one pole.

Flat connection
Top or bottom



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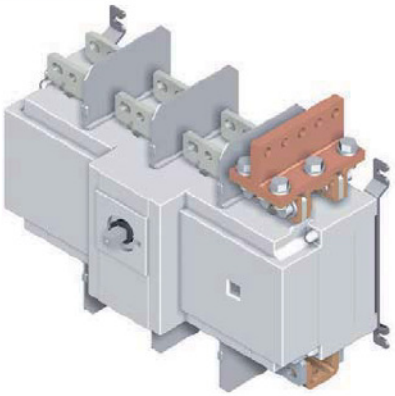
Edgewise connection
Top or bottom



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SIRCO - References

Front operation - 3 & 4 pole

Rating (A)	No. of poles	Switch body only[1]	Direct handle	External handle	Shaft for external handle	Auxiliary contact	Terminal shrouds	Terminal screens
125 A	3 P	2600 **3014**	B1 type Black 2699 **5042**[2] Red 2699 **5043**	S2 type Black IP55 1421 **2111**[2] Black IP65 1423 **2111** Red IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032**[2] 500 mm 1400 **1050**	1st contact NO/NC 2699 **0031** 2nd contact NO/NC 2699 **0032**	3 P 2694 **3014**[3] 4 P 2694 **4014**[3]	3 P 2698 **3012**[3] 4 P 2698 **4012**[3]
	4 P	2600 **4014**						
160 A	3 P	2600 **3017**						
	4 P	2600 **4017**						
200 A	3 P	2600 **3021**	B2 type Black 2699 **5052**[2] Red 2699 **5053**				3 P 2694 **3021**[3] 4 P 2694 **4021**[3]	3 P 2698 **3020**[3] 4 P 2698 **4020**[3]
	4 P	2600 **4021**						
250 A	3 P	2600 **3026**						
	4 P	2600 **4026**						
315 A	3 P	2600 **3032**					3 P 2694 **3051**[3] 4 P 2694 **4051**[3]	3 P 2698 **3050**[3] 4 P 2698 **4050**[3]
	4 P	2600 **4032**						
400 A	3 P	2600 **3041**						
	4 P	2600 **4041**						
500 A	3 P	2600 **3051**						
	4 P	2600 **4051**						
630 A	3 P	2600 **3064**						
	4 P	2600 **4064**						
800 A	3 P	2600 **3081**	C2 type Black 2799 **7012**[2] Red 2799 **7013**	S4 type Black IP65 1443 **3111**[2] Red IP65 1444 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**[2] 400 mm 1401 **1540**			3 P 2698 **3080**[3] 4 P 2698 **4080**[3]
	4 P	2600 **4081**						
1000 A	3 P	2600 **3099**						
	4 P	2600 **4099**						
CD 1250 A	3 P	2600 **3119**						
	4 P	2600 **4119**						
1250 A	3 P	2600 **3121**						3 P 2698 **3120**[3] 4 P 2698 **4120**[3]
	4 P	2600 **4121**						
1600 A	3 P	2600 **3161**						
	4 P	2600 **4161**						
1800 A	3 P	2600 **3181**						
	4 P	2600 **4181**						
2000 A	3 P	2600 **3200**		V2 type Black IP65 2799 **7136**[2] Red IP65 2799 **7134**	200 mm 2799 **3015** 320 mm 2799 **3018**[2] 450 mm 2799 **3019**			3 P 2698 **3200**[3] 4 P 2698 **4200**[3]
	4 P	2600 **4200**						
2500 A	3 P	2600 **3250**						
	4 P	2600 **4250**						
3200 A	3 P	2600 **3320**						
	4 P	2600 **4320**						
4000 A	3 P	2600 **3401**	V0 type Black 2799 **7072**[2]	V0 type Black IP65 2799 **7155**[2]		1st/2nd contact NO/NC included		
	4 P	2600 **4401**						
5000 A	3 P	2600 **3500**						
	4 P	2600 **4500**						

(1) Device available enclosed (see "Enclosed load break switches" page 600).
(2) Standard.
(3) Top or bottom.

SIRCO AC - References

Heavy duty applications - Front operation 3 & 4 pole

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact	Terminal shrouds	Terminal screens
200 A	3 P	26AC **3020**	J1 type Black 1112 **1111**(1) J1 type Red 1113 **1111**	S2 type Black IP55 1421 **2111**(1) Black IP65 1423 **2111** Red IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032**(1) 500 mm 1400 **1050**	1st contact NO/NC 2699 **0031** 2nd contact NO/NC 2699 **0032**	3P 2694 **3021**(2)(3) 4 P 2694 **4021**(2)(3)	3P 2698 **3020**(3) 4 P 2698 **4020**(3)
	4 P	26AC **4020**						
250 A	3 P	26AC **3025**						
	4 P	26AC **4025**						
315 A	3 P	26AC **3031**						
	4 P	26AC **4031**						
400 A	3 P	26AC **3040**					3P 2694 **3051**(2)(3) 4 P 2694 **4051**(2)(3)	3P 2698 **3050**(3) 4 P 2698 **4050**(3)
	4 P	26AC **4040**						
500 A	3 P	26AC **3050**						
	4 P	26AC **4050**						
CD 630 A	3 P	26AC **3063**						
	4 P	26AC **4063**						
630 A	3 P	26AC **3064**	J4 type Black 1142 **1111**(1) Red 1143 **1111**	S4 type Black IP65 1443 **3111**(1) Red IP65 1444 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**(1) 400 mm 1401 **1540**			3 P 2698 **3080**(2)(3) 4 P 2698 **4080**(2)(3)
	4 P	26AC **4064**						
800 A	3 P	26AC **3080**						
	4 P	26AC **4080**						
1000 A	3 P	26AC **3100**						
	4 P	26AC **4100**						
CD 1250 A	3 P	26AC **3120**						
	4 P	26AC **4120**						
1250 A	3 P	26AC **3121**						3 P 2698 **3120**(2)(3) 4 P 2698 **4120**(2)(3)
	4 P	26AC **4121**						
1600 A	3 P	26AC **3160**						
	4 P	26AC **4160**						
2000 A	3 P	26AC **3200**	S5 type Black 2799 **7042**(1) Red 2799 **7043**	S5 type Black IP65 1453 **8111**(1) Red IP65 1454 **8111**	200 mm 2799 **3015** 320 mm 2799 **3018**(1) 450 mm 2799 **3019**			3 P 2698 **3200**(2)(3) 4 P 2698 **4200**(2)(3)
	4 P	26AC **4200**						
4000 A	3 P	26AC **3400**	V0 type Black 2799 **7072**(1)	V0 type Black 2799 **7155**(1)		1st / 2nd included		3/4P 1509 **4200**(4)
	4 P	26AC **4400**						

(1) Standard.
(2) Mandatory for voltage greater than 415 VAC.
(3) Top or bottom.
(4) Top and bottom.

SIRCO - References

Standard applications - Front operation - 6 & 8 pole

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact	Terminal shrouds	Terminal screens
125 A	6 P	2601 **6013**	B3 type Black 4199 **5012**(1)	S2 Type Black IP55 1421 **2111**(1) Red IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032**(1)	1st contact NO/NC 2699 **0061** 2nd contact NO/NC 2699 **0062**	6 P 2694 **3014**(2)(3) 8 P 2694 **4014**(2)(3)	6 P 1509 **3012**(4) 8 P 1509 **4012**(4)
	8 P	2601 **8013**						
160 A	6 P	2601 **6016**						
	8 P	2601 **8016**						
250 A	6 P	2601 **6025**	C1 type Black 2799 **7052**(1) Red 2799 **7053**	S4 type Black IP65 1443 **3111**(1) Red IP65 1444 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**(1)		6 P 2694 **3021**(2)(3) 8 P 2694 **4021**(2)(3)	6 P 1509 **3025**(4) 8 P 1509 **4025**(4)
	8 P	2601 **8025**						
400 A	6 P	2601 **6040**					6 P 2694 **3051**(2)(3) 8 P 2694 **4051**(2)(3)	6 P 1509 **3063**(4) 8 P 1509 **4063**(4)
	8 P	2601 **8040**						
630 A	6 P	2601 **6063**						
	8 P	2601 **8063**						
800 A	6 P	2601 **6080**	C1 type Black 2799 **7012**(1) Red 2799 **7013**	V1 type Black IP65 2799 **7145**(1)	320 mm 2799 **3018**(1)			6 P 1509 **3080**(4) 8 P 1509 **4080**(4)
	8 P	2601 **8080**						
1000 A	6 P	2601 **6100**						
	8 P	2601 **8100**						
1250 A	6 P	2601 **6120**						
	8 P	2601 **8120**						
1600 A	6 P	2601 **6160**						6 P 1509 **3160**(4) 8 P 1509 **4160**(4)
	8 P	2601 **8160**						

(1) Standard.
(2) Upstream or downstream at the front or rear of the device.
(3) Select 2 sets for front or rear.
(4) Upstream or downstream at the front of the device.

Accessories

Direct operation handle

SIRCO direct operation handle

Rating (A)	No. of poles	Handle	Handle colour	Reference
125 ... 160	3/4 P	B1 type	Black	2699 **5042**(1)
125 ... 160	3/4 P	B1 type	Red	2699 **5043**
125 ... 160	6/8 P	B3 type	Black	4199 **5012**(1)
200 ... 630	3/4 P	B2 type	Black	2699 **5052**(1)
200 ... 630	3/4 P	B2 type	Red	2699 **5053**
250 ... 630	6/8 P	C1 type	Black	2799 **7052**(1)
250 ... 630	6/8 P	C1 type	Red	2799 **7053**
800 ... 3200	3/4 P	C2 type	Black	2799 **7012**(1)
800 ... 3200	3/4 P	C2 type	Red	2799 **7013**
800 ... 1600	6/8 P	C2 type	Black	2799 **7012**(1)
800 ... 1600	6/8 P	C2 type	Red	2799 **7013**
4000 ... 5000	3/4 P	V0 type	Black	2799 **7072**(1)

(1) Standard.

J1 type handle — B2 type handle — C2 type handle — S5 type handle

SIRCO AC direct operation handle

Rating (A)	No. of poles	Handle	Handle colour	Reference
200 ... CD 630	3/4 P	J1 type	Black	1112 **1111**(1)
200 ... CD 630	3/4 P	J1 type	Red	1113 **1111**
630 ... 1600	3/4 P	J4 type	Black	1142 **1111**(1)
630 ... 1600	3/4 P	J4 type	Red	1143 **1111**
2000	3/4 P	S5 type	Black	2799 **7042**(1)
2000	3/4 P	S5 type	Red	2799 **7043**
4000	3/4 P	V0 type	Black	2799 **7072**(1)

(1) Standard.

Door interlocked external operation handle

SIRCO and SIRCO AC external front operation handle

Rating (A) SIRCO	Rating (A) SIRCO AC	No. of poles	Handle	Handle colour	External IP(1)	Reference
125 ... 630	200 ... CD 630	3/4 P	S2 type	Black	IP55	1421 **2111**(2)(3)
				Black	IP65	1423 **2111**
				Red	IP65	1424 **2111**
125 ... 160	-	6/8 P		Black	IP55	1421 **2111**(2)
				Black	IP65	1423 **2111**
				Red	IP65	1424 **2111**
250 ... 630		6/8 P	S4 type	Black	IP65	1443 **3111**
				Red	IP65	1444 **3111**
800 ... 1600		6/8 P	V1 type	Black	IP65	2799 **7145**(2)
800 ... 1800	630 ... 1600	3/4 P	S4 type	Black	IP65	1443 **3111**(2)(3)
				Black	IP65	1444 **3111**
2000 ... 3200	2000	3/4 P	V2 type	Black	IP65	2799 **7136**(2)
				Red	IP65	2799 **7134**
			S5 type	Black	IP65	1453 **8111**(3)
				Red	IP65	1454 **8111**
4000 ... 5000	4000	3/4 P	V0 type	Black	IP65	2799 **7155**(2)(3)

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

Use

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

S2 type handle — S3 type handle — S4 type handle — S5 type handle

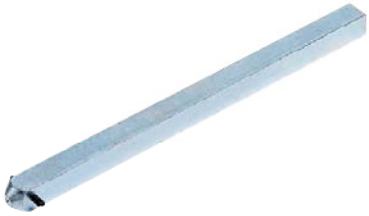
Shaft for external handle

For 3/4 pole SIRCO and SIRCO AC

Rating (A) SIRCO	Rating (A) SIRCO AC	Dimension X (mm)	Length (mm)	Reference
125 ... 160		125 ... 250	200	1400 **1020**
		125 ... 300	250	1400 **1025**
		125 ... 370	320	1400 **1032**
		125 ... 550	500	1400 **1050**
		125 ... 850	750	1400 **1075**
200 ... 250	200 ... 315	135 ... 265	200	1400 **1020**
		135 ... 315	250	1400 **1025**
		135 ... 385	320	1400 **1032**
		135 ... 565	500	1400 **1050**
		135 ... 880	750	1400 **1075**
315 ... 630	400 ... CD 630	165 ... 295	200	1400 **1020**
		165 ... 345	250	1400 **1025**
		165 ... 415	320	1400 **1032**
		165 ... 595	500	1400 **1050**
		165 ... 940	750	1400 **1075**
800 ... 1800	630 ... 1600	221 ... 343	200	1401 **1520**
		221 ... 463	320	1401 **1532**
		221 ... 543	400	1401 **1540**
2000 ... 3200	2000	415 ... 570	200	2799 **3015**
		415 ... 690	320	2799 **3018**
		415 ... 820	450	2799 **3019**
4000 ... 5000	4000	550 ... 680	200	2799 **3015**
		651 ... 921	320	2799 **3018**

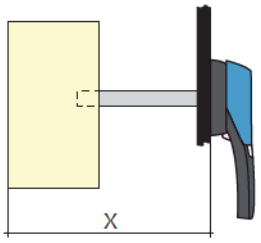
Use
Standard lengths:
- 200 mm
- 250 mm
- 300 mm
- 400 mm
- 500 mm
- 750 mm

Other lengths: Please consult us.



For 6/8 pole SIRCO

Rating (A)	Dimension X (mm)	Length (mm)	Reference
125 ... 160	270 ... 436	200	1400 **1020**
125 ... 160	270 ... 556	320	1400 **1032**
250 ... 630	221 ... 308	200	1400 **1520**
250 ... 630	221 ... 428	320	1400 **1532**
250 ... 630	221 ... 508	400	1400 **1540**



Accessories (continued)

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.

Handle 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 cover

acces_198_a_2_cat

S-type handle adapter

Use

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

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

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

acces_197_a_1_cat

Shaft guide for external operation

Use

For utilisation with S-type handles, 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 shaft lengths over 320 mm.

Description	Reference
Shaft guide	1429 **0000**

acces_260_a_2_cat

Auxiliary contact

Use

Pre-break and signalling of positions 0 and I:
- 1 to 2 NO/NC auxiliary contacts.
- 1 to 4 NO+NC auxiliary contacts.
- 1 to 2 low level NO/NC auxiliary contacts.

Characteristics

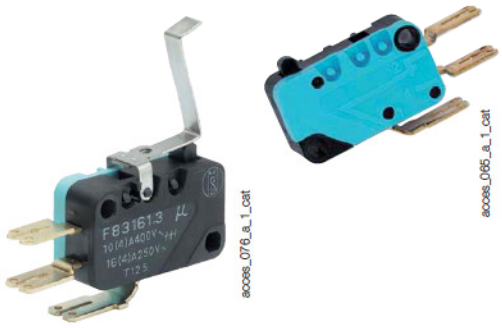
NO/NC A/C: IP2 with front operation.

Connection to the control circuit

6.35 mm fast-on terminal.

Electrical characteristics

30 000 operations.



NO/NC contact for 3/4 pole SIRCO and SIRCO AC		
Rating (A)	**Position A/C**	**Reference**
125 ... 3200	1st	2699 **0031**
125 ... 3200	2nd	2699 **0032**
4000 ... 5000	1st/2nd	included

NO/NC contact for 6/8 pole SIRCO		
Rating (A)	**Position A/C**	**Reference**
125 ... 1600	1st	2699 **0061**
125 ... 1600	2nd	2699 **0062**

NO+NC contact for 3/4 pole SIRCO and SIRCO AC		
Rating (A)	**Position A/C**	**Reference**
125 ... 3200	1st	2699 **0141**
125 ... 3200	2nd/3rd/4th	2699 **0142**

NO/NC low level contact for 3/4 pole SIRCO and SIRCO AC		
Rating (A)	**Position A/C**	**Reference**
125 ... 3200	1st	2699 **0301**
125 ... 3200	2nd	2699 **0302**

Characteristics

Rating (A)	Contact type	Current nominal (A)	Operating current I_e (A)									
			230 VAC		400 VAC		24 VDC			48 VDC		
			AC-12	AC-13/15	AC-12	AC-13/15	DC-12	DC-13	DC-14	DC-12	DC-13	DC-14
125 ... 3200	NO/NC	16	16	4	12	3	2.5	2.5	1	2.5	1.2	0.2
125 ... 3200	NO + NC	16	16	4	16	3	16	5	1	2.5	1.2	0.2

Inter-phase barrier

Use

Safety isolation between the terminals, essential for use at 690 VAC or in a polluted or dusty atmosphere.

For 3/4 poles			
Rating (A) SIRCO	**Rating (A) SIRCO AC**	**No. of poles**	**Reference**
125 ... 160		3 P	2998 **0033**
125 ... 160		4 P	2998 **0034**
200 ... 250	200 ... 315	3 P	2998 **0023**
200 ... 250	200 ... 315	4 P	2998 **0024**
315 ... 630	315 ... CD 360	3 P	2998 **0013**
315 ... 630	315 ... CD 360	4 P	2998 **0014**
800 ... 5000	630 ... 4000	3 P	included
800 ... 5000	630 ... 4000	4 P	included

Terminal shrouds

Use

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

Advantage

Perforations allow remote thermographic inspection without the need to remove the shrouds.The terminal shrouds also provide phase separation for SIRCO and SIRCO AC 125 to 630 A.

For 3/4 poles

Rating (A) SIRCO	Rating (A) SIRCO AC	No. of poles	Position	Reference
125 ... 160		3 P	top or bottom	2694 **3014**(1)
125 ... 160		4 P	top or bottom	2694 **4014**(2)
200 ... 250	200 ... 315	3 P	top or bottom	2694 **3021**(1)
200 ... 250	200 ... 315	4 P	top or bottom	2694 **4021**(2)
315 ... 630	400 ... CD 630	3 P	top or bottom	2694 **3051**(1)
315 ... 630	400 ... CD 630	4 P	top or bottom	2694 **4051**(2)

(1) Reference includes 3 parts for top or bottom protection.
(2) Reference includes 4 parts for top or bottom protection.

For 6/8 pole SIRCO

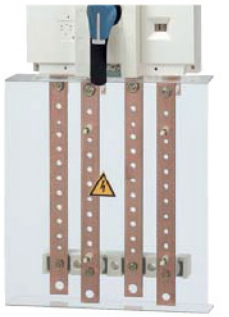
Rating (A)	No. of poles	Position	Reference
125 ... 160	6 P	top or bottom	2694 **3014**(1)(3)
125 ... 160	8 P	top or bottom	2694 **4014**(2)(3)
250	6 P	top or bottom	2694 **3021**(1)(3)
250	8 P	top or bottom	2694 **4021**(2)(3)
400 ... 630	6 P	top or bottom	2694 **3051**(1)(3)
400 ... 630	8 P	top or bottom	2694 **4051**(2)(3)

(1) Reference includes 3 parts for top or bottom protection on the front or rear of the device.
(2) Reference includes 4 parts for top or bottom protection on the front or rear of the device.
(3) Select 2 sets for front or rear.

Distribution block

Use

Easy connection of several cables, downstream of the SIRCO.

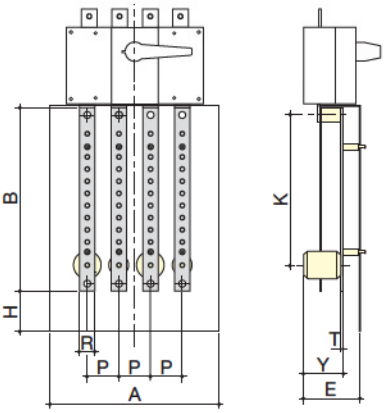


For 3/4 pole SIRCO

Rating (A)	No. of poles	No of feeders per section (mm²)	I_{cc} (kA rms)(1)	Reference
160	3 P	1x95 + 8x25	10	5411 **3016**
160	4 P	1x95 + 8x25	10	5411 **6016**
250	3 P	1x150 + 8x50	15	5411 **3025**
250	4 P	1x150 + 8x50	15	5411 **4025**
400	3 P	1x240 + 8x95	21	5411 **3040**
400	4 P	1x240 + 8x95	21	5411 **4040**
630	3 P	1x300 + 8x150	21	5411 **3063**
630	4 P	1x300 + 8x150	21	5411 **4063**

Dimensions

Rating (A)	No. of poles	A	W	E	H	K	D	R	T	Y
160	3 P	154	286	73	46.5	261.5	36	20	4	54
160	4 P	190	286	73	46.5	261.5	36	20	4	54
250	3 P	210	307	83	57.5	279	50	25	4	56
250	4 P	260	307	83	57.5	279	50	25	4	56
400	3 P	281	375	116	82.5	340	65	32	5	82
400	4 P	346	375	116	82.5	340	65	32	5	82
630	3 P	271	438	117	90.5	410.5	65	40	6	83
630	4 P	346	438	117	90.5	410.5	65	40	6	83



Terminal screens

Use

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

For 3/4 poles

Rating (A) SIRCO	Rating (A) SIRCO AC	No. of poles	Position	Reference
125 ... 160		3 P	top or bottom	2698 **3012**
125 ... 160		4 P	top or bottom	2698 **4012**
200 ... 250	200 ... 315	3 P	top or bottom	2698 **3020**
200 ... 250	200 ... 315	4 P	top or bottom	2698 **4020**
315 ... 630	400 ... CD 630	3 P	top or bottom	2698 **3050**
315 ... 630	400 ... CD 630	4 P	top or bottom	2698 **4050**
800 ... CD 1250	630 ... CD 1250	3 P	top or bottom	2698 **3080**
800 ... CD 1250	630 ... CD 1250	4 P	top or bottom	2698 **4080**
1250 ... 1800	1250 ... 1600	3 P	top or bottom	2698 **3120**
1250 ... 1800	1250 ... 1600	4 P	top or bottom	2698 **4120**
2000 ... 3200	2000	3 P	top or bottom	2698 **3200**
2000 ... 3200	2000	4 P	top or bottom	2698 **4200**
4000 ... 5000	4000	3/4 P	top or bottom	1509 **4200**

For 6/8 pole SIRCO

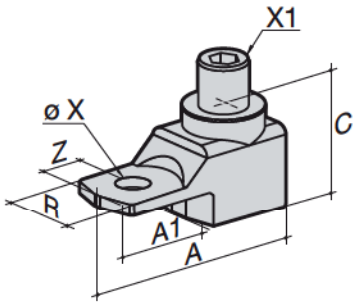
Rating (A)	No. of poles	Position	Reference
125 ... 160	6 P	top or bottom	1509 **3012**
125 ... 160	8 P	top or bottom	1509 **4012**
250	6 P	top or bottom	1509 **3025**
250	8 P	top or bottom	1509 **4025**
400 ... 630	6 P	top and bottom	1509 **3063**
400 ... 630	8 P	top and bottom	1509 **4063**
800 ... 1250	6 P	top and bottom	1509 **3080**
800 ... 1250	8 P	top and bottom	1509 **4080**
1600	6 P	top and bottom	1509 **3160**
1600	8 P	top and bottom	1509 **4160**

Cage terminals

Use

They enable a direct terminal-free connection to rigid copper and aluminium conductors with integration under the IP2X protective cover.

Material: tin-plated aluminium.



Dimensions

Rating (A)	A	A1	C	E	R	T	ØX	X1	Z
125 ... 160	47.5	22.5	25	12	20	3.5	8.5	M12	10
200 ... 250	62	31.5	31.5	16.5	25	2.5	10.5	M16	14
315 ... 400	71.5	32	38	9	32	5	10.5	M20	15
500 ... 630	76.5	37	38	9	40	5	12.5	M20	15

References

Rating (A)	Tightening capacity (mm^2)	No. of poles	Tightening torque (Nm)	Width of flexible bar (mm)	Reference
125 ... 160	16 ... 95	3 P	14	13	5400 **3016**
125 ... 160	16 ... 95	4 P	14	13	5400 **4016**
200 ... 250	16 ... 185	3 P	25	18	5400 **3025**
200 ... 250	16 ... 185	4 P	25	18	5400 **4025**
315 ... 400	50 ... 240	3 P	45	20	5400 **3040**
315 ... 400	50 ... 240	4 P	45	20	5400 **4040**
500 ... 630	70 ... 300	3 P	45	24	5400 **3063**
500 ... 630	70 ... 300	4 P	45	24	5400 **4063**

Accessories (continued)

Copper bar connection kits

Use

To allow connection between the two power terminals of the same pole for 2000 to 3200 A ratings (Fig. 1 and Fig 2).

For 3200 A rating, the connection pieces (part A) are delivered bridged from factory.1

Bolt sets must be ordered separately.

Further details for these specific accessories are available in the user guide downloadable from www.socomec.com.

Top or bottom flat connection - Fig. 1

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

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

Fig. 1

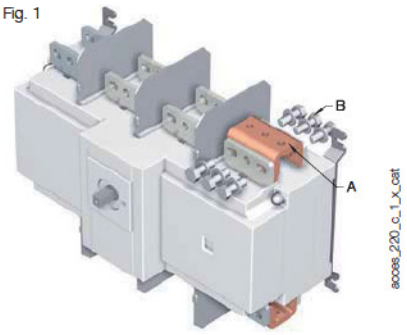
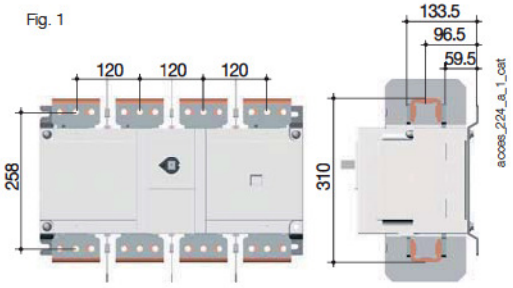


Fig. 1



Top or bottom edgewise connection - Fig. 2

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

(1) Example for a 3 pole device equipped upstream only: Order 3 times the indicated quantities.
(2) Bolt set is provided with the accessories.

Fig.2

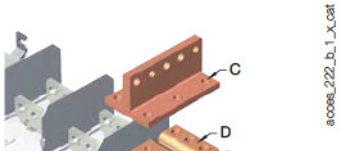
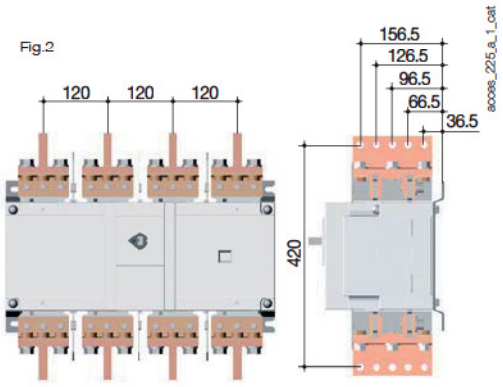


Fig.2



Key handle interlocking system

Use

Locking in position 0 of the front operation handle:

- using a padlock (not supplied) - function is available as standard on the handle. From 125 to 1800 A, the padlock on the external front operation handle also locks the door,
- using lock (not supplied): see diagrams opposite,
- using undervoltage coil: the SIRCO can only be closed if the coil is live.

For 6/8 pole: Please consult us

Fig. 1

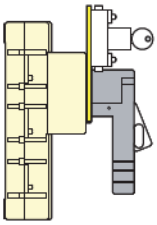


Fig.2

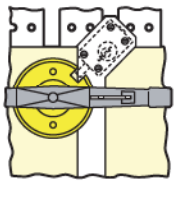


Fig. 3

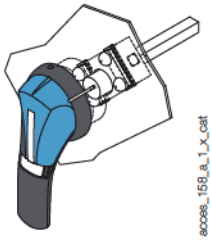


Fig.4

For SIRCO

Locking using RONIS EL11AP lock (not supplied)				
Rating (A)	**No. of poles**	**Operation**	**Figure**	**Reference**
125 ... 630	3/4 P	front direct	1	2699 **6008**(1)
125 ... 1800	3/4 P	external front	3	1499 **7701**
800 ... 3200	3/4 P	front direct	2	2699 **6027**
1250 ... 5000	3/4 P	external front	4	2799 **7002**

(1) Front handle operation included.

For SIRCO AC

Locking using RONIS EL11AP lock (not supplied)				
Rating (A)	**No. of poles**	**Operation**	**Figure**	**Reference**
200 ... CD 630	3/4 P	front direct	1	2699 **6011**(1)
630 ... 1600	3/4 P	front direct	2	2699 **6028**

For SIRCO

Locking using 230 VAC undervoltage coil (other voltages: please consult us)			
Rating (A)	**No. of poles**	**Operation**	**Reference**
125 ... 630	3/4 P	external front	2699 **9063**(1)
800 ... 3200	3/4 P	front direct	2699 **9315**(1)

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

Locking using CASTELL lock (not supplied)						
Rating (A)	**No. of poles**	**Handle**	**Lock type**	**Operation**	**Figure**	**Reference**
125 ... 160	6/8 P	S2 type	K	External front	2	4109 **8507**
125 ... 1 800	3/4 P	S2, S4 type	FS	External front	3	1499 **7703**
125 ... 1 800	3/4 P	S2, S4 type	K	External front	3	1499 **7702**
250 ... 630	6/8 P	S4 type	K	External front	2	2999 **8707**
800 ... 1 600	6/8 P	S5 type	K	External front	2	2799 **7003**
1 250 ... 4 000	3/4 P	S5, S0 type	K	External front	2	2799 **7003**

Other specific accessories

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

SIRCO characteristics according to IEC 60947-3

125 to 800 A

Thermal current I_{th} at 40°C		**125 A**	**160 A**	**200 A**	**250 A**	**315 A**	**400 A**	**500 A**	**630 A**	**800 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_e (A)										
Rated voltage	**Utilisation category**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**
415 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630	800/800
415 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630	800/800
415 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630	800/800
415 VAC	AC-23 A / AC-23 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	500/500	800/800
220 VDC	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630	800/800
220 VDC	DC-21 A / DC-21 B	125/125	160/160	160/200	250/250	315/315	400/400	500/500	630/630	800/800
220 VDC	DC-22 A / DC-22 B	125/125	160/160	160/200	250/250	315/315	400/400	400/500	500/500	800/800
220 VDC	DC-23 A / DC-23 B	125/125	125/125	160/160	200/200	315/315	400/400	400/400	500/500	800/800
440 VDC	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630	800/800
440 VDC	DC-21 A / DC-21 B	125[3]/125[3]	160[3]/160[3]	160[3]/200[3]	200[3]/200[3]	315[3]/315[3]	400[3]/400[3]	400[3]/400[3]	500[3]/500[3]	800[4]/800[4]
440 VDC	DC-22 A / DC-22 B	125[3]/125[3]	125[3]/125[3]	160[3]/160[3]	200[3]/200[3]	315[3]/315[3]	400[3]/400[3]	400[3]/400[3]	500[3]/500[3]	800[4]/800[4]
440 VDC	DC-23 A / DC-23 B	125[4]/125[4]	125[4]/125[4]	160[4]/160[4]	200[4]/200[4]	315[4]/315[4]	400[4]/400[4]	400[4]/400[4]	500/500	800[4]/800[4]
500 VDC	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630	800/800
500 VDC	DC-21 A / DC-21 B	125[3]/125[3]	125[3]/125[3]	160[3]/200[3]	200[3]/200[3]	315[3]/315[3]	400[3]/400[3]	400[3]/400[3]	500[3]/500[3]	800[4]/800[4]
500 VDC	DC-22 A / DC-22 B	125[4]/125[4]	125[4]/125[4]	160[4]/160[4]	200[4]/200[4]	315[4]/315[4]	315[4]/400[4]	315[4]/400[4]	500[4]/500[4]	800[4]/800[4]
500 VDC	DC-23 A / DC-23 B	125[4]/125[4]	125[4]/125[4]	160[4]/160[4]	200[4]/200[4]	315[4]/315[4]	315[4]/400[4]	315[4]/400[4]	500[4]/500[4]	800[4]/800[4]
Operational power in AC-23 A (kW) [1][5]										
At 415 VAC without pre-break in AC[1]		63/63	80/80	100/100	132/132	160/160	220/220	280/280	280/280	450/450
Reactive power (kvar)										
At 400 VAC (kvar)[5]		55	75	90	115	145	185	230	290	365
Fuse protected short-circuit withstand (kA rms prospective)[6]										
Prospective short-circuit current (kA rms)		100	100	80	50	100	100	100	70	50
Associated fuse rating (A)		125	160	200	250	315	400	500	630	800
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s at 690 VAC										
Rated short-time withstand current 0.3s. I_{cw} (kA rms)		15	15	17	17	25	25	25	25	50
Short-circuit capacity (without protection)										
Rated short-time withstand current 1s. I_{cw} (kA rms)		7	7	9	9	13	13	13	13	35
Rated short-circuit making capacity without fuses I_{cm} (kA peak)		11.9	11.9	15.3	15.3	26	26	26	26	73.5
Connection										
Maximum Cu cable cross-section (mm^2)		35	50	70	95	150	185	240	2 x 150	2 x 185
Minimum Cu busbar cross-section (mm^2)									2 x 30 x 5	2 x 40 x 5
Maximum Cu cable cross-section (mm^2)		50	95	95	150	240	240	240	2 x 300	2 x 300
Maximum Cu busbar width (mm)		25	25	32	32	40	40	40	50	63
Tightening torque min/max (Nm)		9/-	9/-	20/-	20/-	20/-	20/-	20/-	20/-	40/45
Mechanical characteristics										
Durability (number of operating cycles)		10000	10000	10000	10000	10000	10000	10000	10000	3000
Operating effort (Nm)		6.5	6.5	10	10	10	14.5	14.5	14.5	37
Weight of a 3 pole device (kg)		1	1.5	2	2	3.5	3.5	3.5	3.5	8
Weight of a 4 pole device (kg)		1.5	1.5	2	2	4	4	4.5	4.5	10

(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(3) 3-pole device with 2 pole 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_e = 415 VAC.

SIRCO characteristics according to IEC 60947-3

1000 to 5000 A

Thermal current I_{th} at 40°C	1000 A	CD 1250 A	1250 A	1600 A	1800 A	2000 A	2500 A	3200 A	4000 A	5000 A
Rated insulation voltage U_i (V)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)	12	12	12	12	12	12	12	12	12	12
Rated operational currents I_e (A)										
Rated voltage	**Utilisation category**									
415 VAC	AC-20 A / AC-20 B	1000/1000	1250/1250	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200	4000/4000	5000/5000
415 VAC	AC-21 A / AC-21 B	1000/1000	1250/1250	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200	4000/4000	5000/5000
415 VAC	AC-22 A / AC-22 B	1000/1000	1250/1250	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	2500/3200	2500/3200	2500/3200
415 VAC	AC-23 A / AC-23 B	1000/1000	1250/1250	1250/1250	1250/1250	1250/1250	1600/1600	1600/1600	1600/1600	1800/2000	1800/2000
220 VDC	DC-20 A / DC-20 B	1000/1000	1250/1250	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200	4000/4000	5000/5000
220 VDC	DC-21 A / DC-21 B	1000/1000	1250/1250	1250/1250	1250/1600	1250/1600	2000/2000	2000/2500	2000/2500	2500/3200	2500/3200
220 VDC	DC-22 A / DC-22 B	1000/1000	1250/1250	1250/1250	1250/1250	1250/1250	1250/1600	1250/1600	1250/1600	1800/2000	1800/2000
220 VDC	DC-23 A / DC-23 B	1000/1000	1250/1250	1250/1250	1250/1250	1250/1250	1250/1250	1250/1250	1250/1250	1250/1600	1250/1600
440 VDC	DC-20 A / DC-20 B	1000/1000	1250/1250	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200	4000/4000	5000/5000
440 VDC	DC-21 A / DC-21 B	1000[4]/1000[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1600[4]	1250[4]/1600[4]	2000[4]/2000[4]	2000[4]/2500[4]	2500[4]/3200[4]	3200[4]/4000[4]	3200[4]/5000[4]
440 VDC	DC-22 A / DC-22 B	1000[4]/1000[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1600[4]/1800[4]	1600[4]/1800[4]
440 VDC	DC-23 A / DC-23 B	1000[4]/1000[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]
500 VDC	DC-20 A / DC-20 B	1000/1000	1250/1250	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3250/3250	4000/4000	5000/5000
500 VDC	DC-21 A / DC-21 B	1000[4]/1000[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1600[4]	1250[4]/1600[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1600[4]/1800[4]	1600[4]/1800[4]
500 VDC	DC-22 A / DC-22 B	1000[4]/1000[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1600[4]	1250[4]/1600[4]
500 VDC	DC-23 A / DC-23 B	1000[4]/1000[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1250[4]/1250[4]	1000[4]/1000[4]	1000[4]/1000[4]	1000[4]/1000[4]	1000[4]/1000[4]	1000[4]/1000[4]
Operational power in AC-23 A (kW) [1][5]										
At 415 VAC without pre-break in AC[1]	560/560	710/710	710/710	710/710	710/710	710/710	710/710	710/710	710/710	710/710
Reactive power (kvar)										
At 400 VAC (kvar)[5]	460									
Fuse protected short-circuit withstand (kA rms prospective)[6]										
Prospective short-circuit current (kA rms)	100	100	100	100	100	100	100			
Associated fuse rating (A)	1000	1250	1250	2 x 800	2 x 800	2 x 1000	2 x 1250			
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s at 690 VAC										
Rated short-time withstand current 0.3s. I_{cw} (kA rms)	65	65	100	100	100	100	100	100		
Short-circuit capacity (without protection)										
Rated short-time withstand current 1s. I_{cw} (kA rms)	35	35	50	50	50	50	50	50	75	75
Rated short-circuit making capacity without fuses I_{cm} (kA peak)	73.5	73.5	75	75	75	80	80	80	165	165
Connection										
Maximum Cu cable cross-section (mm^2)	2 x 240									
Minimum Cu busbar cross-section (mm^2)	2 x 50 x 5	2 x 60 x 5	2 x 60 x 5	2 x 80 x 5	3 x 100 x 5	3 x 100 x 5	4 x 100 x 5	4 x 100 x 5	1 x 100 x 5	1 x 100 x 5
Maximum Cu cable cross-section (mm^2)	4 x 185	4 x 185	4 x 185	6 x 185	6 x 185					
Maximum Cu busbar width (mm)	63	63	100	100	100	100	100	100		
Tightening torque min/max (Nm)	40/45	40/45	40/45	40/45	40/45	40/45	40/-	40/-	40/-	40/-
Mechanical characteristics										
Durability (number of operating cycles)	3000	3000	4000	4000	4000	3000	3000	3000	2000	2000
Operating effort (Nm)	37	37	56	56	56	75	75	75	105	105
Weight of a 3 pole device (kg)	8	8	12	12	12	22	22	22	45	45
Weight of a 4 pole device (kg)	10	10	15	15	15	25	25	25	50	50

(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(3) 3-pole device with 2 pole 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_e = 415 VAC.

SIRCO AC characteristics according to IEC 60947-3

200 to 630 A

Thermal current I_{th} at 40°C		**200 A**	**250 A**	**315 A**	**400 A**	**500 A**	**CD 630 A**	**630 A**
Rated insulation voltage U_i (V)		1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12	12	12	12
Rated operational currents I_e (A)								
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
500 VAC	AC-20 A / AC-20 B	200/200	250/250	315/315	400/400	500/500	630/630	630/630
500 VAC	AC-21 A / AC-21 B	200/200	250/250	315/315	400/400	500/500	630/630	630/630
500 VAC	AC-22 A / AC-22 B	200/200	250/250	315/315	400/400	500/500	630/630	630/630
500 VAC	AC-23 A / AC-23 B	200/200	250/250	315/315	400/400	500/500	630/630	630/630
690 VAC	AC-20 A / AC-20 B	200/200	250/250	315/315	400/400	500/500	630/630	630/630
690 VAC	AC-21 A / AC-21 B	200/200	250/250	315/315	400(2)/400(2)	500(2)/500(2)	630(2)/630(2)	630(2)/630(2)
690 VAC	AC-22 A / AC-22 B	200/200	250/250	315/315	400(2)/400(2)	500(2)/500(2)	500(2)/630(2)	630(2)/630(2)
690 VAC	AC-23 A / AC-23 B	200/200	250/250	315/315	400(2)/400(2)	500(2)/500(2)	500(2)/500(2)	630(2)/630(2)
Operational power in AC-23 A (kW) (5)								
At 690 VAC without pre-break AC		160	220	250	400	500	500	630
Reactive power (kvar)								
At 690 VAC (kvar)		160	190	250	325	400	400	450
Fuse protected short-circuit withstand (kA rms prospective) at 690 VAC (6)								
Prospective short-circuit current (kA rms)		50	50	50	50	50	50	50
Associated fuse rating (A)		200	250	315	400	500	630	630
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s at 690 VAC								
Rated short-time withstand current 0.3s. I_{cw} (kA rms)		15	15	15	15	15	15	28
Short-circuit capacity (without protection)								
Rated short-time withstand current 1s. I_{cw} (kA rms)		8	8	8	11	11	11	20
Rated short-circuit making capacity without fuses I_{cm} (kA peak)		22	22	22	22	22	22	40
Connection								
Maximum Cu cable cross-section (mm²)		70	70	70	185	240	2 x 150	2 x 185
Minimum Cu busbar cross-section (mm²)							2 x 30 x 5	2 x 40 x 5
Maximum Cu cable cross-section (mm²)		95	95	95	240	240	2 x 300	2 x 300
Maximum Cu busbar width (mm)		32	32	32	40	40	63	63
Tightening torque min/max (Nm)		20/-	20/-	20/-	20/-	20/-	20/-	40/45
Mechanical characteristics								
Durability (number of operating cycles)		10000	10000	10000	5000	5000	5000	4000
Operating effort (Nm)		10	10	10	14.5	14.5	14.5	48
Weight of a 3 pole device (kg)		2	2	2	3.5	3.5	3.5	8
Weight of a 4 pole device (kg)		2	2	2	4	4	4	10

(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(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_e = 690 VAC.

SIRCO AC characteristics according to IEC 60947-3

800 to 4000 A

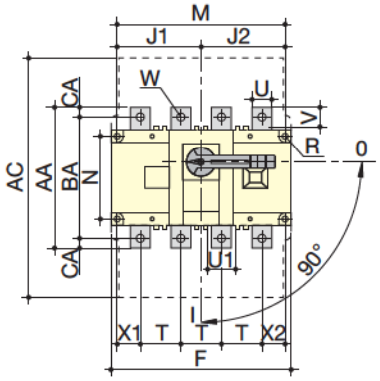
Thermal current I_{th} at 40°C		**800 A**	**1000A**	**CD 1250 A**	**1250 A**	**1600 A**	**2000 A**	**4000 A**
Rated insulation voltage U_i (V)		1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12	12	12	12
Rated operational currents I_e (A)								
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
500 VAC	AC-20 A / AC-20 B	800/800	1000/1000	1250/1250	1250/1250	1600/1600	2000/2000	4000/4000
500 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1250/1250	1600/1600	2000/2000	-/3200
500 VAC	AC-22 A / AC-22 B	800/800	1000/1000	1250/1250	1250/1250	1600/1600	2000/2000	-
500 VAC	AC-23 A / AC-23 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250	1600/1600	-
690 VAC	AC-20 A / AC-20 B	800/800	1000/1000	1250/1250	1250/1250	1600/1600	2000/2000	4000/4000
690 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1250/1250	1600/1600	2000/2000	-/3200
690 VAC	AC-22 A / AC-22 B	800/800	1000/1000	1250/1250	1250/1250	1600/1600	2000/2000	-/-
690 VAC	AC-23 A / AC-23 B	800/800	1000/1000	1250/1250	1250/1250	1250/1250	1600/1600	-/-
Operational power in AC-23 A (kW) (5)								
At 690 VAC without pre-break AC		900	900	-	-	-	-	-
Reactive power (kvar)								
At 690 VAC (kvar)		550	750	950	950	-	-	-
Fuse protected short-circuit withstand (kA rms prospective) at 690 VAC(6)								
Prospective short-circuit current (kA rms)		50	50	50	50	50	-	-
Associated fuse rating (A)		800	800	2 x 500	1250	2 x 800	-	-
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s at 690 VAC								
Rated short-time withstand current 0.3s. I_{cw} (kA rms)		28	55	55	53	53	53	53
Short-circuit capacity (without protection) at 690 VDC								
Rated short-time withstand current 1s. I_{cw} (kA rms)		20	30	30	35	35	35	35
Rated short-circuit making capacity without fuses I_{cm} (prospective kA peak)		40	80	80	75	75	75	75
Connection								
Maximum Cu cable cross-section (mm^2)		2 x 185	2 x 240					
Minimum Cu busbar cross-section (mm^2)		2 x 40 x 5	2 x 50 x 5	2 x 60 x 5	2 x 60 x 5	2 x 80 x 5	3 x 100 x 5	1 x 100 x 5
Maximum Cu cable cross-section (mm^2)		2 x 300	4 x 185	4 x 185	4 x 185	6 x 185		
Maximum Cu busbar width (mm)		63	63	63	100	100	100	
Tightening torque min/max (Nm)		40/45	40/45	40/45	40	40	40	40
Mechanical characteristics								
Durability (number of operating cycles)		4000	4000	3000	4000	4000	3000	2000
Operating effort (Nm)		48	48	48	55	55	75	100
Weight of a 3 pole device (kg)		8	8	8	12	12	22	45
Weight of a 4 pole device (kg)		10	10	10	15	15	25	50

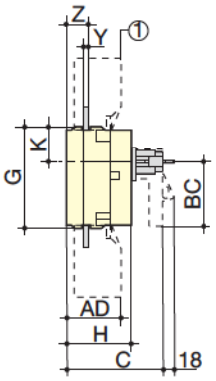
(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(3) 3-pole device with 2 poles in series for the "+" and 1 pole for the "-".
(4) 4-pole device with 2 poles in series per polarity.
(5) The power value is given for information only, the current values vary from one manufacturer to another.
(6) For a rated operational voltage Ue = 690 VAC.

Dimensions - Front operation

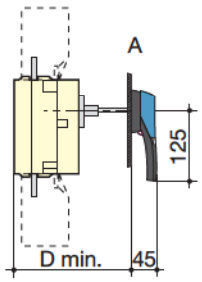
SIRCO 125 to 630 A and SIRCO AC 200 to CD 630 A

Direct front operation





External front operation



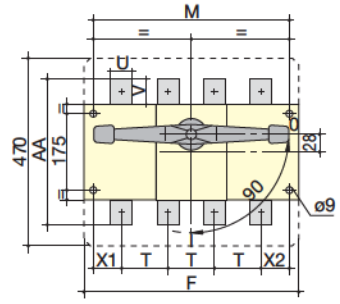
1. Terminal shrouds

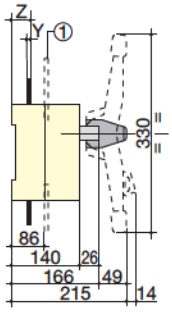
A. S2 type handle

Rating (A) SIRCO	Rating (A) SIRCO AC	Overall dimensions C	Overall dimensions D min	Terminal shrouds AC	Terminal shrouds AD	Switch body F 3p.	Switch body F 4p.	Switch body G	Switch body H	Switch body J1 3p.	Switch body J1 4p.	Switch body J2	Switch body K	Switch body BC	Switch mounting M 3p.	Switch mounting M 4p.	Switch mounting N	Switch mounting R	Connection T	Connection U	Connection U1	Connection V	Connection W	Connection X1 3p.	Connection X1 4p.	Connection X2	Connection Y	Connection Z	Connection AA	Connection BA	Connection CA
125…160		115	125	235	50	140	170	93	65	45	75	75	31.5	80	120	150	65	5.5	36	20	20.5	25	9	28	22	20	3.5	20.5	135	115	10
200…250	200…250			280	60	180	230	108	75	55	105	105	34	115	160	210	80	5.5	50	20	25.5	21.5	11	33	33	27	3.5	22.5	160	130	15
	315																			35											
315…400	400…500	160	165	401	89	230	290	170	110	75	135	135	55	115	210	270	140	7	65	32	45.5	29	11	42.5	37.5	37.5	5	36	235	205	15
500	-																						13								
630	CD 630																			45		41.5							260	220	20

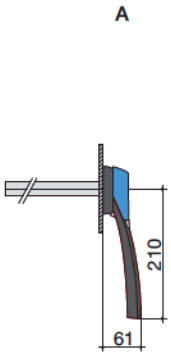
SIRCO 800 to 1800 A and SIRCO AC 630 to 1600 A

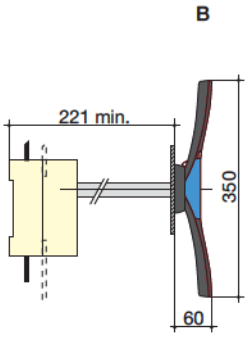
Direct front operation

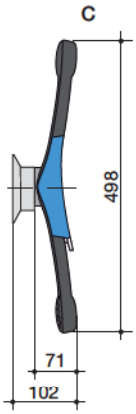




External front operation







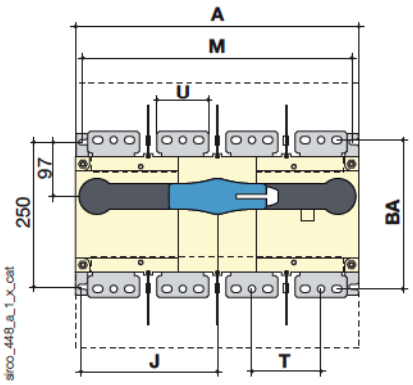
1. Terminal screens

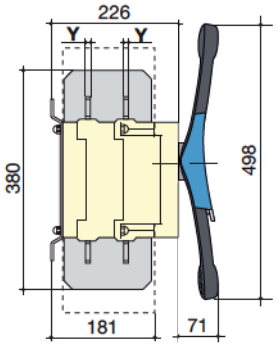
A. Single lever S3 type handle
B. Double lever S4 type handle
C. Double lever S5 type handle

Rating (A) SIRCO	Rating (A) SIRCO AC	Switch body F 3p.	Switch body F 4p.	Switch mounting M 3p.	Switch mounting M 4p.	Connection T	Connection U	Connection V	Connection Y	Connection X1	Connection X2	Connection Z	Connection AA
800 … 1000	630 … 1000	280	360	255	335	80	50	60.5	7	47.5	47.5	46.5	321
CD 1250	CD 1250						60	65					330
1250 … 1800	1250 … 1600	372	492	492	467	120	90	44	8	53.5	53.5	47.5	288

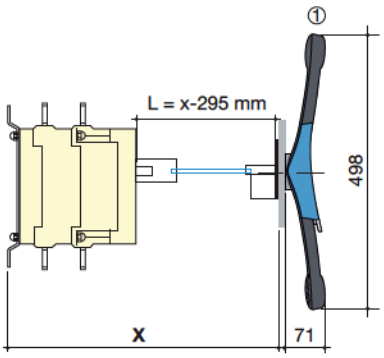
SIRCO 2000 to 3200 A and SIRCO AC 2000 A

Direct front operation





External front operation

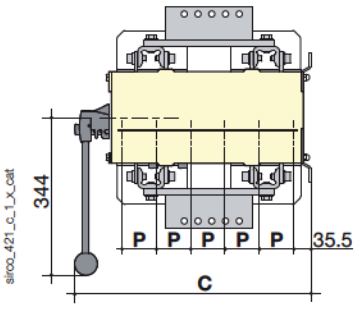


1. Double lever S5 type handle

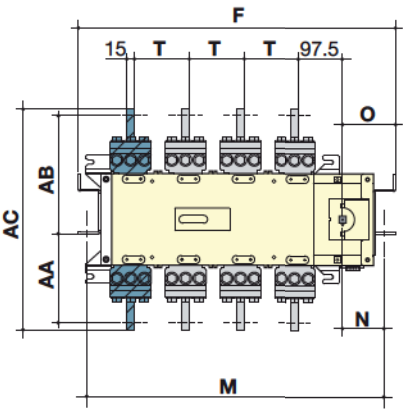
Rating (A) SIRCO	SIRCO AC rating (A)	Overall dimensions		Switch body		Switch mounting		Connection			
		A 3p.	A 4p.	J 3p.	J 4p.	M 3p.	M 4p.	T	U	Y	BA
2000 ... 3200	2000	372	492	173.5	233.5	347	367	120	90	8	258

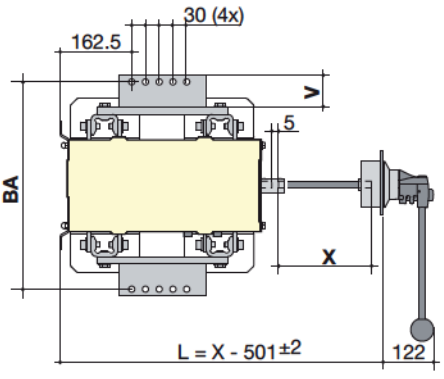
SIRCO 4000 to 5000 A and SIRCO AC 4000 A

Direct front operation



External front operation

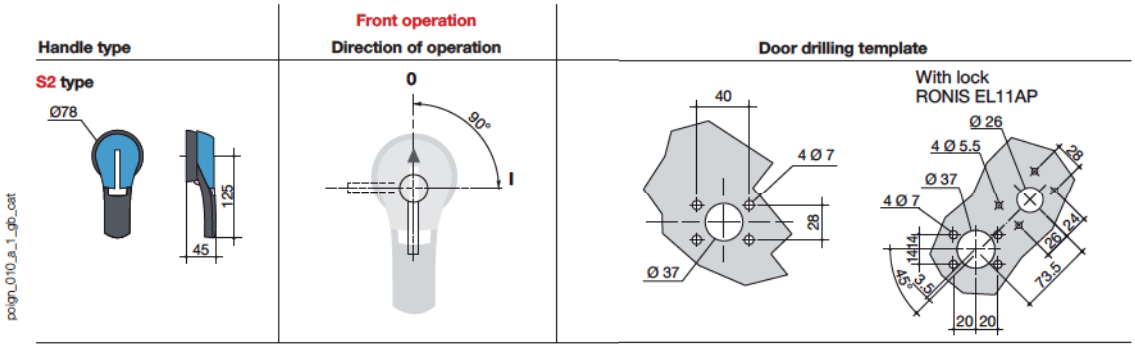




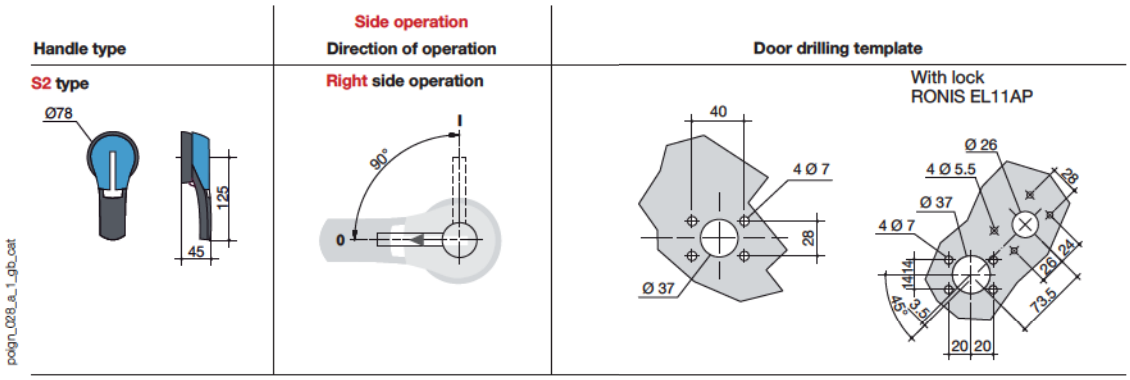
Rating (A) SIRCO	Rating (A) SIRCO AC	Overall dimensions	Switch body		Switch mounting					Connection					
		C	F 3p.	F 4p.	M 3p.	M 4p.	N	O	D	T	V	AA	AB	AC	BA
4000 ... 5000	4000	514	695	695	660	660	98	115.5	75	120	86	160	292	482	452

Dimensions for external handles

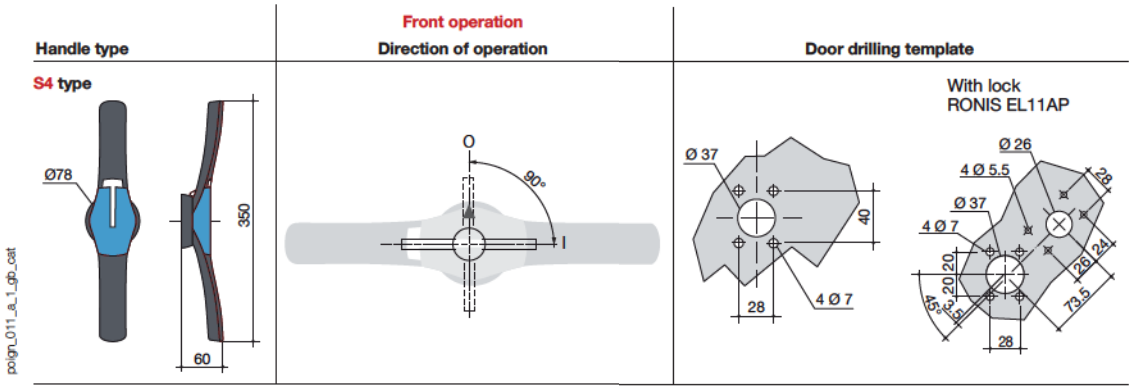
SIRCO 125 to 630 A and SIRCO AC 200 to CD 630 A



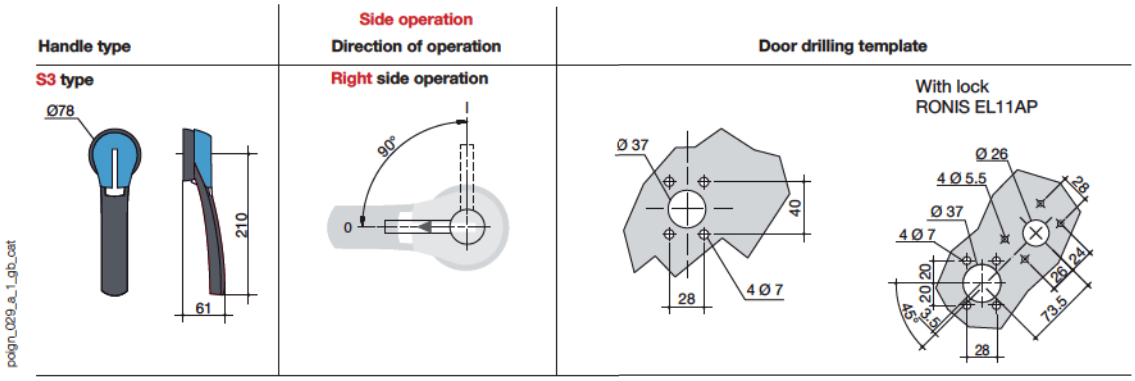
SIRCO 125 to 630 A



SIRCO 800 to 1800 A and SIRCO AC 630 to 1600 A

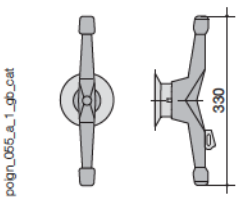
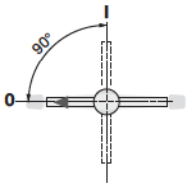
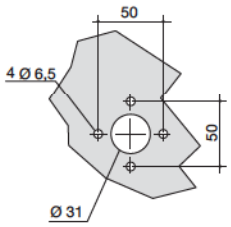


SIRCO 800 to 1800 A

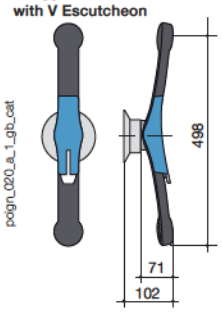
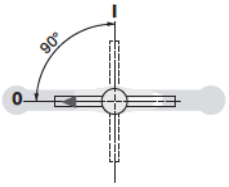
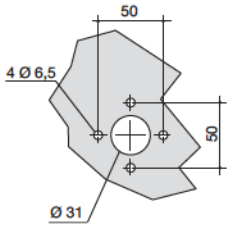


Dimensions for external handles (continued)

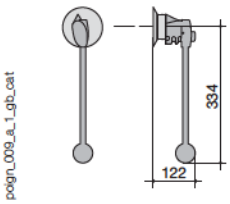
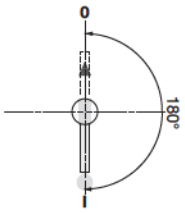
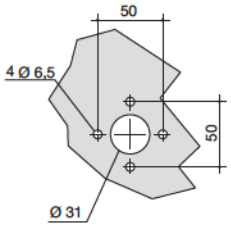
SIRCO 2000 to 3200 A

Handle type	Front operation Direction of operation	Door drilling template
V2 Type 		

SIRCO AC 2000 A

Handle type	Front operation Direction of operation	Door drilling
S5 type with V Escutcheon 		

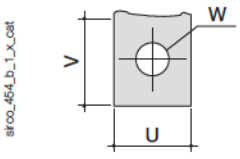
SIRCO 4000 to 5000 A and SIRCO AC 4000 A

Handle type	Front operation Direction of operation	Door drilling
V0 type 		

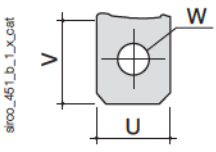
Connection terminal

SIRCO 125 to 630 A and SIRCO AC 200 to CD 630 A

SIRCO



SIRCO AC



Rating (A)				
SIRCO	**SIRCO AC**	**U**	**V**	**W**
125 … 160		20	25	9
200 … 250	200 … 250	25	21.5	11
	315	35		
315 … 400	400 … 500	32	29	
500				13
630	CD 630	45	41.5	

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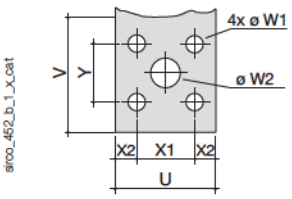
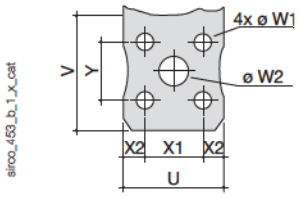
Connection terminal (continued)

SIRCO 800 to 1000 A and SIRCO AC 630 to 1000 A

SIRCO



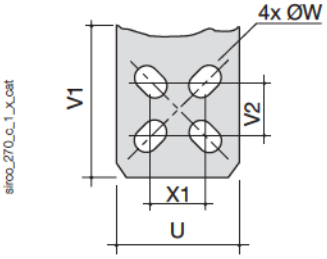
SIRCO AC



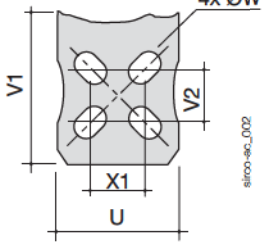
Rating (A)								
SIRCO	**SIRCO AC**	**U**	**V**	**W1**	**W1**	**X1**	**X2**	**Y**
800 ... 1000	630 ... 1000	50	60.5	28.5	16	28.5	11	33

SIRCO and SIRCO AC CD 1250 A

SIRCO

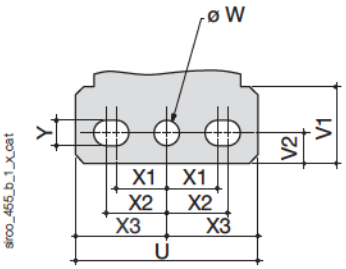


SIRCO AC



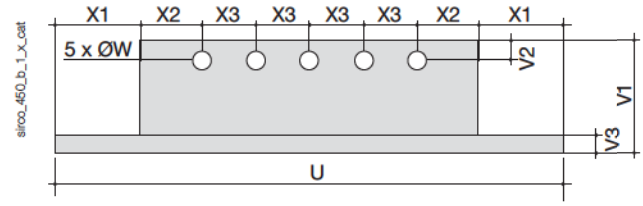
Rating (A)							
SIRCO	**SIRCO AC**	**U**	**V1**	**V2**	**W**	**X1**	**Y**
CD 1250 A	CD 1250 A	60	65	28.5	16	28.5	11

SIRCO 1250 to 3200 A and SIRCO AC 1250 to 1600 A



Rating (A)									
SIRCO	**SIRCO AC**	**U**	**V1**	**V2**	**W**	**X1**	**X2**	**X3**	**Y**
1250 ... 3200	1250 ... 1600	90	35.8	15	12.5	25	30	45	12.5

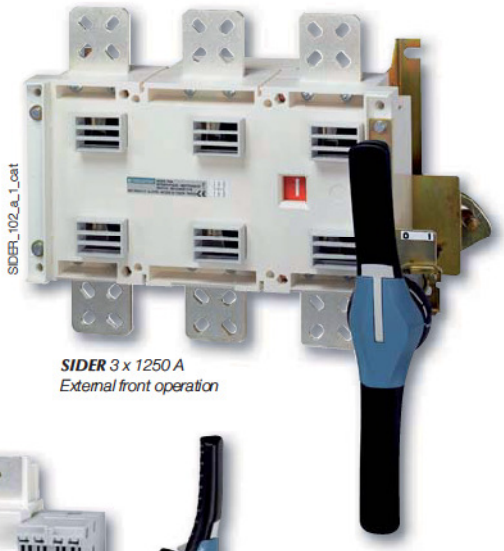
SIRCO 4000 to 5000 A and SIRCO AC 4000 A



Rating (A)									
SIRCO	**SIRCO AC**	**U**	**W**	**X1**	**X2**	**X3**	**V1**	**V2**	**V3**
4000 ... 5000	4000	286	13	48	35	30	86	15	15

SIDER

Load break switches for power distribution
with visible breaking from 125 to 1600 A



SIDER *3 x 1250 A*
External front operation

SIDER ND *4 x 500 A*
External right side operation

The solution for

- Main switchboards.
- Distribution panels.
- Safety enclosures for emergency load break.
- Normal atmosphere.
- Explosive atmosphere.

Strong points

- Safety thanks to visible breaking.
- Modular product.

Function

SIDER and SIDER ND are manually operated 3 or 4 pole load break switches with visible breaking.
They make and break under load conditions and provide safety isolation for any low voltage circuit.

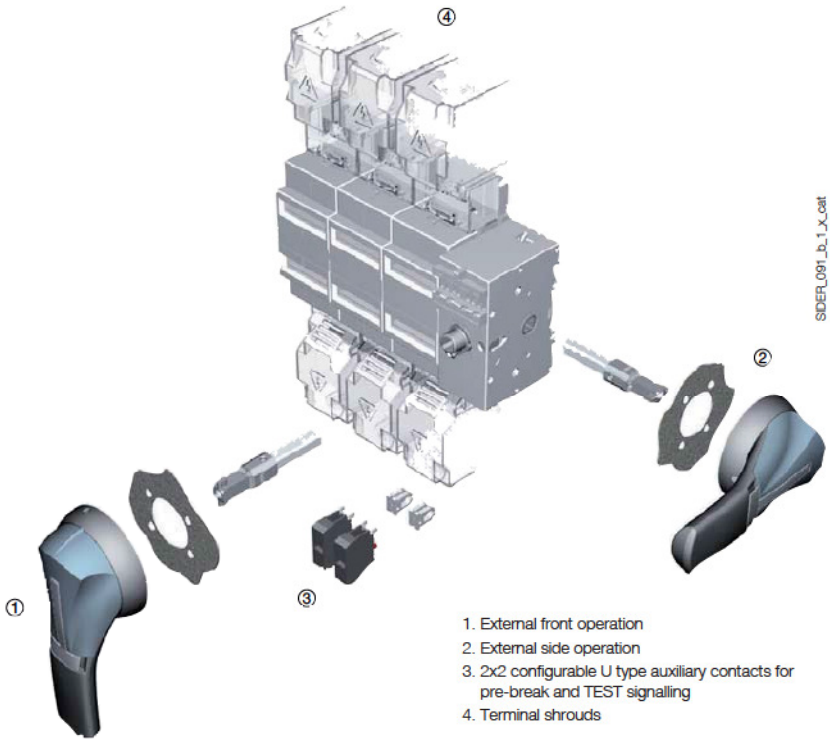
Advantages

Safety thanks to visible breaking
Visible breaking and positive break indication ensure safe switching. The user can assess the condition of the device either during a preventive check or before an operation.
The SIDER and SIDER ND load break switches are particularly suited for use in safety enclosures for explosive atmospheres (zone 21 and 22). The addition of a mechanical flag indicator, directly connected to the device's breaking system (SIDER only), provides reliable position information on the front of the enclosure.

Modular product
The modular design of the SIDER ND allows the product to be easily adapted to suit your needs:
- mixed ratings,
- defining the number of poles,
- centring or offsetting the operating mechanism.

Functional diagram

For further details see the installation instructions supplied with the product.



1. External front operation
2. External side operation
3. 2x2 configurable U type auxiliary contacts for pre-break and TEST signalling
4. Terminal shrouds

socomec
Innovative Power Solutions

References

Front operation

Rating (A)	No. of poles	Switch body Direct operation	Switch body External operation	Direct handle	External handle	Shaft for external handle	Auxiliary contact
ND 125 A	3 P	2915 **3012**	2921 **3012**	Black 3629 **7901**(1)	S2 type Black IP55 1421 **2111**(1) Black IP65 1423 **2111** Red IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 1032(1) 500 mm 1400 **1050**	1st contact NO/NC 3999 **0021**(2)(3) 2 contacts NO/NC 3999 **0022**(2)(3) 1 contact NC 3999 **0701**(4)(5) 1 contact NO 3999 **0702**(4)(5)
	4 P	2915 **4012**	2921 **4012**				
ND 200 A	3 P	2915 **3021**	2921 **3020**				
	4 P	2915 **4021**	2921 **4020**				
ND 250 A	3 P	2915 **3025**	2921 **3025**				
	4 P	2915 **4025**	2921 **4025**				
ND 315 A	3 P	2915 **3031**	2921 **3031**				
	4 P	2915 **4031**	2921 **4031**				
ND 400 A	3 P	2915 **3041**	2921 **3041**				
	4 P	2915 **4041**	2921 **4041**				
ND 500 A	3 P	2915 **3051**	2921 **3051**				
	4 P	2915 **4051**	2921 **4051**				
630 A	3 P	2900 **3063**	2900 **3063**	Black 2799 **7012**(1) Red 2799 **7013**	S4 type Black IP65 1443 **3111**(1) Red / Yellow IP65 1444 **3111**	200 mm 1401 1520 320 mm 1401 **1532**(1) 400 mm 1401 **1540**	1st contact NO/NC 2799 **0001** 2nd contact NO/NC 2799 **0002**
	4 P	2900 **4063**	2900 **4063**				
800 A	3 P	2900 **3080**	2900 **3080**				
	4 P	2900 **4080**	2900 **4080**				
1250 A	3 P	2900 **3120**	2900 **3120**				
	4 P	2900 **4120**	2900 **4120**				
1600 A	3 P	2900 **3160**	2900 **3160**				
	4 P	2900 **4160**	2900 **4160**				

(1) Standard.
(2) Auxiliary signal contact - Type S.
(3) For direct operation.
(4) For external operation.
(5) Auxiliary signal contact - Type U.

References (continued)

Side operation

Rating (A)	No. of poles	Switch body Direct operation	Switch body External right side operation	Direct handle	External handle	Shaft for external handle	Auxiliary contact
ND 125 A	3 P	2915 **3012**	2921 **3012**	Black 3629 **7901**(1)	S2 type Black IP55 1425 **2111**(1) Black IP65 1427 **2111** Red / Yellow IP65 1428 **2111**	200 mm 1400 **1020**(1)	1st contact NO/NC 3999 **0021**(2)(3) 2 contacts NO/NC 3999 **0022**(2)(3) 1 contact NC 3999 **0701**(4)(6) 1 contact NO 3999 **0702**(4)(6)
	4 P	2915 **4012**	2921 **4012**				
ND 200 A	3 P	2915 **3021**	2921 **3020**				
	4 P	2915 **4021**	2921 **4020**				
ND 250 A	3 P	2915 **3025**	2921 **3025**				
	4 P	2915 **4025**	2921 **4025**				
ND 315 A	3 P	2915 **3031**	2921 **3031**				
	4 P	2915 **4031**	2921 **4031**				
ND 400 A	3 P	2915 **3041**	2921 **3041**				
	4 P	2915 **4041**	2921 **4041**				
ND 500 A	3 P	2915 **3051**	2921 **3051**				
	4 P	2915 **4051**	2921 **4051**				
630 A	3 P	2905 **3063**	2905 **3063**	Black 2799 **7052**(1) Conversion kit 2799 **7070**(5) Red 2799 **7053** Conversion kit 2799 **7070**(5)	S3 type Black IP65 1437 **3111**(1) Red / Yellow IP65 1438 **3111**	200 mm 1404 **1520**(1)	1st contact NO/NC 2799 **0011** 2nd contact NO/NC 2799 **0012**
	4 P	2905 **4063**	2905 **4063**				
800 A	3 P	2905 **3080**	2905 **3080**				
	4 P	2905 **4080**	2905 **4080**				
1250 A	3 P	2905 **3120**	2905 **3120**				
	4 P	2905 **4120**	2905 **4120**				
1600 A	3 P	2905 **3160**	2905 **3160**				
	4 P	2905 **4160**	2905 **4160**				

(1) Standard.
(2) Auxiliary signal contact - Type S.
(3) For direct operation.
(4) For external operation.
(5) Conversion kit necessary for any direct operation.
(6) Auxiliary signal contact - Type U.

Accessories

Direct operation handle

For front operation Rating (A)	Handle colour	Reference
ND 125 ... ND 500	Black	3629 **7901**
630 ... 1600	Black	2799 **7012**(1)
630 ... 1600	Red	2799 **7013**

(1) Standard.

For side operation Rating (A)	Handle colour	Reference
ND 125 ... ND 500	Black	3629 **7901**
630 ... 1600	Black	2799 **7052**
630 ... 1600	Red	2799 **7053**

Direct side operation escutcheon Rating (A)	External IP	Reference
630 ... 1600	IP54	2799 **7070**(1)

(1) To be ordered together with the direct side operation handles.

Door interlocked external operation

For front operation Rating (A)	Handle colour	Handle	External IP(1)	Reference
ND 125 ... ND 500	Black	S2 type	IP55	1421 **2111**(2)
ND 125 ND 500	Black	S2 type	IP65	1423 **2111**
ND 125 ... ND 500	Red	S2 type	IP65	1424 **2111**
630 ... 1600	Black	S4 type	IP65	1443 **3111**(2)
630 ... 1600	Red	S4 type	IP65	1444 **3111**

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

For right side operation Rating (A)	Handle colour	Handle	External IP(1)	Reference
ND 125 ... ND 500	Black	S2 type	IP55	1425 **2111**
ND 125 ... ND 500	Red	S2 type	IP65	1428 **2111**
630 ... 1600	Black	S3 type	IP65	1437 **3111**
630 ... 1600	Red	S3 type	IP65	1438 **3111**

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

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 shaft lengths over 320 mm.

Description	Reference
Shaft guide	1429 **0000**

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

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

Accessories (continued)

Alternative S type handle cover colours

Use

For single lever handles S1, S2 and S3 types and double lever handle, S4 type.

Other colours: Please consult us.

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

Shaft for external handle

Use

Standard lengths:

- 80 mm,
- 200 mm,
- 320 mm,
- 400 mm,
- 500 mm.

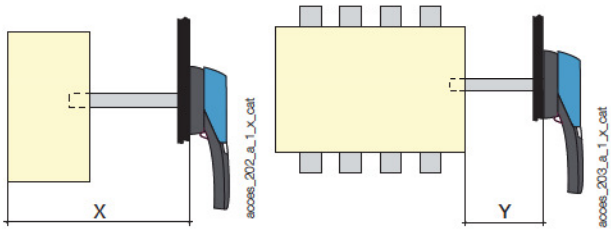
Other lengths: Please consult us.

For front operation

Rating (A)	Dimension X (mm)	Shaft length (mm)	Type	Reference
ND 125 ... ND 500	95 ... 230	200 mm	10 x 10	1400 **1020**
ND 125 ... ND 500	95 ... 350	320 mm	10 x 10	1400 **1032**
ND 125 ... ND 500	95 ... 530	500 mm	10 x 10	1400 **1050**
630 ... 1600	295 ... 555	200 mm	15 x 12	1401 **1520**
630 ... 1600	295 ... 675	320 mm	15 x 12	1401 **1532**
630 ... 1600	295 ... 755	400 mm	15 x 12	1401 **1540**

For side operation

Rating (A)	Dimension Y (mm)	Shaft length (mm)	Type	Reference
ND 125 ... ND 500	20 ... 110	80 mm	10 x 10	included
ND 125 ... ND 500	20 ... 230	200 mm	10 x 10	1400 **1020**
630 ... 1600	98 ... 258	200 mm	15 x 12	1404 **1520**



Auxiliary contacts for pre-break and signalling - Front operation

Use

Pre-break and signalling of positions 0 and I:

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

Connection to the control circuit

6.35 mm fast-on terminal.

Characteristics

NO/NC A/C: IP2X.

Electrical characteristics

30 000 operations.

NO/NC contact

Rating (A)	Position AC	Reference
ND 125 ... ND 500	1st	3999 **0021**(1)
ND 125 ... ND 500	2nd	3999 **0022**(1)
630 ... 1600	1st	2799 **0001**
630 ... 1600	2nd	2799 **0002**

(1) For direct operation.

NC contact

Rating (A)	Position AC	Reference
ND 125 ... ND 500	1 to 4	3999 **0701**(1)

(1) For external operation.

NO contact

Rating (A)	Position AC	Reference
ND 125 ... ND 500	1 to 4	3999 **0702**(1)

(1) For external operation.

NO + NC contact

Rating (A)	Position AC	Reference
630 ... 1600	1	2799 **0005**

Low level NO/NC auxiliary contacts

Rating (A)	Position AC	Reference
630 ... 1600	1	2699 **0101**

Characteristics

Rating (A)	Contact type	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
ND 125 ... ND 500	changeover NO/NC	16		3	12	2
ND 125 ... ND 500	NC	10	6	4	5	3
ND 125 ... ND 500	NO	10	6	4	5	3
630 ... 1600	changeover NO/NC	16	12	8	14	6
630 ... 1600	NO + NC	15	10	6	15	12

Auxiliary contacts for pre-break and signalling - Right side operation

Use
Pre-break and signalling of positions 0 and I:
- 1 to 2 NO/NC auxiliary contacts,
- 1 to 4 NO or NC auxiliary contacts.

Connection to the control circuit
By 6.35 mm fast-on terminal.

Characteristics
NO/NC A/C: IP2X.

Electrical characteristics
30 000 operations.

NO/NC contact		
Rating (A)	**Position AC**	**Reference**
ND 125 ... ND 500	1st	3999 **0021**
ND 125 ... ND 500	2	3999 **0022**
630 ... 1600	1st	2799 **0011**
630 ... 1600	2nd	2799 **0012**

NC contact		
Rating (A)	**Position AC**	**Reference**
ND 125 ... ND 500	1 to 4	3999 **0701**

NO contact		
Rating (A)	**Position AC**	**Reference**
ND 125 ... ND 500	1 to 4	3999 **0702**

Low level NO/NC auxiliary contacts		
Rating (A)	**Position AC**	**Reference**
630 ... 1600	1	2799 **0111**

Characteristics

Rating (A)	Contact type	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
ND 125 ... ND 500	changeover NO/NC	16		3	12	2
ND 125 ... ND 500	NC	10	6	4	5	3
ND 125 ... ND 500	NO	10	6	4	5	3
630 ... 1600	changeover NO/NC	16	12	8	14	6

S type auxiliary contacts for signalisation - Front and right side operation

Use
Signalling of positions 0 and I,
1 to 4 NO+NC auxiliary contacts.

Connection to the control circuit
By terminals with a max. cross-section of 10 mm².

Electrical principle
The NO+NC S-type auxiliary contacts can be configured as 2 NO or 2 NC.

Electrical characteristics
30 000 operations.

NO+NC contact		
Rating (A)	**Position AC**	**Reference**
ND 125 ... ND 500	1	3999 **0041**
ND 125 ... ND 500	2	3999 **0042**
ND 125 ... ND 500	3	3999 **0043**
ND 125 ... ND 500	4	3999 **0044**

Characteristics

Rating (A)	Contact type	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13
ND 125 ... ND 500	NO + NC	20	10	8

Terminal shrouds

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

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

Advantage

Rating (A)	No. of poles	Position	Reference
ND 125 ... ND 200	3 P	top or bottom	3998 **3016**(1)
ND 125 ... ND 200	4 P	top or bottom	3998 **4016**(2)
ND 250 ... ND 500	3 P	top or bottom	3998 **3025**(1)
ND 250 ... ND 500	4 P	top or bottom	3998 **4025**(2)

(1) Reference composed of 3 pieces.
(2) Reference composed of 4 pieces.

Accessories (continued)

Terminal screens

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

Rating (A)	No. of poles	Position	Reference
630 ... 800	3 P	top or bottom	2998 **3080**
630 ... 800	4 P	top or bottom	2998 **4080**
1250 ... 1600	3 P	top or bottom	2998 **3120**
1250 ... 1600	4 P	top or bottom	2998 **4120**

Cage terminals

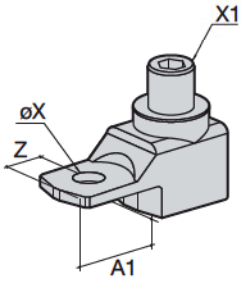
Use
Connection of bare copper cables onto the terminals (without lugs).

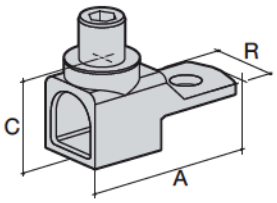
Connections

Rating (A)	Flexible cable cross-section (mm^2)	Rigid cable cross-section (mm^2)	Flexible bar width (mm)	Stripped over (mm)
ND 125	16 ... 95	16 ... 95	13	22
ND 200 ... ND 250	16 ... 185	16 ... 185	18	27
ND 315 ... ND 400	50 ... 240	50 ... 300	20	34
ND 500 ... 630	70 ... 300	70 ... 300	24	34

Dimensions

Rating (A)	A	A1	C	R	ØX	X1	Z
ND 125	47.5	22.5	25	20	8.5	M12	10
ND 200 ... ND 250	62	31.5	31.5	25	10.5	M16	14
ND 315 ... ND 400	71.5	32	38	32	10.5	M20	15
ND 500 ... 630	76.5	37	38	40	12.5	M20	15





Rating (A)	No. of poles	Reference
ND 125	3 P	5400 **3016**
ND 125	4 P	5400 **4016**
ND 200 ... ND 250	3 P	5400 **3025**
ND 200 ... ND 250	4 P	5400 **4025**
ND 315 ... ND 400	3 P	5400 **3040**
ND 315 ... ND 400	4 P	5400 **4040**
ND 500 ... 630	3 P	5400 **3063**
ND 500 ... 630	4 P	5400 **4063**

Inter-phase barrier

Use
Safety isolation between the terminals, essential for use at 690 VAC or in a polluted or dusty atmosphere.

Rating (A)	No. of poles	Reference
630 ... 1600	3 P	2998 **0003**
630 ... 1600	4 P	2998 **0004**

Handle key interlocking accessories

Use

Locking in position 0 of the front or side operation handle:

- using RONIS EL11AP lock in direct right-side operation (Fig. 1),
- using RONIS EL11AP lock in direct front operation (Fig. 2),
- using RONIS EL11AP or CASTELL type K-type lock in external front operation (Fig. 3),
- using RONIS EL11AP lock in external right-side operation,
- using CASTELL FS-type in external front operation (Fig. 4).

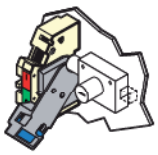


Fig. 1

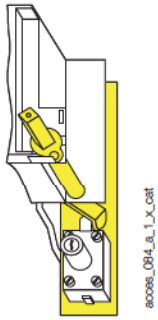


Fig.2

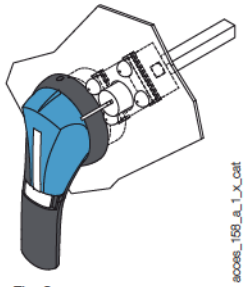


Fig. 3

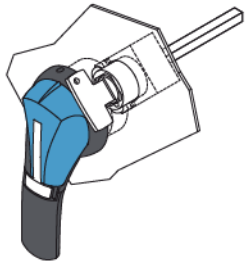


Fig.4

Locking using RONIS EL11AP lock (not supplied)			
Rating (A)	**Operation**	**Figure**	**Reference**
ND 125 ... ND 500	front direct	1	3629 **7913**(1)
630 ... 1600	front direct	2	2799 **7007**(2)
ND 125 ... 1600	external front	3	1499 **7701**
ND 125 ... ND 500	Direct side operation	1	3629 **7913**(1)
ND 125 ... 1600	External right side	3	1499 **7701**

(1) Handle included.
(2) Factory mounting only.

Locking using type K CASTELL lock (not supplied)			
Rating (A)	**Operation**	**Figure**	**Reference**
ND 125 ... ND 500	external front	3	1499 **7702**

Locking using type FS CASTELL lock (not supplied)			
Rating (A)	**Operation**	**Figure**	**Reference**
ND 125 ND 500	external front	4	1499 **7703**

Other specific accessories

- Mechanical coupling device for combining switches of the same or different ratings.
- Mechanical interlocking device.
- Mechanical plates and escutcheon for standard systems.

Characteristics according to IEC 60947-3

ND 125 to ND 500 A

Thermal current I_{th} at 40°C		ND 125 A	ND 200 A	ND 250 A	ND 315 A	ND 400 A	ND 500 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[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**
415 VAC	AC-20 A / AC-20 B	125/125	200/200	250/250	315/315	400/400	500/500
415 VAC	AC-21 A / AC-21 B	125/125	200/200	250/250	315/315	400/400	500/500
415 VAC	AC-22 A / AC-22 B	125/125	200/200	250/250	315/315	400/400	500/500
415 VAC	AC-23 A / AC-23 B	125/125	200/200	250/250	315/315	400/400	500/500
500 VAC	AC-20 A / AC-20 B	125/125	200/200	250/250	315/315	400/400	500/500
500 VAC	AC-21 A / AC-21 B	125/125	160/160	250/250	250/250	400/400	500/500
500 VAC	AC-22 A / AC-22 B	125/125	160/160	250/250	250/250	400/400	500/500
500 VAC	AC-23 A / AC-23 B	125/125	160/160	250/250	250/250	315/315	315/315
690 VAC[2]	AC-20 A / AC-20 B	125/125	200/200	250/250	315/315	400/400	500/500
690 VAC[2]	AC-21 A / AC-21 B	125/125	160/160	250/250	315/315	400/400	500/500
690 VAC[2]	AC-22 A / AC-22 B	125/125	160/160	250/250	315/315	400/400	500/500
690 VAC[2]	AC-23 A / AC-23 B	125/125	160/160	250/250	250/250	315/315	315/315
220 VDC	DC-20 A / DC-20 B	125/125	200/200	250/250	315/315	400/400	500/500
220 VDC	DC-21 A / DC-21 B	125/125	160/160	250/250	250/250	315/315[3]	315/315[3]
220 VDC	DC-22 A / DC-22 B	125/125	160/160	250/250	250/250	315/315[3]	315/315[3]
220 VDC	DC-23 A / DC-23 B	125/125	125/125	200/200	200/200	200/315[3]	200/315[3]
440 VDC	DC-20 A / DC-20 B	125/125	200/200	250/250	315/315	400/400	500/500
440 VDC	DC-21 A / DC-21 B	125/125[4]	160/160[4]	250/250[4]	250/250[4]	315/315[4]	315/315[4]
440 VDC	DC-22 A / DC-22 B	125/125[4]	160/160[4]	250/250[4]	250/250[4]	315/315[4]	315/315[4]
440 VDC	DC-23 A / DC-23 B	125/125[4]	125/125[4]	200/200[4]	200/200[4]	200/315[4]	200/315[4]
500 VDC	DC-20 A / DC-20 B	125/125	200/200	250/250	315/315	400/400	500/500
500 VDC	DC-21 A / DC-21 B	125/125[4]	160/160[4]	250/250[4]	250/250[4]	315/315[4]	315/315[4]
500 VDC	DC-22 A / DC-22 B	125/125[4]	160/160[4]	250/250[4]	250/250[4]	315/315[4]	315/315[4]
500 VDC	DC-23 A / DC-23 B	125/125[4]	125/125[4]	200/200[4]	200/200[4]	200/315[4]	200/315[4]
Operational power in AC-23 A (kW) [1][5]							
At 400 VAC without pre-break in AC-23 (kW)[1]		63/63	110/110	140/140	160/160	220/220	295/295
At 500 VAC without pre-break in AC-23 (kW)[1]		85/85	110/110	160/160	160/160	220/220	220/220
At 690 VAC without pre-break in AC-23 (kW)[1]		110/110	150/150	220/220	220/220	295/295	295/295
Reactive power (kvar)							
At 400 VAC (kvar)		55	90	115	145	185	230
Fuse protected short-circuit withstand (kA rms prospective)[6]							
Prospective short-circuit current (kA rms)		100	60	100	60	50	30
Associated fuse rating (A)		125	200	150	315	400	500
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s							
Prospective short-circuit 0.3s (kA rms)		15	15	17	17	17	17
Short-circuit capacity (without protection)							
Rated short-time withstand current 1s. I_{cw} (kA rms)		7	7	9	9	9	9
Short-circuit making capacity without fuses I_{cm} (kA assumed peak)		11.9	11.9	15.3	15.3	15.3	15.3
Connection							
Minimum Cu cable cross-section (mm^2)							
Minimum Cu busbar cross-section (mm^2)							
Maximum Cu cable cross-section (mm^2)		120	120	240	240	2 x 150	2 x 150
Maximum Cu busbar width (mm)		20	20	32	32	45	45
Tightening torque min (Nm)		9	9	20	20	20	20
Mechanical characteristics							
Durability (number of operating cycles)[6]		10 000	10 000	10 000	10 000	10 000	10 000
Operating effort (Nm)		10	10	12	12	15	15
Weight of a 3 pole device (kg)		1.8	1.8	3.2	3.2	4.8	4.8
Weight of a 4 pole device (kg)		2.3	2.3	4.5	4.5	6.1	6.1

(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(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 Ue = 415 VAC.

630 to 1600 A

Thermal current I_{th} at 40°C		630 A	800 A	1250 A	1600 A
Rated insulation voltage U_i (V)		1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12
Rated operational currents I_e (A)					
Rated voltage	**Utilisation category**	**A/B[1]**	**A/B[1]**	**A/B[1]**	**A/B[1]**
415 VAC	AC-20 A / AC-20 B	630/630	800/800	1250/1250	1600/1600
415 VAC	AC-21 A / AC-21 B	630/630	800/800	1250/1250	1600/1600
415 VAC	AC-22 A / AC-22 B	630/630	800/800	1250/1250	1250/1250
415 VAC	AC-23 A / AC-23 B	630/630	630/800	1000/1000	1000/1000
500 VAC	AC-20 A / AC-20 B	630/630	800/800	1250/1250	1600/1600
500 VAC	AC-21 A / AC-21 B	630/630	800/800	1250/1250	1600/1600
500 VAC	AC-22 A / AC-22 B	630/630	800/800	1000/1000	1000/1000
500 VAC	AC-23 A / AC-23 B	500/500	500/500	800/800	800/800
690 VAC[2]	AC-20 A / AC-20 B	630/630	800/800	1250/1250	1600/1600
690 VAC[2]	AC-21 A / AC-21 B	630/630	800/800	1000/1000	1250/1250
690 VAC[2]	AC-22 A / AC-22 B	315/315	315/315	400/400	400/400
690 VAC[2]	AC-23 A / AC-23 B	100/100	125/125	200/200	200/200
220 VDC	DC-20 A / DC-20 B	630/630	800/800	1250/1250	1600/1600
220 VDC	DC-21 A / DC-21 B	630/630	800/800	1000/1000	1250/1250
220 VDC	DC-22 A / DC-22 B	630/630	800/800	800/800	800/800
220 VDC	DC-23 A / DC-23 B	630/630	800/800	800/800	800/800
440 VDC	DC-20 A / DC-20 B	630/630	800/800	1250/1250	1600/1600
440 VDC	DC-21 A / DC-21 B	500/500	630/630	800/800	1000/1000
440 VDC	DC-22 A / DC-22 B	630/630[4]	800/800[4]	800/800[4]	800/800[4]
440 VDC	DC-23 A / DC-23 B	630/630[4]	800/800[4]	800/800[4]	800/800[4]
500 VDC	DC-20 A / DC-20 B	630/630	800/800	1250/1250	1600/1600
500 VDC	DC-21 A / DC-21 B	500/500	630/630	800/800[4]	1000/1000
500 VDC	DC-22 A / DC-22 B	630/630[4]	800/800[4]	800/800[4]	800/800[4]
500 VDC	DC-23 A / DC-23 B	630/630[4]	800/800[4]	800/800[4]	800/800[4]
Operational power in AC-23 A (kW) [1][5]					
At 400 VAC without pre-break in AC-23 (kW)[1]		355/355	355/355	560/560	560/560
At 500 VAC without pre-break in AC-23 (kW)[1]		355/355	355/355	560/560	560/560
At 690 VAC without pre-break in AC-23 (kW)[1]		90/90	110/110	185/185	185/185
Reactive power (kvar)					
At 400 VAC (kvar)		290	365	575	
Fuse protected short-circuit withstand (kA rms prospective)					
Prospective short-circuit (kA rms)[5]		100	70	100	120
Associated fuse rating (A)[5]		630	800	1250	2 x 800
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s					
Prospective short-circuit 0.3s (kA rms)		50	50	100	100
Short-circuit capacity (without protection)					
Rated short-time withstand current 1s. I_{cw} (kA rms)		26	26	50	50
Short-circuit making capacity without fuses I_{cm} (kA assumed peak)		50	50	70	70
Connection					
Minimum Cu cable cross-section (mm^2)		2 x 150	2 x 185		
Minimum Cu busbar cross-section (mm^2)		2 x 30 x 5	2 x 40 x 5	2 x 60 x 5	2 x 80 x 5
Maximum Cu cable cross-section (mm^2)		2 x 300	2 x 300	4 x 185	6 x 240
Maximum Cu busbar width (mm)		63	63	100	100
Tightening torque min/max (Nm)		20	20	20	40
Mechanical characteristics					
Durability (number of operating cycles)[5]		5 000	4 000	4 000	3 000
Operating effort (Nm)		45	45	45	65
Weight of a 3 pole device (kg)		8	8.5	11	16.5
Weight of a 4 pole device (kg)		9.5	10	14	20.5

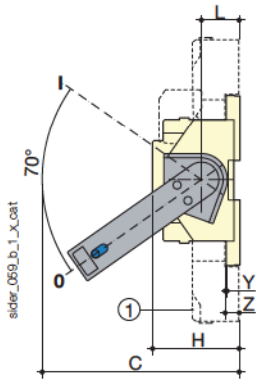
(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(3) 3-pole device with 2 poles in series for the "+" and 1 pole for the "-".
(4) 4-pole device with 2 poles in series per polarity.
(5) The power value is given for information only, the current values vary from one manufacturer to another.
(6) For a rated operational voltage Ue = 415 VAC

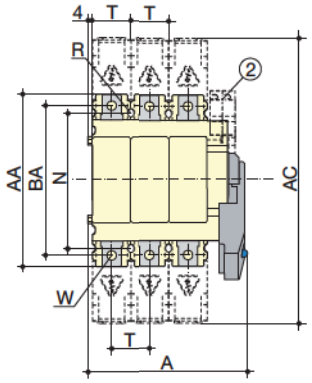
Dimensions

Front operation

SIDER ND 125 to ND 500 A

Direct front operation

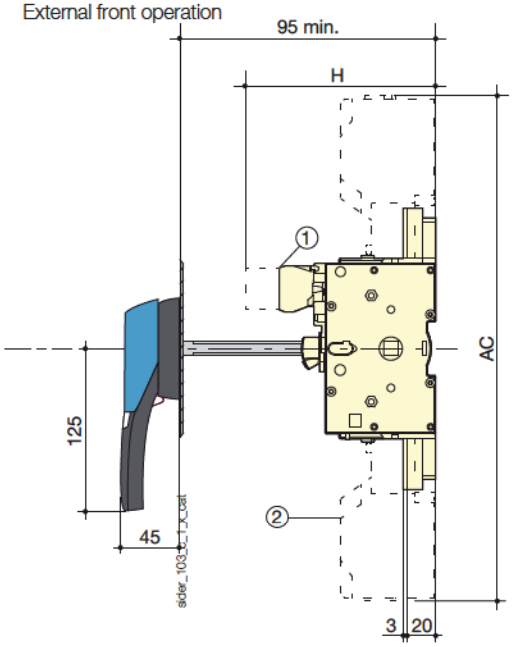


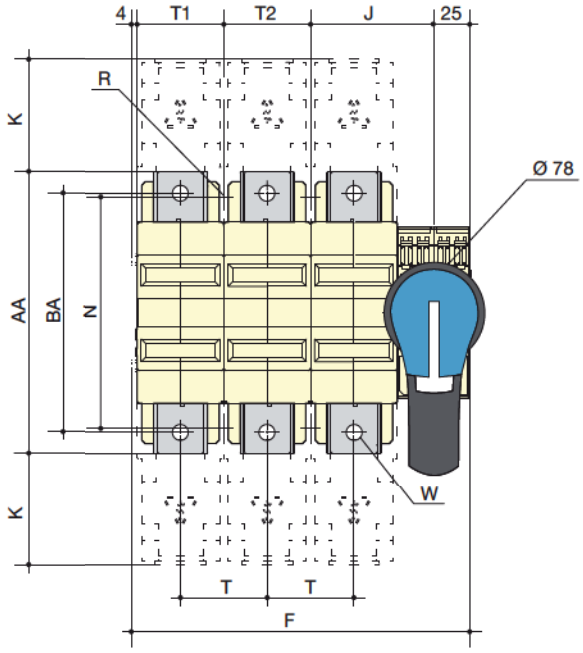


1. Terminal shrouds
2. 1 or 2 NO / NC ACs for pre-break and signalling.

Rating (A)	Overall dimensions			Terminal shrouds	Switch body		Switch mounting		Connection					
	A 3p.	A 4p.	C	AC	H	L	N	R	T	W	Y	Z	AA	BA
ND 125	160	196	178	268	82	36	130	5	36	8	3	20	162	141
ND 200	160	196	178	268	82	36	130	5	36	8	3	20	162	141
ND 250	232	322	173	350	77	31	162	6	60	10	3	20	195	165
ND 315	232	322	173	350	77	31	162	6	60	10	3	20	195	165
ND 400	280	346	173	360	77	31	172	6	66	10	3	20	214	175
ND 500	280	346	173	360	77	31	172	6	66	10	3	20	214	175

External front operation





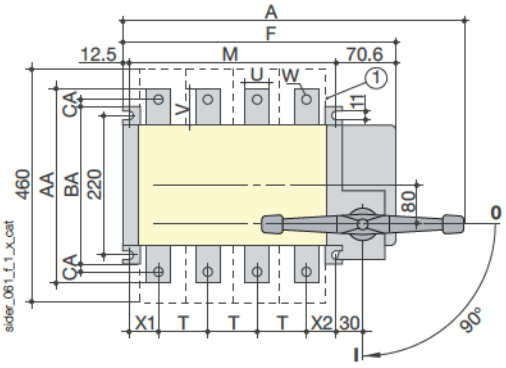
1. 1 or 2 NO / NC ACs for pre-break and signalling.
2. Terminal shrouds

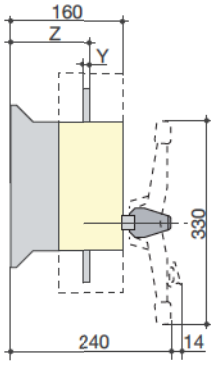
Rating (A)	Terminal shrouds	Switch body					Switch mounting		Connection					
	AC	F 3p.	F 4p.	H	J	K	N	R	T	W	AA	BA	T1	T2
ND 125	268	148	184	137	54	53	130	5	36	8	162	141	36	36
ND 200	268	148	184	137	54	53	130	5	36	8	162	141	36	36
ND 250	350	234	294	132	85	77.5	162	6	60	10	195	165	60	60
ND 315	350	234	294	132	85	77.5	162	6	60	10	195	165	60	60
ND 400	360	252	318	132	91	73	172	6	66	10	214	175	66	66
ND 500	360	252	318	132	91	73	172	6	66	10	214	175	66	66

Front operation

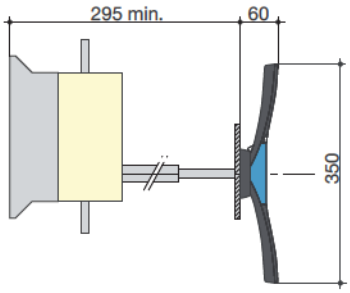
SIDER 630 to 1600 A

Direct front operation





External front operation



1. Terminal screens

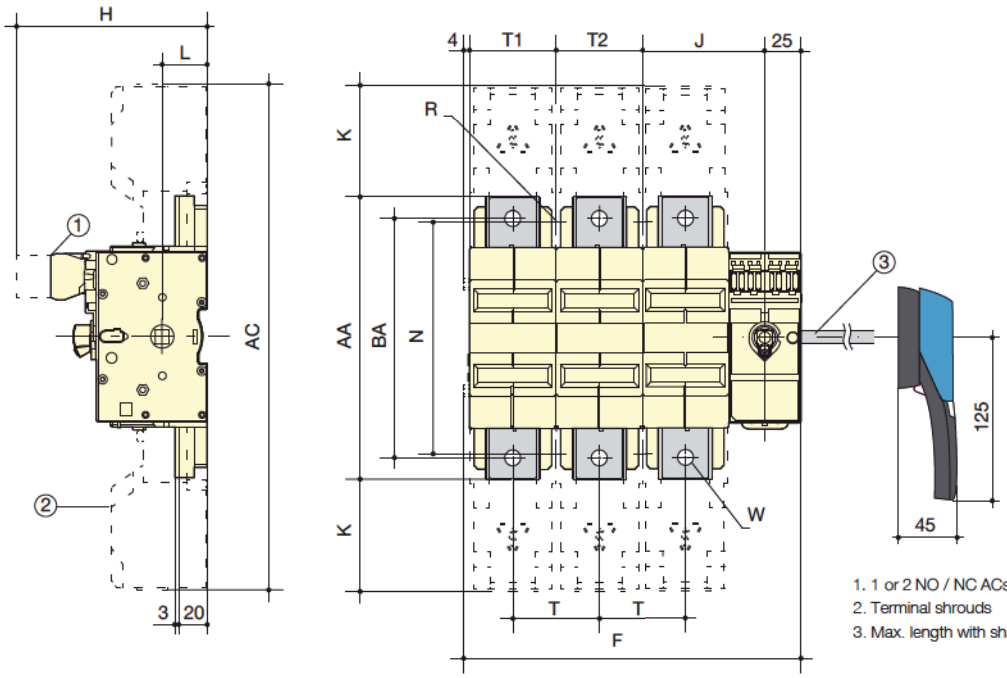
Rating (A)	Overall dimensions		Switch body		Switch mounting		Connection										
	A 3p.	A 4p.	F 3p.	F 4p.	M 3p.	M 4p.	T	U	V	W	X1	X2	Y	Z	AA	BA	AC
630	463	543	358	438	255	335	80	40	50	13	42.5	52.5	6	106	300	260	20
800	463	543	358	438	255	335	80	50	60		47.5	47.5	6	106	320		
1250	555	675	430	550	347	467	120	63	65		46.5	60.5	7	107	330		
1600	555	675	430	550	347	467	120	80	80		46.5	60.5	15	111	360		

Dimensions (continued)

Side operation

SIDER ND 125 to ND 500 A

External side operation



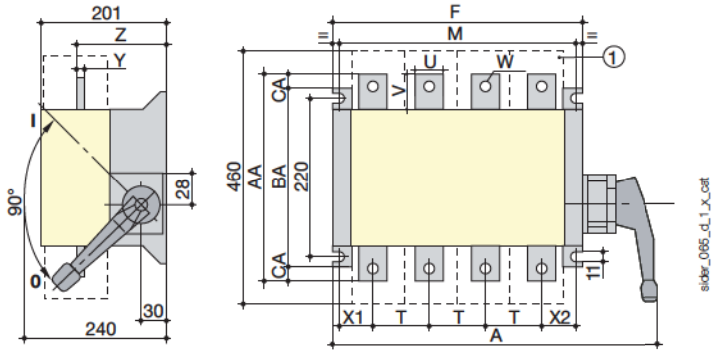
sider_090_d_1_x_cat

1. 1 or 2 NO / NC ACs for pre-break and signalling.
2. Terminal shrouds
3. Max. length with shaft extension: 230 mm

Rating (A)	Terminal shrouds	Overall dimensions		Switch body				Switch mounting		Connection					
	AC	F 3p.	F 4p.	H	J	K	L	N	R	T	W	AA	BA	T1	T2
ND 125	268	148	184	137	54	53	36	130	5	36	8	162	141	36	36
ND 200	268	148	184	137	54	53	36	130	5	36	8	162	141	36	36
ND 250	350	234	294	132	85	77.5	31	162	6	60	10	195	165	60	60
ND 315	350	234	294	132	85	77.5	31	162	6	60	10	195	165	60	60
ND 400	360	252	318	132	91	73	31	172	6	66	10	214	175	66	66
ND 500	360	252	318	132	91	73	31	172	6	66	10	214	175	66	66

SIDER 630 to 1600 A

Direct side operation



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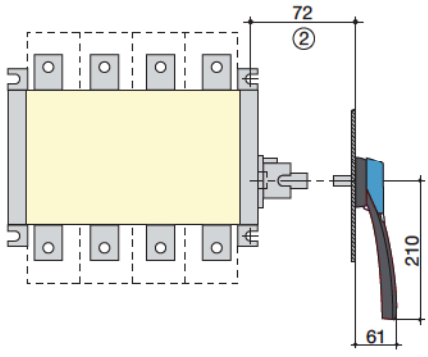
External side operation

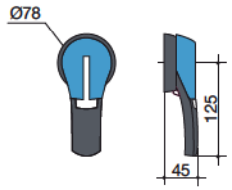
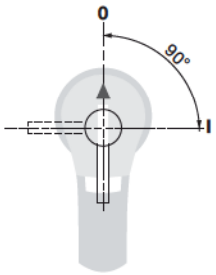
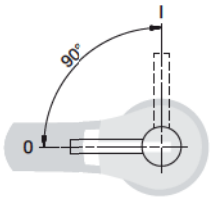
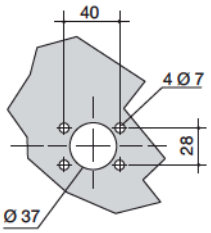
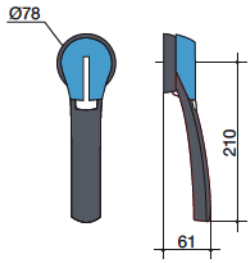


1. Terminal screen
2. Max length with shaft extension: 111 mm

Rating (A)	Overall dimensions		Switch body		Switch mounting		Connection										
	A 3p.	A 4p.	F 3p.	F 4p.	M 3p.	M 4p.	T	U	V	W	X1	X2	Y	Z	AA	BA	AC
630	395	475	280	360	255	335	80	40	50	13	42.5	52.5	6	147	300	260	20
800	395	475	280	360	255	335	80	50	60	15	47.5	47.5	6	147	320		
1250	480	600	372	492	347	467	120	63	65	16x11	46.5	60.5	7	148	330		
1600	480	600	372	492	347	467	120	80	80	13	46.5	60.5	15	152	360		

Dimensions for external handles

SIDER ND 125 to ND 500 A

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S2 type 		**Right side operation** 	
S3 type 			

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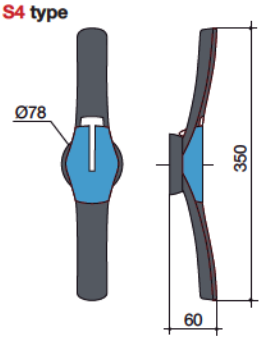
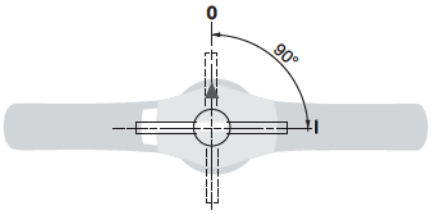
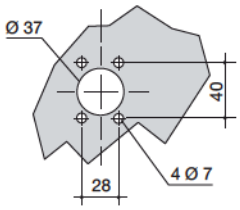
SIDER 630 to 1600 A

Handle type	Front operation Direction of operation	Door drilling
S4 type 		

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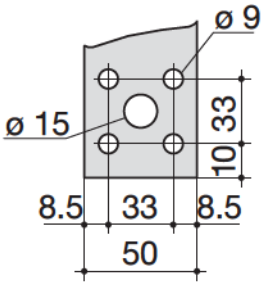
Connection terminal

SIDER 800 A



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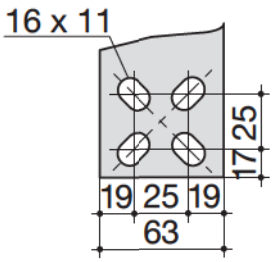
SIDER 1250 A



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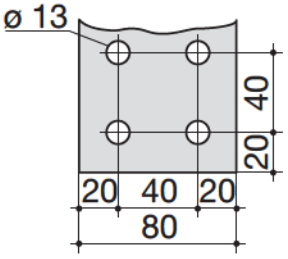
SIDER 1600 A



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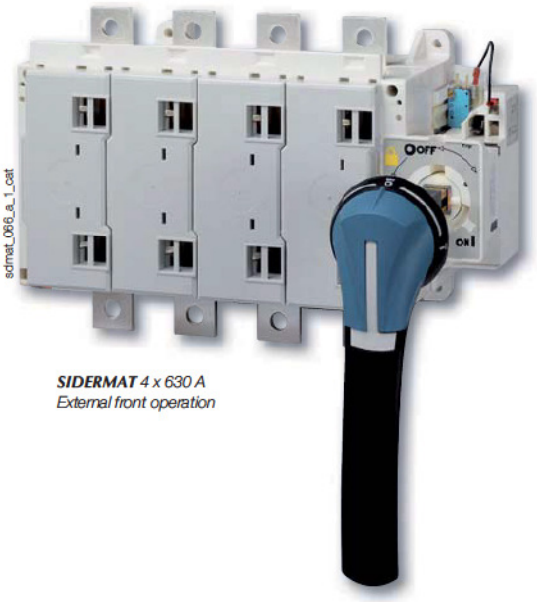
SIDERMAT

Load break switches for power distribution

Remotely trippable switch from 250 to 1800 A



***SIDERMAT** 4 x 630 A*
External front operation

The solution for

- Main switchboards.
- Distribution panels.
- Motor load break.

Strong points

- Remote tripping.
- Safety thanks to visible double breaking.
- Utilisation in harsh operating conditions.

Check it out!

- SIDERMAT combination and IDE are manually operated multipolar load break switches which can be tripped remotely.

Function

SIDERMAT are manually operated 3 or 4 pole load break switches with visible breaking and a remote tripping function.
They make and break under load conditions and provide safety isolation for any low voltage circuit.
The tripping function is used to provide the following functions:
- personal protection against insulation faults when utilised in combination with toroids and differential relays,
- protection against overloads when utilised in combination with CTs and thermal relays,

Available with integrated fuse protection, the SIDERMAT combination provides protection against short-circuits (see “SIDERMAT combination” on page 230).

Advantages

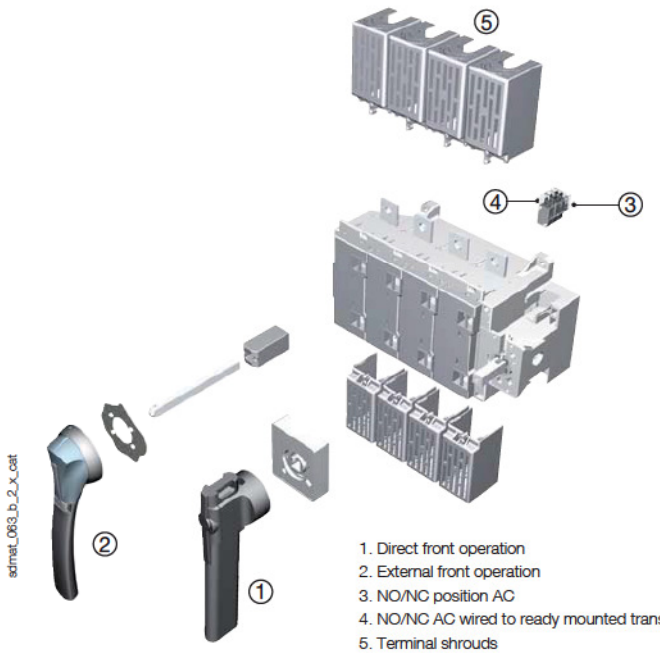
Remote tripping
Disconnection by a shunt trip device enables the power to the installation to be switched off with a remote pushbutton.

Safety thanks to visible double breaking
SIDERMATs are double breaking devices with visible contacts which provide a clear and secure display of the contact positions.

Utilisation in harsh operating conditions
By lowering the current via a limiting resistor, a SIDERMAT fitted with an undervoltage coil may be used in continuous processes or exposed to high ambient temperatures.

Functional diagram

For further details see the installation instructions supplied with the product.



1. Direct front operation
2. External front operation
3. NO/NC position AC
4. NO/NC AC wired to ready mounted transmission coil
5. Terminal shrouds

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References

Front operation - Switch body with a shunt trip coil 230 VAC

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact position	Auxiliary contact tripping	Terminal shrouds	Terminal screens	Inter phase barrier
250 A	3 P	3500 **3026**	Black 3999 **6203**	S3 type Black IP55 1431 **3511**(1) S3 type Red/Yellow IP55 1432 **3511**	200 mm 1401 **1520** 320 mm 1401 **1532**(1)	1st contact NO/NC 3999 **0051** 2nd contact NO/NC 3999 **0052**	1 contact NO/NC 3999 **0031**	3 P 3998 **3040**(2) 4 P 3998 **4040**(2)		
	4 P	3500 **4026**								
400 A	3 P	3500 **3041**								
	4 P	3500 **4041**								
630 A	3 P	3500 **3064**								
	4 P	3500 **4064**								
800 A	3 P	3500 **3081**						3 P 3998 **3063**(2) 4 P 3998 **4063**(2)		
	4 P	3500 **4081**								
1250 A	3 P	3500 **3121**							3 P 2998 **3120**(2) 4 P 2998 **4120**(2)	3 P 2998 **0003** 4 P 2998 **0004**
	4 P	3500 **4121**								
1600 A	3 P	3500 **3161**								
	4 P	3500 **4161**								
1800 A	3 P	3500 **3180**								included
	4 P	3500 **4180**								

(1) Standard.
(2) Top/bottom.

Side operation - Switch body with a shunt trip coil 230 VAC

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact position	Auxiliary contact tripping	Terminal shrouds	Terminal screens	Inter phase barrier
250 A	3 P	3505 **3026**	Black 3999 **6012**(1) Red 3999 **6013**	S3 type Black IP55 1435 **3511**(1) S3 type Red IP55 1436 **3511**	200 mm 1403 **1520**	1st contact NO/NC 3999 **0051** 2nd contact NO/NC 3999 **0052**	1 contact NO/NC 3999 **0031**	3 P 3998 **3040**(2) 4 P 3998 **4040**(2)		
	4 P	3505 **4026**								
400 A	3 P	3505 **3041**								
	4 P	3505 **4041**								
630 A	3 P	3505 **3064**								
	4 P	3505 **4064**								
800 A	3 P	3505 **3081**						3998 **3063**(2)		
	4 P	3505 **4081**						3998 **4063**(2)		
1250 A	3 P	3505 **3121**							3 P 2998 **3120**(2) 4 P 2998 **4120**(2)	3 P 2998 **0003** 4 P 2998 **0004**
	4 P	3505 **4121**								
1600 A	3 P	3505 **3161**								
	4 P	3505 **4161**								
1800 A	3 P	3505 **3180**								included
	4 P	3505 **4180**								

(1) Standard.
(2) Top/bottom.

Accessories

Door interlocked external operation

For front operation

Rating (A)	Handle	Handle colour	External IP(1)	Reference
250 ... 1800	S3 type	Black	IP55	1431 **3511**(2)
250 ... 1800	S3 type	Red/Yellow	IP55	1432 **3511**

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

For external side operation

Rating (A)	Handle	Handle colour	External IP(1)	Reference
250 ... 1800	S3 type	Black	IP55	1435 **3511**(2)
250 ... 1800	S3 type	Red	IP55	1436 **3511**

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

S3 type handles

Direct operation handle

For front operation

Rating (A)	Handle colour	Reference
250 ... 1800	Black	3999 **6203**
250 ... 1800	Red	Please consult us

For external side operation

Rating (A)	Handle colour	Reference
250 ... 1800	Black	3999 **6012**
250 ... 1800	Red	3999 **6013**

Alternative S-type handle cover colours

Use

For single lever S3 type handles.

Other colours: Please consult us.

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

S-type handle adapter

Use

Enables S-type handles to be fitted in place of existing older style Socomec handles. Adapter can 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	To be ordered in multiples of	External IP(1)	Reference
Black	1	IP65	1493 **0000**

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

Shaft for external handle

Use

Standard lengths:
- 200 mm,
- 320 mm.

Other lengths: Please consult us.

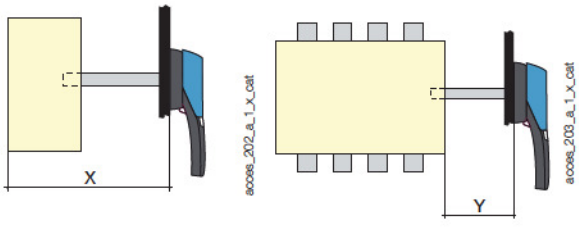
For front operation

Rating (A)	Dimension X (mm)	Shaft length (mm)	Reference
250 ... 630	275 ... 439	200 mm	1401 **1520**
250 ... 630	275 ... 559	320 mm	1401 **1532**(1)
800	296 ... 460	200 mm	1401 **1520**
800	296 ... 580	320 mm	1401 **1532**(1)
1250 ... 1800	291 ... 455	200 mm	1401 **1520**
1250 ... 1800	291 ... 575	320 mm	1401 **1532**(1)

(1) Standard.

For external side operation

Rating (A)	Dimension Y (mm)	Shaft length (mm)	Reference
250 ... 1800	110 ... 279	200 mm	1403 **1520**



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Alternative tripping coil

Use

Omnipolar breaking remotely controlled by shunt trip or undervoltage voltage release coil.

Note: the shunt trip coil must not be supplied for more than 5 s.

A 230 VAC shunt trip coil is fitted as standard to the switch body. To have an alternative coil, one of the references opposite must be added to the switch reference.

Examples for ordering

- SIDERMAT with shunt trip coil 230 VAC
  1 reference: SIDERMAT 250 A, 3 pole, front operation: 3500 3026.
- SIDERMAT fitted with a non-standard coil
  2 references: SIDERMAT 250 A, 3 pole, front operation, fitted with a 110 VAC undervoltage trip coil: 3500 3026 + 3991 3110.

Shunt trip coil

Undervoltage trip coil

Characteristics

Shunt trip coil					
Alternating voltage (V) (+5% to -20%)(1)	24	48	110	230	400
Consumption on inrush (VA)	80	100	100	120	120
Direct voltage (V) (+5% to -20%)	12	24	48	110	220
Consumption on inrush (W)	80	100	100	120	120

(1) Note: The shunt trip coil VAC must not be supplied for more than 5 s. A shunt trip coil is suited for the standard device.

Undervoltage AC trip coil					
Alternating voltage (V) (+5% to -10%)	24	48	110	230	400
Permanent consumption (VA)	13	13	13	13	20
Consumption on inrush (VA)	13	13	13	13	20
Minimum maintaining voltage (V)	15	25	60	140	200

Undervoltage DC trip coil					
Direct voltage (V) (+5% to -10%)	12	24	48	110	220
Permanent consumption (W)	13	13	13	13	13
Consumption on inrush (W)	13	13	13	13	13
Minimum maintaining voltage (V)	6	15	25	60	140

Delayed undervoltage trip coil		
Voltage	Time (ms)	Reference
230 VAC	430	3993 **3230**(1)
400 VAC	410	3993 **3400**(1)

(1) To be ordered at the same time as the switch.

References

Shunt trip coil	Replacement tripping coil	Alternative factory fitted coil
Voltage	Reference	Reference
24 VAC	3990 **1024**	3991 **1024**(1)
48 VAC	3990 **1048**	3991 **1048**(1)
110 VAC	3990 **1110**	3991 **1110**(1)
230 VAC	3990 **1220**	included
400 VAC	3990 **1380**	3991 **1380**(1)
12 VDC		3991 **2012**(1)
24 VDC	3990 **2024**	3991 **2024**(1)
48 VDC	3990 **2048**	3991 **2048**(1)
110 VDC	3990 **2220**	3991 **2220**(1)
220 VDC		3991 **2220**(1)

Undervoltage trip coil	Replacement tripping coil	Alternative factory fitted coil
Voltage	Reference	Reference
24 VAC	3990 **3024**	3991 **3024**(1)
48 VAC	3990 **3048**	3991 **3048**(1)
110 VAC	3990 **3110**	3991 **3110**(1)
230 VAC	3990 **3220**	3991 **3220**(1)
400 VAC	3990 **3380**	3991 **3380**(1)
12 VDC	3990 **4012**	3991 **4012**(1)
24 VDC	3990 **4024**	3991 **4024**(1)
48 VDC	3990 **4048**	3991 **4048**(1)
110 VDC	3990 **4110**	3991 **4110**(1)
220 VDC	3990 **4220**	3991 **4220**(1)

(1) To be ordered at the same time as the switch.

Current-reducing resistor for undervoltage trip coil

Use

By limiting the current, the resistor reduces the effects on the undervoltage coil used in continuous processes, or processes exposed to high ambient temperatures.

Voltage	Reference
110 VAC	3999 **3112**
230 VAC	3999 **3230**
400 VAC	3999 **3400**
110 VDC	3999 **4110**

Accessories (continued)

Auxiliary contact

Use
Pre-break and signalling of positions 0 and I:
1 to 2 NO/NC auxiliary contacts.

Coil tripping
1 to 2 NO/NC auxiliary contacts.

Connection to the control circuit
By 6.35 mm fast-on terminal.

Characteristics
NO/NC auxiliary contact: IP2X.

Electrical characteristics:
30 000 operations.


acces_048_a_1_cat

Characteristics

NO/NC position contact

Rating (A)	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
250 ... 1800	16	12	8	14	6

NO/NC changeover contact, signalling coil tripping

Rating (A)	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
250 ... 1800	16	12	8	12	2

References

NO/NC position contact

Rating (A)	Position AC	Reference
250 ... 1800	1st	3999 **0051**
250 ... 1800	2nd	3999 **0052**

NO/NC low level position contact

Rating (A)	Position AC	Reference
250 ... 1800	1st	3999 **0111**
250 ... 1800	2nd	3999 **0112**

NO/NC contact signalling coil tripping

Rating (A)	Position AC	Reference
250 ... 1800	1	3999 **0031**

Terminal shrouds

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

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

Rating (A)	No. of poles	Position	Reference
250 ... 630	3 P	top or bottom	3998 **3040**
250 ... 630	4 P	top or bottom	3998 **4040**
800	3 P	top or bottom	3998 **3063**
800	4 P	top or bottom	3998 **4063**


acces_212_a_2_cat

Terminal screens

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

Rating (A)	No. of poles	Position	Reference
1250 ... 1800	3 P	top or bottom	2998 **3120**
1250 ... 1800	4 P	top or bottom	2998 **4120**

Inter-phase barrier

Use
Safety isolation between the terminals, essential for use at 690 VAC or in a polluted or dusty atmosphere.

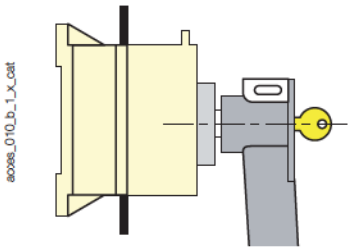
Rating (A)	No. of poles	Reference
1250 ... 1600	3 P	2998 **0003**
1250 ... 1600	4 P	2998 **0004**
1800	3/4 P	included


acces_036_a_2_cat

Handle key interlocking accessories

Use

Locking in position 0 of the front or side operation handle:
- using a padlock (not supplied) and factory integrated into the handle. Padlocking, in external front operation, locks the door.
- using RONIS 1104 A lock (key BC 3318) to be mounted directly on the padlockable handle,
- locking using RONIS EL11AP lock (not supplied).



Lock RONIS 1104A

Locking using RONIS EL11AP lock 1104 (supplied)		
Rating (A)	**Operation**	**Reference**
250 ... 1800	direct	3999 **8104**

Locking using RONIS EL11AP lock (not supplied)		
Rating (A)	**Operation**	**Reference**
250 ... 630	direct	3999 **6107**
800 ... 1800	direct	3999 **7007**

Locking using RONIS EL11AP lock (not supplied)		
Rating (A)	**Operation**	**Reference**
250 ... 1800	external	1499 **7701**

Cage terminals

Use

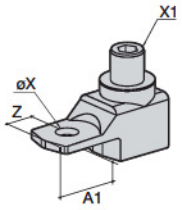
Connection of bare copper cables onto the terminals (without lugs).

Connections

Rating (A)	Flexible cable cross-section (mm^2)	Rigid cable cross-section (mm^2)	Flexible bar width (mm)	Stripped over (mm)
250	16 ... 185	16 ... 185	18	27
400	50 ... 240	50 ... 300	20	34
630	70 ... 300	70 ... 300	24	34

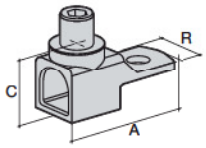
Dimensions

Rating (A)	A	A1	C	R	ØX	X1	Z
250	62	31.5	31.5	25	10.5	M16	14
400	71.5	32	38	32	10.5	M20	15
630	76.5	37	38	40	12.5	M20	15



References

Rating (A)	No. of poles	Reference
250	3 P	5400 **3025**
250	4 P	5400 **4025**
400	3 P	5400 **3040**
400	4 P	5400 **4040**
630	3 P	5400 **3063**
630	4 P	5400 **4063**



Other specific accessories

- Connection accessories.
- Mounting plates for standard systems.
- Special construction available for specific environments.

Characteristics according to IEC 60947-3

250 to 1800 A

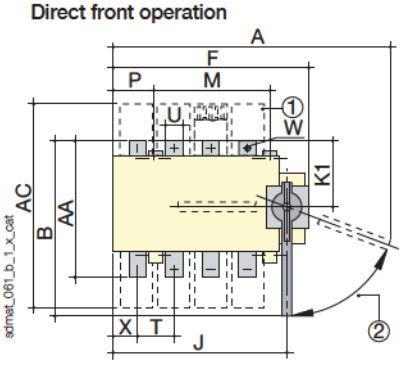
Thermal current I_{th} at 40°C		250 A	400 A	630 A	800 A	1250 A	1600 A	1800 A
Rated insulation voltage U_i (V)		1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		8	12	12	12	12	12	12
Rated operational currents I_e (A)								
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
400 VAC	AC-22 A / AC-22 B	250/250	400/400	630/630	800/800	1250/1250	1600/1600	1600/1800
400 VAC	AC-23 A / AC-23 B	250/250	400/400	630/630	630/630	1250/1250	1600/1600	1600/1600
500 VAC	AC-22 A / AC-22 B	250/250	400/400	630/630	800/800	1250/1250	1600/1600	1600/1600
500 VAC	AC-23 A / AC-23 B	200/250	315/400	500/630	630/630	1000/1000	1250/1250	1250/1250
690 VAC(2)	AC-21 A / AC-21 B	250/250	400/400	630/630	800/800	1250/1250	1600/1600	1600/1600
690 VAC(2)	AC-22 A / AC-22 B	250/250	400/400	500/630	630/800	1000/1000	1250/1250	1250/1250
690 VAC(2)	AC-23 A / AC-23 B	200/250	315/400	400/500	500/500	800/800	1000/1000	1000/1000
400 VDC	DC-20 A / DC-20 B	250/250	400/400	630/630	800/800	1250/1250	1600/1600	1800/1800
400 VDC	DC-21 A / DC-21 B	250/250	400/400	630/630	800/800	1250/1250	1600/1600	1600/1600
400 VDC	DC-22 A / DC-22 B	250/250	400/400(3)	630/630(3)	800/800(3)	1250/1250(4)	1600/1600(4)	1600/1600(4)
400 VDC	DC-23 A / DC-23 B	200/250	315/400(3)	500/630(3)	630/800(3)	1250/1250(4)	1250/1250(4)	1250/1250(4)
Operational power in AC-23 (kW)								
At 400 VAC without pre-break in AC-23 (kW)(1)(5)		132/132	220/220	355/355	355/355	710/710	900/900	900/900
At 690 VAC without pre-break in AC-23 (kW)(1)(5)		185/220	295/400	400/475	475/475	750/750	900/900	900/900
Reactive power (kvar)								
At 400 VAC (kvar)(5)		115	185	290	365	575		
Fuse protected short-circuit withstand (kA rms prospective)								
Prospective short-circuit (kA rms)(5)		100	100	100	100	100	120	120
Associated fuse rating (A)(6)		250	400	630	800	1250	2 x 800	2 x 900
Short-circuit capacity (without protection)								
Rated short-time withstand current 0.3 s. I_{cw} (kA rms)		17	25	50	65	65	80	80
Rated peak withstand current (kA peak)(5)		30	45	55	80	100	120	120
Connection								
Minimum Cu cable cross-section (mm^2)		95	185	2 x 150	2 x 185			4 x 240
Minimum Cu busbar cross-section (mm^2)				2 x 30 x 5	2 x 40 x 5	2 x 60 x 5	2 x 80 x 5	
Maximum Cu cable cross-section (mm^2)		240	240	2 x 300	2 x 300	4 x 185	6 x 240	8 x 240
Maximum Cu busbar width (mm)		40	40	50	63	100	100	100
Tightening torque min (Nm)		20	40	40		20	40	40
Mechanical characteristics								
Durability (number of operating cycles)		8000	8000	5000	5000	5000	3000	3000
Weight of a 3 pole device (kg)		6.5	7	8	11	14	19	21
Weight of a 4 pole device (kg)		7.5	8	9.5	13	16	21.5	23.5

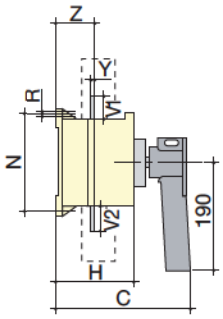
(1) Category with index A = frequent operation - Category with index B = infrequent operation.
(2) With terminal shrouds or phase barrier.
(3) Poles cannot be juxtaposed.
(4) 4-pole device with 2 poles in series per polarity.
(5) The power value is given for information only, the current values vary from one manufacturer to another.
(6) For a rated operational voltage U_e = 400 VAC.

Dimensions - Front operation

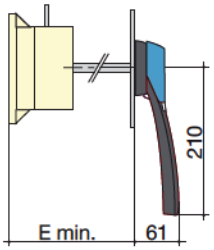
SIDERMAT 250 to 800 A

Direct front operation





External front operation

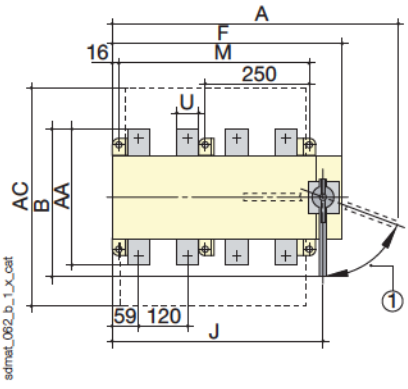


1. Terminal shrouds 2. Reset fuse 70°

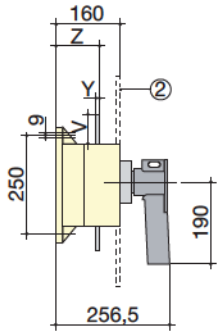
Rating (A)	Overall dimensions A 3p.	A 4p.	W	C	E min	Terminal shrouds AC	Switch body F 3p.	F 4p.	H	J 3p.	J 4p.	K1	Switch mounting M	N	P 3p.	P 4p.	R	Connection T	U	V1	V2	W	X 3p.	X 4p.	Y	Z	AA
250	435	495	309	248	275	388	285	345	148	253	313	115	210	180	10	70	7	65	32	35	43	11	31	46	3	67	238
400	435	495	309	248	275	388	285	345	148	253	313	115	210	180	10	70	7	65	32	35	43	13	31	46	5	69	238
630	435	495	318.5	248	275	388	285	345	148	253	313	115	210	180	10	70	7	65	32	35	43	13	31	46	8	72	257
800	491	570	350	262	296	470	346	426	178	308	388	160	250	250	20	100	9	80	50	60	60	15	36	65	7	72	320

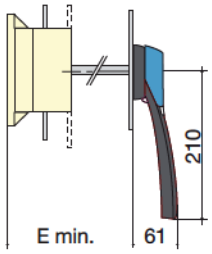
SIDERMAT 1250 to 1800 A

Direct front operation



External front operation





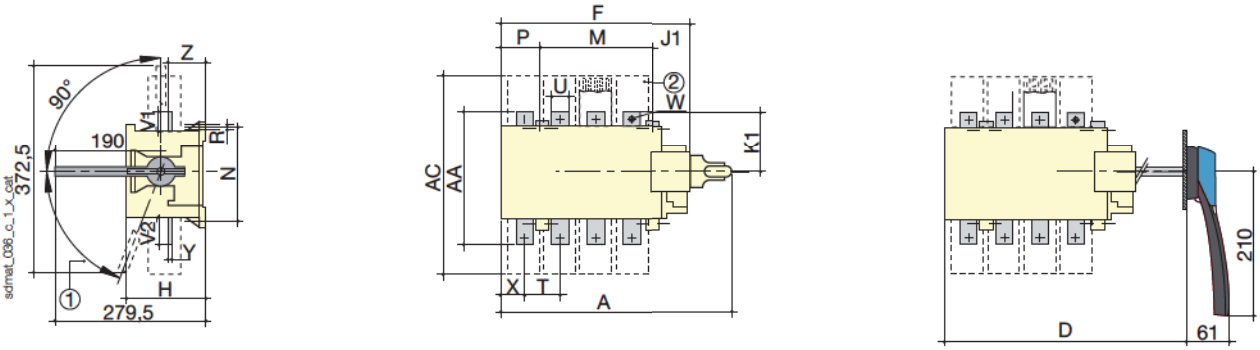
1. Reset fuse 70°
2. Terminal screens

Rating (A)	Overall dimensions A 3p.	A 4p.	W	E min	Terminal shrouds AC	Switch body F 3p.	F 4p.	J 3p.	J 4p.	Switch mounting M 3p.	M 4p.	Connection U	V	Y	Z	AA
1250	582	702	355	291	480	437	557	400	520	345	465	63	65	7	106	330
1600	582	702	370	291	479	437	557	400	520	345	465	80	80	15	110	360
1800	582	702	370	291	479	437	557	400	520	345	465	100	80	15	110	360

Dimensions - Side operation

SIDERMAT 250 to 800 A

Direct side operation



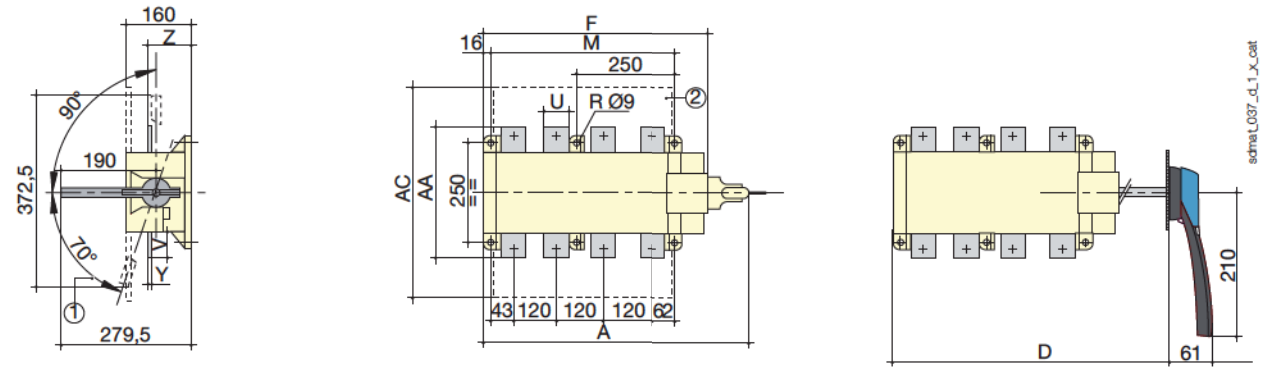
External side operation

1. Reset fuse 70°
2. Terminal shrouds

	Overall dimensions				Terminal shrouds	Switch body				Switch mounting					Connection									
Rating (A)	A 3p.	A 4p.	D 3p.	D 4p.	AC	F 3p.	F 4p.	H	K1	M	N	P 3p.	P 4p.	R	T	U	V1	V2	W	X 3p.	X 4p.	Y	Z	AA
250	365	425	357	417	388	285	345	148	115	210	180	10	70	7	65	32	35	43	11	31	46	3	67	238
400	365	425	357	417	388	285	345	148	115	210	180	10	70	7	65	32	35	43	13	31	46	5	69	238
630	365	425	357	417	388	285	345	148	129	210	180	10	70	7	65	45	49	49	13	31	46	8	72	257
800	421	501	413	493	470	346	426	178	160	250	250	20	100	9	80	50	60	60	15	36	65	7	72	320

SIDERMAT 1250 to 1800 A

Direct side operation



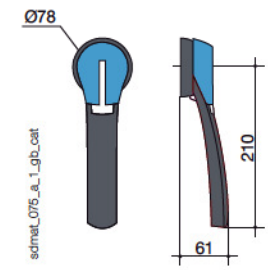
1. Reset fuse 70°
2. Terminal screens

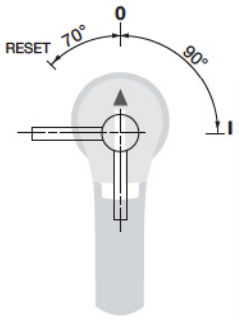
	Overall dimensions				Terminal shrouds	Switch body		Switch mounting		Connection				
Rating (A)	A 3p.	A 4p.	D 3p.	D 4p.	AC	F 3p.	F 4p.	M 3p.	M 4p.	U	V	Y	Z	AA
1250	522	641	504	624	480	437	557	345	465	63	65	7	106	330
1600	522	641	504	624	479	437	557	345	465	80	80	15	110	360
1800	522	641	504	624	479	437	557	345	465	100	80	15	110	360

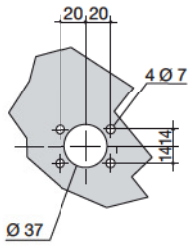
Dimensions for external handles

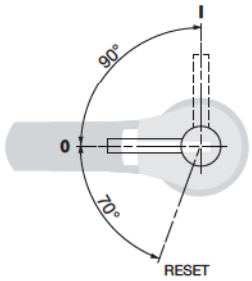
SIDERMAT 250 to 1800 A

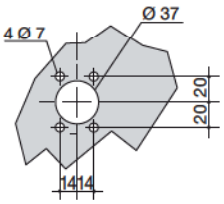
Handle type	Front operation		Side operation	
	Direction of operation	Door drilling	Direction of operation	Door drilling
S3 type				





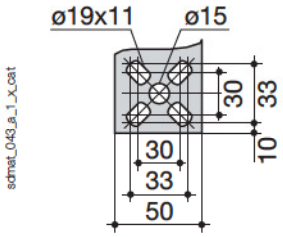




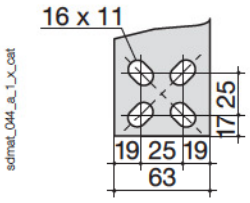


Connection terminal

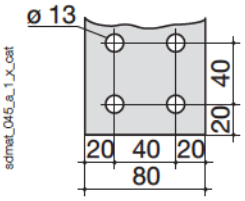
SIDERMAT 800 A



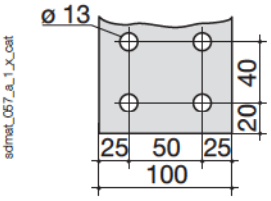
SIDERMAT 1250 A



SIDERMAT 1600 A



SIDERMAT 1800 A



SIRCO MC PV

Load break switches for photovoltaic applications
up to 1000 VDC and 40 A

new

***SIRCO MC PV** 25 A - 1000 VDC*
DIN rail mounting

***SIRCO MC PV** 25 A - 1000 VDC*
Door mounting

Function

SIRCO MC PV are DC load break switches. They make and break under load conditions and provide optimum safety isolation for any PV circuit.

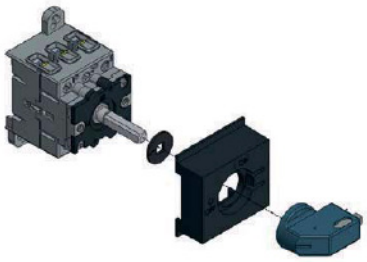
Advantages

Compact
Thanks to its compact design, the limitation of space within the combiner box or the solar inverter is greatly reduced.

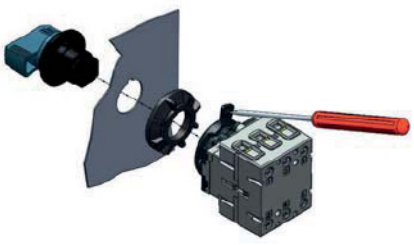
High breaking capacity up to 1000 VDC.
- Making and breaking capacity under load conditions up to 1000 VDC.
- Specific photovoltaic test beyond requirements by standard IEC 60947-3.

Safety
- Pre-bridging is factory-achieved for easier, quicker and safer connection.
- Direct access to connection terminals for adequate tightening.

Easy mounting
Three mounting possibilities are available for optimum integration and time saving:
- DIN rail or back plate mounting.
- Door mounting.
- "Quick Fix" mounting to save time when integrating into solar inverters.



SIRCO MC PV
DIN-rail mounting

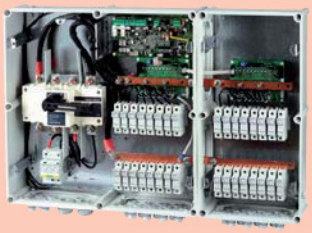


SIRCO MC PV
Door mounting

The solution for
- Residential buildings.
- Buildings.
- Solar parks.

Strong points
- Compact.
- High breaking capacity up to 1000 VDC.
- Safety.
- Easy assembling.

Check it out!
- Need an enclosed switch? No problem with our specific product department. We have solutions for any requirement.



Conformity to standards
- IEC 60947-3
- UL508i(1)

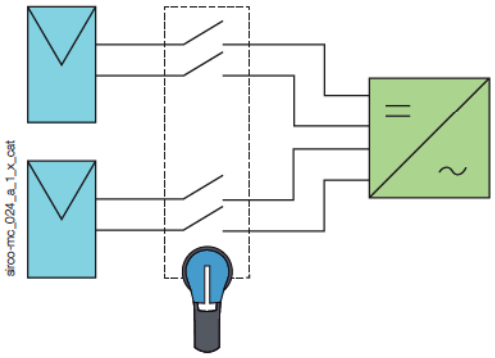
(1) Please consult us.

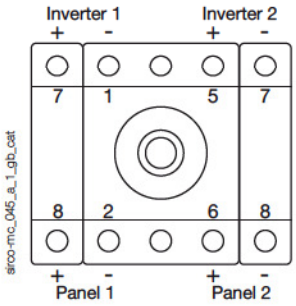
Approvals and certifications

socomec
Innovative Power Solutions

Multi-circuit breaking

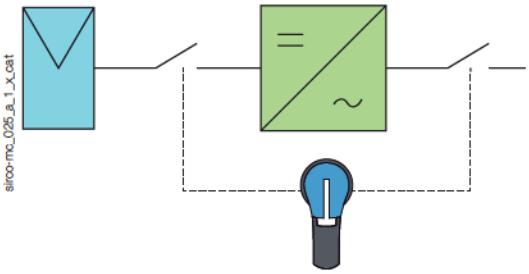
- The SIRCO MC PV for double circuits (2 MPPT: Maximum Power Point Tracking) enables connection of two independent photovoltaic panel strings to a single switch in order to reduce the costs of the global solution.

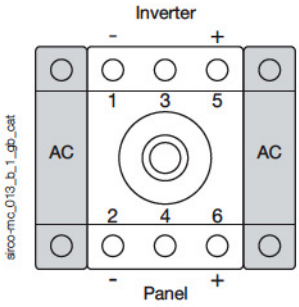




Complete inverter isolation with a single operation

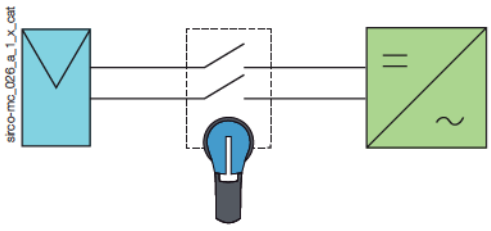
- The SIRCO MC PV with two additional AC poles can be integrated into the inverter to provide complete and simultaneous isolation of the PV and AC circuits. This improves safety and reduces the overall product size.

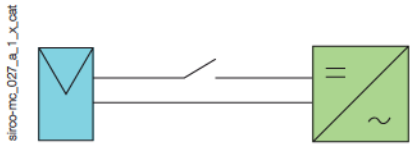




What you need to know

For grounded or ungrounded networks:
It is possible to use the SIRCO MC PV in both network systems, either switching one or both polarities.





References

SIRCO MC PV 600 VDC - DIN rail or back plate mounting

Rating (A)	Circuit type	Number of poles by PV polarity[3]	No of poles AC current	Switch body	Direct handle[1]	External handle	Shaft for external handle	Auxiliary contact
30 A	Single PV circuit	1 P+, 1 P-	-	21PV **2102**	MC0 type Blue 2119 **0012**[2] Blue MC01 type 2119 **1012**	MC1 type Black IP65 2119 **3312**[2] Red / Yellow IP65 2119 **3313**	165 ... 200 mm 2107 **0516**	1 contact NC+NO 2119 **0001**
	PV + AC circuit	1 P+, 1P-	2 P	21PV **2162**				
	Double PV circuit	2 x (1P+, 1P-)	-	21PV **6102**				
40 A	Single PV circuit	2 P+, 1 P-	-	21PV **3124**				
	PV + AC circuit	2 P+, 1 P-	2 P	21PV **3184**				
	Double PV circuit	2 x (1P+, 1P-)	-	21PV **6124**	Blue MC01 type 2119 **1412**			

(1) 45 mm modular DIN front plate included.
(2) Standard handle.
(3) Default connected device (see "Connection of poles" page 108).

SIRCO MC PV 1000 VDC - DIN rail or back plate mounting

Rating (A)	Circuit type	Number of poles by PV polarity[3]	No of poles AC current	Switch body	Direct handle[1]	External handle	Shaft for external handle	Auxiliary contact
25 A	Single PV circuit	2 P+, 1 P-	Please consult us	21PV **3722**	Blue MC0 type 2119 **0012**[2] Blue MC01 type 2119 **1012**	Black MC1 type IP65 2119 **3312**[2] Red / Yellow IP65 2119 **3313**	165 ... 200 mm 2107 **0516**	1 contact NO + NC 2119 **0001**
	Double PV circuit	2 x (1P+, 1P-)		21PV **6722**	Blue MC01 type 2119 **1412**			
40 A	Single PV circuit	2P+, 2P		21PV **4754**	Blue MC0 type 2119 **0012**[2] Blue MC01 type 2119 **1012**			

(1) 45 mm modular DIN front plate included.
(2) Standard handle.
(3) Default connected device (see "Connection of poles" page 108).

SIRCO MC PV 600 VDC - Door mounting

Rating (A)	Circuit type	Number of poles by PV polarity[1]	No of poles AC current	Switch body	External handle "switch body"	Switch body "Quick Fix"	External handle "Quick Fix"	Auxiliary contact
30 A	Single PV circuit	1 P+, 1 P-	-	21PV **2202**	Blue MC2 type IP55 2129 **0112**[2]	21PV **2302**	Blue MC3 type IP65 2139 **1212**[2]	1 contact NC+NO 2129 **0001**
	PV + AC circuit	1 P+, 1 P-	2 P	21PV **2262**		21PV **2362**		
	Double PV circuit	2 x (1P+, 1P-)	-	21PV **5202**		21PV **5302**	Black MC4 type IP65 2139 **3312**	
40 A	Single PV circuit	2 P+, 1 P-	-	21PV **3224**		21PV **3324**		
	PV + AC circuit	2 P+, 1 P-	2 P	21PV **3284**		21PV **3384**	Red/Yellow IP65 2139 **3313**	

(1) Default connected device (see "Connection of poles" page 108).
(2) Standard handle.

SIRCO MC PV 1000 VDC - Door mounting

Rating (A)	Circuit type	Number of poles by PV polarity[1]	No of poles AC current	Switch body	External handle "switch body"	Switch body "Quick Fix"	External handle "Quick Fix"	Auxiliary contact
25 A	Single PV circuit	2 P+, 1 P-	Please consult us	21PV **3822**	Blue MC2 type IP55 2129 **0112**	21PV **3922**	MC3 type Blue IP65 2139 **1212**[2]	1 contact NC+NO 2129 **0001**
40 A	Single PV circuit	2 P+, 1 P-		21PV **4854**		21PV **4954**	Black MC4 type IP65 2139 **3312** Red/Yellow IP65 2139 **3313**	

(1) Default connected device (see "Connection of poles" page 108).
(2) Standard handle.

Accessories

Direct operation handle

Use

The direct operation conversion kit requires an additional 4 mm distance on each side of the 2 and 3 pole device.

Rating (A)	Handle colour	Type of locking	Handle	45 mm modular DIN front plate	Reference
25 ... 40	Blue	-	MC0 type	yes	2119 **0012**(1)
25 ... 40	Blue	1 padlock Ø 5 mm	MC01 type	yes	2119 **1012**

(1) Standard handle.

2 MPPT 600 V

Rating (A)	Handle colour	Type of locking	Handle	45 mm modular DIN front plate	Reference
30	Blue	-	MC0 type	yes	2119 **0012**
30	Blue	1 padlock Ø 5 mm	MC01 type	yes	2119 **1012**
40	Blue	1 padlock Ø 5 mm	MC01 type	yes	2119 **1412**

2 MPPT 1000 V

Rating (A)	Handle colour	Type of locking	Handle	45 mm modular DIN front plate	Reference
25	Blue	1 padlock Ø 5 mm	MC01 type	yes	2119 **1412**

MC0 handle

accès_306_a_1_cat

MC01 handle

accès_293_a_1_cat

Door interlocked external operation

Use

The external control will force the operator to safely disconnect and isolate the solar cell strings prior to any intervention.
External controls are user-friendly and adapted to meet requirements of residential installations, large roofs and ground-based generators.

DIN rail or back plate mounting

Rating (A)	Handle	Handle colour	Type of locking	External IP(1)	Reference
25 ... 40	MC1 type	Black	3 padlocks Ø9 mm	IP65	2119 **3312**(2)(3)
25 ... 40	MC1 type	Red/Yellow	3 padlocks Ø9 mm	IP65	2119 **3313**(3)
25 ... 40	S000 type	Black	3 padlocks Ø6 mm	IP55	1461 **5111**
25 ... 40	S000 type	Black	3 padlocks Ø6 mm	IP65	1463 **5111**
25 ... 40	S000 type	Red/Yellow	3 padlocks Ø6 mm	IP65	1464 **5111**

(1) IP : protection degree according to IEC 60529 standard.
(2) Standard handle.
(3) No padlocking.

S000 handle

accès_307_a_1_cat

MC4 handle

accès_302_a_1_cat

Door mounting

Rating (A)	Handle	Handle colour	Type of locking	External IP(1)	Reference
25 ... 40	MC2 type	Blue	-	IP55	2129 **0112**(2)

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

MC2 handle

accès_306_a_1_cat

"Quick Fix" door mounting

Rating (A)	Handle	Handle colour	Type of locking	External IP(1)	Reference
25 ... 40	MC3 type	Blue	1 padlock Ø5 mm	IP65	2139 **1212**(2)
25 ... 40	MC4 type	Black	3 padlocks Ø9 mm	IP65	2139 **3312**
25 ... 40	MC4 type	Red/Yellow	3 padlocks Ø9 mm	IP65	2139 **3313**

Shaft for external handle

Use

MC1 and S000 shafts can be adjusted and cut depending on the need.

Shaft length

MC1 type:

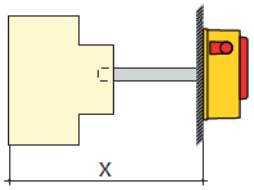
- 165 mm (ajustable up to 177 mm)

S000 type:

- 150 mm
- 200 mm
- 320 mm

S000 type shaft

acces_297_a_1_cat



acces_308_a_1_x_cat

DIN rail or back plate mounting

Rating (A)	Handle	Dimension X (mm)	Length (mm)	Reference
25 ... 40	MC1 type	249 ... 259	165	2107 **0516**
25 ... 40	S000 type	234 ... 246	150	2107 **0515**
25 ... 40	S000 type	284 ... 496	200	2107 **0520**
25 ... 40	S000 type	404 ... 416	320	2107 **0532**

Terminal shrouds

Use

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

The SIRCO MC PV load break switch is pre-bridged. Terminal covers are mounted on the top or bottom free space of the device.

Possibility to assemble a terminal shroud on the bridge side by removing the insulating material of the series connection bar (irreversible step).

acces_299_a_1_cat

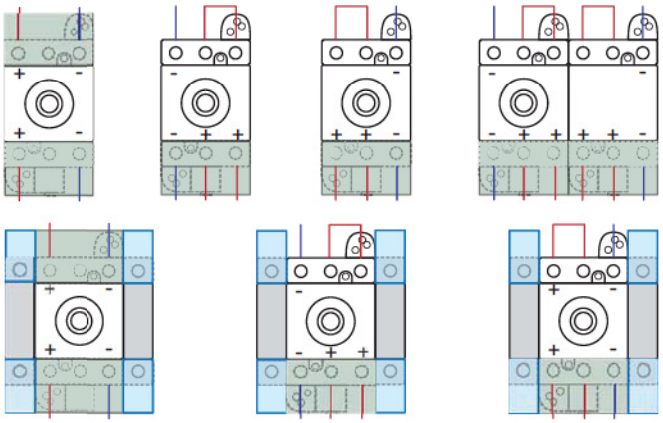
Terminal shrouds 1 pole

acces_300_a_1_cat

Terminal shrouds 3 pole

For SIRCO MC PV

Rating (A)	Type of mounting	No. of poles	Position	Reference
25 ... 40	rail / door mounting	1 P	top or bottom	2194 **1004**
25 ... 40	rail / door mounting	3 P	top or bottom	2194 **3004**



sirco-mc_011_d_1_cat

Accessories (continued)

Auxiliary contact

Use

These auxiliary contacts signalling position 0 and 1 can be normally open or normally closed contacts. They can be fixed on the left or right side of the switch body and/or on the power additional pole.

Rating (A)	Type of mounting	Contact(s)	Contact type	Reference
25 ... 40	DIN-rail / back plate mounted	1 contact	NO + NC	2119 **0001**
25 ... 40	Door mounted	1 contact	NO + NC	2129 **0001**

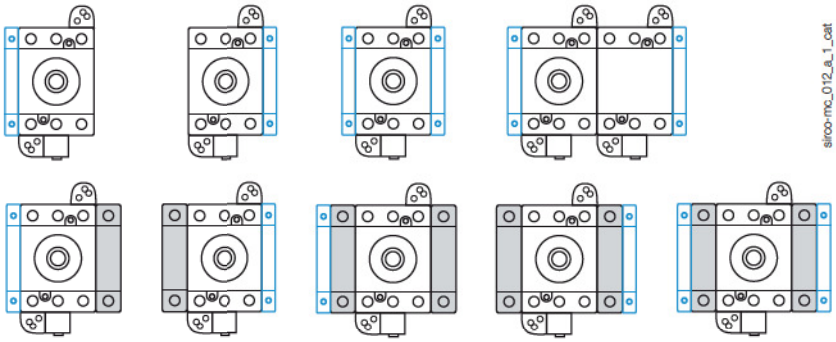
Connections

Min./max cross-sections: 1 mm²/4 mm²
Tightening torque: 0.6 Nm

Characteristics according to IEC 60947-5-1

Rating (A)	Contact type	Thermal current I_{th} (A)	Operating current I_e (A) 230 VAC AC-15	400 VAC AC-15	690 VAC AC-15
25 ... 40	NO + NC	16	6	4	2

Auxiliary contacts configurations



Characteristics according to IEC 60947-3

25 to 40 A

Thermal current I_{th} at 40°C(1)	25 A	30 A	40 A
Rated insulation voltage U_i (V)	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)	8	8	8

Ra ted operational currents I_e (A)

Rated voltage	Utilization category	Circuit type	Number of poles of the device	Number of pole(s) in series per polarity	(A)	(A)	(A)
600 VDC	DC-21 B	Single PV circuit	2 P	1 P+ and 1 P-	-	30	-
600 VDC	DC-21 B	Single PV circuit	3 P	2 P + and 1 P -	-	-	40
600 VDC	DC-21 B	Double PV circuit	4 P	2 x (1 P+ and 1 P-)	-	30	-
600 VDC	DC-21 B	Double PV circuit	6 P	2 x (2 P+ and 1 P-)	-	-	40
1000 VDC	DC-21 B	Single PV circuit	3 P	2 P + and 1 P -	25	-	-
1000 VDC	DC-21 B	Single PV circuit	4 P	2 P + and 2 P -	-	-	40
1000 VDC	DC-21 B	Double PV circuit	6 P	2 x (2 P+ and 1 P-)	25	-	-

Connection

Minimum Cu cable cross-section	1.5	1.5	1.5
Maximum Cu cable cross-section (mm²)	10	10	10
Tightening torque mini / maxi (Nm)	1.2	1.2	1.2

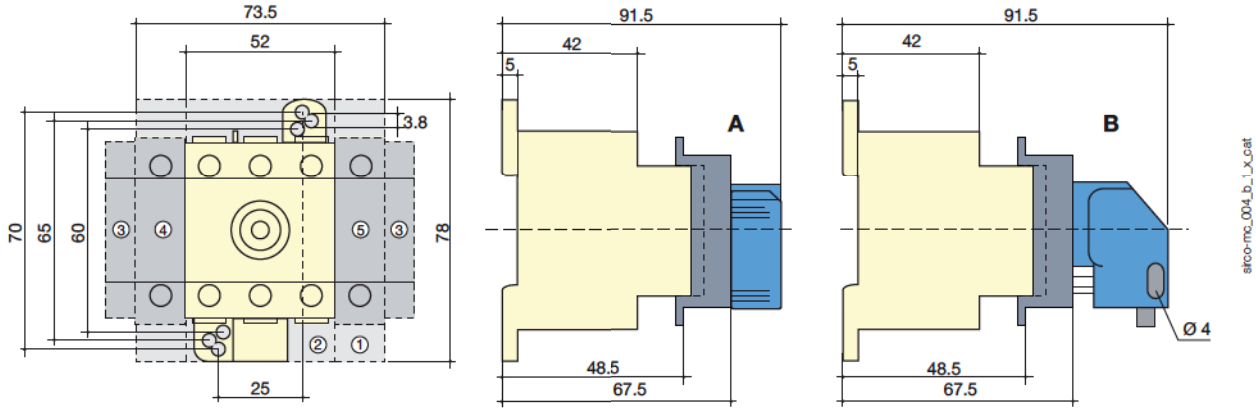
Mechanical characteristics

Durability (number of operating cycles)	30000	30000	30000
Operating effort (Nm)	0.8	0.8	0.8
Weight of 2 pole PV device (kg)	0.110	0.110	-
Weight of a 3 pole PV device (kg)	0.125	0.125	0.125
Weight of 2 a pole PV and 2 pole AC device (kg)	0.180	0.180	-
Weight of a 3 pole PV and 2 pole AC device (kg)	-	-	0.195
Weight of a 4 pole PV device (kg)	-	-	0.160
Weight of a 4 pole PV device, 2 double PV circuit (kg)	0.145	0.145	-
Weight of a 6 pole PV device, 2 double PV circuit (kg)	-	-	0.250

(1) For other temperatures: Please consult us.

Dimensions

DIN rail mounting - Direct operation

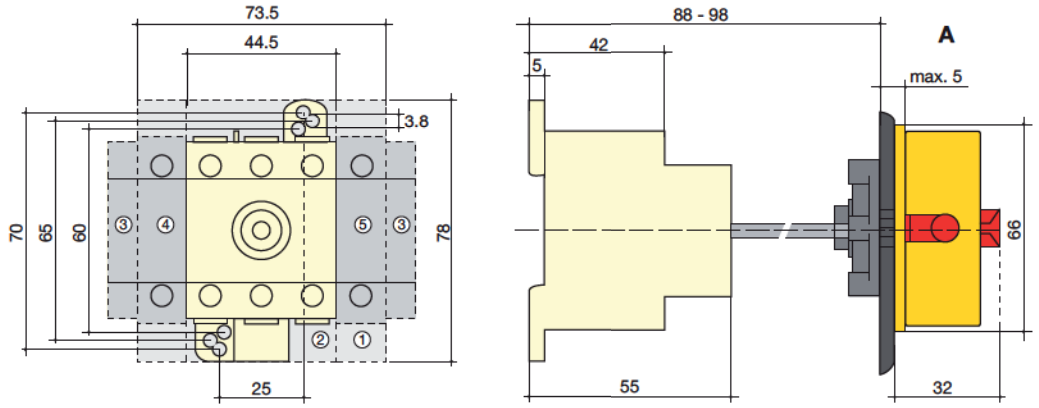


sirco-mc_004_b_1_x_cat

1. Terminal shrouds 1P.
2. Terminal shrouds 3P.
3. Auxiliary contact.
4. AC power pole.
5. AC or PV power pole.

A. MC0 handle.
B. MC01 handle.

DIN rail mounting - External operation

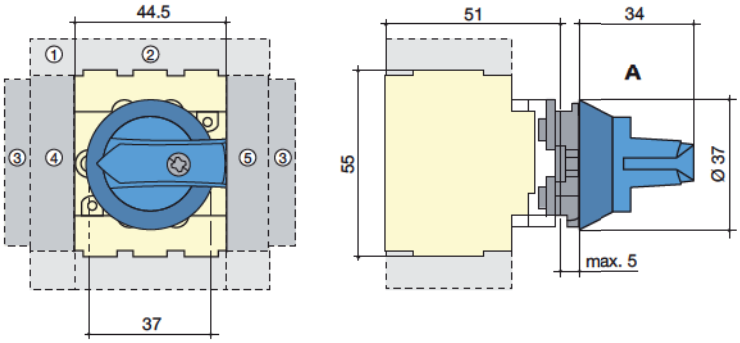


sirco-mc_005_b_1_x_cat

1. Terminal shrouds 1P.
2. Terminal shrouds 3P.
3. Auxiliary contact.
4. AC power pole.
5. AC or PV power pole.

A. MC1 handle.

Door mounting



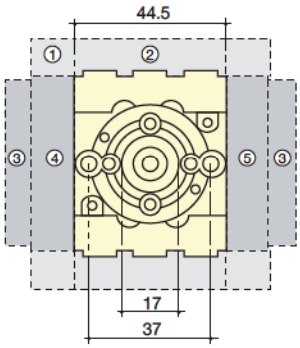
sirco-mc_007_b_1_x_cat

1. Terminal shrouds 1P.
2. Terminal shrouds 3P.
3. Auxiliary contact.
4. AC power pole.
5. AC or PV power pole.

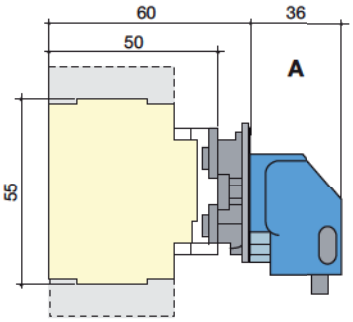
A. MC2 handle.

Dimensions

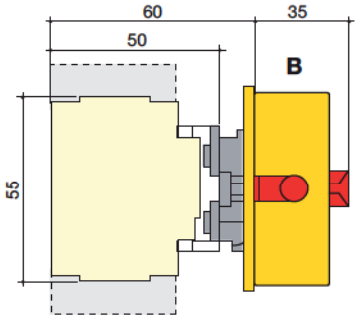
"Quick Fix" door mounting



1. Terminal shrouds 1P.
2. Terminal shrouds 3P.
3. Auxiliary contact.



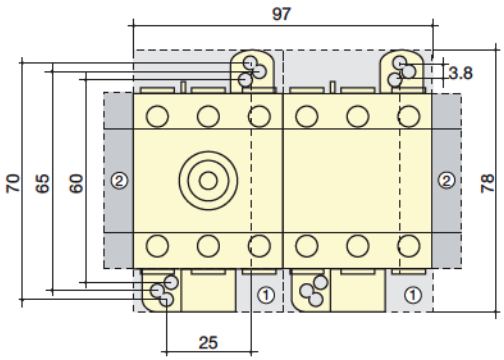
4. AC power pole.
5. AC or PV power pole.



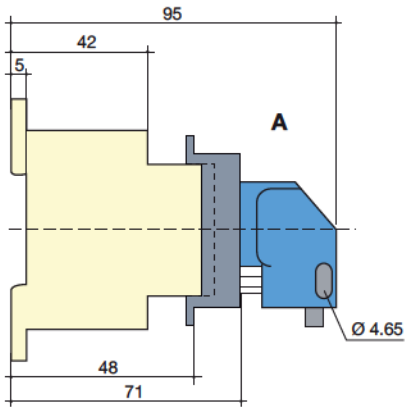
A. MC3 handle
B. MC4 handle

sirco-mc_006_b_1_x_cat

2 MPPT - 40 A - 600 VDC and 25 A - 1000 VDC - DIN-rail mounting - Direct operation



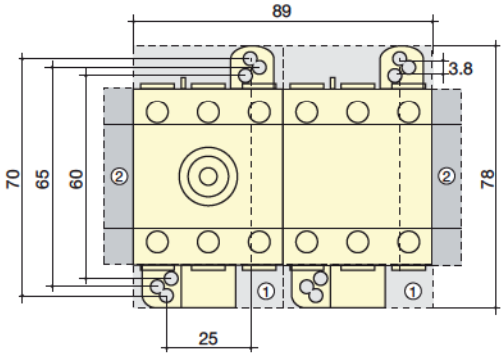
1. Terminal shrouds 3P.
2. Auxiliary contact.



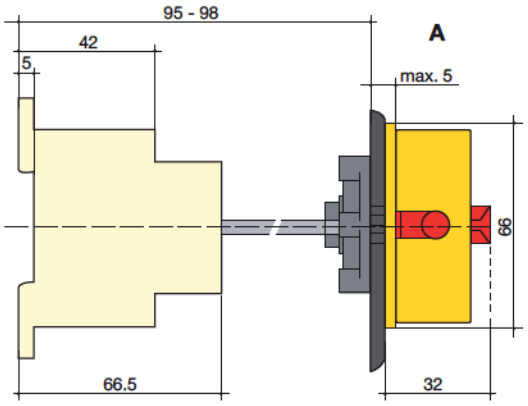
A. MC01 handle.

sirco-mc_039_a_1_x_cat

DIN-rail mounting - External operation



1. Terminal shrouds 3P.
2. Auxiliary contact.

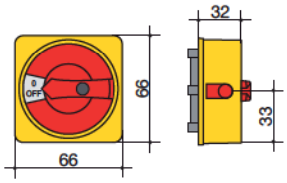
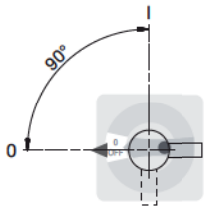
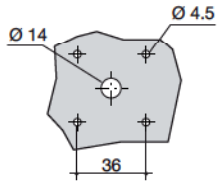
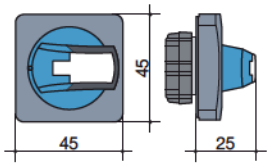
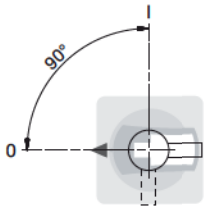
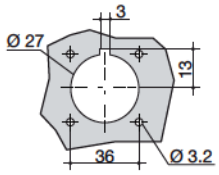


A. MC01 handle.

sirco-mc_039_a_1_x_cat

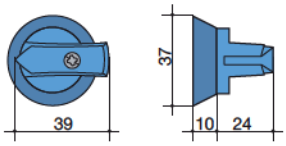
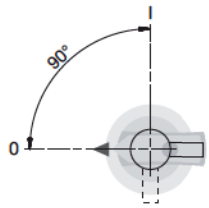
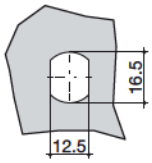
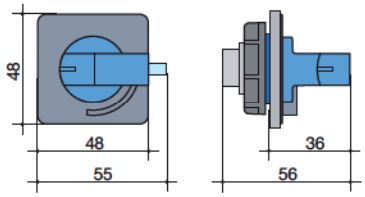
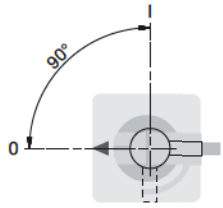
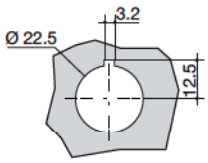
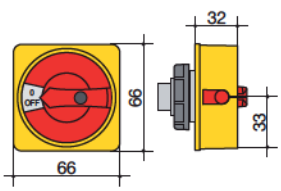
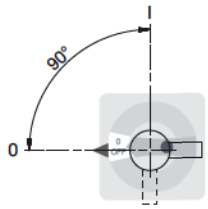
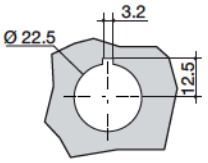
Dimensions for external handles

DIN rail or back plate mounting

Handle type	Front operation Direction of operation	Door drilling
MC1 type 		
S000 type 		

poign_006_a_1_gb_cat

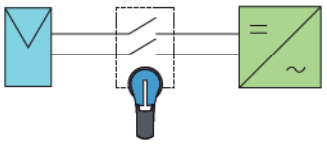
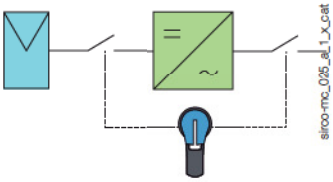
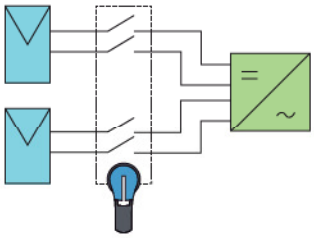
Door mounting

Handle type	Front operation Direction of operation	Door drilling
MC2 type 		
MC3 type Quick Fix 		
MC4 type Quick Fix 		

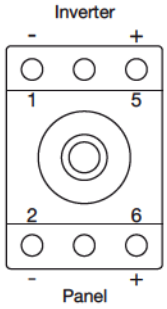
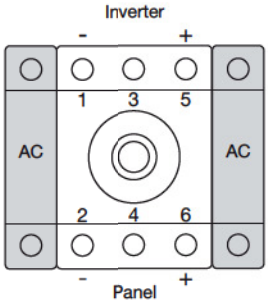
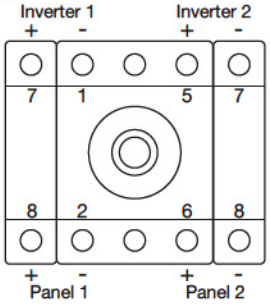
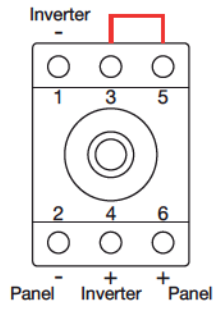
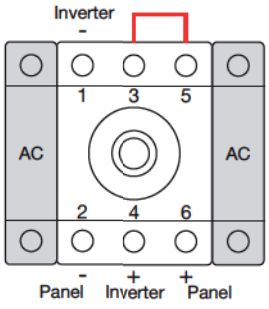
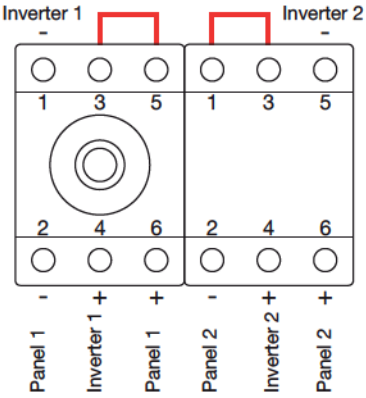
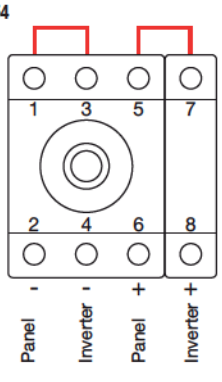
poign_007_a_1_gb_cat

Poles connections

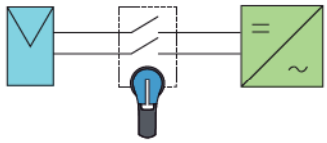
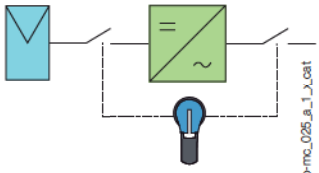
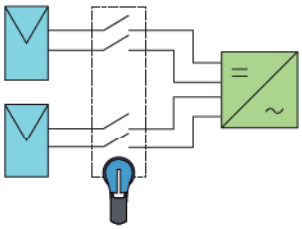
Switching of polarities + and -

Single PV circuit	PV and AC circuit	Double PV circuit
		

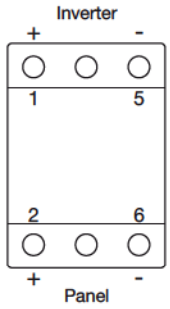
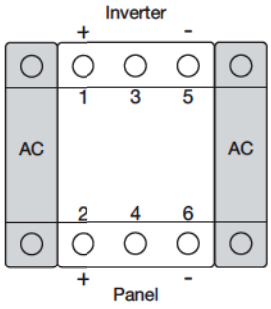
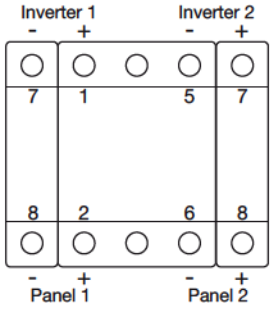
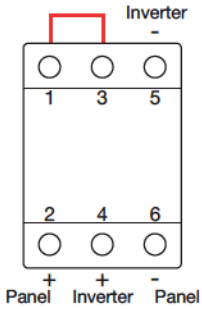
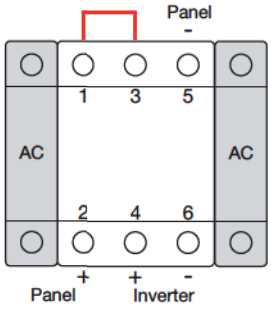
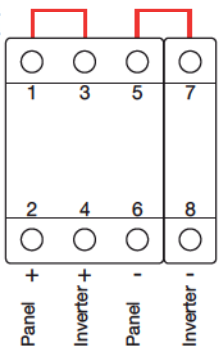
Direct operation

Rating	Single PV circuit	PV and AC circuit	Double PV circuit
25 A - 600 VDC	21PV **2102** 	21PV **2162** 	21PV **5102** 
40 A - 600 VDC 25 A - 1000 VDC	21PV **3421** 21PV **3722** 	21PV **3184** 	21PV **6124** 21PV **6722** 
40 A - 1000 VDC	21PV **4754** 		

Switching of polarities + and -

Single PV circuit	PV and AC circuit	Double PV circuit
		

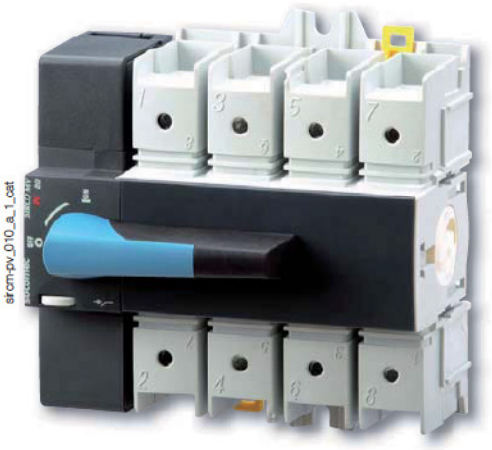
Door mounting

Rating	Single PV circuit	PV and AC circuit	Double PV circuit
25 A - 600 VDC	21PV **2202** 21PV **2302** 	21PV **2262** 21PV **2362** 	21PV **5202** 21PV **5302** 
40 A - 600 VDC 25 A - 1000 VDC	21PV **3224** 21PV **3324** 	21PV **3284** 21PV **3384** 	
40 A - 1000 VDC	21PV **4854** 21PV **4954** 		

SIRCO MV PV

Load break switches for photovoltaic applications

for use up to 1000 VDC from 63 to 160 A



***SIRCO MV PV** 1000 V - 80 A*
direct operation

The solution for

- Residential buildings.
- Buildings.
- Solar parks.

Strong points

- Modular device.
- Patented switching technology.
- Performance - 1000 VDC.

Conformity to standards

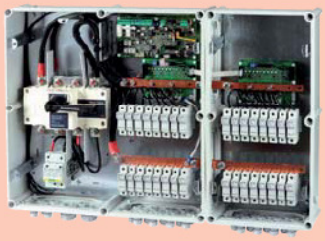
- IEC 60947-3
- IEC 60364-4-410
- IEC 60364-7-712

Approvals and certifications(1)

(1) Product reference on request.

A complete solution

- **SUNSYS IFB** (Intelligent Field Box). Smart connection box to link solar panels to the inverter.



Function

SIRCO MV PV are manually operated multipolar load break switches. They make and break under load conditions and provide optimum safety isolation for any PV circuit.

Advantages

Modular device
SIRCO MV PV are devices whichare DIN-rail or backplate mountable and can be integrated into a modular panel with a 45 mm front cut-out.

Patented switching technology
SIRCO MV PV benefit from proven breaking technology based on a system of double break contacts with arc extinguishing chambers.

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_{tc}).

To date, as there is no specific standard regarding 'switchgear for PV installation', the manufacturer can only refer to IEC 60947 and related utilisation 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.

References

SIRCO MV PV 800 VDC - DIN rail or back plate mounting

Rating (A)	Circuit type	No. of poles	Switch body	Direct handle	External front handle	Shaft for external front handle	Auxiliary contact	Bridging bar
63 A	Single PV circuit	3 P	22PV **3106**	Blue M0b 2299 **5042**(1) Blue M0 type 2299 **5022**	S0 Type Black IP55 1491 **0111**(1)(2) Black IP65 1493 **0111**(2) Red / Yellow IP65 1494 **0111**(2) S1 type Black IP55 1411 **2111**(2) Black IP65 1413 **2111**(2) Red / Yellow IP65 1414 **2111**(2)	S0 type 150 mm 1409 **0615** 200 mm 1409 **0620** 320 mm 1409 **0632** S1 type 200 mm 1401 **0620** 320 mm 1401 **0632** 400 mm 1401 **0640**	1 contact NC+NO 2299 **0001**(3) 1 contact 2 NC 2299 **0011**(3) 1 contact NO 3999 **0701** 1 contact NC 3999 **0702**	1 piece 2209 **0016**
80 A		3 P	22PV **3108**					
100 A		3 P	22PV **3110**					
125 A		3 P	22PV **3012**					
160 A		3 P	22PV **3016**					

(1) Standard.
(2) Defeatable handle.
(3) Signalling contact only.

SIRCO MV PV 1000 VDC - DIN rail or back plate mounting

Rating (A)	Circuit type	No. of poles	Switch body	Direct handle	External front handle	Shaft for external front handle	Auxiliary contact	Bridging bar
63 A	Single PV circuit	4 P	22PV **4106**	Blue M0b 2299 **5042**(1) Blue M0 type 2299 **5022**	S0 Type Black IP55 1491 **0111**(1)(2) Black IP65 1493 **0111**(2) Red / Yellow IP65 1494 **0111**(2) S1 Type Black IP55 1411 **2111**(2) Black IP65 1413 **2111**(2) Red / Yellow IP65 1414 **2111**(2)	S0 type 150 mm 1409 **0615** 200 mm 1409 **0620** 320 mm 1409 **0632** S1 type 200 mm 1401 **0620** 320 mm 1401 **0632** 400 mm 1401 **0640**	1 contact NC+NO 2299 **0001**(3) 1 contact 2 NC 2299 **0011**(3) 1 contact NO 3999 **0701** 1 contact NC 3999 **0702**	2 pieces 2209 **2016**
80 A		4 P	22PV **4108**					
100 A		4 P	22PV **4110**					
125 A		4 P	22PV **4012**					
160 A		4 P	22PV **4016**					

(1) Standard.
(2) Defeatable handle.
(3) Signalling contact only.

Accessories

Direct operation handle

M0b type direct handle		
Rating (A)	**Handle colour**	**Reference**
63 ... 160	Blue	2299 **5042**(1)

(1) Standard.

M0 tpe compact direct operation handle		
Rating (A)	**Handle colour**	**Reference**
63 ... 160	Blue	2299 **5022**

M0b handle

acces_268_a_2_cat

M0 handle

acces_285_a_2_cat

External operation handle

Use

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

In a combiner box, located close to the solar cell strings, or located close to the inverter, we recommend the use of a door interlocked external handle for safety.

Example

The locking function of the enclosure in the "ON" position will force the operator to safely disconnect and isolate the solar cell strings prior to any intervention.

Opening the door when the switch is on "ON" position is possible by defeating the interlocking function with the use of a tool (authorised persons only). The interlocking function is restored when the door is re-closed.

S0 type handle

acces_279_a_2_cat

S0 type handle - Front operation I - 0				
Rating (A)	**Handle**	**Handle colour**	**External IP(1)**	**Reference**
63 ... 160	S0 type	Black	IP55	1491 **0111**(2)
63 ... 160	S0 type	Black	IP65	1493 **0111**(2)
63 ... 160	S0 type	Red/Yellow	IP65	1494 **0111**(2)

S1 type handle - Front operation I - 0				
Rating (A)	**Handle**	**Handle colour**	**External IP(1)**	**Reference**
63 ... 160	S1 type	Black	IP55	1411 **2111**(2)
63 ... 160	S1 type	Black	IP65	1413 **2111**(2)
63 ... 160	S1 type	Red/Yellow	IP65	1414 **2111**(2)

S1 type handle

acces_284_a_2_cat

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

Shaft for external handle

Use

Standard lengths:
- 150 mm
- 200 mm
- 320 mm
- 400 mm

Other lengths: Please consult us.

For SIRCO MV PV			
Rating (A)	**Handle type**	**Length (mm)**	**Reference**
63 ... 160	S0 type	150 mm	1409 **0615**
63 ... 160	S0 type	200 mm	1409 **0620**
63 ... 160	S0 type	320 mm	1409 **0632**
63 ... 160	S1 type	200 mm	1401 **0620**
63 ... 160	S1 type	320 mm	1401 **0632**
63 ... 160	S1 type	400 mm	1401 **0640**

Shaft for S0 type handle for SIRCO MV PV 63 ... 160 A

acces_290_a_2_cat

Shaft for S1 type handle for SIRCO MV PV 63 ... 160 A

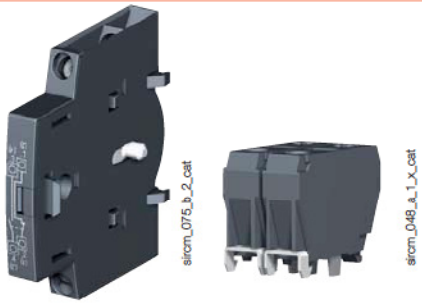
acces_369_a_1_cat

Auxiliary contact

Use

M-type
Signalisation of positions 0 and I by NO+NC or 2 NO auxiliary contacts. They can be mounted on the right side on the SIRCO MV PV. Up to 2 auxiliary contact modules can be installed.

U-type
Pre-break and signalisation by NO or NC auxiliary contact.
Max 2 auxiliary contacts.

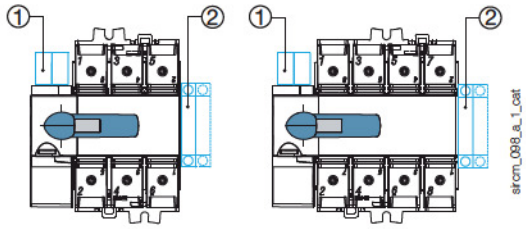


M type *U type*

M type			
Rating (A)	**Contact(s)**	**Contact type**	**Reference**
63 ... 160	1 contact	NO + NC	2299 **0001**(1)
63 ... 160	1 contact	2 NC	2299 **0011**(1)

(1) Signalling contact only.

U type			
Rating (A)	**Contact(s)**	**Contact type**	**Reference**
63 ... 160	1 AC	NO	3999 **0701**
63 ... 160	1 AC	NC	3999 **0702**



M type
Auxiliary contact configurations for SIRCO MV PV
1. Maximum 2 "U" type auxiliary contacts.
2. Maximum 2 "M" type auxiliary contacts modules (4 A/C).

Terminal shrouds

Use
Top and bottom protection against direct contact with the connection parts (set of 2 units).

Advantage
Perforations allow remote thermographic inspection without the need to remove the shrouds. The terminal shrouds also provide phase separation.

For SIRCO MV PV			
Rating (A)	**No. of poles**	**Position**	**Reference**
63 ... 160	3 P	top and bottom	2294 **3016**
63 ... 160	4 P	top and bottom	2294 **4016**

Bridging bars for connecting poles in series

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

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

Connection diagrams, See "Poles connections in serie", page115.

For SIRCO MV PV		
Rating (A)	**Pack**	**Reference**
63 ... 160	1 piece	2209 **0016**
63 ... 160	2 pieces	2209 **2016**

Enclosed switches

Our SIRCO MV PV can be delivered enclosed, please consult us. Close to the installation, they guarantee:
Disconnection under DC load between the inverters and PV generators (necessary according to the IEC 60364-712 standard).

For local safety disconnection, SOCOMEC - a leader on the market - offers the widest range of enclosed switches. Whatever the level of safety is, we are able to meet all your requirements (disconnection, switching for mechanical maintenance, emergency breaking).

- Enclosed solar load break switches
- Enclosed fuse combination switches
- Enclosed changeover switches
- Complete integrated equipment

Available on request:

- Enclosures made of steel or stainless steel sheet metal (painted for sea environments or brushed), or insulating materials
- Specific colours (enclosure paint, handle)
- Specific dimensions
- Specific connections: class II quick connectors

For any request of customised products, please consult us.

Characteristics according to IEC 60947-3

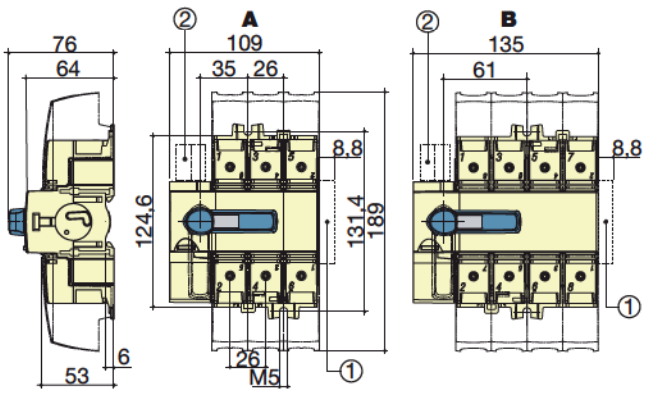
63 to 160 A

Thermal current I_{th} at 40°C					63 A	80 A	100 A	125 A	160 A
Rated insulation voltage U_i (V)					1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)					8	8	8	8	8
Rated operational currents I_e (A)									
Rated voltage	**Utilisation category**	**Circuit type**	**No. of poles**	**Number of pole(s) in series per polarity**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
800 VDC	DC-21 B	Single PV circuit	3 P	2 P + and 1 P -	63	80	100	125	160
1000 VDC	DC-21 B	Single PV circuit	4 P	2 P + and 2 P -	63	80	100	125	160
Connection									
Maximum Cu rigid cable cross-section (mm²)					70	70	70	70	70
Tightening torque min (Nm)					4	4	4	4	4
Tightening torque max (Nm)					5	5	5	5	5
Mechanical characteristics									
Operating effort (Nm)					4.2	4.2	4.2	4.2	4.2
Weight of a 3 pole device (kg)					0.7	0.7	0.7	0.7	0.7
Weight of a 4 pole device (kg)					0.9	0.9	0.9	0.9	0.9

Dimensions

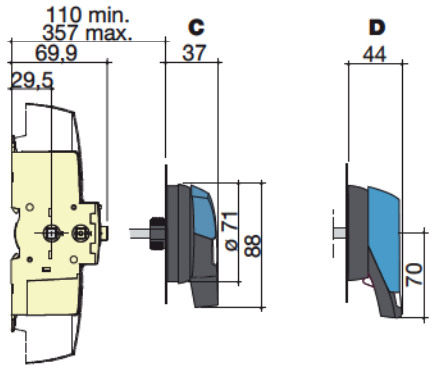
SIRCO MV PV 63 to 160 A

Direct front operation



A. 3 poles
B. 4 poles

External front operation



C. S0 type handle
D. S1 type handle

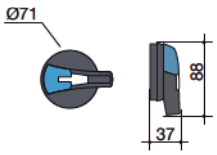
1. Maximum 2 "M" type auxiliary contacts.
2. Maximum 2 "U" type auxiliary contacts

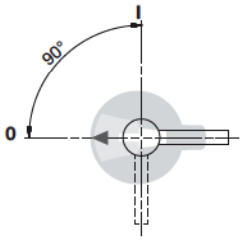
sircm_058_c_1_x_cat

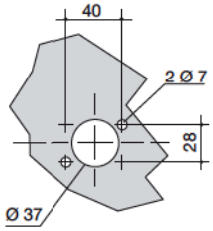
Dimensions for external handles

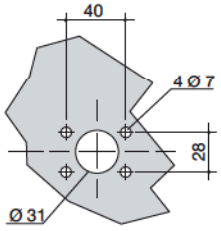
SIRCO MV PV 63 to 160 A

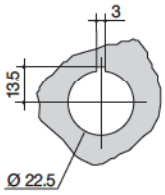
Handle type	Front operation Direction of operation	Door drilling		
S0 type		IP55 with 2 fixing clips	IP65 with 4 fixing screws	With fixing nut





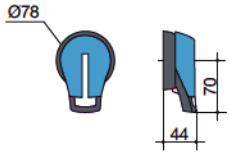


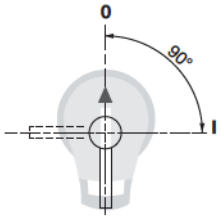


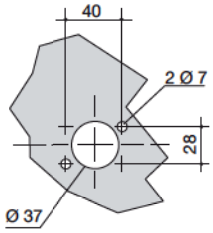


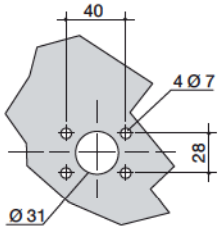
sircm_038_a_1_gb_cat

Handle type	Front operation Direction of operation	Door drilling	
S1 type		IP55 with 2 fixing clips	IP65 with 4 fixing screws





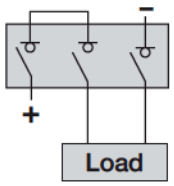




polyn_039_a_1_gb_cat

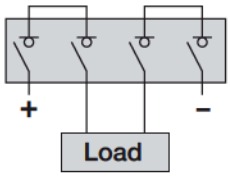
Pole series connection(1)

3 poles - bottom / top



SIRCO_305_b_1_gb_cat

4 poles - bottom / bottom



SIRCO_307_b_1_gb_cat

(1) Other connections: refer to mounting instructions.

SIRCO PV

Load break switches for photovoltaic applications

for use up to 1500 VDC from 100 to 3200 A

new

***SIRCO PV** 1000 V - 400 A*
direct operation

The solution for

- Residential buildings.
- Buildings.
- Solar parks.

Strong points

- Patented safety disconnection.
- Performance - 1500 VDC.
- Back-to-back double load break switch.

Conformity to standards

- IEC 60947-3
- IEC 60364-4-410
- IEC 60364-7-712
- UL 98B(1)

(1) See page 158.

Approvals and certifications(1)

(1) Product reference on request.

Function

SIRCO PV are manually operated multipolar load break switches.
They make and break under load conditions and provide safety isolation for any low voltage circuit dedicated to photovoltaic applications.

Advantages

Performance
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 1500 VDC and current interruption up to 3200 A.

Back-to-back double load break switch
The system of back-to-back double switches enables:
- on load operation of two switches with a single handle,
- compact solution when connecting two separate photovoltaic circuits compared with the use of two separate switches,
- easy connection,
- voltages above 1000 VDC are broken by the use of two poles in series.

What you need to know

Load break switch for photovoltaic applications
As the IEC standard "breaking devices for PV installations" does not currently exist, the manufacturer refers to IEC standard 60947-3 and to its utilisation categories. This standard (in category DC21 or DC22) only takes the tests at nominal current into account, not at reduced current.

Across the Atlantic, UL 98B is the reference standard for PV load break switches. This standard is incredibly stringent in terms of temperature, with devices having to operate without de-rating from -20 °C to +50 °C and with special tests conducted to check the arc fault.

SIRCO PV are constructed to meet not only IEC 60947-3 (Normative test at 1.5 I_n + additional tests at 10%, 25% and 50% of the In) but also standard UL 98B.

References

Single PV circuit 750 VDC - Back plate mounting

Rating (A)	Circuit type	Number of poles of the device	Number of pole(s) in series per polarity	Switch body	Direct handle[2]	External handle	Shaft for external handle	Bridging bars
100 A	Single PV circuit	3 P	2P+, 1P-	26PV **3010**	J1 type Black 1112 **1111**[1] Red 1113 **1111**	S2 type Black IP55 1421 **2111**[1] Black IP65 1423 **2111** Red IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032**[1] 500 mm 1400 **1050**	2609 **0025**
125 A				26PV **3012**				
160 A				26PV **3016**				
200 A				26PV **3020**				
250 A				26PV **3025**				
315 A				26PV **3031**				
400 A				26PV **3040**				2609 **2050**
500 A				26PV **3050**				
630 A				26PV **3063**				2609 **0080**
800 A				26PV **3080**				
1000 A				26PV **3100**	J4 type Black 1142 **1111**[1] Red 1143 **1111**	S4 type Black IP65 1443 **3111**[1] Red IP65 1444 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**[1] 400 mm 1401 **1540**	2609 **1100**
1250 A				26PV **3120**				
1600 A				26PV **3160**				2609 **1160**
2000 A				26PV **3200**				2609 **1200**
2500 A				Please consult us	-	-	-	
3200 A								

(1) Standard.
(2) Other types of operation handle available. see "Accessories" pages.

Dual PV circuit 750 VDC - Back plate mounting

Rating (A)	Circuit type	Number of poles of the device	Number of pole(s) in series per polarity	Switch body	Direct handle[2]	External handle	Shaft for external handle	Bridging bars
100 A	Dual PV circuit	6 P	2x (2P+, 1P-)	26PV **6010**	J3 type Black 1132 **1111**[1] Red 1133 **1111**	S3 type Black IP55 1431 **3111**[1] Black IP65 1433 **3111** Red IP65 1434 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**[1] 400 mm 1401 **1540**	2 x 2609 **0025**
125 A				26PV **6012**				
160 A				26PV **6016**				
200 A				26PV **6020**				
250 A				26PV **6025**				
315 A				26PV **6031**				
400 A				26PV **6041**				2 x 2609 **2050**
500 A				26PV **6051**				
630 A				26PV **6063**				2 x 2609 **0080**
800 A				Please consult us				
1000 A				26PV **6100**	J4 type Black 1142 **1111**[1] Red 1143 **1111**	S4 type Black IP65 1443 **3111**[1] Red IP65 1444 **3111**	200 mm 2799 **3015** 320 mm 2799 **3018**[1] 450 mm 2799 **3019**	2 x 2609 **1100**
1250 A				26PV **6120**				
1600 A				26PV **6160**	V1 type Black 2799 **7074**	S5 type Black IP65 1453 **8111** Red IP65 1454 **8111**		2 x 2609 **1200**
2000 A				26PV **6200**				

(1) Standard.
(2) Other types of operation handle available. see "Accessories" pages.

References (continued)

Single PV circuit 1000 VDC - Back plate mounting

Rating (A)	Circuit type	Number of poles of the device	Number of pole(s) in series per polarity	Switch body	Direct handle[2]	External handle	Shaft for external handle	Bridging bars
100 A	Single PV circuit	4 P	2 P+, 2 P-	26PV **4010**	J1 type Black 1112 **1111**[1] Red 1113 **1111**	S2 type Black IP55 1421 **2111**[1] Black IP65 1423 **2111** Red IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032**[1] 500 mm 1400 **1050**	2609 **2025**
125 A				26PV **4012**				
160 A				26PV **4016**				
200 A				26PV **4020**				
250 A				26PV **4025**				
315 A				26PV **4031**				
400 A				26PV **4040**				2609 **4050**
500 A				26PV **4050**				
630 A				26PV **4063**				2609 **2080**
800 A				26PV **4080**				
1000 A				26PV **4100**	J4 type Black 1142 **1111**[1] Red 1143 **1111**	S4 type Black IP65 1443 **3111**[1] Red IP65 1444 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**[1] 400 mm 1401 **1540**	2 x 2609 **1100**
1250 A				26PV **4120**				
1600 A				26PV **4160**				2 x 2609 **1160**
2000 A				26PV **4200**				2 x 26091**200**
2500 A			Please consult us		-	-	-	-
3200 A								

(1) Standard.
(2) Other types of operation handle available. see "Accessories" pages.

Dual PV circuit 1000 VDC - Back plate mounting

Rating (A)	Circuit type	Number of poles of the device	Number of pole(s) in series per polarity	Switch body	Direct handle[2]	External handle	Shaft for external handle	Bridging bars
100 A	Dual PV circuit	8 P	2x (2P+, 2P-)	26PV **8010**	J3 type Black 1132 **1111**[1] Red 1133 **1111**	S3 type Black IP55 1431 **3111**[1] Black IP65 1433 **3111** Red IP65 1434 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**[1] 400 mm 1401 **1540**	2 x 2609 **2025**
125 A				26PV **8012**				
160 A				26PV **8016**				
200 A				26PV **8020**				
250 A				26PV **8025**				
315 A				26PV **8031**				
400 A				26PV **8041**				2 x 2609 **4050**
500 A				26PV **8051**				
630 A				26PV **8063**				2 x 2609 **2080**
800 A				Please consult us				
1000 A				26PV **8100**	J4 type Black 1142 **1111**[1] Red 1143 **1111**	S4 type Black IP65 1443 **3111**[1] Red IP65 1444 **3111**	200 mm 2799 **3015** 320 mm 2799 **3018**[1] 450 mm 2799 **3019**	4 x 2609 **1100**
1250 A				26PV **8120**				
1600 A				26PV **8160**	V1 type Black 2799 **7074**	S5 type Black IP65 1453 **8111** Red IP65 1454 **8111**		4 x 2609 **1200**
2000 A				26PV **8200**				

(1) Standard.
(2) Other types of operation handle available. see "Accessories" pages.

Single PV circuit 1200 VDC(1) - Back plate mounting

Rating (A)	Circuit type	Number of poles of the device (1)	Number of pole(s) in series per polarity	Switch body	Direct handle(2)	External handle	Shaft for external handle	Bridging bars
100 A	Single PV circuit	6 P	3P+, 3P-(1)	26PV **6010**	J3 type Black 1132 **1111**(3) Red 1133 **1111**	S3 type Black IP55 1431 **3111**(3) Black IP65 1433 **3111** Red IP65 1434 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**(3) 400 mm 1401 **1540**	2 x 2609 **2025**
125 A				26PV **6012**				
160 A				26PV **6016**				
200 A				26PV **6020**				
250 A				26PV **6025**				
315 A				26PV **6031**				
400 A				26PV **6041**				2 x 2609 **4050**
500 A				26PV **6051**				
630 A				26PV **6063**				2 x 2609 **0080**
800 A				Please consult us				
1000 A				26PV **6100**	J4 type Black 1142 **1111**(3) Red 1143 **1111**	S4 type Black IP65 1443 **3111**(3) Red IP65 1444 **3111**	200 mm 2799 **3015** 320 mm 2799 **3018**(1) 450 mm 2799 **3019**	4 x 2609 **1100**
1250 A				26PV **6120**				
1600 A				26PV **6160**	V1 type Black 2799 **7074**	S5 type Black IP65 1453 **8111** Red IP65 1454 **8111**		2 x 2609 **1200**
2000 A				26PV **6200**				

(1) For an operating voltage of 1200 VDC, the 3 poles at the front of the device must be connected in series for one polarity, and the 3 poles at the rear must be connected in series for the other.
(2) Other types of operation handle available. See "Accessories" pages.
(3) Standard.

Single PV circuit 1500 VDC(1) - Back plate mounting

Rating (A)	Circuit type	Number of poles of the device (1)	Number of pole(s) in series per polarity	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars
100 A	Single PV circuit	8 P	4P+, 4P-(1)	26PV **8010**	J3 type Black 1132 **1111**(1) Red 1133 **1111**	S3 type Black IP55 1431 **3111**(1) Black IP65 1433 **3111** Red IP65 1434 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532**(1) 400 mm 1401 **1540**	3 x 2609 **2025**
125 A				26PV **8012**				
160 A				26PV **8016**				
200 A				26PV **8020**				
250 A				26PV **8025**				
315 A				26PV **8031**				
400 A				26PV **8041**				3 x 2609 **4050**
500 A				26PV **8051**				
630 A				26PV **8063**				3 x 2609 **2080**
800 A				Please consult us				
1000 A				26PV **8100**	J4 type Black 1142 **1111**(2) Red 1143 **1111**	S4 type Black IP65 1443 **3111**(1) Red IP65 1444 **3111**	200 mm 2799 **3015** 320 mm 2799 **3018**(1) 450 mm 2799 **3019**	6 x 2609 **1100**
1250 A				26PV **8120**				
1600 A				26PV **8160**	V1 type Black 2799 **7074**	S5 type Black IP65 1453 **8111** Red IP65 1454 **8111**		6 x 2609 **1200**
2000 A				26PV **8200**				

(1) For an operating voltage of 1500 VDC, the 4 poles at the front of the device must be connected in series for one polarity, and the 4 poles at the rear must be connected in series for the other.

Accessories

Direct operation handle

Rating (A)	No. of poles	Handle	Handle colour	Reference
100 ... 800	3/4 P	B2 type	Black	2699 **5052**
			Red	2699 **5053**
		J1 type	Black	1112 **1111**(1)
			Red	1113 **1111**
	6/8 P	C1 type	Black	2799 **7052**
			Red	2799 **7053**
		J3 type	Black	1132 **1111**(1)
			Red	1133 **1111**
1000 ... 1250	3/4/6/8 P	C2 type	Black	2799 **7012**
			Red	2799 **7013**
		J4 type	Black	1142 **1111**(1)
			Red	1143 **1111**
1600 ... 2000	3/4 P	C2 type	Black	2799 **7012**
			Red	2799 **7013**
		J4 type	Black	1142 **1111**(1)
			Red	1143 **1111**
	6/8 P	V1 type	Black	2799 **7074**(1)

(1) Standard.

B2 type handle


C1-type handle

C2-type handle

J1 type handle

Door interlocked external operation handle

Use

Door interlocked external operation handles include an escutcheon, are padlockable and must be utilised with an extension shaft.
In a combiner box, located close to the solar cell strings, or located close to the inverter, we recommend to use a door interlocked external handle for safety.

Example

The locking function of the enclosure in the "ON" position will force the operator to safely disconnect and isolate the solar cell strings prior to any intervention.
Opening the door when the switch is on "ON" position is possible by defeating the locking function using a tool (authorised persons only).
The interlocking function is restored when the door is re-closed.

S2 type handle

S3 type handle

S4 type handle

S5 type handle

Front operation

Rating (A)	No. of poles	Handle	Handle colour	External IP(1)	Reference
100 ... 800	3/4/6/8 P	S2 type	Black	IP55	1421 **2111**(1)
			Black	IP65	1423 **2111**
			Red	IP65	1424 **2111**
	6/8 P	S3 type	Black	IP55	1431 **3111**(1)
			Black	IP65	1433 **3111**
			Red	IP65	1434 **3111**
1000 ... 2000	3/4 P	S4 type	Black	IP65	1443 **3111**(1)
			Red	IP65	1444 **3111**
	6/8 P	S5 type	Black	IP65	1453 **8111**(1)
			Red	IP65	1454 **8111**

(1) Standard.

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 shaft lengths over 320 mm.

Description	Reference
Shaft guide	1429 **0000**

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(1)	To be ordered in multiples of	Reference
Black	IP65	1	1493 **0000**

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

Alternative S-type handle cover colours

Use

For single lever handles type S1, S2, S3.

Other colours: Please consult us.

Handle colour	To be ordered in multiples of	Handle	Reference
Light grey	50	S1, S2, S3 type	1401 **0001**
Dark grey	50	S1, S2, S3 type	1401 **0011**

Shaft for external handle

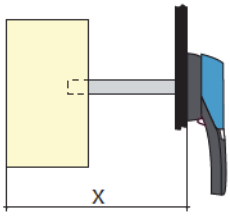
Use

Standard lengths:
- 200 mm
- 320 mm
- 400 mm
- 450 mm

Other lengths: Please consult us.

Shaft for SIRCO PV 100 ... 800 A

Rating (A)	Number of poles of the device	Dimension X (mm)	Length (mm)	Reference
100 ... 800	3/4P	125 ... 250	200 mm	1400 **1020**
		125 ... 370	320 mm	1400 **1032**
		125 ... 550	500 mm	1400 **1050**
	6/8 P	221 ... 343	200 mm	1401 **1520**
		221 ... 463	320 mm	1401 **1532**
		221 ... 543	400 mm	1401 **1540**
1000 ... 2000	3/4P	221 ... 343	200 mm	1401 **1520**
		221 ... 463	320 mm	1401 **1532**
		221 ... 543	400 mm	1401 **1540**
	6/8 P	415 ... 570	200 mm	2799 **3015**
		415 ... 690	320 mm	2799 **3018**
		415 ... 820	450 mm	2799 **3019**



Accessories (continued)

Auxiliary contact

Use

Pre-break and signalling of positions 0 and I:
- 1 to 2 NO/NC auxiliary contacts,
- 1 to 4 NO + NC auxiliary contacts,
- 1 to 2 low level NO/NC auxiliary contacts.

Characteristics

NO/NC A/C: IP2 with front operation.

Connection to the control circuit

6.35 mm fast-on terminal.

Electrical characteristics

30 000 operations.

acces_076_a_1_cat

NO/NC contact for 3/4 poles

Rating (A)	Position A/C	Reference
100 ... 3200	1st	2699 **0031**
	2nd	2699 **0032**

Low level NO/NC contact for 3/4 poles

Rating (A)	Position A/C	Reference
100 ... 3200	1st	2699 **0301**
	2nd	2699 **0302**

NO+NC contact for 3/4 poles

Rating (A)	Position A/C	Reference
100 ... 3200	1st	2699 **0141**
	2nd	2699 **0143**

NO/NC contact for 6/8 poles

Rating (A)	Position A/C	Reference
100 ... 2500	1st	2699 **0061**
	2nd	2699 **0062**

Characteristics

	Operating current I_e (A)							
	230 VAC		400 VAC		24 VDC		48 VDC	
Contact type	AC-12	AC-15	AC-12	AC-15	DC-12	DC-14	DC-12	DC-14
NO/NC	16	4	12	3	16	1	2.5	0.2
N/C Low level	16	4	12	3	16	1	4	0.3
NO + NC	16	4	12	3	16	1	4	0.3

Terminal shrouds

Use

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

Advantage

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

The terminal shrouds also provide phase separation for SIRCO PV from 100 to 800 A.

acces_077_a_1_cat

	Single PV circuit 750 VDC		Single PV circuit 1000 VDC		Dual PV circuit 750 VDC or single PV circuit 1200 VDC		Dual PV circuit 1000 VDC or single PV circuit 1500 VDC	
Rating (A)	Quantity to be ordered	Reference	Quantity to be ordered	Reference	Quantity to be ordered	Reference	Quantity to be ordered	Reference
100 ... 500	1	2694 **3021**	1	2694 **4021**	2	2694 **3021**	2	2694 **4021**
630 ... 800	1	2694 **3051**	1	2694 **4051**	2	2694 **3051**	2	2694 **4051**

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Terminal screens

Use

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

Rating (A)	Single PV circuit 750 VDC		Single PV circuit 1000 VDC		Dual PV circuit 750 VDC or single PV circuit 1200 VDC		Dual PV circuit 1000 VDC or single PV circuit 1500 VDC	
	Position	Reference	Position	Reference	Position	Reference	Position	Reference
100 ... 500	Top or bottom	2698 **3020**	Top or bottom	2698 **4020**	Top or bottom	1509 **3025**	Top or bottom	1509 **4025**
630 ... 800	Top or bottom	2698 **3050**	Top or bottom	2698 **4050**	Top or bottom	1509 **3063**	Top or bottom	1509 **4063**
1000 ... 1250	Top or bottom	2698 **3080**	Top or bottom	2698 **4080**	Top and bottom	1509 **3080**	Top and bottom	1509 **4080**
1600	Top or bottom	2698 **3120**	Top or bottom	2698 **4120**	Top or bottom	2698 **3199**	Top or bottom	2698 **4199**
2000	Top and bottom	2698 **3199**	Top and bottom	2698 **4199**				

Inter-phase barrier

Use

Safety isolation between the terminals.

For 100 to 800 A SIRCO PV, the inter-phase barriers allow insulation between poles connected in series.

Rating (A)	No. of poles	Pack	Reference
100 ... 500	3 P	2 pieces	2998 **0023**
100 ... 500	4 P	3 pieces	2998 **0024**
630 ... 800	3 P	2 pieces	2998 **0013**
630 ... 800	4 P	3 pieces	2998 **0014**
1000 ... 3200	3 P / 4 P	-	included

Bridging bars for connecting poles in series

Use

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

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

Rating (A)	Single PV circuit 750 VDC		Single PV circuit 1000 VDC		Dual PV circuit 750 VDC or single PV circuit 1200 VDC		Dual PV circuit 1000 VDC or single PV circuit 1500 VDC	
	Quantity to be ordered	Reference	Quantity to be ordered	Reference	Quantity to be ordered	Reference	Quantity to be ordered	Reference
100 ... 315	1	2609 **0025**	1	2609 **0025**	2	2609 **0025**	2	2609 **0025**
400 ... 500	1	2609 **2050**	1	2609 **4050**	2	2609 **2050**	2	2609 **4050**
630 ... 800	1	2609 **0080**	1	2609 **2080**	2	2609 **0080**	2	2609 **2080**
1000 ... 1250	1	2609 **1100**	2	2609 **1100**	2	2609 **1100**	4	2609 **1100**
1600	1	2609 **1160**	2	2609 **1160**	2[1]	2609 **1200**	4[1]	2609 **1200**
2000	1	2609 **1200**	2	2609 **1200**				

(1) For 1200 VDC products, order 4 times reference 2609 1200. For 1500 VDC products, order 6 times reference 2609 12000.

Key handle interlocking system

Use

Locking in position 0 of the front or side operation handle:

- using a padlock (not supplied) - function is incorporated into the handle. From 125 to 1800 A, the padlock on the external front operation handle also locks the door,
- using lock (not supplied): see diagrams opposite,
- using undervoltage coil: the SIRCO PV can only be closed when the coil is live.

For 6/8 pole: please consult us.

Locking using RONIS EL11AP lock (not supplied)

Rating (A)	No. of poles	Operation	Figure	Reference
100 ... 800	3/4 P	front direct	1	2699 **6008**
100 ... 800	3/4 P	external front	3	1499 **7701**

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

Rating (A)	No. of poles	Operation	Reference
125 ... 630	3/4 P	external front	2699 **9063**
800 ... 2000	3/4 P	front direct	2699 **9315**

Fig. 1

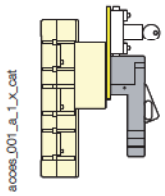


Fig.2

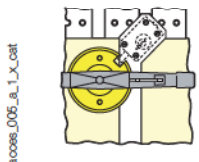


Fig. 3

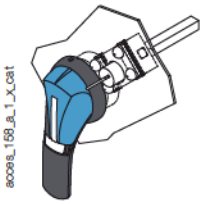
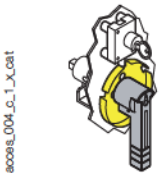


Fig.4



Characteristics

Characteristics according to IEC 60947-3

				SIRCO PV - 100 to 400 A						
Rated current I (A)				**100 A**	**125 A**	**160 A**	**200 A**	**250 A**	**315 A**	**400 A**
Rated insulation voltage Ui (V) - 3/4 P device				1200	1200	1200	1200	1200	1200	1200
Rated insulation voltage Ui (V) - 6/8 P device				1500	1500	1500	1500	1500	1500	1500
Rated impulse withstand voltage Uimp (kV)				12(1)	12(1)	12(1)	12(1)	12(1)	12(1)	12(1)
Rated operational currents I_e (A)										
Rated voltage	**Utilisation category**	**Circuit type**	**No. of poles**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
750 VDC	DC-22 B	Single PV circuit	3 P	100	125	160	200	250	315	400
750 VDC	DC-22 B	Double PV circuit	6 P	100	125	160	200	250	315	400
1000 VDC	DC-22 B	Single PV circuit	4 P	100	125	160	200	250	315	400
1000 VDC	DC-22 B	Double PV circuit	8 P	100	125	160	200	250	315	400
1200 VDC	DC-21 B	Single PV circuit	6 P	100	125	160	200	250	315	400
1500 VDC	DC-21 B	Single PV circuit	8 P	100	125	160	200	250	315	400
Connection										
Maximum Cu rigid cable cross-section (mm²)				35	50	70	95	120	185	240
Maximum Cu busbar width (mm)				32	32	32	32	32	32	32
Tightening torque min (Nm)				20	20	20	20	20	20	20
Tightening torque max (Nm)				26	26	26	26	26	26	26
Mechanical characteristics										
Durability (number of operating cycles)				10 000	10 000	10 000	10 000	10 000	10 000	5 000
Operating effort (Nm)				10	10	10	10	10	10	10
Weight of a 3 pole device (kg)				2	2	2	2	2	3.5	3.5
Weight of a 4 pole device (kg)				2.5	2.5	2.5	2.5	2.5	4	4

(1) The delivered spacers have to be installed.

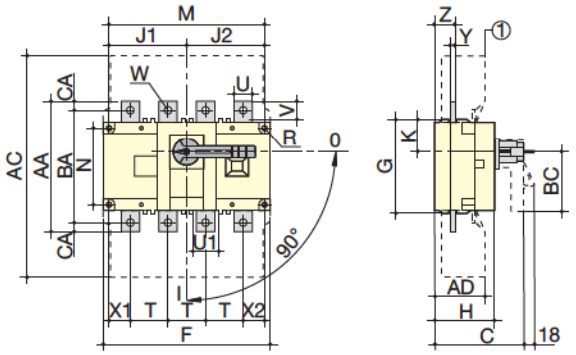
				SIRCO PV - 500 to 2000 A						
Rated current I (A)				**500 A**	**630 A**	**800 A**	**1000 A**	**1250 A**	**1600 A**	**2000 A**
Rated insulation voltage Ui (V) - 3/4 P device				1200	1200	1200	1200	1200	1200	1200
Rated insulation voltage Ui (V) - 6/8 P device				1500	1500	1500	1500	1500	1500	1500
Rated impulse withstand voltage Uimp (kV)				12(1)	12(1)	12(1)	12	12	12	12
Rated operational currents I_e (A)										
Rated voltage	**Utilisation category**	**Circuit type**	**No. of poles**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
750 VDC	DC-22 B	Single PV circuit	3 P	500	630	800	1000	1250	1600	2000
750 VDC	DC-22 B	Double PV circuit	6 P	500	630	-	1000	1250	1600	2000
1000 VDC	DC-22 B	Single PV circuit	4 P	500	630	800	1000	1250	1600	2000
1000 VDC	DC-22 B	Double PV circuit	8 P	500	630	-	1000	1250	1600	2000
1200 VDC	DC-21 B	Single PV circuit	6 P	500	630	-	1000	1250	1600	2000
1500 VDC	DC-21 B	Single PV circuit	8 P	500	630	-	1000	1250	1600	2000
Connection										
Maximum Cu rigid cable cross-section (mm²)				2x150	2x185	2x240	2x240	2x240	-	-
Maximum Cu busbar width (mm)				32	40	50	63	63	100	100
Tightening torque min (Nm)				20	40	40	40	40	40	40
Tightening torque max (Nm)				26	45	45	45	45	45	45
Mechanical characteristics										
Durability (number of operating cycles)				5 000	5 000	5 000	4 000	4 000	4 000	4 000
Operating effort (Nm)				10	14.5	14.5	37	37	56	56
Weight of a 3 pole device (kg)				3.5	3.5	3.5	8	8	12	12
Weight of a 4 pole device (kg)				4	4	4	10	10	15	15

(1) The delivered spacers have to be installed.

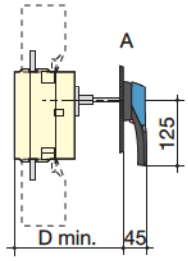
Dimensions

100 to 2000 A - Single PV circuit

Direct front operation



External front operation



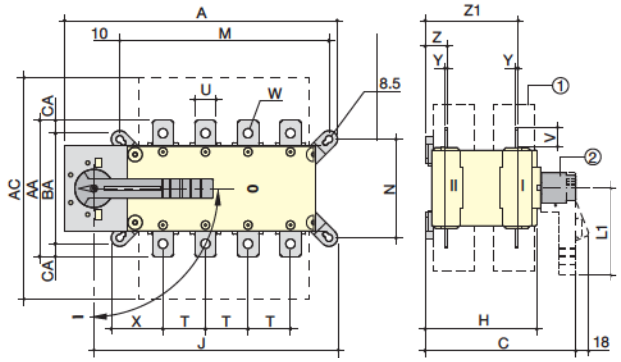
1. Terminal shrouds
A. S2 type handle

sirco_198_i_1_x_cat

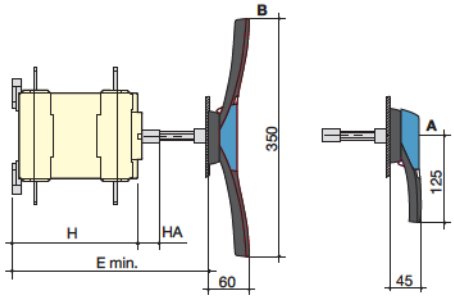
Rating (A)	Overall dimensions C	Overall dimensions D min	Terminal shrouds AC	Terminal shrouds AD	Switch body F 3p.	Switch body F 4p.	Switch body G	Switch body H	Switch body J1 3p.	Switch body J1 4p.	Switch body K	Switch body BC	Switch mounting M 3p.	Switch mounting M 4p.	Switch mounting N	Switch mounting R	Connection T	Connection U	Connection U1	Connection V	Connection W	Connection X1 3p.	Connection X1 4p.	Connection X2	Connection Y	Connection Z	Connection AA	Connection BA	Connection CA
100 … 250	125	135	290	60	180	230	116	79	80	105	34	115	160	210	80	5.5	50	25	25	21.5	11	33	33	27	3.5	22.5	160	130	15
315 … 500																		35	35	26.5							170	140	
630 … 800	160	165	402	90	230	290	170	128	75	135	55		210	270	140	7	65	45	45	41.5	13	42.5	37.5	37.5	5	37.5	260	220	20
1000	215	221	470	103	280	360	-	140	127.5	167.5	-	165	255	335	175	9	-	50	-	61	15	-	47.5	47.5	7	46.5	321	-	-
1250																		60		65	16x11						330		
1600 … 2000				118	372	492			173.5	233.05			492	467				90		44	12.5x5		53.5	53.5	8	47.5	288		

100 to 2000 A - Dual PV circuit and single PV circuit from 1200 to 1500 VDC

Direct front operation



External front operation

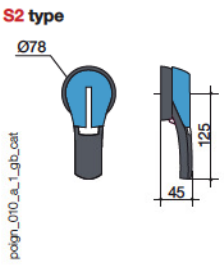
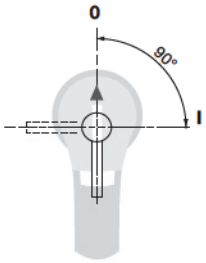
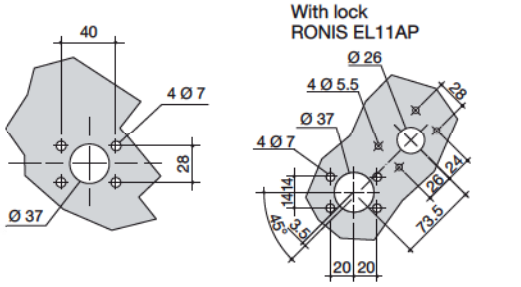


sirco-pv_029_b_1_x_cat

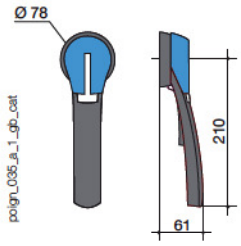
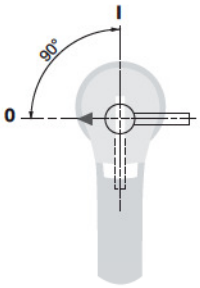
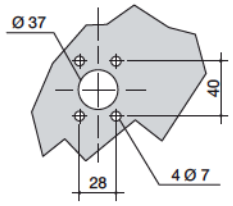
Rating (A)	Overall dimensions A 3p.	Overall dimensions A 4p.	Overall dimensions C	Overall dimensions E min	Terminal shrouds AC	Switch body H	Switch body HA	Switch body J 3p.	Switch body J 4p.	Switch mounting M 3p.	Switch mounting M 4p.	Switch mounting N	Connection T	Connection U	Connection V	Connection W	Connection X 3p.	Connection X 4p.	Connection Y	Connection Z	Connection Z1	Connection AA	Connection BA	Connection CA
100 … 250	262	312	218	208 … 436	280	148	25	223	273	196	246	116	50	25	21.5	11	61	61	3.5	30	124	160	130	15
315 … 500														35	26.5									
630 … 800	319	379	295	285 … 513	401	225		272	332	246	306	176	65	45	41.5	13	70.5	65.5	5	43	180	260	220	20
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		25.5
1250														60	65									
1600 … 2000	478	598			461			388.5	518.5	357	467		120	90	44	12.5	54	54	8		255.5	288		15

Dimensions for external handles

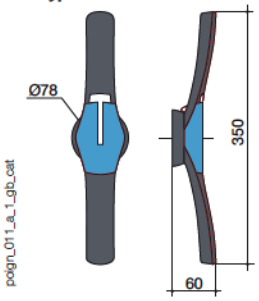
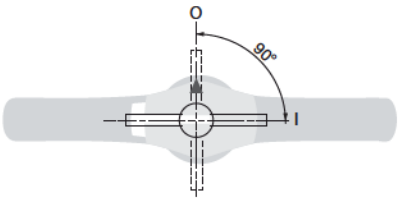
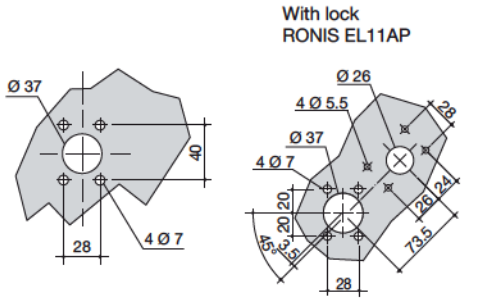
S2 type

Handle type	Front operation Direction of operation	Door drilling template
S2 type 		

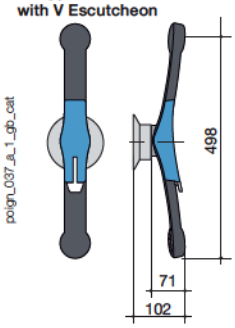
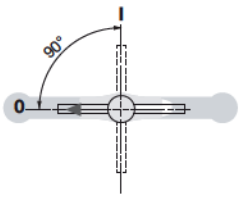
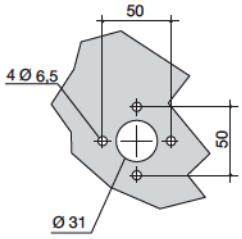
S3 type

Handle type	Front operation Direction of operation	Door drilling
S3 type 		

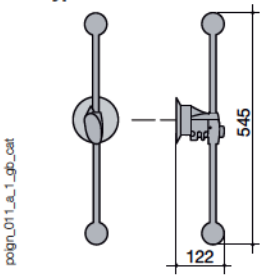
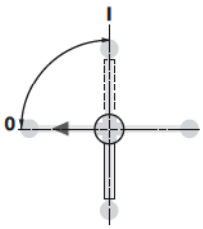
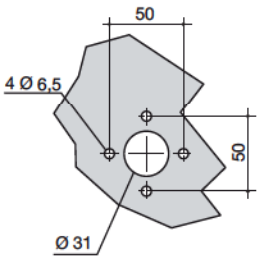
S4 type

Handle type	Front operation Direction of operation	Door drilling template
S4 type 		

S5 type

Handle type	Front operation Direction of operation	Door drilling
S5 type with V Escutcheon 		

V1 type

Handle type	Front operation Direction of operation	Door drilling
V1 type 		

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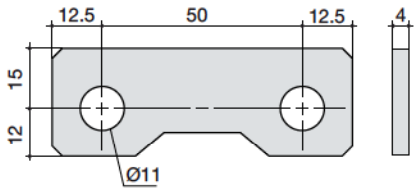
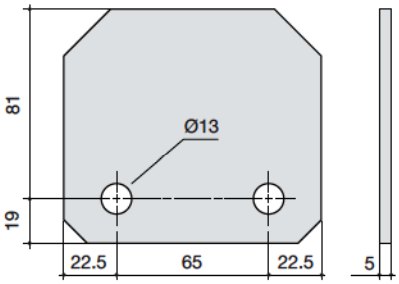
Bridging bars (in / mm)

100 - 500 A



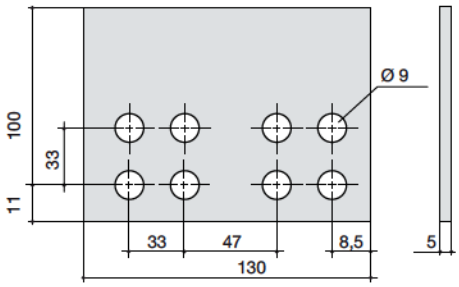
sirco_030_a_1_x_cat

400 A (6/8 poles) - 630 - 800 A



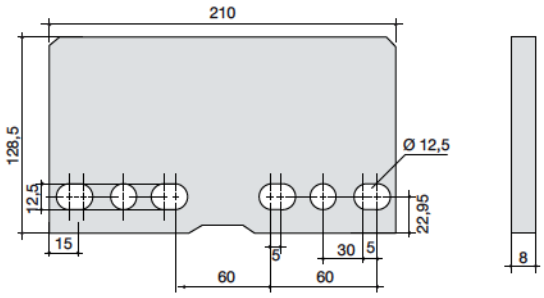
sirco_031_a_1_x_cat

1000 - 1250 A



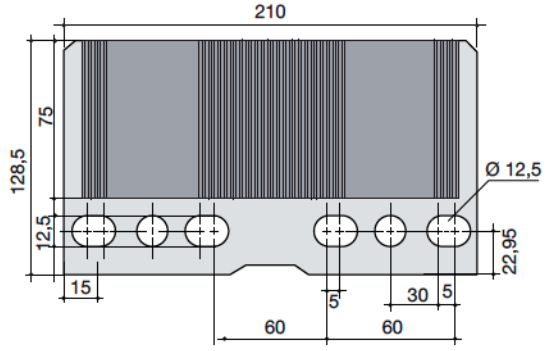
sirco_032_a_1_x_cat

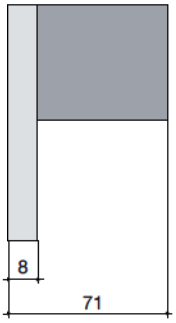
1600 A



sirco_033_a_1_x_cat

1600 A (6/8 poles) - 2000 A





sirco_034_a_1_x_cat

SIRCO MOT PV

Motorised load break switches for photovoltaic applications

for use up to 1000 VDC from 200 to 630 A

SIRCO MOT PV 4x400 A

The solution for

> Buildings.
> Solar parks.

Strong points

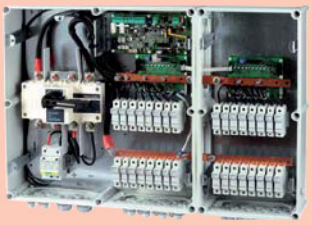
> Patented safety disconnection system for firefighters.
> Manual emergency operation.

Conformity to standards

> IEC 60947-3
> IEC 60364-4-410
> IEC 60364-7-712

A complete solution

> **SUNSYS IFB**
(Intelligent Field Box).
Smart connection box to link solar panels to the inverter.



Function

SIRCO MOT PV are three or four pole motorised load break switches.
They make and break under load conditions and provide safety isolation for any low voltage circuit dedicated to photovoltaic applications.

Advantages

Patented safety disconnection system for firefighters
With its remote electrical control, the SIRCO MOT PV can be utilised to provide safety disconnection for firefighters, meeting the remote disconnection requirements of the installation, closing to facilitate periodic tests and short-circuit control for maintenance and cleaning work.

Manual emergency operation
In addition to its motorised operation, the SIRCO MOT PV also includes a manual operation facility, enabling the switch position to be changed directly on the device if required.

General characteristics
- 2 stable positions (I, 0).
- Positive break indication.
- AUTO / MANU selector.
- Padlocking in 0 position (position I with option).
- Up to 1000 VDC.
- IP20 devices and accessories.

References

SIRCO MOT PV 750 VDC

Rating (A)	Circuit type	No. of poles	Switch body	Bridging bars for connecting poles in series	Auxiliary contact	Terminal screens	Terminal shrouds
200 A	Single PV circuit	3 P	19PV **3020**	2 P 2609 **0025**(1) 4 P 2609 **2025**(1)	1st contact NO/NC included 2nd contact NO/NC 4109 **0021**	3 P 1509 **3025**(2) 4 P 1509 **4025**(2)	3 P 2694 **3021**(3) 4 P 2694 **4021**(3)
250 A			19PV **3025**				
400 A			19PV **3040**	2 P 2609 **0063**(1) 4 P 2609 **2063**(1)		3 P 1509 **3063** 4 P 1509 **4063**	3 P 2694 **3051**(3) 4 P 2694 **4051**(3)
500 A			19PV **3050**				
630 A			19PV **3063**				

SIRCO MOT PV 1000 VDC

Rating (A)	Circuit type	No. of poles	Switch body	Bridging bars for connecting poles in series	Auxiliary contact	Terminal screens	Terminal shrouds
200 A	Single PV circuit	4 P	19PV **4020**	2 P 2609 **0025**(1) 4 P 2609 **2025**(1)	1st contact NO/NC included 2nd contact NO/NC 4109 **0021**	3 P 1509 **3025**(2) 4 P 1509 **4025**(2)	3 P 2694 **3021**(3) 4 P 2694 **4021**(3)
250 A			19PV **4025**				
400 A			19PV **4040**	2 P 2609 **0063**(1) 4 P 2609 **2063**(1)		3 P 1509 **3063** 4 P 1509 **4063**	3 P 2694 **3051**(3) 4 P 2694 **4051**(3)
500 A			19PV **4050**				
630 A			19PV **4063**				

(1) Connection in series of 2 or 4 poles of the device
(2) 2 pieces: one for top side and another for bottom side
(3) Terminal shrouds cannot be mounted when bridging bars for connecting poles in series are present.

Accessories

Bridging bars for connecting poles in series

Use

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

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

Connection diagrams: See "Poles connections in serie", page 133.

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

Auxiliary contact

Use

Pre-break and signalisation of position I:

1 to 2 NO/NC auxiliary contacts (1 as standard).

Low level auxiliary contacts:
Please consult us.

Connection to the control circuit

By 6.35 mm fast-on terminal.

Electrical characteristics

30 000 operations.

acces_065_a_1_cat

svr_058_a_1_cat

Characteristics

Rating (A)	Nominal current (A)	Operating current Ie (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	2nd	4109 **0021**

socomec
Innovative Power Solutions

Terminal shrouds

Use
Protection against direct contact with terminals or connecting parts.
Not compatible for terminals with bridging bars connected.

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

acces_206_a_2_cat

Rating (A)	No. of poles	Position	Reference
200 ... 250	3 P	top and bottom	2694 **3021**
200 ... 250	4 P	top and bottom	2694 **4021**
400 ... 630	3 P	top and bottom	2694 **3051**
400 ... 630	4 P	top and bottom	2694 **4051**

Terminal screens

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

acces_207_a_2_cat

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

2 position padlocking (I-0)

Use
Enables padlocking in position I (product can be padlocked in position 0 as standard).


atys_125_a_1_cat

Rating (A)	Reference
200 ... 630	1599 **0003**

Accessories (continued)

Key handle interlocking system

Use

With the product in manual mode, it enables locking in position 0 using a RONIS EL11AP lock. Factory fitted.

Locking in both positions (I-0) requires, in addition, the "2 position padlocking" accessory.

Rating (A)	Reference
200 ... 630	1509 **1006**

Other specific accessories

- Low level auxiliary contacts.

Characteristics according to IEC 60947-3

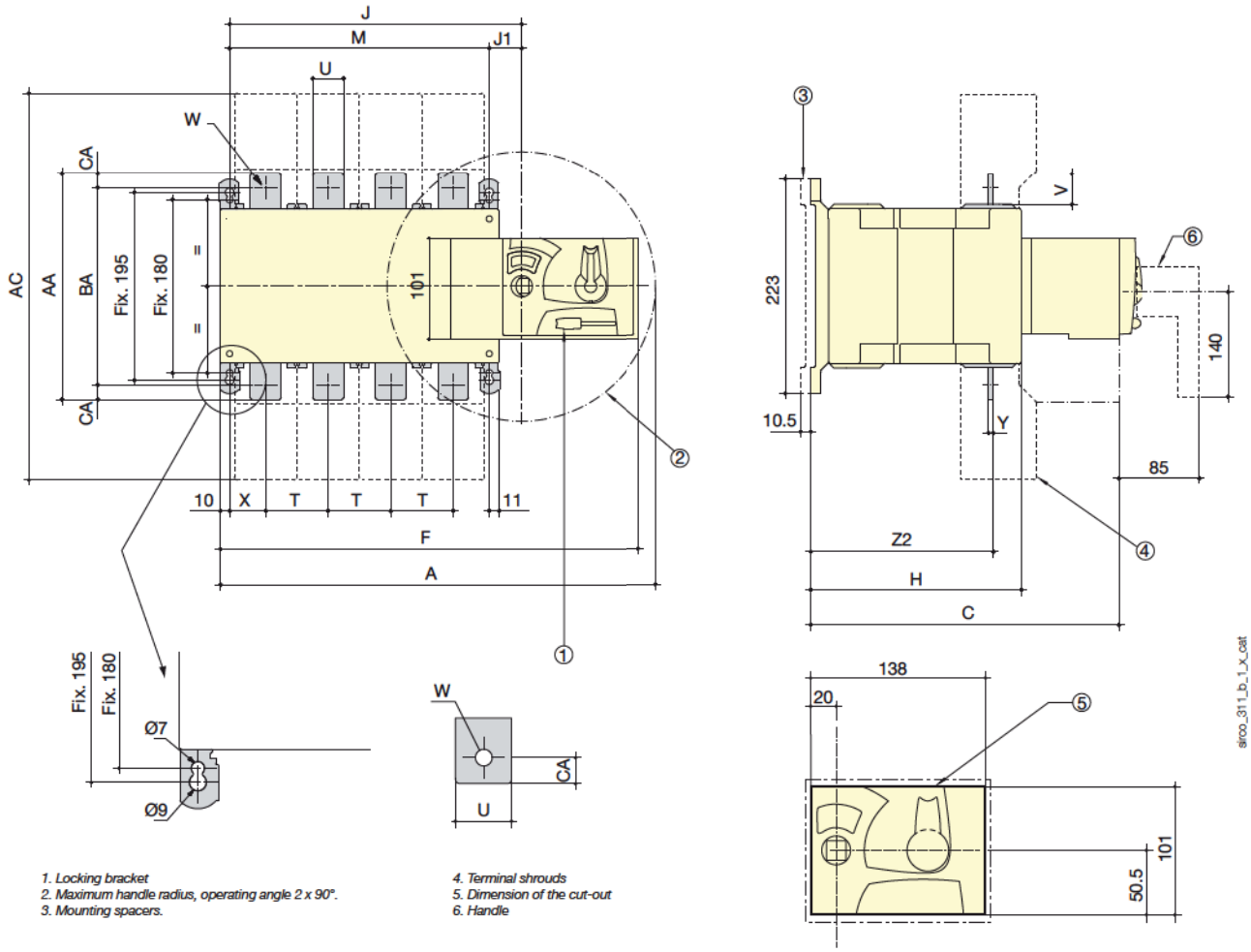
200 to 630 A

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_e (A)									
Rated voltage	**Utilisation category**	**Circuit type**	**Number of poles of the device**	**Number of pole(s) in series per polarity**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
750 VDC	DC-21 B	Single PV circuit	3 P	2 P + and 1 P -	200	250	400	500	630
1000 VDC	DC-21 B	Single PV circuit	4 P	2 P + and 2 P -	200	250	400	500	630
Switching time (Standard setting)									
I - 0					0.85	0.85	0.85	0.85	0.85
Power supply									
230 VAC min./max. (VAC)					176/288	176/288	176/288	176/288	176/288
Control supply power demand									
Supply 230 VAC inrush / nominal (VA)					420/100	420/100	420/100	420/110	450/120
Connection									
Rigid Cu cable cross-section (mm^2)					95	120	240	2 x 150	2 x 185
Maximum Cu busbar width (mm)					32	32	40	40	40
Tightening torque min (Nm)					20	20	40	40	40
Mechanical characteristics									
Durability (number of operating cycles)(1)					8000	8000	5000	5000	5000
Weight of a 3 pole device (kg)					5	5	7	7	7
Weight of a 4 pole device (kg)					6	6	8	8	8

(1) Improved endurances: Please consult us.

Dimensions

SIRCO MOT PV 200 to 630 A

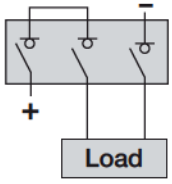


1. Locking bracket
2. Maximum handle radius, operating angle 2 x 90°.
3. Mounting spacers.
4. Terminal shrouds
5. Dimension of the cut-out
6. Handle

Rating (A)	Overall dimensions			Terminal shrouds	Switch body					Switch mounting		Connection											
	A 3p.	A 4p.	C	AC	F 3p.	F 4p.	H	J 3p.	J 4p.	M 3p.	M 4p.	T	U	V	W	X 3p.	X 4p.	Y	Z	Z1	AA	BA	CA
200	345	395	244.5	280	328	378	151	154	184	160	210	50	25	30	11	33	33	3.5	39.5	134.5	160	130	15
250	345	395	244.5	280	328	378	151	154	184	160	210	50	25	30	11	33	33	3.5	39.5	134.5	160	130	15
400	394	459	320.5	400	377	437	221	244	304	210	270	65	45	50	13	42.5	37.5	5	53	190	260	220	20
500	394	459	320.5	400	377	437	221	244	304	210	270	65	45	50	13	42.5	37.5	5	53	190	260	220	20
630	394	459	320.5	400	377	437	221	244	304	210	270	65	45	50	13	42.5	37.5	5	53	190	260	220	20

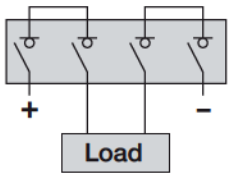
Pole connections in series (1)

3 poles - bottom / top



sirco_305_b_1_gb_cat

4 poles - bottom / bottom



sirco_307_b_1_gb_cat

(1) Other connections: refer to mounting instructions

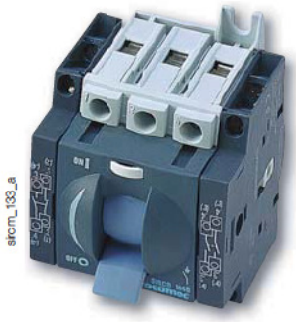
SIRCO M UL508

Load break switches standards UL and CSA

16 to 80 A

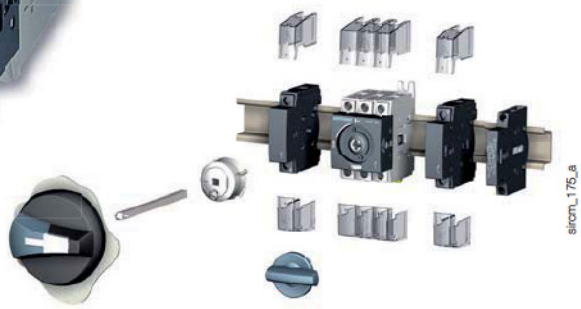
new

Rotary switch
***SIRCO M** 3 x 80 A*



Toggle switch
***SIRCO M** 3 x 80 A + 2 auxiliary contacts*

Rotary switch
***SIRCO M** 3 x 80 A*



Function

SIRCO M UL/CSA non fusible disconnect switches are compact modulable and modular switches. They make and break under load conditions and provide safety isolation for any low voltage circuit, particularly for machine and control circuits.

General characteristics

- Positive break indication.
- Direct or external operation.
- Compact footprint.
- DIN-rail or base mount.
- Wide range of accessories.
- Up to 8 pole or 4 pole MTS.

The solution for

> Industrial control systems

Strong points

> Total integration.
> Wide range of accessories.
> Upgradeability.
> Compliance to major certifications and approvals.
> Specific characteristics.

Conformity to standards(1)

> IEC 60947-3
> UL 508 listed, Guide NLRV, File E173959
> CSA C22.2§14, class 3211-05, File 112964

(1) Product reference on request.

UL508 non-metallic polycarbonate 4.4x enclosed SIRCO M

> Enclosed SIRCO M witches allow safe control and disconnection of any motor application.

socomec Innovative Power Solutions

UL508 manual motor controller "Suitable as motor disconnect"

References

Rating (A)	No. of poles	Toggle switch (direct handle included)	Rotary switch	Direct handle	External front and right side handles[4]	Shaft for external handles	Switched fourth pole module	Auxiliary contacts	Terminal shrouds	Door mounting kit
16 A	3 P	2205 **3000**	2200 **3000**	Blue 2299 **5012**	S00 type I - 0 Black 3R, 12[1] 1473 **1111**	S00 and S0 type 150 mm 5.9 in 1407 **0515**	1 P 2200 **1000**	M type 1 AC NO + NC 2299 **0001**	1 P 2294 **1005**[3]	2299 **3409**
20 A	3 P	2205 **3001**	2200 **3001**		Red/Yellow 3R, 12[1] 1474 **1111**		1 P 2200 **1001**			
25 A	3 P	2205 **3002**	2200 **3002**		Black 4, 4X[1] 147D **1111**		1 P 2200 **1002**		3 P 2294 **3005**[3]	
32 A	3 P	2205 **3003**	2200 **3003**		Red/Yellow 4, 4X[1] 147E **1111**	200 mm 7.9 in 1407 **0520**	1 P 2200 **1003**	1 AC 2 NC 2299 **0011**		
40 A	3 P	2205 **3004**	2200 **3004**		S0 type I - 0 Black 1, 3R, 12[1] 1483 **1111**	320 mm 12.6 in 1407 **0532**[2]	1 P 2200 **1004**			
63 A	3 P	2205 **3006**	2200 **3006**		Red/Yellow 1, 3R, 12[1] 1484 **1111**		1 P 2200 **1006**		1 P 2294 **1009**[3]	
80 A	3 P	2205 **3008**	2200 **3008**		Black 4, 4X[1] 148D **1111**		1P 2200 **1008**		3 P 2294 **3009**[3]	

(1) Nema type.
(2) Please order the shaft guide: 1419 0000 with the shaft.
(3) Top and bottom.
(4) There is no door interlocking when the switch is fitted on the side of the enclosure.

UL508 non-metallic polycarbonate 4, 4X enclosed SIRCO M

References

Function

Enclosed **SIRCO M** switches allow safe control and disconnection of any motor application.

General characteristics

- Grey enclosure with red handle.
- Equipped with a 3 pole SIRCO M.
- 1 removable earth terminal.
- Possibility of adding 1 power pole and 1 auxiliary contact.
- Nema type 1, 3R, 12, 4, 4X.

Conformity to standards(1)

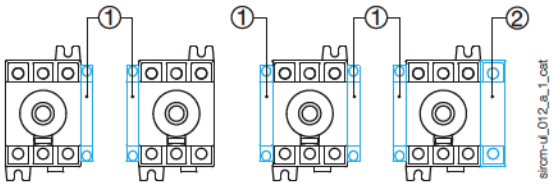
> IEC 60947-3
> UL508, Guide NLRV, file E173959
> CSA C22.2#14, Class 3211-05, file 702154

(1) Product reference on request.

Rating (A)	No. of poles	Enclosed switches	Enclosure size	Switched fourth pole module	Unswitched neutral pole	Unswitched protective earth module	Auxiliary contacts	Terminal shrouds
32 A	3 P	2214 **3503**	Size 1	1 P 2200 **1003**	1 P 2200 **5005**(1)	1 P 2200 **9005**(1)	M type 1 AC NO + NC 2299 **0001**	1 P 2294 **1005**(2) 3 P 2294 **3005**(2)
	3 P	2224 **3503**	Size 2					
63 A	3 P	2224 **3506**	Size 2	1 P 2200 **1006**(1)	1 P 2200 **5009**(1)	1 P 2200 **9009**(1)	1 AC 2 NC 2299 **0011**	1 P 2294 **1009**(2) 3 P 2294 **3009**(2)

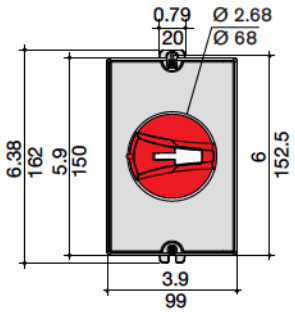
(1) Not UL.
(2) Top and bottom.

Configuration

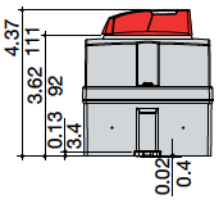


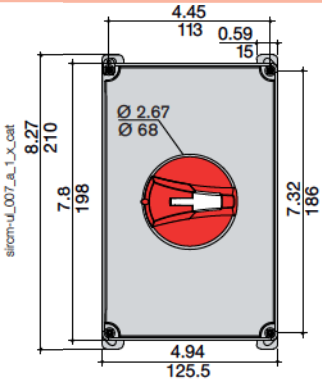
Configuration of the auxiliary contacts for enclosed SIRCO M.
1. M type auxiliary contacts.
2. Additional pole.

Dimensions (in / mm)

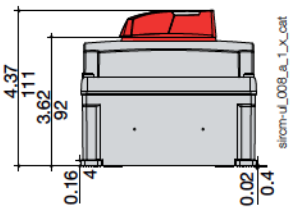


Size 1





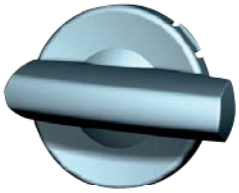
Size 2



Accessories

Direct operation handle

Rating (A)	Handle colour	Handle	Reference
16 ... 80	Blue	M00 type	2299 **5012**



M00 handle

External operation handle

Use

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

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

S00 handle

S0 handle

Front and right side handles I - 0

Rating (A)	Handle colour	Handle	Nema type	Reference
16 ... 80	Black	S00 type	3R, 12	1473 **1111**
16 ... 80	Red/Yellow	S00 type	3R, 12	1474 **1111**
16 ... 80	Black	S00 type	4, 4X	147D **1111**
16 ... 80	Red/Yellow	S00 type	4, 4X	147E **1111**
16 ... 80	Black	S0 type	1, 3R, 12	1483 **1111**
16 ... 80	Red/Yellow	S0 type	1, 3R, 12	1484 **1111**
16 ... 80	Black	S0 type	4, 4X	148D **1111**
16 ... 80	Red/Yellow	S0 type	4, 4X	148E **1111**

Front handle for changeover switches I - 0 - II

Rating (A)	Handle colour	Handle	Nema type	Reference
16 ... 80	Black	S00 type	4, 4X	1473 **1113**

Front handle for changeover switches I - I+II - II

Rating (A)	Handle colour	Handle	Nema type	Reference
16 ... 80	Black	S00 type	4, 4X	1473 **1114**

Shafts for external handle

Use

Standard lengths:
- 150 mm,
- 200 mm,
- 320 mm.

Other lengths: please consult us.

For 3/4 pole switches, shaft extensions for external front and side handle.
For 6/8 pole switches and SIRCOVER M changeover switches.

For 3/4 pole

Rating (A)	Handle	Length (inches)	Length (mm)	Reference
16 ... 80	S00 type	5.9 in	150 mm	1407 **0515**
16 ... 80	S00 type	7.9 in	200 mm	1407 **0520**
16 ... 80	S00 type	12.6 in	320 mm	1407 **0532**

For 4/8 pole

Rating (A)	Handle	Length (inches)	Length (mm)	Reference
16 ... 80	S00 type	5.9 in	150 mm	1407 **0515**
16 ... 80	S00 type	7.9 in	200 mm	1407 **0520**
16 ... 80	S00 type	12.6 in	320 mm	1407 **0532**

Accessories (continued)

Shaft guide for external handle

Use

This accessory enables handle to engage extension shaft with a misalignment of up to 15 mm.
Required for a shaft lenght from 320 mm.

Handle type	Reference
S00 and S0	1419 **0000**

Additional pole for SIRCO M

4th pole

Rating (A)	No. of poles	Type	Reference
16	1 P	switched	2200 **1000**
20	1 P	switched	2200 **1001**
25	1 P	switched	2200 **1002**
32	1 P	switched	2200 **1003**
40	1 P	switched	2200 **1004**
63	1 P	switched	2200 **1006**(1)
80	1 P	switched	2200 **1008**(1)

(1) Not UL.

Use

Transforms:
- 3 pole SIRCO M load break switches into a 4 pole,
- 3 pole SIRCOVER M changeover switches into a 4 pole.

Solid neutral pole

Rating (A)	No. of poles	Type	Reference
16 ... 40	1 P	unswitched	2200 **5005**(1)
63 ... 80	1 P	unswitched	2200 **5009**(1)

(1) Not UL.

Use

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

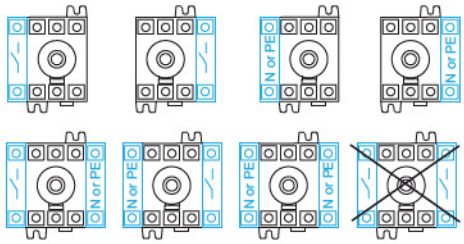
Earth module

Rating (A)	No. of poles	Type	Reference
16 ... 40	1 P	unswitched	2200 **9005**(1)
63 ... 80	1 P	unswitched	2200 **9009**(1)

(1) Not UL.

Use

Adds 1 protective earth module pole to the switch-disconnector.



Terminal shrouds

Use

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

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

Rating (A)	No. of poles	Position	Reference
16 ... 40	1 P	top and bottom	2294 **1005**
16 ... 40	3 P	top and bottom	2294 **3005**
63 ... 80	1 P	top and bottom	2294 **1009**
63 ... 80	3 P	top and bottom	2294 **3009**

M type Auxiliary Contacts

Use

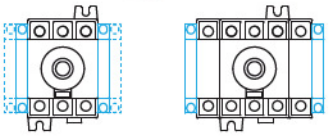
Pre-break and signalisation of positions 0 and I by NO+NC or 2 NO Auxiliary Contacts.
They can be mounted on the left or on the right side of the device.

Max 4 Auxiliary Contacts per product (2 modules).

Characteristics

A300.

Rating (A)	Nb de CA	AC type	Reference
16 ... 80	1 AC	NO + NC	2299 **0001**
16 ... 80	1 AC	2 NC	2299 **0011**



Auxiliary contacts configurations for SIRCO M

Conversion kit

Use

These accessories enable the assembly of 2 switches in order to achieve:
- 6 or 8 pole switches
- 3 or 4 pole open or close transition changeover switches.

Rating (A)	Type	Reference
16 ... 80	Load break switches 6/8 P	2269 **6009**
16 ... 80	Changeover switch 3/4 pole (I - 0 - II)	2209 **6009**
16 ... 80	Changeover switch 3/4 pole (I - I+II - II)	2299 **6009**

Conversion kit for 6 or 8 pole load break switches

Conversion kit for 3 and 4-pole changeover switches (I - 0 - II) or (I - I+II - II)

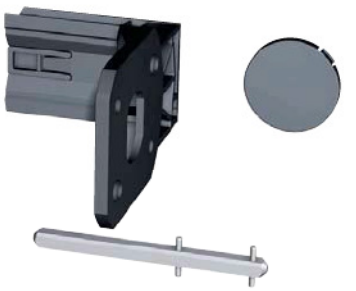
Door mounting kit

Use

This kit enables direct mounting of the switch on the panel door or on the right or left side of the panel.

The external handle is quick and easy to install due to an internal locking nut mounted on the inside of the enclosure.

Rating (A)	No. of poles	Reference
16 ... 80	3/4 P	2299 **3409**



Characteristics

Characteristics according to UL508/CSA22.2#14 suitable as motor disconnect

	SIRCO M UL508 - 16 to 80 A						
General use rating	**16 A**	**20 A**	**25 A**	**32 A**	**40 A**	**63 A**	**80 A**
Short circuit rating at 600 VAC (kA)	65	65	65	65	10/65	50/65	50/65
Type of fuse	J	J	J	J	J	J	J
Max fuse rating (A)	30	30	30	30	60/30	100/60	100/60
Max. motor hp / FLA 3 ph motor max.							
208 VAC	3 / 10.6	5 / 16.7	7.5 / 24.2	7.5 / 24.2	7.5 / 24.2	15 / 46.2	15 / 46.2
220-240 VAC	5 / 15.2	5 / 15.2	7.5 / 22	7.5 / 22	7,5 / 22	20 / 54	20 / 54
440-480 VAC	10 / 14	10 / 14	15 / 21	20 / 27	20 / 27	40 / 52	40 / 52
600 VAC	10 / 11	15 / 17	20 / 22	25 / 27	25 / 27	40 / 41	40 / 41
Connection terminals							
Solid - 1 wire	#14 - #10	#14 - #10	#14 - #10	#14 - #10	#14 - #10	#14 - #10	#14 - #10
Solid - 2 wires	2x #12	2x #12	2x #12	2x #12	2x #12	2x #12	2x #12
Stranded - 1 wire	#14 - #4	#14 - #4	#14 - #4	#14 - #4	#14 - #4	#14 - #1	#14 - #1
Stranded - 2 wires	2x (#14 - #12)	2x (#14 - #12)	2x (#14 - #12)	2x (#14 - #12)	2x (#14 - #12)	2x (#10 - #6)	2x (#10 - #6)
Auxiliary contacts							
Electrical characteristics	A300	A300	A300	A300	A300	A300	A300
Mechanical characteristics							
Endurance (number of operating cycles)	100 000	100 000	100 000	100 000	100 000	100 000	100 000
Operating torque (lbs.in/Nm)	7/0.8	7/0.8	7/0.8	7/0.8	7/0.8	8.9/1	8.9/1

Characteristics according to IEC 60947-3

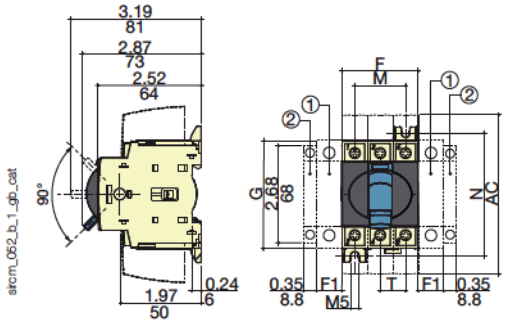
		SIRCO M UL508 - 16 to 80 A						
General use rating		**16 A**	**20 A**	**25 A**	**32 A**	**40 A**	**63 A**	**80 A**
Thermal current I_{th} (40°C)		16	20	25	32	40	63	80
Rated insulation voltage U_i (V)		800	800	800	800	800	800	800
Rated impulse withstand voltage U_{imp} (kV)		8	8	8	8	8	8	8
Rated operational currents I_e (A)								
Rated voltage	**Utilisation**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
415 VAC	AC-23 A / AC-23 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80
500 VAC	AC-22 A / AC-22 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80
500 VAC	AC-23 A / AC-23 B	16/16	20/20	25/25	25/25	25/25	63/63	63/63
690 VAC	AC-21 A / AC-21 B	16/16	20/20	25/25	32/32	40/40	63/63	80/80
690 VAC	AC-22 A / AC-22 B	16/16	20/20	25/25	32/32	32/40	40/63	63/80
690 VAC	AC-23 A / AC-23 B	16/16	20/20	25/25	25/25	25/25	40/40	40/40
Operational power in AC-23 (kW)								
At 400 VAC without prebreaking AC in AC-23 (kW)(1)(2)		7.5	9	11	15	18.5	30	37
At 500 VAC without prebreaking AC in AC-23 (kW)(1)(2)		7.5	9	11	15	15	30	37
At 690 VAC without prebreaking AC in AC-23 (kW)(1)(2)		7.5	11	15	18.5	18.5	30	37
Fuse protected short-circuit withstand (kA rms prospective)								
Prospective short-circuit current (kA rms)(3)		50	50	50	50	50	50	50
Associated fuse rating (A)(3)		16	20	25	32	40	63	80
Overload capacity (U_e 415 VAC)								
Rated short-time withstand current 0.3 s. I_{CW} (kA rms)(3)		2.5	2.5	2.5	2.5	2.5	3	3
Rated short-circuit making capacity I_{cm} (kA peak)(3)		6	6	6	6	6	9	9
Connection								
Minimum Cu cable cross section (mm²)		1.5	1.5	1.5	1.5	1.5	2.5	2.5
Maximum Cu cable section (mm²)		16	16	16	16	16	35	35
Tightening torque min / max (Nm)		2 / 2.2	2 / 2.2	2 / 2.2	2 / 2.2	2 / 2.2	3.5 / 3.85	3.5 / 3.85

(1) A/B: 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 operating voltage U_e = 400 VAC.

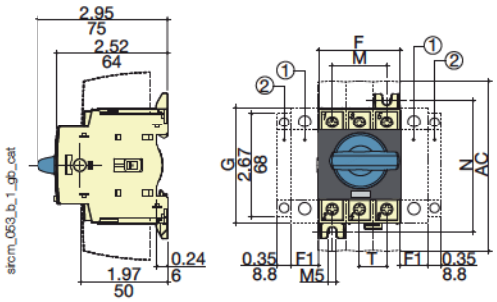
Dimensions (in / mm)

16 to 80 A

Toggle operation



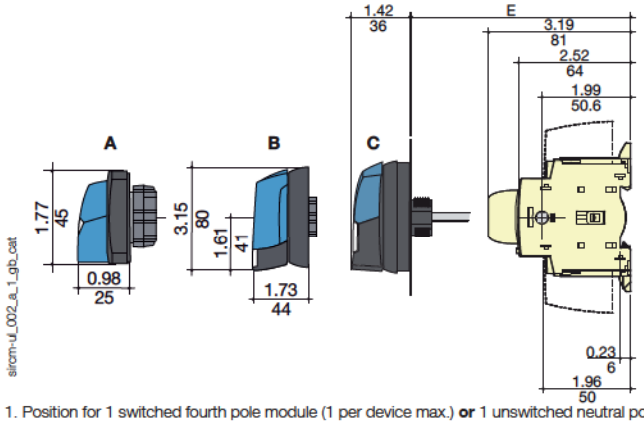
Direct operation with handle



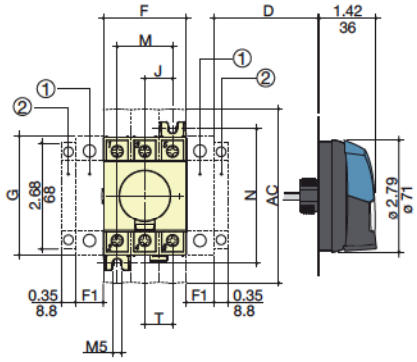
1. Position for 1 switched fourth pole module (1 per device max.) **or** 1 unswitched neutral pole **or** 1 protective earth module **or** 1 auxiliary contact.
2. Position for 1 auxiliary contact only.

Note: Maximum of 4 additional blocks.

External front handle



External side handle

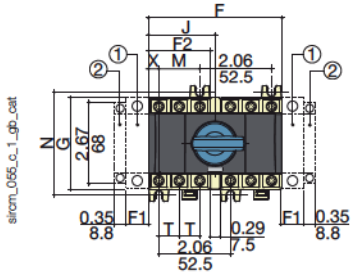


1. Position for 1 switched fourth pole module (1 per device max.) **or** 1 unswitched neutral pole **or** 1 earth module **or** 1 auxiliary contact.
2. Position for 1 auxiliary contact only.

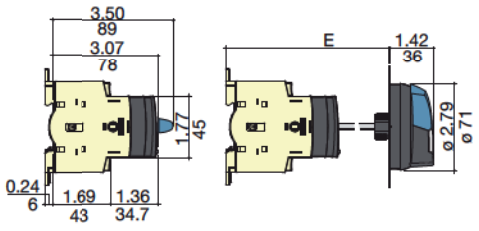
Note: Maximum of 4 additional blocks.

Rating (A)	Units	Overall dimensions				Terminal shrouds	Switch body				Switch mounting		Connection
		D min	D max	E min	E max	AC	F	F1	G	J	M	N	T
16 to 40	in	1.18	9.25	3.94	14.64	4.33	1.77	0.59	2.67	0.59	1.18	2.95	0.59
	mm	30	235	100	372	110	45	15	68	15	30	75	15
63 to 80	in	1.18	9.25	3.93	14.64	4.33	2.06	0.69	2.99	0.69	1.38	3.35	0.69
	mm	30	235	100	372	110	52.5	17.5	76	17.5	35	85	17.5

Direct front handle for 6/8-pole load break switches
or 3/4-pole changeover switches



External front handle for 6/8-pole load break switches
or 3/4-pole changeover switches



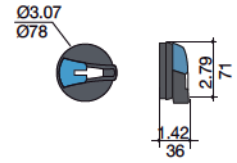
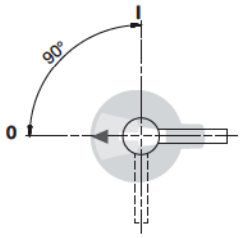
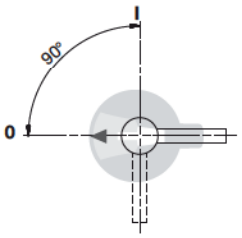
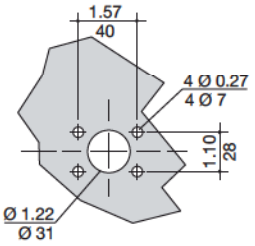
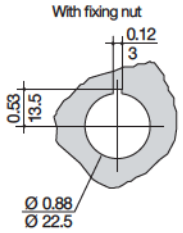
1. Position for 1 switched fourth pole module (1 per device max.) **or** 1 unswitched neutral pole **or** 1 earth module **or** 1 auxiliary contact.
2. Position for 1 auxiliary contact only.

Note: Maximum of 4 additional blocks.

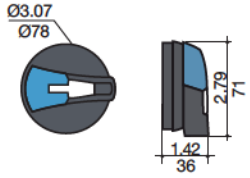
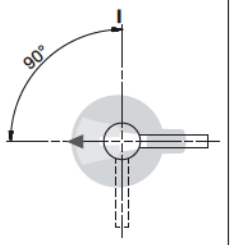
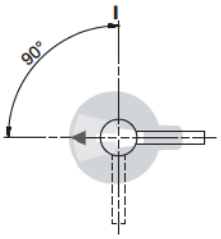
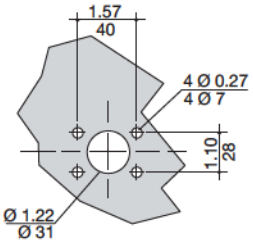
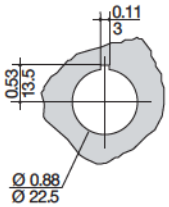
Rating (A)	Units	Overall dimensions		Switch body					Switch mounting		Connection	
		E min	E max	F	F1	F2	G	J	M	N	T	X
16 to 40	in	4.13	14.64	3.83	0.59	1.77	2.67	1.92	1.18	2.95	0.59	0.29
	mm	105	372	97.5	15	45	68	48.75	30	75	15	7.5
63 to 80	in	4.13	14.65	4.13	0.69	2.06	2.99	2.06	1.38	3.35	0.69	0.34
	mm	105	372	105	17.5	52.5	76	52.5	35	85	17.5	8.75

External handles dimensions (in / mm)

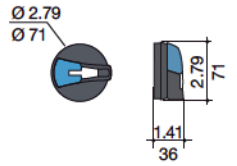
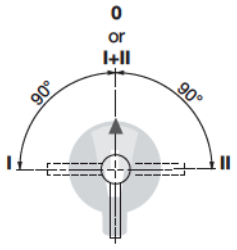
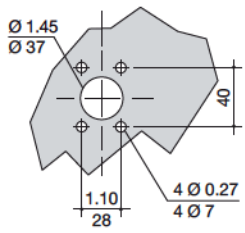
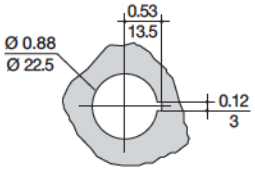
16 to 80 A

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S00 type Load break switches 			IP65 with 4 fixing screws  With fixing nut 

sirom-ul_015_a_1_gb_cat

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S00 type 			With 4 fixing screws  With fixing nut 

poign_048_b_1_gb_cat

Handle type	Front operation Direction of operation	Door drilling
Typ S00 Changeover switches 		With 4 fixing screws  With fixing nut 

sirom_013_b_1_gb_cat

SIRCO M UL98

Load break switches standards UL and CSA

30 to 100 A

sircm_100_a_1_cat

Rotary switch
***SIRCO M** 3 x 100 A*

The solution for

> Power distribution.

Strong points

> Total integration.
> Wide range of accessories.
> Upgradeability.
> Compliance to major certifications and approvals.
> Specific characteristics.

Conformity to standards(1)

> IEC 60947-3
> UL98, Guide WHTY, file E201138
> CSA 22.2#4, Class 4651-02, file 112964

(1) Product reference on request.

Function

SIRCO M non fusible disconnect switches are compact switches that break and make power circuits on and off load and provide safety isolation.
These switches are extremely durable and are tested and approved for use in the most demanding applications.

General characteristics

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

Specific characteristics

- Contact point technology.

References

UL98 Non Fusible Disconnect switches

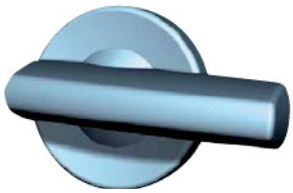
Rating (A)	No. of poles	Switch body	Direct handle	External front and right side handles	Shafts for external front and side handles	Switched fourth pole module	Unswitched neutral pole	Earth module	Auxiliary contacts	Terminal shrouds
30 A	3 P	2201 **3003**	Blue 2299 **5032**	S00 type I - 0 Black 4, 4X 147D **1111** Red/Yellow 4, 4X 147E **1111** S0 type I - 0 Black 4, 4X 148D **1111** Red/Yellow 4, 4X 148E **1111**	150 mm 5.9 in 1407 **0515** 200 mm 7.9 in 1407 **0520** 320 mm 12.6 in 1407 **0532**(1)	1 P 2201 **1003**	1 P 2200 **5011**(2)	1 P 2200 **9011**(2)	M type 1 AC NO + NC 2299 **0001** M type 1 AC 2 NC 2299 **0011**	1 P 2294 **1011**(3) 3 P 2294 **3016**(3)
60 A	3 P	2201 **3006**				1 P 2201 **1006**				
100 A	3 P	2200 **3010**				1 P 2200 **1010**				

(1) Shaft guide reference 14190000, is required for shaft length over 15.7 inches (400 mm).
(2) Not UL.
(3) Top and bottom.

Accessories

Direct operation handle

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



M01 handle

External operation handle

Use

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

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

S00 handle

Front and right side handles I - 0

Rating (A)	Handle colour	Handle	Nema type	Reference
16 ... 80	Black	S00 type	3R, 12	1473 **1111**
16 ... 80	Red/Yellow	S00 type	3R, 12	1474 **1111**
16 ... 80	Black	S00 type	4, 4X	147D **1111**
16 ... 80	Red/Yellow	S00 type	4, 4X	147E **1111**
16 ... 80	Black	S0 type	1, 3R, 12	1483 **1111**
16 ... 80	Red/Yellow	S0 type	1, 3R, 12	1484 **1111**
16 ... 80	Black	S0 type	4, 4X	148D **1111**
16 ... 80	Red/Yellow	S0 type	4, 4X	148E **1111**

S0 handle

Shafts for external handle

Use

Standard lengths:
- 150 mm,
- 200 mm,
- 320 mm.

Other lengths: please consult us.

Rating (A)	Length (inches)	Length (mm)	Reference
30 ... 100	5.9 in	150 mm	1407 **0515**
30 ... 100	7.9 in	200 mm	1407 **0520**
30 ... 100	12.6 in	320 mm	1407 **0532**

Shaft guide for external handle

Use

This accessory makes shaft introduction easier with up to 15 mm misalignement.
Required for a shaft length from 320 mm.

Handle type	Reference
S0	1419 **0000**

Additional pole for SIRCO M

4th pole

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

Use

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

sirom_072_b_1_cat

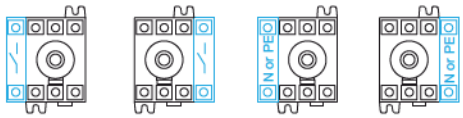
Solid neutral pole

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

(1) Not UL.

Use

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



sirom_078_a_1_gb_cat

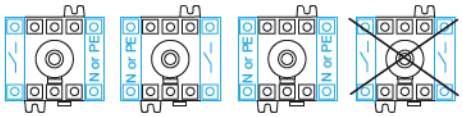
Earth module

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

(1) Not UL.

Use

Adds 1 earth module pole to the switch-disconnector.



Terminal shrouds

Use

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

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

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

sirom_049_a_1_cat

M type auxiliary contacts

Use

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

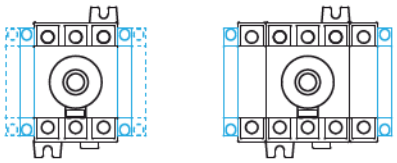
They can be mounted on the left or on the right side of the switch.
Max 4 auxiliary contacts (2 modules).

Characteristics

A300.

sirom_075_b_2_cat

Rating (A)	Nb de CA	AC type	Reference
30 ... 100	1 AC	NO + NC	2299 **0001**
30 ... 100	1 AC	2 NC	2299 **0011**



sirom_081_a_1_x_cat

Auxiliary contacts configurations for SIRCO M

Characteristics

Characteristics according to UL98/CSA22.2#4

	SIRCO M UL98 - 30 to 100 A		
General use rating	**30 A**	**60 A**	**100 A**
Short-circuit rating at 480 VAC (kA)	100	100	100
Short circuit rating at 600 VAC (kA)	100	100	25
Type of fuse	J	J	J
Max fuse rating (A)	30	60	100
Max. motor hp / FLA 3 ph motor max.			
220-240 VAC	10 / 28	20 / 54	20 / 54
440-480 VAC	20 / 27	40 / 52	50 / 65
600 VAC	25 / 27	50 / 52	50 / 52
Max. motor hp / FLA 1 ph motor max.			
120 VAC	2 / 24	3 / 34	5 / 56
240 VAC	5 / 28	10 / 50	10 / 50
Connection terminals			
Solid - 1 wire	#12 - #10	#12 - #10	#12 - #10
Stranded - 1 wire	#12 - 2/0	#12 - 2/0	#12 - 2/0
Mechanical characteristics			
Endurance (number of operating cycles)	10000	10000	10000
Operating torque (lbs.in/Nm)	12.4/1.4	12.4/1.4	12.4/1.4
Auxiliary contacts			
Electrical characteristics	A300	A300	A300

Characteristics according to IEC 60647-3

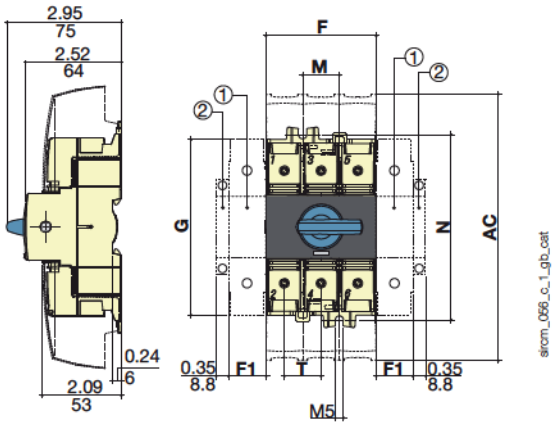
		SIRCO M UL98 - 30 to 100 A		
Thermal current I_{th} at 40°C (A)		**30 A**	**60 A**	**100 A**
Rated insulation voltage U_i (V)		800	800	800
Rated impulse withstand voltage U_{imp} (kV)		8	8	8
Rated operational currents I_e (A)				
Rated voltage	**Utilisation category**	**A[1]**	**A[1]**	**A[1]**
400 VAC	AC-22 A	32	63	100
400 VAC	AC-23 A	32	63	100
690 VAC	AC-22 A	32	63	80
690 VAC	AC-23 A	32	63	63
Operational power in AC-23 (kW)				
At 400 VAC without prebreak AC in AC23 (kW)[2][3]		15	30	45
At 500VAC without prebreak AC in AC23 (kW)[2][3]		15	30	45
At 690VAC without prebreak AC in AC23 (kW)[2][3]		18.5	30	45
Overload capacity (U_e 415 VAC)				
Rated short-circuit making capacity I_{cm} (kA peak)[4]		12	12	12
Connection				
Min. connection section/ (mm^2)		2.5	2.5	10
Max. connection section/ (mm^2)		70	70	70

(1) Category with index A = frequent operation.
(2) A/B: Category with index A = frequent operation - Category with index B = infrequent operation.
(3) The power value is given for information only, the current values vary from one manufacturer to another.
(4) For a rated operating voltage U_e = 400 VAC.

Dimensions (in / mm)

30 to 100 A

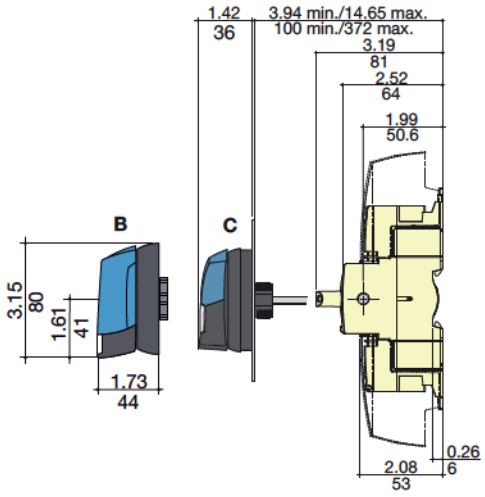
Direct handle



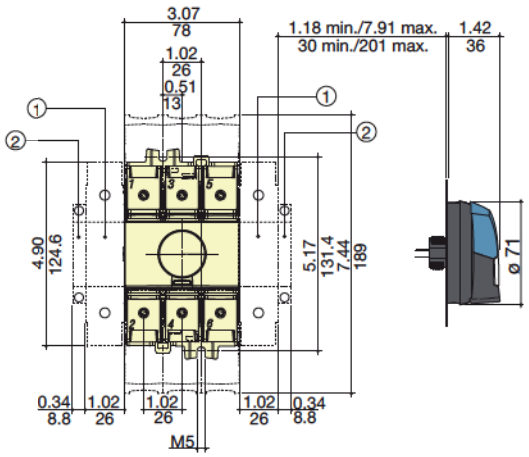
1. Position for 1 switched fourth pole module (1 per device max.) **or** 1 unswitched neutral pole **or** 1 earth module **or** 1 auxiliary contact.
2. Position for 1 auxiliary contact only.

Note: Maximum of 4 additional blocks.

External front handle



External side handle

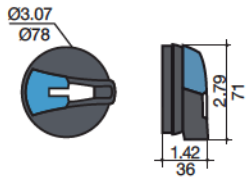
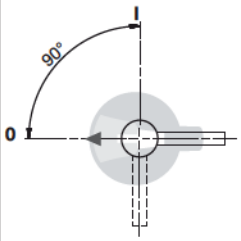
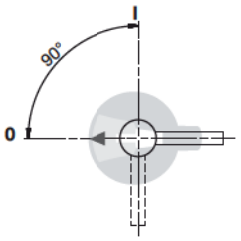
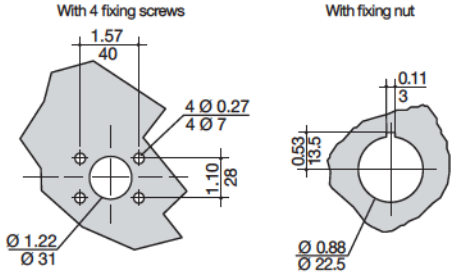


1. Position for 1 switched fourth pole module (1 per device max.) **or** 1 unswitched neutral pole **or** 1 earth module **or** 1 auxiliary contact.
2. Position for 1 auxiliary contact only.

Note: Maximum of 4 additional blocks.

External handles dimensions (in / mm)

30 to 100 A

Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S00 type 			With 4 fixing screws With fixing nut 

SIRCO UL98

Load break switches standards UL and CSA

100 to 1200 A

sirco_093_b_1_cat

***SIRCO** 3 x 600 A*

sirco-ul_022_b_1_cat

***SIRCO** 3 x 200 A*

The solution for

> Power distribution.

Strong points

> Reliability.
> Safety of property and personnel.
> Simplicity.
> Easy assembling.

Conformity to standards(1)

> IEC 60947-3
> UL98, Guide WHTY, file E201138
> CSA Pending 22.2#4, Class 4652-04, file 703166

(1) Product reference on request.

Customised solutions

> Please consult us.

Function

SIRCO non fusible disconnect switches are heavy duty switches that break and make power circuits on and off load and provide safety isolation.
These switches are extremely durable and are tested and approved for use in the most demanding applications.

General characteristics

- Positive break indication.
- Fully visualised disconnection.
- High thermal and dynamic withstand.
- Severe utilisation categories.
- High electrical and mechanical endurance.

References

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contacts	Terminal protection screens	Terminal Lugs kits
100 A	3 P	2700 **3011**	Black 2699 **5052**	S2 type Black 1, 3R, 12 142F **2111**(1) Red/Yellow 1, 3R, 12 142G **2111**(1) Black 4, 4X 142D **2111**(1) Red/Yellow 4, 4X 142E **2111**(1)	200 mm 7.9 inches 1400 **1020** 320 mm 12.6 inches 1400 **1032** 400 mm 15.7 inches 1400 **1040**	1st contact NO/NC 2799 **0021** 2nd contact NO/NC 2799 **0022**	3 P 2798 **3021**(2) 3 P 2798 **8021**(3) 4 P 2798 **4021**(4)	3 P 3954 **3020**(4) 4 P 3954 **4020**(4)
	4 P	2700 **4011**						
200 A	3 P	2700 **3021**						
	4 P	2700 **4021**						
400 A	3 P	2700 **3041**					3 P 2798 **3041**(2) 3 P 2798 **8041**(3) 4 P 2798 **4041**(4)	3 P 3954 **3040**(4) 4 P 3954 **4040**(4)
	4 P	2700 **4041**						
600 A	3 P	2700 **3060**	Black 3799 **6012**	S3 type Black 4, 4X 143D **3111**(1) Red/Yellow 4, 4X 143E **3111**(1)	200 mm 7.9 inches 1401 **1520** 320 mm 12.6 Inches 1401 **1532** 400 mm 15.7 Inches 1401 **1540**	Contact holder 3999 **0720**(5) Contact NO 3999 **0701** Contact NC 3999 **0702**	3 P 2798 **3060**(4) 4 P 2798 **4060**(4)	3 P 3954 **3060** 4 P 3954 **4060**
	4 P	2700 **4060**						
800 A	3 P	2700 **3080**					3 P 2798 **3120**(4) 4 P 2798 **4120**(4)	3 P 3954 **3120** 4 P 3954 **4120**
	4 P	2700 **4080**						
1000 A	3 P	2700 **3100**						
	4 P	2700 **4100**						
1200 A	3 P	2700 **3120**						
	4 P	2700 **4120**						

(1) Defeatable handle.
(2) Top.
(3) Bottom.
(4) Top or bottom.
(5) Max. 4 ACs.

Accessories

Direct operation handle

Rating (A)	Colour	Handle	Reference
100 ... 400	Black	B type	2699 **5052**
600 ... 1200	Black	H type	3799 **6012**

H type handle

B type handle

Accessories (continued)

External operation handle

Use

The interlocking function of the front external handle prevents the user from opening the door of the enclosure when the switch is in the "ON" position or when the switch is padlocked in the "OFF" position (S1, S2, S3 and S4 type handles only).

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

S2 type handle

S3 type handle

S4 type handle

Front handle I - 0

Rating (A)	Handle	Colour	Nema type	Reference
100 ... 400	S2 type	Black	1, 3R, 12	142F **2111**
100 ... 400	S2 type	Red/Yellow	1, 3R, 12	142G **2111**
100 ... 400	S2 type	Black	4, 4X	142D **2111**
100 ... 400	S2 type	Red/Yellow	4, 4X	142E **2111**
600 ... 1200	S3 type	Black	4, 4X	143D **3111**
600 ... 1200	S3 type	Red/Yellow	4, 4X	143E **3111**
600 ... 1200	S4 type	Black	4, 4X	144D **3111**
600 ... 1200	S4 type	Red/Yellow	4, 4X	144E **3111**

Front handle heavy duty I - 0 with metallic lever

Rating (A)	Handle	Colour	Nema type	Reference
100 ... 400	S2 type	Black	4, 4X	142D **2911**
100 ... 400	S2 type	Red/Yellow	4, 4X	142E **2911**
600 ... 1200	S3 type	Black	4, 4X	143D **3911**
600 ... 1200	S3 type	Red/Yellow	4, 4X	143E **3911**
600 1200	S4 type	Black	4, 4X	144D **3911**
600 ... 1200	S4 type	Red/Yellow	4, 4X	144E **3911**

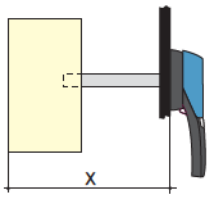
Heavy duty S2 type handle

Shaft for external handle

Use

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

Other lengths: please consult us.



Rating (A)	Dimension X (in)	Dimension X (mm)	Handle	Length (inches)	Length (mm)	Reference
100 ... 400	5.31 ... 10.43	135 ... 265	S2 type	7.9	200	1400 **1020**
100 ... 400	5.31 ... 15.16	135 ... 385	S2 type	12.6	320	1400 **1032**
100 ... 400	5.31 ... 18.31	135 ... 465	S2 type	15.7	400	1400 **1040**
600 ... 1200	8.70 ... 13.50	221 ... 343	S3, S4 type	7.9	200	1401 **1520**
600 ... 1200	8.70 ... 18.23	221 ... 463	S3, S4 type	12.6	320	1401 **1532**
600 ... 1200	8.70 ... 21.38	221 ... 543	S3, S4 type	15.7	400	1401 **1540**

Alternative colour S-type handle cover

Use

For single lever handles type S1, S2, S3 and double lever handle, type S4.

Other colours: please consult us.

Handle colour	Pack qty	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 raiser

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	Pack qty	Nema type	Reference
Black	10	1, 3R, 12	1493 **0000**

socomec
Innovative Power Solutions

Shaft guide for external handle

Use

This accessory makes shaft introduction easier with up to 15 mm misalignment.

Required for a shaft length over 400 mm.

Description	Reference
Shaft guide	1429 **0000**

Auxiliary Contacts

Use

Pre-break and signalling of positions 0 and I.

Electrical characteristics

A300 for 100 to 400 A.
A600 for 600 to 1200 A.

NO/NC contact for 100 ... 400 A

Rating (A)	No. of AC	Reference
100 ... 400	1st	2799 **0021**
100 ... 400	2nd	2799 **0022**

NO/NC contact for 100 ... 400 A

Rating (A)	No. of AC	Reference
100 ... 400	1st	2799 **0121**
100 ... 400	2nd	2699 **0122**

Auxiliary contact holder for 600 ... 1200 A

Rating (A)	Type	Reference
600 ... 1200	Holder	3999 **0720**(1)
600 ... 1200	NO	3999 **0701**
600 ... 1200	NC	3999 **0702**

(1) Please order the holder.

Terminal screens

Use

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

Rating (A)	No. of poles	Position	Reference
100 ... 200	3 P	top	2798 **3021**
100 ... 200	3 P	bottom	2798 **8021**
100 ... 200	4 P	top / bottom	2798 **4021**
400	3 P	top	2798 **3041**
400	3 P	bottom	2798 **8041**
400	4 P	top / bottom	2798 **4041**
600	3 P	bottom	2798 **3060**(1)
600	4 P	bottom	2798 **4060**(1)
800 ... 1200	3 P	bottom	2798 **3120**(1)
800 ... 1200	4 P	bottom	2798 **4120**(1)

(1) Load side screen, the line side is included with the switch.

Terminal lugs

Use

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

Rating max (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	2 - 600MCM	1	2	Cu / Al	3954 **2040**
400	2 - 600MCM	1	3	Cu / Al	3954 **3040**
400	2 - 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)	1	2	Cu / Al	3954 **2060**
600	2x (#2 - 600MCM)	2	3	Cu / Al	3954 **3060**
600	2x (#2 - 600MCM)	2	4	Cu / Al	3954 **4060**
800 ... 1200	4x (#2 - 600MCM)	2	6	Cu / Al	3954 **3120**
800 ... 1200	4x (#2 - 600MCM)	2	8	Cu / Al	3954 **4120**

Characteristics

Characteristics according to UL98/CSA22.2#4

	SIRCO UL98 - 100 to 1200 A						
General use rating (A)	**100 A**	**200 A**	**400 A**	**600 A**	**800 A**	**1000 A**	**1200 A**
Short circuit rating at 600 VAC (kA)	200	200	200	200	100	100	100
Type of fuse	J	J	J	J	L	L	L
Max. fuse rating (A)	100	200	400	600	800	1000	1200
Max. motor hp / FLA 3 ph motor max.							
220-240 VAC	30 / 80	75 / 196	125 / 312	200 / 480	200 / 480	200 / 480	200 / 480
440-480 VAC	75 / 96	150 / 180	250 / 302	400 / 477	500 / 590	500 / 590	500 / 590
600 VAC	100 / 99	200 / 192	350 / 336	350 / 336	500 / 472	500 / 472	500 / 472
Max. motor hp / DC FLA motor max.							
125 VDC(1)	10 / 76	15 / 112	20 / 148	20 / 148			
250 VDC(2)	15 / 55	15 / 55	50 / 173	50 / 173			
Connection terminals							
Min. connection section / AWG	#6	#6	2x #6 / #2	2x #2	4x #2	4x #2	4x #2
Max. connection section / AWG	300MCM	300MCM	2x 350 / 600MCM	2x 600MCM	4x 600MCM	4x 600MCM	4x 600MCM
Mechanical characteristics							
Endurance (number of operating cycles)	10000	8000	6000	6000	3500	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	442.5/50
Auxiliary contacts							
Electrical characteristics	A300	A300	A300	A600	A600	A600	A600

(1) 2 pole in series.
(2) 3 pole in series.

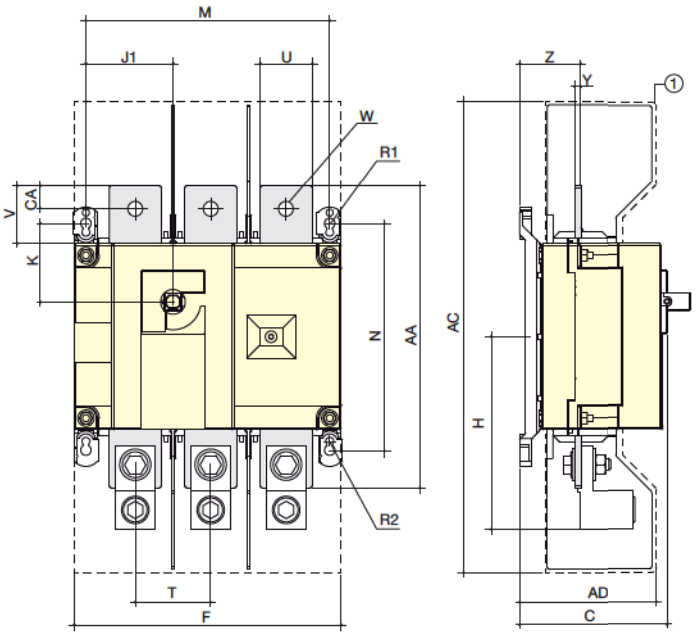
Characteristics according to IEC 60947-3

		SIRCO UL98 - 100 to 1200 A						
Thermal current I_{th} (40°C)		**100 A**	**200 A**	**400 A**	**600 A**	**800 A**	**1000 A**	**1200 A**
Rated insulation voltage U_i (V)		1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12	12	12	12
Rated operational currents I_e (A)								
Rated voltage	**Utilisation category**	**A(1)**	**A(1)**	**A(1)**	**A(1)**	**A(1)**	**A(1)**	**A(1)**
400 VAC	AC-22 A	100	200	400	630	800	1000	1200
400 VAC	AC-23 A	100	200	400	630	800	1000	1000
690 VAC	AC-22 A	100	200	400	500	630	630	630
690 VAC	AC-23 A	100	200	315	200	400	400	400
Connection								
Min. Cu cable cross section (mm²)		35	70	185	2 x 150	2 x 185	2 x 240	
Min. Cu busbar section (mm²)					2 x 30 x 5	2 x 40 x 5	2 x 50 x 5	2 x 60 x 5
Operational power in AC-23 (kW)								
At 400 VAC without prebreaking AC in AC23 (kW)(2)(3)		51	100	220	355	450	560	560
At 500 VAC without prebreaking AC in AC23 (kW)(2)(3)		63	140	280	450	560	560	560
At 690 VAC without prebreaking AC in AC23 (kW)(2)(3)		90	185	185	185	400	400	400
Overload capacity (U_e 415 VAC)								
Rated short-circuit making capacity I_{cm} (kA peak)(4)		17,6	32	48	48	75	48	75

(1) Category with index A = frequent operation.
(2) A/B: Category with index A = frequent operation - Category with index B = infrequent operation.
(3) The power value is given for information only, the current values vary from one manufacturer to another.
(4) For a rated operating voltage U_e = 400 VAC.

Dimensions (in / mm)

100 to 400 A

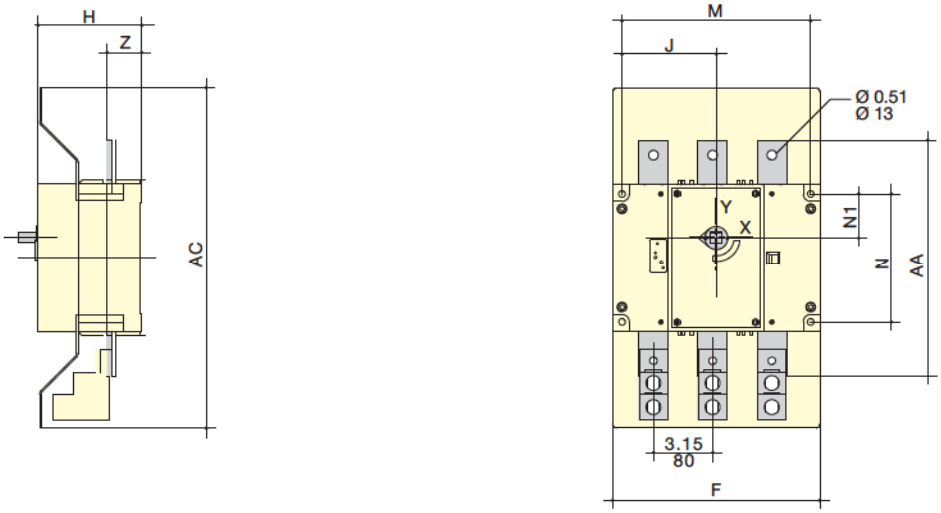


1. Terminal shrouds

sirco-ul_011_a_2_x_cat

Rating (A)	Unit	Overall dimensions C	Terminal shrouds AC	Terminal shrouds AD	Switch body F 3p.	Switch body F 4p.	Switch body H	Switch body J1 3p.	Switch body J1 4p.	Switch body K	Switch mounting M 3p.	Switch mounting M 4p.	Switch mounting N	Switch mounting R1	Switch mounting R2	Connection T	Connection U	Connection V	Connection W	Connection Y	Connection Z	Connection AA	Connection CA
100	in	3.72	10.1	3.05	7.09	9.06	4.22	2.17	4.13	1.8	6.3	8.7	5.31	0.35	0.27	1.97	0.98	1.18	0.43	0.14	1.35	6.3	0.6
	mm	94.6	256	77.5	180	230	107	55	105	45.6	160	210	135	9	7	50	25	30	11	3.5	34.4	160	15
200	in	3.72	10.1	3.05	7.09	9.06	4.22	2.17	4.13	1.8	6.3	8.27	5.31	0.35	0.27	1.97	0.98	1,18	0,43	0,14	1,35	6,3	0,6
	mm	94.6	256	77.5	180	230	107	55	105	45.6	160	210	135	9	7	50	25	30	11	3,5	34,4	160	15
400	in	4.92	16	4.15	9.05	11.4	6.53	2.95	5.31	2.65	8.26	10.6	7.67	0.35	0.27	2.56	1.77	1.97	0.43	0.2	2.08	10.2	0.8
	mm	128	406	115	230	290	166	75	135	67,5	210	270	195	9	7	65	45	50	13	5	53	260	20

600 A

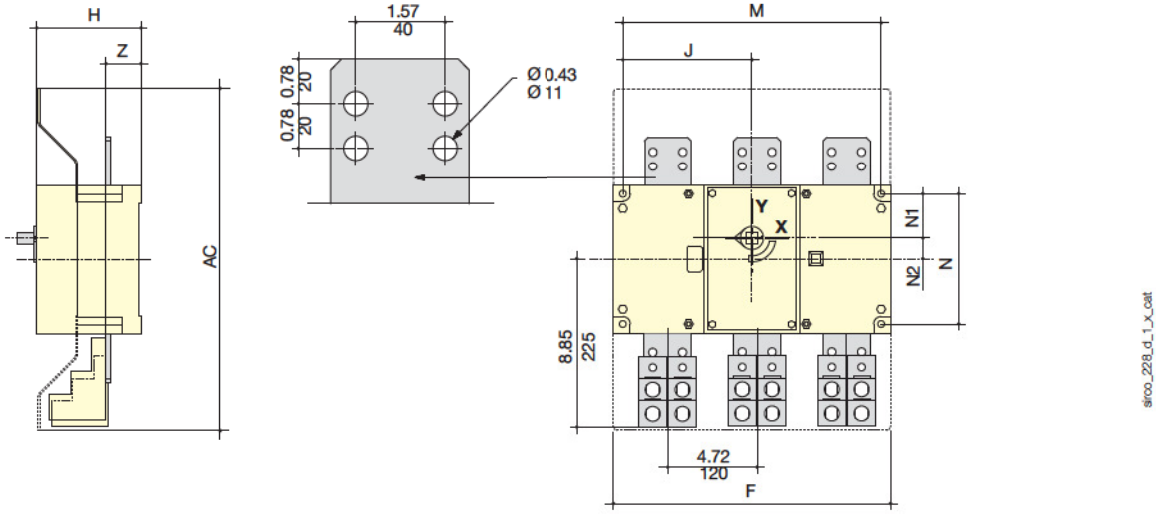


sirco_107_d_1_x_cat

Rating (A)	Unit	Terminal shrouds AC	Switch body F 3p.	Switch body F 4p.	Switch body H	Switch body J 3p.	Switch body J 4p.	Switch mounting M 3p.	Switch mounting M 4p.	Switch mounting N	Switch mounting N1	Connection AA	Connection Z
600	in	18.12	11	14.17	5.5	5	6.59	10.03	13.19	6.88	2.34	12.6	1.85
	mm	460	280	360	140	127.5	167.5	255	335	175	59.5	320	47

Dimensions (in/mm) (continued)

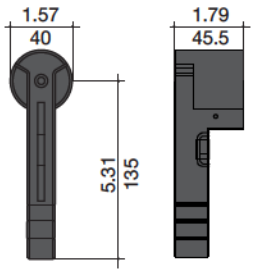
800 to 1200 A



Rating (A)	Unit	Terminal shrouds AC	Switch body F 3p.	F 4p.	H	J 3p.	J 4p.	Switch mounting M 3p.	M 4p.	N	N1	Connection AA	Z
800	in	18.12	14.64	19.37	5.5	6.83	9.19	13.66	18.38	6.88	2.34	1.10	1.85
	mm	460	372	492	140	173.5	233.5	347	467	175	59.5	28	47
1 000	in	18.12	14.64	19.37	5.5	6.83	9.19	13.66	18.38	6.88	2.34	1.10	1.85
	mm	460	372	492	140	173.5	233.5	347	467	175	59.5	28	47
1 200	in	18.12	14.64	19.37	5.5	6.83	9.19	13.66	18.38	6.88	2.34	13	1.85
	mm	460	372	492	140	173.5	233.5	347	467	175	59.5	330	47

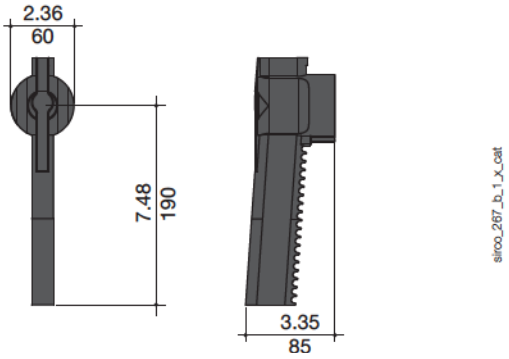
100 to 400 A

Front direct handle



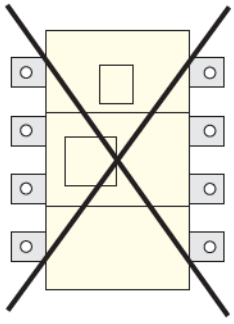
600 to 1200 A

Front direct handle



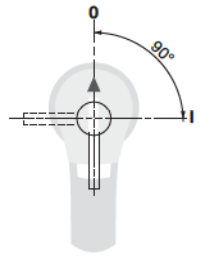
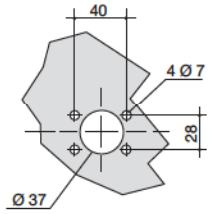
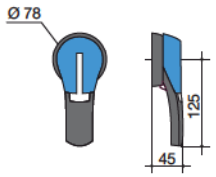
Mounting orientation

3/4 pole



External handles dimensions (in/mm)

100 to 400 A

Handle type	Front operation Direction of operation	Door drilling
S2 type		
		

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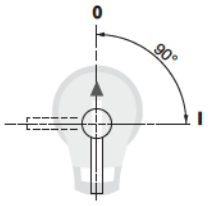
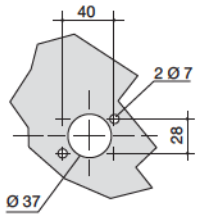
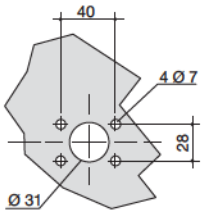
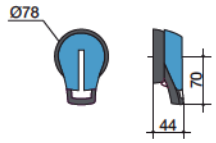
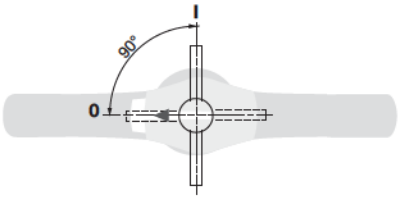
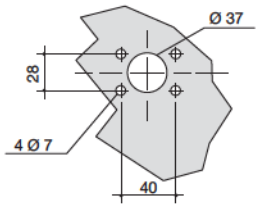
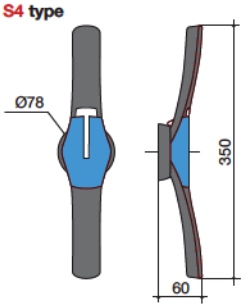
600 to 1200 A

Handle type	Front operation Direction of operation	Door drilling template
S1 type Load break switches		IP55 with 2 fixing clips  IP65 with 4 fixing screws 
		

sirom-ul_007_b_1_gb_cat

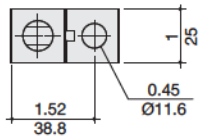
600 to 1200 A

Handle type	Front operation Direction of operation	Door drilling
S4 type		
		

sirom-ul_006_a_1_gb_cat

Terminal lugs (in/mm)

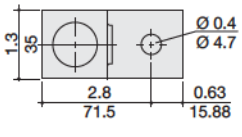
100 to 200 A



sirco_115_b_1_x_cat

300 kcmil

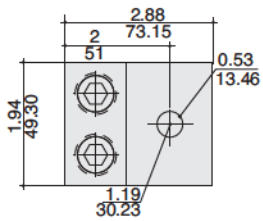
400 A

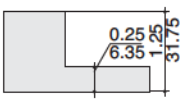


sirco-ul_010_a_1_x_cat

600 kcmil

400 A

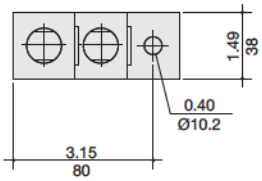


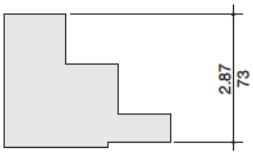


sirco-ul_026_a_1_cat

2 x 350 kcmil

600 to 1200 A



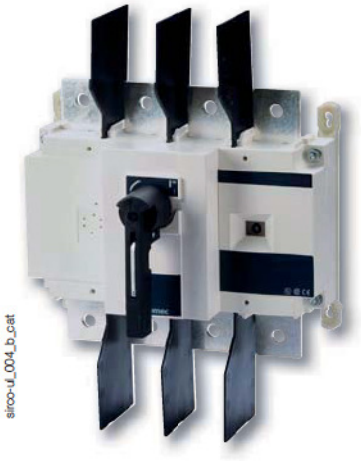


sirco_116_b_1_x_cat

2 x 600 kcmil

SIRCO DC UL98B

Load break switches for photovoltaic applications
from 100 to 2000 A - up to 1000 VDC



Strong points

- Patented switching technology.
- Positive break indication.
- Up to 1000 VDC as per characteristics by UL98B.
- Suitable for use in accordance with NEC Art. 690. 2011 issue.

Conformity to standards

- UL98B Guide WHVA, file E346418
- CSA C22.2#4, Class 4651-02, file 112964
- NEC Art 690 Issue 2011
- IEC 60947-3

Approvals and certifications(1)

(1) Product reference on request.

Function

SIRCO DC UL98B are manual multipolar load switches. They break and close photovoltaic circuits under load conditions up to 1000 VDC. They comply with NEC Atr. 690 (US National Electrical Code) concerning photovoltaic installations. They are compliant for use within solar UPS and enclosures meeting standard UL1741.

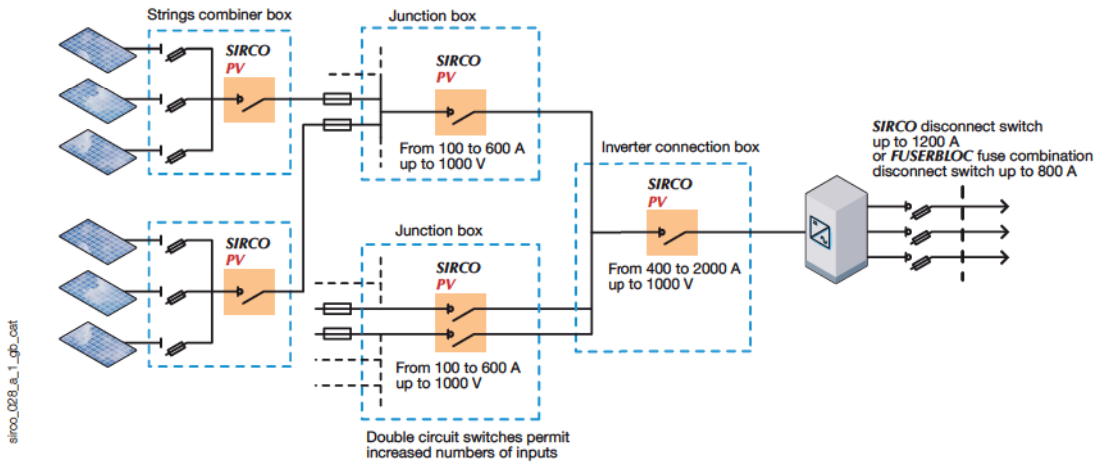
These extremely durable switches have been tested and approved for use in the most demanding applications.

They have been designed and tested for all types of applications: earthing, floating or bipolar.

General characteristics

- Patented switching technology.
- Positive break indication.
- Up to 1000 VDC as per characteristics by UL98B
- Suitable for use in compliance with NEC Art. 690, 2011 edition, and use in UL1741 equipment.

Simplified large photovoltaic system layout



socomec Innovative Power Solutions

References

3/4-pole load break switches

Rating (A)	Rated voltage (VDC)	No. of poles	Switch body	Direct operation handle	External operation	Shaft for external handle	Bridging bars for connecting poles in series
100 A	600	3 P	27DC **3011**	Black 2699 **5052**	S2 type Black 1, 3R, 12 142F **2111**(1) Red/Yellow 1, 3R, 12 142G **2111**(1) Black 4, 4X 142D **2111**(1) Red/Yellow 4, 4X 142E **2111**(1)	200 mm 7.9 inches 1400 **1020** 320 mm 12.6 inches 1400 **1032** 400 mm 15.7 inches 1400 **1040**(2)	1 piece 2709 **0021** (100 to 200A)
	1000	4 P	27DC **4011**				
250 A	600	3 P	27DC **3021**				2 pieces 2x 2709 **0025** (250A)
	1000	4 P	27DC **4021**				
400 A	600	3 P	27DC **3041**				1 piece 2709 **0041**
	1000	4 P	27DC **4041**				
600 A	600	3 P	27PV **3060**	Black 2799 **7012**	S3 type Black 4, 4X 143D **3111**(1) Red/Yellow 4, 4X 143E **3111**(1)	200 mm 7.9 inches 1401 **1520** 320 mm 12.6 inches 1401 **1532** 400 mm 15.7 Inches 1401 **1540**(2)	1 piece 2709 **0061**
	1000	4 P	27PV **4060**				
800 A	750	3 P	27DC **3081**		S4 type Black 4, 4X 144D **3111**(1) Red/Yellow 4, 4X 144E **3111**(1)		1 piece 2709 **0081**
	1000	4 P	27DC **4081**				
1200 A	750	3 P	27DC **3121**				1 piece 2709 **0121**
	1000	4 P	27DC **4121**				
1600 A	750	3 P	27DC **3162**	2799 **7062**	V1 type Black 3R, 12 2799 **7145**	320 mm 12.6 inches 4199 **3018**	2 pieces 2x 2709 **0121**
	1000	4 P	27DC **4162**				
2000 A	750	3 P	27DC **3201**				
	1000	4 P	27DC **4201**				

(1) Defeatable handle.
(2) Shaft guide reference 1429 0000 is required for shaft length over 15.7 inches (400mm).

Accessories

External operation

Use

The door interlocked external operation handle includes a padlockable handle, a conversion kit and must be combined with a shaft extension.
In a combiner box, located close to the solar cell strings, or located close to the inverter, we recommend to use a door interlocked external handle for its safety features.

Example

The locking function of the enclosure in the "ON" position will force the operator to safely disconnect and isolate the solar cell strings prior to any intervention. Opening the door when the switch is on "ON" position is possible by defeating the locking function using a tool (authorized persons only).The interlocking function is restored when the door is closed back.

S2 type handle

Reinforced S2 type handle

Front operation I - 0, 3/4 poles

Rating (A)	Handle	Handle colour	Nema degree of protection	Reference
100 ... 400	S2 type	Black	1, 3R, 12	142F **2111**(1)
100 ... 400	S2 type	Red/Yellow	1, 3R, 12	142G **2111**(1)
100 ... 400	S2 type	Black	4, 4X	142D **2111**(1)
100 ... 400	S2 type	Red/Yellow	4, 4X	142E **2111**(1)
600	S3 type	Black	4.4X	143D **3111**(1)
600	S3 type	Red/Yellow	4.4X	143E **3111**
800 ... 1200	S4 type	Black	4, 4X	144D **3111**(1)
800 ... 1200	S4 type	Red/Yellow	4, 4X	144E **3111**(1)
1600 ... 2000	V1 type	Black	1, 3R, 12	2799 **7145**

(1) Defeatable handle.

Front operation - 0 heavy duty, 3/4 poles

Rating (A)	Handle	Handle colour	Nema degree of protection	Reference
100 ... 400	S2 type	Black	4, 4X	142D **2911**(1)(2)
100 ... 400	S2 type	Red/Yellow	4, 4X	142E **2911**(1)(2)
600	S3 type	Black	4.4X	143D **3911**(1)(2)
600	S3 type	Red/Yellow	4.4X	143E **3911**(1)(2)
800 ... 1200	S4 type	Black	4.4X	144D **3911**(1)(2)
800 ... 1200	S4 type	Red/Yellow	4.4X	144E **3911**(1)(2)
1600 ... 2000	V1 type	Black	1, 3R, 12	2799 **7145**

(1) Locking bracket in metal. *(2) Defeatable handle.*

S3 type handle

S4 type handle

V1 type handle

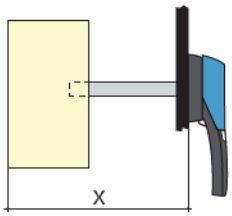
Accessories (continued)

Shaft for external handle

Use

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

Other lengths: Please consult us.



For 3/4 poles

Rating (A)	Dimension X (inches)	Dimension Y (mm)	Handle	Length (inches)	Length (mm)	Reference
100 ... 200	6 ... 11.6	295	S2 type	7.9	200	1400 **1020**
100 ... 200	6 ... 16.3	415	S2 type	12.6	320	1400 **1032**
100 ... 200	6 ... 19.4	495	S2 type	15.7	400	1400 **1040**
400	8 ... 12.9	203 ... 328	S2 type	7.9	200	1400 **1020**
400	8 ... 17.6	203 ... 448	S2 type	12.6	320	1400 **1032**
400	8 ... 20.7	203 ... 528	S2 type	15.7	400	1400 **1040**
600	8.70 ... 13.50	221 ... 343	S3 type	7.9	200	1401 **1520**
600	8.70 ... 18.23	221 ... 463	S3 type	12.6	320	1401 **1532**
600	8.70 ... 21.38	221 ... 543	S3 type	15.7	400	1401 **1540**
800 ... 1200	12 ... 14.4	221 ... 366	S4 type	7.9	200	1401 **1520**
800 ... 1200	12 ... 19.1	221 ... 486	S4 type	12.6	320	1401 **1532**
800 ... 1200	12 ... 22.2	221 ... 566	S4 type	15.7	400	1401 **1540**
2000	20 ... 28.1	508 ... 714	S5, V1 type	12.6	320	4199 **3018**
2000	20 ... 39.4	508 ... 794	S5, V1 type	15.7	400	4199 **3019**

S-type handle adapter

Use

For handles S2, S3 and S4.

Dimensions

Increases the distance between the handle grip and the door by 12 mm, for better handling.

Colour	Nema degree of protection	To be ordered in multiples of	Reference
Black	1, 3R, 12	10	1493 **0000**

Alternative S-type handle cover colours

Use

For handles S2, S3 and S4.

Other colours: Please consult us.

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

Auxiliary contact

Use

Pre-break and signalling of positions 0 and I:
- 1 to 2 NO/NC auxiliary contacts,
- 1 to 2 low level NO/NC auxiliary contacts.

Electrical characteristics

A300.

NO/NC contact for 3/4 poles

Rating (A)	Position AC	Type	Reference
100 ... 1200	1 contact	NO/NC	2799 **0021**
100 ... 1200	2 contacts	NO/NC	2799 **0022**
1600 ... 2000	1 contact	NO/NC	4159 **0021**

Low level NO/NC contact for 3/4 poles

Rating (A)	Position AC	Type	Reference
100 ... 1200	1 contact	NO/NC	2799 **0121**
100 ... 1200	2 contacts	NO/NC	2799 **0122**
1600 ... 2000	1 contact	NO/NC	4159 **0022**

Terminal screen

Use

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

For 3/4 poles

Rating (A)	No. of poles	Operating principle	Reference
100 ... 250	3 P	top	2798 **3021**
100 ... 250	3 P	bottom	2798 **8021**
100 ... 250	4 P	top or bottom	2798 **4021**
400	3 P	top	2798 **3041**
400	3 P	bottom	2798 **8041**
400	4 P	top or bottom	2798 **4041**
600	3 P	top or bottom	2798 **3060**
600	4 P	top or bottom	2798 **4060**
800 ... 1200	3 P	top or bottom	2798 **3120**
800 ... 1200	4 P	top or bottom	2798 **4120**
1600 ... 2000	3 P	top or bottom	2798 **6122**
1600 ... 2000	4 P	top or bottom	2798 **8122**

Cage terminals

Use

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

Optional fan out kit for ratings of 800 to 1200 A for connecting several cables to the switch.

Rating max (A)	Numbrer and size of cables	Max. number of connections per terminal	Type of cable	Quantity	Reference
100 ... 250	1 conductorr (#6-300MCM)	1	Cu / Al	2 lugs	3954 **2020**
100 ... 250	2 conductors (#4-2/0)	1	Cu / Al	2 lugs	3954 **2025**
400	1 conductor (#2-600MCM)	1	Cu / Al	2 lugs	3954 **2040**
400	2 conductors (#6-350MCM)	1	Cu / Al	2 lugs	3954 **2041**
600	2 conductors (#2-600MCM)	1	Cu / Al	2 lugs	3954 **2060**
800 ... 1200	2 conductors (#2-600MCM)	2	Cu / Al	2 lugs	3954 **2060**
800 ... 1200	2 conductors (#2-600MCM)	3(1)	Cu / Al	3 lugs	3954 **3060**
1600 ... 2000	2 conductors (#2-600MCM)	2(2)	Cu / Al	2 lugs	3954 **2060**
1600 ... 2000	2 conductors (#2-600MCM)	3(3)	Cu / Al	3 lugs	3954 **3060**

(1) Order a fan out kit reference 2709 1203 for connecting 3 connectors per terminal (6 in total for the switch).
(2) 2 connectors per terminal with the connection kit 2729 1200.
(3) 3 connectors per terminal with the connection kits 2729 1201 and 2709 1202.

Bridging bars for connecting poles in series

Use

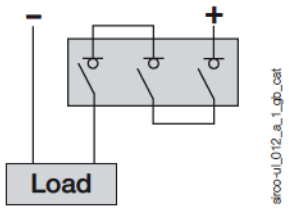
The bridging bars will make easy the connection of the poles in series, allowing the following configurations(1).

Rating (A)	Reference
100	2709 **0021**(1)
250	2709 **0025**
400	2709 **0040**(2)
400	2709 **0041**
600	2709 **0062**
800	2709 **0081**
1200 ... 2000	2709 **0121**(3)

(1) from 100 to 200 A: 1 piece per pole in series. For 250 A: 2 pieces per pole in series.
(2) Compact version with radiator (availability to be confirmed).
(3) For 2000 A: 2 units per pole en series.

Connection diagrams:

(1) Other connections: refer to mounting instructions.



Accessories (continued)

Copper bars connection kits

Use
To allow connection between the two power terminals from a same pole for 2000 A ratings. (Fig. 1, Fig. 2 and Fig. 3)

Top or bottom flat connection

Rating (A)	Figure	Quantity to order per pole	Number of terminals	Reference
1600 ... 2000	1	1	2	2729 **1200**
1600 ... 2000	2	1	3	2729 **1202**

Top or bottom edgewise connection

Rating (A)	Figure	Quantity to order per pole	Number of terminals	Reference
1600 ... 2000	3	1	3	2729 **1201**

Fig. 1

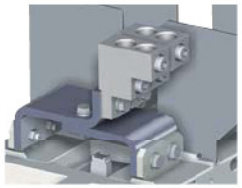


Fig. 3

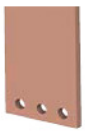
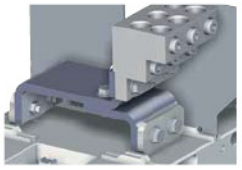


Fig.2



Characteristics

as per standards UL98/CSA22.4#4 and UL98B[6]

Rating (A)		100 A	250 A	400 A	600 A	800 A	1200 A	1600 A	2000 A
General use rating with 200% overload extra test									
Rated voltage	**Number of pole in series of the device**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
600 VDC	3 P	100	250	400	600	800[4]	1200[4]	1600[4]	2000[4]
1000 VDC	4 P	100	250	400	600	800	1200	1600	2000
Short-circuit capacity at 600 VDC									
Prospective short-circuit current (kA rms)		20	20	20	20	-	-	-	-
Type of fuse		A70P100	A70P100	LDC	A6D600R	-	-	-	-
Associated fuse rating (A)		200	200	400	600	-	-	-	-
Short-circuit capacity at 1000 VDC (any breaker)									
Prospective short-circuit current (kA rms)		10[1]	10[1]	10[1]	10[1]	10[1]	10[1]	10[1]	10[1]
Connection terminals									
Min. connection wire range/ AWG [2]		#6	#6	2x#6	2x#2	4x#2	4x#2	4x#2	4x#2
Max. connection wire range/ AWG [2]		300MCM	300MCM	600MCM	2x 600MCM	6x 600MCM[5]	6x 600MCM[5]	6x 600MCM[5]	6x 600MCM[5]
Mechanical characteristics									
Durability (number of operating cycles)		10 000	10 000	6 000	6 000	3 500	3 500	3 500	3 500
Operating effort (lbs.in/Nm)		88.5/10	88.5/10	128.3/14.5	327.5/37	495.7/56	663.9/75	663.9/75	663.9/75
Auxiliary contact									
Electrical characteristics		A300	A300	A300	A300	A300	A300	A300	A300

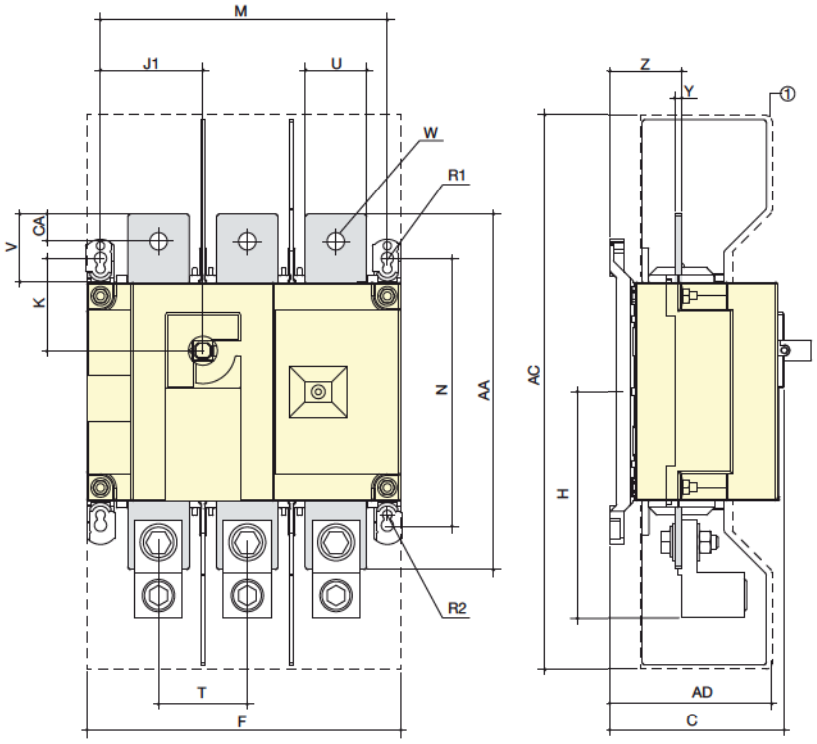
as per standard IEC 60947-3

Thermal current I_{th} at 40°C		160 A	250 A	630 A	800 A	1000 A	1400 A	1400 A	2200 A
Rated insulation voltage U_i (V)		1 200	1 200	1 200	1 200	1 200	1 200	1 200	1 200
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12	12	12	12	12
Rated operational currents I_e (A), DC-22 B									
Rated voltage	**Number of pole in series of the device**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
750 VDC	3 P	160	250	630	800	1 000	1 400	1 600	2 200
1000 VDC	4 P	160	250	630	800	1 000	1 400	1 600	2 200

(1) without fuse during 50 ms.
(2) AWG: dimensions of the American cable.
(3) Improved endurances: Please consult us
(4) 750 VDC.
(5) Maximum 6 x 600MCM with fan out kit 2729 1203.
(6) UL98 and CSA22.4# are the standards for switches apart from for use with PV, these standards are limited to 600 V (DC). UL98B is the standard for PV switches up to 1000 VDC.

Dimensions (in/mm)

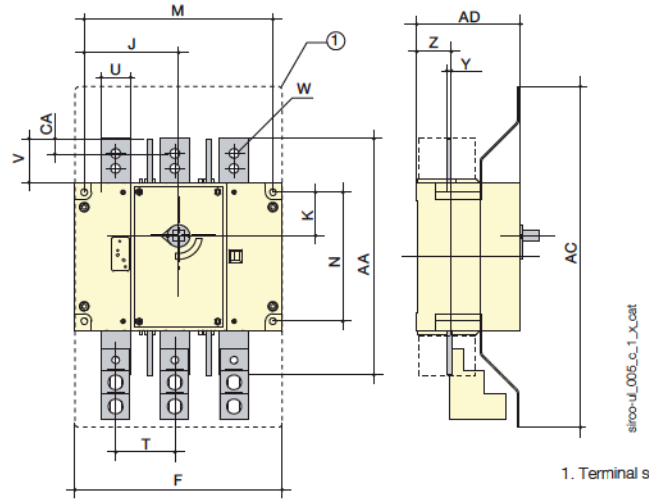
100 to 400 A



1. Terminal shrouds

Rating (A)	Measurement	Overall dimensions	Terminal shrouds		Switch body						Switch mounting					Connection							
		F	AC	AD	F 3p.	F 4p.	H	J1 3p.	J1 4p.	K	M 3p.	M 4p.	N	R1	R1	T	U	V	W	Y	Z	AA	AC
100 ... 250	in	3.72	10.1	3.05	7.09	9.06	4.22	2.17	4.13	1.8	6.3	8.27	5.31	0.35	0.27	1.97	0.98	1.18	0.43	0.14	1.35	6.3	0.6
100 ... 250	mm	94.6	256	77.5	180	230	107	55	105	45.6	160	210	135	9	7	50	25	30	11	3.5	34.4	160	15
400	in	4.92	16	4.51	9.05	11.4	6.53	2.95	5.31	2.65	8.26	10.6	7.6	0.35	0.27	2.56	1.77	1.97	0.43	0.2	2.08	10.2	0.8
400	mm	128	406	115	230	290	166	75	135	67.5	210	270	195	9	7	65	45	50	13	5	53	260	20

600 A



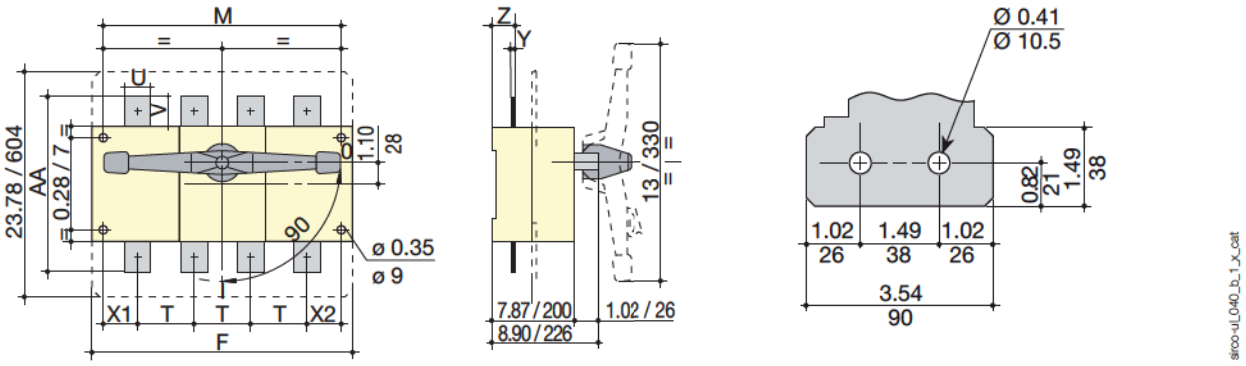
1. Terminal screens.

Rating (A)	Measurement	Terminal shrouds		Switch body					Switch mounting			Connection							
		AC	AD	F 3p.	F 4p.	J 3p.	J 4p.	K	M 3p.	M 4p.	N	T	U	V	W	Y	Z	AA	AC
600	in	18.12	5.5	11.02	14.17	5	6.59	2.34	10.04	13.19	6.88	3.15	1.97	2.38	0.41	0.28	1.83	12.64	0.82
600	mm	460	140	280	360	127.5	167.5	59.5	255	335	175	80	50	60.5	10.5	7	46.5	321	20.9

Dimensions (in/mm) (continued)

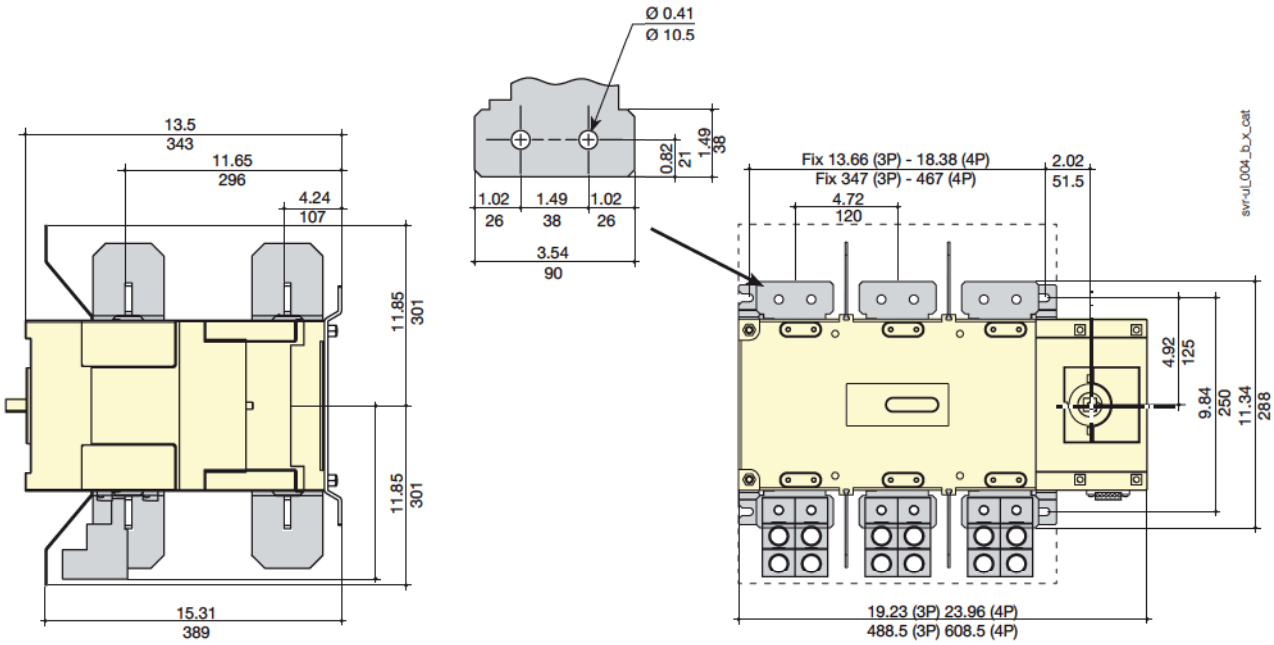
800 to 1200 A

Direct front operation



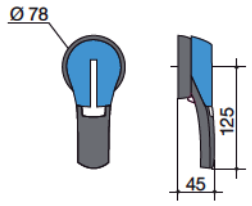
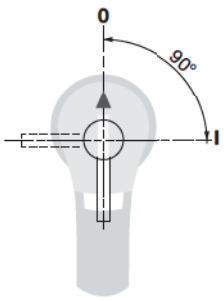
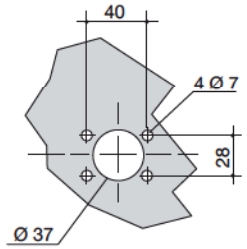
Rating (A)	Switch body		Switch mounting		Connection							
	F 3p.	F 4p.	M 3p.	M 4p.	T	U	V	Y	X1	X1	Z	AA
800 ... 1200	393	513	347	467	120	90	44	8	53.5	53.5	107.5	288
800 ... 1200	15.47	20.20	13.66	18.39	4.72	3.54	1.73	0.31	2.11	2.11	4.23	11.34

1600 to 2000 A



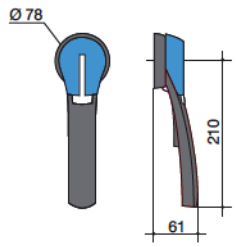
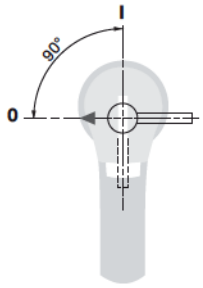
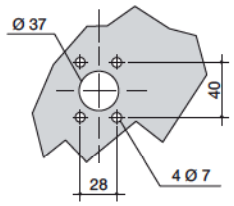
Dimensions for external handles (in/mm)

100 to 400 A

Handle type	Front operation Direction of operation	Door drilling
S2 type 		

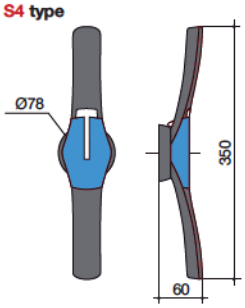
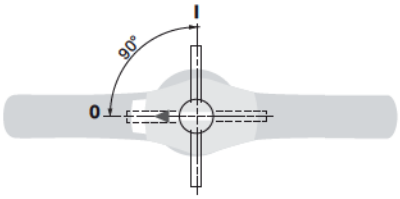
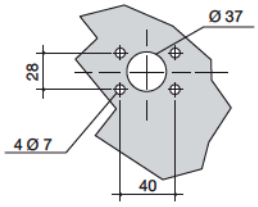
poign_013_a_1_gb_cat

600 A

Handle type	Front operation Direction of operation	Door drilling
S3 type 		

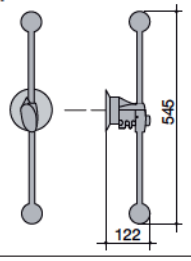
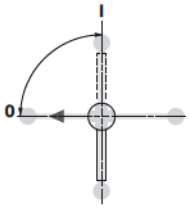
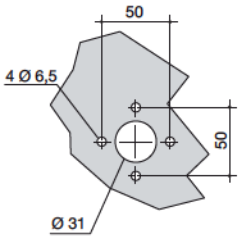
poign_036_a_1_gb_cat

800 and 1000 A

Handle type	Front operation Direction of operation	Door drilling
S4 type 		

poign_036_a_1_gb_cat

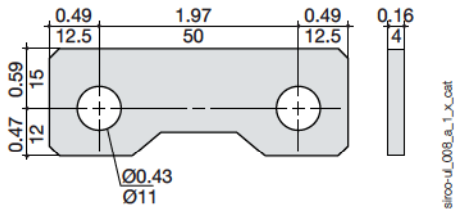
1200 to 2000 A

Handle type	Front operation Direction of operation	Door drilling
V1 type 		

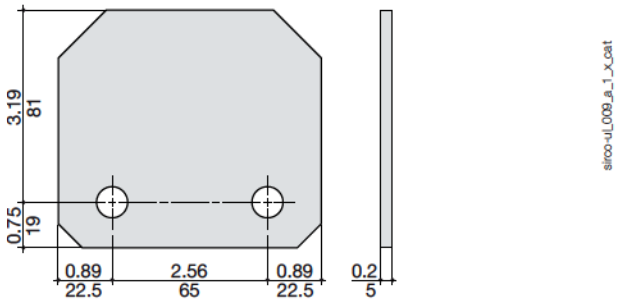
poign_037_a_1_ca_cat

Jumpers (in/mm)

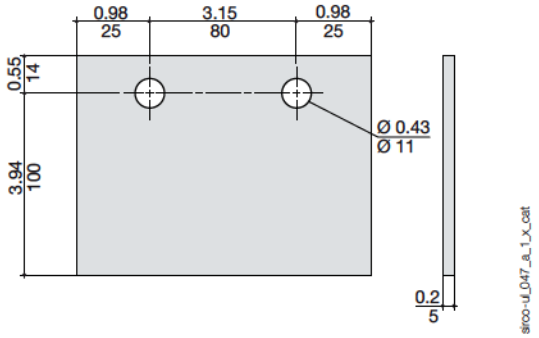
100 to 250 A



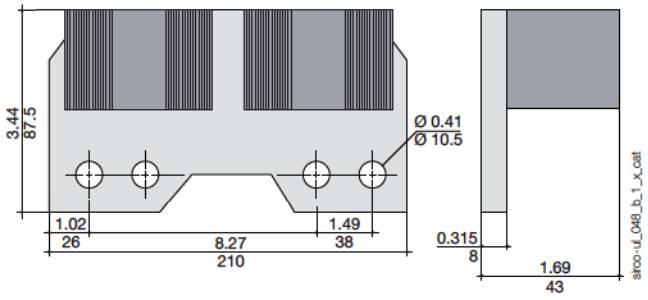
400 A



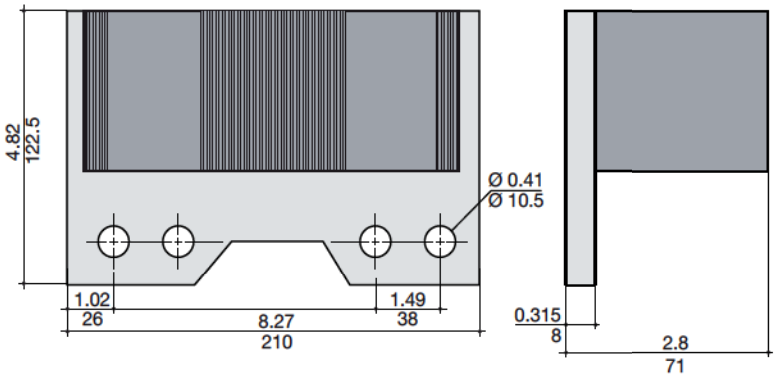
600 A



800 A

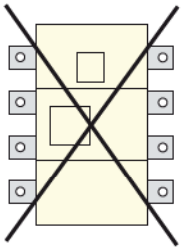


1200 to 2000 A



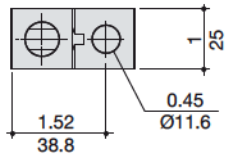
Mounting orientation

3/4 poles



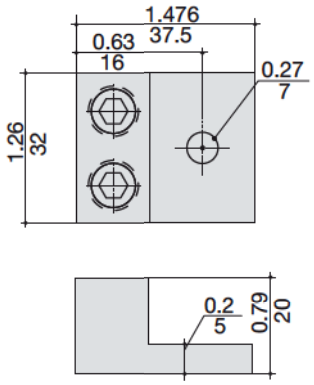
Terminal lugs (in/mm)

100 to 250 A



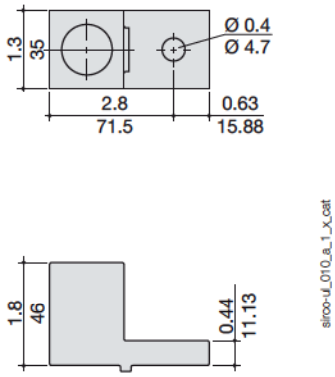
300MCM

100 to 250 A



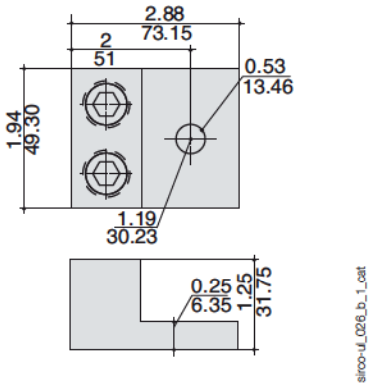
2/0

400 A



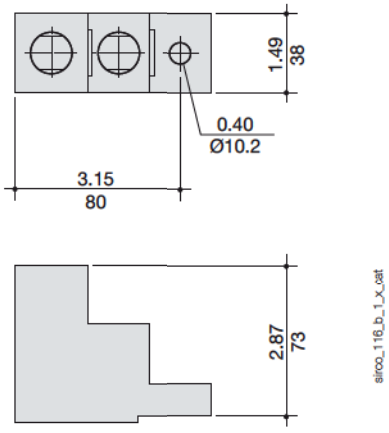
600MCM

400 A



2 x 350MCM

600 to 2000 A

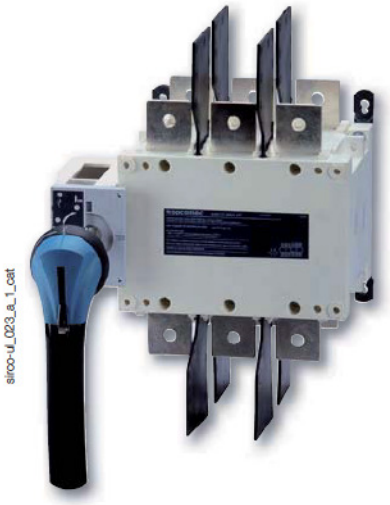


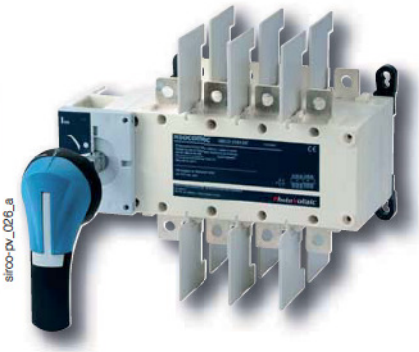
2 x 600MCM

SIRCO DC

Double Stacker UL98B

Load break switches for solar applications





Strong points

- Patended switching technology.
- Positive break indication.
- Up to 1500 VDC
- Suitable for use in accordance with NEC Art 690 edition 2011.

Conformity to standards

- UL98B Guide WHVA, file E346418
- CSA C22.2#4, Class 4651-02, file 112964
- NEC Art 690 Edition 2011
- IEC 60947-3

Function

It is possible to operate on load two switches with one handle.

Space saving: the overall footprint is similar to the footprint of a standard 3 or 4 pole device. Thus providing significant space saving opportunities within the overall assembly and specifically compared to using separate switches.

Easier connection and integration.

Higher voltage: by connecting the two switches in series it is possible to switch on load higher voltage than 1000 VDC.

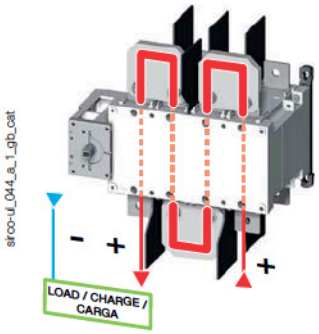
Double the rating: by connecting the two switches in parallel on the outgoing side.

General characteristics

- Patended switching technology.
- Positive break indication.
- Up to 1000 VDC according to UL98B/CSA C22.2#4.
- Suitable for use in accordance with NEC Art 690 edition 2011.
- Up to 1500VDC according to IEC 60947-3.

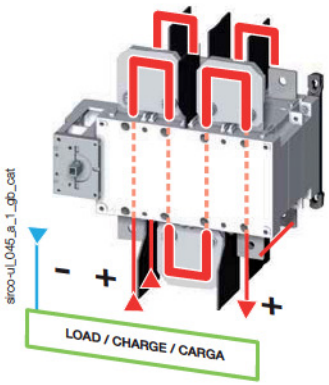
socomec Innovative Power Solutions

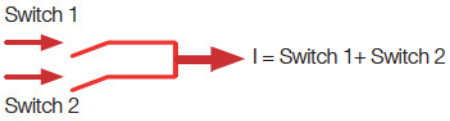
1 handle to disconnect 2 networks



- The double stack disconnect from SOCOMEC interlocks mechanically 2 disconnects 3 or 4 poles. With one handle the user can operate on load both disconnects synchronously.
- Each disconnect are fully rated.
- Disconnect two 600VDC networks on load with a 6 poles double stacked disconnect or two 1000VDC networks with a 8 poles.
- Perfect product for BIPOLAR SYSTEMS. The user can disconnect on the same device two legs with opposite polarities.
  +/- 600VDC on a 6 poles disconnect to get a 1200VDC bipolar network.
  +/- 1000VDC on a 8 poles disconnect to get a 2000VDC bipolar network.

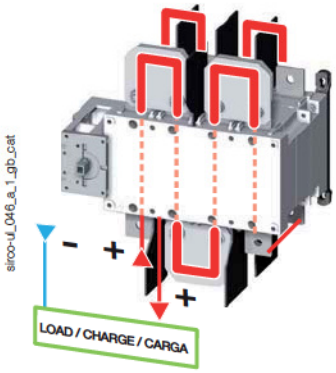
Paralleling the outputs on the disconnect to double the current rating

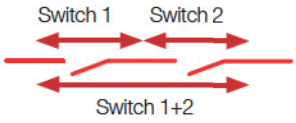




- As both disconnects are operating synchronously the user can link the output of each device.
- Following the Kirchhoff's law "At any node (junction) in an electrical circuit, the sum of currents flowing into that node is equal to the sum of currents flowing out of that node" or in our case Iswitch1 + Iswitch2 = Ioutput.
- As an example a user could disconnect 800 A with a double 400 A.
- This solution really reduces the footprint of the disconnect.

Wire more poles in series to increase the voltage





- Following the second Kirchhoff's law "The principle of conservation of energy implies that the directed sum of the electrical potential differences (voltage) around any closed network is zero".
- On the schematic above this would mean that Vswitch1 + Vswitch2 = Vtotal.
- And this implies that more poles are in series, higher is the achievable voltage.
- Following this principle SOCOMEC created a disconnect with 8 poles in series which allows the user to disconnect ON LOAD 1500 VDC.
- As voltages higher than 1000 VDC are not recognized by UL, SOCOMEC self certified this configuration in its laboratory in France.

References

6 & 8 poles switches

Rating (A)	Max Number of circuits	Max Breaking Voltage (VDC)	No. of poles	Switch body	External handle	Shaft for external handle	Jumpers for connecting poles in series
100 A Frame 2x4	2	2 x 600 VDC	6 P	27DC **6011**	S2 type Black 1, 3R, 12 142F **2111**(1) Red/Yellow 1, 3R, 12 142G **2111**(1) Black 4, 4X 142D **2111**(1) Red/Yellow 4, 4X 142E **2111**(1)	200 mm 7.9 inches 1400 **1020** 320 mm 12.6 inches 1400 **1032** 400 mm / 15.7 inches 1400 **1040**(2)	1 piece 2709 **0021** (100 to 200 A)
	2	2 x 1000 VDC or 1x 1500 VDC	8 P	27DC **8011**			
250 A Frame 2x4	2	2 x 600 VDC	6 P	27DC **6021**			2 pieces 2 x 2709 **0021** (250 A)
	2	2 x 1000 VDC or 1x 1500 VDC	8 P	27DC **8021**			
400 A Frame 2x5	2	2 x 600 VDC	6 P	27DC **6041**	S3 type Black 4, 4X 143D **3111**(1) Red/Yellow 4, 4X 143E **3111**(1)	200 mm 7.9 inches 1401 **1520** 320 mm 12.6 inches 1401 **1532**	1 piece 2709 **0041**
	2	2 x 1000 VDC or 1x 1500 VDC	8 P	27DC **8041**			
600 A Frame 2x6	2	2 x 600 VDC	6 P	27PV **6060**	V1 type Black 1,3R,12 2799 **7145**	320 mm 12.6 inches 4199 **3018**	1 piece 2709 **0061**
	2	2 x 1000 VDC or 1x 1500 VDC	8 P	27PV **6060**			
800 A Frame 2x7	2	2 x 750 VDC	6 P	27DC **6080**			1 piece 2709 **0081**
	2	2 x 1000 VDC or 1x 1500 VDC	8 P	27DC **8080**			
1000 A Frame 2x7	2	2 x 750 VDC	6 P	27DC **6100**			1 piece 2709 **0121**
	2	2 x 1000 VDC or 1x 1500 VDC	8 P	27DC **8100**			

(1) Defeatable handle.
(2) Shaft guide reference 1429 0000, is required for shaft lenght over 15.7 inches (400mm).

Accessories

S type handle Raiser

Use
S type handle raiser.
Handle raiser for S1 to S4 handles.

Dimensions
Adds 12 mm to the depth.

Colour	Nema degree of protection	To be ordered in multiples of	Reference
Black	1, 3R, 12	10	1493 **0000**

Accessories

External handle

Use

The interlocking function of the front external handle prevents the user from opening the door of the enclosure when the switch is in the "ON" position (if the handle is door mounted S-type handles only).

Opening the door when the switch is on "ON" position is possible by defeating the locking function with the use of a tool (authorized persons only).

The interlocking function is restored when the door is closed back.

Front operation I - 0, 6/8 poles

Rating (A)	Handle	Handle colour	Nema degree of protection	Reference
100 ... 250	S2 type	Black	1, 3R, 12	142F **2111**(1)
100 ... 250	S2 type	Red/Yellow	1, 3R, 12	142G **2111**(1)
100 ... 250	S2 type	Black	4, 4X	142D **2111**(1)
100 ... 250	S2 type	Red/Yellow	4, 4X	142E **2111**(1)
400	S3 type	Black	4, 4X	143D **3111**(1)
400	S3 type	Red/Yellow	4, 4X	143E **3111**(1)
600 ... 1000	S5 Type	Black	1, 3R, 12	145F **8113**(1)
600 ... 1000	V1 type	Black	1, 3R, 12	2799 **7145**(1)

(1) Defeatable handle.

Front operation I - 0 heavy duty, 6/8 poles

Rating (A)	Handle	Handle colour	Nema degree of protection	Reference
100 ... 250	S2 type	Black	4, 4X	142D **2911**(1)(2)
100 ... 250	S2 type	Red/Yellow	4, 4X	142E **2911**(1)(2)
400	S3 type	Black	4,4X	143D **3911**(1)(2)
400	S3 type	Red/Yellow	4,4X	143E **3911**(1)(2)
600 ... 1000	V1 type	Black	1, 3R, 12	2799 **7145**(1)

(1) Locking bracket in metal.
(2) Defeatable handle.

Alternative colour S-type handle cover

Use

For handles S1 to S4.

Other colours: Please, consult us.

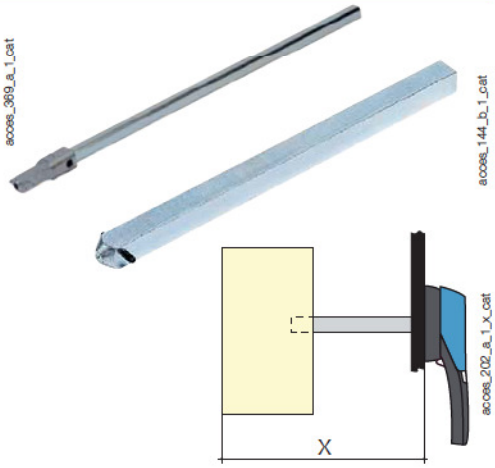
Handle colour	Handle	To be ordered by multiples of	Reference
Light grey	S1 to S3 type	50	1401 **0001**
Dark grey	S1 to S3 type	50	1401 **0011**
Light grey	S4 type	50	1401 **0031**
Dark grey	S4 type	50	1401 **0041**

Shaft for external handle

Use

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

Other lengths: Please, consult us.



For 6/8 poles

Rating (A)	Dimension X (inches)	Dimension X (mm)	Handle	Length (inches)	Length (mm)	Reference
100 ... 200	12 ... 14.3	305 ... 362	S2 type	7.9	200	1400 **1020**
100 ... 200	12 ... 19	305 ... 482	S2 type	12.6	320	1400 **1032**
100 ... 200	12 ... 22.1	305 ... 562	S2 type	15.7	400	1400 **1040**
400	16 ... 18.4	406 ... 467	S3 type	7.9	200	1401 **1520**
400	16 ... 23.1	406 ... 587	S3 type	12.6	320	1401 **1532**
400	16 ... 26.3	406 ... 667	S3 type	15.7	400	1401 **1540**
600 ... 1000	20 ... 28.1	508 ... 714	V1/S5 type	12.6	320	4199 **3018**
600 ... 1000	20 ... 31.3	508 ... 794	V1/S5 type	15.7	400	4199 **3019**

Accessories (continued)

Shaft guide for external handle

Use

To guide the detachable external control shaft in the handle.
This accessory enables handle to engage shaft with a misalignment of up to 15 mm.
Required for a shaft lenght over 320 mm.

Description	Reference
Shaft guide for S1 to S4 type handles	1429 **0000**

Auxiliary contact

Use

Pre-break and signalling of positions 0 and I:
- 1 to 2 NO/NC auxiliary contacts,
- 1 to 2 low level NO/NC auxiliary contacts.

Electrical characteristics

A300.

NO/NC contact for 6/8 poles			
Rating (A)	**Position AC**	**Type**	**Reference**
100 ... 1000		NO/NC	4159 **0021**

Low level NO/NC contact for 6/8 poles			
Rating (A)	**Position AC**	**Type**	**Reference**
100 ... 1000	1st contact	NO/NC	4159 **0022**

Terminal screen

Use

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

For 6/8 poles			
Rating (A)	**No. of poles**	**Position**	**Reference**
100 ... 200	6 P	top and bottom	4158 **3021**
100 ... 200	8 P	top and bottom	4158 **4021**
400	6 P	top or bottom	4158 **3041**(1)
400	8 P	top or bottom	4158 **4041**(1)
600	6 P	top or bottom	1609 **3063**(1)
600	8 P	top or bottom	1609 **4063**(1)
800 ... 1000	6 P	top or bottom	2798 **6120**
800 ... 1000	8 P	top or bottom	2798 **8120**

(1) Please order 2 reference sfor line and load protection.

Terminal lugs

Use

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

Rating max (A)	Type of luge	Number of lugs per terminal	Type of cable	Package	Reference
100 ... 250	1 conductor (#6-300MCM)	1	Cu / Al	2 lugs	3954 **2020**
100 ... 250	2 conductors (#4-2/0)	1	Cu / Al	2 lugs	3954 **2025**
400	1 conductor (#2-600MCM)	1	Cu / Al	2 lugs	3954 **2040**
400	2 conductors (#6-350MCM)	1	Cu / Al	2 lugs	3954 **2041**
600	2 conductors (#2-600MCM)	1	Cu / Al	2 lugs	3954 **2060**
800 ... 1200	2 conductors (#2-600MCM)	2(1)	Cu / Al	2 lugs	3954 **2060**
800 ... 1200	2 conductors (#2-600MCM)	3(2)	Cu / Al	3 lugs	3954 **3060**

(1) 2 lugs per terminal with connection kit 2729 1200.
(2) 3 lugs per terminal with connection kits 2729 1201 and 2709 1202.

Copper bars connection kits

Use

To allow connection between the two power terminals from a same pole for 800 to 1000 A ratings (Fig. 1, Fig. 2 and Fig. 3).

Fig. 1

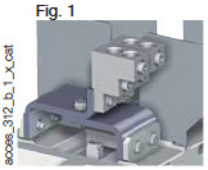
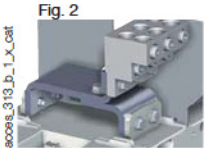


Fig. 3

Fig. 2



Top or bottom flat connection			
Rating (A)	**Quantity to order per switch**	**Nb lug capacity**	**Reference**
800...1000 Fig. 1	1	2	2729 **1200**
800...1000 Fig. 2	1	3	2729 **1202**

Top or bottom edgewise connection			
Rating (A)	**Quantity to order per switch**	**Nb lug capacity**	**Reference**
800...1000 Fig. 3	1	3	2729 **1201**

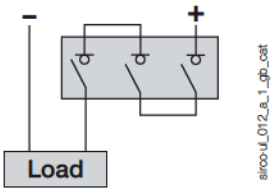
Jumpers for poles in series

Use

The jumpers will make easy the connection of the pole in series, allowing the following configurations(1).

Connection diagrams:

(1) Other connections: refer to mounting instructions.



Rating (A)	Reference
100 … 250	2709 **0021**(1)
400 reduced design (availability to be confirmed)	2709 **0040**
400	2709 **0041**
600	2709 **0062**
800 … 1000	2709 **0081**

(1) For 100 to 200 A: 1 piece per pole in series. For 250 A: 2 pieces per pole in series.

Characteristics

Characteristics according UL98/CSA22.4#4 and UL98B

Rating (A)		100 A	250 A	400 A	600 A	800 A	1000 A
General use rating with 200% overload extra test - UL98B							
Rated voltage	**Number of pole in series of the device**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
600 VDC	3 P	100	250	400	600	800	1000
1000 VDC	4 P	100	250	400	600	800	1000
Short circuit rating at 600 VDC							
Prospective short-circuit current (kA rms)		20	20	20	-	-	-
Type of fuse		A70P100	A70P100	LDC	-	-	-
Associated fuse rating (A)		200	200	400	-	-	-
Short circuit rating at 1000 VDC any breaker							
Prospective short-circuit current (kA rms)		10(1)	10(1)	10(1)	10(1)	10(1)	10(1)
Connection terminals							
Min. connection section / AWG(2)		#6	#6	2x #6	2x #2	4x #2	4x #2
Max. connection section / AWG(2)		300MCM	300MCM	600MCM	2x 600	6x 600MCM(4)	6x 600MCM(4)
Mechanical characteristics							
Durability (number of operating cycles)		10 000	10 000	6 000	6 000	3 500	3 500
Operating torque (lbs.in/Nm)		88.5/10	88.5/10	128.3/14.5	327.5/37	495.7/56	495.7/56
Auxiliary contacts							
Electrical characteristics		A300	A300	A300	A300	A300	A300

(1) 50 ms without fuse.
(2) AWG : dimensions of the American cable.
(3) Increased endurances: Please consult us.
(4) max 6x 600MCM with spreader 2729 1203.

Characteristics according to IEC 60947-3

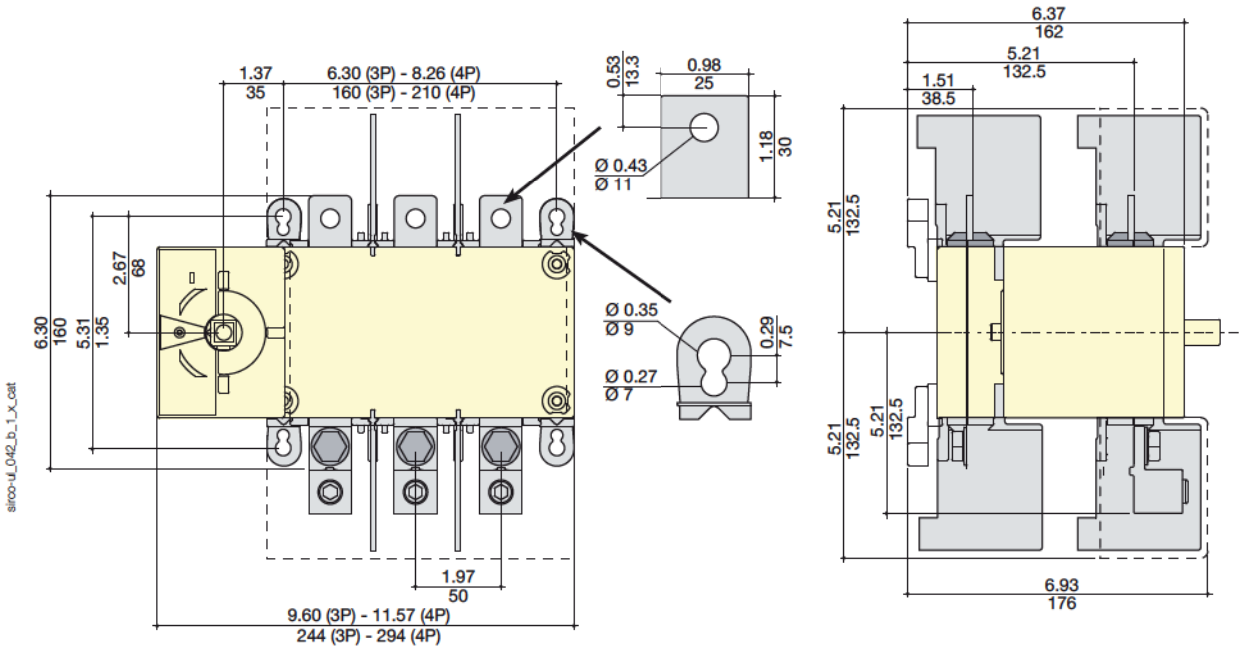
Thermal current I_{th} (40°C)	160 A	250 A	630 A	800 A	1000 A	1200 A
Rated insulation voltage U_i (V)	1 200	1 200	1 200	1 200	1 200	1 200
Rated impulse withstand voltage U_{imp} (kV)	12	12	12	12	12	12

Rated operational currents I_e (A), DC-22 B

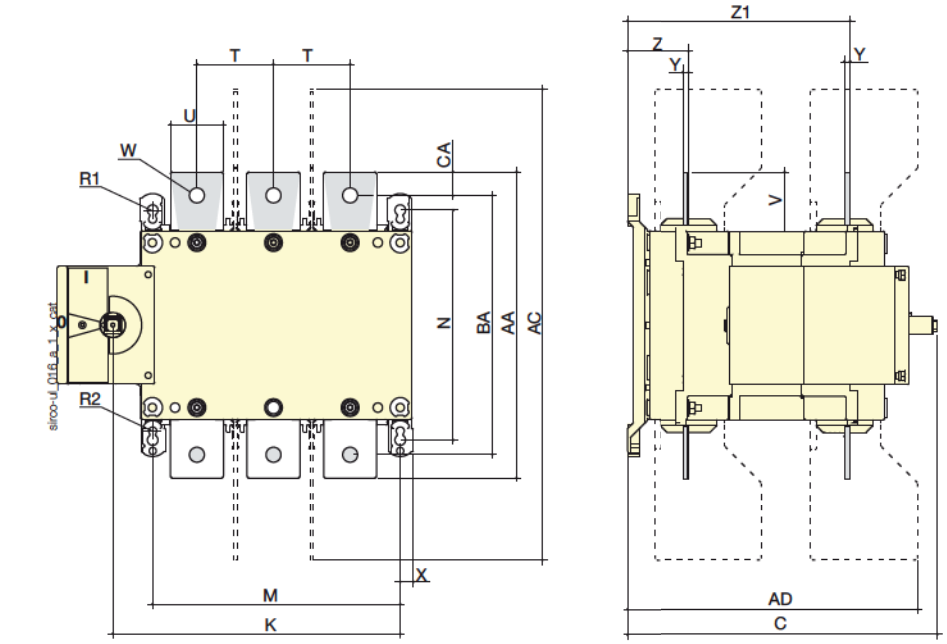
Rated voltage	Number of pole in series of the device	(A)	(A)	(A)	(A)	(A)	(A)
750 VDC	3 P	160	250	630	800	1 000	1 200
1 000 VDC	4 P	160	250	630	800	1 000	1 200
1 500 VDC	8 P	100	250	400	600	800	1000

Dimensions (in / mm)

100 to 250 A



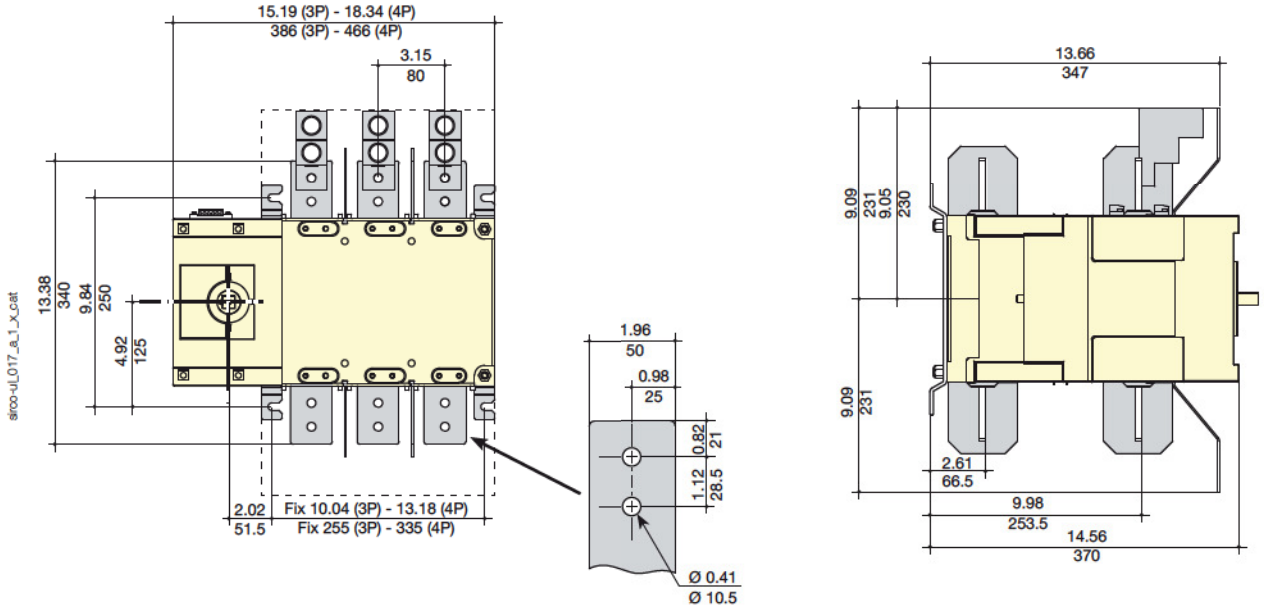
400 A



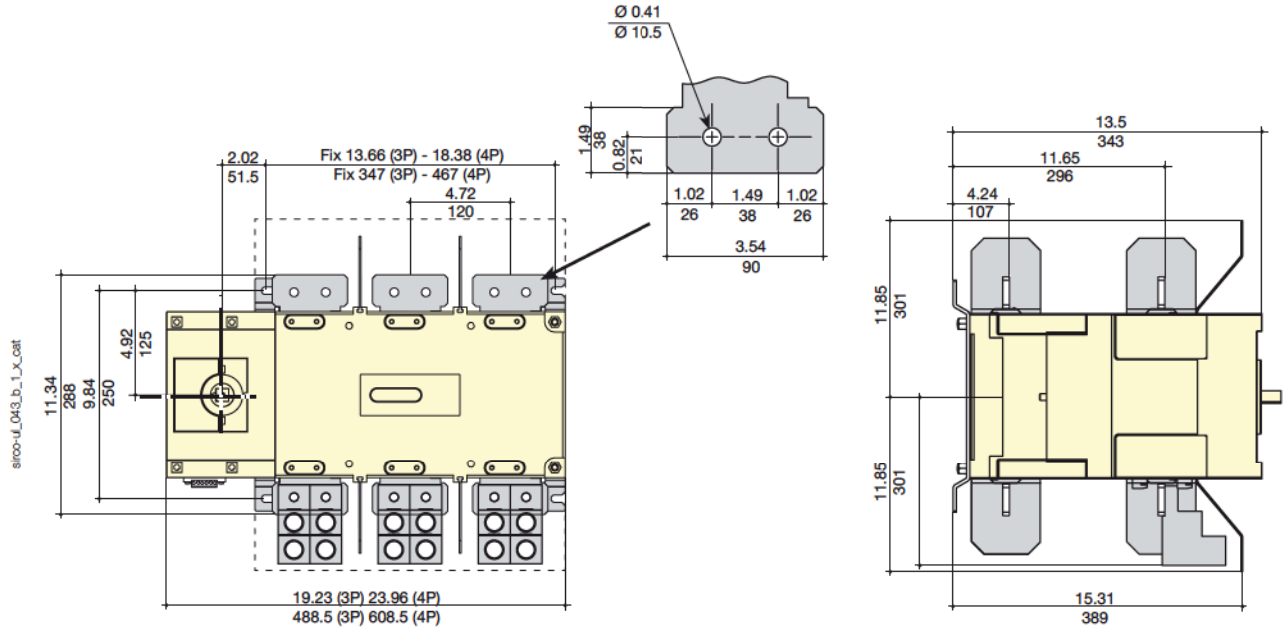
1. Terminal shrouds.
A. S2 type handle.

Rating (A)	Mesurement	Overall dimensions	Terminal shrouds		Case		Switch mounting					Connection										
		C	AC	AD	K 3p.	K 4p.	M 3p.	M 4p.	N	R1	R2	T	U	V	W	X	Y	Z	Z1	AA	BA	AC
400	in	10.39	15.75	9.72	9.61	11.97	8.27	10.63	7.68	0.35	0.27	2.56	1.77	1.97	0.50	0.43	0.20	2.07	7.48	10.24	8.66	0.79
400	mm	264	400	247	244	304	210	270	195	9	7	65	45	50	12.7	11	5	52.6	190	260	220	20

600 A

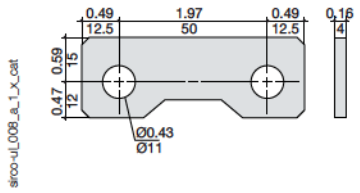


800 to 1000 A

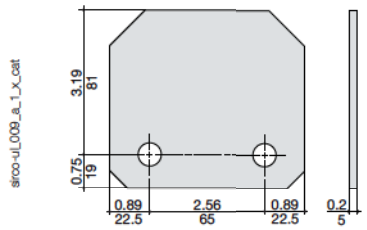


Jumpers (in / mm)

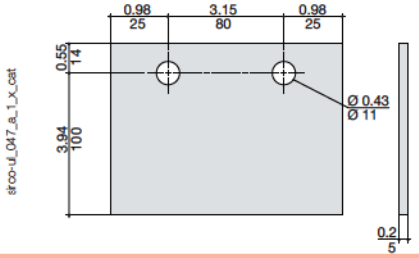
100 to 250 A



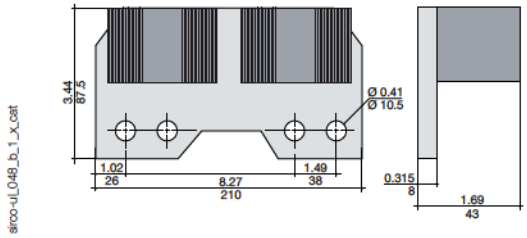
400 A



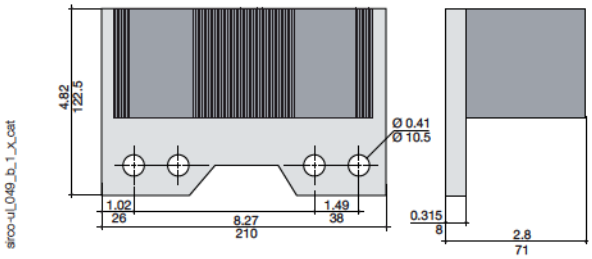
600 A



800 A

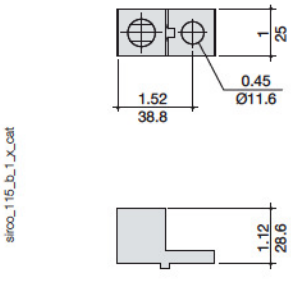


1000 A



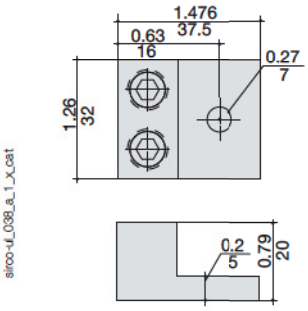
Cage terminals (in / mm)

100 to 250 A



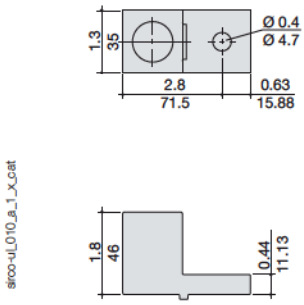
300MCM

100 to 250 A



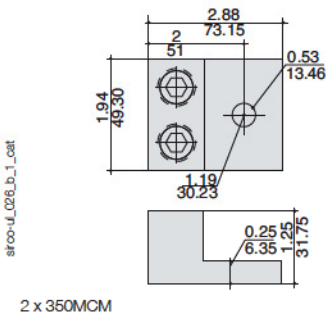
2/0

400 A



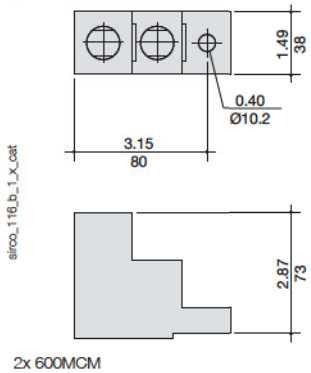
600MCM

400 A



2 x 350MCM

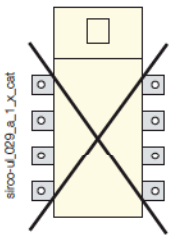
600 to 1000 A



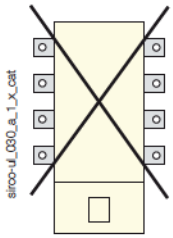
2x 600MCM

Mounting orientation

6/8 pole - 100 to 400 A

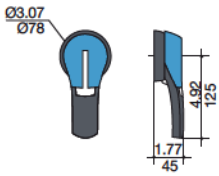
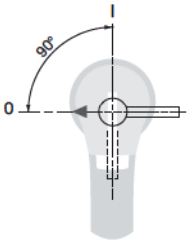
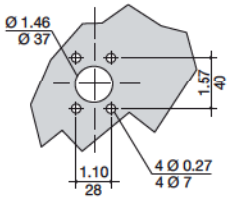


6/8 pole - 600 A



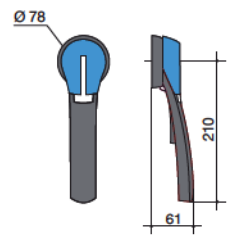
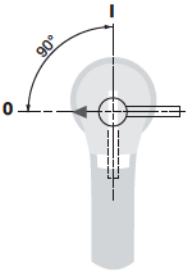
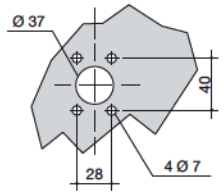
Dimensions for external handles (in / mm)

100 to 200 A

Handle type	Front operation Direction of operation	Door drilling
S2 type 		

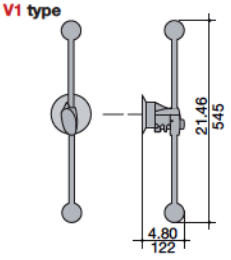
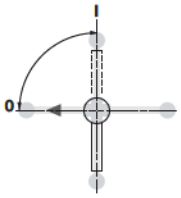
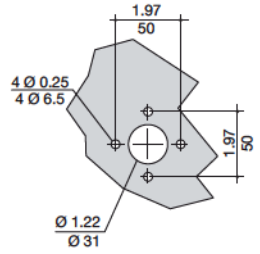
sirco-ul_032_a_1_gb_cat

400 A

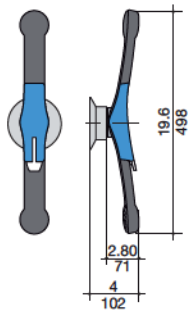
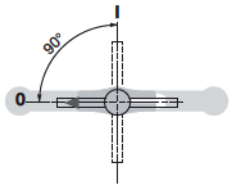
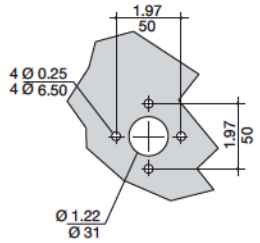
Handle type	Front operation Direction of operation	Door drilling
S3 type 		

poign_035_a_1_gb_cat

600 to 1000 A

Handle type	Front operation Direction of operation	Door drilling
V1 type 		

poign_037_a_1_us_cat

Handle type	Front operation Direction of operation	Door drilling
S5 type with V Escutcheon 		

poign_020_a_1_us_cat

TVSS SURGE SWITCH

Special designs

TVSS (Transient Voltage Surge Suppressor) Surge Switch

SIRCO 200 A
3 pole

Strong points

> Compact product.
> High performance.

Conformity to standards(1)

> UL508, Guide NRNT, File E224992
> IEC 60947-3

(1) Product reference on request.

Customised solutions

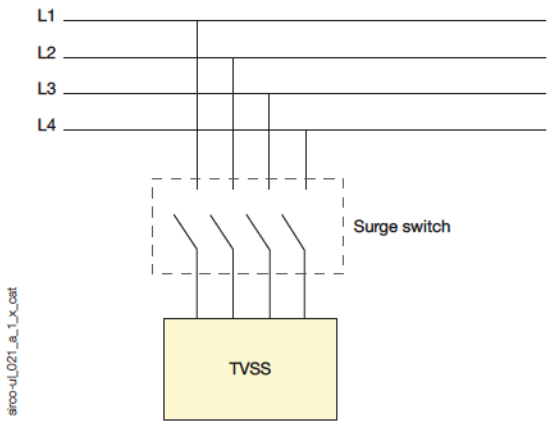
> Please consult us.

Function

The **TVSS Surge Switch** is an extremely compact, high performance, manually operated, non-fused switch. It is specifically designed to withstand the high surge current of 200 kA with an 8 x 20 µs waveform seen in today's transient voltage Surge Protective Device (SPD) applications. Socomec Surge Switch uses a unique contact design that actually clamp contacts tighter during a surge.

General characteristics

- 200 kA 8/20 µs shockwave withstand.
- Rated 100 A 600 VAC UL508 general use.
- High electrical and mechanical endurance.



socomec
Innovative Power Solutions

References

TVSS SURGE SWITCH - Front operation - **3/4 pole**						
Rating (A)	**No. of poles**	**Switch body**	**Direct handle**	**Door interlocked external**	**Shaft for external handle**	**Terminal shrouds**
8/20 µs 200 KA 600 VAC	3 P	2700 **3017**	Black 2699 **5042** Red 2699 **5043**	S1 type Black 141F **2111** S1 type Red/Yellow 141G **2111** S1 type Black 141D **2111** S1 type Red/Yellow 141E **2111**	200 mm 1400 **1020** 320 mm 1400 **1032** 400 mm 1400 **1040**	3 P 2694 **3014**(1) 4 P 2694 **4014**(1)
	4 P	2700 **4017**				

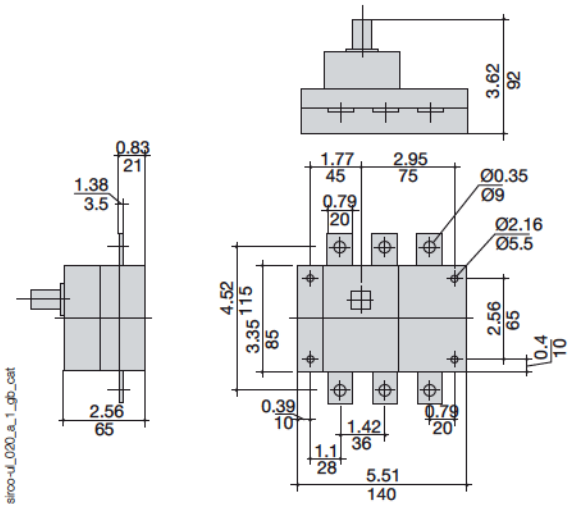
(1) Top or bottom.

UL characteristics

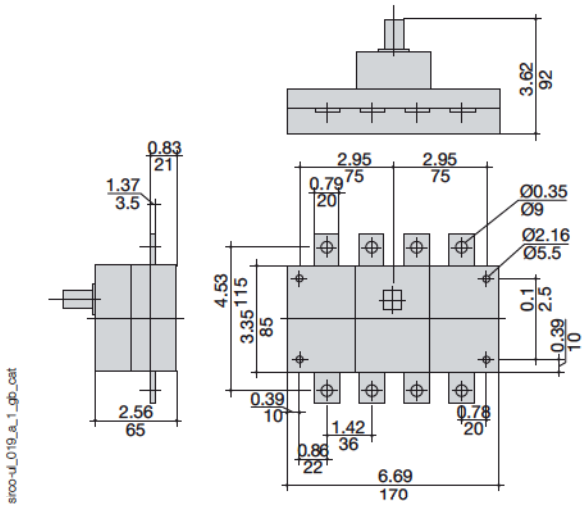
UL 508 100 A 600 VAC General use

Dimensions (in / mm)

3 pole



4 pole



Load break switches

for specific applications

Despite already offering a wide range of load break switches, SOCOMEC also manufactures specific products suitable for all your requirements. Some of these products can be seen on these two pages, however this list does not include them all. Please, feel free to consult us.

SIRCO range with overrated neutral

sirco_255_a_1_cat

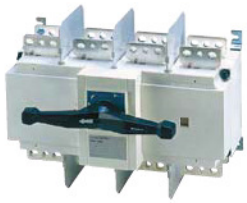
The use of power electronics is becoming more frequent. Choppers, rectifiers and current inverters distort the signal by reinjecting the 3rd order harmonics which are combined in the neutral.
Available from 125 to 1800 A.

SIRCO 3 x 250 A with neutral at 400 A.

Conformity to standards

- IEC 60947-3
- BS EN 60947-3
- EN 60947-3
- NBN EN 60947-3
- VDE 0660-107 (1992)

SIRCO HW short-circuit performance



sirco_353_a_1_cat

- 80 kA rms 1 s.
- 110 kA rms 0.1 s.
- 240 kA peak.

Multipolar ***SIRCO***

sirco_256_a_1_cat

12 pole SIRCO.

SOCOMEC can provide switches up to 16 poles.

Specific range for 1000 V network

sider_078_a_1_cat

AC-22 / AC-23 characteristics.

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