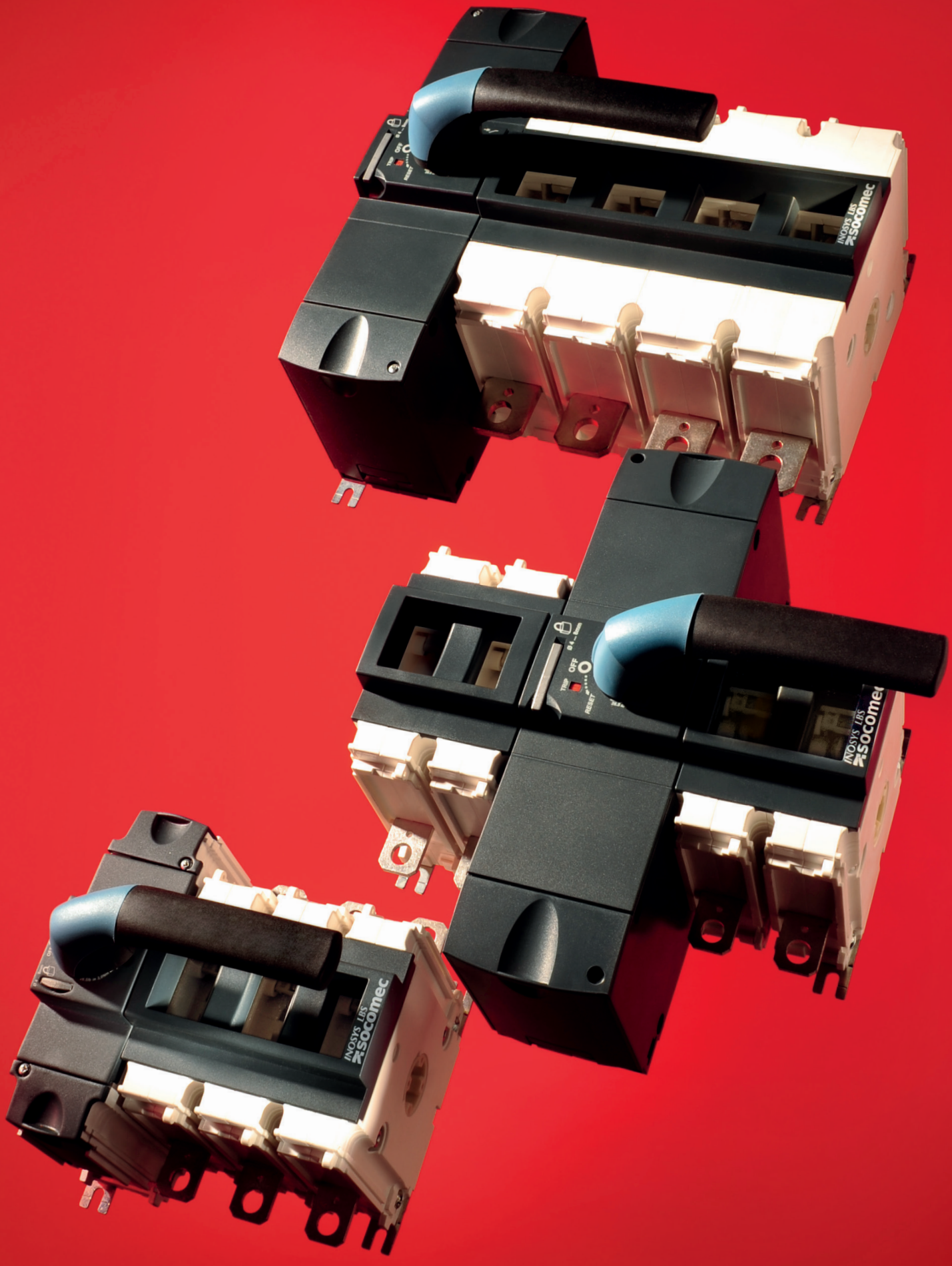

INOSYS LBS
Socomec
OFF
TRIP
RESET

Load break switches

Load break switches

SIRCO M and
SIRCO MV
16 to 160 A
p. 22

SIRCO
SIRCO AC
125 to 5000 A
p. 40

Load break switches for DC and PV applications

SIRCO PV
100 to 3200 A
p. 62

INOSYS LBS DC
160 to 630 A
p. 86

INOSYS LBS DC ESS
800 to 1600 A
p. 98

SIRCO DC
SIRCO DC ESS
2000 to 3600 A
p. 104

Specific applications

Load break switches:
- with overrated neutral,
- high short-circuit withstand,
- multipolar,
- for earthing,
- for 1000 V network,
- motorised models.

p. 124

Find out more

Enclosed devices
SOCOMEC offers a range of pre-assembled steel and polyester enclosures.

p. 521

Special requests
SOCOMEC makes specific products.
We will help you to find the best solution for your application.
Contact your local sales office.

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 reference.

The SOCOMEC load break switches range is one of the largest on the market.

INOSYS LBS is the latest range of load break switches especially designed and tested for most demanding applications.

It completes the two lead product ranges ranges in this category: SIRCO M and SIRCO.

If the three ranges INOSYS LBS, SIRCO and SIRCO M cover most needs, the complete range of SOCOMEC load break switches meets every application.

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

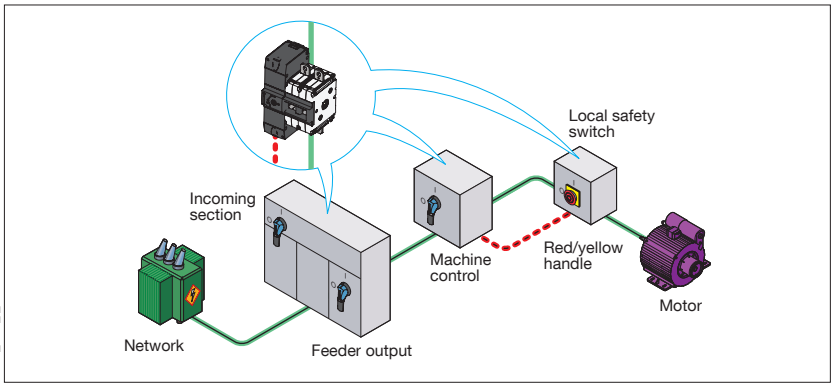
A specific need?

We have developed many customised solutions: switches with overrated neutral, high short circuit withstand, multipolar switches, earthing switches, switches for 1000 V networks, special motorised switches, etc.

Whatever your application, you will find the right solution in the following pages!

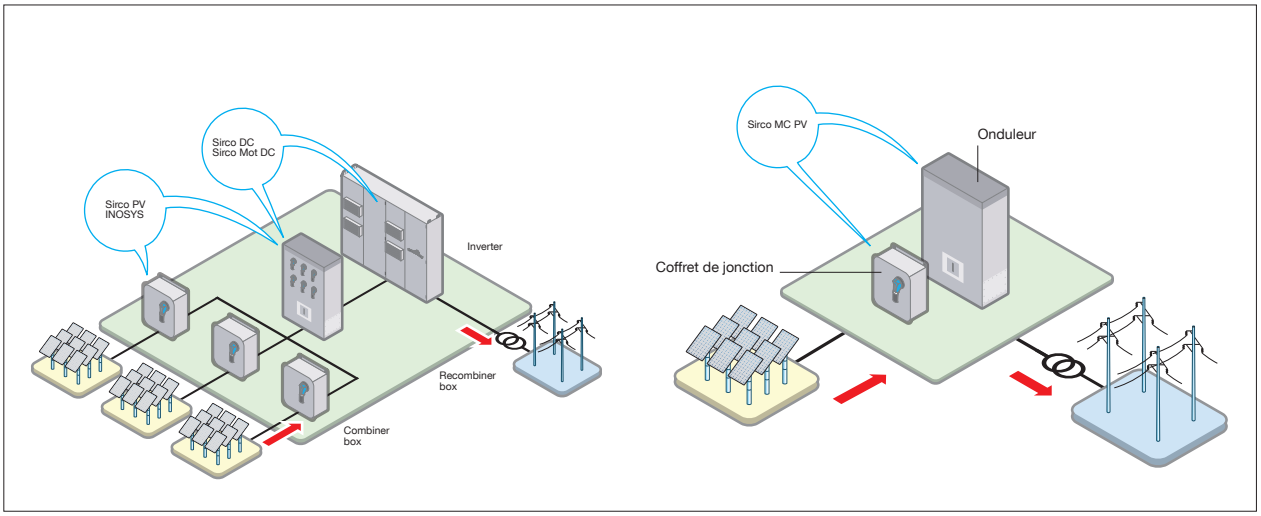
appli_312_a

SOCOMEC load break switches in power distribution and machine control applications



sircm_021_f_en

SOCOMEC load break switches in photovoltaic applications



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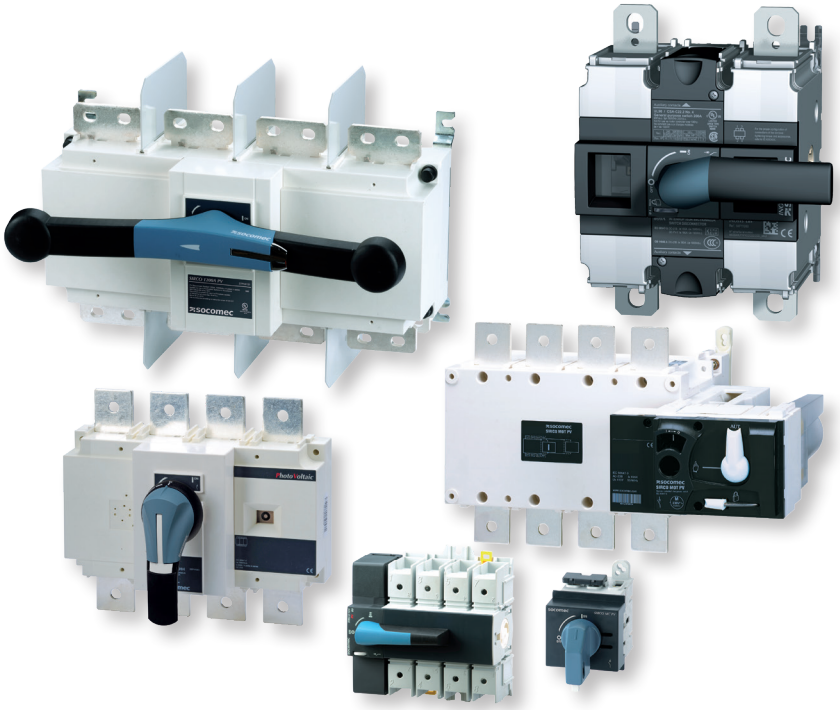
socomec Innovative Power Solutions

Why choose a load break switch designed for photovoltaic applications?



gamme_574

SIRCO MC PV, SIRCO PV and INOSYS LBS devices are available in IEC and UL versions.

Safe operations

To ensure electrical isolation 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 INOSYS LBS, 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

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

- Thermal stability, 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	
		
	SIRCO M **16 to 125 A** *p. 22*	***SIRCO MV*** **100 to 160 A** *p. 22*
Applications		
Main switchboard	•	•
Distribution panel	•	•
Emergency load break	•	•
Genset output	•	•
Network coupling	•	•
Local safety load break	•	•
Machine control	•	•
Enclosed switches	•	•
Functions		
3/4 pole load break switch	•	•
6/8 pole load break switch	•	
3/4 pole transfer switch (I-0-II)	•	
3/4 pole transfer switch (I-I+II-II)	•	
Characteristics		
Operation		
Manual (rotating)	•	•
Manual toggle	•	
Motorised		
Direct operation handle		
Front	•	•
External operation handle		
Front	•	•
Right side	•	•
Left side	•	•
Indication of breaking		
Positive break indication	•	•
Visible contacts		•
Switch body		
Modular	•	•

(1) Please consult us.

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

	Power distribution	
		
	SIRCO **125 to 5000 A** *p. 40*	***SIRCO AC*** **200 to 4000 A** *p. 40*
	•	•
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	•	•
	See SIRCOVER	*See SIRCOVER*
	See SIRCOVER	*See SIRCOVER*
	•	•
	See SIRCO MOT AT	*See SIRCO MOT AT*
	•	•
	•	•
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	•	•

Selection guide

Load break switches

DC applications

Which application? → Which function?

	Photovoltaics
	
	SIRCO PV IEC **100 to 2000 A** *p. 62*
Applications	
Emergency load break	•
Photovoltaic load break	•
Fitted enclosures	•
Functions	
3/4 pole load break switch	•
6/8 pole load break switch	•
Characteristics	
Operation	
Manual (rotating)	•
Motorised	
Direct operation handle	
Front	•
Side	
External operation handle	
Front	•
Left side	
Indication of breaking	
Positive break indication	•
Visible contacts	
Switch body	
Modular	

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

	DC and photovoltaics		
			
	INOSYS LBS DC IEC **160 to 1600 A** *p. 86*	***INOSYS LBS DC ESS*** IEC **800 to 1600 A** *p. 98*	***SIRCO MOT DC / DC ESS*** IEC **125 to 3600 A** *consult us*
	•	•	•
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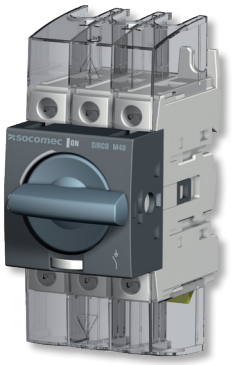
SIRCO M and SIRCO MV

Universal load break switches
from 16 to 160 A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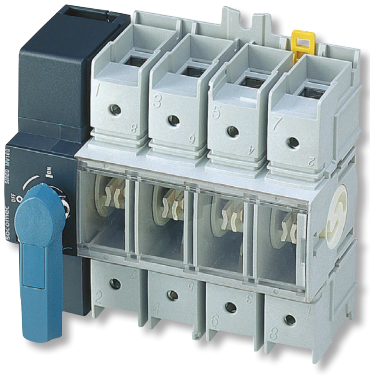
*4 pole **SIRCO M***
direct operation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*4 pole **SIRCO MV***
direct operation

The solution for

- Data center
- Industry
- Building

Strong points

- Fully integrated
- A wide range of accessories
- Upgradeability
- Compliance with major certifications and approvals

Conformity to standards

- IEC 60947-3
- UL 508, UL98
- GB/T 14048.3

**See pages SIRCO UL and CSA range*

Approvals and certifications(1)

(1) Product reference on request.

Function

SIRCO M and **SIRCO MV** are manually operated modulable 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 provide on load changeover switching between two sources or two low voltage power circuits, as well as their safety isolation.

Advantages

Fully integrated

The SIRCO M and SIRCO MV fully integrates sectioning, breaking, control, switching and associated protection functions.

Within a single product, SIRCO M offers front, right side or left side operation. Its highly functional design enables the device to be easily transformed from a load break switch to a changeover switch, offering a highly innovative modular solution for numerous applications.

A wide range of accessories

A single standard module, which can be complemented with a choice of accessories, offers a range of advantages:

- Clear choice of devices.
- Flexibility to adapt to the most varied applications.
- Reduced stock management and storage costs.

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 by phase.
- IP20 accessories and device.
- Extreme usage categories (AC-22 and AC-23).
- Clear break indication.

SIRCO M

- Mount on DIN rail, panel or modular panel with 45 mm front cut out.
- Contact point technology.
- Standard device attaches from the front using the «door mounting kit».

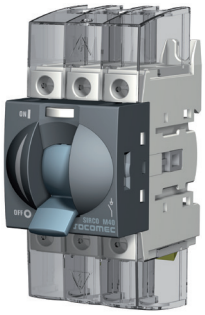
SIRCO MV

- Rail, board or modular panel-mounted with 45 mm front cut out.
- Visible double cut based on an opposite-slidenn contact system.

What you need to know

SIRCO M

- SIRCO M can be operated in 3 different ways: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Complete switch body for toggle operation


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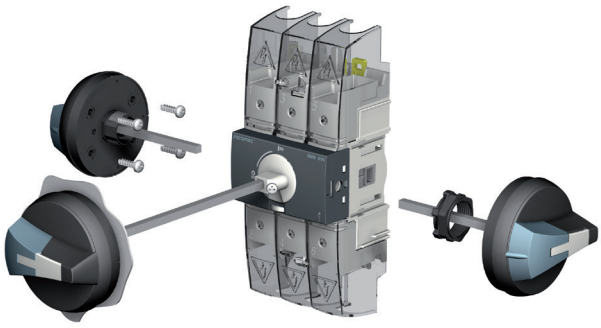
Direct front operation with handle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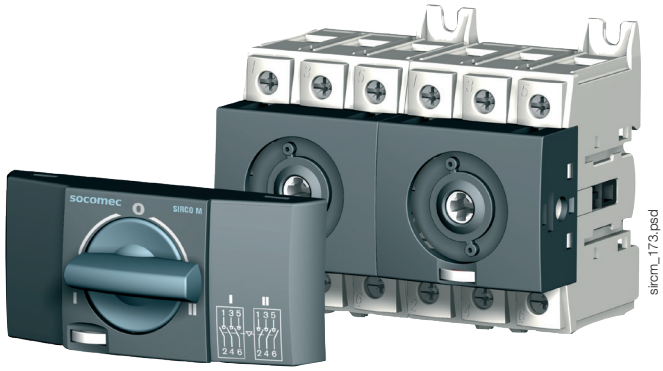
External operation
front, left side or **right side**

- 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.

- From **16** to **125 A**, through the wide range of available accessories, it is possible to convert a 3 pole load break switch 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.



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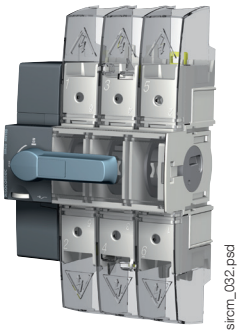
Changeover switches **I - 0 - II**

SIRCO MV

- 3 operations are available: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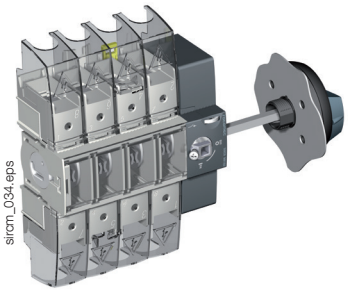
Direct front operation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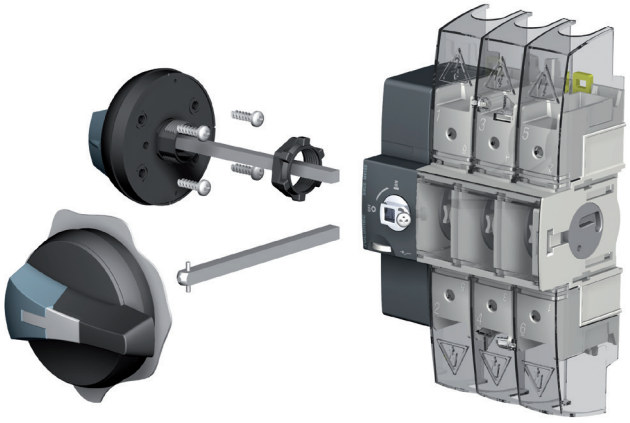
External **right side** operation


sircm_033.eps

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

SIRCO M - from 16 to 125 A									
Rating (A) / Frame size	**No. of poles**	**Complete switch body toggle operation**	**Switch body**	**Direct handle**	**Door interlocked external front and right side handle[6]**	**External left side handle[6]**	**Front external handle for changeover switches[6]**	**Shaft for external front and side handle[6]**	**4th pole**
16 A / M1	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]	3/4 P ≤ 125 A 6/8 P & COS ≤ 80 A S0, S00 type 150 mm 1407 **0515** 200 mm 1407 **0520** 320 mm 1407 **0532** 6/8 P & COS 100 ... 125 A S00 type 150 mm 1409 **0615** 200 mm 1409 **0620** 320 mm 1409 **0632**	2200 **1000**
20 A / M1	3 P	2205 **3001**	2200 **3001**[1][2][3]						2200 **1001**
25 A / M1	3 P	2205 **3002**	2200 **3002**[1][2][3]						2200 **1002**
32 A / M1	3 P	2205 **3003**	2200 **3003**[1][2][3]						2200 **1003**
40 A / M1	3 P	2205 **3004**	2200 **3004**[1][2][3]						2200 **1004**
63 A / M2	3 P	2205 **3006**	2200 **3006**[1][2][3]						2200 **1006**
80 A / M2	3 P	2205 **3008**	2200 **3008**[1][2][3]						2200 **1008**
100 A / M3	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**	S00 type I - 0 - II Black IP65 1473 **0113** I - I+II - II Black IP65 1473 **0114**		2200 **1010**
125 A / M3	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) Top and bottom.
(6) Other handles & shafts are available. Please see accessory pages.

SIRCO M

SIRCO M - from 16 to 125 A

Rating (A) / Frame size	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 / M1	3 P	2205 **3000**	2200 **3000**(1)(2)(3)	1 P 2200 **5005**	1 P 2200 **9005**	M type 1 module NO + NC 2299 **0001** 1 module 2 NO 2299 **0011**	1 P 2294 **1005**(4) 3 P 2294 **3005**(4)	3/4 P Complete protection IP2X 2299 **3309**(5) Compact design 2299 **3409**(5) 6/8 P Steel support 2299 **3609**(5)
20 A / M1	3 P	2205 **3001**	2200 **3001**(1)(2)(3)					
25 A / M1	3 P	2205 **3002**	2200 **3002**(1)(2)(3)					
32 A / M1	3 P	2205 **3003**	2200 **3003**(1)(2)(3)					
40 A / M1	3 P	2205 **3004**	2200 **3004**(1)(2)(3)					
63 A / M2	3 P	2205 **3006**	2200 **3006**(1)(2)(3)	1 P 2200 **5009**	1 P 2200 **9009**		1 P 2294 **1009**(4) 3 P 2294 **3009**(4)	
80 A / M2	3 P	2205 **3008**	2200 **3008**(1)(2)(3)					
100 A / M3	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 / M3	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.

SIRCO MV

SIRCO MV - from 100 to 160 A

Rating (A)	No. of poles	Switch body	Direct handle	Door interlocked 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 1 module NO + NC 2299 **0001** 1 module 2 NO 2299 **0011**	U type 1 contact NO 3999 **0701** 1 contact NC 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 & shafts are available. Please see accessory pages.

Accessories

Direct operation handle

For SIRCO M

Rating (A) / Frame size	Handle colour	Handle type	Reference
16 … 80 / M1 … M2	Blue	M00	2299 **5012**(1)
16 … 80 / M1 … M2	Red	M00	2299 **5013**
100 … 125 / M3	Blue	M01	2299 **5032**(1)

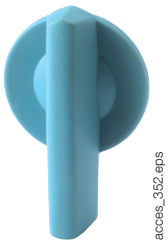
(1) Standard.

For SIRCO MV

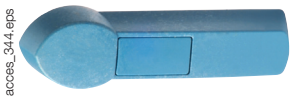
Rating (A)	Handle colour	Handle type	Reference
100 … 160	Blue	M0b	2299 **5042**(1)
100 … 160	Blue	M0	2299 **5022**

(1) Standard.

M00 handle



M01 handle



M0 handle

M0b handle

External handle operation - SIRCO M

S000 type handle

Rating (A) / Frame size	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
16 … 80 / M1… M2	Switch	3/4 P	Front and side operation	Black	IP65	no	1463 **5111**
	Switch	3/4 P	Front and side operation	Red/Yellow	IP65	no	1464 **5111**
16 … 80 / M1… M2	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	no	1463 **5113**
	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	no	1463 **5114**

S000 handle

S00 type handle

Rating (A) / Frame size	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
16 … 80 / M1… M2	Switch	3/4 P(1)	Front and side operation	Black	IP55	yes	1471 **1111**
	Switch	3/4 P(1)	Front and side operation	Black	IP65	yes	1473 **1111**
	Switch	3/4 P(1)	Front and side operation	Red/Yellow	IP65	yes	1474 **1111**
	Switch	3/4 P	Left side	Black	IP65	no	147A **5111**
	Switch	3/4 P	Left side	Red/Yellow	IP65	no	147B **5111**
100 … 125 / M3	Switch	6/8 P	Front	Black	IP55	yes	1471 **0111**
	Switch	6/8 P	Front	Black	IP65	yes	1473 **0111**
	Switch	6/8 P	Front	Red/Yellow	IP65	yes	1474 **0111**
16 … 80 / M1… M2	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1473 **1113**
	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	yes	1473 **1114**
100 … 125 / M3	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1473 **0113**
	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

External operation handle - SIRCO M (continued)

S0 type handle

Rating (A) / Frame size	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
100 … 125 / M3	Switch	3/4 P	Front and side operation	Black	IP55	yes	1481 **1111**
	Switch	3/4 P	Front and side operation	Black	IP65	yes	1483 **1111**
	Switch	3/4 P	Front and side operation	Red/Yellow	IP65	yes	1484 **1111**
	Switch	3/4 P	Left side	Black	IP65	no	148A **5111**
	Switch	3/4 P	Left side	Red/Yellow	IP65	no	148B **5111**

S0 handle

S01 type handle

Rating (A) / Frame size	Type	No. of poles	Operation	Handle colour	External IP	Defeatable handle	Reference
16 … 125 / M1 … M3	Switch	3/4 P[2]	Front and side operation	Black	IP65	yes	1403 **2111**
	Switch	3/4 P[2]	Front and side operation	Red/Yellow	IP65	yes	1404 **2111**
16 … 80 / M1 … M2	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1403 **2113**
	Changeover switches I - 0 - II	3/4 P	Front	Black	IP65	yes	1403 **2813**[1]
	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	yes	1403 **2114**
	Changeover switches I - I+II - II	3/4 P	Front	Black	IP65	yes	1403 **2814**[1]

S01 handle

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

External operation handle - SIRCO MV

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	1417 **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

Accessories (continued)

Shaft for external handle

SIRCO M 3/4 P

Rating (A) / Frame size	Handle type	Type	Length (mm)	Reference
16 ... 125 / M1... M3	S000 / S00 / S0	Switch	150 mm	1407 **0515**
	S000 / S00 / S0	Switch	200 mm	1407 **0520**
	S000 / S00 / S0	Switch	320 mm	1407 **0532**
	S01	Switch	200 mm	1404 **0520**
	S01	Switch	320 mm	1404 **0532**
	S01	Switch	400 mm	1404 **0540**

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

Rating (A)	Handle type	Type	Length (mm)	Reference
16 ... 80 / M1...M2	S000, S00	6/8 P and changeover switch	150 mm	1407 **0515**
	S000, S00	6/8 P and changeover switch	200 mm	1407 **0520**
	S000, S00	6/8 P and changeover switch	320 mm	1407 **0532**
100 ... 125 / M3	S00	6/8 P and changeover switch	150 mm	1409 **0615**
	S00	6/8 P and changeover switch	200 mm	1409 **0620**
	S00	6/8 P and changeover switch	320 mm	1409 **0632**
16 ... 40 / M1	S01	6/8 P	200 mm	1404 **0520**
	S01	6/8 P	320 mm	1404 **0532**
	S01	6/8 P	400 mm	1404 **0540**
16 ... 80 / M1 ... M2	S01	Changeover switch	200 mm	1404 **0520**
	S01	Changeover switch	320 mm	1404 **0532**
	S01	Changeover switch	400 mm	1404 **0540**

For SIRCO MV

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

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

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

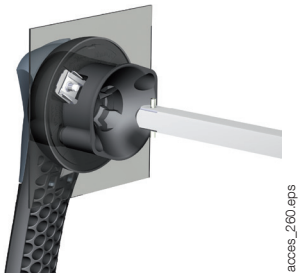
Use

To guide the shaft extension into the external handle.

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

Required for a shaft length 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**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Additional pole for SIRCO M

Switched fourth pole module

Rating (A) / Frame size	No. of poles	Type	Reference
16 / M1	1 P	switched	2200 **1000**
20 / M1	1 P	switched	2200 **1001**
25 / M1	1 P	switched	2200 **1002**
32 / M1	1 P	switched	2200 **1003**
40 / M1	1 P	switched	2200 **1004**
63 / M2	1 P	switched	2200 **1006**
80 / M2	1 P	switched	2200 **1008**
100 / M3	1 P	switched	2200 **1010**
125 / M3	1 P	switched	2200 **1011**

Use

Adds one or two poles and transforms:
- a 3 pole SIRCO M into a 4 pole load break switch,
- a 6 pole SIRCO M into a 8 pole load break switch,
- a 3 pole SIRCO M into a 4 pole changeover switch.

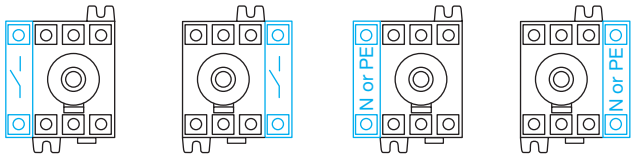
4th pole | Protective earth module | Neutral pole

Neutral pole

Rating (A) / Frame size	No. of poles	Type	Reference
16 … 40 / M1	1 P	unswitched	2200 **5005**
63 … 80 / M2	1 P	unswitched	2200 **5009**
100 … 125 / M3	1 P	unswitched	2200 **5011**

Use

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

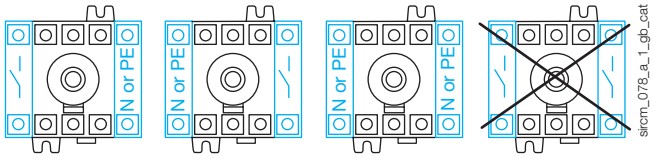


Protective earth module

Rating (A) / Frame size	No. of poles	Type	Reference
16 … 40 / M1	1 P	unswitched	2200 **9005**
63 … 80 / M2	1 P	unswitched	2200 **9009**
100 … 125 / M3	1 P	unswitched	2200 **9011**

Use

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



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.

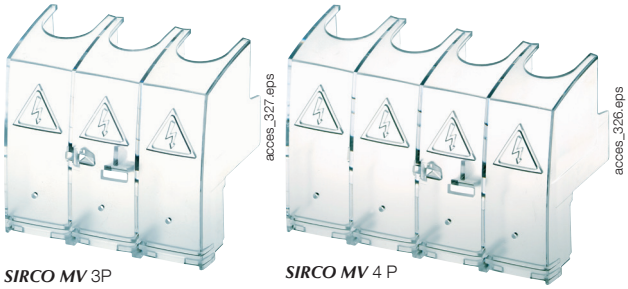
SIRCO M 3 P | ***SIRCO M*** 1 P

For SIRCO M

Rating (A) / Frame size	No. of poles	Position	Reference
16 … 40 / M1	1 P	top and bottom	2294 **1005**
16 … 40 / M1	3 P	top and bottom	2294 **3005**
63 … 80 / M2	1 P	top and bottom	2294 **1009**
63 … 80 / M1	3 P	top and bottom	2294 **3009**
100 … 125 / M3	1 P	top and bottom	2294 **1011**
100 … 125 / M3	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**



SIRCO MV 3P | ***SIRCO MV*** 4 P

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.

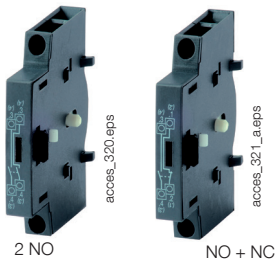
Max 4 auxiliary contacts (2 modules).

Pre-break is not guaranteed on the SIRCO MV.

Characteristics

NO+NC auxiliary contacts: IP2 with front operation.

M type



For SIRCO M

Rating (A) / Frame size	Number of AC	Type of AC	Reference
16 … 125 / M1...M3	1 AC	NO + NC	2299 **0001**
	1 AC	2 NO	2299 **0011**

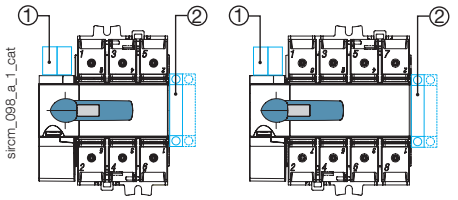
For SIRCO MV

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

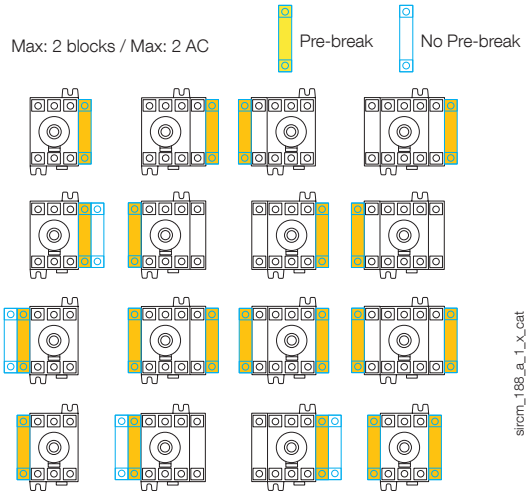
Rating (A)	Number of AC	Type of AC	Reference
100 … 160	1 AC	NO	3999 **0701**
100 … 160	1 AC	NC	3999 **0702**

Characteristics

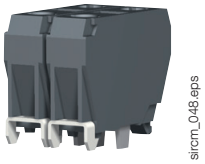
Contact type	Nominal current (A)	Operating current I_e (A) 250 VAC AC-15	400 VAC AC-15	24 VDC DC-13	48 VDC DC-13
NC	10	3	1.8	2.8	1.4
NO	10	3	1.8	2.8	1.4

Auxiliary contacts configurations for SIRCO M

Max: 2 blocks / Max: 2 AC



U type



Use

Pre-break and signalisation by NO or NC auxiliary contact can be mounted on the device.

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

Conversion kit

Use

It must be ordered together with the handle for external control.

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 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) / Frame size	Type	Reference
16 … 80 / M1 … M2	6/8 P switch	2269 **6009**
100 … 125 / M3	6/8 P switch	2269 **6011**

Changeover switches I - 0 - II

Rating (A) / Frame size	Type	Reference
16 … 80 / M1 … M2	Changeover switches I - 0 - II	2209 **6009**
100 … 125 / M3	Changeover switches I - 0 - II	2209 **6011**

Changeover switches I - I+II - II

Rating (A) / Frame size	Type	Reference
16 … 80 / M1 … M2	Changeover switches I - I+II - II	2299 **6009**
100 … 125 / M3	Changeover switches I - I+II - II	2299 **6011**

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Door mounting kit[1]

Use

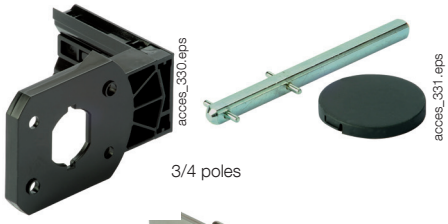
This kit enables a direct mounting of the switch on the door panel, on the right or left side of the panel.

The connection clamps of the switch are always accessible.

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

3 kits are available:

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



3/4 poles

6/8 pole

For SIRCO M

(1) Kit compatible with S00 type handle only.

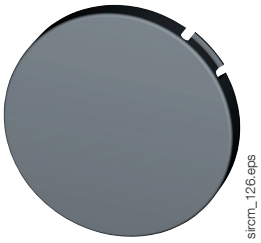
Rating (A) / Frame size	No. of poles	Description	Reference
16 ... 80 / M1 ...M2	3/4 P	Complete protection IP2X	2299 **3309**
	3/4 P	Compact version	2299 **3409**
	6/8 P	Metallic support	2299 **3609**
100 ... 125	3/4 P	Metallic support	2299 **3609**

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

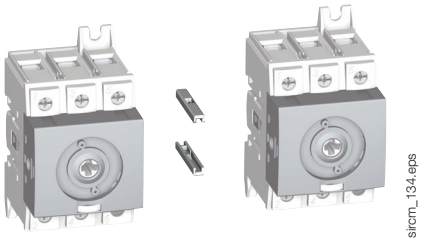
Rating (A) / Frame size	Pack	Reference
16 ... 125 / M1 ... M3	20 pieces	2299 **9409**

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.



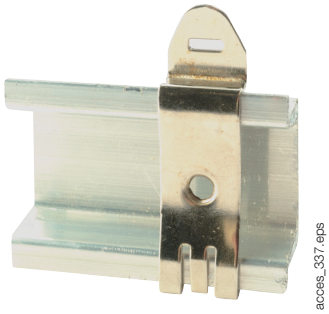
For SIRCO M

Rating (A) / Frame size	Pack	Reference
16 ... 80 / M1 ...M2	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

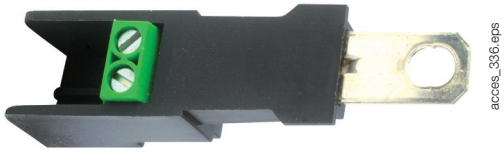
Rating (A)	Type	Reference
100 ... 160	Locking clip M4	5000 **0041**
100 ... 160	Locking clip M5	5000 **0051**

Voltage sensing and power supply tap

Use

It allows connection of 2x ≤1.5 mm² voltage sensing or power cables.

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

Characteristics according to IEC 60947-3

		SIRCO M - from 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**
Frame size		**M1**	**M1**	**M1**	**M1**	**M1**	**M2**	**M2**	**M3**	**M3**
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 peak withstand current (kA peak)(6)		6	6	6	6	6	9	9	12	12
Connection										
Minimum Cu cable cross-section (mm^2)		1.5	1.5	1.5	1.5	1.5	2.5	2.5	10	10
Maximum Cu cable cross-section (mm^2)		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

Characteristics according to IEC 60947-3

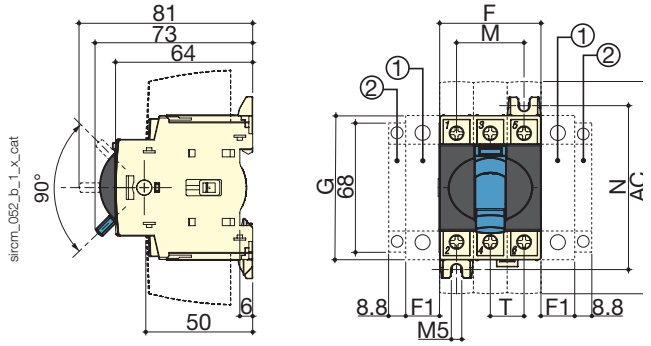
		SIRCO MV - from 100 to 160 A		
Thermal current I_{th} (40 °C)		**100 A**	**125 A**	**160 A**
Rated insulation voltage U_i (V)		800	800	800
Rated impulse withstand voltage U_{imp} (kV)		8	8	8
Rated operational currents I_e (A)				
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**
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 peak withstand current (kA peak)(6)		12	12	12
Connection				
Minimum Cu cable cross-section (mm^2)		10	10	10
Maximum Cu cable cross-section (mm^2)		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 Ue = 415 VAC.

Dimensions

SIRCO M1 and M2 16 to 80 A

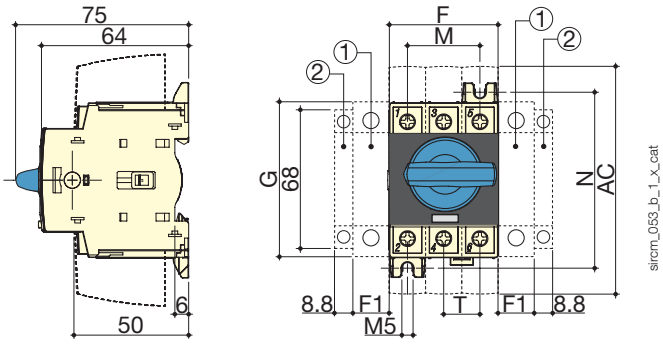
Toggle operation



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.

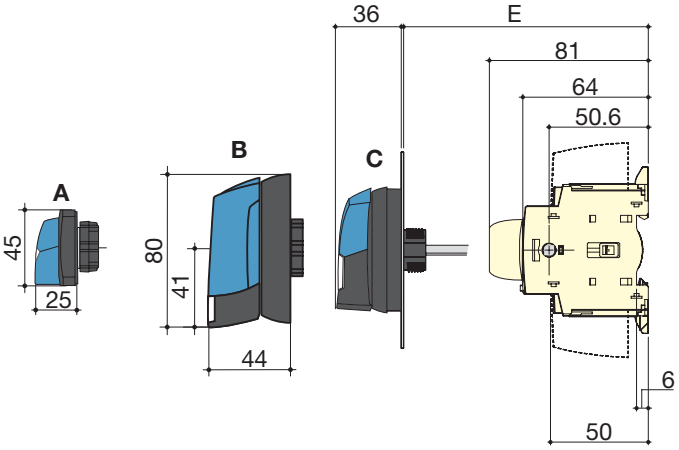
Direct operation with handle



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.

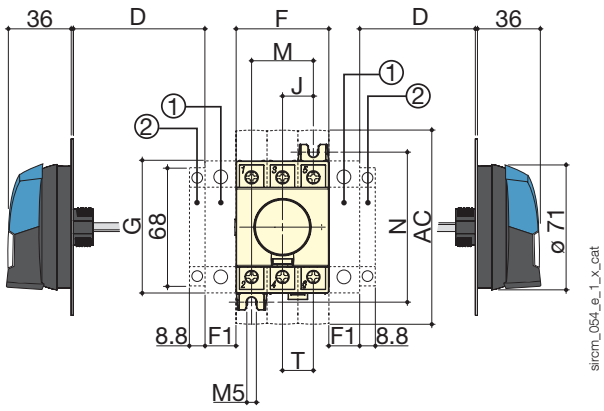
External front operation



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 module only.

Note: max 2 additional blocks.

External side operation

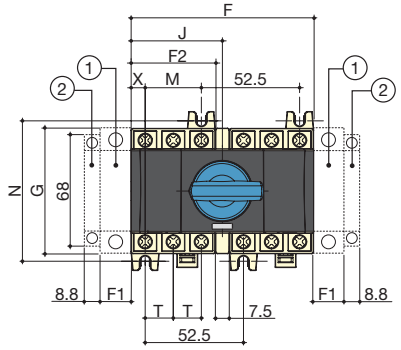


A. S000 Handle
B. S01 Handle
C. S00 Handle.

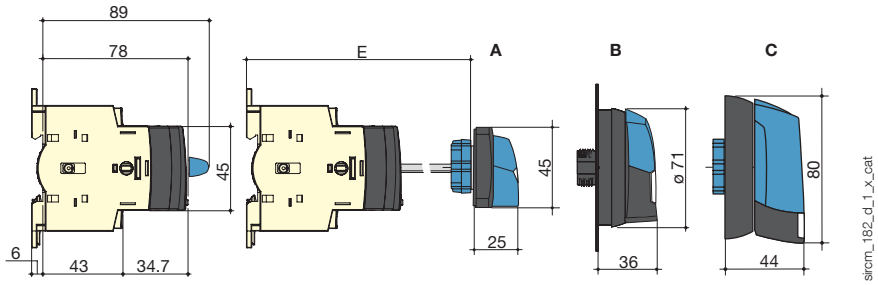
Rating (A) / Frame size	Overall dimensions				Terminal shrouds	Switch body				Switch mounting		Connection
	D min	D max	E min	E max	AC	F	F1	G	J	M	N	T
16 … 40 / M1	30	235	100	372	110	45	15	68	15	30	75	15
63 … 80 / M2	30	235	100	372	110	52.5	17.5	76	17.5	35	85	17.5

SIRCO M1 and M2 16 to 80 A (continued)

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



External 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.
2. Position for 1 auxiliary contact module only.

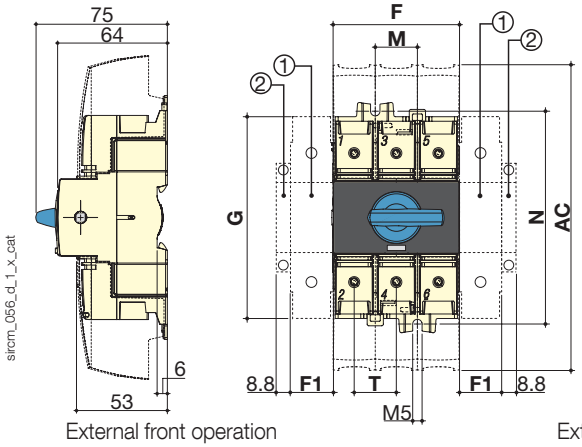
Note: max 2 additional blocks.

A. S000 handle
B. S00 handle
C. S01 handle

Rating (A) / Frame size	Overall dimensions		Switch body					Switch mounting		Connection	
	E min	E max	F	F1	F2	G	J	M	N	T	X
16 … 40 / M1	105	372	97.5	15	45	68	48.75	30	75	15	7.5
63 … 80 / M2	105	372	105	17.5	52.5	76	52.5	35	85	17.5	8.75

SIRCO M3 100 to 125 A

Direct operation with handle

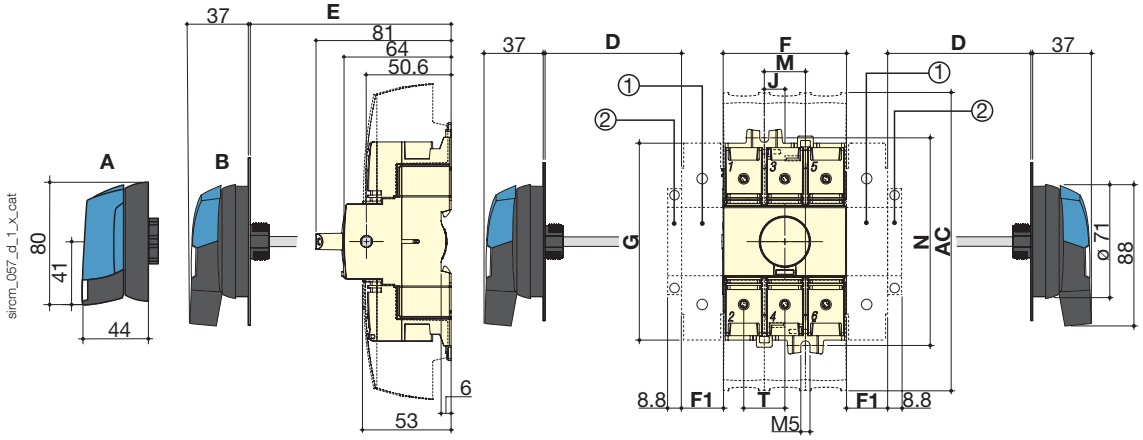


1. Location for: 1 switched fourth pole module (1 per device max.) **or** 1 unswitched neutral pole **or** 1 protective earth module **or** 1 auxiliary contact.
2. Position for 1 auxiliary contact module only.

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.

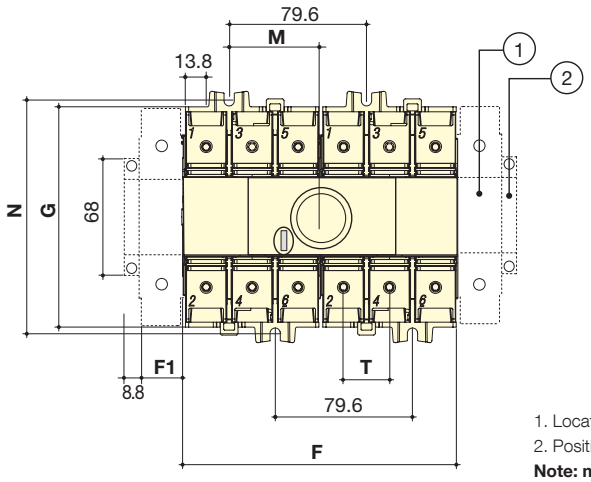
A. S01 handle
B. S00 handle

Rating (A) / Frame size	Overall dimensions				Terminal shrouds	Switch body				Switch mounting		Connection
	D min	D max	E min	E max	AC	F	F1	G	J	M	N	T
100 … 125 / M3	30	201	100	372	189	78	26	124.6	13	26	131.4	26

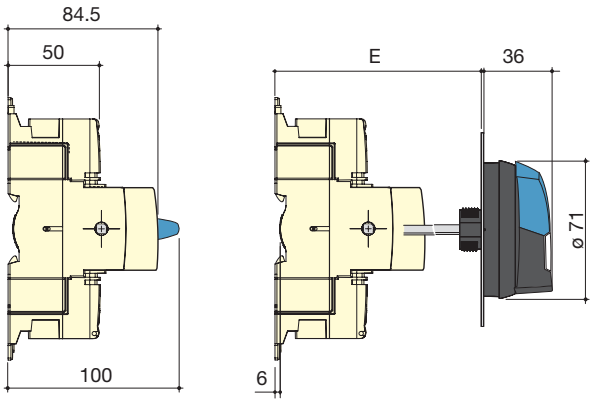
Dimensions (continued)

SIRCO M3 6/8 P and changeover switch M3 100 to 125 A

Direct front operation for 3/4 pole changeover switches



External front operation for 3/4 pole changeover switches



1. Location for: 1 main pole **or** 1 auxiliary contact (See accessory pages)
2. Position for 1 auxiliary contact module only.

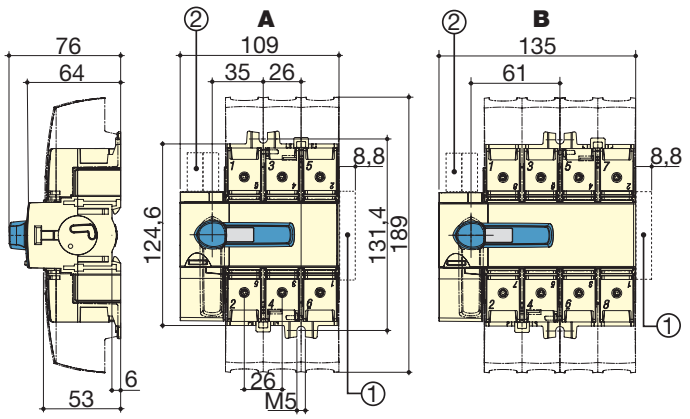
Note: max 2 additional blocks.

sircm_183_e_1_x_cat

Rating (A) / Frame size	Overall dimensions		Switch body			Switch mounting		Connection
	E min	E max	F	F1	G	M	N	T
100 … 125 / M3	105	372	159	26	124.5	52.8	131.5	26

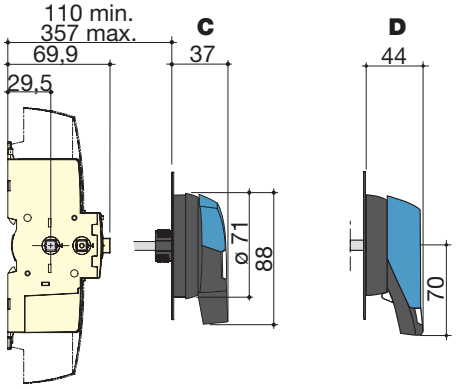
SIRCO MV 100 to 160 A

Direct front operation



A. 3 poles
B. 4 poles

External front operation

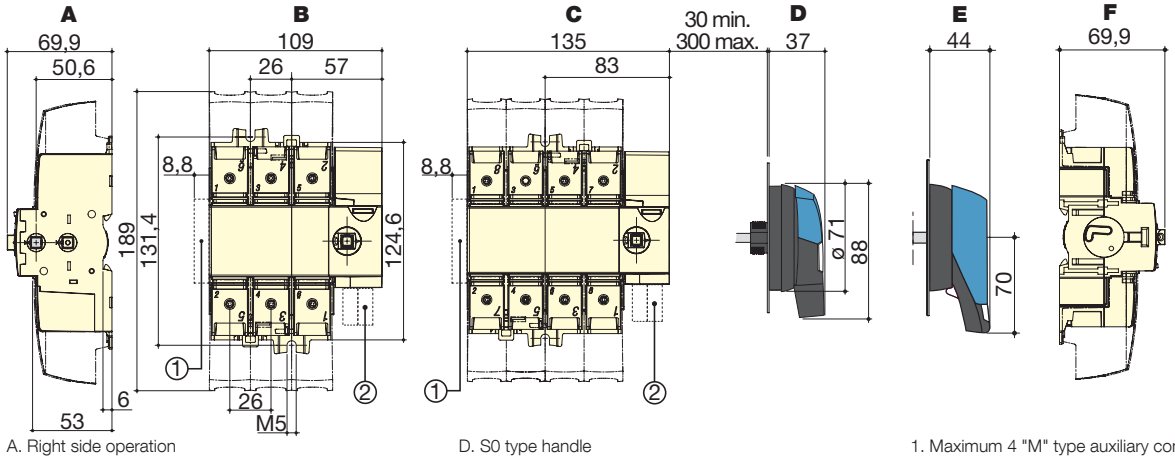


C. S0 type handle
D. S1 type handle

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

sircm_058_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

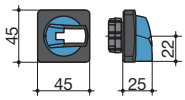
1. Maximum 4 "M" type auxiliary contacts
2. Maximum 2 "U" type auxiliary contacts

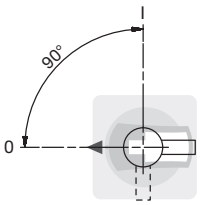
sircm_059_d_1_x_cat

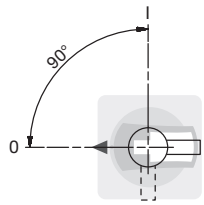
Dimensions for external handles

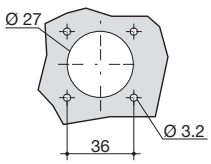
SIRCO M1 and M2

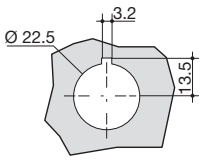
Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S000 type Load break switches		**Right side operation**	With 4 fixing screws / With fixing nut





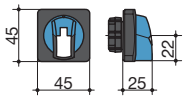


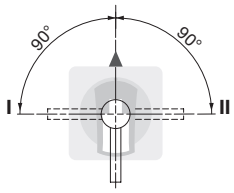


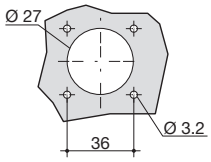


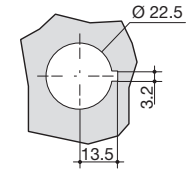
poign_016_a_1_gb_cat

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



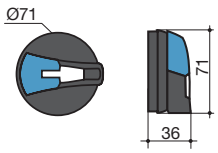


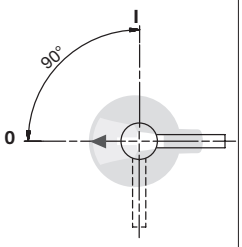


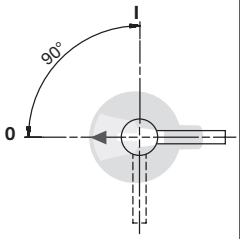


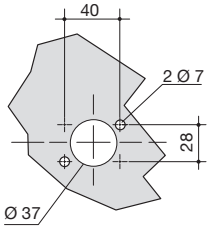
poign_017_b_1_gb_cat

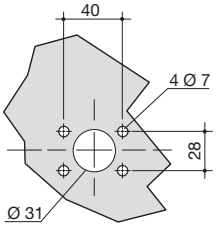
Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S00 type Load break switches		**Right side operation**	IP55 with 2 fixing clips / IP65 with 4 fixing screws



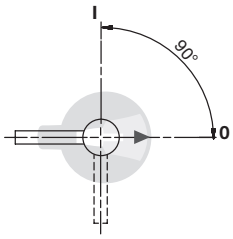




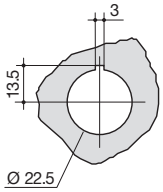




Left side operation

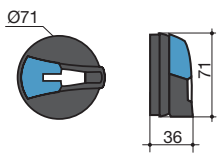


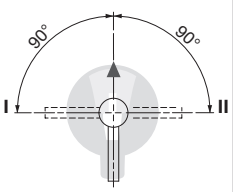
With fixing nut

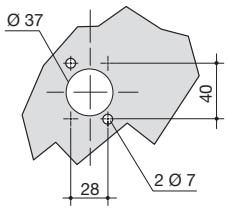


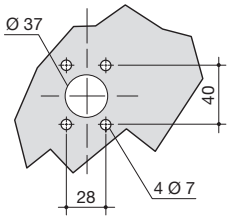
poign_024_a_1_gb_cat

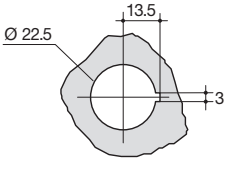
Handle type	Front operation Direction of operation	Door drilling
S00 type Transfer switches I-0-II and I - I+II - II	**0** or **I+II**	IP55 with 2 fixing clips / IP65 with 4 fixing screws / With fixing nut







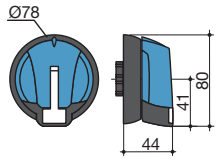
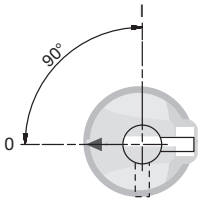
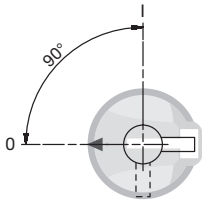
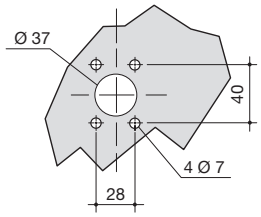


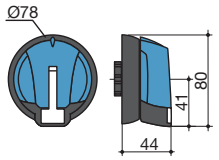
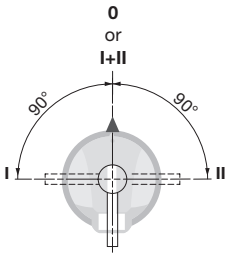
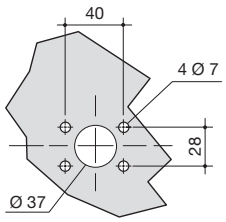


poign_025_b_1_gb_cat

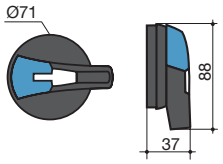
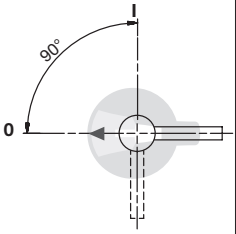
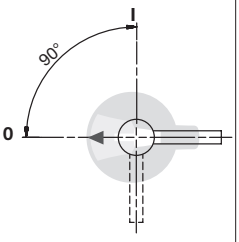
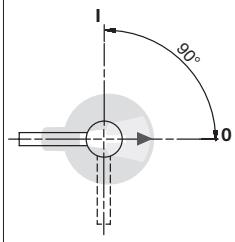
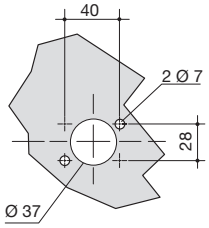
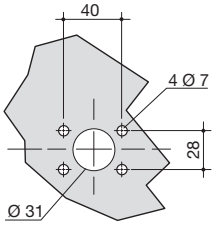
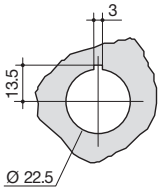
Dimensions for external handles

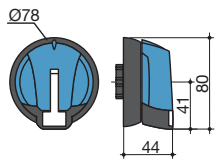
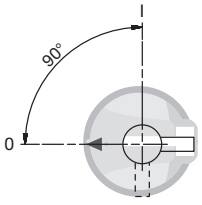
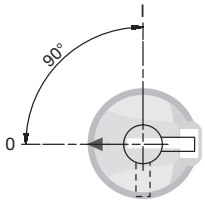
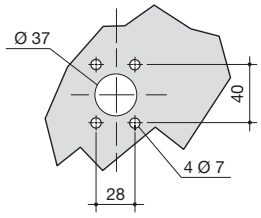
SIRCO M1 and M2 - 3/4 P and 6/8 P

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 

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

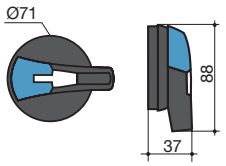
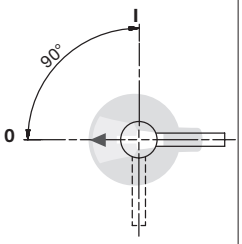
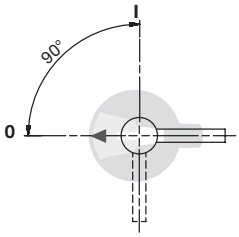
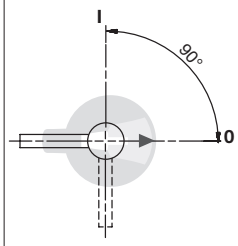
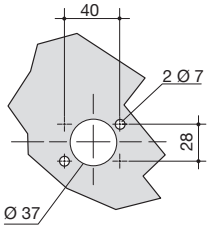
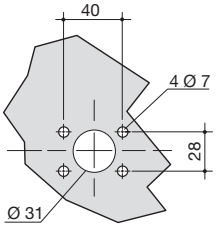
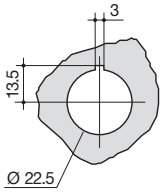
SIRCO M3

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 

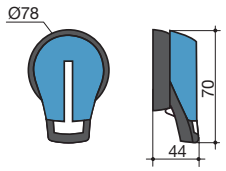
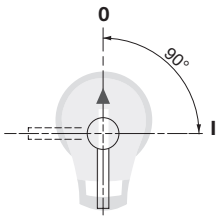
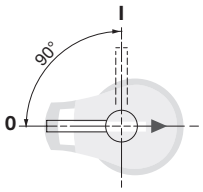
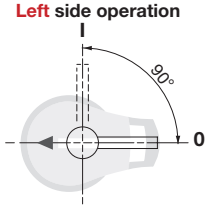
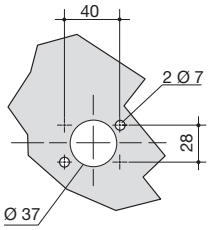
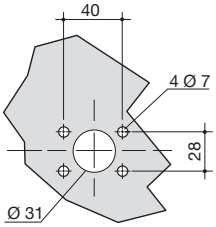
Handle type	Front operation Direction of operation	Side operation Direction of operation	Door drilling
S01 type Load break switches 		**Right side operation** 	IP65 with 4 fixing screws 

poign_018_a_1_gb_cat
poign_019_b_1_gb_cat
poign_026_a_1_gb_cat
poign_018_a_1_gb_cat

SIRCO MV

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 

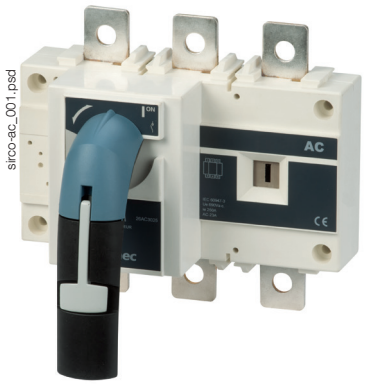
poign_026_a_1_gb_cat

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

SIRCO

Load break switches for power distribution
from 125 to 5000 A



***SIRCO** 3 x 250 A*
direct operation

The solution for

- Data centre
- Healthcare
- Energy
- Infrastructure & Transport
- Industry
- Building

Strong points

- Reliability and performance
- Safety of operation and personnel
- Simplicity
- Easy to install

Compliance with standards

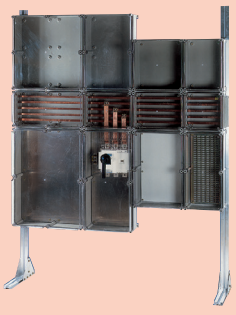
- IEC 60947-3

Approvals and certifications(1)

(1) Product reference on request.

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 manuallyor motorised multi-pole 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 devices are designed for extreme applications up to 690 VAC - AC 23.

Advantages

Reliability and performance
The double-breaking-per-pole design achieved through its sliding bar contact system, is a proven design that offers very high durability and short-circuit withstand. Quick opening and rapid closure combined with cut-off chambers on SIRCO AC units delivers high 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 range and its wide choice of common accessories enable:
- Simple mounting.
- Reduced stock management and storage costs.

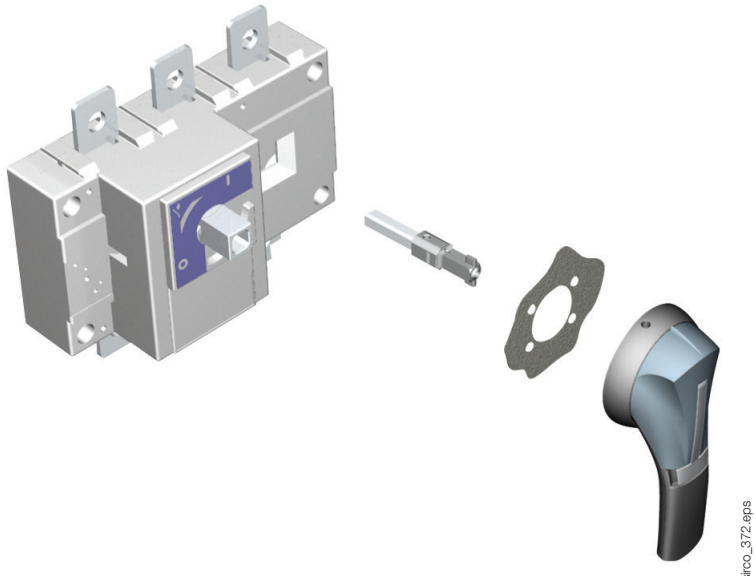
Easy to install
The outdoor ranges are easy to install with:
- A good centre-to-centre distance (up to 120 mm);
- Connection up to 6 x 185 mm²;
- Connection accessories for both flat and edgewise connections.

General characteristics

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

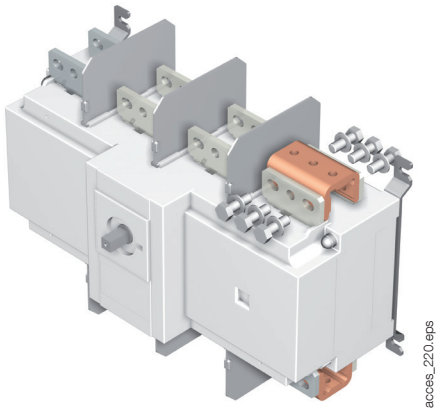
What you need to know

- 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.
- SIRCO is available in a polyester or sheet metal enclosure from 125 to 1250 A.

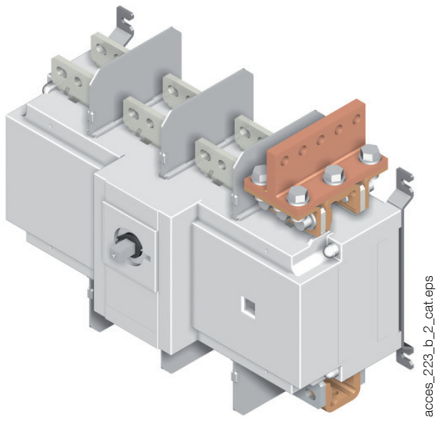

sirco_372.eps

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


acces_220.eps

Edgewise connection
top or bottom


acces_223_b_2_cat.eps

SIRCO - References

Standard applications - Front operation - 3 & 4-pole

Rating (A) / Frame size	No. of poles	Switch body[1]	Direct handle	External handle	Shaft for external handle	Auxiliary contact	Terminal shrouds	Terminal screens
125 A / B3	3 P	2600 **3014**	J0 type Black 1102 **1111**[2] Red 1103 **1111**	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 NO/NC contact 2699 **0031** 2nd NO/NC contact 2699 **0032**	3 P 2694 **3014**[3] 4 P 2694 **4014**[3]	3 P 2698 **3012**[3] 4 P 2698 **4012**[3]
	4 P	2600 **4014**						
160 A / B3	3 P	2600 **3017**						
	4 P	2600 **4017**						
200 A / B4	3 P	2600 **3021**	J1 type Black 1112 **1111** Red 1113 **1111**				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 / B4	3 P	2600 **3026**						
	4 P	2600 **4026**						
315 A / B5	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 / B5	3 P	2600 **3041**						
	4 P	2600 **4041**						
500 A / B5	3 P	2600 **3051**						
	4 P	2600 **4051**						
630 A / B5	3 P	2600 **3064**						
	4 P	2600 **4064**						
800 A / B6	3 P	2600 **3081**	J4 type Blue 1142 **1111**[2] Red 1143 **1111**	Type S4 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 / B6	3 P	2600 **3099**						
	4 P	2600 **4099**						
CD 1250 A / B6	3 P	2600 **3119**						
	4 P	2600 **4119**						
1250 A / B7	3 P	2600 **3121**						3 P 2698 **3120**[3] 4 P 2698 **4120**[3]
	4 P	2600 **4121**						
1600 A / B7	3 P	2600 **3161**						
	4 P	2600 **4161**						
1800 A / B7	3 P	2600 **3181**						
	4 P	2600 **4181**						
2000 A / B8	3 P	2600 **3200**	S5 type Black 2799 **7042**[2] Red 2799 **7043**	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 / B8	3 P	2600 **3250**						
	4 P	2600 **4250**						
3200 A / B8	3 P	2600 **3320**						
	4 P	2600 **4320**						
4000 A / B9	3 P	2600 **3401**	V0 type Black 2799 **7072**[2]	V0 type Black IP65 2799 **7155**[2]		1st/2nd NO/NC contact included		-
	4 P	2600 **4401**						
5000 A / B9	3 P	2600 **3500**						
	4 P	2600 **4500**						

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

SIRCO AC - References

Heavy duty applications - Front operation 3 & 4 pole

Rating (A) / Frame size	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact	Terminal shrouds	Terminal screens
200 A / B4	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 / B4	3 P	26AC **3025**						
	4 P	26AC **4025**						
315 A / B4	3 P	26AC **3031**						
	4 P	26AC **4031**						
400 A / B5	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 / B5	3 P	26AC **3050**						
	4 P	26AC **4050**						
CD 630 A / B5	3 P	26AC **3063**						
	4 P	26AC **4063**						
630 A / B6	3 P	26AC **3064**	J4 type Blue 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 / B6	3 P	26AC **3080**						
	4 P	26AC **4080**						
1000 A / B6	3 P	26AC **3100**						
	4 P	26AC **4100**						
CD 1 250 A / B6	3 P	26AC **3120**						
	4 P	26AC **4120**						
1250 A / B7	3 P	26AC **3121**						3 P 2698 **3120**(2)(3) 4 P 2698 **4120**(2)(3)
	4 P	26AC **4121**						
1600 A / B7	3 P	26AC **3160**						
	4 P	26AC **4160**						
2000 A / B8	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 / B9	3 P	consult us	V0 type Black 2799 **7072**(1)	V0 type Black 2799 **7155**(1)		1st / 2nd included		3/4P 1509 **4200**(4)
	4 P							

(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) / Frame size	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact	Terminal shrouds	Terminal screens
125 A / $B3_{DS}$	6 P	2601 **6013**	J2 type Black 1122 **1111**(1) Red 1123 **1111**	S2 type Black IP55 1421 **2111**(1) Red IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032**(1)	1st NO/NC contact 2699 **0061** 2nd NO/NC contact 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 / $B3_{DS}$	6 P	2601 **6016**						
	8 P	2601 **8016**						
250 A / $B4_{DS}$	6 P	2601 **6025**	J3 type Black 1132 **1111**(1) Red 1133 **1111**	Type S4 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 / $B5_{DS}$	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 / $B5_{DS}$	6 P	2601 **6063**						
	8 P	2601 **8063**						
800 A / $B6_{DS}$	6 P	2601 **6080**	J4 type Blue 1142 **1111**(2) Red 1143 **1111**	Type V1 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 / $B6_{DS}$	6 P	2601 **6100**						
	8 P	2601 **8100**						
1250 A / $B7_{DS}$	6 P	2601 **6120**						
	8 P	2601 **8120**						
1600 A / $B7_{DS}$	6 P	2601 **6160**						6 P 1509 **3160**(4) 8 P 1509 **4160**(4)
	8 P	2601 **8160**						

(1) Standard.
(2) Top or bottom on the front or rear of the device.
(3) Select 2 sets for front or rear.
(4) Top or bottom at the front of the device.

Accessories

Direct operation handle

SIRCO direct operation handle

Rating (A) / Frame size	No. of poles	Handle type	Handle colour	Reference
125 … 160 / B3	3/4 P	J0	Black	1102 **1111**(1)
125 … 160 / B3	3/4 P	J0	Red	1103 **1111**
125 … 160 / $B3_{DS}$	6/8 P	J2	Black	1122 **1111**(1)
125 … 160 / $B3_{DS}$	6/8 P	J2	Red	1123 **1111**
200 ... 630 / B4-B5	3/4 P	J1	Black	1112 **1111**(1)
200 ... 630 / B4-B5	3/4 P	J1	Red	1113 **1111**
250 … 630 / $B4_{DS}$-$B5_{DS}$	6/8 P	J3	Black	1132 **1111**(1)
250 … 630 / $B4_{DS}$-$B5_{DS}$	6/8 P	J3	Red	1133 **1111**
800 ... 1800 / B6...B7	3/4 P	J4	Blue	1142 **1111**(1)
800 ... 1800 / B6...B7	3/4 P	J4	Red	1143 **1111**
800 ... 1600 / $B6_{DS}$-$B7_{DS}$	6/8 P	J4	Blue	1142 **1111**(1)
800 ... 1600 / $B6_{DS}$-$B7_{DS}$	6/8 P	J4	Red	1143 **1111**
1800 ... 3200 / B8	3/4P	S5	Black	2799 **7042**(1)
1800 ... 3200 / B8	3/4P	S5	Red	2799 **7043**
4000 … 5000 / B9	3/4 P	V0	Black	2799 **7072**(1)

(1) Standard.

SIRCO AC direct operation handle

Rating (A) / Frame size	No. of poles	Handle type	Handle colour	Reference
200 … CD 630 / B4 … B5	3/4 P	J1	Black	1112 **1111**(1)
200 … CD 630 / B4 … B5	3/4 P	J1	Red	1113 **1111**
630 … 1600 / B6 … B7	3/4 P	J4	Blue	1142 **1111**(1)
630 … 1600 / B6 … B7	3/4 P	J4	Red	1143 **1111**
2000 / B8	3/4 P	S5	Black	2799 **7042**(1)
2000 / B8	3/4 P	S5	Red	2799 **7043**
4000 / B9	3/4 P	V0	Black	2799 **7072**(1)

(1) Standard.

J1 type handle

J4 type handle

S5 type handle

Door interlocked external operation handle

SIRCO and SIRCO AC external front operation handle

Rating (A) / Frame size		No. of poles	Handle type	Handle colour	External IP(1)	Reference
SIRCO	SIRCO AC					
125 ... 630 / B3 ... B5	200 … CD 630 / B4 … B5	3/4 P	S2	Black	IP55	1421 **2111**(2)
				Black	IP65	1423 **2111**
				Red	IP65	1424 **2111**
125 … 160 / $B3_{DS}$	-	6/8 P		Black	IP55	1421 **2111**(2)
				Black	IP65	1423 **2111**
				Red	IP65	1424 **2111**
250 ... 630 / $B4_{DS}$-$B5_{DS}$		6/8 P	S4	Black	IP65	1443 **3111**
				Red	IP65	1444 **3111**
800 ... 1600 / $B6_{DS}$-$B7_{DS}$		6/8 P	V1	Black	IP65	2799 **7145**(2)
800 ... 1800 / B6-B7	630 … 1600 / B6 … B7	3/4 P	S4	Black	IP65	1443 **3111**(2)
				Red	IP65	1444 **3111**
2000 ... 3200 / B8	2000 / B8	3/4 P	V2	Black	IP65	2799 **7136**(2)
				Red	IP65	2799 **7134**
			S5	Black	IP65	1453 **8111**
				Red	IP65	1454 **8111**
4000 … 5000 / B9	4000 / B9	3/4 P	V0	Black	IP65	2799 **7155**(2)

(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

Accessories (continued)

Shaft for external operation

For 3/4 pole SIRCO and SIRCO AC

Rating (A) / Frame size				
SIRCO	SIRCO AC	Dimension X (mm)	Length (mm)	Reference
125 ... 160 / B3		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 / B4	200 ... 315 / B4	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 / B5	400 ... CD 630 / B5	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 / B6...B7	630 ... 1600 / B6 ... B7	221 ... 343	200	1401 **1520**
		221 ... 463	320	1401 **1532**
		221 ... 543	400	1401 **1540**
2000 ... 3200 / B8	2000 / B8	415 ... 570	200	2799 **3015**
		415 ... 690	320	2799 **3018**
		415 ... 820	450	2799 **3019**
4000 ... 5000 / B9	4000 / B9	550 ... 680	200	2799 **3015**
		651 ... 921	320	2799 **3018**

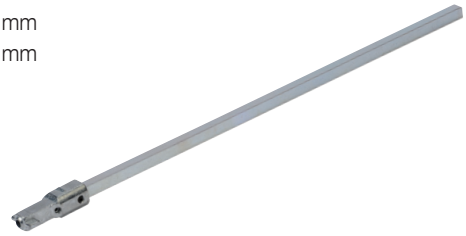
For 6/8-pole SIRCO

Rating (A) / Frame size	Dimension X (mm)	Length (mm)	Reference
125 ... 160 / $B3_{DS}$	270 ... 436	200	1400 **1020**
125 ... 160 / $B3_{DS}$	270 ... 556	320	1400 **1032**
250 ... 630 / $B4_{DS}$-$B5_{DS}$	221 ... 308	200	1401 **1520**
250 ... 630 / $B4_{DS}$-$B5_{DS}$	221 ... 428	320	1401 **1532**
250 ... 630 / $B4_{DS}$-$B5_{DS}$	221 ... 508	400	1401 **1540**

Use

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

Other lengths available:
- please consult us.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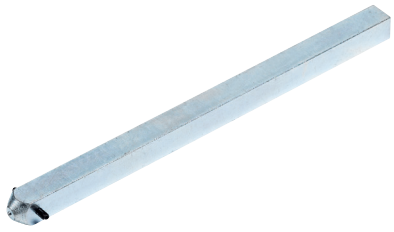
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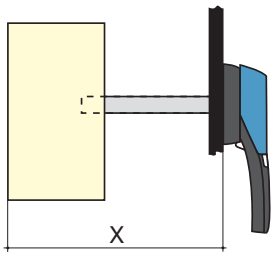

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Alternative handle cover colours

Use

For S type handles.

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


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S type cover

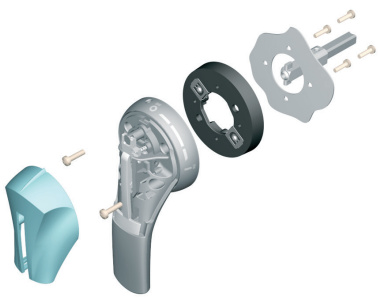
S type handle adapter

Use

Adds 12 mm to the depth of the handle.

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.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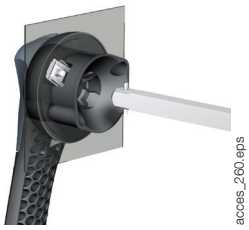
Shaft guide for external operation

Use

For use 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.
Recommended for shaft lengths over 320 mm.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Description	Reference
Shaft guide	1429 **0000**

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

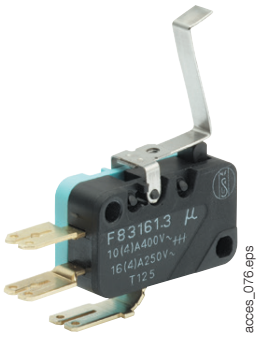
NO/NC A/C: IP2 with front operation.

Connection to the control circuit

6.35 mm fast-on terminal.

Electrical characteristics

30 000 operations.



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NO/NC contact for 3/4 pole SIRCO and SIRCO AC		
Rating (A) / Frame size	**Position A/C**	**Reference**
125 … 3200 / B3 … B8	1st	2699 **0031**
125 … 3200 / B3 … B8	2nd	2699 **0032**
4000 … 5000 /B9	1st/2nd	included

NO/NC contact for 6/8 pole SIRCO		
Rating (A) / Frame size	**Position A/C**	**Reference**
125 … 1600 / $B3_{DS}$ … $B7_{DS}$	1st	2699 **0061**
125 … 1600 / $B3_{DS}$ … $B7_{DS}$	2nd	2699 **0062**

NO+NC contact for 3/4 pole SIRCO and SIRCO AC		
Rating (A) / Frame size	**Position A/C**	**Reference**
125 … 3200 / B3 … B8	1st	2699 **0141**
125 … 3200 / B3 … B8	2nd/3rd/4th	2699 **0142**

NO/NC low level contact for 3/4 pole SIRCO and SIRCO AC		
Rating (A) / Frame size	**Position A/C**	**Reference**
125 … 3200 / B3 … B8	1st	2699 **0301**
125 … 3200 / B3 … B8	2nd	2699 **0302**

Characteristics

			Operating current I_e (A)									
			230 VAC		400 VAC		24 VDC			48 VDC		
Rating (A) / Frame size	**Contact type**	**Current nominal (A)**	**AC-12**	**AC-13/15**	**AC-12**	**AC-13/15**	**DC-12**	**DC-13**	**DC-14**	**DC-12**	**DC-13**	**DC-14**
125 … 3200 / B3 … B8	NO/NC	16	16	4	12	3	2.5	2.5	1	2.5	1.2	0.2
125 … 3200 / B3 … B8	NO + NC	16	16	4	16	3	16	5	1	2.5	1.2	0.2

Inter-phase barrier

Use

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


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For 3/4 poles SIRCO and SIRCO AC

Rating (A) / Frame size			
SIRCO	**SIRCO AC**	**No. of poles**	**Reference**
125 … 160 / B3		3 P	2998 **0033**
125 … 160 / B3		4 P	2998 **0034**
200 … 250 / B4	200 … 315 / B4	3 P	2998 **0023**
200 … 250 / B4	200 … 315 / B4	4 P	2998 **0024**
315 … 630 / B5	315 … CD 630 / B5	3 P	2998 **0013**
315 … 630 / B5	315 … CD 630 / B5	4 P	2998 **0014**
800 … 5000 / B6 … B9	630 … 4000 / B6 … B9	3 P	included
800 … 5000 / B6 … B9	630 … 4000 / B6 … B9	4 P	included

Accessories (continued)

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 from 125 to 630 A.

For 3/4 poles SIRCO and SIRCO AC

Rating (A) / Frame size				
SIRCO	SIRCO AC	No. of poles	Position	Reference
125 ... 160 / B3		3 P	top or bottom	2694 **3014**(1)
125 ... 160 / B3		4 P	top or bottom	2694 **4014**(2)
200 ... 250 / B4	200 ... 315 / B4	3 P	top or bottom	2694 **3021**(1)
200 ... 250 / B4	200 ... 315 / B4	4 P	top or bottom	2694 **4021**(2)
315 ... 630 / B5	400 ... CD 630 / B5	3 P	top or bottom	2694 **3051**(1)
315 ... 630 / B5	400 ... CD 630 / B5	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

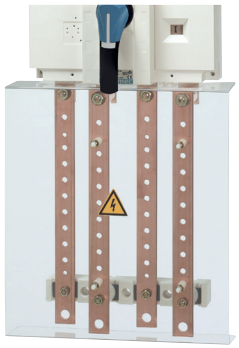
Rating (A) / Frame size	No. of poles	Position	Reference
125 ... 160 / $B3_{DS}$	6 P	Top or bottom	2694 **3014**(1)(3)
125 ... 160 / $B3_{DS}$	8 P	Top or bottom	2694 **4014**(2)(3)
250 / $B4_{DS}$	6 P	Top or bottom	2694 **3021**(1)(3)
250 / $B4_{DS}$	8 P	Top or bottom	2694 **4021**(2)(3)
400 ... 630 / $B5_{DS}$	6 P	Top or bottom	2694 **3051**(1)(3)
400 ... 630 / $B5_{DS}$	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 multiple cables, bottom of the SIRCO.

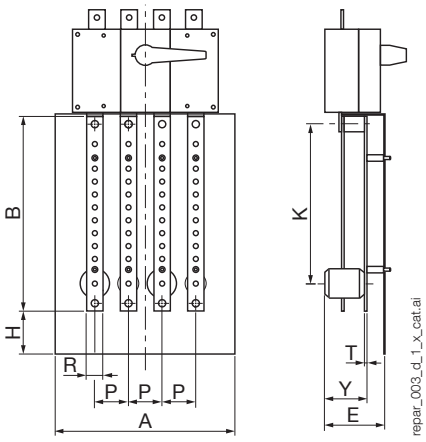


For 3/4-pole SIRCO

Rating (A) / Frame size	No. of poles	No. of feeders per section (mm²)	I_{cc} (kA rms)(1)	Reference
160 / B3	3 P	1x95 + 8x25	10	5411 **3016**
160 / B3	4 P	1x95 + 8x25	10	5411 **4016**
250 / B4	3 P	1x150 + 8x50	15	5411 **3025**
250 / B4	4 P	1x150 + 8x50	15	5411 **4025**
400 / B5	3 P	1x240 + 8x95	21	5411 **3040**
400 / B5	4 P	1x240 + 8x95	21	5411 **4040**
630 / B5	3 P	1x300 + 8x150	21	5411 **3063**
630 / B5	4 P	1x300 + 8x150	21	5411 **4063**

Dimensions

Rating (A) / Frame size	No. of poles	A	B	T	H	K	P	R	T	Y
160 / B3	3 P	154	286	73	46.5	261.5	36	20	4	54
160 / B3	4 P	190	286	73	46.5	261.5	36	20	4	54
250 / B4	3 P	210	307	83	57.5	279	50	25	4	56
250 / B4	4 P	260	307	83	57.5	279	50	25	4	56
400 / B5	3 P	281	375	116	82.5	340	65	32	5	82
400 / B5	4 P	346	375	116	82.5	340	65	32	5	82
630 / B5	3 P	271	438	117	90.5	410.5	65	40	6	83
630 / B5	4 P	346	438	117	90.5	410.5	65	40	6	83



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Terminal screens

Use

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

For 3/4 poles SIRCO and SIRCO AC

Rating (A) / Frame size				
SIRCO	**SIRCO AC**	**No. of poles**	**Position**	**Reference**
125 … 160 / B3		3 P	top or bottom	2698 **3012**
125 … 160 / B3		4 P	top or bottom	2698 **4012**
200 … 250 / B4	200 … 315 / B4	3 P	top or bottom	2698 **3020**
200 … 250 / B4	200 … 315 / B4	4 P	top or bottom	2698 **4020**
315 … 630 / B5	400 … CD 630 / B5	3 P	top or bottom	2698 **3050**
315 … 630 / B5	400 … CD 630 / B5	4 P	top or bottom	2698 **4050**
800 … CD 1250 / B6	630 … CD 1250 / B6	3 P	top or bottom	2698 **3080**
800 … CD 1250 / B6	630 … CD 1250 / B6	4 P	top or bottom	2698 **4080**
1250 … 1800 / B7	1250 … 1600 / B7	3 P	top or bottom	2698 **3120**
1250 … 1800 / B7	1250 … 1600 / B7	4 P	top or bottom	2698 **4120**
2000 … 3200 / B8	2000 / B8	3 P	top or bottom	2698 **3200**
2000 … 3200 / B8	2000 / B8	4 P	top or bottom	2698 **4200**
4000 … 5000 / B9	4000 / B9	3/4 P	top or bottom	1509 **4200**

For 6/8-pole SIRCO

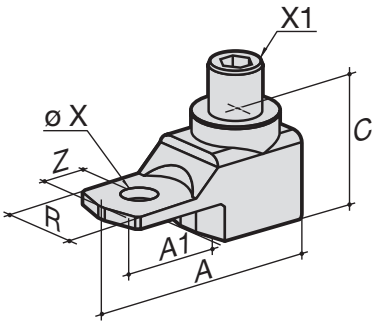
Rating (A) / Frame size	No. of poles	Position	Reference
125 … 160 / $B3_{DS}$	6 P	Top or bottom	1509 **3012**
125 … 160 / $B3_{DS}$	8 P	Top or bottom	1509 **4012**
250 / $B4_{DS}$	6 P	Top or bottom	1509 **3025**
250 / $B4_{DS}$	8 P	Top or bottom	1509 **4025**
400 ... 630 / $B5_{DS}$	6 P	Top or bottom	1509 **3063**
400 ... 630 / $B5_{DS}$	8 P	Top or bottom	1509 **4063**
800 ... 1250 / $B6_{DS}$-$B7_{DS}$	6 P	Top or bottom	1509 **3080**
800 ... 1250 / $B6_{DS}$-$B7_{DS}$	8 P	Top or bottom	1509 **4080**
1600 / $B7_{DS}$	6 P	Top or bottom	1509 **3160**
1600 / $B7_{DS}$	8 P	Top or 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) / Frame size	A	A1	C	R	ØX	X1	Z
125 … 160 / B3	47.5	22.5	25	20	8.5	M12	10
200 … 250 / B4	62	31.5	31.5	25	10.5	M16	14
315 … 400 / B5	71.5	32	38	32	10.5	M20	15
500 … 630 / B5	76.5	37	38	40	12.5	M20	15

References

Rating (A) / Frame size	Tightening capacity (mm²)	No. of poles	Tightening torque (Nm)	Flexible bar width (mm)	Reference
125 … 160 / B3	16 ... 95	3 P	14	13	5400 **3016**
125 … 160 / B3	16 ... 95	4 P	14	13	5400 **4016**
200 … 250 / B4	16 ... 185	3 P	25	18	5400 **3025**
200 … 250 / B4	16 ... 185	4 P	25	18	5400 **4025**
315 … 400 / B5	50 ... 240	3 P	45	20	5400 **3040**
315 … 400 / B5	50 ... 240	4 P	45	20	5400 **4040**
500 … 630 / B5	70 ... 300	3 P	45	24	5400 **3063**
500 … 630 / B5	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 as standard.

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) / Frame size	Part	Quantity to order per pole(1)	Reference
2000 … 2500 / B8	Connection - part A	1	2619 **1200**
2000 … 2500 / B8	Bolt set - part B	1	2699 **1200**
3200 / B8	Connection - part A		included
3200 / B8	Bolt set - part B	1	2699 **1200**
4000 … 5000 / B9	Standard connection		

(1) Example for 3-pole device equipped top only: order 3 times the indicated quantity.

Fig. 1

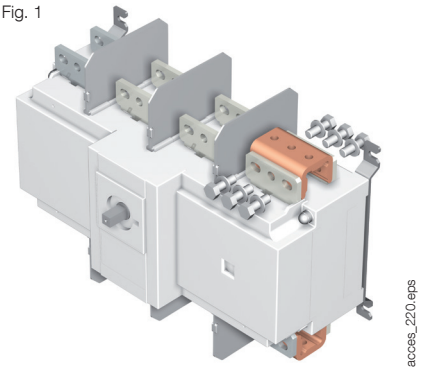
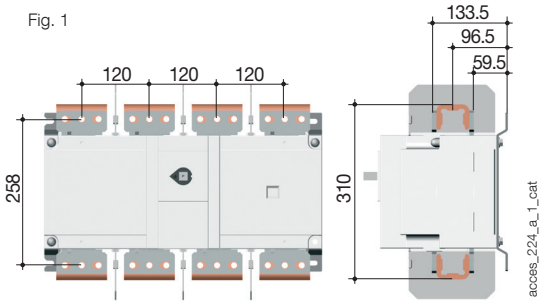


Fig. 1



Top or bottom edgewise connection - Fig. 2

Rating (A) / Frame size	Part	Quantity to order per pole(1)	Reference
2000 … 2500 / B8	Connection - part A	1	2619 **1200**
2000 ... 2500 / B8	T piece - part C	1	2629 **1200**(2)
2000 … 2500 / B8	Bracket - part D	1	2639 **1200**(2)
3200 / B8	Connection - part A		included
3200 / B8	T piece - part C	1	2629 **1200**
3200 / B8	Bracket - part D	1	2639 **1200**
4000 … 5000 / B9	Standard connection		

(1) Example for 3-pole device equipped top only: order 3 times the indicated quantity.
(2) Bolt set is provided with the accessories.

Fig. 2

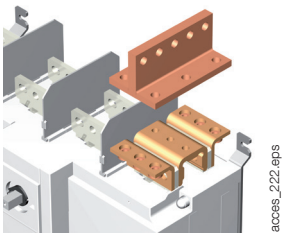
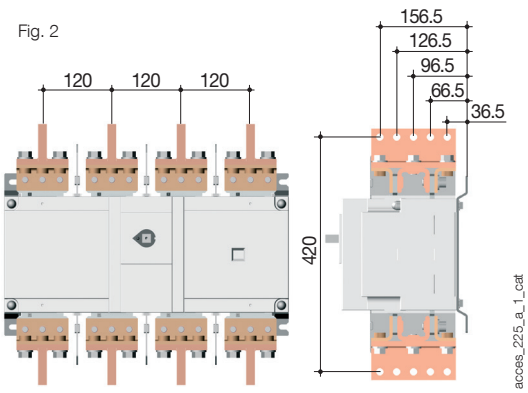


Fig. 2



socomec
Innovative Power Solutions

Key handle interlocking system

Use

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

- using a padlock (not supplied) and standard padlocking function of the handle. From 125 to 1800 A, padlocking the external front operation handle provides door interlocking,
- using a lock (not supplied): see diagrams opposite,
- using an undervoltage coil: the SIRCO can only be closed if the coil is energised.

For 6 / 8-pole, please consult us.

Fig. 1

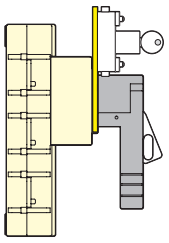


Fig. 2

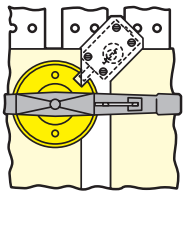


Fig. 3

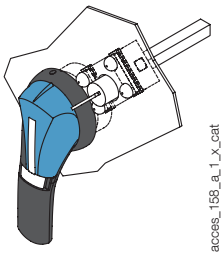
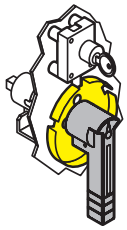


Fig. 4



For SIRCO
Locking using RONIS EL11AP lock (not supplied)

Rating (A) / Frame size	No. of poles	Operation	Figure	Reference
125 ... 630 / B3 ... B5	3/4 P	Front direct	1	2699 **6008**(1)
125 ... 1800 / B3 ...B7	3/4 P	External front	3	1499 **7701**
800 ... 3200 / B6 ...B8	3/4 P	Front direct	2	2699 **6027**
1250 ... 5000 / B7 ...B9	3/4 P	External front	4	2799 **7002**

(1) Front operation handle included.

For SIRCO AC

Locking using RONIS EL11AP lock (not supplied)				
Rating (A) / Frame size	**No. of poles**	**Operation**	**Figure**	**Reference**
200 ... CD 630 / B4 ... B5	3/4 P	Front direct	1	2699 **6008**(1)
630 ... 1600 / B6 ... B7	3/4 P	Front direct	2	2699 **6027**

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

For SIRCO
Locking using 230 VAC undervoltage coil

(For other voltages, please contact us)

Rating (A) / Frame size	No. of poles	Operation	Reference
125 ... 630 / B3 ... B5	3/4 P	External front	2699 **9063**(1)
800 ... 3200 / B6 ... B8	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) / Frame size	**No. of poles**	**Handle type**	**Lock type**	**Operation**	**Figure**	**Reference**
125 ... 160 / B3	6/8 P	S2	K	External front	2	4109 **8507**
125 ... 1 800 / B3 ... B8	3/4 P	S2, S4	FS	External front	3	1499 **7703**
125 ... 1 800 / B3 ... B8	3/4 P	S2, S4	K	External front	3	1499 **7702**
250 ... 630 / B4 ... B5	6/8 P	S4	K	External front	2	2999 **8707**
800 ... 1 600 / B6 ... B7	6/8 P	S5	K	External front	2	2799 **7003**
1 250 ... 4 000 / B7 ... B9	3/4 P	S5, S0	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**
Frame size		**B3**	**B3**	**B4**	**B4**	**B5**	**B5**	**B5**	**B5**	**B6**
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(2) / 125(2)	160(2) / 160(2)	160(2) / 200(2)	200(2) / 200(2)	315(2) / 315(2)	400(2) / 400(2)	400(2) / 400(2)	500(2) / 500(2)	800(3) / 800(3)
440 VDC	DC-22 A / DC-22 B	125(2) / 125(2)	125(2) / 125(2)	160(2) / 160(2)	200(2) / 200(2)	315(2) / 315(2)	400(2) / 400(2)	400(2) / 400(2)	500(2) / 500(2)	800(3) / 800(3)
440 VDC	DC-23 A / DC-23 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 / 500	800(3) / 800(3)
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(2) / 125(2)	125(2) / 125(2)	160(2) / 200(2)	200(2) / 200(2)	315(2) / 315(2)	400(2) / 400(2)	400(2) / 400(2)	500(2) / 500(2)	800(3) / 800(3)
500 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)	315(3) / 400(3)	315(3) / 400(3)	500(3) / 500(3)	800(3) / 800(3)
500 VDC	DC-23 A / DC-23 B	125(3) / 125(3)	125(3) / 125(3)	160(3) / 160(3)	200(3) / 200(3)	315(3) / 315(3)	315(3) / 400(3)	315(3) / 400(3)	500(3) / 500(3)	800(3) / 800(3)
Operational power in AC-23 (kW)(1)(4)										
At 415 VAC without AC pre-break(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)(4)		55	75	90	115	145	185	230	290	365
gG DIN fuse protected short-circuit withstand (kA rms prospective)(5)										
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										
Rated short-time withstand current 0.3s. I_{cw} (kA rms)		15	15	17	17	25	25	25	25	50
Short-circuit operation (switch only)										
Rated short-time withstand current I_{cw} 1s (kA rms)		7	7	9	9	13	13	13	13	26
Rated peak withstand current in I_{cc} (kA peak)(5)(6)		20	20	30	30	45	45	45	45	55
Connection										
Minimum 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 / -	40 / 45	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	14.5	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) 3-pole device with 2 poles in series for the '+' and 1 pole for the '-'.
(3) 4-pole device with 2 poles in series per polarity.
(4) The power value is given for information only, the current values vary from one manufacturer to another.
(5) For a rated operational voltage U_e = 415 VAC.
(6) Coordination tables with circuit breaker: please consult us.

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**
Frame size		**B6**	**B6**	**B7**	**B7**	**B7**	**B8**	**B8**	**B8**	**B9**	**B9**
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**	**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)**	**A/B(1)**
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(2) / 1000(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1600(2)	1250(2) / 1600(2)	2000(2) / 2000(2)	2000(2) / 2500(2)	2500(2) / 3200(2)	3200(2) / 4000(2)	3200(2) / 5000(2)
440 VDC	DC-22 A / DC-22 B	1000(2) / 1000(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1600(2) / 1800(2)	1600(2) / 1800(2)
440 VDC	DC-23 A / DC-23 B	1000(2) / 1000(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)
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(2) / 1000(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1600(2)	1250(2) / 1600(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1600(2) / 1800(2)	1600(2) / 1800(2)
500 VDC	DC-22 A / DC-22 B	1000(2) / 1000(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1600(2)	1250(2) / 1600(2)
500 VDC	DC-23 A / DC-23 B	1000(2) / 1000(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1250(2) / 1250(2)	1000(2) / 1000(2)	1000(2) / 1000(2)	1000(2) / 1000(2)	1000(2) / 1000(2)	1000(2) / 1000(2)
Operational power in AC-23 (kW)(1)(3)											
At 415 VAC without AC pre-break(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)(3)		460									
gG DIN fuse protected short-circuit withstand (kA rms prospective)(4)											
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											
Rated short-time withstand current 0.3s. I_{cw} (kA rms)		65	65	100	100	100	100	100	100		
Short-circuit operation (switch only)											
Rated short-time withstand current I_{cw} 1s (kA rms)		35	35	50	50	50	50	50	50	75	75
Rated peak withstand current in I_{cc} (kA peak)(4)(5)		80	80	110	110	110	110	110	120	165	165
Connection											
Minimum 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	2 x 200 x 10	2 x 200 x 10
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) 4-pole device with 2 poles in series per polarity.
(3) The power value is given for information only, the current values vary from one manufacturer to another.
(4) For a rated operational voltage U_e = 415 VAC.
(5) Coordination tables with circuit breaker: please consult us.

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) (3)								
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 (4)								
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} (prospective kA peak)		22	22	22	22	22	22	40
Connection								
Minimum Cu cable cross-section (mm^2)		70	70	70	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)		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) The power value is given for information only, the current values vary from one manufacturer to another.
(4) For a rated operational voltage U_e = 690 VAC.

SIRCO AC characteristics according to IEC 60947-3

800 to 4000 A

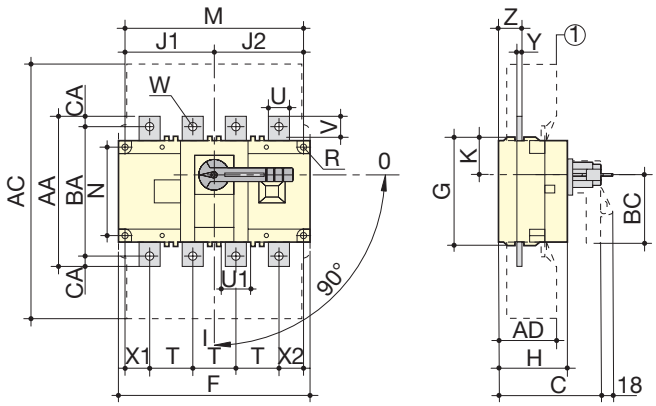
Thermal current I_{th} at 40°C		800 A	1000A	CD 1250 A	1250 A	1600 A	2000 A	4000 A
Rated insulation voltage U_i (V)		1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12	12	12	12
Rated operational currents I_e (A)								
Rated voltage	**Utilisation category**	**A/B(1)**	**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) (3)								
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(4)								
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								
Minimum 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) The power value is given for information only, the current values vary from one manufacturer to another.
(4) For a rated operational voltage Ue = 690 VAC.

Dimensions - Front operation

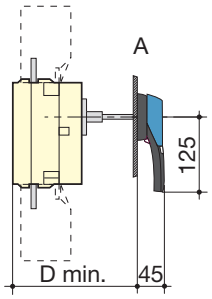
SIRCO 125 to 630 A and SIRCO AC 200 to CD 630 A - B3 to B5

Direct front operation



1. Terminal shrouds

External front operation



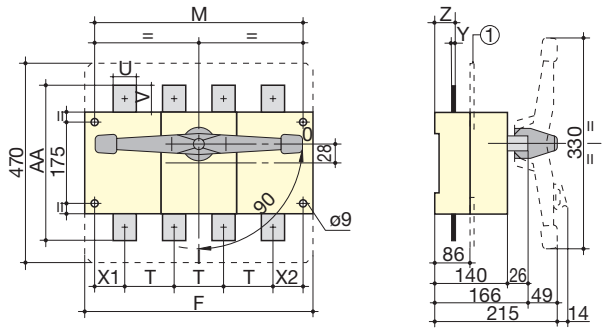
A. S2 type handle

sirco_198_i_1_x_cat

Rating (A) / Frame size		Overall dimensions		Terminal shrouds		Switch body									Switch mounting				Connection											
SIRCO	SIRCO AC	C	D min	AC	AD	F 3p.	F 4p.	G	H	J1 3p.	J1 4p.	J2	K	BC	M 3p.	M 4p.	N	R	T	U	U1	V	W	X1 3p.	X1 4p.	X2	Y	Z	AA	BA	CA
125…160/ B3		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 / B4	200…250 / B4			280	60	180	230	108	75	55	105	105	34	115	160	210	80	5.5	50	25	25.5	21.5	11	33	33	27	3.5	22.5	170	130	15
	315 / B4																			35											
315…400/ B5	400…500 / B5	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 / B5	-																														
630/ B5	CD 630 / B5																			45		41.5	13						260	220	20

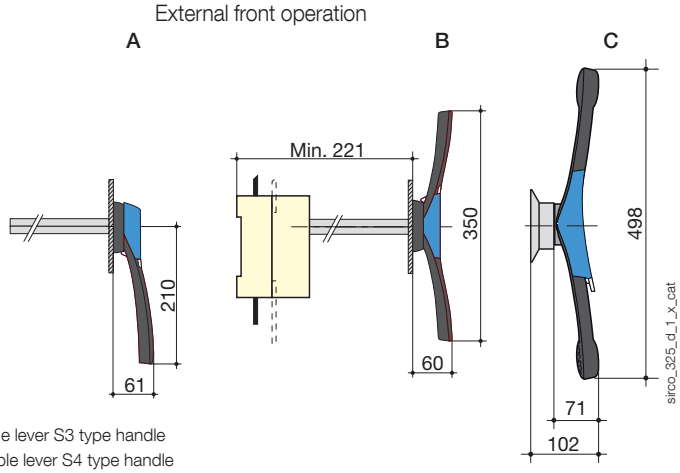
SIRCO 800 to 1800 A and SIRCO AC 630 to 1600 A - B6 to B7

Direct front operation



1. Terminal screens

External front operation



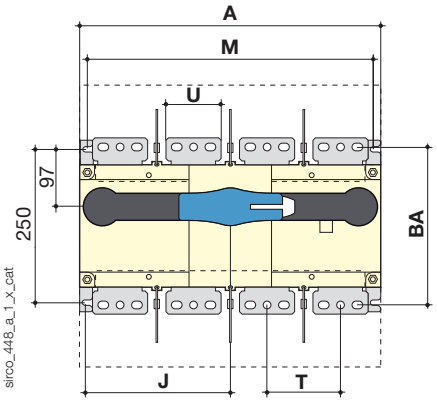
A. Single lever S3 type handle
B. Double lever S4 type handle
C. Double lever S5 type handle

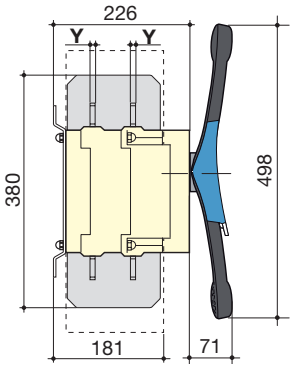
sirco_325_d_1_x_cat

Rating (A) / Frame size		Switch body		Switch mounting		Connection							
SIRCO	SIRCO AC	F 3p.	F 4p.	M 3p.	M 4p.	T	U	V	Y	X1	X2	Z	AA
800 … 1000 / B6	630 … 1000 / B6	280	360	255	335	80	50	60.5	7	47.5	47.5	46.5	321
CD 1250 / B6	CD 1250 /B6						60	65					330
1250 … 1800 / B7	1250 … 1600 / B7	372	492	347	467	120	90	44	8	53.5	53.5	47.5	288

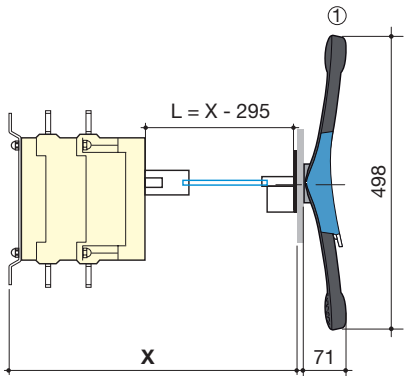
SIRCO 2000 to 3200 A and SIRCO AC 2000 A - B8

Direct front operation





External front operation

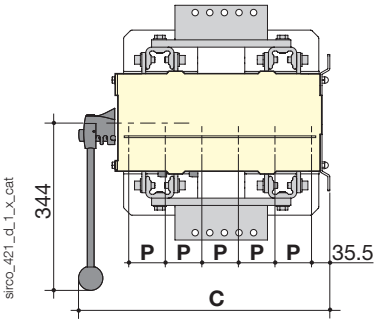


1. Double lever S5 type handle

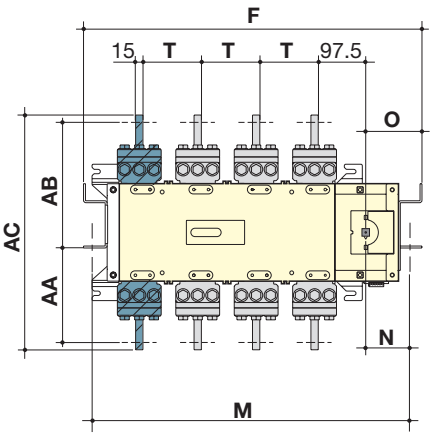
Rating (A) / Frame size		Overall dimensions		Switch body		Switch mounting		Connection			
SIRCO	SIRCO AC	A 3p.	A 4p.	J 3p.	J 4p.	M 3p.	M 4p.	T	U	Y	BA
2000 … 3200 / B8	2000 / B8	372	492	173.5	233.5	347	367	120	90	8	258

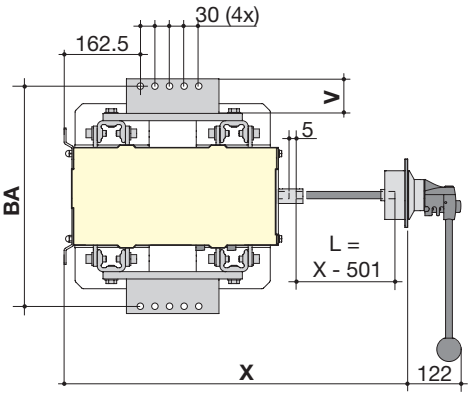
SIRCO 4000 to 5000 A and SIRCO AC 4000 A - B9

Direct front operation



External front operation





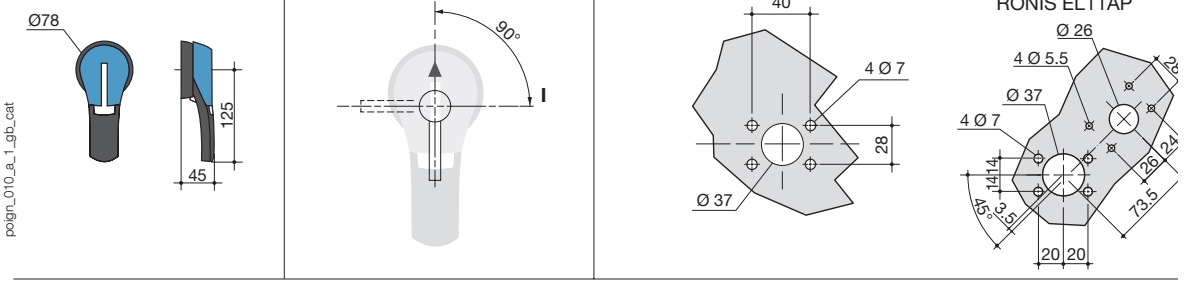
Rating (A) / Frame size		Overall dimensions	Switch body		Switch mounting					Connection					
SIRCO	SIRCO AC	C	F 3p.	F 4p.	M 3p.	M 4p.	N	O	P	T	V	AA	AB	AC	BA
4000 … 5000 / B9	4000 / B9	514	695	695	660	660	98	115.5	75	120	86	160	292	482	452

Dimensions for external handles

B3 to B5

Front operation

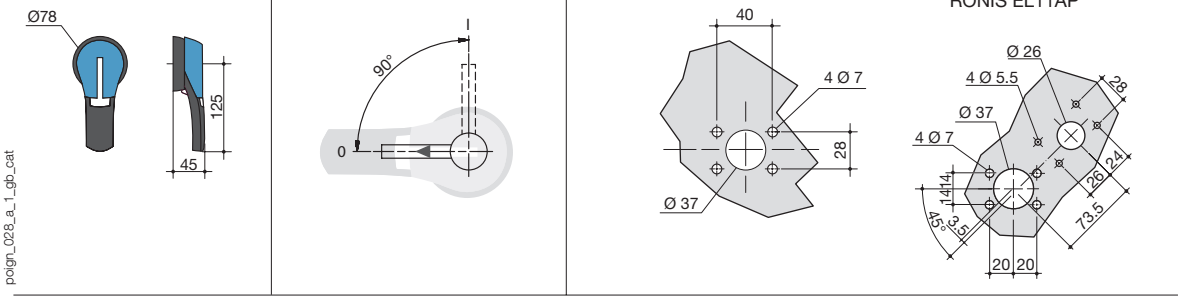
Handle type	Direction of operation	Door drilling
S2 type	0 … 90° … I	With lock RONIS EL11AP



poign_010_a_1_gb_cat

Side operation

Handle type	Direction of operation	Door drilling
S2 type	**Right side operation**	With lock RONIS EL11AP

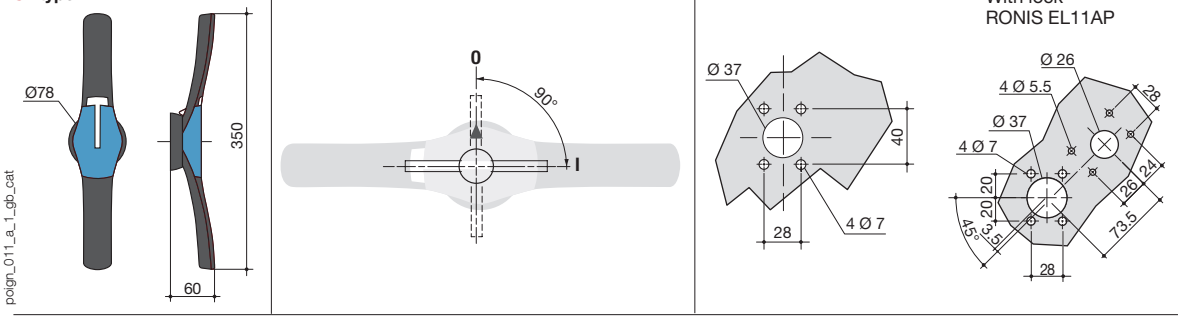


poign_028_a_1_gb_cat

B6 - B7

Front operation

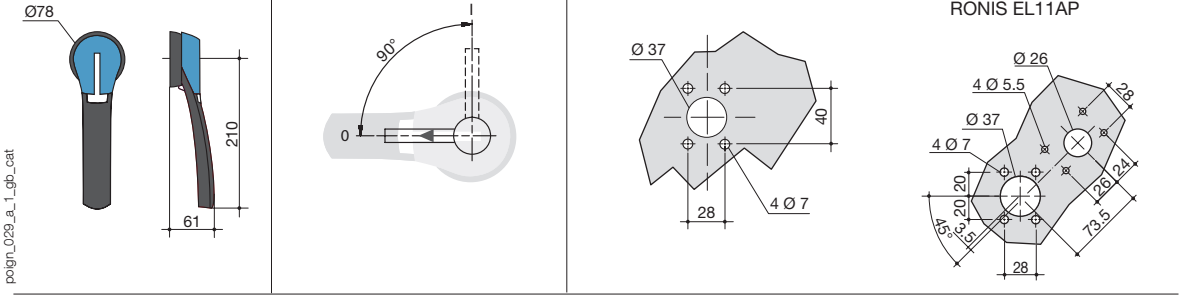
Handle type	Direction of operation	Door drilling
S4 type	0 … 90° … I	With lock RONIS EL11AP



poign_011_a_1_gb_cat

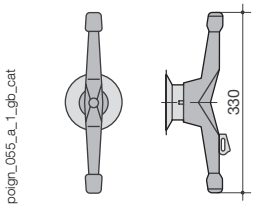
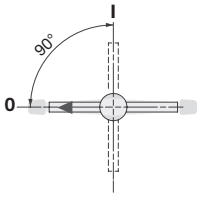
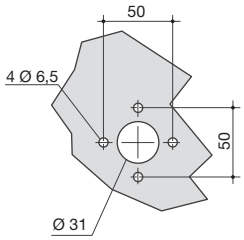
Side operation

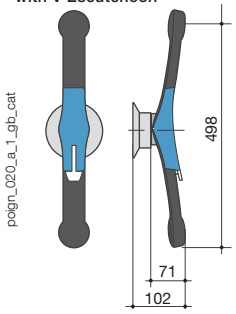
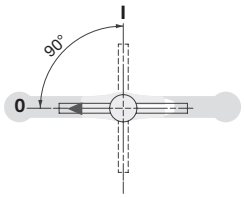
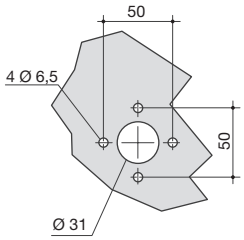
Handle type	Direction of operation	Door drilling
S3 type	**Right side operation**	With lock RONIS EL11AP



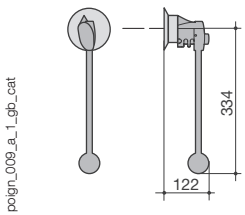
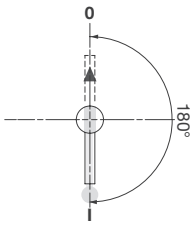
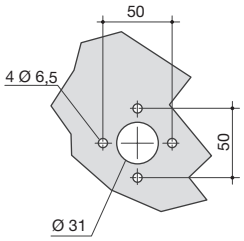
poign_029_a_1_gb_cat

B7 - B8

Handle type	Front operation Direction of operation	Door drilling
V2 Type 		

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

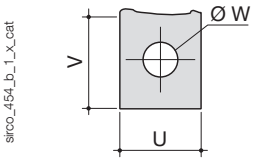
B9

Handle type	Front operation Direction of operation	Door drilling
V0 type 		

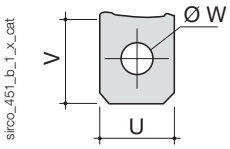
Connection terminal

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

SIRCO



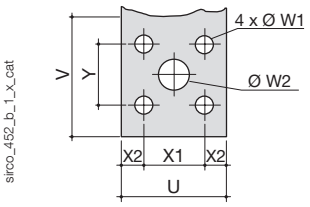
SIRCO AC



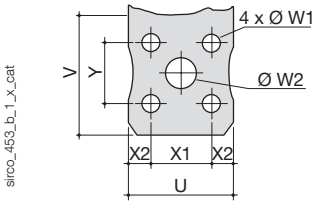
Rating (A) SIRCO	SIRCO AC	U	V	W
125 … 160		20	25	9
200 … 250	200 … 250	25	21.5	11
	315	35		
315 … 400	400 … 500	32	29	
500				13
630	CD 630	45	41.5	

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

SIRCO



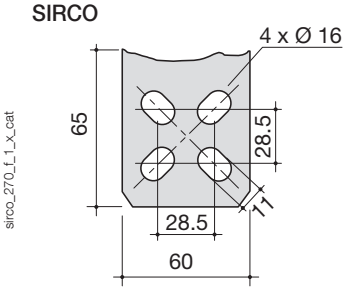
SIRCO AC



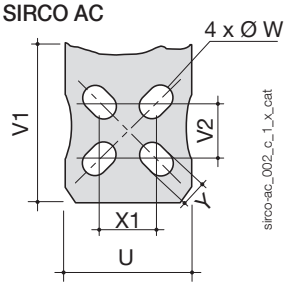
Rating (A) SIRCO	SIRCO AC	U	V	W1	W2	X1	X2	Y
800 … 1000	630 … 1000	50	60.5	9	15	33	8.5	33

SIRCO and SIRCO AC CD 1250 A

SIRCO

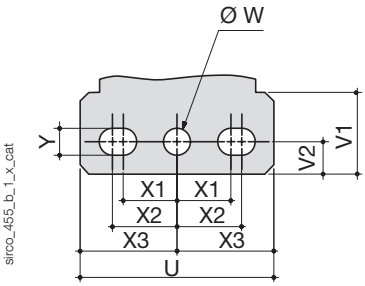


SIRCO AC



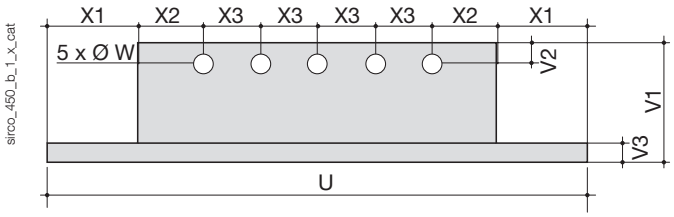
Rating (A) SIRCO	SIRCO AC	U	V1	V2	W	X1	Y
CD 1250 A	CD 1250 A	60	65	28.5	16	28.5	11

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

SIRCO PV IEC 60947-3

Load break switches for photovoltaic applications
from 100 to 3200 A, up to 1500 VDC

sirco-pv_165_front.eps

The solution for
- Energy
- Industry

Strong points
- Optimise your investment
- High quality materials
- Take advantage of an innovative design
- Reliability and performance

Conformity to standards
- IEC 60947-3
- IEC 60364-7-712
- UL 98B(1)

Approvals and certifications(1)

(1) Product reference on request.

Function

SIRCO PV are manually operated load break switches.
Making and breaking capacity under load conditions up to 1500 VDC.
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: grounded, floating or bipolar.

Advantages

Optimise your investment
- Thanks to a reduced number of bridging bars, you can limit your costs and save mounting time.
- A 2 pole SIRCO PV will reduce heating and can be integrated in a smaller enclosure.

High quality materials
SIRCO PV is an extremely robust device in a glass fibre reinforced polyester frame. This material provides:
- high mechanical strength,
- stability to temperature variations (RTI of 130°C),
- high dielectric strength (high CTI / tested as per standard ASTM D 2303).

Take advantage of an innovative design
The SIRCO PV can be directly connected to up to four independent PV panel strings.
The global solution cost is therefore reduced in comparison with the use of four distinct switches.

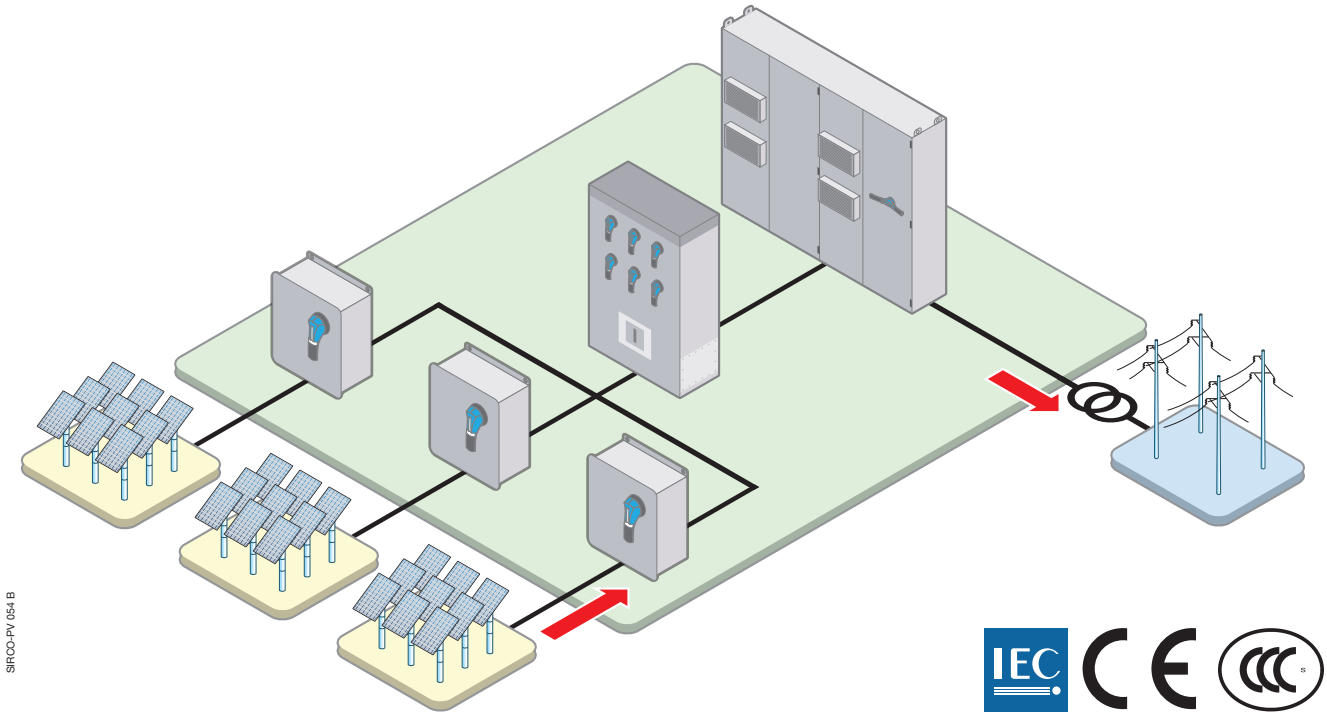
Reliability and performance
Our range of SIRCO PV load break switches is compliant to standards UL98B and IEC 60947-3.
SIRCO PV have been tested to critical currents and at a 10 kA short-circuit during 50 ms without specific protection.

General characteristics

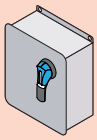
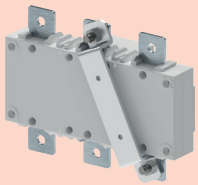
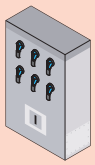
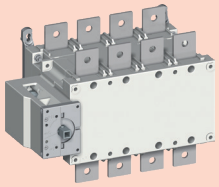
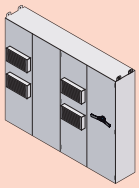
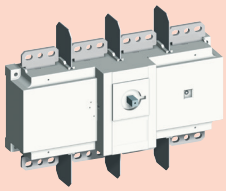
- Patented switching technology up to 500 VDC/pole.
- Positive indication.
- Up to 1500 VDC according to IEC 60947-3.

Typical PV architecture

The SIRCO PV range provides safe disconnection and isolation at all levels within your PV installation.



The SOCOMEC solutions

LEVEL OF INSTALLATION	SOCOMEC SOLUTIONS	
Combiner box		
		SIRCO PV One circuit up to 400 A at 1500 VDC
Recombiner box		
		SIRCO PV 4 circuits up to 500 A at 1000 VDC (1) 2 circuits up to 500 A at 1500 VDC
Inverter		
		SIRCO PV One circuit up to 3200 A at 1000 VDC up to 2000 A at 1500 VDC

(1) Please consult us.

References

1000 VDC - Back mounting

Rating (A)	Frame size	Number of poles	Switch body	Direct handle	External handle	Shaft for external handle	Quantity to be ordered to connect 2 poles in series
1 PV circuit							
100 A	B4	2 P	26PV **2010**	J1 type Black 1112 **1111** Red 1113 **1111**	S2 type (1) Black IP55 1421 **2111** Black IP65 1423 **2111** Red/Yellow IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032** 400 mm 1400 **1040**	-
160 A	B4	2 P	26PV **2016**				
250 A	B4	2 P	26PV **2025**				
315 A	B4	2 P	26PV **2031**				
400 A	B4	4 P	26PV **4040**				2 x 2609 **0025**
500 A	B4	4 P	26PV **4050**				
630 A	B5	4 P	26PV **4063**				2 x 2709 **0027**
800 A	B5	4 P	26PV **4080**				
1250 A	B6	4 P	26PV **4120**	J4 type Black 1142 **1111** Red 1143 **1111**	S4 type (1) Black IP65 1443 **3111** Red/Yelow IP65 1444 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532** 400 mm 1401 **1520**	1 x 2609 **1100**
2000 A	B7	4 P	26PV **4200**				2 x 2609 **1200**
3200 A	B8	4 P	26PV**4320**		V1 type Black IP65 2799 **7145**	320 mm 2799 **3018** 450 mm 2799 **3019**	2 x 2609 **1200**
2 PV circuits							
100 A	$B4_{DS}$	4 P	26PV **5010**	J2 type Black 1122 **1111** Red 1123 **1111**	S2 type (1) Black IP55 1421 **2111** Black IP65 1423 **2111** Red/Yellow IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032** 400 mm 1400 **1040**	-
160 A	$B4_{DS}$	4 P	26PV **5016**				
250 A	$B4_{DS}$	4 P	26PV **5025**				
315 A	$B4_{DS}$	4 P	26PV **5031**				
630 A	$B5_{DS}$	8 P	26PV **8063**	J4 type Black 1142 **1111** Red 1143 **1111**	S4 type (1) Black IP65 1443 **3111** Red/Yellow IP65 1444 **3111**	200 mm 1401 **1520** 320 mm 1401 **1532** 400 mm 1401 **1520**	2 x 2709 **0027**
800 A	$B6_{DS}$	8 P	26PV **8080**		V1 type Black IP65 2799 **7145**	320 mm 4199 **3018**	1x 2609 **1100**
1250 A	$B6_{DS}$	8 P	26PV **8120**				
2000 A	$B7_{DS}$	8 P	26PV **8200**				1 x 2609 **1200**

(1) Defeatable handle.

1500 VDC - Back mounting

Rating (A)	Frame size	Number of poles	Switch body	Direct handle	External handle	Shaft for external handle	Quantity to be ordered to connect 2 poles in series
1 PV circuit							
160 A	B4T	3 P	26PV **3015**	J1 type Black 1112 **1111** Red 1113 **1111**	S2 type (1) Black IP55 1421 **2111** Black IP65 1423 **2111** Red/Yellow IP65 1424 **2111**	200 mm 1400 **1020** 320 mm 1400 **1032** 400 mm 1400 **1040**	Standard bridging bar 1 x 2609 **0026** Back bridging bar 1 x 2609 **0041**
250 A	B4T	3 P	26PV **3024**				
315 A	B4T	3 P	26PV **3030**				
400 A	B4T	3 P	26PV **3039**				
800 A	$B6_{DS}$	8 P	26PV **8080**	J4 type Black 1142 **1111** Red 1143 **1111**	V1 type Black IP65 2799 **7145**	320 mm 4199 **3018**	1 x 2609 **1100**
1250 A	$B6_{DS}$	8 P	26PV **8120**				
2000 A	$B7_{DS}$	8 P	26PV **8200**				1x 2609 **1200**

(1) Defeatable handle.

Accessories

Direct operation handle

Frame size	Handle type	Handle colour	Reference
B4 ... B5	B2	Black	2699 **5052**
		Red	2699 **5053**
	J1	Black	1112 **1111**
		Red	1113 **1111**
B6 ... B7	J4	Black	1142 **1111**
		Red	1143 **1111**
$B4_{DS}$ ... $B5_{DS}$	B2	Black	2699 **5052**
		Red	2699 **5053**
	J4	Black	1142 **1111**
		Red	1143 **1111**
	J2	Black	1122 **1111**
		Red	1123 **1111**
$B6_{DS}$...$B7_{DS}$	J4	Black	1142 **1111**
		Red	1143 **1111**
B8	J4	Black	1142 **1111**
		Red	1143 **1111**

B2 type handle J1 type handle J4 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 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 (authorised persons only).

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

Frame size	Handle type	Handle colour	Degree of protection	Reference
B4 ... B5	S2	Black	IP55	1421 **2111**
	S2	Black	IP65	1423 **2111**
	S2	Red/ Yellow	IP65	1424 **2111**
B6 ... B7	S4	Black	IP65	1443 **3111**
	S4	Red/ Yellow	IP65	1444 **3111**
B8	V1	Black	IP65	2799 **7145**
$B4_{DS}$	S2	Black	IP55	1421 **2111**
	S2	Black	IP65	1423 **2111**
	S2	Red/ Yellow	IP65	1424 **2111**
$B5_{DS}$	S4	Black	IP65	1443 **3111**
	S4	Red/ Yellow	IP65	1444 **3111**
$B6_{DS}$ ... $B7_{DS}$ B8	V1	Black	IP65	2799 **7145**

Reinforced S2 type handle S4 type handle V1 type handle

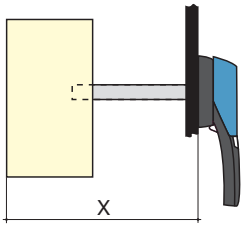
Accessories (continued)

Shaft for external handle

Use

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

Other lengths: Please consult us.



Frame size	Handle type	Dimensions X (mm)	Length (mm)	Reference
B4	S2	150 … 295	200	1400 **1020**
B4	S2	150 … 415	320	1400 **1032**
B4	S2	150 … 495	400	1400 **1040**
B5	S2	203 … 328	200	1400 **1020**
B5	S2	203 … 448	320	1400 **1032**
B5	S2	203 … 525	400	1400 **1040**
B6	S4	220 … 343	200	1401 **1520**
B6	S4	220 … 463	320	1401 **1532**
B6	S4	220 … 543	400	1401 **1540**
B7	S4	305 … 366	200	1401 **1520**
B7	S4	305 … 485	320	1401 **1532**
B7	S4	305 … 564	400	1401 **1540**
B8	V1	415 ... 690	320	2799 **3018**
B8	V1	415 ... 820	450	2799 **3019**
$B4_{DS}$	S2	210...310	200	1400 **1020**
$B4_{DS}$	S2	210...430	320	1400 **1032**
$B4_{DS}$	S2	210...510	400	1400 **1040**
$B5_{DS}$	S4	280...390	200	1401 **1520**
$B5_{DS}$	S4	280...510	320	1401 **1532**
$B5_{DS}$	S4	280...590	400	1401 **1540**
$B6_{DS}$	V1	425...577	320	4199 **3018**
$B6_{DS}$	V1	425...697	400	4199 **3019**
$B7_{DS}$	V1	425...697	320	4199 **3018**
$B7_{DS}$	V1	425...777	400	4199 **3019**

Shaft guide for external operation

Use

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

Description	Reference
Shaft guide	1429 **0000**

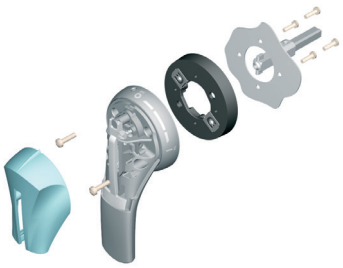
S-type handle adapter

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 of the handle.



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.

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

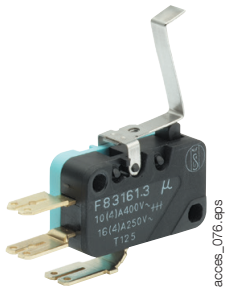
NO/NC AC: IP2 with front operation.

Connection to the control circuit

By 6.35 mm fast-on terminal.

Electrical characteristics

30 000 operations.



NO/NC changeover auxiliary contacts

Frame size	Position AC	Type	Reference
B4 … B8	1 contact	NO/NC	2699 **0031**
B4 … B8	2 contacts	NO/NC	2699 **0032**
$B4_{DS}$ … $B7_{DS}$	1 contact	NO/NC	2699 **0061**
$B4_{DS}$ … $B7_{DS}$	2 contacts	NO/NC	2699 **0062**

Low level NO/NC auxiliary contacts

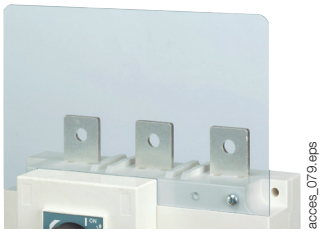
Frame size	Position AC	Type	Reference
B4 … B7	1 contact	NO/NC	2699 **0301**
B4 … B7	2 contacts	NO/NC	2699 **0302**

Terminal screen

Use

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

Frame size	No. of poles	Position	Pack	Reference
B4	2 P	Top or bottom	1 unit	2698 **3020**
B4T	3 P	Top or bottom	1 unit	2698 **4020**
B4	4 P	Top or bottom	1 unit	2698 **4020**
B5	3 P	Top or bottom	1 unit	2698 **3050**
B5	4 P	Top or bottom	1 unit	2698 **4050**
B6	4 P	Top or bottom	1 unit	2698 **4080**
B7	4 P	Top or bottom	1 unit	2698 **4120**
B8	4 P	Top or bottom	1 unit	2698 **4200**
$B4_{DS}$	2 P	Top or bottom	1 unit	1509 **3025**
$B5_{DS}$	6 P	Top and bottom	2 units	1509 **3063**
$B5_{DS}$	8 P	Top and bottom	2 units	1509 **4063**
$B6_{DS}$	8 P	Top and bottom	2 units	1509 **4080**



Inter-phase barrier

Use

Safe isolation between the terminals.

Frame size	No. of poles	Reference
B4	2 P	2998 **0023**
B4T	3 P	2998 **0023**
B4	4 P	2998 **0024**
B5	4 P	2998 **0014**
B6…B8	3 P	Included
B6…B8	4 P	Included

The inter-phase barriers are not mandatory but we recommand to separate the polarities + and -.

Accessories (continued)

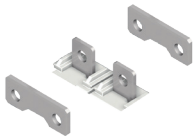
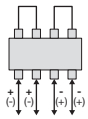
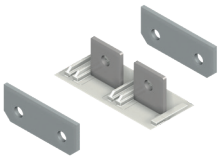
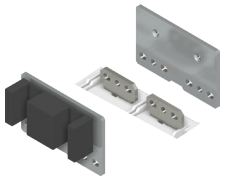
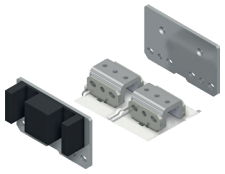
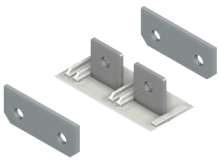
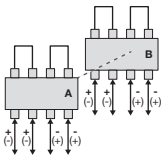
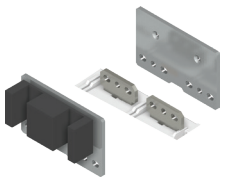
Bridging bars for connecting poles in series

Use

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

(1) Other connections: refer to mounting instructions.

1000 VDC - 1 independent PV circuit

Switch body Reference	Rating (A)	Frame size	Fig.	Quantity of bridging bars kits to order per switch - ungrounded	Fig.	Reference
26PV **4040**	400	B4		4		2609 **0025**
26PV **4050**	500					
26PV **4063**	630	B5		4		2709 **0027**
26PV **4080**	800					
26PV **4120**	1250	B6		2		2609 **1100**
26PV **4200**	2000	B7		2		2609 **1200**
26PV **4320**	3200	B8		2		
26PV **8063**	630	$B5_{DS}$		8		2709 **0027**
26PV **8080**	800	$B6_{DS}$		4		2609 **1100**
26PV **8120**	1250					
26PV **8200**	2000	$B7_{DS}$		4		2609 **1200**

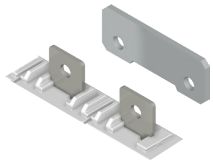
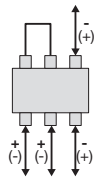
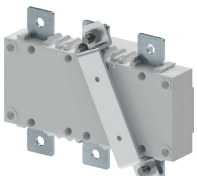
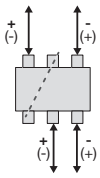
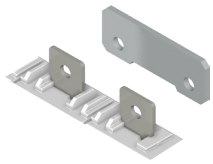
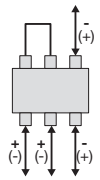
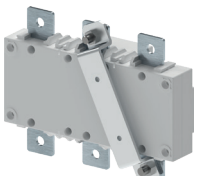
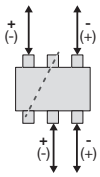
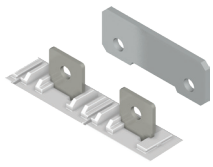
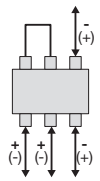
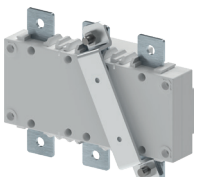
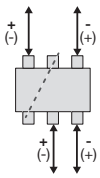
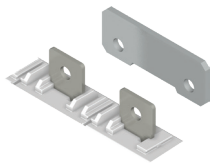
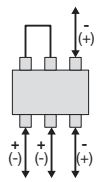
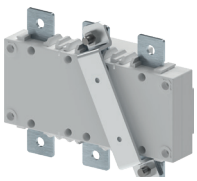
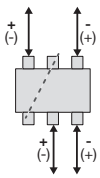
Bridging bars for connecting poles in series (continued)

Use

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

(1) Other connections: refer to mounting instructions.

1500 VDC - 1 independent PV circuit

Switch body Reference	Rating (A)	Frame size	Quantity to be ordered to connect 2 poles in series	Fig.	Quantity of bridging bars kits to order per switch - ungrounded	Fig.	Reference
26PV **3015**	160	B4T	1		1		2609 **0026**
							2609 **0041**
26PV **3024**	250	B4T	1		1		2609 **0026**
							2609 **0041**
26PV **3030**	315	B4T	1		1		2609 **0026**
							2609 **0041**
26PV **3039**	400	B4T	1		1		2609 **0026**
							2609 **0041**

Accessories (continued)

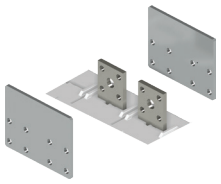
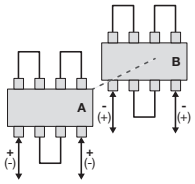
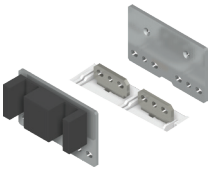
Bridging bars for connecting poles in series (continued)

Use

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

(1) Other connections: refer to mounting instructions.

1500 VDC - 1 independent PV circuit

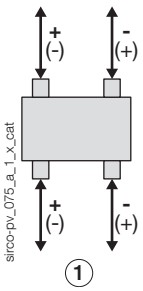
Switch body Reference	Rating (A)	Frame size	Quantity to be ordered to connect 2 poles in series	Fig.	Quantity of bridging bars kits to order per switch - ungrounded	Fig.	Reference
26PV **8080**	800	$B6_{DS}$	1		4		2609 **1100**
26PV **8120**	1250	$B6_{DS}$	1		4		2609 **1100**
26PV **8200**	2000	$B7_{DS}$	1		4		2609 **1200**

Characteristics

Characteristics according to IEC 60947-3

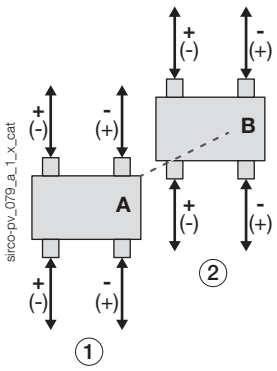
Rated Current I_n				**100 A**		**160 A**			**250 A**		
Reference				26PV **2010**	26PV **5010**	26PV **2016**	26PV **5016**	26PV **3015**	26PV **2025**	26PV **5025**	26PV **3024**
Frame size				**B4**	**$B4_{DS}$**	**B4**	**$B4_{DS}$**	**B4T**	**B4**	**$B4_{DS}$**	**B4T**
Thermal current at 40°C (A)				100	100	160	160	160	250	250	250
Thermal current at 45°C (A)				100	100	160	160	160	250	250	250
Thermal current at 50°C (A)				100	100	160	160	160	250	250	250
Thermal current at 55°C (A)				100	100	160	160	160	250	250	250
Thermal current at 60°C (A)				100	100	160	160	160	250	250	250
Thermal current at 65°C (A)				100	100	160	160	152	250	250	237
Thermal current at 70°C (A)				100	100	160	160	144	250	250	225
Rated insulation voltage U_i (V)				1500	1500	1500	1500	1500	1500	1500	1500
Rated impulse withstand voltage U_{imp} (kV)				12	12	12	12	12	12	12	12
Number of circuits		**Rated voltage**	**Utilisation category**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**
I_e (A)	1 circuit	1000 VDC	DC-21 B	100	-	160	-	-	250	-	-
	2 circuits			-	100	-	160	-	-	250	-
	1 circuit	1500 VDC	DC-21 B	-	-	-	-	-	-	-	-
	2 circuits			-	-	-	-	-	-	-	-
	1 circuit		DC-PV1	-	-	-	-	160	-	-	250
Number of pole(s) in series per circuit				1P+; 1P- (1)	1P+; 1P- (2)	1P+; 1P- (1)	1P+; 1P- (2)	2P+; 1P- (3)	1P+; 1P- (1)	1P+; 1P- (2)	2P+; 1P- (3)
Number of pole(s) of the device				2 P	4 P	2 P	4 P	3 P	2 P	4 P	3 P
Short-circuit capacity (without protection)											
Rated short-time withstand current 0.3 s. (kA eff)				10	10	10	10	10	10	10	10
Rated short-time withstand current 1 s. (kA eff)				5	5	5	5	5	5	5	5
Power dissipation per poles of the PV switch (W/P) @ 40°C				0.8	0.8	2	2	2.5	4.7	4.7	5
Humidity according to IEC 60947-1 Annexe Q (%)				95	95	95	95	95	95	95	95
Connection											
Nominal Cu cable section (mm^2)				35	35	70	70	70	120	120	120
Nominal Cu busbar width (mm)				32	32	32	32	32	32	32	32

(1)



1. Utility 1
2. Utility 2

(2)



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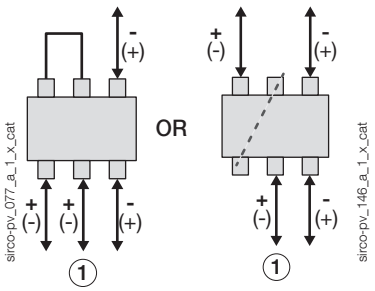
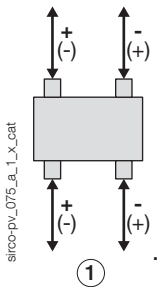


Characteristics (continued)

Characteristics according to IEC 60947-3

Rated Current I_n				**315 A**		
Reference				26PV **2031**	26PV **5031**	26PV **3030**
Frame size				**B4**	**$B4_{DS}$**	**B4T**
Thermal current at 40°C (A)				315	315	315
Thermal current at 45°C (A)				315	315	315
Thermal current at 50°C (A)				315	315	315
Thermal current at 55°C (A)				315	315	315
Thermal current at 60°C (A)				315	315	315
Thermal current at 65°C (A)				315	315	299
Thermal current at 70°C (A)				315	315	283
Rated insulation voltage U_i (V)				1500	1500	1500
Rated impulse withstand voltage U_{imp} (kV)				12	12	12
Number of circuits		**Rated voltage**	**Utilisation category**	**I_e (A)**	**I_e (A)**	**I_e (A)**
I_e (A)	1 circuit	1000 VDC	DC-21 B	315		-
	2 circuits			-	315	-
	1 circuit	1500 VDC	DC-21 B	-	-	-
	2 circuits			-	-	-
	1 circuit		DC-PV1		-	315
Number of pole(s) in series per circuit				1P+; 1P-(1)	1P+; 1P-(2)	2P+; 1P-(3)
Number of pole(s) of the device				2 P	4 P	3 P
Short-circuit capacity (without protection)						
Rated short-time withstand current 0.3 s. (kA eff)				10	10	10
Rated short-time withstand current 1 s. (kA eff)				5	5	5
Power dissipation per poles of the PV switch (W/P) @ 40°C				8	8	9.5
Humidity according to IEC 60947-1 Annexe Q (%)				95	95	95
Connection						
Nominal Cu cable section (mm^2)				185	185	185
Nominal Cu busbar width (mm)				32	32	32

(1)



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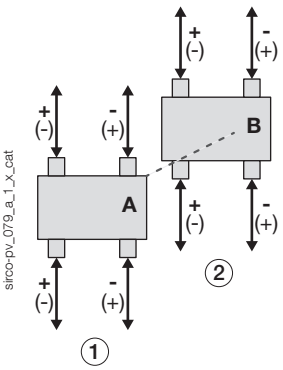

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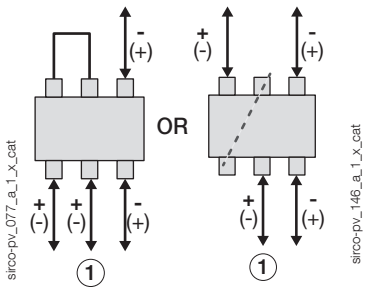
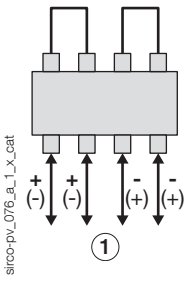


1. Utility 1
2. Utility 2

Characteristics according to IEC 60947-3

Rated Current I_n				**400 A**		**500 A**
Reference				26PV **4040**	26PV **3039**	26PV **4050**
Frame size				**B4**	**B4T**	**B4**
Thermal current at 40°C (A)				400	400	500
Thermal current at 45°C (A)				400	400	500
Thermal current at 50°C (A)				400	400	500
Thermal current at 55°C (A)				400	400	500
Thermal current at 60°C (A)				400	400	500
Thermal current at 65°C (A)				380	380	475
Thermal current at 70°C (A)				360	360	450
Rated insulation voltage U_i (V)				1500	1500	1500
Rated impulse withstand voltage U_{imp} (kV)				12	12	12
Number of circuits		**Rated voltage**	**Utilisation category**	**I_e (A)**	**I_e (A)**	**I_e (A)**
I_e (A)	1 circuit	1000 VDC	DC-21 B	400	-	500
	2 circuits			-	-	-
	1 circuit	1500 VDC	DC-21 B	-	-	-
	2 circuits			-	-	-
	1 circuit		DC-PV1	-	400	-
Number of pole(s) in series per circuit				2P+; 2P- (1)	2P+; 1P- (2)	2P+; 2P- (1)
Number of pole(s) of the device				4 P	3 P	4 P
Short-circuit capacity (without protection)						
Rated short-time withstand current 0.3 s. (kA eff)				10	10	10
Rated short-time withstand current 1 s. (kA eff)				5	5	5
Power dissipation per poles of the PV switch (W/P) @ 40°C				20	15	30
Humidity according to IEC 60947-1 Annexe Q (%)				95	95	95
Connection						
Nominal Cu cable section (mm²)				240	240	2 x 150
Nominal Cu busbar width (mm)				32	32	32

(1)



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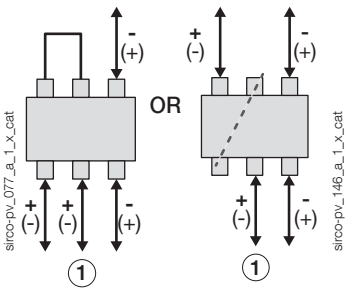
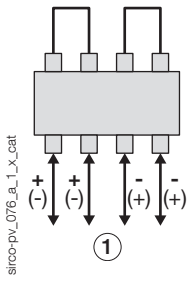


Characteristics (continued)

Characteristics according to IEC 60947-3

Rated Current I_n				**630 A**		**800 A**		
Reference				26PV **4063**	26PV **8063**	26PV **4080**	26PV **8080**	
Frame size				**B5**	**$B5_{DS}$**	**B5**	**$B5_{DS}$**	
Thermal current at 40°C (A)				630	630	800	800	
Thermal current at 45°C (A)				630	630	760	760	
Thermal current at 50°C (A)				630	630	720	720	
Thermal current at 55°C (A)				630	630	685	685	
Thermal current at 60°C (A)				560	560	650	650	
Thermal current at 65°C (A)				540	540	620	620	
Thermal current at 70°C (A)				510	510	590	590	
Rated insulation voltage U_i (V)				1500	1500	1200	1500	
Rated impulse withstand voltage U_{imp} (kV)				12	12	12	12	
Number of circuits		**Rated voltage**	**Utilisation category**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**
I_e (A)	1 circuit	1000 VDC	DC-21 B	630	-	800	-	
	2 circuits			-	630	-	800	-
	1 circuit	1500 VDC	DC-21 B	-	-	-	-	800
	2 circuits			-	-	-	-	
Number of pole(s) in series per circuit				2P+; 2P- (1)	2P+; 2P- (2)	2P+; 2P- (1)	2P+; 2P- (2)	4P+, 4P- (3)
Number of pole(s) of the device				4 P	8 P	4 P	8 P	
Short-circuit capacity (without protection)								
Rated short-time withstand current 0.3 s. (kA eff)				10	10	10	10	
Rated short-time withstand current 1 s. (kA eff)				5	5	5	5	
Power dissipation per poles of the PV switch (W/P) @ 40°C				40	40	70	70	
Humidity according to IEC 60947-1 Annexe Q (%)				95	95	95	95	
Connection								
Nominal Cu cable section (mm²)				2 x 185	2 x 185	2 x 240	2 x 240	
Nominal Cu busbar width (mm)				40	40	50	50	

(1)



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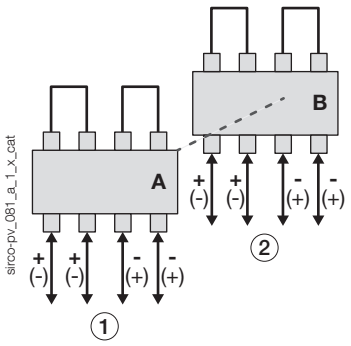

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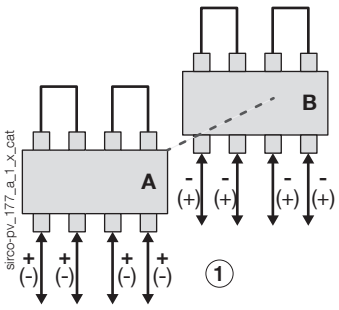
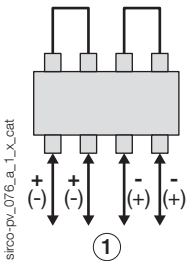


1. Utility 1
2. Utility 2

Characteristics according to IEC 60947-3

Rated Current I_n			**1250 A**			**2000 A**			**3200 A**
Reference			26PV **4120**	26PV **8120**		26PV **4200**	26PV **8200**		26PV **4320**
Frame size			**B6**	**$B6_{DS}$**		**B7**	**$B7_{DS}$**		**B8**
Thermal current at 40°C (A)			1250	1250		2000	2000		3200
Thermal current at 45°C (A)			1250	1250		2000	2000		3200
Thermal current at 50°C (A)			1250	1250		1850	1850		3200
Thermal current at 55°C (A)			1180	1180		1730	1730		3040
Thermal current at 60°C (A)			1125	1125		1600	1600		2888
Thermal current at 65°C (A)			1050	1050		1520	1520		2743
Thermal current at 70°C (A)			1000	1000		1440	1440		2606
Rated insulation voltage U_i (V)			-	-		1500	1500		1500
Rated impulse withstand voltage U_{imp} (kV)			12	12		12	12		12
Number of circuits	**Rated voltage**	**Utilisation category**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**
I_e (A) 1 circuit	1000 VDC	DC-21 B	1250	-		2000	-		3200
I_e (A) 2 circuits	1000 VDC	DC-21 B	-	1250	-	-	2000	-	-
I_e (A) 1 circuit	1500 VDC	DC-21 B	-	-	1250			2000	
I_e (A) 2 circuits	1500 VDC	DC-21 B	-	-		-	-		-
Number of pole(s) in series per circuit			2P+; 2P- (1)	2P+; 2P- (2)	4P+; 4P- (3)	2P+; 2P- (1)	2P+; 2P- (2)	4P+; 4P- (3)	4P+; 4P- (1)
Number of pole(s) of the device			4 P	8 P		4 P	8 P		4 P
Short-circuit capacity (without protection)									
Rated short-time withstand current 0.3 s. (kA eff)			10	10		10	10		10
Rated short-time withstand current 1 s. (kA eff)			5	5		5	5		5
Power dissipation per poles of the PV switch (W/P) @ 40°C			-	63		-	125		-
Humidity according to IEC 60947-1 Annexe Q (%)			95	95		95	95		95
Connection									
Nominal Cu cable section (mm²)			2 x 240	2 x 240		-	-		-
Nominal Cu busbar width (mm)			63	63		100	100		4 x 100 x 5

(1)



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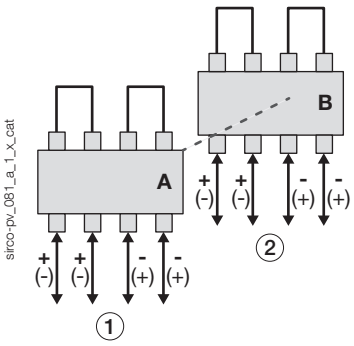

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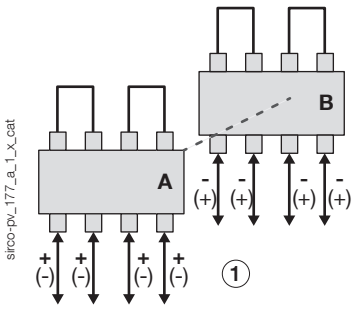
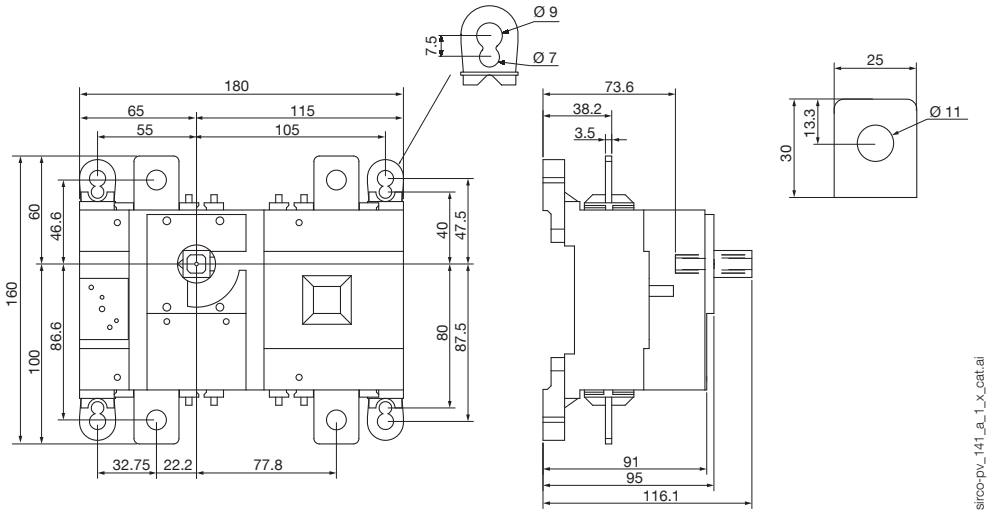


1. Utility 1
2. Utility 2

Dimensions (mm)

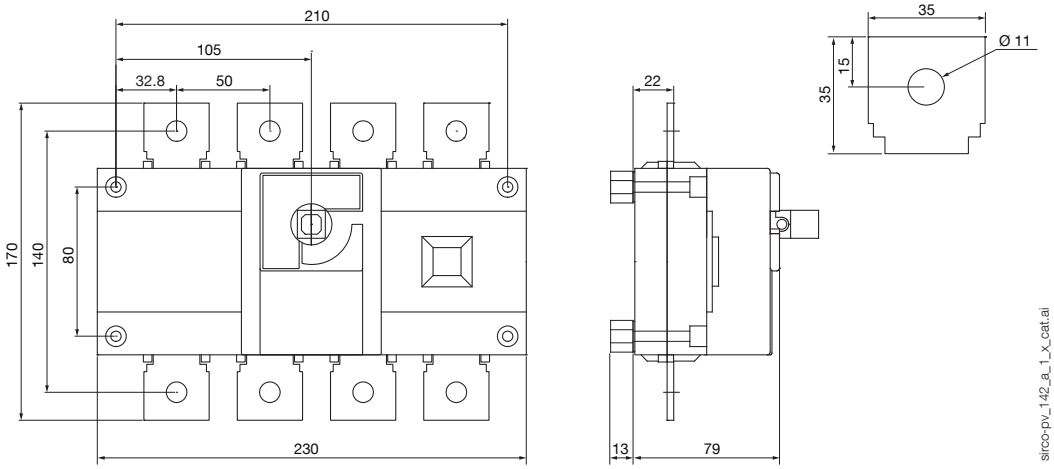
100 to 315 A - B4 - 2P - 1000 VDC - 1 circuit

26PV 2010 - 26PV 2016 - 26PV 2025 - 26PV 2031



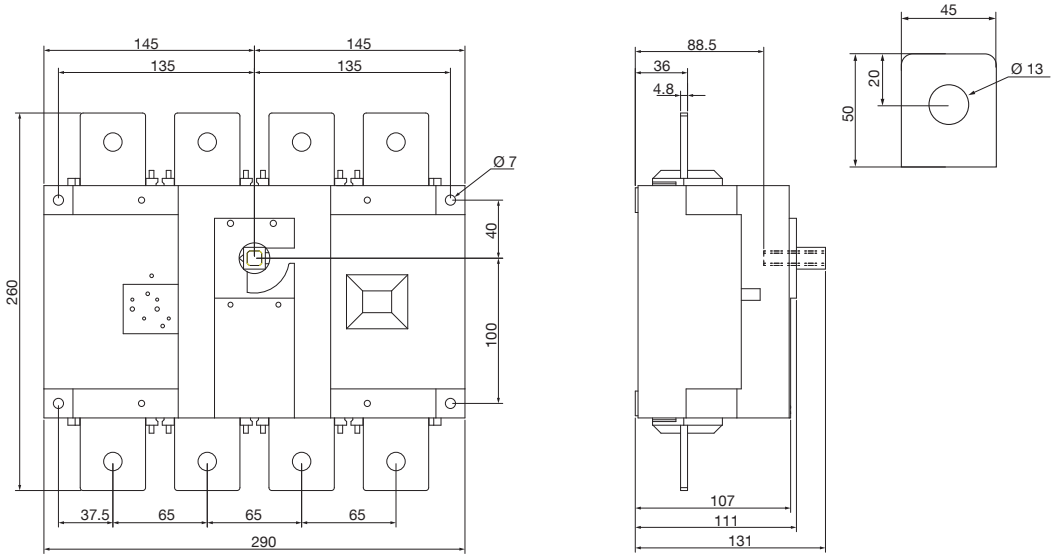
400 to 500 A - B4 - 4P - 1000 VDC - 1 circuit

26PV 4040 - 26PV 4050



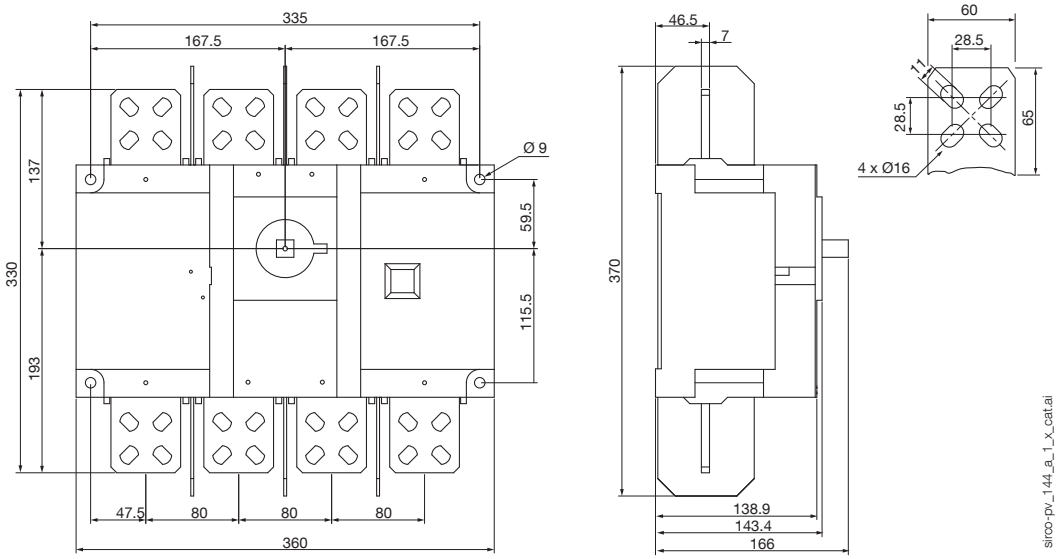
630 to 800 A - B5 - 4P - 1000 VDC - 1 circuit

26PV 4063 - 26PV 4080



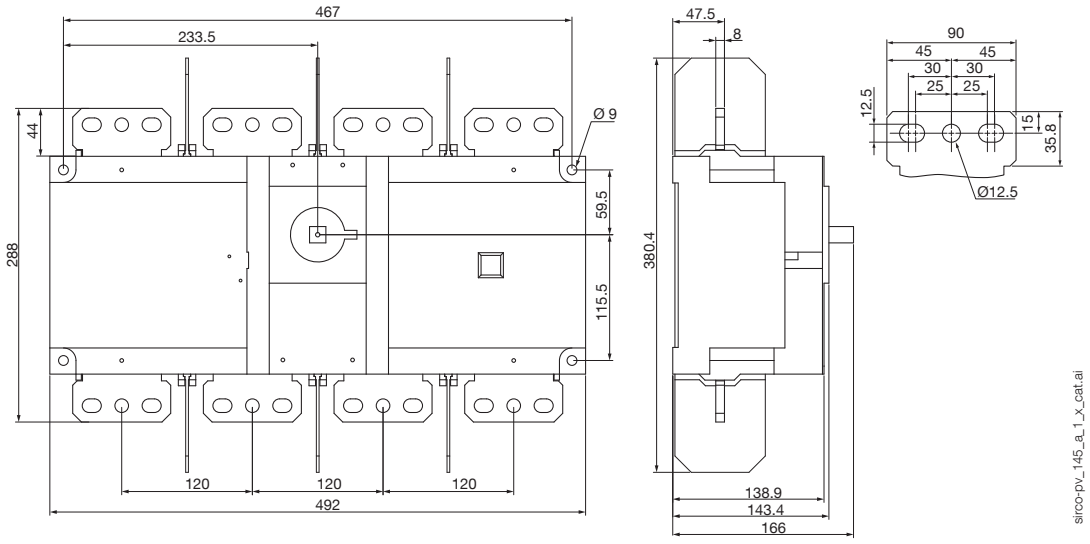
1250 A - B6 - 4P - 1000 VDC - 1 circuit

26PV 4120



2000 A - B7 - 4P - 1000 VDC - 1 circuit

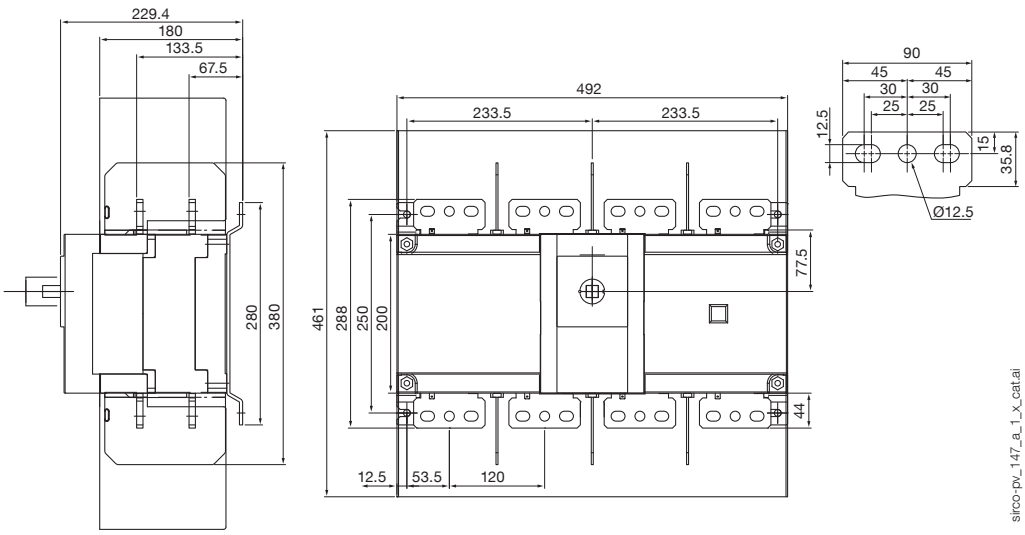
26PV 4200



Dimensions (mm) (continued)

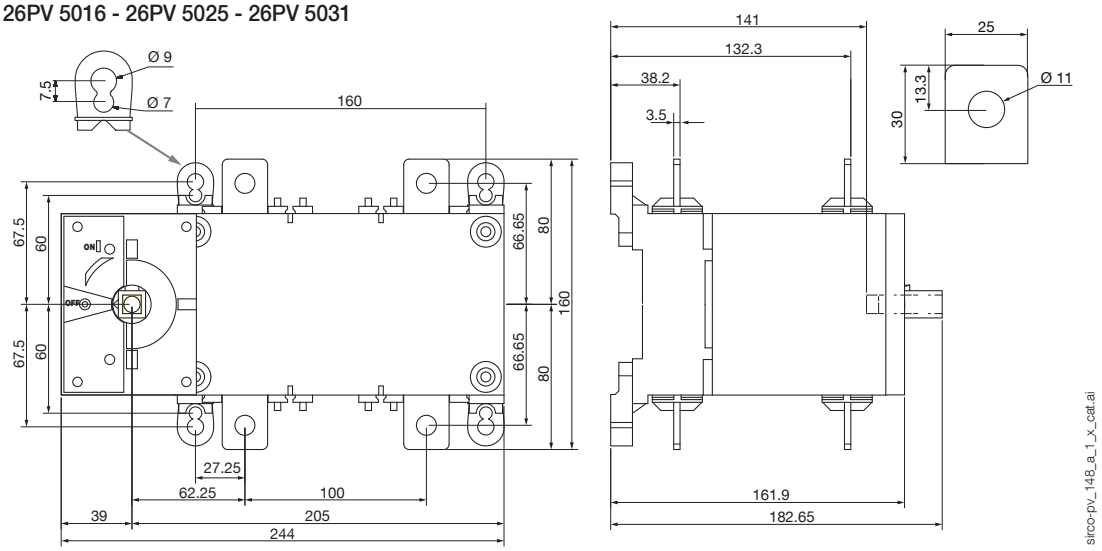
3200 A - B8 - 4P - 1000 VDC - 1 circuit

26PV 4320



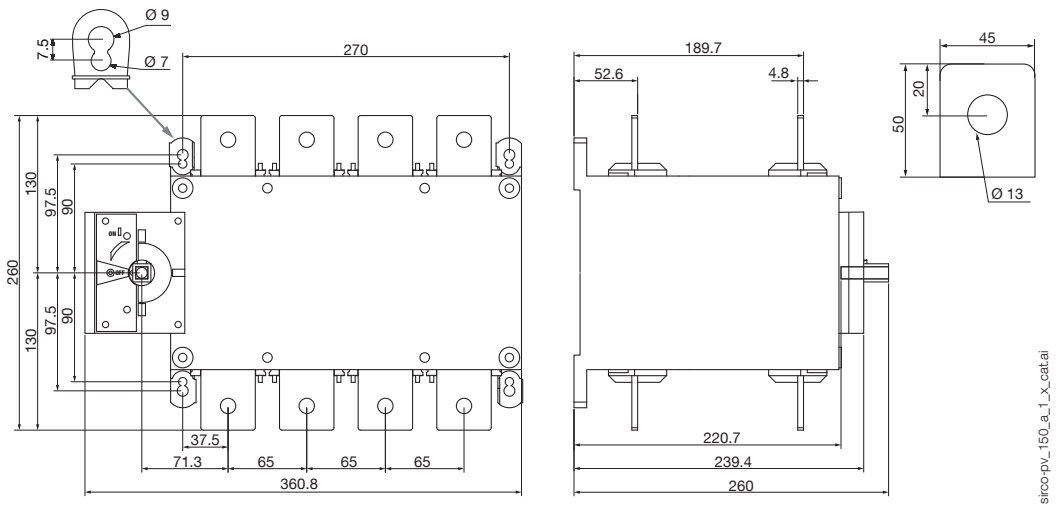
100 to 315 A - $B4_{DS}$ - 4P - 1000 VDC - 2 circuits

26PV 5010 - 26PV 5016 - 26PV 5025 - 26PV 5031



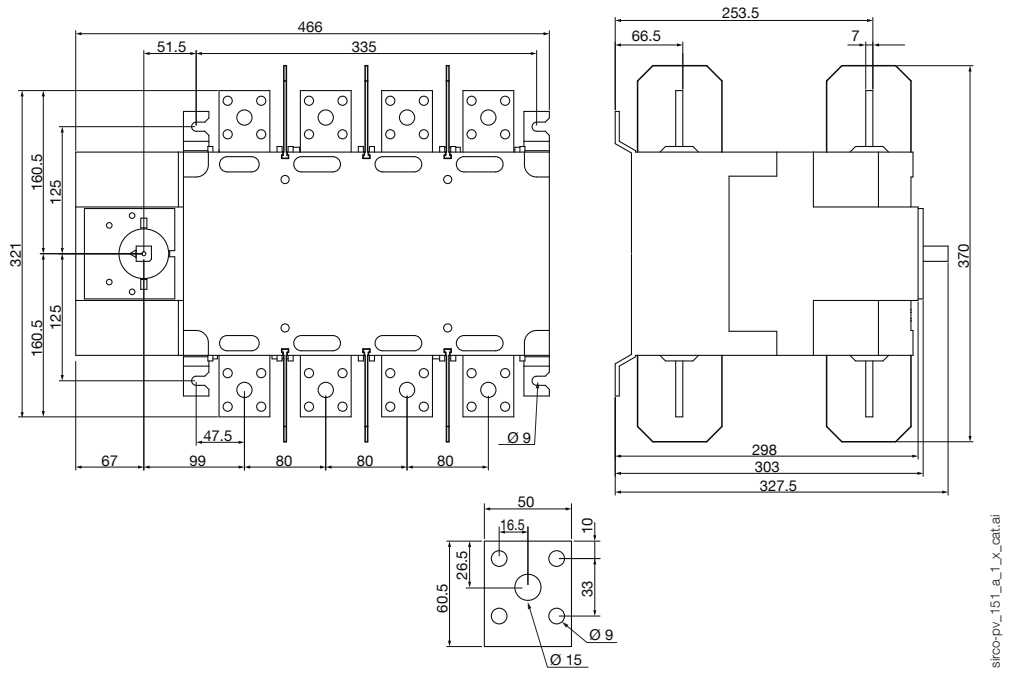
630 A - $B5_{DS}$ - 8P - 1000 VDC - 2 circuits

26PV 8063



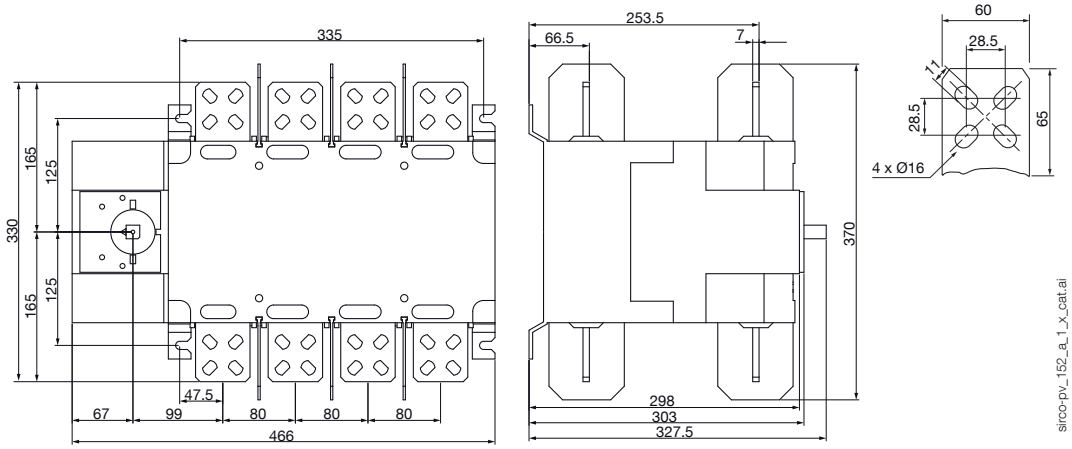
800 A - $B6_{DS}$ - 8P - 1000 VDC - 2 circuits

26PV 8080



1250 A - $B6_{DS}$ - 8P - 1000 VDC - 2 circuits

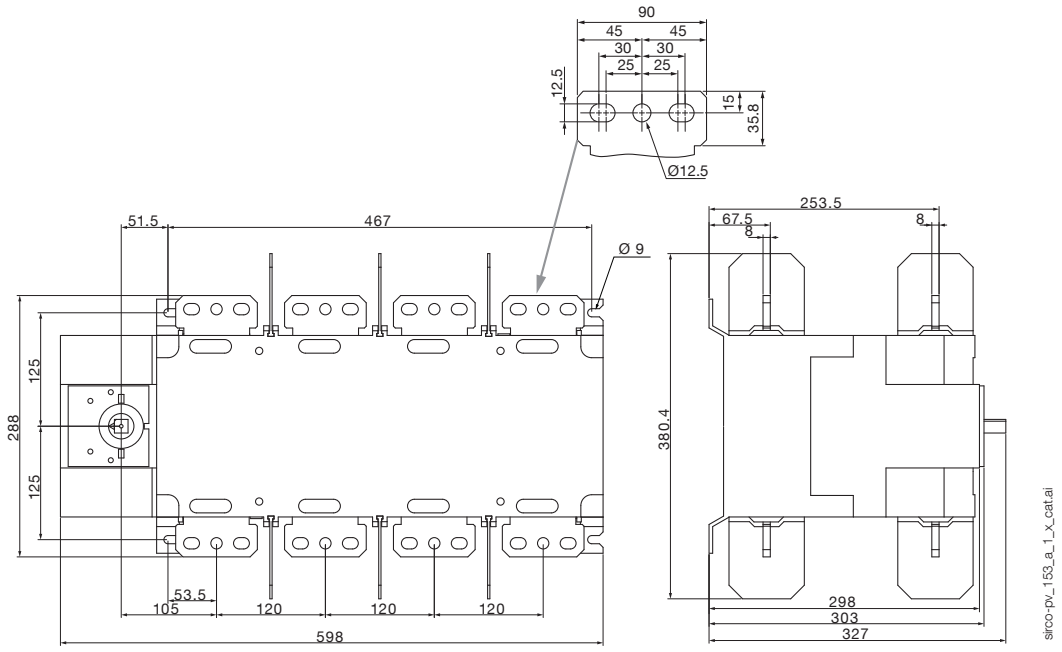
26PV 8120



Dimensions (mm) (continued)

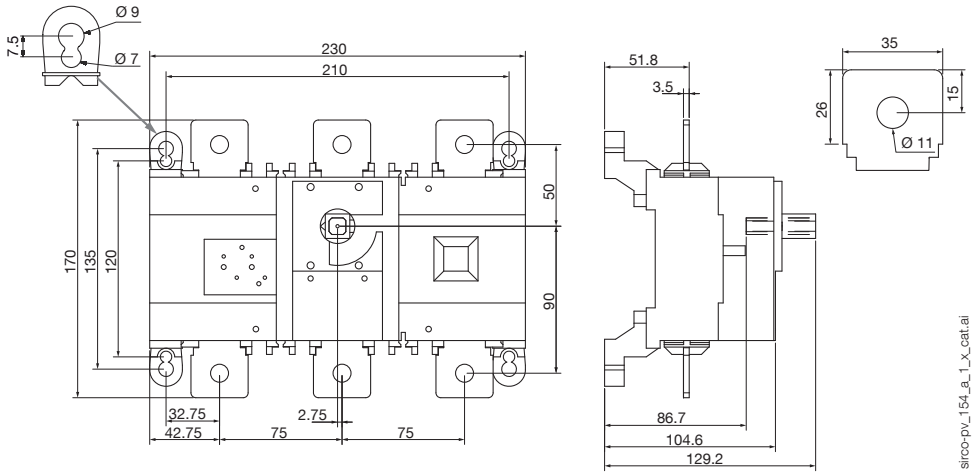
2000 A - $B7_{DS}$ - 8P - 1000 VDC - 2 circuits

26PV 8200



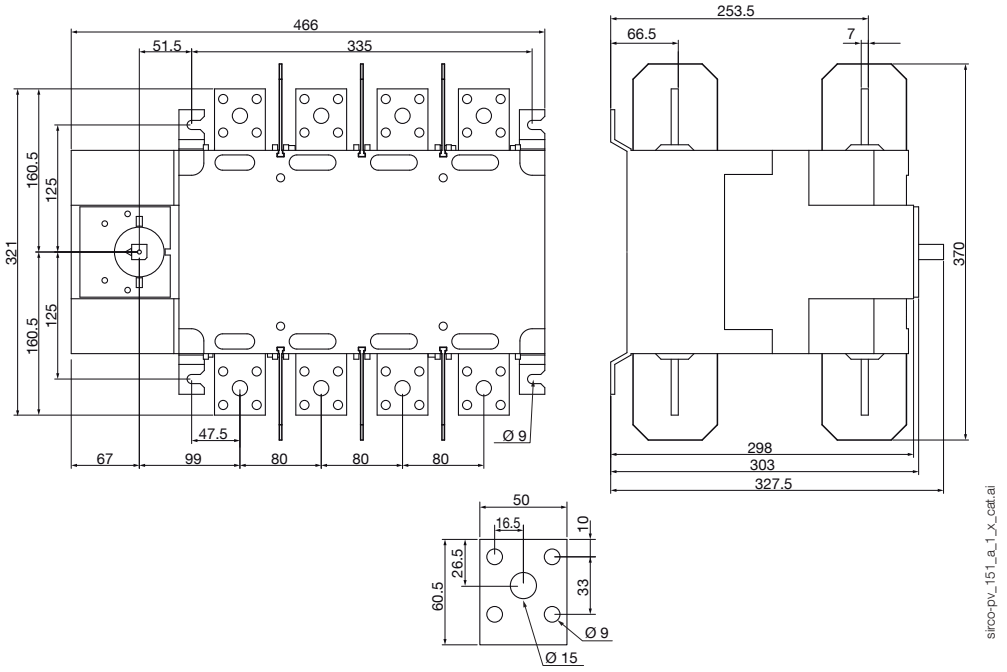
160 to 400 A - B4T - 3P - 1500 VDC - 1 circuit

26PV 3015 - 26PV 3024 - 26PV 3030 - 26PV 3039



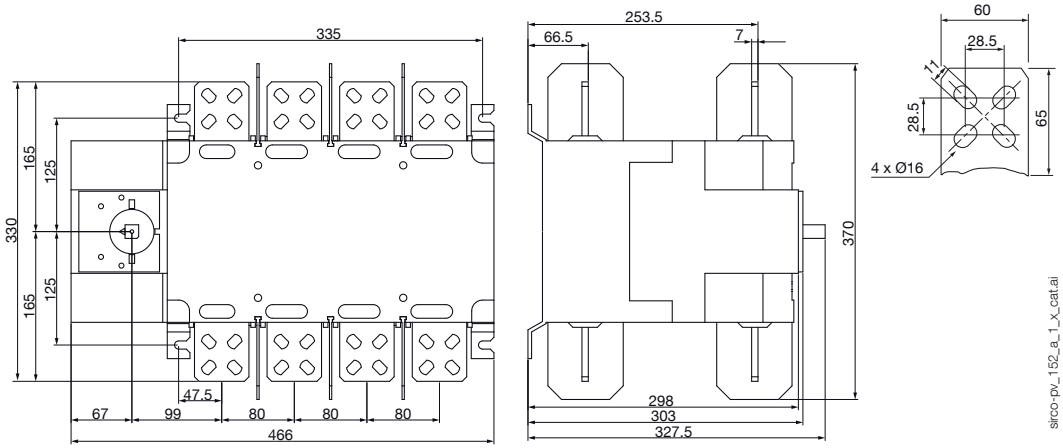
800 A - $B6_{DS}$ - 8P - 1500 VDC - 1 circuit

26PV 8080



1250 A - $B6_{DS}$ - 8P - 1500 VDC - 1 circuit

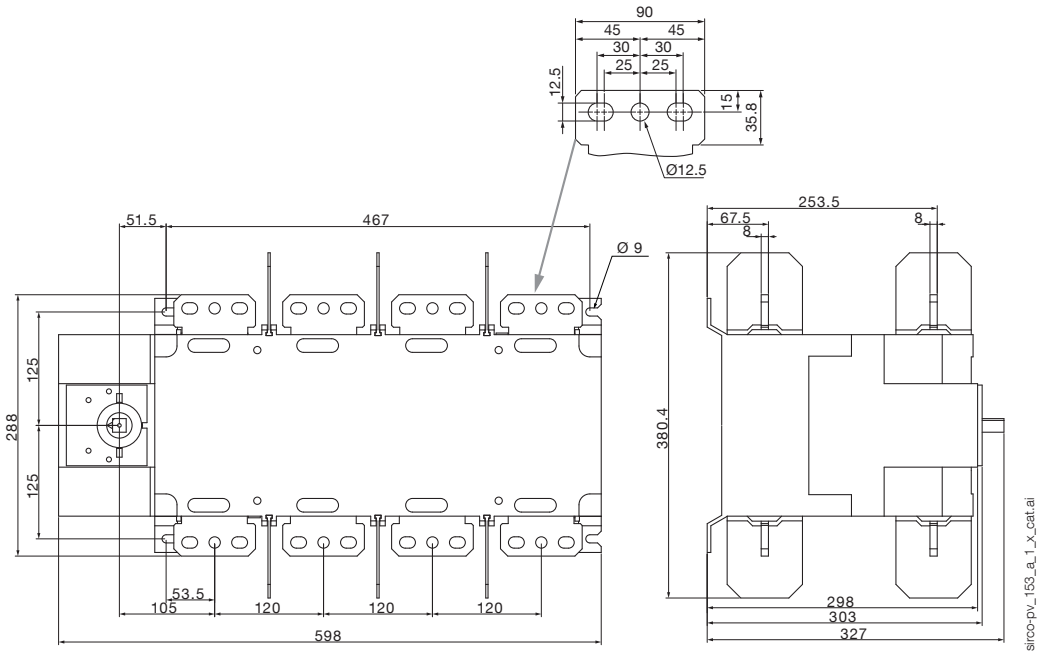
26PV 8120



Dimensions (mm) (continued)

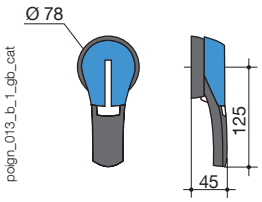
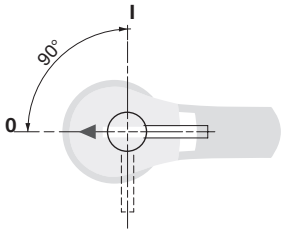
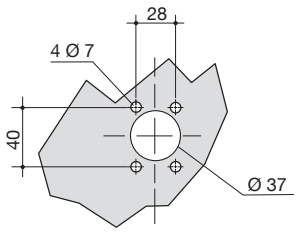
2000 A - $B7_{DS}$ - 8P - 1500 VDC - 1 circuit

26PV 8200

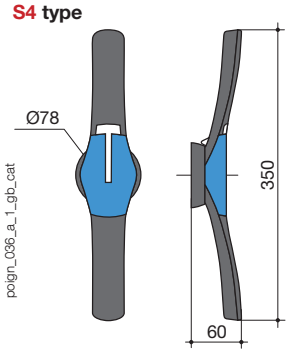
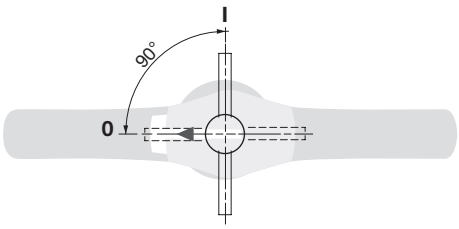
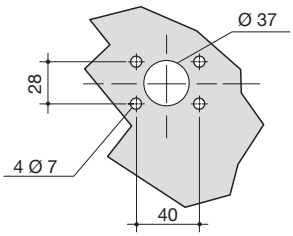


Dimensions for external handles (mm)

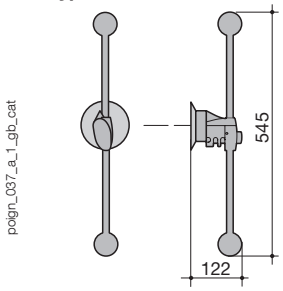
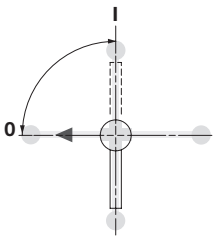
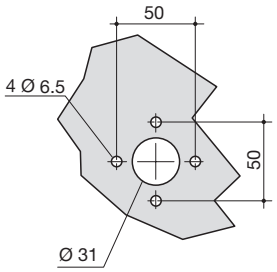
B4 - $B4_{DS}$ - B5

Handle type	Front operation Direction of operation	Door drilling
S2 type 		

$B5_{DS}$ - B6 - B7

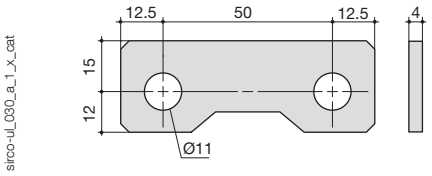
Handle type	Front operation Direction of operation	Door drilling
S4 type 		

B8 - $B6_{DS}$ - $B7_{DS}$

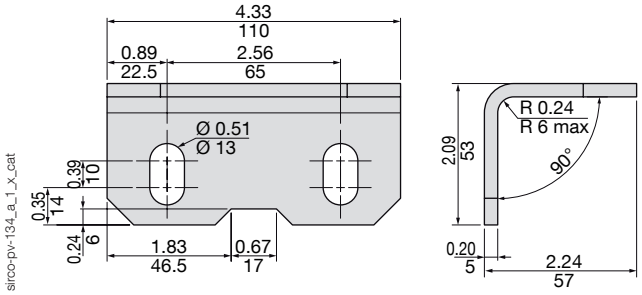
Handle type	Front operation Direction of operation	Door drilling
V1 type 		

Bridging bars (mm)

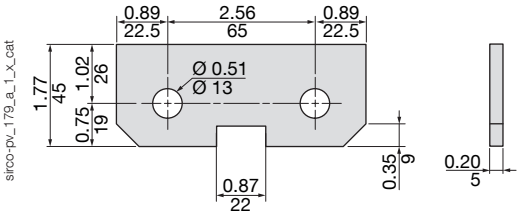
2609 0025



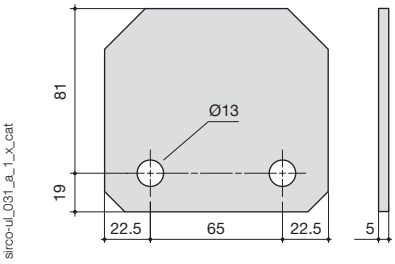
2709 0045



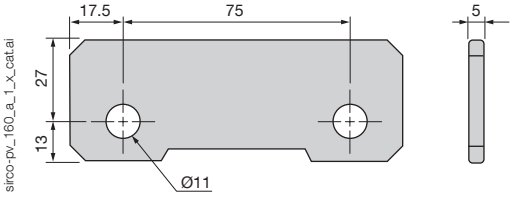
2709 0027



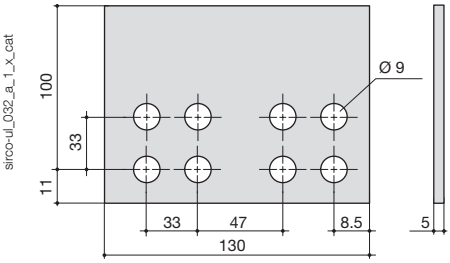
2609 0080



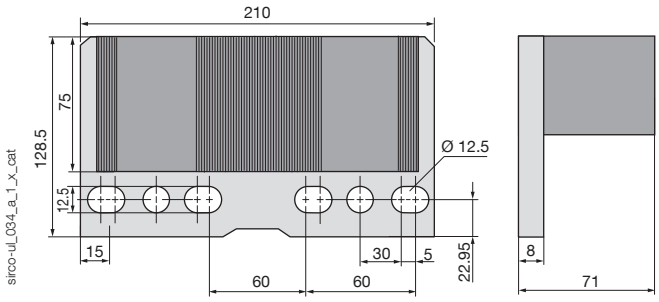
2609 0026



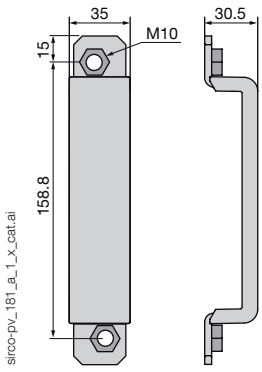
2609 1100



2609 1200

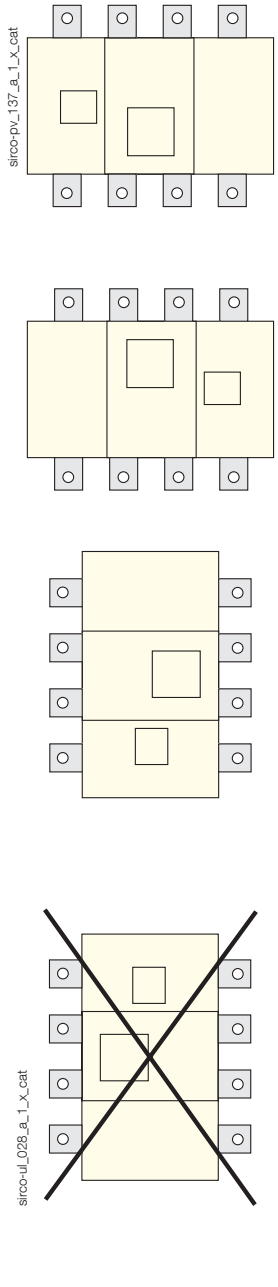


2609 0041

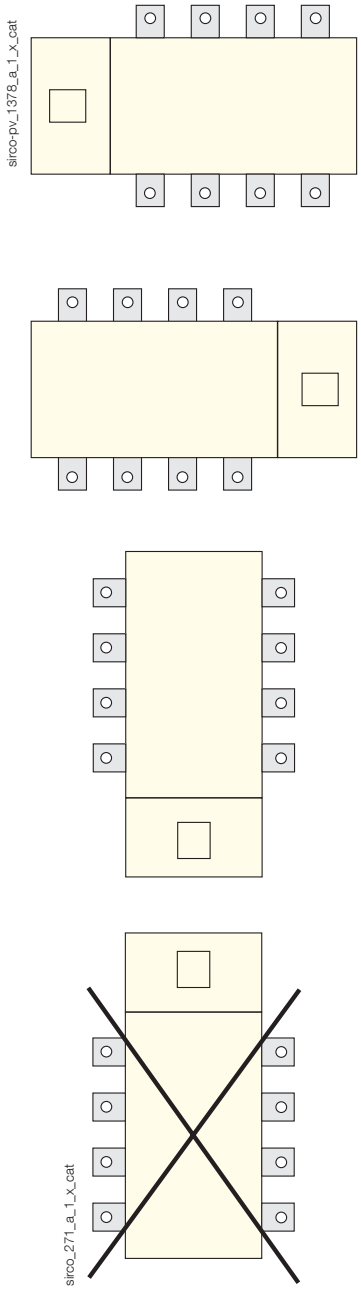


Mounting orientation

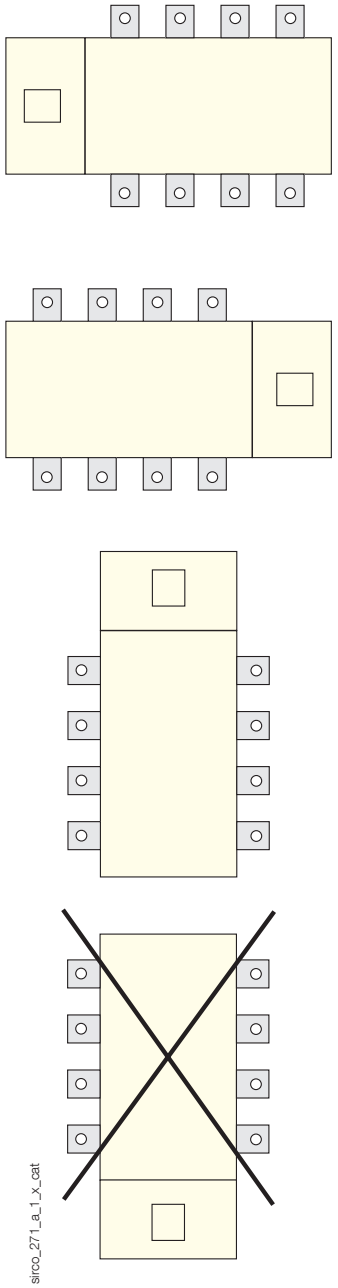
B4 to B8



$B4_{DS}$ - $B5_{DS}$

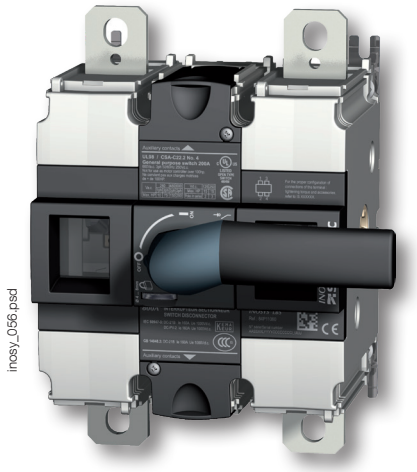


$B6_{DS}$ - $B7_{DS}$



INOSYS LBS DC

Load Break Switches for DC and PV applications
from 160 to 1600 A, up to 2000 VDC


inosy_056.psd

The solution for
> Industry

Strong points
> High performance power switching in a compact frame
> Safe & reliable operation
> Designed for harsh environments
> Easy to install
> Modular solution for flexible configuration

Conformity to standards
> IEC 60947-3
> DC-21B & DC-PV2
> UL98B
> CCC

Function

INOSYS LBS is a range of load break switches that can be manually controlled. These switches can be operated manually using the handle to disconnect all or part of the electrical installation. They ensure on-load opening / closing and safe disconnection of any direct current low voltage electrical circuit up to 2000 VDC. They can also be used for emergency power switching applications. They are the first switches in the market capable to handle 2000 VDC.

Advantages

High performance power switching in a compact frame
- INOSYS load break switches incorporate patented technology that provides a breaking capacity of 750 VDC per pole, providing 1500 VDC in just 2 poles, and significantly limiting power dissipation. All in an exceptionally compact device.
- Also available in 2000 VDC in 3 or 4 poles configuration. The upgrade from 1500 VDC to 2000 VDC allow the switches to handle higher voltage applications and bring more power. INOSYS range meets or exceeds industry standards and certifications, ensuring compliance with electrical safety regulations and guidelines.

Safe & reliable operation
- Direct position indication on the bar and visible contact with containment of the electrical arc.
- The opening and closing of the switch is fully independent from the speed of operation, ensuring safe operation under all conditions.
- High temperature withstand: no derating up to 55 °C, functional from -40 to +70 °C.

Designed for harsh environments
- Vibration testing (from 13.2 to 100 Hz at 0.7 g).
- Shock testing (15 g during three cycles).
- Humid temperature testing (2 cycles, 55°C with 95% humidity level).
- Salt mist testing (3 cycles with humidity storage, 40°C, 93% humidity after each cycle).

Easy to install
- Wiring: as the switch is non-polarized all types of wiring and connections are possible.
- Easy access without tools to integrate auxiliary contacts (located within the switch footprint).
- Mechanism can be centred or left aligned (in the factory) to accommodate installation requirements.

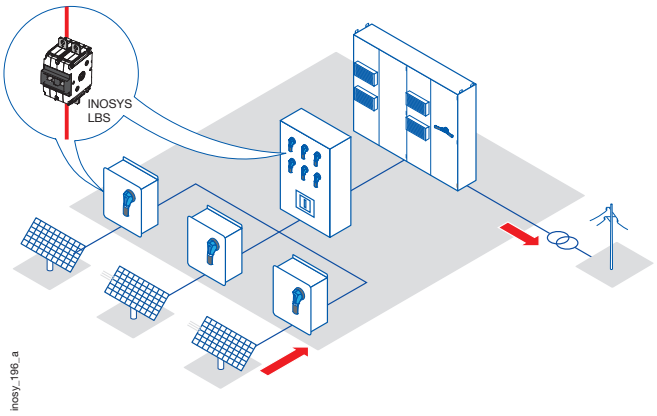
Modular solution for flexible configuration
- Single or dual polarity switching.
- The same switch can be used for installation with either grounded or floating networks by choosing the wiring configuration.

General characteristics

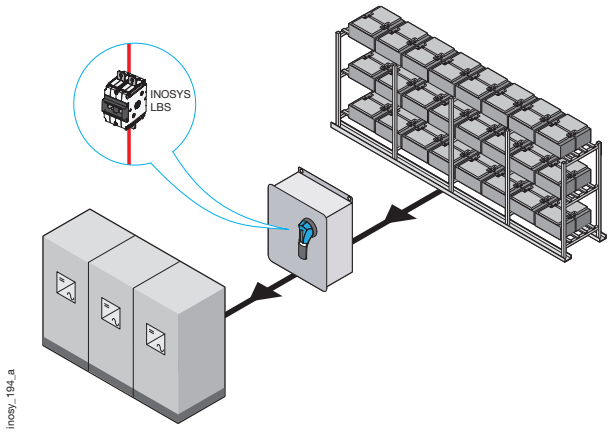
- Range 160 A to 1600 A.
- Up to 2000 VDC.
- High-performance switching with a compact design.
- Easy integration.
- Reinforced safety with visible breaking indication.
- High efficiency with low power loss.

Typical applications: local safe disconnection for DC and PV applications

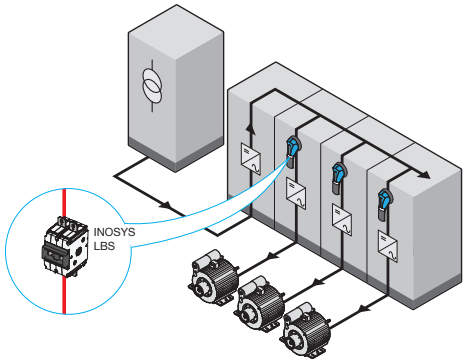
PV installation: Combiner box, Recombiner box or Inverter



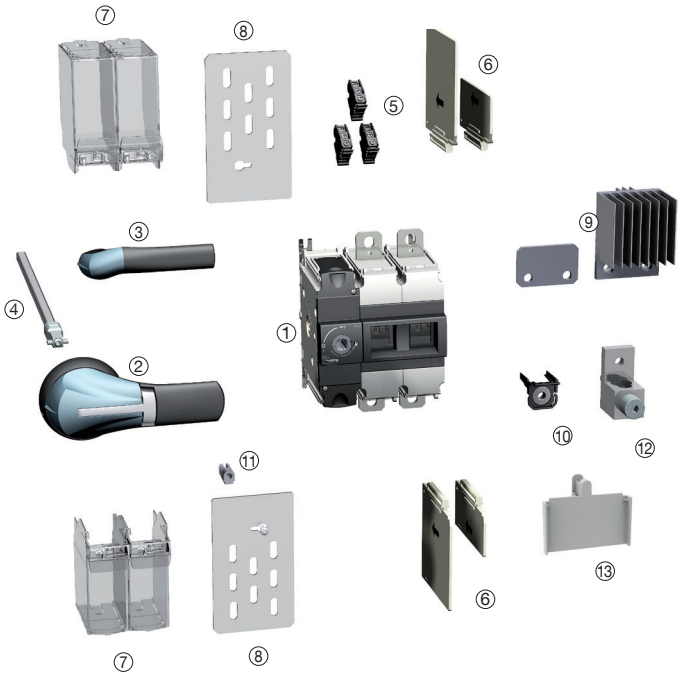
Battery protection



Isolation of DC processes



Overview



1. INOSYS LBS DC
2. External operation handle
3. Direct operation handle
4. Shaft for external operation
5. Auxiliary contact
6. Inter-phase barriers
7. Terminal shrouds
8. Terminal screen
9. Bridging bar to arrange the poles in series
10. Captive nut
11. Mounting insert
12. Cage terminals
13. Isolation plate

References

INOSYS LBS

1000 VDC - 1 circuit

Rating (A)	Frame size	No. of poles per circuit	Switch body[1]	External operation	Aux. Contact
160 A	F2	2 P (1 P+, 1 P-)	86P0 **2016**	Shaft 320 mm 1400 **1032** Handle type S2 Black IP65 742F **2111**	NO/NC 8499 **0001**
250 A	F2	2 P (1 P+, 1 P-)	86P0 **2025**		
315 A	F2	2 P (1 P+, 1 P-)	86P0 **2031**		
400 A	F3	2 P (1 P+, 1 P-)	86P0 **2040**	Shaft 320 mm 1400 **1032** Handle type S2L Black IP65 14AF **2111**	

(1) The switches are supplied without accessories.

1500 VDC - 1 circuit

Rating (A)	Frame size	No. of poles per circuit	Switch body[1]	External operation	Aux. Contact
160 A	F2	2 P (1 P+, 1 P-)	86P0 **2017**	Shaft 320 mm 1400 **1032** Handle type S2 Black IP 65 742F **2111**	NO/NC 8499 **0001**
			86P1 **1017**[2]		
		3 P (2 P+, 1P-)	86P0 **3016**		
250 A	F2	2 P (1 P+, 1 P-)	86P0 **2026**		
			86P1 **1026**[2]		
		3 P (2 P+, 1 P-)	86P0 **3025**		
315 A	F2	2 P (1 P+, 1 P-)	86P0 **2032**		
			86P1 **1032**[2]		
		3 P (2 P+, 1 P-)	86P0 **3031**		
400 A	F3	2 P (1 P+, 1 P-)	86P0 **2041**	Shaft 320 mm 1400 **1032** Handle type S2L Black IP 65 14AF **2111**	
			86P1 **1041**[2]		
500 A	F3	2P (1P+, 1P-)	86P0 **2051**		
			86P1 **1051**[2]		
630 A	F3	2 P (1 P+, 1 P-)	86P0 **2064**		
			86P1 **1064**[2]		

(1) The switches are supplied without accessories.
(2) Centred mechanism.

1500 VDC - 2 circuits

Rating (A)	Frame size	No. of poles per circuit	Switch body[1]	External operation	Aux. Contact
400 A	F3	2 P (1 P+, 1 P-)	86P2 **2041**[2]	Shaft 320 mm 1400 **1032** Handle type S2L Black IP 65 14AF **2111**	NO/NC 8499 **0001**
500 A			86P2 **2051**[2]		
630 A			86P2 **2064**[2]		

(1) The switches are supplied without accessories.
(2) Centred mechanism.

1500 VDC - high rating

Rating (A)	Frame size	No. of poles per circuit	Switch body [1]	External operation	Aux. Contact
800 A	F3	4P (2P // 2P)	86P2 **2081**	Shaft 320 mm 1400 **1032** Handle type S2L Black IP 65 14AF **2111**	NO/NC 8499 **0001**
1000 A			86P2 **2100**		
1250 A			86P2 **2125**		
1400 A			86P2 **2140**		
1600 A			86P2 **2160**		

(1) The switches are supplied without accessories.

2000 VDC - 1 circuit

Rating (A)	Frame size	No. of poles per circuit	Switch body[1]	External operation	Bridging bar
400 A	F3	3P (2P+, 1P-)	88P1 **2041**	Shaft 320 mm 1400 **1032** Handle type S2L Black IP 65 14AF **2111**	8409 **0040**
		4P (2P+, 2P-)	88P2 **2041**[2]		
500 A		3P (2P+, 1P-)	88P1 **2051**		8409 **0041**
		4P (2P+, 2P-)	88P2 **2051**[2]		
630 A		3P (2P+, 1P-)	88P1 **2064**		
		4P (2P+, 2P-)	88P2 **2064**[2]		

(1) The switches are supplied without accessories.
(2) Centred mechanism.

Accessories

Direct operation handle

Frame size	Handle type	Handle colour	Reference
F2	E2	Black	8499 **5022**
F2	E2	Red	8499 **5023**
F3	E3	Black	8499 **5032**

E2 handle

acces_400_a_1_cat

External operation handle

Use
The external control handles include a breastplate and can be padlocked. External handles should be used with a shaft extension.

Example of use:
When the handle is locked in the "ON" position, the operator must make sure to disconnect and isolate the circuit before accessing the board and carrying out maintenance work.
You can open the door when the switch is in the "ON" position by bypassing the lock function with a specially designed tool (authorised persons only). The lock is automatically re-applied when the door is closed.

Handle type S2

acces_150.eps

Frame size	Handle type	Handle colour	Protection degree	Front operation Reference	Side operation Reference(2)
F2	S2	Black	IP65	742F **2111**	14YA **2111**
F2	S2	Red	IP65	14AE **2111**	
F3	S2L(1)	Black	IP65	14AF **2111**	14AA **2111**
F3	S2L(1)	Red	IP65	14AE **2111**	

(1) S2L handles have an extended socket; please see the section on dimensions.
(2) Only comptatible with left mechanism version.

Shaft for external handle

Frame size	Handle type	Length (mm)	Reference
F2 - F3	S2, S2L	200	1400 **1020**
F2 - F3	S2, S2L	320	1400 **1032**
F2 - F3	S2, S2L	400	1400 **1040**

Other lengths: please consult us.

Shaft for S2 and S2L type handle

acces_401_a_1_cat

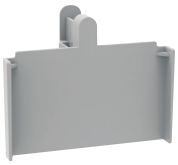
Isolation plate

Use
This isolation plate ensure safety for the customer.

Characteristics
Products above 800A are supplied from factory with isolation plates.
For replacement purposes, quantity to order should be 2 kits.

Description	Quantity to order	Reference
Isolation plate	2	8499**1000** (1)

(1) Kit includes 2 identical isolation plates



acces_599.eps

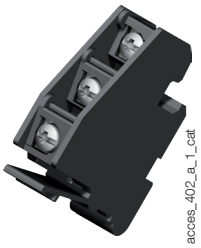
Auxiliary contact

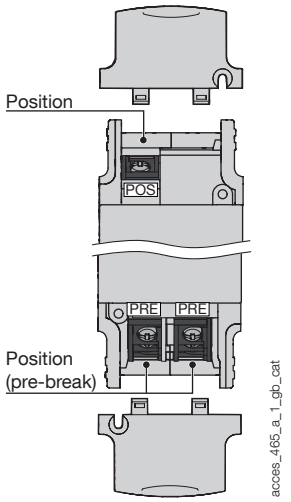
Use

Provide information about the position and pre-break depending on installation location.

Characteristics

Switching type: NO/NC,
IP2X with front control (screw cap).
10 000 operations.
Max. 3 per switch.





Frame size	Connection type	Type	Reference
F2 - F3	Screws	Standard NO/NC	8499 **0001**
F2 - F3	Screws	Low level NO/NC	8499 **0002**

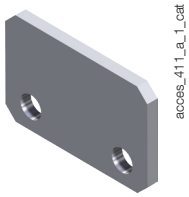
Characteristics

Type of auxiliary contact	Min. current (A)	I_{th} (A)	Operating current I_e (A)			
			24 VDC	48 VDC	230 VAC	440 VAC
			DC-14	DC-14	AC-15	AC-15
Standard	12.5 mA / 24 V	16	1	0.2	4	4
Low level	1 mA / 4 V	16	1	0.2	2	1

Bridging bar for poles in series

Use

The bridging bars enable the poles to be connected in series and parallel, allowing the following configurations for 1500 VDC and 2000 VDC.



1500 VDC - 1 circuit

Frame Size	Rating (A)	No. of poles	Quantity to be ordered	Reference
F2	160 … 315	3 P	2	8409 **0025**
F3	1600	4P / 2P	2	8409 **1600**

1500 VDC – 1 circuit with full voltage switching per polarity

Frame Size	Rating (A)	No. of poles	Quantity to be ordered	Reference
F3	400	4P / 2P	2	8409 **0040** (1)
F3	500	4P / 2P	2	8409 **0041**
F3	630	4P / 2P	2	8409**0063**

2000 VDC - 1 circuit

Frame Size	Rating (A)	No. of poles	Quantity to be ordered	Reference
F3	400	3P	1	8409 **0040**
F3	400	4P	2	8409 **0040**
F3	500...630	3P	1	8409 **0041**
F3	500...630	4P	2	8409 **0041**

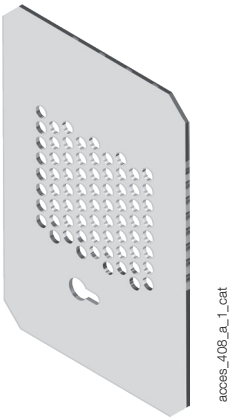
(1) Centered mechanism.

Accessories (continued)

Terminal screen

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

Advantages
Perforations for thermal checks.
Assembly requires mounting inserts (provided with terminal screens).

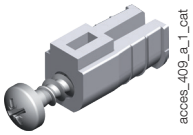


Frame size	No. of poles	Position	Reference(1)
F2	2 P	Top and bottom	8499 **3222**
F2	3 P	Top and bottom	8499 **3232**
F3	2 P	Top and bottom	8499 **3722**

(1) Each reference comprises 2 terminal screens for top and bottom protection.

Holding insert

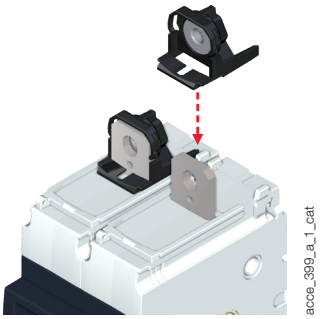
Use
Used to secure terminal on the switch.



Frame size	Pack (unit)	Reference
F2 - F3	10	8499 **6220**
F2 - F3	100	8499 **6221**

Captive nut

Use
This accessory enables simple one-handed connection to the power terminals. It can be mounted on either side of the terminal for front or rear connection.



Frame size	Pack (unit)	Reference
F2	12	8499 **6120**
F2	120	8499 **6121**
F3	12	8499 **6130**
F3	120	8499 **6131**

Voltage tap

Use
Allows connection of voltage sensing or power cables, with fast-on connection.

Frame size	Pack (unit)	Reference
F2	12	8499 **9012**
F3	12	8499 **9013**

Characteristics

Characteristics according to IEC 60947-3

Rated current I_n			**160 A**	**250 A**	**315 A**	**400 A**	**500 A**	**630 A**
Frame size			**F2**	**F2**	**F2**	**F3**	**F3**	**F3**
Thermal current at 40 °C (A)			160	250	315	400	500	630
Thermal current at 50 °C (A)			160	250	315	400	500	630
Thermal current at 60 °C (A)			160	250	315	400	500	630
Thermal current at 70°C (A)			160	250	315	400	480	580
Thermal current at 80°C (A)			140	220	280	360	430	520
Rated insulation voltage U_i (V)			1500	1500	1500	1500	1500	1500
Rated impulse withstand voltage U_{imp} (kV)			12	12	12	12	12	12
Number of circuits	**Nominal voltage**	**Utilisation category**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**
1 circuit	1000 VDC[1]	DC-21 B	160	250	315	400	500	630
1 circuit	1500 VDC [2]	DC-21 B	160	250	315	400	500	630
Number of circuits	**Nominal voltage**	**Utilisation category**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**	**I_e (A)**
1 circuit	1000 VDC [1]	PV2	-	-	-	-	-	-
1 circuit	1500 VDC [2]	PV2	160	250	315	400	500	630
2 circuits	1500 VDC [2]	PV2	-	-	-	400	500	630
Short-circuit operation at 1000 VDC and 1500 VDC (unprotected)								
Current rated as short-time withstand I_{cw} 1s (kA rms)			10	10	10	10	10	10
Rated short-circuit breaking capacity I_{cm} (peak kA) – 60 ms			10	10	10	10	10	10
Connection								
Recommended Cu rigid cable cross-section [3]			70	120	185	240	2 x 150	2 x 185
Recommended width of copper bars (mm) [3]			20	20	20	25	25	25
Mechanical characteristics								
Durability (number of operating cycles)			8000	8000	8000	8000	8000	8000
Power dissipation per pole (W/pole)			4.5	11.2	13	13	21.6	30.2

(1) 2 poles in series.
(2) 2 or 3 poles in series.
(3) For aluminium connections, please contact us.

Characteristics (continued)

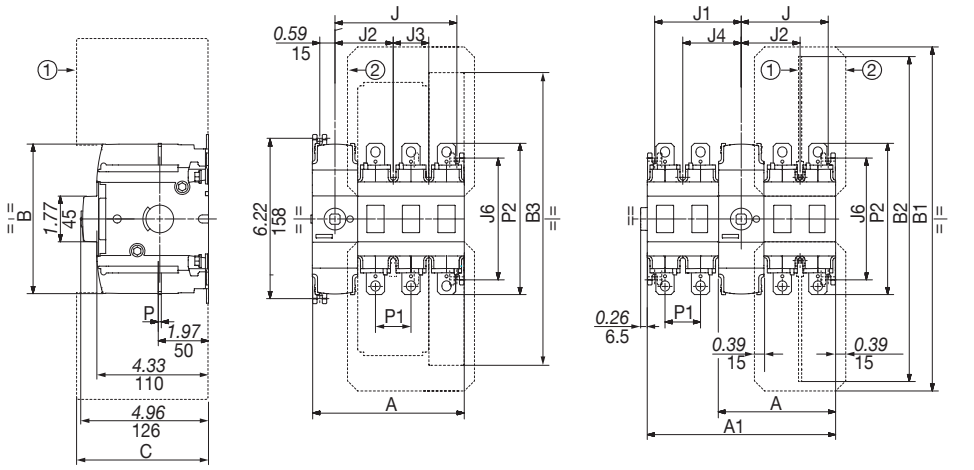
Characteristics according to IEC 60947-3

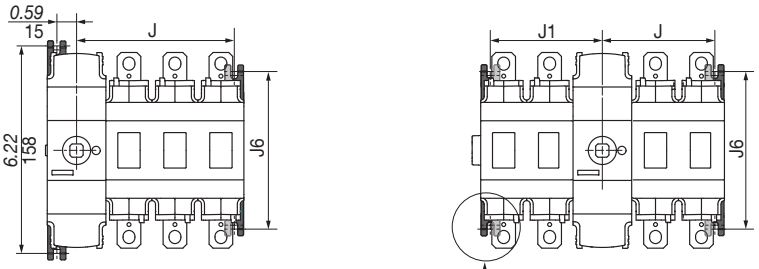
Rated current I_n		**800**	**1000**	**1250**	**1400**	**1600**
		(A)	**(A)**	**(A)**	**(A)**	**(A)**
Rated insulation voltage Ui (V)		1500	1500	1500	1500	1500
Rated impulse voltage Uimp (kV)		12	12	12	12	12
Frame Size		F3	F3	F3	F3	F3
Rated voltage	**Ambient temperature (°C)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
1500 VDC	40	800	1000	1250	1400	1600
1500 VDC	50	800	1000	1250	1400	1480
1500 VDC	60	720	900	1120	1260	1330
1500 VDC	70	650	810	1010	1130	1200
1500 VDC	80	580	730	910	1020	1080
Rated voltage	**Utilization category**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
1500 VDC	DC-21 B	800	1000	1250	1400	1600
1500 VDC	PV1	800	1000	1250		
1500 VDC	PV2	800	1000			
Short circuit capacity						
Rated short time withstand current Icw 1s (kA rms)	IEC 60947-3	20	20	20	20	20
Rated short-circuit making capacity Icm (kA peak)	IEC 60947-3	20	20	20	20	20
Connection						
Recommended width of copper bars (mm)		2 x 5 x 50	2 x 5 x 60	2 x 5 x 80	2 x 5 x 100	2 x 5 x 100
Tightening torque min (Nm)		35	35	35	35	35
Tightening torque max (Nm)		42	42	42	42	42
Mechanical characteristics						
Durability (number of operating cycles)		8000	8000	8000	8000	8000
Power dissipation per pole (W/pole)		12	18	28	35	46

Characteristics according to an extrapolation of IEC 60947-3

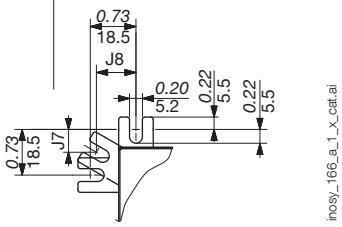
Rated current I_n		**400 A**	**500 A**	**630 A**
Frame size		**F3**	**F3**	**F3**
Rated insulation voltage U_i (V)		2000	2000	2000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12
Rated voltage	**Ambient temperature (°C)**	**I_e (A)**	**I_e (A)**	**I_e (A)**
2000 VDC	40	400	500	630
2000 VDC	50	400	500	630
2000 VDC	60	400	500	630
2000 VDC	70	400	480	580
Rated voltage	**Utilization category**	**I_e (A)**	**I_e (A)**	**I_e (A)**
2000 VDC	DC-21B	400	500	630
Short cricuit capacity				
Rated short circuit current Icw 1s (kA)	based on IEC 60947-3	20	20	20
Rated short circuit making capacity I_{cm} (kA)	based on IEC 60947-3	20	20	20
Connection				
Recommended width of copper bars (mm)		240	2 x 150	2 x 185
Tightening torque min (Nm)		35	35	35
Tightening torque max (Nm)		42	42	42
Mechanical characteristics				
Durability (number of operating cycles)		8000	8000	8000
Power dissipation per pole (W/pole)				

INOSYS LBS DC

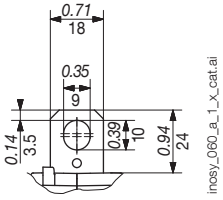




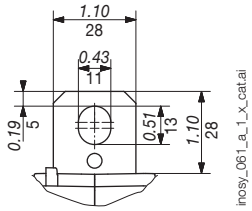
1. Inter-phase barrier.
2. Terminal screens.



Connection terminal F2



Connection terminal F3



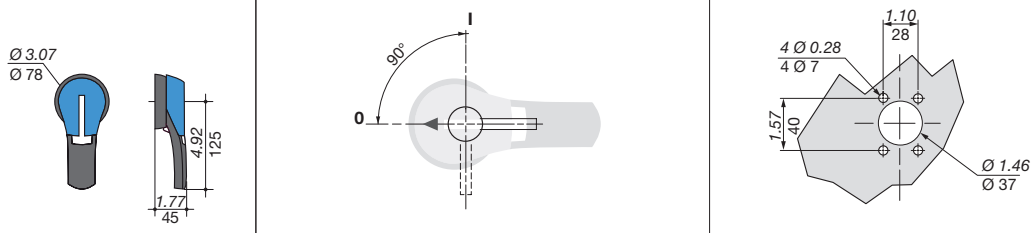
			A					A1			J				J1	
Rating (A)	Frame size	Units	2 P	3 P	1+1 P	1+2 P	2+2 P	1+1 P	1+2 P	2+2 P	2 P	3 P	1+1 P	2+2 P	1+1 P	2+2 P
100 … 250	F2	mm	117	152	82	-	117	117	-	187	85.5	120.5	50.5	85.5	52.5	87.5
400 … 1600	F3	mm	137	182	92	137	137	137	182	227	105.5	150.5	60.5	105.5	62.5	107.5

Rating (A)	Frame size	Units	B	B1	B2			B3	C		J2	J3	J4	J6	J7	J8	P1	P2
					IEC short	IEC long	UL		IEC	UL								
100 … 250	F2	mm	154	339	199	320	262	296	110	110	57,5	35	59,5	120	10	15	35	149
400 … 1600	F3	mm	154	414	237	358	359	359	110	135	67.5	45	69.5	158	4	8	45	200

Dimensions for external handles (in/mm)

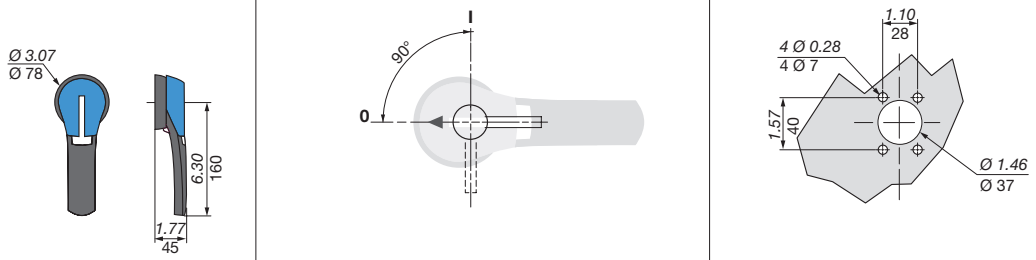
F2 frame size

Handle type	Front operation Direction of operation	Door drilling
S2 type		



F3 frame size

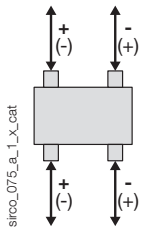
Handle type	Front operation Direction of operation	Door drilling
S2L type		



Wiring configuration

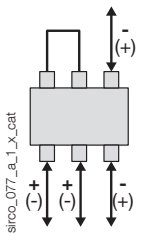
1 circuit - 1000 VDC

F2-F3 - 2 P

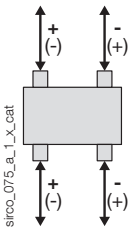


1 circuit - 1500 VDC

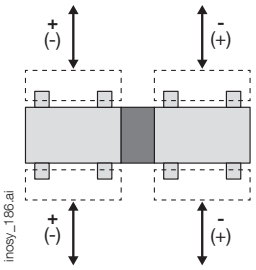
F2 - 3P



F2-F3 - 2P

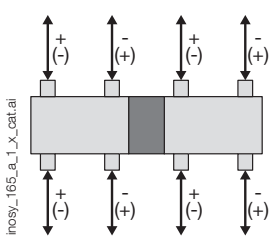


F3 - 2 P // 2P



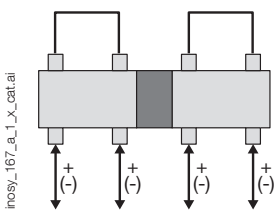
2 circuits - 1500 VDC

F3 - 2 P



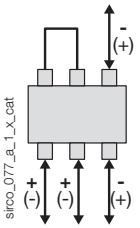
1 circuit - 1500 VDC per polarity

F3 - 2P+2P

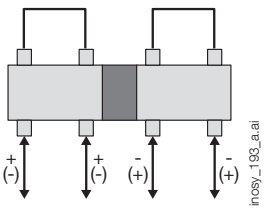


1 circuit - 2000 VDC

F3 - 3P



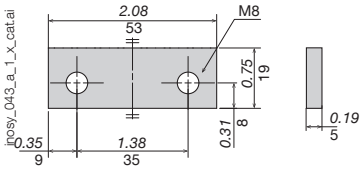
F3 - 2P+2P



Bridging bars (in/mm)

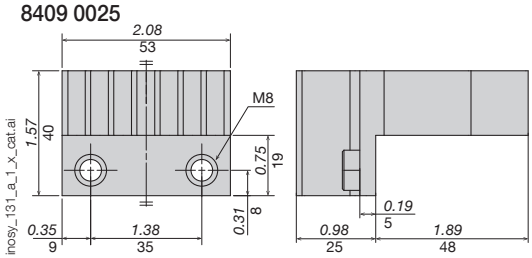
F2

8409 0016 (1)



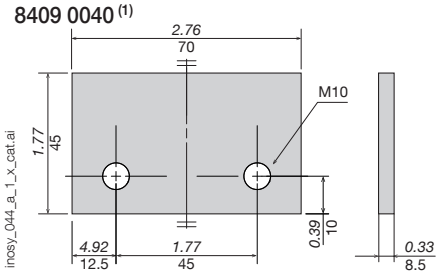
(1) Kit comprises 2 identical bars.

8409 0025



F3

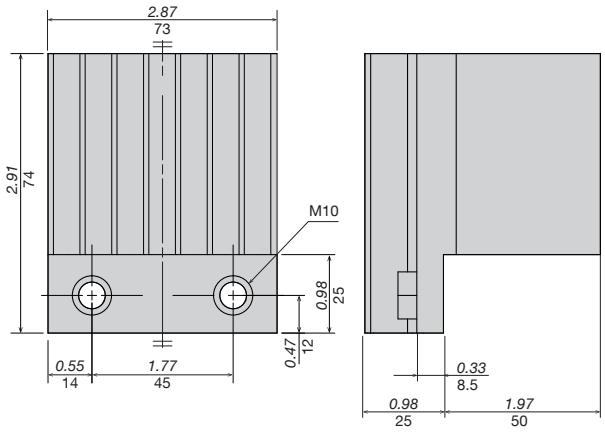
8409 0040 (1)



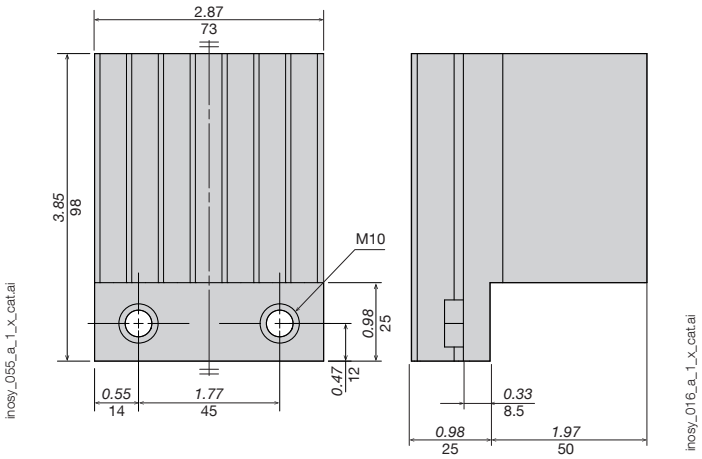
(1) Kit comprises 2 identical bars.

F3

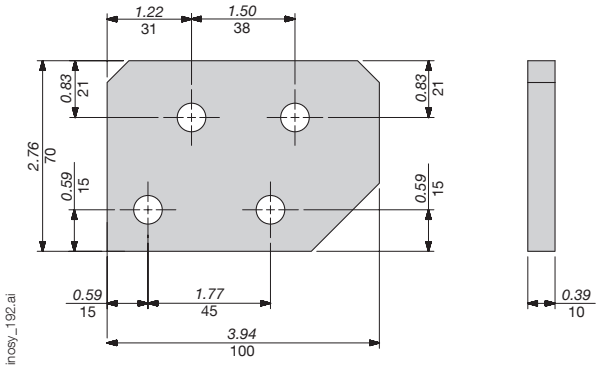
8409 0041



8409 0063



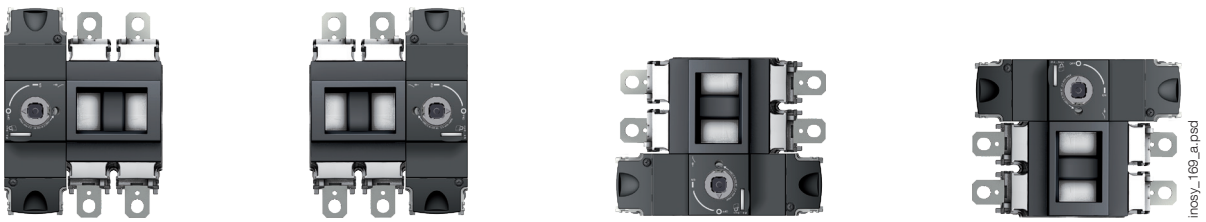
8409 1600



Mounting orientation

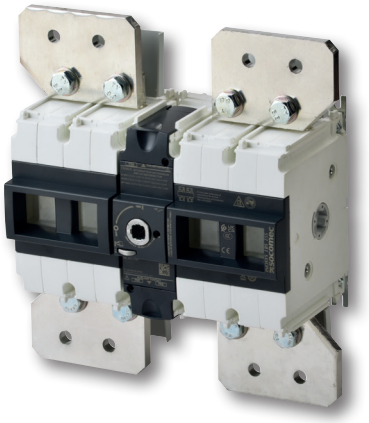
F2 - F3

All mounting orientations are possible. Derating may apply - please consult us.



INOSYS LBS DC ESS

Load break switches for DC and ESS applications
from 800 to 1600 A, up to 1500 VDC


inosy_184_front.eps

The solution for
- Energy
- Industry

Strong points
- High short circuit resistance in DC and ESS applications
- High-performance switching in a small volume
- Safe operation
- Designed for harsh environments
- Easier to install
- Modular solution for flexible configuration

Conformity to standards
- IEC 60947-3
- DC-21B & DC-PV2
- UL98B
- CCC

Function

INOSYS ESS LBS is a range of load break switches that can be controlled manually. These switches can be operated manually using the handle to disconnect all or part of an electrical installation. They ensure on-load opening and closing and safe disconnection of all direct current low voltage electrical circuits up to 1500 VDC. They can also be used for emergency disconnection applications. They have been designed specifically to withstand high short circuit conditions in DC and ESS applications.

Advantages

High short circuit resistance in DC and ESS applications

INOSYS LBS load break switches have been designed specifically to withstand high short circuit conditions in DC and ESS applications. Tested in applications with and without fuses, to offer maximum safety in all fault conditions.

High-performance switching in a small volume

INOSYS LBS load break switches incorporate patented technology that provides a breaking capacity of 750 VDC per pole, providing 1500 VDC with only 2 poles, and significantly limiting power dissipation. And they come in an exceptionally compact enclosure.

Safe operation
- Direct position indication on the bar and visible contacts with arc fault containment.
- The opening and closing of the switch is fully independent of the operating speed, to ensure safe use in all conditions.
- High temperature resistance: no derating up to 55°C, operational from -40 to +70°C.

Designed for harsh environments
- Vibration tested (13.2 to 100 Hz at 0.7 g).
- Impact tested (15 g during three cycles).
- Humid temperature tested (2 cycles, 55°C with 95% humidity).
- Salt spray tested (3 cycles with storage humidity, 40°C, 93% humidity after each cycle).

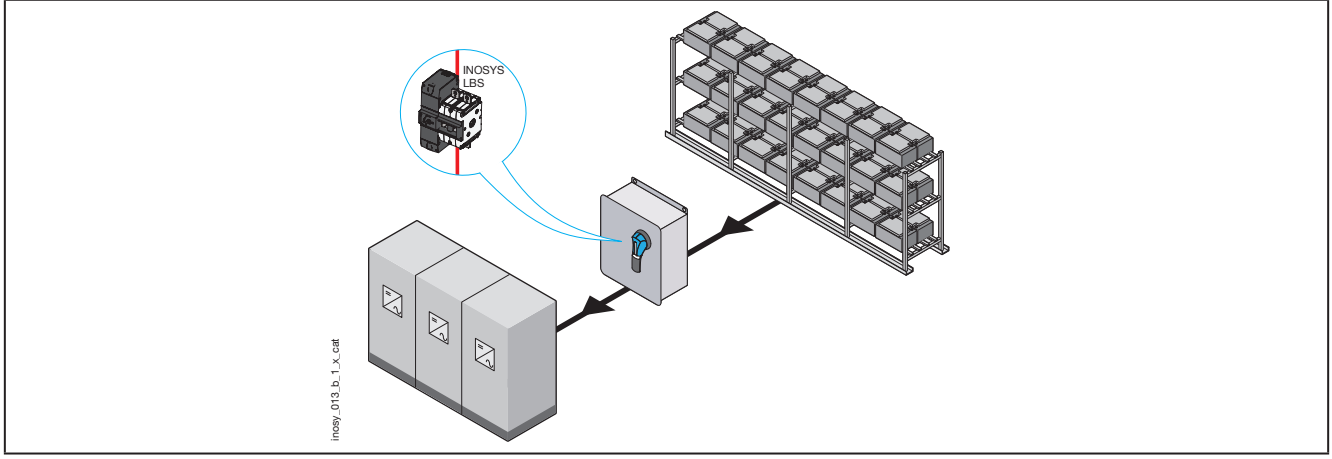
Easier to install
- Wiring: as the switch is not polarized, it allows all types of wiring and connections.
- Easy access without tools to integrate auxiliary contacts (located in the control unit).
- The mechanism may be placed at the centre or the left (in the factory) to address installation requirements.

Modular solution for flexible configuration
- Single or double-pole switch.
- The same switch can be used for installation with grounded or insulated networks, merely by changing the wiring configuration.

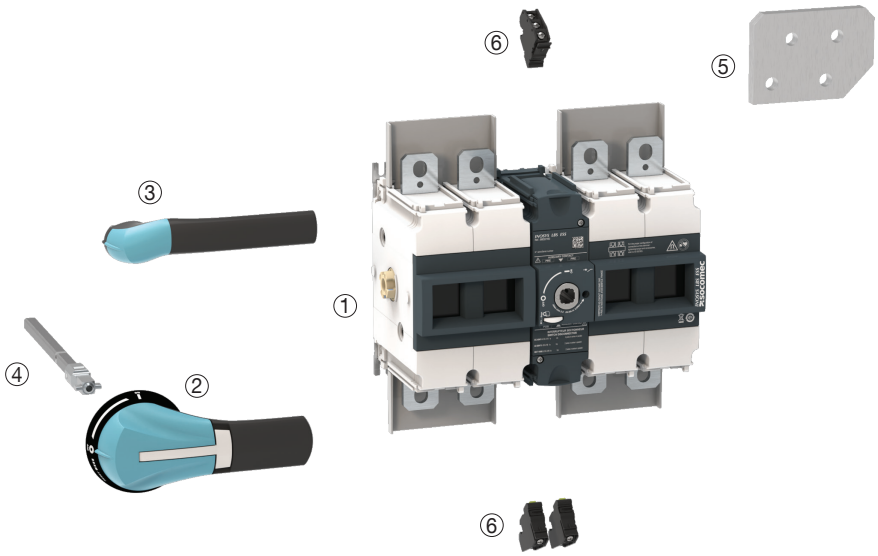
General characteristics
- High short circuit resistance in DC and ESS applications.
- Range 800 to 1600 A.
- Up to 1500 VDC.
- High-performance switching with a compact design.
- Easy integration.
- Reinforced safety with visible breaking indication.
- High efficiency with low power loss.

Typical applications: local safe disconnection for ESS applications

Battery protection



Overview



1. INOSYS LBS ESS
2. External operation handle
3. Direct operation handle
4. Shaft for external operation
5. Bridging bar
6. Auxiliary contact

References

1500 VDC - high rating

Rating (A)	Frame size	No. of poles per circuit	Switch body [1]	External operation	Aux. Contact	Bridging bar
800 A	F3	4P (2P // 2P)	86E2 **2081**	Shaft 320 mm 1400 **1032** Handle type S2L Black IP 65 14AF **2111**	NO/NC 8499 **0001**	8409 **1600**
1000 A			86E2 **2100**			
1250 A			86E2 **2125**			
1400 A			86E2 **2140**			
1600 A			86E2 **2160**			

(1) The switches are supplied without accessories.

Accessories

Direct operation handle

Frame size	Handle type	Handle colour	Reference
F3	E3	Black	8499 **5032**

E3 handle

acces_400_a_1_cat

External operation handle

Use

The external control handles include a breastplate and can be padlocked. External handles should be used with a shaft extension.

Note: We recommend using IP55 for indoor and IP65 for outdoor applications.

Example of use:

When the handle is locked in the "ON" position, the operator must make sure to disconnect and isolate the circuit before accessing the board and carrying out maintenance work.

You can open the door when the switch is in the "ON" position by bypassing the lock function with a specially designed tool (authorised persons only). The lock is automatically re-applied when the door is closed.

Handle type S2

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Frame size	Handle type	Handle colour	Protection degree	Front operation Reference	Side operation Reference(2)
F3	S2L(1)	Black	IP65	14AF **2111**	14AA **2111**
F3	S2L(1)	Red	IP65	14AE **2111**	

(1) S2L handles have an extended socket; please see the section on dimensions.
(2) Only comptatible with left mechanism version.

Shaft for external handle

Frame size	Handle type	Length (mm)	Reference
F2 - F3	S2, S2L	200	1400 **1020**
F2 - F3	S2, S2L	320	1400 **1032**
F2 - F3	S2, S2L	400	1400 **1040**

Other lengths: please consult us.

Shaft for S2 and S2L type handle

acces_401_a_1_cat

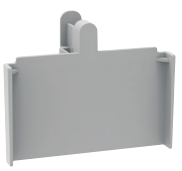
Isolation plate

Use

This isolation plate ensure safety for the customer.

Characteristics

Products above 800A are supplied from factory with isolation plates.
For replacement purposes, quantity to order should be 2 kits.



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Description	Quantity to order	Reference
Isolation plate	2	8499 **1000** (1)

(1) Kit includes 2 identical isolation plates

Auxiliary contact

Use

Provide information about the position and pre-break depending on installation location.

Characteristics

Switching type: NO/NC,
IP2X with front control (screw cap).
10 000 operations.
Max. 3 per switch.

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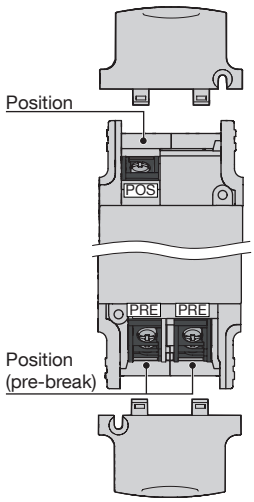
Frame size	Connection type	Type	Reference
F2 - F3	Screws	Standard NO/NC	8499 **0001**
F2 - F3	Screws	Low level NO/NC	8499 **0002**

Characteristics

Type of auxiliary contact	Min. current (A)	I_{th} (A)	Operating current I_e (A)			
			24 VDC	48 VDC	230 VAC	440 VAC
			DC-14	DC-14	AC-15	AC-15
Standard	12.5 mA / 24 V	16	1	0.2	4	4
Low level	1 mA / 4 V	16	1	0.2	2	1



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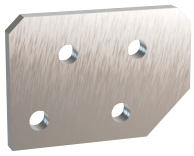
Bridging bar

Use

The bridging bars enable the poles to be connected in parallel, allowing the following configurations for 1500 VDC.



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1500 VDC – 1 circuit				
Frame Size	**Rating (A)**	**No. of poles**	**Quantity to be ordered**	**Reference**
F3	1600	4P / 2P	2	8409 **1600**

INOSYS LBS DC ESS

Load break switches for DC and ESS applications
from 800 to 1600 A, up to 1500 VDC

Characteristics

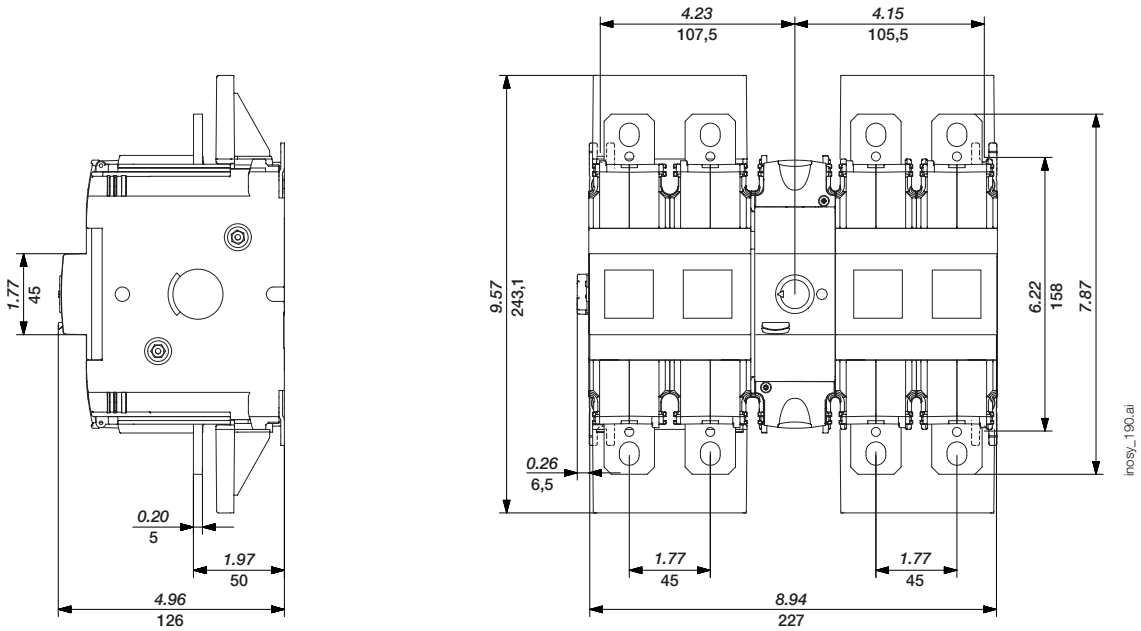
Characteristics according to IEC 60947-3

Rated current I_n		**800**	**1000**	**1250**	**1400**	**1600**
		(A)	**(A)**	**(A)**	**(A)**	**(A)**
Rated insulation voltage Ui (V)		1500	1500	1500	1500	1500
Rated impulse voltage Uimp (kV)		12	12	12	12	12
Frame Size		F3	F3	F3	F3	F3
Rated voltage	**Ambient temperature (°C)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
1500 VDC	40	800	1000	1250	1400	1600
1500 VDC	50	800	1000	1250	1400	1480
1500 VDC	60	720	900	1120	1260	1330
1500 VDC	70	650	810	1010	1130	1200
1500 VDC	80	580	730	910	1020	1080
Rated voltage	**Utilization category**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
1500 VDC	DC-21 B	800	1000	1250	1400	1600
1500 VDC	PV1	800	1000	1250		
1500 VDC	PV2	800	1000			
Short circuit capacity						
Rated short time withstand current Icw 0.1s (kA rms)	IEC 60947-3	63	63	63	63	63
Rated short-circuit making capacity Icm (kA peak)	IEC 60947-3	63	63	63	63	63
Short circuit capacity (ESS range)						
Rated conditional short-circuitcurrent Iq (kA rms) (1)	IEC 60947-3, GB/T 14048.3	120kA at (l/r) 0.5ms. 80kA at 3ms.	120kA at (l/r) 0.5ms. 80kA at 3ms.	120kA at (l/r) 0.5ms. 80kA at 3ms.	120kA at (l/r) 0.5ms. 80kA at 3ms.	120kA at (l/r) 0.5ms. 80kA at 3ms.
Connection						
Maximum Cu busbar width (mm)		2 x 5 x 50	2 x 5 x 60	2 x 5 x 80	2 x 5 x 100	2 x 5 x 100
Tightening torque min (Nm)		35	35	35	35	35
Tightening torque max (Nm)		42.4	42.4	42.4	42.4	42.4
Mechanical characteristics						
Durability (number of operating cycles)		8000	8000	8000	8000	8000
Power dissipation per pole (W/pole)		12	18	28	35	46

(1) Tested with fuses. For more information please contact us.

Dimensions (in/mm)

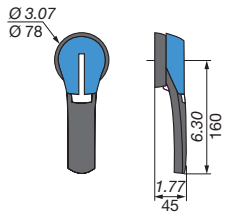
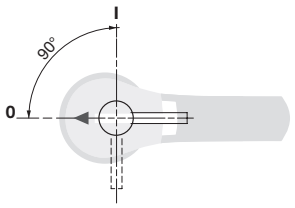
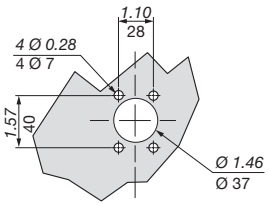
INOSYS LBS ESS



socomec Innovative Power Solutions

Dimensions for external handles (in/mm)

F3 frame size

Handle type	Front operation Direction of operation	Door drilling
S2L type 		

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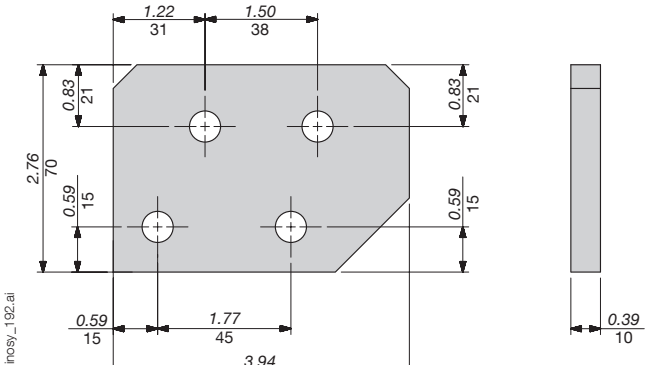
Bridging bars (in/mm)

F3

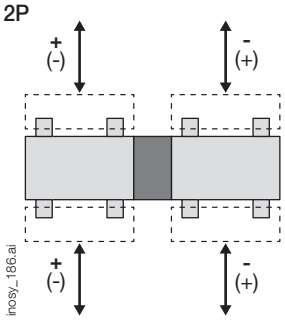
8409 1600



Wiring configuration

1 circuit - 1500 VDC

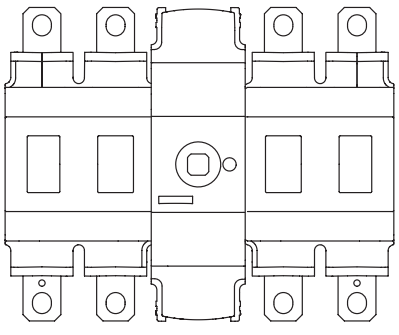
F3 - 2 P // 2P



Mounting orientation

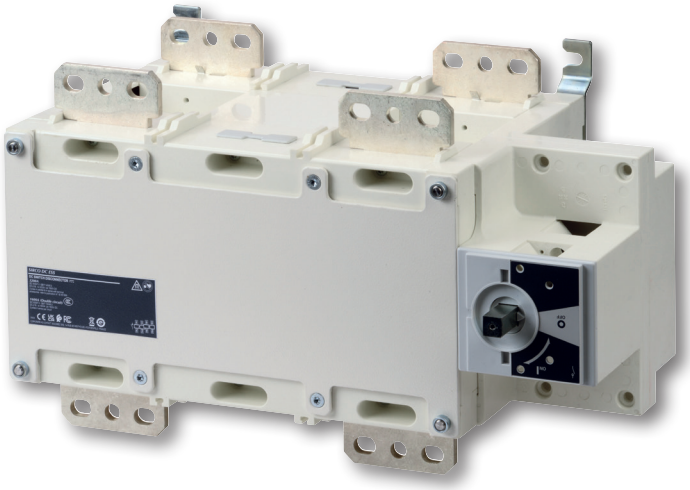
F3

Only one mounting operation allowed



SIRCO DC/SIRCO DC ESS

Load break switches for direct current applications
from 2000 to 3600 A, up to 1500 VDC



The solution for

> Energy
> Industry

Strong points

> High-performance switching
> Design tested in application
> Reduced total cost of ownership

Conformity to standards

> IEC 60947-3
> GB/T 14048.3
> UL 98B

Function

SIRCO DC and **SIRCO DC ESS** units are manual control multipolar load break switches. They provide make and break on load and safety disconnection for all low voltage electrical circuits for direct current applications up to 1500 VDC.

Advantages

High-performance switching

SIRCO DC and SIRCO DC ESS load break switches include a patented technology providing 1500 VDC breaking capacity with only 2 poles, with significant power loss reduction. This range covers nominal values from 2000 to 3600 A, 1500 VDC.

Design tested in application

Designed and tested for numerous direct current applications, with tried-and-tested performance in the most difficult environments.

The arc quenching system provides safe disconnection, arc quenching and quick current interruption.

- Tested against high short-circuit systems with and without fuse protection to provide complete protection for the system above 210 kA.
- Tried-and-tested against severe environmental factors, in particular: “Annex Q level C according to IEC” tested in salt mist, at high temperature and altitude, tested in humidity cycle.

Reduced total cost of ownership

Developed with a view to reducing costs for the user, the product has improvements that ensure the lowest total cost of ownership.

- Flexible connection configurations enable simple input and output connection, with savings made by not using bridging bars in series.
- The multi-circuit design enables configuration of one 3600 A circuit or two 1600 A circuits for greater flexibility.
- A single design for IEC and UL products provides the same base design for customers with IEC or UL machines.
- A compact solution with reduced footprint and weight improves the durability, while reducing packaging, transport and installation costs.

General characteristics

- Up to 1500 VDC, 2000 to 3600 A.
- Patented switching technology up to 1500 VDC on 2 poles.
- High short-circuit option available.

References

1500 VDC

Rating (A) / Frame size	No. of poles No. of circuits	Switch body	Bridging bars for series or parallel pole connection(1)
2 x 1600 A / B7ds	4P 2 circuit	26DC **4320**	-
2000 A / B7ds (UL)	4 P 1 circuit	27DC **4200**	1909 **0001**
2500 A / B7ds		26DC **4250**	1909 **0001**
3200 A / B7ds		26DC **4320**	1909 **0001**
3600 A / B7ds		26DC **4360**	1909 **0001**

(1) Bridging bars only connect 2 poles in series, see wiring diagram for amount of series connections required

1500 VDC High Short Circuit

Rating (A) / Frame size	No. of poles No. of circuits	Switch body	Bridging bars for connecting poles in series(1)
2 x 1600 A / B7ds	4 P 2 circuit	26ES **4320**	-
2000 A / B7ds (UL)	4 P 1 circuit	27ES **4200**	1909 **0001**
2500 A / B7ds		26ES **4250**	1909 **0001**
3200 A / B7ds		26ES **4320**	1909 **0001**
3600 A / B7ds		26ES **4360**	1909 **0001**

(1) Bridging bars only connect 2 poles in series, see wiring diagram for amount of series connections required

Accessories

Direct operation handle

Frame size	Handle type	Reference
$B7_{DS}$	V0	2799 **7072**

V0 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 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 (authorised persons only).

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

Frame size	Handle type	Handle colour	Degree of protection	Reference
$B7_{DS}$	V1	Black	IP65	2799 **7145**

V1 type handle

Accessories (continued)

Shaft for external handle

Use
Standard lengths:
320 mm,
- 400 mm.

Other lengths: Please consult us.

Frame size	Handle type	Dimensions X (mm)	Length (mm)	Reference
$B7_{DS}$	V1	425...697	320	4199 **3018**
$B7_{DS}$	V1	425...777	400	4199 **3019**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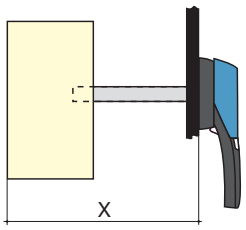

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Bridging bars

Use
The bridging bars will make easy the connection of poles in series or parallel.

Connection diagrams:
see “Pole series connections”.

Rating (A) Frame size	Number of poles of the device in series	Pack	Reference
2000 (UL) / B7ds (1)	2	1 piece	1909 **0001**
up to 3600 / B7ds (2)	2		1909 **0001**

(1) UL B7ds requiers 4 pcs (2) IEC B7ds requires 8 pcs


acces_592.eps

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.

Characteristics					
		Operating current I_e (A)			
Rating (A)	Nominal current (A)	250 VAC AC-13	400 VAC AC-13	24 VDC AC-13	48 VDC AC-13
250 ... 3200	16	12	8	14	6


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References

NO/NC changeover contact			
Frame size	Rating (A)	Contact(s)	Reference
B7ds	1600 ... 3200	2nd	1999 **1032**


svr_058_a_1_cat

Characteristics according to IEC 60947-3

2000 A to 3600 A at 1500 VDC

Thermal current I_{th} at 40°C*			2 x 1600	2000	2500	3200	3600
Rated voltage			**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
Rated insulation voltage Ui (V)			1500	1500	1500	1500	1500
Rated impulse withstand voltage Uimp (kV)			12	12	12	12	12
Frame size			B7ds	B7ds	B7ds	B7ds	B7ds
Thermal current I_{th} at 40°C*			**2 x 1600**	**2000**	**2500**	**3200**	**3600**
Rated voltage	**Utilisation category**	**Ambient temperature (°C)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
1500 VDC	DC-21 B	40	2 x 1600	2000	2500	3200	3600
1500 VDC	DC-21 B	50	2 x 1600	2000	2500	3200	3500
1500 VDC	DC-21 B	60	2 x 1400	2000	2500	3200	3200
1500 VDC	DC-21 B	70	2 x 1200	2000	2500	2900	2900
Short circuit capacity							
Rated short time withstand current I_{cw} 1s (kA rms)		IEC 60947-3, GB/T 14048.3	20	45	45	45	45
Rated short-circuit making capacity I_{cm} (kA peak)		IEC 60947-3, GB/T 14048.3	20	45	45	45	45
Short circuit capacity (ESS range)							
Rated conditional short-circuit current I_q (kA rms)		IEC 60947-3, GB/T 14048.3	105	210	210	210	210
Connection							
Rigid Cu cable cross-section (mm^2)			-	-	-	-	-
Maximum Cu busbar width (mm)			63	100	100	100	100
Tightening torque min/max (Nm)			40/45	40/45	40/45	40/45	40/45
Mechanical characteristics							
Durability (number of operating cycles)			6500	6500	6500	6500	6500
Weight of a 4 pole device (kg)			34	34	34	34	34

** for higher ambient temperature values, consult us*

Characteristics according to UL 98B and IEC 60947-3

2000 A at 1500 VDC (B7ds UL)

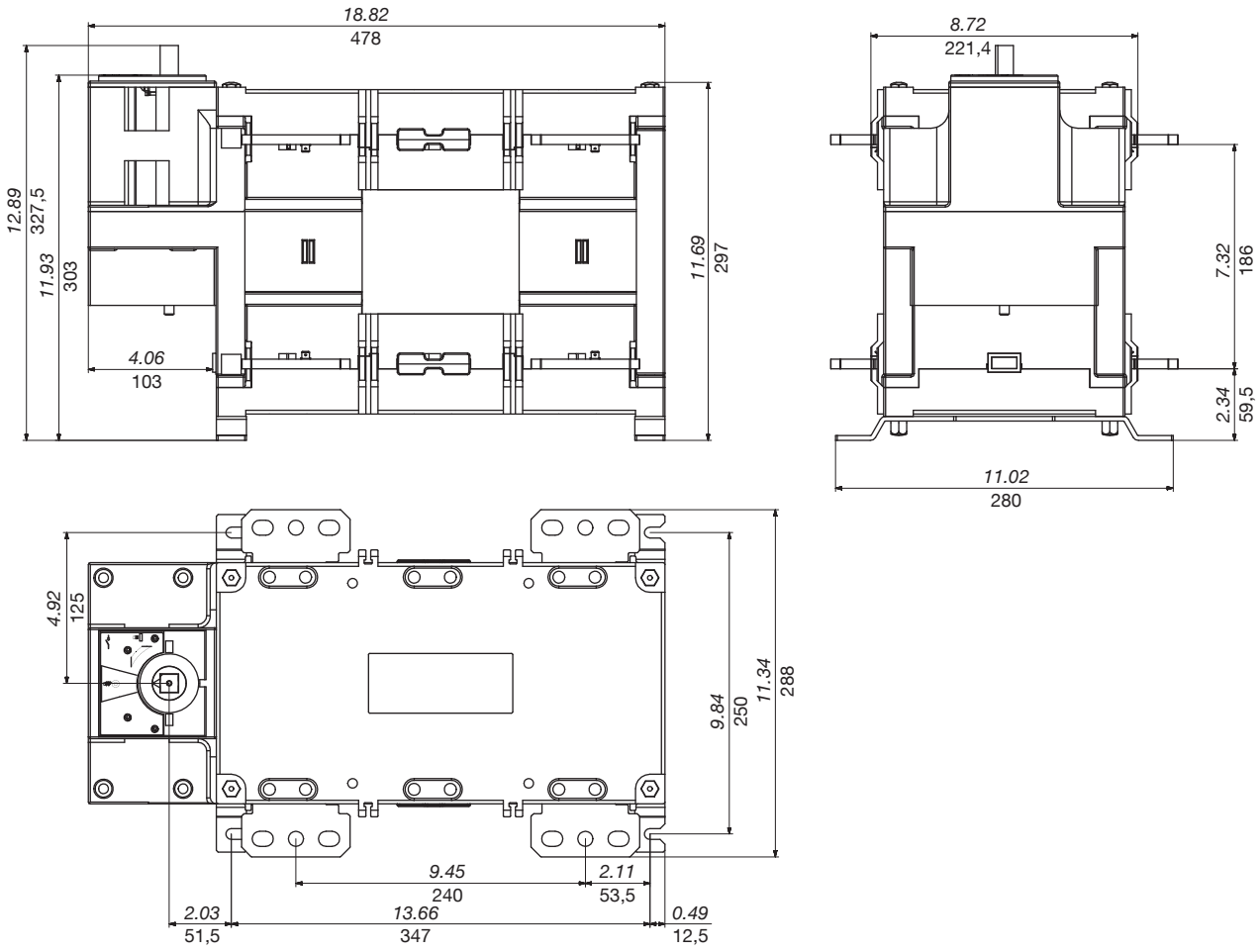
Thermal current I_{th} at 40°C*				2000			
Rated voltage	**Utilisation category**	**Ambient temperature (°C)**		**(A)**			
1500 VDC	UL 98B	40	-	2000	-	-	-
1500 VDC	DC-21 B	40	-	-	-	3200	-
1500 VDC	DC-21 B	50	-	-	-	3200	-
1500 VDC	DC-21 B	60	-	-	-	3200	-
1500 VDC	DC-21 B	70	-	-	-	2900	-
Short circuit capacity							
Prospective short-circuit current (kA rms DC) (kA rms)		UL 98B	-	10	-	-	-
Short circuit capacity (ESS range)							
Rated conditional short-circuit current I_q (kA rms)		IEC 60947-3, GB/T 14048.3		210		210	

** For higher ambient temperature values, consult us*

Dimensions

2000 to 3600 A / B7ds / 1500 VDC

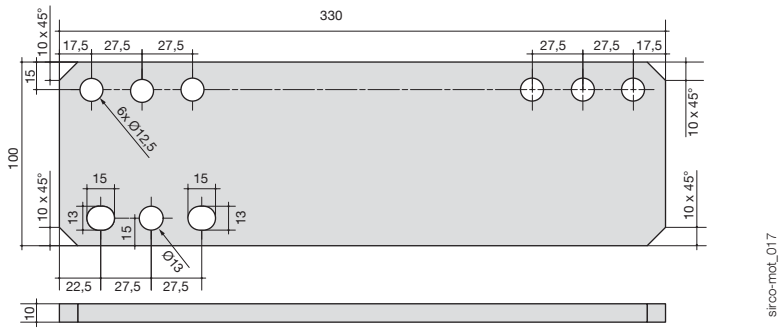
Dimensions in inch / mm.



Dimensions (continued)

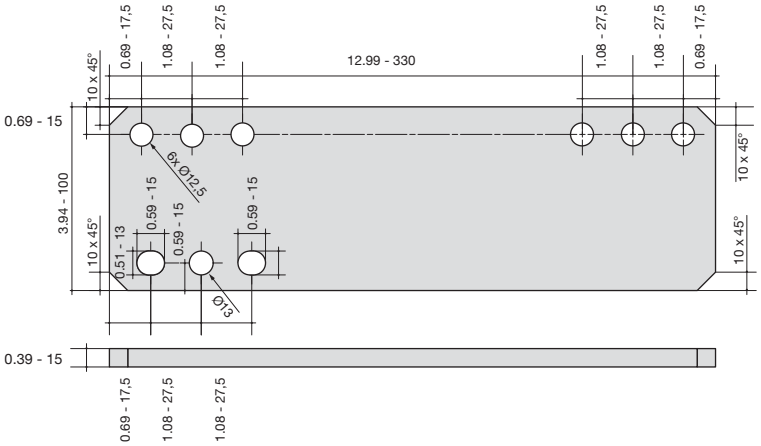
2500 - 3600 A (1500 V) - IEC

Dimensions in mm.



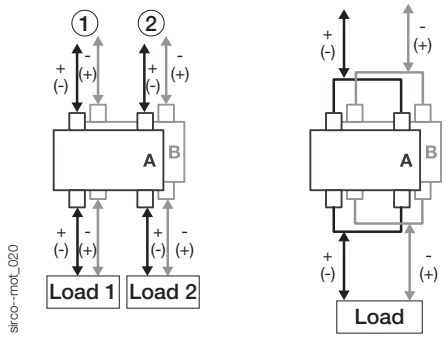
2000 A (1500 V) - UL

Dimensions in inch / mm.



Pole series connections 1500 VDC

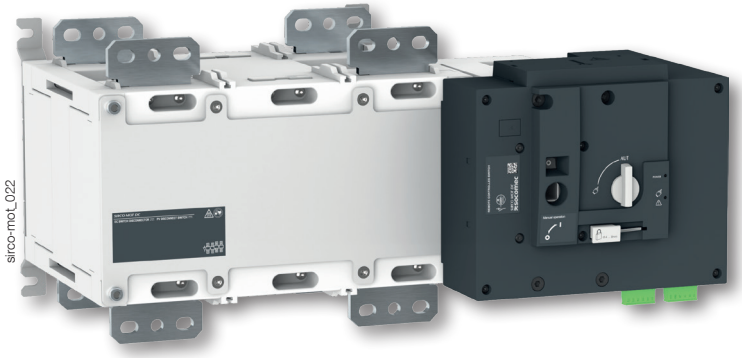
2 + 2 Pole (4 Pole) connections



Two circuits up to 1600 A
One circuit up to 3600 A (IEC) & 2000 A (UL)

SIRCO MOT DC / SIRCO MOT DC ESS

Motorised load break switches for DC applications
from 250 to 3600 A, up to 1500 VDC



SIRCO MOT DC
4 x 2000 A

The solution for

- Photovoltaic inverters and recombiner boxes (PV)
- Energy Storage System (ESS)
- Rail Infrastructure
- Marine Distribution and microgrids
- Data centre

Strong points

- High performance switching
- Application tested design
- Reduced total cost of ownership

Conformity to standards

- IEC 60947-3
- GB/T 14048.3
- UL 98B

Function

SIRCO MOT DC and **SIRCO MOT DC ESS** motorised load break switches incorporate patented technology, providing a breaking capacity at 1500 VDC with just 2 poles, significantly limiting power dissipation. This broad range covers ratings from 250 to 3600 A, 1500 VDC.

Advantages

High performance switching
SIRCO MOT DC and SIRCO MOT DC ESS motorised load break switches incorporate patented technology, providing a breaking capacity at 1500 VDC with just 2 poles, significantly limiting power dissipation. This broad range covers ratings from 250 to 3600 A, 1500 VDC.

Application tested design
Designed and tested for several DC applications, with proven performance in the harshest of environments. The arc extinguishing system provides safe disconnection, rapid arc extinguishing and current interruption.

- Tested against high short circuit systems with and without fuse protection to ensure complete system protection above 210 kA.
- Proven against severe environmental factors including: “Annex Q level C according to IEC” salt spray tested, high temperature and altitude, humidity cycle tested.

Reduced total cost of ownership
Developed with user cost savings in mind, the product features improvements which ensure a lower total cost of ownership.

- Flexible wiring configurations allow for simple in and out wiring, and by not using series bridging bars, cost savings can be achieved.
- Multiple circuit design allows for configurations of one 3600 A or two 1600 A circuits for greater flexibility.
- One design for both IEC and UL products providing the same base design for customers with IEC or UL machines.
- Compact solution with reduced footprint and weight improves sustainability with reduced packaging, transportation and installation costs.

General characteristics

- Up to 1500 VDC from 250 to 3600 A.
- Patented switching technology up to 1500 VDC in 2 poles.
- Remotely operated product (motor control).
- 2 stable positions (I, 0).
- High short-circuit option available.

References

1000 VDC

Rating (A) / Frame size	No. of poles No. of circuits	Switch body	Bridging bars for series or parallel pole connection[1]	Inter phase barrier[2]
250 A / B4	4 P 1 circuit	19PV **4025**	2609 **2025**	2998 **0024**
400 A / B4		19PV **4038**	2609 **2025**	2998 **0024**
630 A / B5		19PV **4064**	2609 **0080**	2998 **0014**
1000 A / B6		19PV **4100**	2609 **1100**	Included
1250 A / B6		19PV **4120**	2609 **1100**	
1600 A / B7		19PV **4160**	2609 **1160**	
2000 A / B7		19PV **4200**	2609 **1160**	

(1) Bridging bars only connect 2 poles in series, see wiring diagram for amount of series connections required
(2) Interphase barriers are in sets for top or bottom side. If both required, order two sets.

1500 VDC

Rating (A) / Frame size	No. of poles No. of circuits	Switch body	Bridging bars for series or parallel pole connection[1]	Inter phase barrier[2]
250 A / B5	3 P 1 circuit	19PV **3026**	2609 **0027**	2998 **0024**
400 A / B5		19PV **3041**	2609 **0027**	2998 **0024**
630 A / B5	4 P 1 circuit	19PV **4064**	2609 **0027**	2998 **0014**
1000 A / B6ds	6 P 1 circuit	19PV **6101**	2609 **1100** 4109 **0120**[1]	
2 x 1600 A / B7ds	4P 2 circuit	18DC **4360**	-	
2000 A / B7ds	4 P 1 circuit	18DC **4200**	1909 **0001**	Not Required
2000 A / B7ds (UL)		19DC **4200**	1909 **0001**	Not Required
2500 A / B7ds		18DC **4250**	1909 **0001**	Not Required
3200 A / B7ds		18DC **4320**	1909 **0001**	Not Required
3600 A / B7ds		18DC **4360**	1909 **0001**	Not Required

(1) Bridging bars only connect 2 poles in series, see wiring diagram for amount of series connections required
(2) Interphase barriers are in sets for top or bottom side. If both required, order two sets

1500 VDC High Short Circuit

Rating (A) / Frame size	No. of poles No. of circuits	Switch body	Bridging bars for connecting poles in series[1]	Inter phase barrier[2]
2 x 1600 A / B7ds	4 P 2 circuit	18ES **4360**	-	
2000 A / B7ds	4 P 1 circuit	18ES **4200**	1909 **0001**	Not Required
2000 A / B7ds (UL)		19ES **4200**	1909 **0001**	Not Required
2500 A / B7ds		18ES **4250**	1909 **0001**	Not Required
3200 A / B7ds		18ES **4320**	1909 **0001**	Not Required
3600 A / B7ds		18ES **4360**	1909 **0001**	Not Required

(1) Bridging bars only connect 2 poles in series, see wiring diagram for amount of series connections required
(2) Interphase barriers are in sets for top or bottom side. If both required, order two sets.

Accessories

Bridging bars

Use

The bridging bars will make easy the connection of poles in series or parallel, allowing the following configurations:
- Bottom/Bottom
- Top/Top
- Top/Bottom
- Bottom/Top

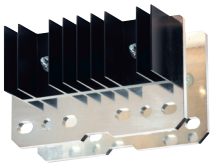
Connection diagrams:
see “Pole series connections”.

Bridging bar 250 A

acces_334_a_1_cat

Rating (A) /Frame size	Number of poles of the device in series	Pack	Reference
250 ... 400 / B4	2	2 pieces	2609 **2025**
630 ... 800 / B5			2609 **0080**
1000 ... 1250 / B6			2609 **0027**
1000 / B6ds	3	1 piece	2609 **1100** 4109 **0120**
1600 ... 2000 / B7	2	2 pieces	2609 **1160**
2000 (UL) / B7ds (1)	2	1 piece	1909 **0001**
up to 3600 / B7ds (2)	2		1909 **0001**

(1) UL B7ds requiers 4 pcs (2) IEC B7ds requires 8 pcs



Bridging bar 2000 ... 3200 A

acces_392_a_1_cat

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

Characteristics

Rating (A)	Nominal current (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	24 VDC AC-13	48 VDC AC-13
250 ... 3200	16	12	8	14	6

svr_058_a_1_cat

References

NO/NC changeover contact

Frame size	Rating (A)	Contact(s)	Reference
B4 ... B5	250 ... 800	2nd	1999 **1002**
B6 ... B7	1000 ... 2000	2nd	1999 **1032**
B7ds	1600 ... 3200	2nd	1999 **1032**

Terminal screens

Use

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

Frame size	Rating (A)	No. of poles	Position	Reference
B4	250 ... 400	4 P	top or bottom	1509 **4025**
B5	630 ... 800	4 P	top or bottom	1509 **4063**
B6	1000 ...1250	4 P	top or bottom	1509 **4080**
B7	1600 ... 2000	4 P	top or bottom	1509 **4160**

acces_207_a_2_cat

Accessories (continued)

Available for selected 1000 VDC products, contact us for specific requirements

Inter phase barrier

Use

Safety isolation between the terminals. For SIRCO MOT DC, the inter phase barriers allow insulation between pole connected in series.

Frame size	Rating (A)	No. of poles	Pack	Reference
B4	250 ... 400	4 P	3 pieces	2998 **0024**
B5	630 ... 800	4 P	3 pieces	2998 **0014**
B6 ... B8	1000 ... 3200	4 P	-	included

Available for selected 1000 vdc products, contact us for specific requirements

acces_036_a_2_cat

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.

Frame size	Rating (A)	No. of poles	Position	Reference
B4	250 ... 400	4 P	top or bottom	2694 **4021**
B5	630 ... 800	4 P	top or bottom	2694 **4051**

acces_206_a_2_cat

2 position padlocking (I - 0)

Use

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

Factory fitted.

Frame size	Rating (A)	Reference
B4 ... B5	250 ... 800	9599 **0003**
B6 ... B8	1000 ... 3200	9599 **0004**

atys_854_a_1_cat

Accessories (continued)

Key handle interlocking system

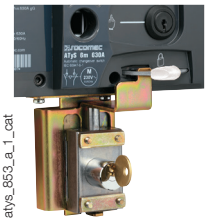
Use

Motorised and manual operations can be locked in position 0 using a RONIS EL11AP lock.

Factory fitted.

As standard, locking in position 0.

Optional padlocking in 2 positions: Locking in position 0 and I.



ATYS_853_a_1_cat

Frame size	Rating (A)	Reference
B4 … B5	250 … 800	9599 **1006**
B6 … B8	1000 … 3200	9599 **1004**

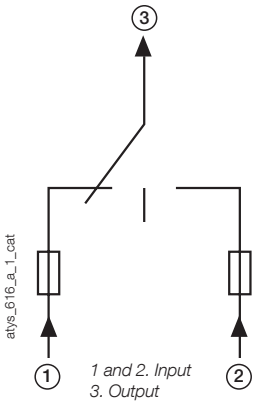
Double power supply - DPS

Use

Allows a SIRCO MOT to be supplied by two 230 VAC, 50/60 Hz networks.

Input

- The input is considered “active” from 200 VAC.
- Maximum voltage: 288 VAC.
- Internal protection: each input is fuse protected 3.15 A.
- Connection on terminals: max. 6 mm².
- Modular device: 4 module width.



ATYS_616_a_1_cat

1 and 2. Input
3. Output

ATYS_612_a_2_cat

Description of accessories	Reference
DPS	1599 **4001**

Mounting spacers

Use

Increases the distance between the rear power terminals and the backplate by 10 mm.

This accessory may also be used to replace the original mounting spacers.

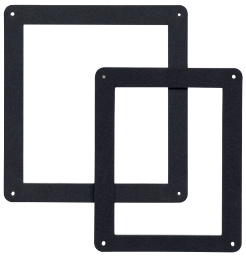
ATYS_009_a_2_cat

Frame size	Rating (A)	Description of accessories	Reference
B3 … B5	125 … 630	1 set of 2 spacers	1509 **0001**

Door protective surround

Use

When direct access to the SIRCO MOT front face (mode selection, manual operation, display…) is required, the door surround can be utilised to provide a clean and safe finish to the panel's cut-out.



ATYS_595_a_2_cat

Frame size	Rating (A)	Reference
B3 … B5	125 … 630	1529 **0012**
B6 … B8	800 … 3200	1529 **0080**

Characteristics according to IEC 60947-3

250 A to 2000 A at 1000 VDC

Thermal current I_{th} at 40°C*	250	400	630	1000	1250	1600	2000
Rated voltage	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
Rated insulation voltage Ui (V)	1200	1200	1200	1200	1200	1200	1200
Rated impulse withstand voltage Uimp (kV)	12	12	12	12	12	12	12
Frame size	B4	B4	B5	B6	B6	B7	B7

** For higher ambient temperature values, consult us*

Thermal current I_{th} at 40°C*			250	400	630	1000	1250	1600	2000
Rated voltage	**Utilisation category**	**Ambient temperature (°C)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
1000 VDC	DC-21 B	40	250	400	630	1000	1250	1600	2000
1000 VDC	DC-21 B	50	250	400	630	1000	1250	1600	1800
1000 VDC	DC-21 B	60	250	400	560	1000	1125	1600	1600
1000 VDC	DC-21 B	70	250	400	540	950	1050	1520	1520

Short circuit capacity

Rated short time withstand current I_{cw} 1s (kA rms)	IEC 60947-3	10	10	10	10	10	10	10
Rated short-circuit making capacity I_{cm} (kA peak)	IEC 60947-4	10	10	10	10	10	10	10

**For Rated conditional short-circuit current Iq: Please consult us.*

Power Supply

Power supply. 230 VAC min. / max. (VAC)	166/332	166/332	166/332	166/332	166/332	166/332	166/332

Control supply power demand

Power supply 230 VAC inrush / nominal (VA)	276/115	276/116	176/150	460/184	460/184	460/230	460/230

Connection

Rigid Cu cable cross-section (mm^2)	120	240	2 x 185	2 x 240	2 x 240	-	-
Maximum Cu busbar width (mm)	32	32	50	63	63	100	100
Tightening torque min/max (Nm)	20/26	40/45	40/45	40/45	40/45	40/45	40/45

Mechanical characteristics

Durability (number of operating cycles) (1)	8000	5000	5000	4000	4000	3000	3000
Weight of a 4 pole device (kg)	7	8	14	33	33	42	42

(1) Improved endurances: please consult us.

Characteristics according to IEC 60947-3

250 A to 3600 A at 1500 VDC

Thermal current I_{th} at 40°C*	250	400	630	1000	2 x 1600	2000	2500	3200	3600
Rated voltage	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
Rated insulation voltage Ui (V)	1500	1500	1500	1500	1500	1500	1500	1500	1500
Rated impulse withstand voltage Uimp (kV)	12	12	12	12	12	12	12	12	12
Frame size	B5	B5	B5	B6	B7ds	B7ds	B7ds	B7ds	B7ds

Thermal current I_{th} at 40°C*			250	400	630	1000	2 x 1600	2000	2500	3200	3600
Rated voltage	**Utilisation category**	**Ambient temperature (°C)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
1500 VDC	DC-21 B	40	250	400	630	1000	2 x 1600	2000	2500	3200	3600
1500 VDC	DC-21 B	50	250	400	600	1000	2 x 1600	2000	2500	3200	3500
1500 VDC	DC-21 B	60	250	400	537	988	2 x 1400	2000	2500	3200	3200
1500 VDC	DC-21 B	70	250	360	470	862	2 x 1200	2000	2500	2900	2900
Short circuit capacity											
Rated short time withstand current I_{cw} 1s (kA rms)		IEC 60947-3, GB/T 14048.3	10	10	10	10	20	45	45	45	45
Rated short-circuit making capacity I_{cm} (kA peak)		IEC 60947-3, GB/T 14048.3	10	10	10	10	20	45	45	45	45

** for higher ambient temperature values, consult us*

Short circuit capacity (ESS range)											
Rated conditional short-circuit current I_q (kA rms)		IEC 60947-3, GB/T 14048.3	-	-	-	-	105	210	210	210	210
Power Supply											
Power supply. 230 VAC min. / max. (VAC)			166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332
Control supply power demand											
Power supply 230 VAC inrush / nominal (VA)			276/115	276/116	176/150	460/184	460/184	460/230	460/230	460/230	460/230
Connection											
Rigid Cu cable cross-section (mm^2)			120	240	2 x 185	-	-	-	-	-	-
Maximum Cu busbar width (mm)			32	40	40	63	63	100	100	100	100
Tightening torque min/max (Nm)			40/45	40/45	40/45	40/45	40/45	40/45	40/45	40/45	40/45
Mechanical characteristics											
Durability (number of operating cycles)			8000	5000	5000	4000	6500	6500	6500	6500	6500
Weight of a 4 pole device (kg)			13	13	15	37	34	34	34	34	34

Characteristics according to UL 98B and IEC 60947-3

2000 A at 1500 VDC (B7ds UL)

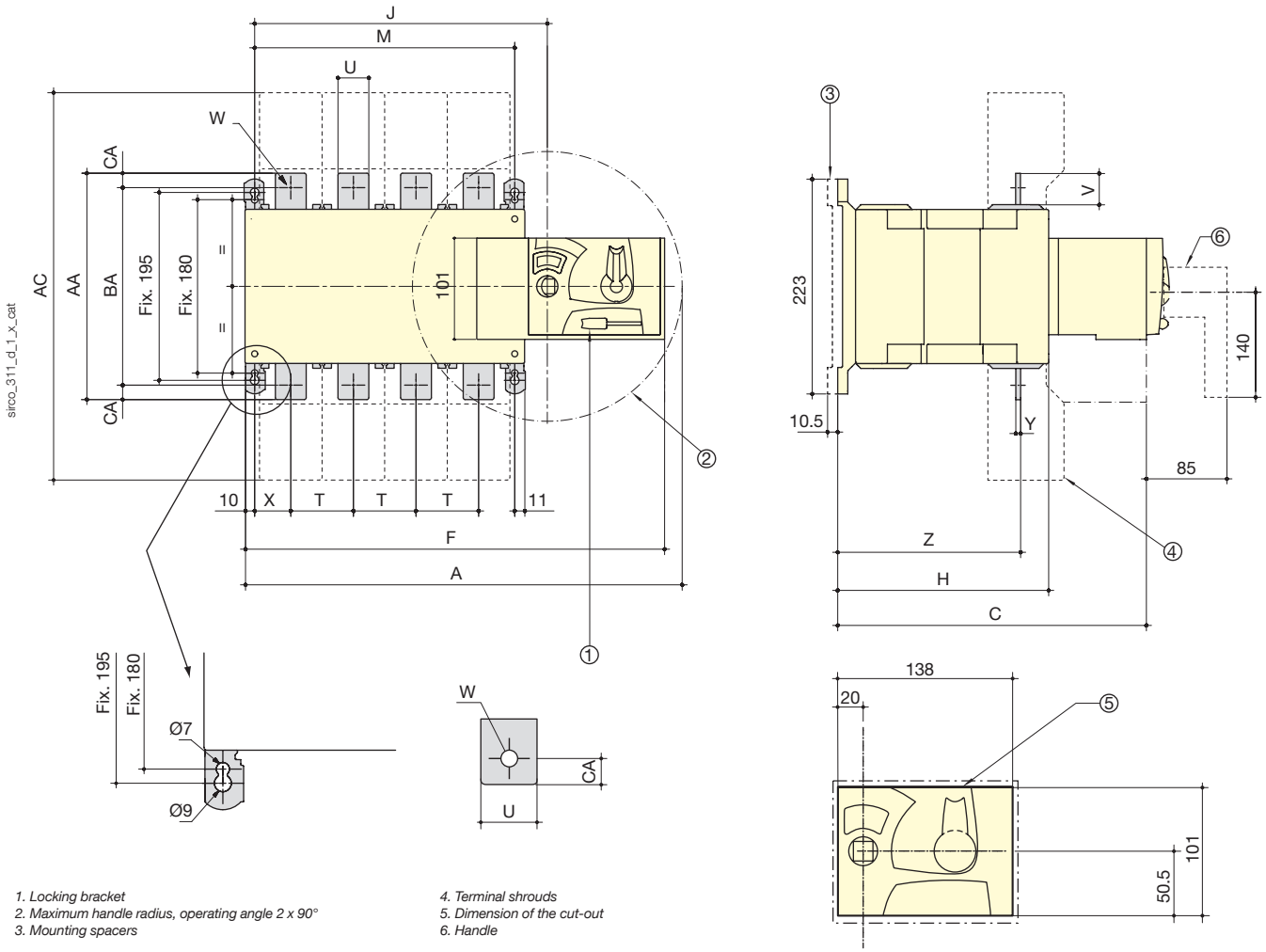
Thermal current I_{th} at 40°C*								2000			
Rated voltage	**Utilisation category**	**Ambient temperature (°C)**						**(A)**			
1500 VDC	UL 98B	40	-	-	-	-	-	2000	-	-	-
1500 VDC	DC-21 B	40	-	-	-	-	-	-	-	3200	-
1500 VDC	DC-21 B	50	-	-	-	-	-	-	-	3200	-
1500 VDC	DC-21 B	60	-	-	-	-	-	-	-	3200	-
1500 VDC	DC-21 B	70	-	-	-	-	-	-	-	2900	-

** For higher ambient temperature values, consult us*

Short circuit capacity											
Prospective short-circuit current (kA rms DC) (kA rms)		UL 98B	-	-	-	-	-	10	-	-	-
Short circuit capacity (ESS range)											
Rated conditional short-circuit current I_q (kA rms)		IEC 60947-3, GB/T 14048.3	-	-	-	-		210		210	

Dimensions (mm)

250 to 630 A / B4 to B5 / 1000 VDC

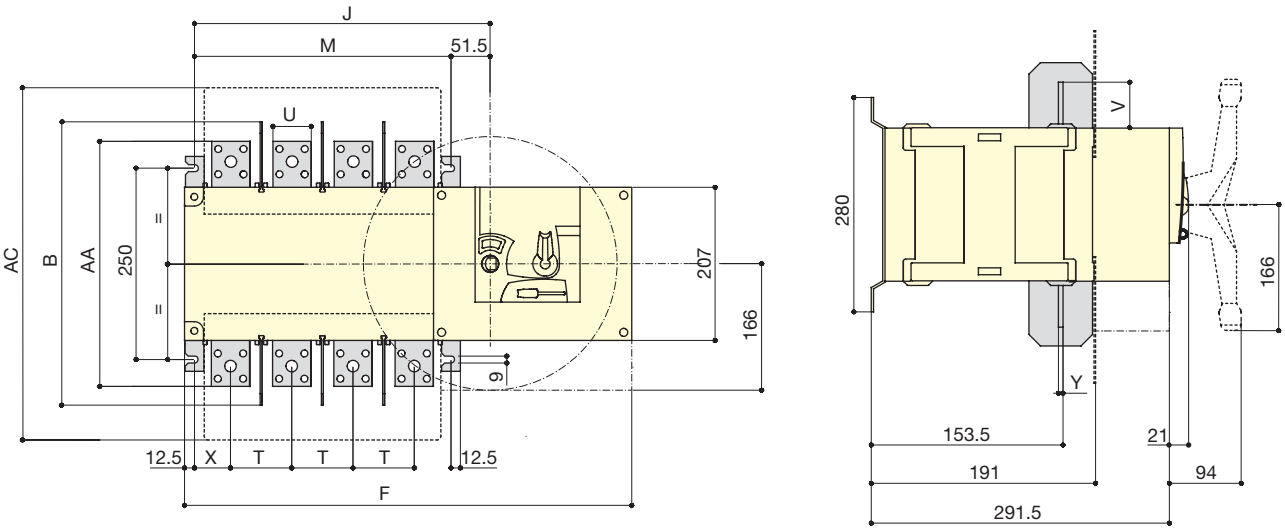


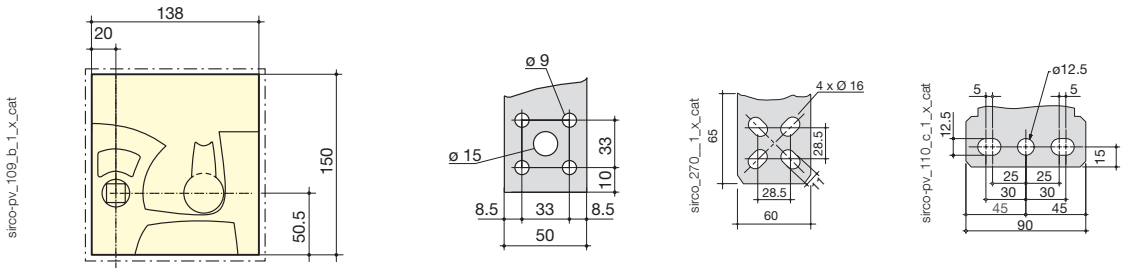
1. Locking bracket
2. Maximum handle radius, operating angle 2 x 90°
3. Mounting spacers
4. Terminal shrouds
5. Dimension of the cut-out
6. Handle

Rating (A) / Frame size	Overall dimensions		Terminal shrouds	Switch body			Switch mounting	Connection									
	A 4p.	C	AC	F 4p.	H	J	M 4p.	T	U	V	W	X 4p.	Y	Z	AA	BA	CA
250 / B4	395	244.5	280	378	153	245	210	50	25	30	11	33	3.5	134.5	160	130	15
400 / B4	395	244.5	280	378	153	245	210	50	35	35	11	33	3.5	134.5	170	140	15
630 / B5	459	320.5	400	437	221	304	270	65	45	50	13	37.5	5	190	260	220	20

Dimensions (continued)

1000 to 2000 A / B6 to B7 / 1000 VDC



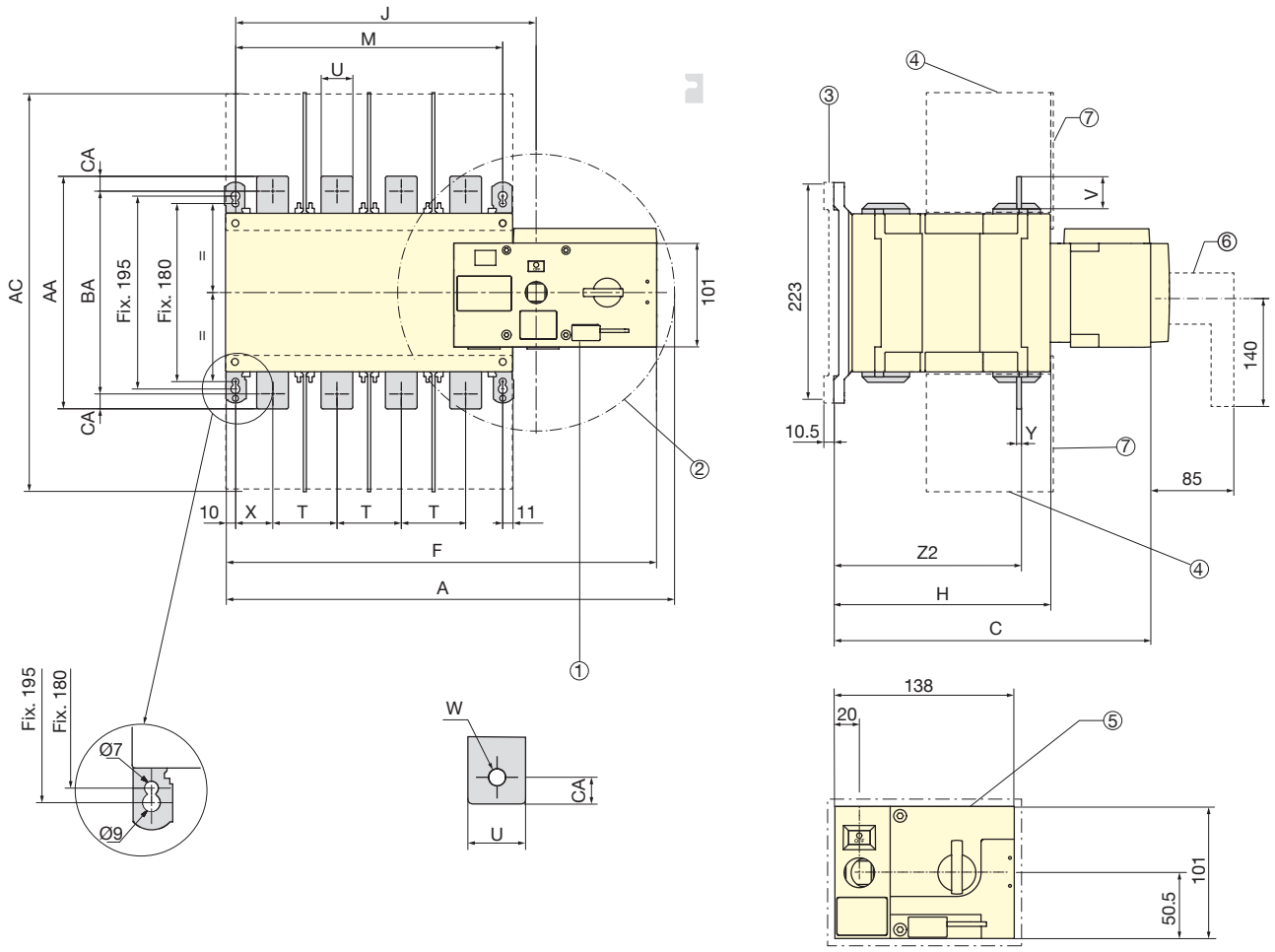


1000 A | 1250 A | 1600 - 2000 A

Rating (A) / Frame size	Overall dimensions B	Terminal shrouds AC	Switch body F 4p.	Switch body J 4p.	Switch mounting M 4p.	Connection T	Connection U	Connection V	Connection X	Connection Y	Connection AA
1000 / B6	370	461	584	387	335	80	50	60.5	60	7	321
1250 / B6	370	461	584	387	335	80	60	65	60	7	330
1600 / B7	380	531	716	518.5	467	120	90	44	53	8	288
2000 / B7	380	531	716	518.5	467	120	90	44	53	8	288

Dimensions (mm) (continued)

250 to 630 A / B5 / 1500 VDC



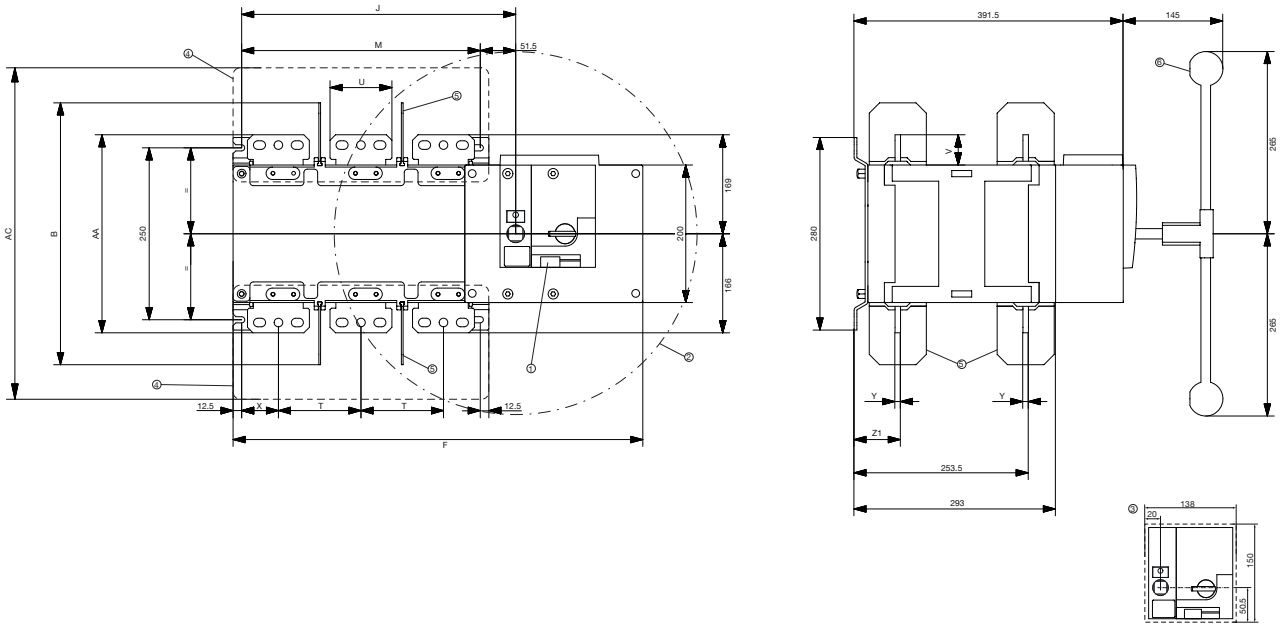
1. Padlocking Facility: Locking bracket for up to 3 padlocks of dia. 4 – 8mm
2.Emergency manual operation: Maximum operating radius with an operating angle of 90°
3. Mounting stand off with spacer accessory
4. Phase Barriers
5. Flush mounting cutout dimensions for front door
6. Emergency removable handle
7. Terminal screens

CAUTION To consider the space required for manual operation and writing. (When using the emergency handle).

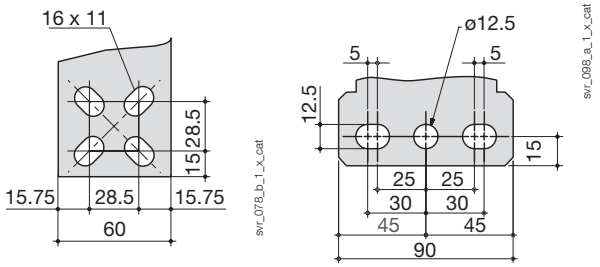
Rating (A) / Body size / Nb of pole	Overall dimensions		Terminal shrouds					Switch mounting	Connection									
	A	C	AC	F	H	J	J1	M	T	U	V	W	X	Y	Z2	AA	BA	CA
250/B5 - 3 pole	394	321	400	377	221	244	34	210	65	45	50	13	42.5	5	190	260	220	20
400/B5 - 3 pole	394	321	400	377	221	244	34	210	65	45	50	13	42.5	5	190	260	220	20
630/B5 - 4 pole	459	321	400	437	221	304	34	270	65	45	50	13	37.5	5	190	260	220	20

Dimensions (mm) (continued)

1000 A / B6ds / 1500 VDC



1000 A



1. Padlocking Facility: Locking bracket for up to 3 padlocks of dia. 4 – 8mm
2. Emergency manual operation: Maximum operating radius with an operating angle of 90°
3. Flush mounting cutout dimensions for front door
4. Terminal screens
5. Phase Barriers
6. Emergency removable handle

CAUTION

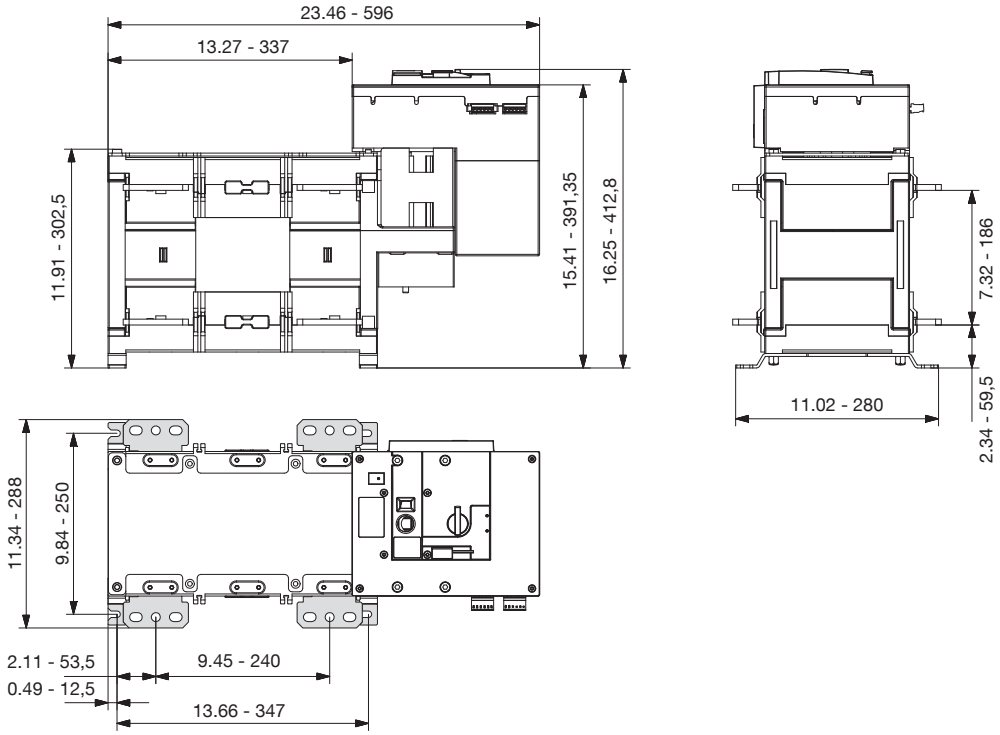
To consider the space required for manual operation and writing. (When using the emergency handle).

Rating (A) / Body size	Overall dimensions	Terminal screens	Body				Switch mounting		Connection						
	B	AC	F 3p.	F 4p.	J 3p.	J 4p.	M 3p.	M 4p.	T	U	V	X	Y	Z1	AA
1000/B6	370	461	504	584	307	387	255	335	80	60	65	47.5	7	66.5	330

Dimensions (continued)

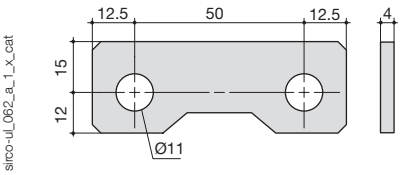
2000 to 3600 A / B7ds / 1500 VDC

Dimensions in inch / mm.

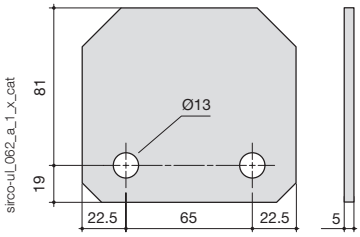


Bridging bar

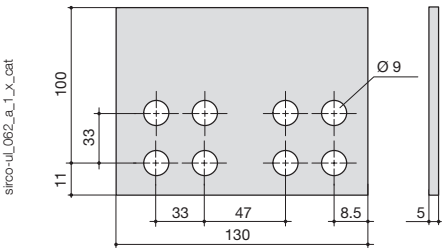
250 - 400 A (1000 V)



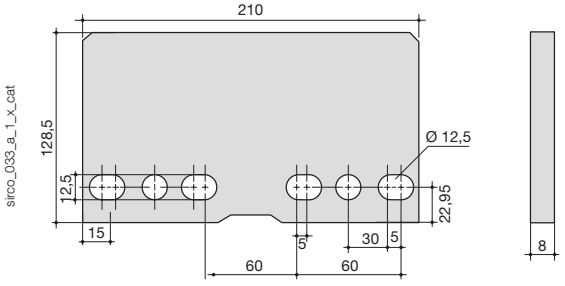
630 - 800 A (1000 V)



1000 - 1250 A (1000 V)

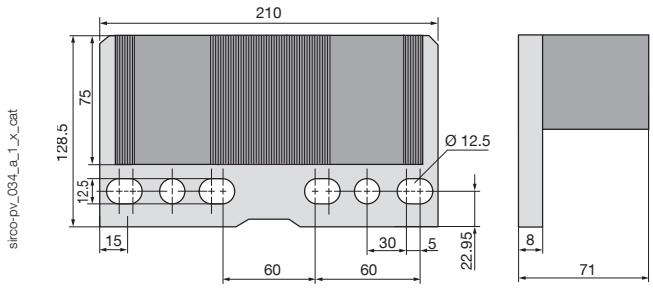


1600 A (1000 V)



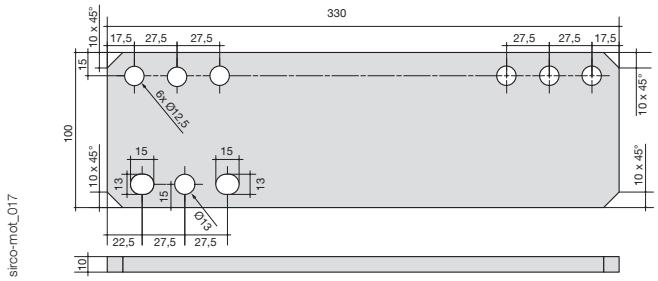
Dimensions (continued)

2000 - (1000 V)



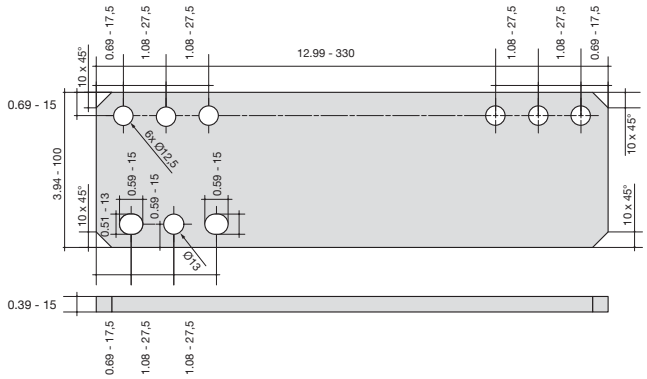
1800 - 3600 A (1500 V) - IEC

Dimensions in mm.



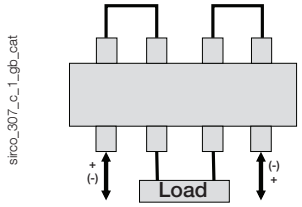
2000 A (1500 V) - UL

Dimensions in inch / mm.



Pole series connections 1000 VDC (1)

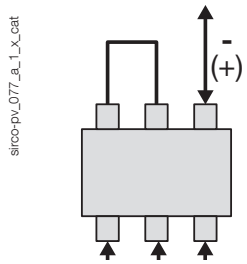
4 poles - bottom / bottom



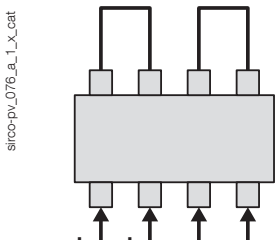
(1) Other connections: refer to mounting instructions

Pole series connections 1500 VDC

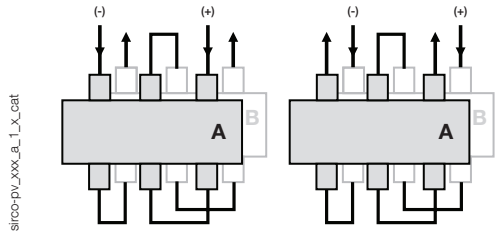
3 Pole connections - 250 - 400 A



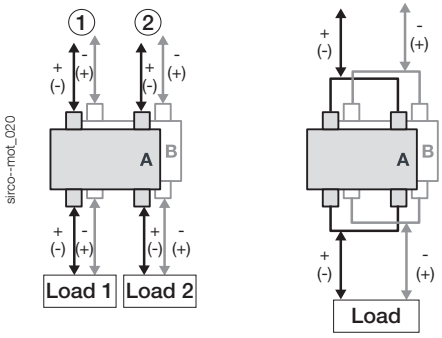
4 Pole connections - 630 A



6 Pole connections - 1000 A



2 + 2 Pole (4 Pole) connections



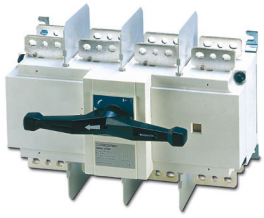
Two circuits up to 1600 A
One circuit up to 3600 A (IEC) & 2000 A (UL)

Load break switches

for specific applications

Despite already offering a wide range of load break switches, SOCOMEC also manufactures specific products to suit any requirement. Some of these products can be seen on these two pages. This list is not exhaustive.
Please do not hesitate to contact us.

SIRCO high short-circuit withstand


sirco_353

- 80 kA rms 1 s.
- 110 kA rms 0.1 s.
- 240 kA peak.

Compliance with standards

- > IEC 60947-3
- > BS EN 60947-3
- > EN 60947-3
- > NBN EN 60947-3
- > VDE 0660-107 (1992)

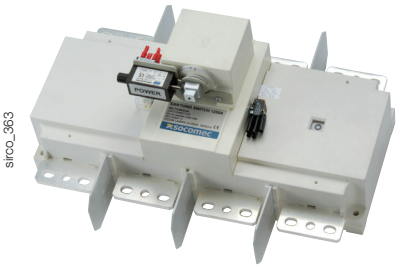
SIRCO early break AC


sirco_380

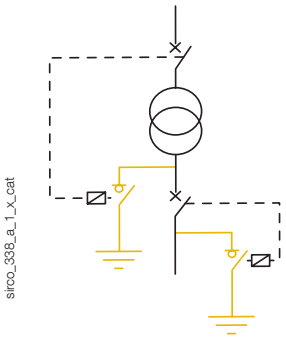
SIRCO 3 x 1250 A with early prebreak AC

- Complete range from 125 to 3200 A.
- Double positive break indication given through a position indication window, located directly on the product, and by the operating handle.
- Features an early break auxiliary contact as standard.
- Severe load duty categories (AC-22 and AC-23).
- High resistance to damp heat (supplied "tropicalised").

SIRCO for earthing


sirco_363

- From 800 to 1800 A.
- 50 kA rms 1 s.
- Special S4 type handle.
- Undervoltage coil interlocking.


sirco_338_a_1_x_cat

socomec Innovative Power Solutions

Remotely operated load break switches

SIRCO MOT AT

Function

SIRCO MOT AT are remotely operated 3/4 pole load break switches. They make and break under load conditions and provide safety isolation for any low voltage electrical circuit.
This is ensured via volt-free contacts using either a pulse or contactor logic.

Advantages

- **Extended power range**
  These products offer great flexibility thanks to a wide power supply range of 208 to 277 VAC ±20%.
- **Integrated auxiliary contacts**
  As part of the product monitoring function, the SIRCO MOT AT enables the transmission of information relating to their position. This is possible thanks to the standard integration of an auxiliary contact for each position.

General characteristics

- 2 stable positions (I, 0).
- One auxiliary contact per position as standard.
- Positive break indication
- AUT/MAN selector.
- Manual emergency operation.
- Padlocking in position 0 (position I optional).
- Ratings: from 125 to 3200 A.

see page_310

References

Rating (A)		125	160	250	400	630	800
No. of poles	Power supply voltage	Reference	Reference	Reference	Reference	Reference	Reference
3 P	230 VAC	9915 **3012**	9915 **3016**	9915 **3025**	9915 **3040**	9915 **3063**	9915 **3080**
4 P	230 VAC	9915 **4012**	9915 **4016**	9915 **4025**	9915 **4040**	9915 **4063**	9915 **4080**

Rating (A)		1000	1250	1600	2000	2500	3200
No. of poles	Power supply voltage	Reference	Reference	Reference	Reference	Reference	Reference
3 P	230 VAC	9915 **3100**	9915 **3120**	9915 **3160**	9915 **3200**	9915 **3250**	9915 **3320**
4 P	230 VAC	9915 **4100**	9915 **4120**	9915 **4160**	9915 **4200**	9915 **4250**	9915 **4320**

UL and CSA load break switches
from 16 to 1200 A

sirco-ul_022.eps

Something to think about

> SOCOMEC also offers a full range of load break switches, with direct or front external control that fully comply with UL & CSA standards.
> A specific UL/CSA product catalogue is available on request, don't hesitate to contact us for your copy.
> Important: all electrical equipment designed for the North American market must conform to UL/CSA standards.

Compliance with standards

> UL 508 (file UL E 173959)
> UL 98 (file UL E 201138)
> CSA 22.2 n°4 (file CSA 189705)

Function

Standard UL 508: load break switches for control of electric motors

They ensure on-load making and breaking and provide safety isolation for motor control up to 600 V.

Standard UL 98 and UL 489: load break switches

They ensure on-load making and breaking and provide safety isolation for all electrical circuits up to 600 V.

General characteristics

SIRCO M

- Positive break indication
- Backplate or DIN-rail mounting.
- Padlocking in position 0 with max. 3 padlocks for external control.
- Door locked when the switch is on for devices with external front operation.

SIRCO

- Positive break indication.
- Padlocking in position 0 with max. 3 padlocks for external control.
- Door locked when the switch is on for devices with external front operation.

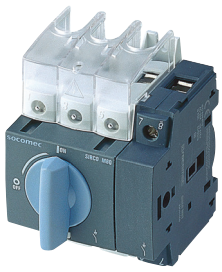
INOSYS LBS

- Visible breaking (contact position indication).
- Shunt or undervoltage tripping function from 24 to 220 VDC and from 24 to 230 VAC.
- Opening and closing independent of speed of movement.
- No de-rating up to 60°C and an operating temperature range of -25 to +70°C.

Standard UL 508: motor control

SIRCO M

Rating (A)	16	20	25	30	40	60	80
N° of poles							
3 P	•	•	•	•	•	•	•
4 P	•	•	•	•	•	•	•
Operation type							
Frontal direct/external	•	•	•	•	•	•	•
Type of mounting							
Front/back	•	•	•	•	•		


sircm_132_a

Standard UL 489: load break switches

SIRCO V

Rating (A)		30
N° of poles	**Operation type**	
3 P	Frontal direct/external	•
3 P + switched neutral	Lateral direct/external	•


sirco_092_a_1_cat

Standard UL 98: load break switches

SIRCO M and SIRCO

Type	SIRCO M			SIRCO					
Rating (A)	30	60	100	200	400	600	800	1000	1200
N° of poles									
3 P	•	•	•	•	•	•	•	•	•
4 P	•	•	•	•	•	•	•	•	•
Operation type									
External front	•	•	•	•	•	•	•	•	•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