

# Solutions for Power, Control & Safety

2018



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“Welcome to your new SOCOMEC India product catalogue. To make it even easier, we have grouped all of our products into two major families. Our flagship products are listed below. To find out all about our comprehensive ranges, let us be your guide. Happy reading.”



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# An independent manufacturer

The benefit of a specialist

**3,500 m<sup>2</sup>**  
of test platforms

One of the leading independent power testing labs in Europe

**60,000**  
on-site interventions per year

Nearly 400 experts in commissioning, technical audit, consultancy and maintenance

**10%**  
of turnover invested in R&D

Always at the cutting-edge of technology for innovative, high-quality products



# SO innovative!

Since its foundation more than 90 years ago, SOCOMEC continues to design and manufacture its core products in Europe. Notably solutions for its primary mission: the availability, control and safety of low voltage electrical networks.

As an independent manufacturer, the Group is committed to constant innovation to improve the energy performance of electrical installations in infrastructures as well as industrial and commercial sites.

Throughout its history, SOCOMEC has constantly anticipated market changes by developing cutting-edge technologies, providing solutions that are adapted to customer requirements and fully in keeping with international standards.

"Optimising the performance of your system throughout its life cycle" - this is the commitment carried out every day by the SOCOMEC teams around the world, wherever your business is located.

SYDV 161 B



# Your energy, our expertise

## Power conversion

### *Ensuring the availability and storage of high quality power*

With its wide range of continuously evolving products, solutions and services, Socomec are recognised experts in the cutting-edge technologies used for ensuring the highest availability of the electrical power supply to critical facilities and buildings, including:

- static uninterruptible power supplies (UPS) for high-quality power free of distortions

and interruptions occurring on the primary power supply,

- changeover of static, high availability sources for transferring the supply to an operational back-up source,
- permanent monitoring of the electrical facilities to prevent failures and reduce operating losses,
- energy storage for ensuring the proper energy mix of buildings and for stabilisation of the power grid.



© Dairadock

## Power switching

### *Managing power and protecting persons and facilities*

Active in the industrial switching market since its foundation in 1922, Socomec is today an undisputed leader in the field of low voltage switchgear, providing expert solutions that ensure:

- isolation and on load breaking for the most demanding switching applications,
- continuity of the power supply to electrical facilities via manual remotely operated or automatic transfer switching equipment.
- protection of persons and assets via fuse-based and other specialist solutions.



APPLI 575A

## Power monitoring

### *Managing the energy performance of buildings*

Socomec solutions, from current sensors through to a wide choice of innovative scalable software packages are driven by experts in energy performance. They meet the critical requirements of facility managers and operators of commercial, industrial and local authority buildings for:

- measuring energy consumption, identifying sources of excess consumption and raising the awareness of occupants about their impact,
- limiting reactive energy and avoiding the associated tariff penalties,
- using the best available tariffs, checking utility bills and accurately distributing energy billing among consumer entities,
- monitoring and detecting insulation faults.



APPLI 571A

## Expert Services

### *Enabling available, safe and efficient energy*

Socomec is committed to delivering a wide range of value-added services to ensure the reliability and optimisation of end-users' equipment:

- prevention and service operations to lower the risks and enhance the efficiency of operations,
- measurement and analysis of a wide range of electrical parameters leading to

recommendations for improving the site's power quality,

- optimisation of the total cost of ownership and support for a safe transition when migrating from an old to a new generation of equipment,
- consultancy, deployment and training from the project engineering stage through to final procurement,
- performance assessment of the electrical installation throughout the life cycle of the products via analysis of data transmitted by connected devices.



APPLI 760A

# A cutting-edge laboratory

## the backing of an expert

Created in 1965, SOCOMEC's laboratory brings its expertise to guarantee the reliability and the conformity of our products and solutions.

Since 2015, the laboratory renamed Tesla Lab – Power Testing and Certification in 2015, offers its testing and certification services to all its customers.



CORPO 441 A

### Proven expertise

Tesla Lab is an independent laboratory specialised in testing of LV switchgear, components and switchgear assemblies.

4 M€ has been invested since 2011 in this 2000 m<sup>2</sup> laboratory, where 30 experts guarantee the quality of the performed tests, making the Tesla Lab one of the most modern laboratories in Europe.

### Vast range of tests

The laboratory has a 100 MVA ( $I_{cc}$  100 kA rms 1 s) short-circuit platform, three 10 kA overload platforms and many other test facilities covering 2000 m<sup>2</sup> for:

- functional tests,
- mechanical tests: endurance,
- dielectric tests,
- environmental tests: vibration,
- Ingress Protection (IP),
- temperature rise tests up to 60 °C ambient.

### International partnership

The laboratory is recognised by the major certification bodies worldwide: member of ASEFA and LOVAG, it is accredited by COFRAC, UL (CTDP), CSA (shared certification) and DEKRA (WMT).

The partnership with many international certification bodies guarantees the quality and safety requirements in each country.

## Implementation of standard IEC/EN 61439

### Electrical switchgear manufacturers

IEC/EN 61439 standards define the requirements of "Low voltage switchgear assemblies" as well as the tests necessary to ensure the achievement of the specified levels of performance. The compliance with these standards gives a guarantee of safety and performance to the user of the equipment



### An original manufacturer according to IEC/EN 61439 standards

Socomec offers a wide range of original manufacturer solutions complying with IEC 61439 standards.

- FLEXYS and CADRYS cabinet systems designed for distribution panel applications.
- Local switching and equipment cabinets covering requirements in power availability and safety.
- Components for integration.

### Tesla Lab accredited by COFRAC

With its world-class testing facilities, the Tesla Lab can perform all of the tests required by IEC/EN 61439 standards for switchgear assemblies

We can therefore help you to:

- define a verification program,
- perform conformity tests,
- issue test reports in order to get certification from third party certification bodies (ASEFA, LOVAG, DEKRA, UL, CSA, COFRAC, ASTA...).

# Socomec in India

## State of the art facility to meet local demands

Founded in 1990, SOCOMEC India is a wholly owned subsidiary of Socomec France. An ISO certified company presence across 14 locations, having a skilled and dedicated workforce over 275 people.



CORPO 425 A

### A flexible manufacturing structure

Socomec India a state of the art manufacturing facility spread in 2100 square meter for the production of load break switches and manual changeover switches ranging from 63 to 3200 A. It also manufactures Uninterruptible Power Supply (UPS 100 to 200 kVA). The plant equipped with advanced manufacturing technology has embraced lean manufacturing principles by implementing a system of continuous improvements. Our objective is to provide high levels of product quality to meet our valuable customer demands at affordable cost.

### Solutions to meet every need

Thanks to our substantial R&D resources, our product range is continuously evolving based on our contact with clients.

Our solutions have been approved by the most demanding users. It caters to the application such as Critical Building, Building, Industrial, OEM, Infrastructure & Renewable energy, etc.

### The expert touch

Certified quality products, continuous dialogue to understand customer requirements, maximum flexibility and dedication right by your side. Our experience at your service.

### Our specialists at your disposal

Trusting us with your project means you benefit from pre- and after-sales technical support. Socomec has well qualified and trained sales, service and project management team deployed across the country. Since the team is involved in sales and after sales support, the customer requirements are well understood and suitable solutions are provided. Our qualified and dedicated maintenance engineers and technicians in India assure the peace of mind of our customers.



REGAR 103 B



SOCOMECEC is fully compliant with ISO 9001 certification discerned by TÜV NORD for the quality of its manufacturing and sale of low voltage, switchgears, UPS and spares.



# SIRCO

Load break and isolation switches for power distribution  
from 63 to 5000 A

Load break & isolation switches



**SIRCO**  
4 P 400 A with direct handle

sirco\_469\_a.eps



**SIRCO**  
4 P 400 A with external handle

sirco\_471\_a.eps

## The solution for

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



## Strong points

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

## Compliance with standards

- > IS/IEC 60947-3



## Enclosed switch solution

- > Suitable for environments subject to mechanical risk and dust hazards
- > Isolation and padlocking
- > Top and bottom extension boxes available
- > Colour: STR RAL 7035
- > Cable gland plates: top/ bottom
- > Steel, thickness 1.2 to 2.0 mm
- > Coating: epoxy polyester powder
- > 4 wall mounting brackets provided
- > Door: solid with hinges
- > Metal cam lock



coff\_498\_a.eps

## Function

SIRCO are manually operated load break and isolation switches. They make and break under load conditions and provide safe isolation. SIRCO are designed for 415 VAC electrical circuits.

## Advantages

### Reliability and performance

The double breaking per pole, achieved through its sliding bar contact system, is a proven design that offers very high durability and short-circuit withstand. It provides an improved breaking performance with quick opening and rapid closure.

### 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 both high mechanical and thermal resistance.

## 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).

### Simplicity

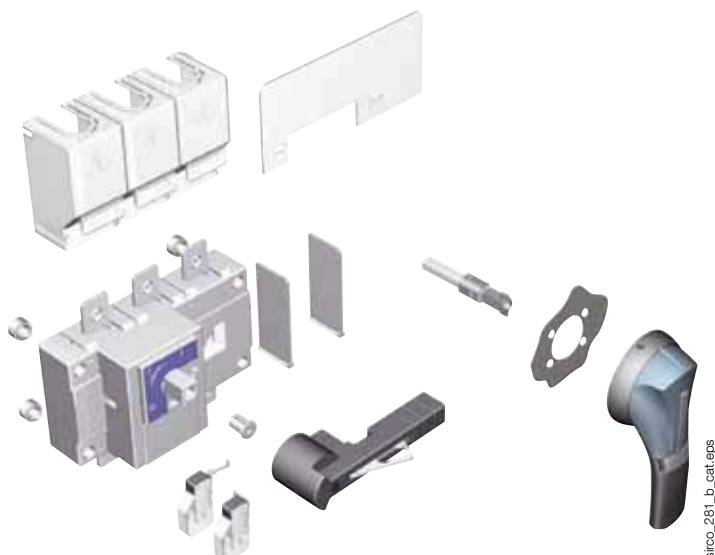
The SIRCO range is available as a kit with direct or external handles or as a bare switch product. It includes a wide choice of common accessories that enable:

- Simple installation.
- Reduced stock management and storage costs.

### Easy to install

The design of external contacts enables an easy connection thanks to:

- Low profile,
- Wide terminals,
- Spreader accessories which facilitate connections with larger cables, up to 1250 A.



sirco\_281\_b\_cat.eps



## References - SIRCO kit and enclosed solutions

**3 & 4 poles**

Rating (A) / Frame size	No. of poles	Kit 1 with direct handle <sup>(1)</sup>	Kit 2 with external handle <sup>(2)</sup>	Enclosed solutions		
				Enclosure size	Enclosed switch	Top or bottom <sup>(4)</sup> extension box
63 A / B2	4 P	26K1 4006A <sup>(3)</sup>	26K2 4006A <sup>(3)</sup>	Size 1	26E1 4006A	26E1 0001A
100 A / B2	4 P	26K1 4010A <sup>(3)</sup>	26K2 4010A <sup>(3)</sup>		26E1 4010A	
125 A / B2	4 P	26K1 4011A <sup>(3)</sup>	26K2 4011A <sup>(3)</sup>		26E1 4011A	
125 A / B3	3 P	26K1 3012A	26K2 3012A	Size 2	26E1 3012A	26E1 0002A
	4 P	26K1 4012A	26K2 4012A		26E1 4012A	
160 A / B3	3 P	26K1 3016A	26K2 3016A		26E1 3016A	
	4 P	26K1 4016A	26K2 4016A		26E1 4016A	
200 A / B3	3 P	26K1 3019A	26K2 3019A	26E1 3019A		
	4 P	26K1 4019A	26K2 4019A	26E1 4019A		
250 A / B4	3 P	26K1 3025A	26K2 3025A	Size 3	26E1 3025A	26E1 0003A
	4 P	26K1 4025A	26K2 4025A		26E1 4025A	
315 A / B4	3 P	26K1 3030A	26K2 3030A		26E1 3030A	
	4 P	26K1 4030A	26K2 4030A		26E1 4030A	
400 A / B4	3 P	26K1 3039A	26K2 3039A	26E1 3039A		
	4 P	26K1 4039A	26K2 4039A	26E1 4039A		
400 A / B5	3 P	26K1 3040A	26K2 3040A	Size 4	26E1 3040A	26E1 0004A
	4 P	26K1 4040A	26K2 4040A		26E1 4040A	
500 A / B5	3 P	26K1 3050A	26K2 3050A	Size 5	26E1 3050A	
	4 P	26K1 4050A	26K2 4050A		26E1 4050A	
630 A / B5	3 P	26K1 3063A	26K2 3063A	26E1 3063A		
	4 P	26K1 4063A	26K2 4063A	26E1 4063A		
800 A / B6	3 P	26K1 3080A	26K2 3080A	Size 6	26E1 3080A	26E1 0006A
	4 P	26K1 4080A	26K2 4080A		26E1 4080A	
1000 A / B6	3 P	26K1 3100A	26K2 3100A		26E1 3100A	
	4 P	26K1 4100A	26K2 4100A		26E1 4100A	
1250 A / B7	3 P	26K1 3125A	26K2 3125A	Size 7	26E1 3125A	26E1 0007A
	4 P	26K1 4125A	26K2 4125A		26E1 4125A	
1600 A / B7	3 P	26K1 3160A	26K2 3160A		26E1 3160A	
	4 P	26K1 4160A	26K2 4160A		26E1 4160A	
1800 A / B7	3 P	26K1 3180A	26K2 3180A			
	4 P	26K1 4180A	26K2 4180A			
2000 A / B8	3 P	26K1 3200A	26K2 3200A			
	4 P	26K1 4200A	26K2 4200A			
2500 A / B8	3 P	26K1 3250A	26K2 3250A			
	4 P	26K1 4250A	26K2 4250A			
3200 A / B8	3 P	26K1 3320A	26K2 3320A			
	4 P	26K1 4320A	26K2 4320A			

Also available in specific frame, for frequent motor load switching (AC-23A).

(1) Kit 1 includes: Switch body + direct handle + interphase barriers.

(2) Kit 2 includes Switch body + external handle + 200 mm shaft + interphase barriers.

(3) Without interphase barriers.

(4) Optional extension boxes may be attached to the Top or/and Bottom of the enclosed transfer switch.

**Also available**

> For ratings of 4000 and 5000 A, consult us.

# SIRCO

Load break and isolation switches for power distribution  
from 63 to 5000 A

## Accessories

### Direct operation handle

Rating (A) / Frame size	No. of poles	Handle type	Handle colour	Reference
63 ... 125 / B2	4 P	SH0	Black	4299 0001A
125 ... 200 / B3	3 / 4 P	B1	Black	2699 5042A
200 ... 630 / B4-B5	3 / 4 P	B2	Black	2699 5052A
800 ... 3200 / B6...B8	3 / 4 P	C2	Black	2799 7012A



### External operation handle

#### Use

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

#### Front operation

Rating (A) / Frame size	No. of poles	Handle type	Handle colour	External IP <sup>(1)</sup>	Reference
63 ... 125 / B2	4 P	SH0	Black	IP42	4259 0001A
125 ... 630 / B3 ... B5	3 / 4 P	S2	Black	IP55	1421 2111A
800 ... 1800 / B6-B7	3 / 4 P	S4	Black	IP65	1443 3111A
2000 ... 3200 / B8	3 / 4 P	S5	Black	IP65	1453 8111A

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



### Shaft for external operation

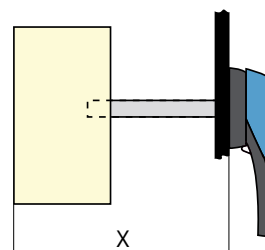
#### Use

Standard lengths:

- 200 mm
- 250 mm
- 320 mm
- 500 mm
- 750 mm

Other lengths available: please consult us.

Rating (A) / Frame size	Side X (mm)	Length (mm)	Reference
125 ... 200 / B3	125 ... 250	200	1400 1020A
	125 ... 300	250	1400 1025A
	125 ... 370	320	1400 1032A
	125 ... 550	500	1400 1050A
	125 ... 850	750	1400 1075A
200 ... 250 / B4	135 ... 265	200	1400 1020A
	135 ... 315	250	1400 1025A
	135 ... 385	320	1400 1032A
	135 ... 565	500	1400 1050A
	135 ... 880	750	1400 1075A
315 ... 630 / B5	165 ... 295	200	1400 1020A
	165 ... 345	250	1400 1025A
	165 ... 415	320	1400 1032A
	165 ... 595	500	1400 1050A
	165 ... 940	750	1400 1075A
800 ... 1800 / B6...B7	221 ... 343	200	1401 1520A
	221 ... 463	320	1401 1532A
2000 ... 3200 / B8	415 ... 570	200	2799 3015A
	415 ... 690	320	2799 3018A



## Accessories (continued)

### Auxiliary contact

#### Use

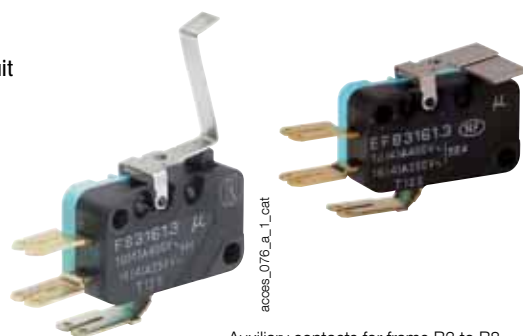
Pre-break and signalling  
of positions 0 and I:  
- 1 to 2 NO/NC auxiliary contacts.

#### Characteristics

IP2 with front operation.

#### Connection to the control circuit

By 6.35 mm fast-on terminals.



Auxiliary contacts for frame B3 to B8

#### NO/NC contact

Rating (A) / Frame size	AC position	Reference
63 ... 125 / B2	1 <sup>st</sup>	2609 1020A
63 ... 125 / B2	2 <sup>nd</sup>	2609 2020A
125 ... 3200 / B3 ... B8	1 <sup>st</sup>	2699 0031A
125 ... 3200 / B3 ... B8	2 <sup>nd</sup>	2699 0032A

#### Characteristics

Rating (A) / Frame size	Contact type	Rated current (A)	Operating current I <sub>e</sub> (A)										Electrical endurance	
			230 VAC		400 VAC		24 VDC			48 VDC				
			AC-12	AC-13/15	AC-12	AC-13/15	DC-12	DC-13	DC-14	DC-12	DC-13	DC-14		
63 ... 125 / B2	NO/NC	16	16 (EN61058-1)	-	-	-	-	-	-	-	-	-	-	10 000
125 ... 3200 / B3 ... B8	NO/NC	16	16	4	12	3	2.5	2.5	1	2.5	1.2	0.2	30 000	

### Terminal shrouds

#### Use

Provides top or bottom protection against  
direct contact with terminals or live parts.  
Each reference includes 1 shroud for top or  
bottom use.

#### Advantage

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

Rating (A) / Frame size	No. of poles	Position	Reference
63 ... 125 / B2	4 P	Top or bottom	2994 4008A
125 ... 200 / B3	3 P	Top or bottom	2694 3014A
125 ... 200 / B3	4 P	Top or bottom	2694 4014A
200 ... 400 / B4	3 P	Top or bottom	2694 3021A
200 ... 400 / B4	4 P	Top or bottom	2694 4021A
315 ... 630 / B5	3 P	Top or bottom	2694 3051A
315 ... 630 / B5	4 P	Top or bottom	2694 4051A



# SIRCO

Load break and isolation switches for power distribution  
from 63 to 5000 A

## Terminal screens

### Use

Top or bottom protection from direct contact with terminals or connection parts.  
In case of use with spreaders, use the wide screens.

Rating (A) / Frame size	No. of poles	Position	Type	Reference
125 ... 200 / B3	3 P	Top or bottom	Standard	2698 3012A
	4 P			2698 4012A
	3 P	Top	Wide	2698 3013A
	3 P	Bottom		2698 8013A
	4 P	Top or bottom		2698 4013A
200 ... 400 / B4	3 P	Top or bottom	Standard	2698 3020A
	4 P			2698 4020A
	3 P	Top	Wide	2698 3021A
	3 P	Bottom		2698 8021A
	4 P	Top or bottom		2698 4021A
315 ... 630 / B5	3 P	Top or bottom	Standard	2698 3050A
	4 P			2698 4050A
	3 P	Top	Wide	2698 3051A
	3 P	Bottom		2698 8051A
	4 P	Top or bottom		2698 4051A
800 ... 1000 / B6	3 P	Top or bottom	Standard	2698 3080A
	4 P			2698 4080A
	3 P	Top	Wide	2698 3081A
	3 P	Bottom		2698 8081A
	4 P	Top or bottom		2698 4081A
1250 ... 1800 / B7	3 P	Top or bottom	Standard	2698 3120A
	4 P			2698 4120A
2000 ... 3200 / B8	3 P	Top or bottom	Standard	2698 3200A
	4 P			2698 4200A



## Spreaders

### Use

They widen the terminals and increase the pitch of the products, therefore enabling wider connections.

Rating (A) / Frame size	No. of poles	Reference
125 ... 200 / B3	3 P	4106 3016A
	4 P	4106 4016A
200 ... 250 / B4	3 P	4106 3025A
	4 P	4106 4025A
315 ... 400 / B4	3 P	4106 3040A
	4 P	4106 4040A
315 ... 500 / B5	3 P	4106 3050A
	4 P	4106 4050A
630 ... 630 / B5	3 P	4106 3063A
	4 P	4106 4063A



## Accessories (continued)

### Copper bar connection kits

#### Use

For ratings 2000 to 3200 A. The connection pieces provide a link between the two power terminals of the same pole (Fig. 1 and Fig 2).

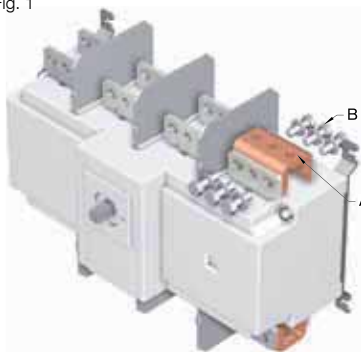
For 3200 A rating, connection pieces (part A) are supplied as standard. Bolt sets must be ordered separately.

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

Rating (A) / Frame size	Part	Quantity to order per pole <sup>(1)</sup>	Reference
2000 ... 2500 / B8	Connection - part A	1	2619 1200A
2000 ... 2500 / B8	Bolt set - part B	1	2699 1200A
3200 / B8	Connection - part A		included
3200 / B8	Bolt set - part B	1	2699 1200A

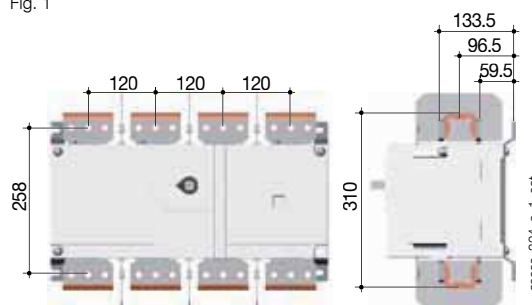
(1) Example for 3-pole device equipped top only: order 3 times the indicated quantity.

Fig. 1



access\_220\_c\_1\_x\_cat

Fig. 1



access\_224\_a\_1\_cat

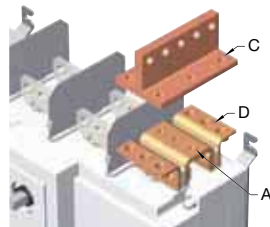
#### Top or bottom edgewise connection - Fig. 2

Rating (A) / Frame size	Part	Quantity to order per pole <sup>(1)</sup>	Reference
2000 ... 2500 / B8	Connection - part A	1	2619 1200A
2000 ... 2500 / B8	T piece - part C	1	2629 1200A <sup>(2)</sup>
2000 ... 2500 / B8	Bracket - part D	1	2639 1200A <sup>(2)</sup>
3200 / B8	Connection - part A		included
3200 / B8	T piece - part C	1	2629 1200A
3200 / B8	Bracket - part D	1	2639 1200A

(1) Example for 4-pole device equipped top only: order 4 times the indicated quantity.

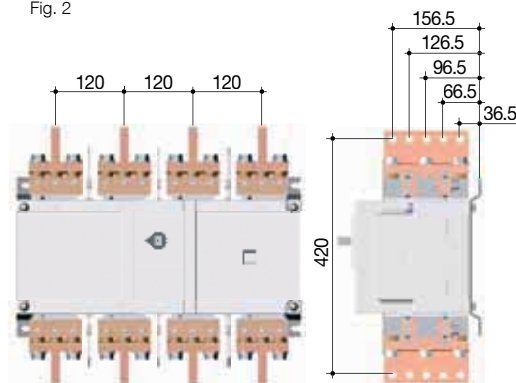
(2) Bolt set is provided with the accessories.

Fig. 2



access\_222\_b\_1\_x\_cat

Fig. 2



access\_225\_a\_1\_cat

## Characteristics according to IEC 60947-3

### 63 to 400 A

Thermal current $I_{th}$ at 40°C	63 A	100 A	125 A	125 A	160 A	200 A	200 A	315 A	400 A	400 A	
Frame size	B2	B2	B2	B3	B3	B3	B4	B4	B4	B5	
Rated insulation voltage $U_i$ (V)	800	800	800	800	800	800	800	800	800	1000	
Rated impulse withstand voltage $U_{imp}$ (kV)	6	6	6	8	8	8	8	8	8	12	
Rated operational currents $I_e$ (A)											
Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	63/63	100/100	125/125	125/125	160/160	200/200	200/200	315/315	400/400	400/400
415 VAC	AC-21 A / AC-21 B	63/63	100/100	100/125	125/125	160/160	200/200	200/200	315/315	400/400	400/400
415 VAC	AC-22 A / AC-22 B	63/63	100/100	100/125	125/125	160/160	200/200	200/200	315/315	400/400	400/400
415 VAC	AC-23 A / AC-23 B	-/63	-/63	-/63	125/125	160/160	160/160	200/200	250/250	250/250	400/400
220 VDC	DC-20 A / DC-20 B				125/125	160/160	160/160	200/200			400/400
220 VDC <sup>(2)</sup>	DC-21 A / DC-21 B				125/125	160/160	160/160	200/200			400/400
220 VDC <sup>(2)</sup>	DC-22 A / DC-22 B				125/125	160/160	160/160	200/200			400/400
220 VDC <sup>(2)</sup>	DC-23 A / DC-23 B				125/125	160/160	160/160	200/200			400/400
500 VDC	DC-20 A / DC-20 B				125/125	160/160	160/160	200/200			400/400
500 VDC <sup>(2)</sup>	DC-21 A / DC-21 B				125/125	125/125	125/125	160/200			400/400
500 VDC <sup>(2)</sup>	DC-22 A / DC-22 B				125/125	125/125	125/125	160/160			315/400
500 VDC <sup>(2)</sup>	DC-23 B				-/125	-/125	-/125	-/160			-/400
Operational power in AC-23 (kW) <sup>(3)</sup>											
At 415 VAC without AC pre-break		-/30	-/30	-/30	63/63	80/80	80/80	100/100	115/115	115/115	190/190
Reactive power in AC-23 (kvar)											
At 415 VAC (kvar)		-/30	-/30	-/30	60/60	75/75	75/75	100/100	125/125	125/125	200/200
gG DIN fuse protected short-circuit withstand at 415 VAC											
Prospective short-circuit current (kA rms)		50	25	15	100	100	50	80	50	50	100
Associated fuse rating (A)		63	100	125	125	160	200	200	315	400	400
Short-circuit withstand without protection as per IEC 60947-3 <sup>(4)</sup>											
Rated short-time withstand current 0.3s $I_{cw}$ (kA rms)		3.5	3.5	3.5	15	15	15	15	15	15	15
Rated short-time withstand current 1s $I_{cw}$ (kA rms)		2.5	2.5	2.5	7	7	7	8	8	8	11
Rated peak withstand current in $I_{cc}$ at 415 VAC (kA peak)		12	12	12	20	20	20	30	30	30	45
Connection											
Minimum Cu cable cross-section (mm <sup>2</sup> )		10	10	10	35	35	50	50	120	185	185
Maximum Cu cable cross-section (mm <sup>2</sup> )		50	50	50	50	95	95	95	240	240	240
Recommended Al cable cross-section (mm <sup>2</sup> )		35	50	50	70	95	150	150	240	300	300
Recommended Al busbar cross-section (mm <sup>2</sup> )					20x8	20x8	25x10	25x10	2x25x10	2x25x10	40x12
Maximum busbar width (mm)					25	25	25	32	32	32	40
Maximum busbar width with spreaders (mm)					25	25	25	25	40	40	40
Tightening torque min/max (Nm)		1.2/3	1.2/3	1.2/3	9/-	9/-	9/-	20/-	20/-	20/-	20/-
Mechanical characteristics											
Durability (number of operating cycles)		25000	25000	25000	10000	10000	10000	10000	10000	10000	5000
Operating effort (Nm)		3.5	3.5	3.5	6.5	6.5	6.5	10	10	10	14.5
Weight of a 3 pole device with no accessories (kg)					1	1	1	2	2	2	3.5
Weight of a 4 pole device with no accessories (kg)		0.86	0.86	0.86	1.5	1.5	1.5	2.5	2.5	2.5	4

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

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

4-pole device with 2 poles in series by polarity.

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

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

### 500 to 800 A

Thermal current $I_{th}$ at 40°C	500 A	630 A	800 A	1000 A	1250 A	1600 A	1800 A	2000 A	2500 A	3200 A
Frame size	B5	B5	B6	B6	B7	B7	B7	B8	B8	B8
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 <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-20 A / AC-20 B	500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200
415 VAC	AC-21 A / AC-21 B	500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	1600/1800	2000/2000	2500/2500	3200/3200
415 VAC	AC-22 A / AC-22 B	500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	1600/1600	2000/2000	2500/2500	2500/3200
415 VAC	AC-23 A / AC-23 B	500/500	500/500	800/800	1000/1000	1250/1250	1250/1250	1250/1250	1600/1600	1600/1600	1600/1600
220 VDC	DC-20 A / DC-20 B	500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200
220 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	500/500	630/630	800/800	1000/1000	1250/1250	1250/1600	1250/1600	2000/2000	2000/2500	2000/2500
220 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	1250/1250	1250/1600	1250/1600	1250/1600
220 VDC <sup>(2)</sup>	DC-23 A / DC-23 B	500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	1250/1250	1250/1250	1250/1250	1250/1250
500 VDC	DC-20 A / DC-20 B	500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	1800/1800	2000/2000	2500/2500	3200/3200
500 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	400/400	500/500	800/800	1000/1000	1250/1250	1250/1600	1250/1600	1250/1250	1250/1250	1250/1250
500 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	315/400	500/500	800/800	1000/1000	1250/1250	1250/1250	1250/1250	1250/1250	1250/1250	1250/1250
500 VDC <sup>(2)</sup>	DC-23 B	-/400	-/500	-/800	-/1000	-/1250	-/1250	-/1250	-/1000	-/1000	-/1000

#### Operational power in AC-23 (kW)<sup>(3)</sup>

At 415 VAC without AC pre-break	235/235	235/235	375/375	450/450	560/560	560/560	560/560	560/560	710/710	710/710	710/710
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#### Reactive power in AC-23 (kvar)

At 415 VAC (kvar)	250/250	250/250	400/400	500/500	650/650	650/650	650/650	650/650	850/850	850/850	850/850
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#### gG DIN fuse protected short-circuit withstand at 415 VAC

Prospective short-circuit current (kA rms)	100	70	50	100	100	100	100	100	100	100	
Associated fuse rating (A)	500	630	800	1000	1250	2x800	2x800	2x1000	2x1250		

#### Short-circuit withstand without protection as per IEC 60947-3<sup>(4)</sup>

Rated short-time withstand current 0.3s $I_{cw}$ (kA rms)	15	15	50	65	100	100	100	100	100	100	
Rated short-time withstand current 1s $I_{cw}$ (kA rms)	11	11	35	35	50	50	50	50	50	50	50
Rated peak withstand current in $I_{cc}$ at 415 VAC (kA peak)	45	45	55	80	110	110	110	110	120	120	120

#### Connection

Minimum Cu cable cross-section (mm <sup>2</sup> )	2x95	2x120	2x185								
Maximum Cu cable cross-section (mm <sup>2</sup> )	2x300	2x300	2x300	4x185	4x185	6x185	6x185				
Recommended Cu busbar cross-section (mm <sup>2</sup> )	2x32x5	2x40x5	2x50x5	2x63x5	2x80x5	2x100x5	3x100x5	3x100x5	2x100x10	3x100x10	
Recommended Al busbar cross-section (mm <sup>2</sup> )	50x12	2x50x10	2x50x10	2x60x10	2x75x10	2x100x10	3x80x10	3x80x10	3x100x10	4x100x10	
Maximum busbar width (mm)	50	50	63	63	100	100	100	100	100	100	
Maximum busbar width with spreaders (mm)	50	60	75	75							
Tightening torque min/max (Nm)	20/-	20/-	40/45	40/45	40/45	40/45	40/45	40/45	40/45	40/-	40/-

#### Mechanical characteristics

Durability (number of operating cycles)	5000	5000	3000	3000	4000	4000	4000	4000	3000	3000	3000
Operating effort (Nm)	14.5	14.5	37	37	56	56	56	56	75	75	75
Weight of a 3 pole device with no accessories (kg)	3.5	3.5	8	8	12	12	12	12	22	22	22
Weight of a 4 pole device with no accessories (kg)	4	4	10	10	15	15	15	15	25	25	25

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

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

4-pole device with 2 poles in series by polarity.

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

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

# SIRCO

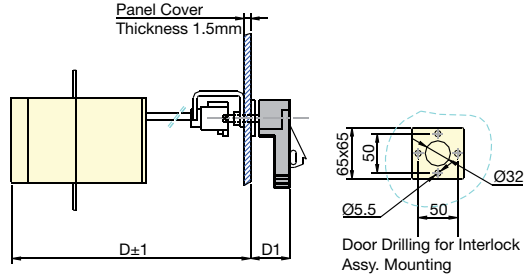
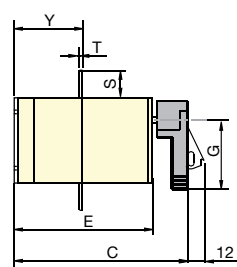
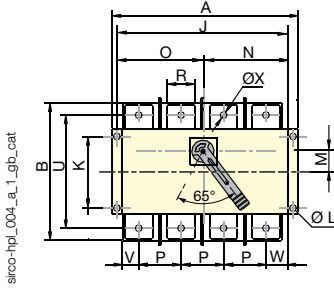
Load break and isolation switches for power distribution  
from 63 to 5000 A

## Dimensions

### 63 to 125 A / B2

Direct front operation

External front operation

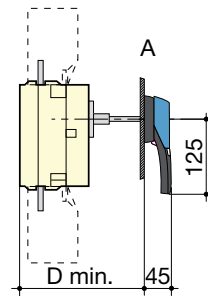
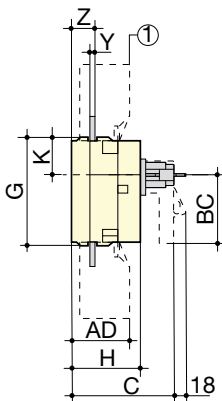
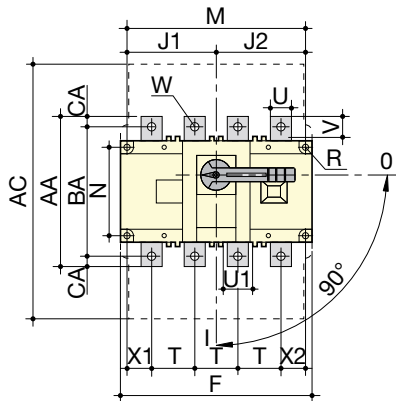


Rating (A) / Frame size	Overall dimensions						Fixing of Sw.					Connection terminal						Sw. Wt.					
	A	B	C	D	D1	E	G	J	K	L	M	N	O	P	R	S	T	U	V	W	ØX	Y	Open Ex. (kg)
63 ... 125 / B2	152.5	106	120	130	46.5	70	56	138.5	53	6.5	14	67.5	68	26.5	14	17	2	91	9.75	17	6.5	53	0.86

### 125 to 630 A / B3 to B5

Direct front operation

External front operation



1. Terminal shrouds

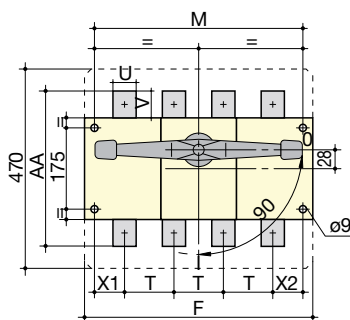
A. S2 type handle

Rating (A) / Frame size	Overall dimensions		Standard Terminal shrouds		Switch body								Switch mounting					Connection												
	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 ... 200 / 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			280	60	180	230	108	75	55	105	105	34	115	160	210	80	5.5	50	20	25.5	21.5	11	33	33	27	3.5	22.5	160	130	15
315 ... 400 / B4			315 ... 500 / B5	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
630 / B5	160	165	401	89	230	290	170	110	75	135	135	55	115	210	270	140	7	65	45	41.5	13	42.5	37.5	37.5	5	36	260	220	20	

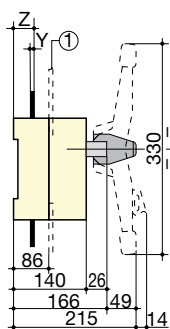


## 800 to 1800 A - B6 - B7

Direct front operation

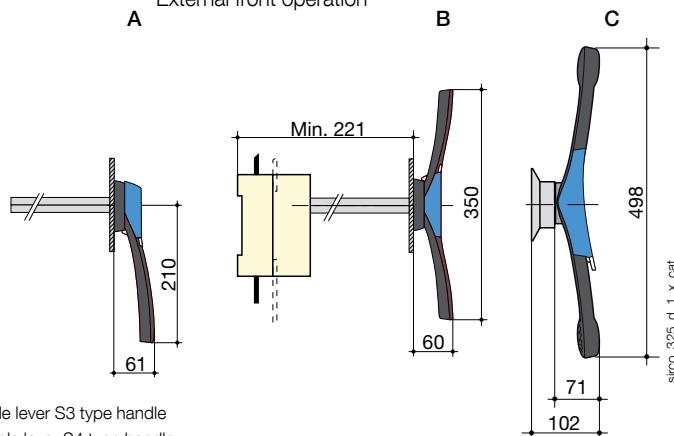


1. Standard terminal screens



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

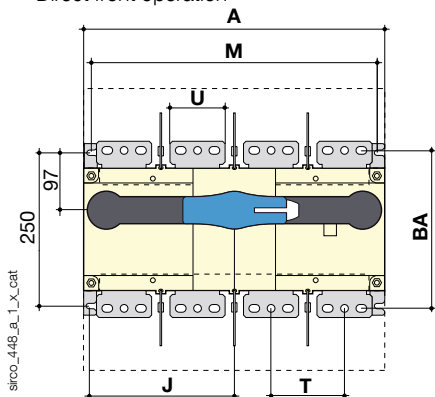
External front operation



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

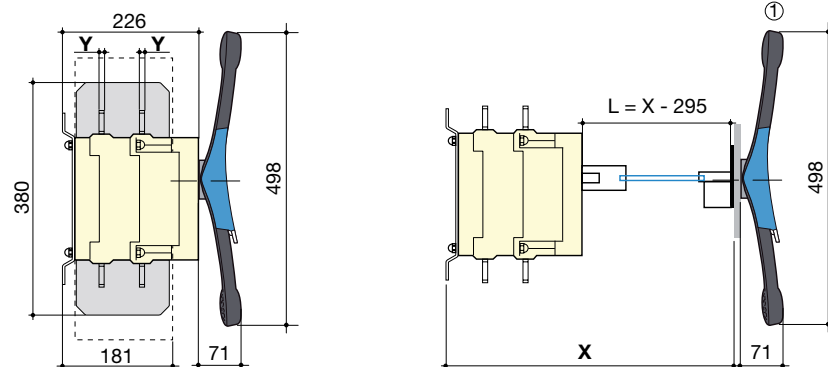
## 2000 to 3200 A - B8

Direct front operation



1. Double lever S5 type handle

External front operation

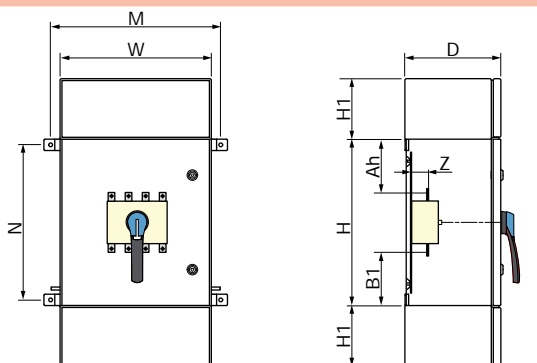


Rating (A) / Frame size	Overall dimensions		Switch body		Switch mounting		Connection			
	A 3p.	A 4p.	J 3p.	J 4p.	M 3p.	M 4p.	T	U	Y	BA
2000 ... 3200 / B8	372	492	173.5	233.5	347	367	120	90	8	258

## Enclosed dimensions

Rating (A) / Enclosure size	H x W x D (mm)	M (mm)	N (mm)	Z (mm)	Ah (mm)	B1 (mm)	H1 (mm)
63 ... 125 / size 1	200 x 250 x 150	300	160	52.8	65.25	65.25	100
125 ... 200 / size 2	350 x 350 x 200	400	310	33	78.5	78.5	150
200 ... 400 / size 3	450 x 400 x 200	450	410	44	146	146	150
315 ... 400 / size 4	500 x 500 x 250	550	460	60.3	115	115	200
500 ... 630 / size 5	600 x 500 x 250	550	560	51.3	165	165	200
800 ... 1000 / size 6	700 x 700 x 300	750	660	47	165	165	250
1250 ... 1600 / size 7	800 x 750 x 300	800	760	47.5	215	215	300

Drawings as shown include the optional top and bottom extension boxes (W x H1).

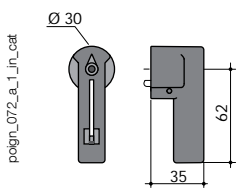
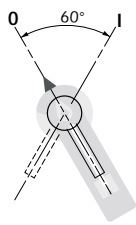
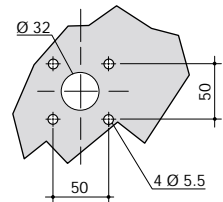


# SIRCO

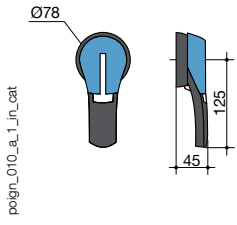
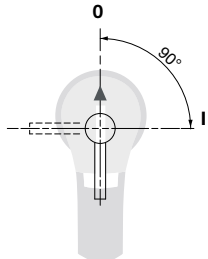
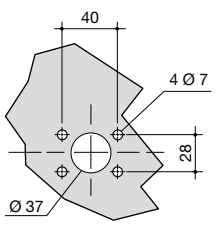
Load break and isolation switches for power distribution  
from 63 to 5000 A

## Dimensions for external handles

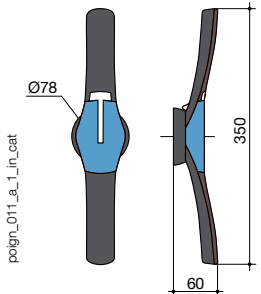
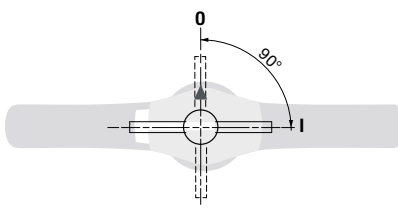
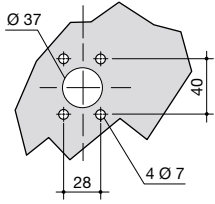
For use with frame B2

Handle type	Front operation Direction of operation	Door drilling
<b>SH0 type</b> 		

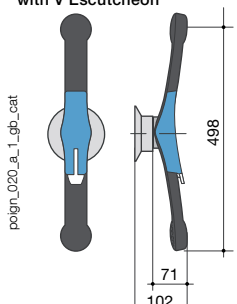
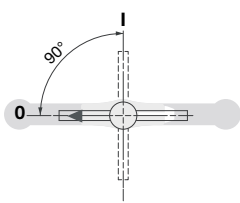
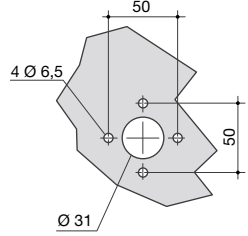
For use with frames B3 - B4 - B5

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

For use with frames B6 - B7

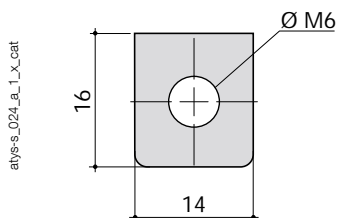
Handle type	Front operation Direction of operation	Door drilling
<b>S4 type</b> 		

For use with frames B7 - B8

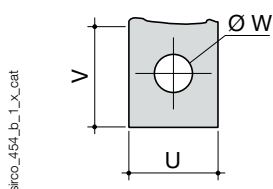
Handle type	Front operation Direction of operation	Door drilling
<b>S5 type with V Escutcheon</b> 		

## Connection terminal dimensions

### 63 to 125 A / B2

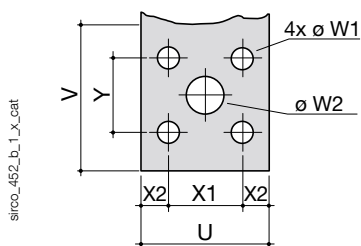


### 125 to 630 A / B3 - B5



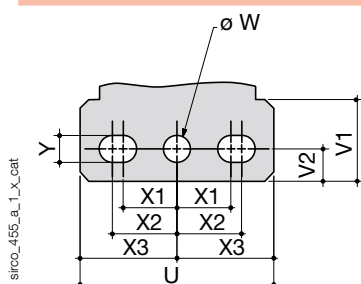
Rating (A) / Frame size	U	V	W
125 ... 200 / B3	20	25	9
200 ... 400 / B4	25	21.5	11
315 ... 400 / B5	32	29	
500 / B5	45	41.5	13
630 / B6			

### 800 to 1000 A / B6



Rating (A) / Frame size	U	V	W1	W2	X1	X2	Y
800 ... 1000 / B6	50	60.5	9	16	28.5	11	33

### 1250 to 3200 A / B7 - B8



Rating (A) / Frame size	U	V1	V2	W	X1	X2	X3	Y
1250 ... 3200 / B7 - B8	90	35.8	15	12.5	25	30	45	12.5



# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications from 100 to 2000 A, up to 1500 VDC

Load break & isolation switches

sirco-pv\_128\_a\_1\_cat



sirco-pv\_0125\_a\_1\_cat



## The solution for

- > Combiner box
- > Inverter



## Strong points

- > Patented switching technology up to 500 VDC/pole
- > Positive break indication
- > Up to 1500 VDC as per characteristics by IEC 60947-3

## Conformity to standards

- > IS/IEC 60947-3
- > IEC 60364-7-712
- > UL 98B<sup>(1)</sup>



<sup>(1)</sup> Consult us.

## Function

SIRCO PV are manually operated multipolar 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: earthing, 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 warming and can be placed in a smaller enclosure.

### Reliability and performance

Our range of SIRCO PV load break switches is compliant to standards IS/IEC 60947-3.

SIRCO PV have been tested to break critically low currents and withstand 10 kA short-circuit during 300 ms without any specific protection.

### High quality materials

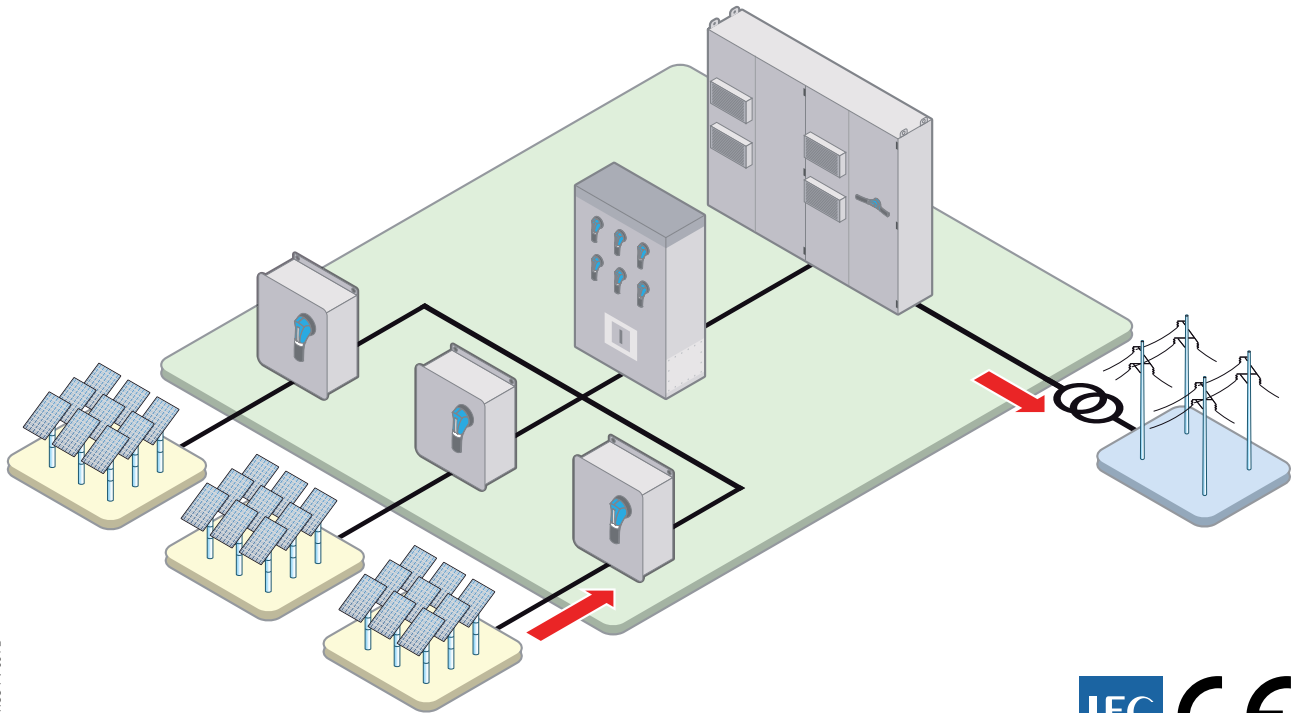
SIRCO PV is an extremely robust device in a glass fibre reinforced polyester frame.

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).

## Typical PV architecture

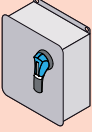

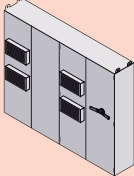
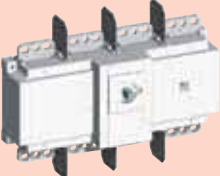
The SIRCO PV range provides safe load break and isolation at all levels within your PV installation.



SIRCO-PV 054 B



## The SOCOMEC solutions

LEVEL OF INSTALLATION	SOCOMEK SOLUTIONS	
<b>Combiner box</b>		
		SIRCO PV One circuit up to 500 A at 1500 VDC
<b>Inverter</b>		
		SIRCO PV One circuit up to 2000 A at 1000 VDC up to 2000 A at 1500 VDC

# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications  
from 100 to 2000 A, up to 1500 VDC

## References - SIRCO PV kits and accessories

### 1000 VDC

Rating (A) / Frame size	No. of poles	Kit 1 with direct handle <sup>(1)</sup>	Kit 2 with external handle <sup>(2)</sup>	Auxiliary contacts	Terminal screens	Interphase barriers
<b>1 circuit PV</b>						
100 A / B4	2 P	26P1 2010A	26P2 2010A	1 <sup>st</sup> NO/NC contact 2699 0031A  2 <sup>nd</sup> NO/NC contact 2699 0032A	2 P 2698 3020A 4 P 2698 4020A	-
160 A / B4	2 P	26P1 2016A	26P2 2016A			
250 A / B4	2 P	26P1 2025A	26P2 2025A			
315 A / B4	2 P	26P1 2031A	26P2 2031A			
400 A / B4	2 P	26P1 2039A	26P2 2039A			
400 A / B4	4 P	26P1 4040A	26P2 4040A		4 P 2698 4050A	-
500 A / B4	4 P	26P1 4050A	26P2 4050A			
630 A / B5	4 P	26P1 4063A	26P2 4063A		4 P 2698 4080A	Included
800 A / B5	4 P	26P1 4080A	26P2 4080A			
1250 A / B6	4 P	26P1 4120A	26P2 4120A			
2000 A / B7	4 P	26P1 4200A	26P2 4200A		4 P 2698 4120A	
<b>2 circuit PV</b>						
630 A / B5 <sub>DS</sub>	8 P	26P1 8063A	26P2 8063A	1 <sup>st</sup> NO/NC contact 2699 0061A  2 <sup>nd</sup> NO/NC contact 2699 0062A	1509 4063A	-
800 A / B6 <sub>DS</sub>	8 P	26P1 8080A	26P2 8080A		1509 4080A	Included
1250 A / B6 <sub>DS</sub>	8 P	26P1 8120A	26P2 8120A		2698 4199A	
2000 A / B7 <sub>DS</sub>	8 P	26P1 8200A	26P2 8200A			

(1) Kit 1 includes: Switch body + direct handle + Bridging bars.

(2) Kit 2 includes Switch body + external handle + 200 mm shaft + Bridging bars.

### 1500 VDC

Rating (A) / Frame size	No. of poles	Kit 1 with direct handle <sup>(1)</sup>	Kit 2 with external handle <sup>(2)</sup>	Auxiliary contacts	Terminal screens	Interphase barriers
275 A / B5	3 P	26P1 3026A	26P2 3026A	1 <sup>st</sup> NO/NC contact 2699 0031A	Top 2798 3041A	-
400 A / B5	3 P	26P1 3041A	26P2 3041A		Bottom 2798 8041A	
500 A / B5	3 P	26P1 3051A	26P2 3051A	2 <sup>nd</sup> NO/NC contact 2699 0032A	1509 4063A	
630 A / B5 <sub>DS</sub>	4 P	26P1 4064A	26P2 4064A	1 <sup>st</sup> NO/NC contact 2699 0061A  2 <sup>nd</sup> NO/NC contact 2699 0062A	1509 4080A	Included
800 A / B6 <sub>DS</sub>	8 P	26P1 8080A	26P2 8080A		2698 4199A	
1250 A / B6 <sub>DS</sub>	8 P	26P1 8120A	26P2 8120A			
2000 A / B7 <sub>DS</sub>	8 P	26P1 8200A	26P2 8200A			

(1) Kit 1 includes: Switch body + direct handle + Bridging bars to be added in KIT 1 & KIT 2.

(2) Kit 2 includes Switch body + external handle + 200 mm shaft + Bridging bars to be added in KIT 1 & KIT 2.

#### Also available

> For 3200 A rating consult us.

## Accessories

### Direct operation handle

Frame size	Handle type	Handle colour	Reference
B4 ... B5 - B5 <sub>DS</sub>	B2 type	Black	2699 <b>5052A</b>
B6 ... B7 - B6 <sub>DS</sub> ... B7 <sub>DS</sub>	C2 type	Black	2799 <b>7012A</b>



### 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 only possible by defeating the locking function using a tool (authorised persons only). The interlocking function is restored when the door is re-closed.



#### Front operation

Frame size	Handle type	Handle colour	Degree of protection	Reference
B4 ... B5 - B5 <sub>DS</sub>	S2	Black	IP55	1421 <b>2111A</b>
B6 ... B7	S4	Black	IP65	1443 <b>3111A</b>
B6 <sub>DS</sub> ... B7 <sub>DS</sub>	V1	Black	IP65	2799 <b>7145A</b>

### Shaft for external handle

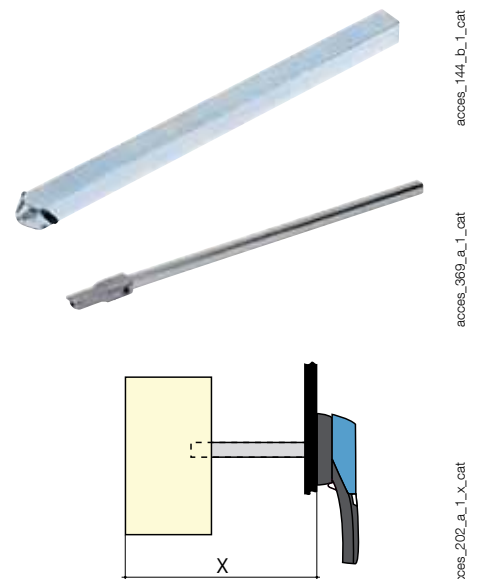
#### Use

Standard lengths:

- 200 mm,
- 320 mm,
- 400 mm.

Other lengths: Please consult us.

Frame size	Handle type	Dimension X (mm)	Length (mm)	Reference
B4	S2	150 ... 295	200	1400 <b>1020A</b>
B4	S2	150 ... 415	320	1400 <b>1032A</b>
B5	S2	203 ... 328	200	1400 <b>1020A</b>
B5	S2	203 ... 448	320	1400 <b>1032A</b>
B6	S4	220 ... 343	200	1401 <b>1520A</b>
B6	S4	220 ... 463	320	1401 <b>1532A</b>
B7	S4	305 ... 366	200	1401 <b>1520A</b>
B7	S4	305 ... 485	320	1401 <b>1532A</b>
B5 <sub>DS</sub>	S2	406 ... 467	200	1400 <b>1020A</b>
B5 <sub>DS</sub>	S2	406 ... 589	320	1401 <b>1032A</b>
B6 <sub>DS</sub>	V1	508 ... 714	320	4199 <b>3018A</b>
B7 <sub>DS</sub>	V1	508 ... 714	320	4199 <b>3018A</b>



# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications  
from 100 to 2000 A, up to 1500 VDC

## Accessories (continued)

### Auxiliary contact

#### Use

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

#### Characteristics

IP2 with front operation.

#### Connection to the control circuit

By 6.35 mm fast-on terminal.

#### Electrical characteristics

30 000 operations.



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#### NO/NC changeover auxiliary contacts

Frame size	Position AC	Type	Reference
B4 ... B7	1 contact	NO/NC	2699 0031A
B4 ... B7	2 contacts	NO/NC	2699 0032A
B5 <sub>DS</sub> ... B7 <sub>DS</sub>	1 contact	NO/NC	2699 0061A
B5 <sub>DS</sub> ... B7 <sub>DS</sub>	2 contacts	NO/NC	2699 0062A

### Terminal screen

#### Use

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

Frame size	No. of poles	Position	No of pieces	Reference
B4	2 P	top or bottom	1	2698 3020A
B4	4 P	top or bottom	1	2698 4020A
B5	3 P	top	1	2698 3041A
B5	3 P	bottom	1	2698 8041A
B5	4 P	top or bottom	1	2698 4050A
B6	4 P	top or bottom	1	2698 4080A
B7	4 P	top or bottom	1	2698 4120A
B5 <sub>DS</sub>	8 P	top and bottom	2	1509 4063A
B6 <sub>DS</sub>	8 P	top and bottom	2	1509 4080A
B7 <sub>DS</sub>	8 P	top and bottom	2	2698 4199A



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Accessories (continued)

Bridging bars for connecting poles in series

**Use**

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

<sup>(1)</sup> Other connections: refer to mounting instructions.

1000 VDC

Frame size	Rating (A)	Quantity to be ordered to connect 2 poles in series	Fig.	Reference
<b>1 PV circuit</b>				
B4	100	-(1)	-	-(1)
B4	160	-(1)	-	-(1)
B4	250	-(1)	-	-(1)
B4	315	-(1)	-	-(1)
B4	400	2	1	2609 0025A
B4	500	2	1	2609 0025A
B5	630	1	2	2609 0080A
B5	800	1	2	2609 0080A
B6	1250	1	3	2609 1100A
B7	2000	1	3	2609 1200A

<sup>(1)</sup> Bridging bars not needed.

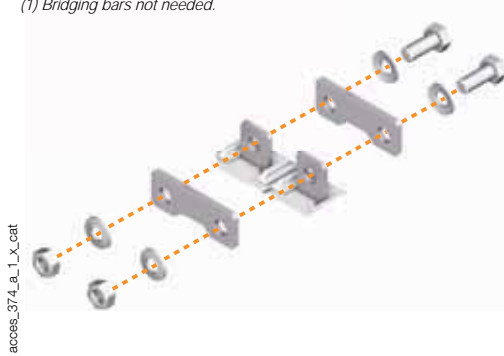


Fig. 1

1500 VDC

Frame size	Rating (A)	Quantity to be ordered to connect 2 poles in series	Fig.	Reference
<b>1 PV circuit</b>				
B5	275	1	5	2709 0027A
B5	315	1	5	2709 0027A
B5	400	1	5	2709 0027A
B5	500	1	4	2709 0045A
B5 <sub>DS</sub>	630	1	2	2609 0080A
B6 <sub>DS</sub>	800	1	3	2609 1100A
B6 <sub>DS</sub>	1250	1	3	2609 1100A
B7 <sub>DS</sub>	2000	1	3	2609 1200A

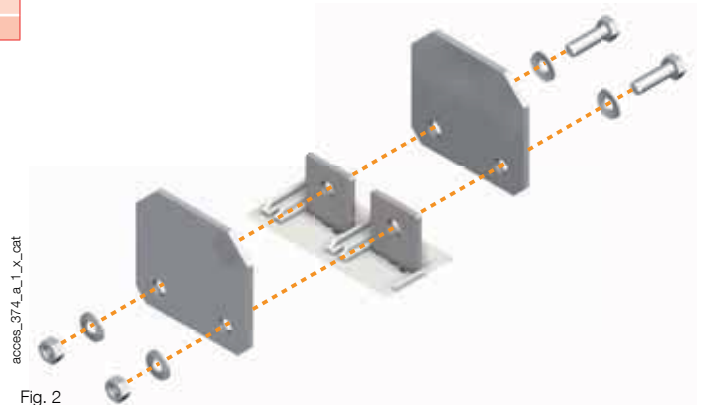


Fig. 2

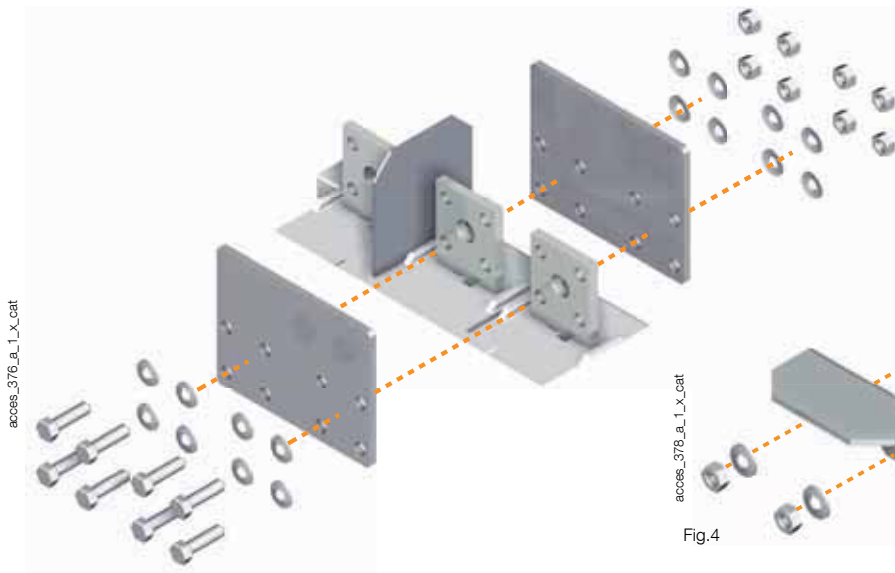


Fig. 3

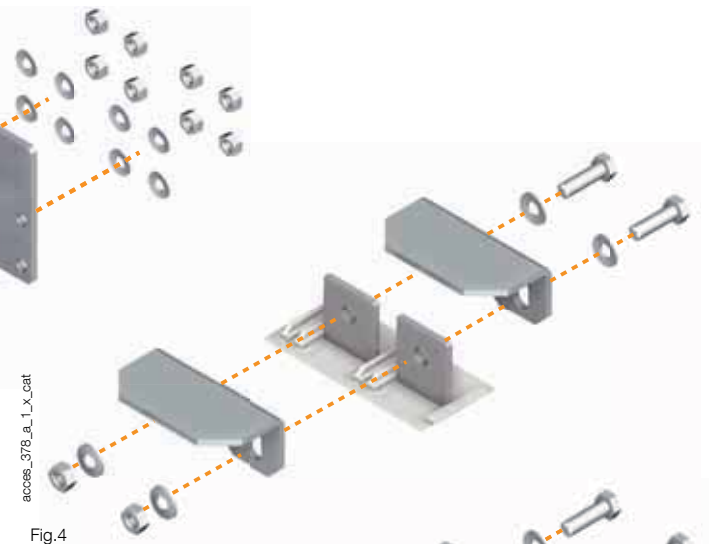


Fig. 4

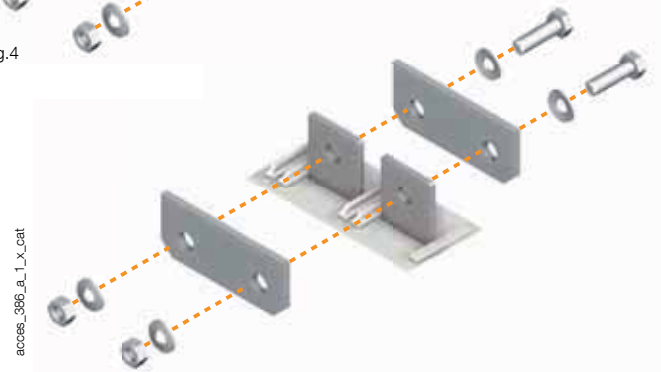


Fig. 5

# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications  
from 100 to 2000 A, up to 1500 VDC

## Characteristics

### Characteristics according to IEC 60947-3

Rated current I <sub>n</sub>			100 A				160 A			
Thermal current at 40°C (A)			100				160			
Thermal current at 50°C (A)			100				160			
Thermal current at 60°C (A)			100				160			
Rated insulation voltage U <sub>i</sub> (V)			1500				1500			
Rated impulse withstand voltage U <sub>imp</sub> (kV)			12				12			
Number of circuits	Rated voltage	Utilisation category	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	100	1 P + ; 1 P	2 P	B4	160	1 P + ; 1 P	2 P	B4
<b>Short-circuit capacity (without protection)</b>										
Rated short-time withstand current 0.3 s. (kA eff)			10				10			
Rated short-time withstand current 1 s. (kA eff)			5				5			
<b>Connection</b>										
Maximum Cu rigid cable cross-section (mm <sup>2</sup> )			35				70			
Maximum Cu busbar width (mm)			32				32			
Tightening torque min (Nm)			20				20			
Tightening torque max (Nm)			26				26			
<b>Mechanical characteristics</b>										
Durability (number of operating cycles)			10 000				10 000			
Operating effort (Nm)			10				10			
Weight of a 2 pole device (kg)			1.8				1.8			

Rated current I <sub>n</sub>			250 A				275 A			
Thermal current at 40°C (A)			250				275			
Thermal current at 50°C (A)			250				275			
Thermal current at 60°C (A)			250				275			
Rated insulation voltage U <sub>i</sub> (V)			1500				1500			
Rated impulse withstand voltage U <sub>imp</sub> (kV)			12				12			
Number of circuits	Rated voltage	Utilisation category	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	250	1 P + ; 1 P	2 P	B4	275	1 P + ; 1 P -	3 P	B5
1 circuit	1500 VDC	DC-21 B	-	-	-	-	275	2 P + ; 1 P -	3 P	B5
<b>Short-circuit capacity (without protection)</b>										
Rated short-time withstand current 0.3 s. (kA eff)			10				10			
Rated short-time withstand current 1 s. (kA eff)			5				5			
<b>Connection</b>										
Maximum Cu rigid cable cross-section (mm <sup>2</sup> )			120				185			
Maximum Cu busbar width (mm)			32				32			
Tightening torque min (Nm)			20				20			
Tightening torque max (Nm)			26				26			
<b>Mechanical characteristics</b>										
Durability (number of operating cycles)			10 000				10 000			
Operating effort (Nm)			10				10			
Weight of a 2 pole device (kg)			1.8				-			
Weight of a 3 pole device (kg)			-				6			

## Characteristics according to IEC 60947-3 (continued)

<b>Rated current I<sub>n</sub></b>	<b>315 A</b>	<b>400 A</b>
<b>Thermal current at 40°C (A)</b>	<b>315</b>	<b>400</b>
<b>Thermal current at 50°C (A)</b>	<b>315</b>	<b>400</b>
<b>Thermal current at 60°C (A)</b>	<b>315</b>	<b>400</b>
Rated insulation voltage U <sub>i</sub> (V)	1500	1500
Rated impulse withstand voltage U <sub>imp</sub> (kV)	12	12

Number of circuits	Rated voltage	Utilisation category	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	315	1 P + ; 1 P -	2 P	B4	400	2 P + ; 2 P -	4 P	B4
1 circuit	1500 VDC	DC-21 B	-	-	-	-	400	2 P + ; 1 P -	3 P	B5

### Short-circuit capacity (without protection)

Rated short-time withstand current 0.3 s. (kA eff)	10	-
Rated short-time withstand current 1 s. (kA eff)	5	10
Rated peak withstand current (kA peak) <sup>(1)</sup>	30	30

### Connection

Maximum Cu rigid cable cross-section (mm <sup>2</sup> )	185	240
Maximum Cu busbar width (mm)	32	32
Tightening torque min (Nm)	20	20
Tightening torque max (Nm)	26	26

### Mechanical characteristics

Durability (number of operating cycles)	10 000	5 000
Operating effort (Nm)	10	10
Weight of a 2 pole device (kg)	1.8	-
Weight of a 3 pole device (kg)	-	3.8 (B5)
Weight of a 4 pole device (kg)	-	2.3

(1) For a rated operational voltage U<sub>o</sub> = 400 VAC.

<b>Rated current I<sub>n</sub></b>	<b>500 A</b>	<b>630 A</b>
<b>Thermal current at 40°C (A)</b>	<b>500</b>	<b>630</b>
<b>Thermal current at 50°C (A)</b>	<b>500</b>	<b>630</b>
<b>Thermal current at 60°C (A)</b>	<b>B4: 475 / B5: 500</b>	<b>560</b>
Rated insulation voltage U <sub>i</sub> (V)	1500	1500
Rated impulse withstand voltage U <sub>imp</sub> (kV)	12	12

Number of circuits	Rated voltage	Utilisation category	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size	I <sub>e</sub> (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	500	2 P + ; 2 P -	4 P	B5	630	2 P + ; 2 P -	4 P	B5
1 circuit	1500 VDC	DC-21 B	500	2 P + ; 1 P -	3 P	B5	630	4 P + ; 4 P -	8 P	B5 <sub>DS</sub>
2 circuits	1000 VDC	DC-21 B	-	-	-	-	630	2 P + ; 2 P -	8 P	B5 <sub>DS</sub>

### Short-circuit capacity (without protection)

Rated short-time withstand current 1 s. (kA eff)	10	10
--	----	----

### Connection

Maximum Cu rigid cable cross-section (mm <sup>2</sup> )	2x150	2x185
Maximum Cu busbar width (mm)	32	40
Tightening torque min (Nm)	20	40
Tightening torque max (Nm)	26	40

### Mechanical characteristics

Durability (number of operating cycles)	5 000	5 000
Operating effort (Nm)	10	14.5
Weight of a 3 pole device (kg)	3.8 (B5)	-
Weight of a 4 pole device (kg)	2.3	3.8
Weight of an 8 pole device (kg)	-	15

# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications  
from 100 to 2000 A, up to 1500 VDC

## Characteristics (continued)

### Characteristics according to IEC 60947-3 (continued)

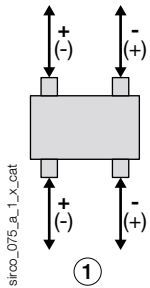
Rated current In			800 A				1250 A			
Thermal current at 40°C (A)			800				1250			
Thermal current at 50°C (A)			800				1250			
Thermal current at 60°C (A)			B5: 650 / B6: 800				1125			
Rated insulation voltage $U_i$ (V)			1500				1500			
Rated impulse withstand voltage $U_{imp}$ (kV)			12				12			
Number of circuits	Rated voltage	Utilisation category	$I_e$ (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size	$I_e$ (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	800	2 P + ; 2 P -	4 P	B5	1250 A	2 P + ; 2 P -	4 P	B6
1 circuit	1500 VDC	DC-21 B	800	4 P + ; 4 P -	8 P	B6 <sub>DS</sub>	1250 A	4 P + ; 4 P -	8 P	B6 <sub>DS</sub>
2 circuits	1000 VDC	DC-21 B	800	2 P + ; 2 P -	8 P	B6 <sub>DS</sub>	1250 A	2 P + ; 2 P -	8 P	B6 <sub>DS</sub>
Short-circuit capacity (without protection)										
Rated short-time withstand current 1 s. (kA eff)			10				10			
Connection										
Maximum Cu rigid cable cross-section (mm <sup>2</sup> )			2x240				2x240			
Maximum Cu busbar width (mm)			50				63			
Tightening torque min (Nm)			40				40			
Tightening torque max (Nm)			45				45			
Mechanical characteristics										
Durability (number of operating cycles)			5 000				4 000			
Operating effort (Nm)			14.5				37			
Weight of a 4 pole device (kg)			3.8				3.8			
Weight of an 8 pole device (kg)			15				15			

Rated current In			2000 A			
Thermal current at 40°C (A)			2000			
Thermal current at 50°C (A)			1850			
Thermal current at 60°C (A)			1600			
Rated insulation voltage $U_i$ (V)			1500			
Rated impulse withstand voltage $U_{imp}$ (kV)			12			
Number of circuits	Rated voltage	Utilisation category	$I_e$ (A)	No. of pole(s) in series per circuit	No. of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	2000 A	2 P + ; 2 P -	4 P	B7
1 circuit	1500 VDC	DC-21 B	2000 A	4 P + ; 4 P -	8 P	B7 <sub>DS</sub>
2 circuits	1000 VDC	DC-21 B	2000 A	2 P + ; 2 P -	8 P	B7 <sub>DS</sub>
Short-circuit capacity (without protection)						
Rated short-time withstand current 1 s. (kA eff)			10			
Connection						
Maximum Cu busbar width (mm)			100			
Tightening torque min (Nm)			40			
Tightening torque max (Nm)			45			
Mechanical characteristics						
Durability (number of operating cycles)			4000			
Operating effort (Nm)			56			
Weight of a 4 pole device (kg)			22			
Weight of an 8 pole device (kg)			50			

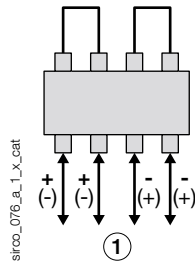
Pole connections in series

1 PV circuit - 1000 VDC

B4 - 2P

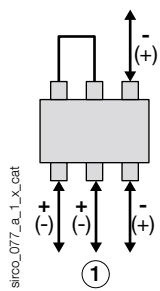


B4-B7 - 4P

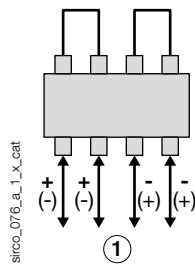


1 PV circuit - 1500 VDC

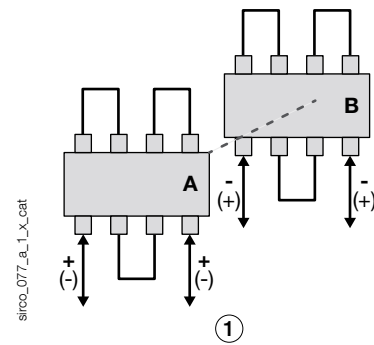
B5 - 3P



B5 - 4P

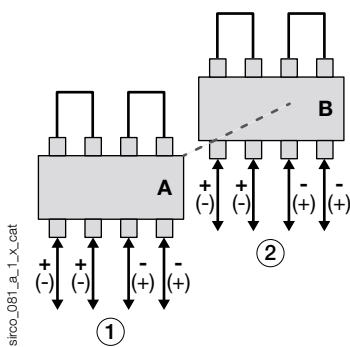


B5<sub>DS</sub>-B7<sub>DS</sub> - 8P



2 PV circuits - 1000 VDC

B5<sub>DS</sub>-B7<sub>DS</sub> - 8P



A. Front switch.  
B. Rear switch.

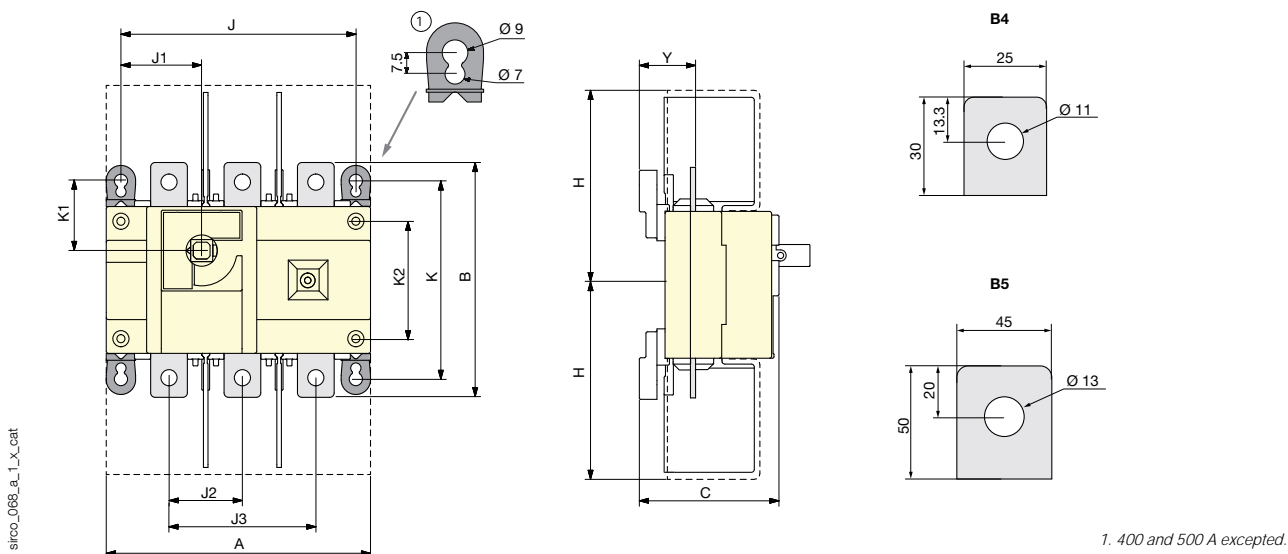
1. Utility 1  
2. Utility 2

# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications  
from 100 to 2000 A, up to 1500 VDC

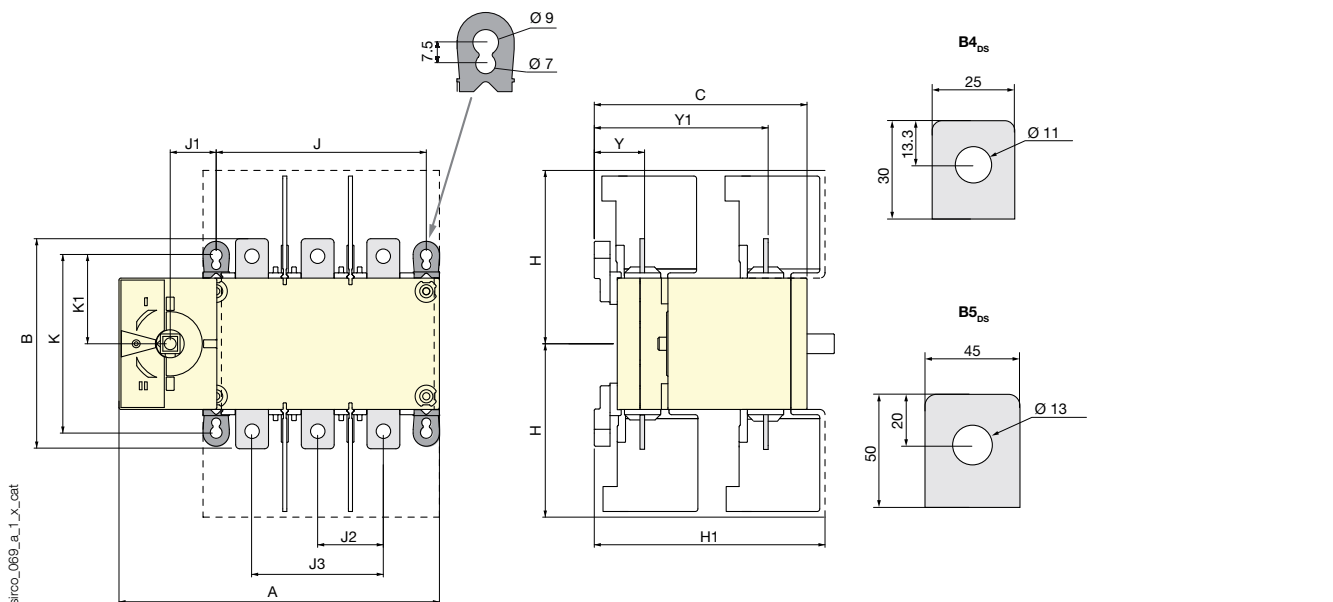
## Dimensions (mm)

### B4 - B5



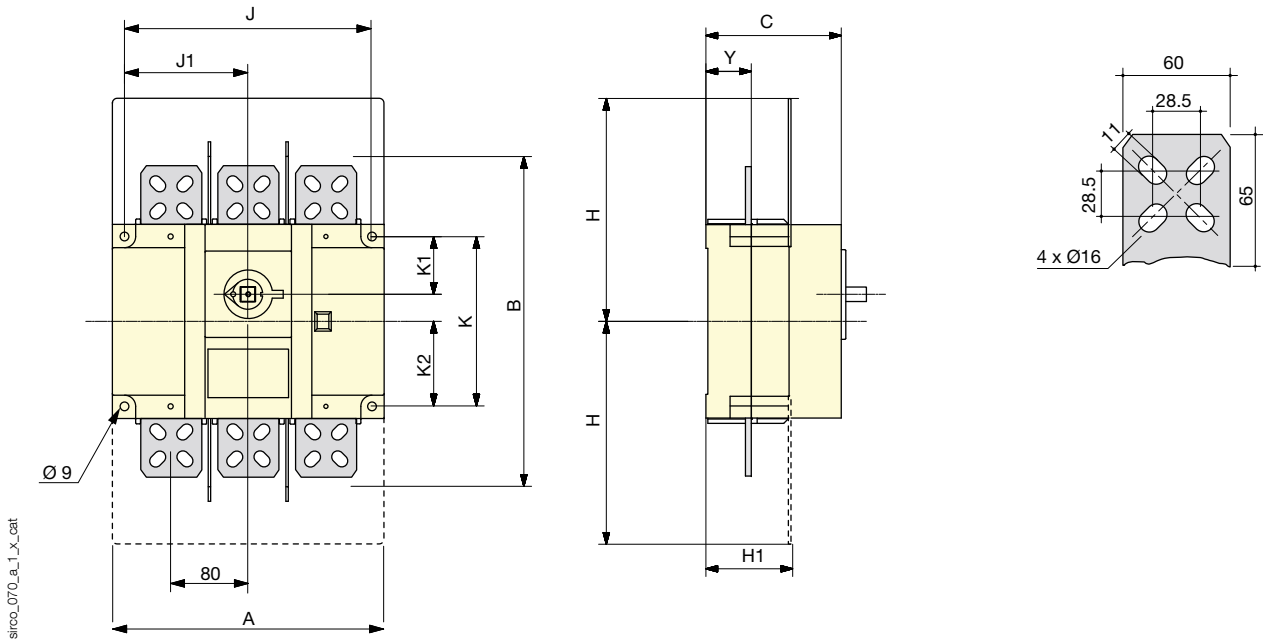
Frame size	No. of poles	A	B	C	H	J	J1	J2	J3	K	K1	K2	Y
B4	2 P	180	160	95	132.5	160	55	-	100	135	48	80	38.5
B4	4 P	230	170	79	132.5	210	105	50	-	-	-	80	22.5
B5	3 P	230	260	126.5	203	210	75	65	-	195	67.5	80	51.5
B5	4 P	290	260	126.5	203	270	135	65	-	195	67.5	80	51.5

### B5<sub>DS</sub>



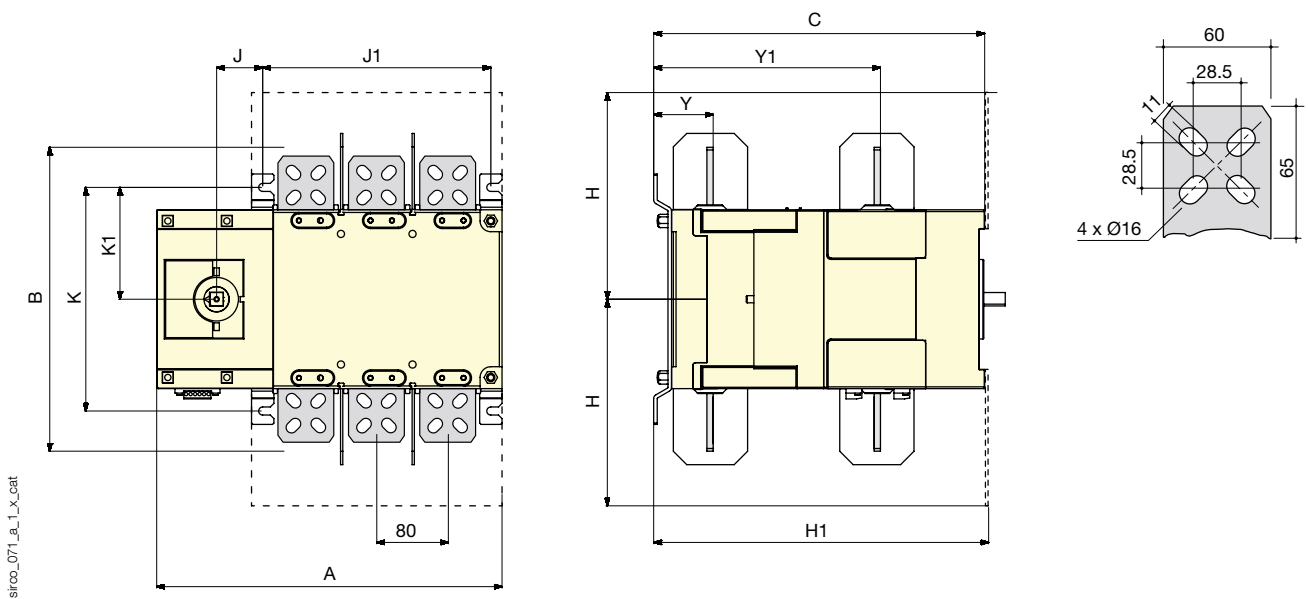
Frame size	No. of poles	A	B	C	H	H1	J	J1	J2	J3	K	K1	Y	Y1
B5 <sub>DS</sub>	8 P	361	260	239.2	203	165.5	270	35	65	-	195	97.5	52.7	189.6

**B6**



Frame size	No. of poles	A	B	C	H	H1	J	J1	K	K1	K2	Y
B6	4 P	630	340	139	270	145	335	167.5	175	59.5	28	46.5

**B6<sub>DS</sub>**



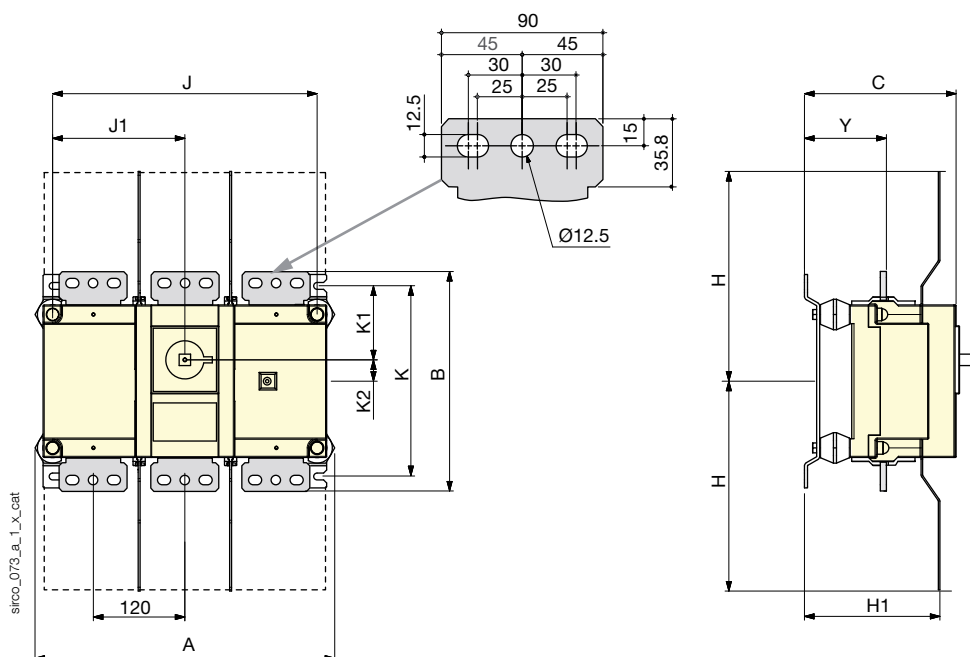
Frame size	No. of poles	A	B	C	H	H1	J	J1	K	K1	Y	Y1
B6 <sub>ds</sub>	8 P	466	340	370	270	347	335	51.5	250	125	66.5	253.5

# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications  
from 100 to 2000 A, up to 1500 VDC

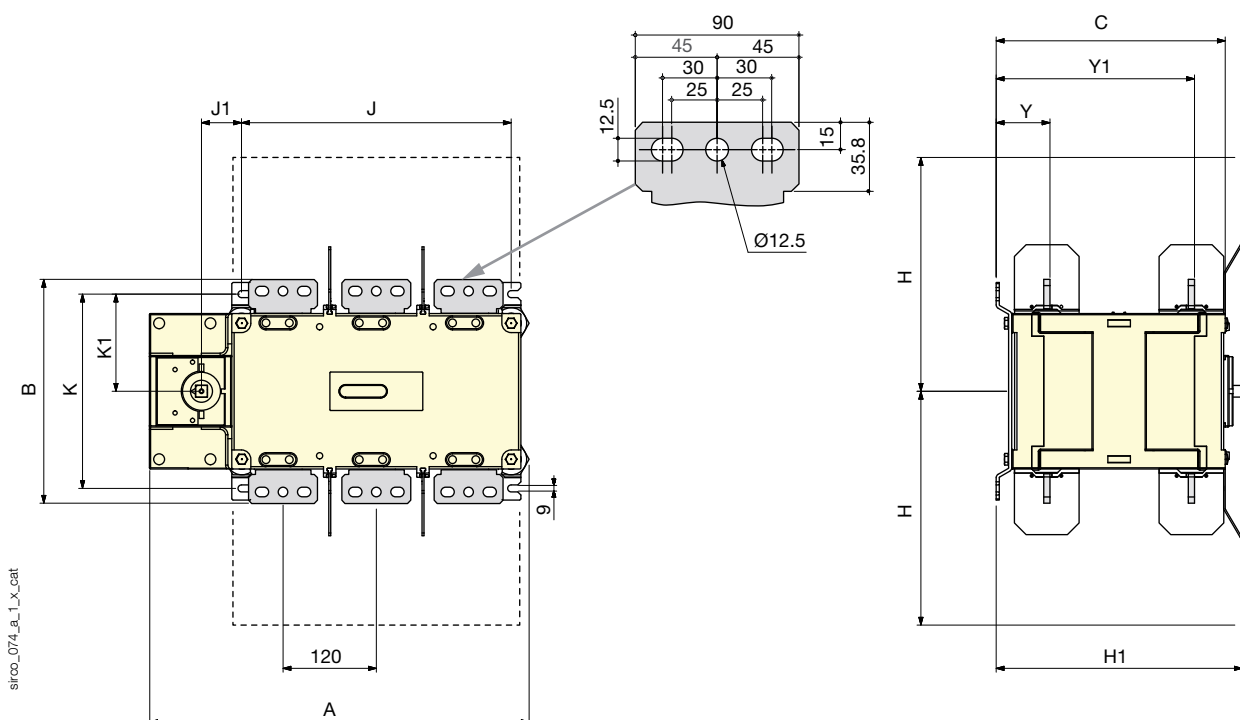
## Dimensions (mm) (continued)

### B7



Frame size	No. of poles	A	B	C	H	H1	H2	J	J1	K	K1	K2	Y
B7	4 P	513	288	200	302	211	203.5	467	233.5	250	97	28	107.5

### B7<sub>DS</sub>



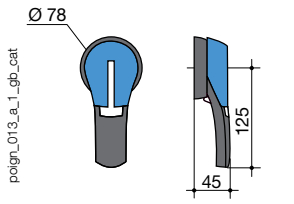
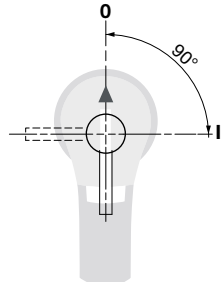
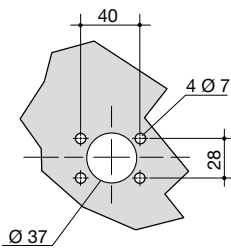
Frame size	No. of poles	A	B	C	H	H1	J	J1	K	K1	Y	Y1
B7 <sub>DS</sub>	8 P	608.5	288	333	301	389	467	51.5	250	125	107.5	293.5

Dimensions of SIRCO PV 3200A - 1000 VDC - B8, please consult us.

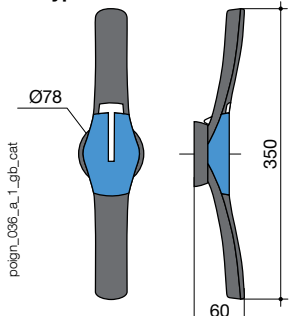
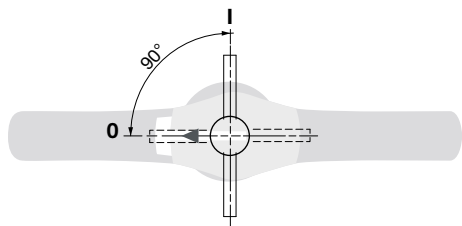
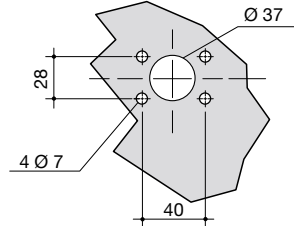


Dimensions for external handles (mm)

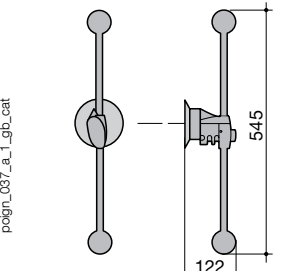
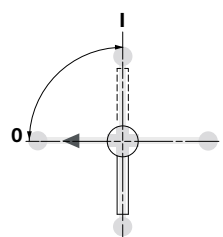
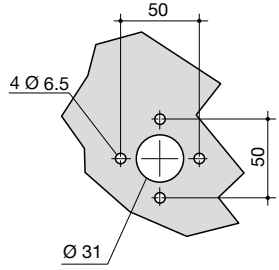
B4 - B5

Handle type	Front operation Direction of operation	Door drilling
<p><b>S2 type</b></p> <p>poign_013_a_1_gb_cat</p> 		

B5<sub>DS</sub> - B6 - B7

Handle type	Front operation Direction of operation	Door drilling
<p><b>S4 type</b></p> <p>poign_036_a_1_gb_cat</p> 		

B6<sub>DS</sub> - B7<sub>DS</sub>

Handle type	Front operation Direction of operation	Door drilling
<p><b>V1 type</b></p> <p>poign_037_a_1_gb_cat</p> 		

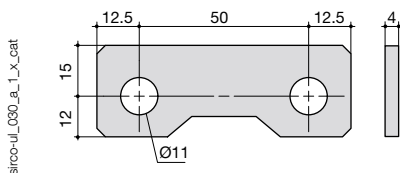
# SIRCO PV IEC 60947-3

Load break and isolation switches for photovoltaic applications  
from 100 to 2000 A, up to 1500 VDC

## Bridging bars (mm)

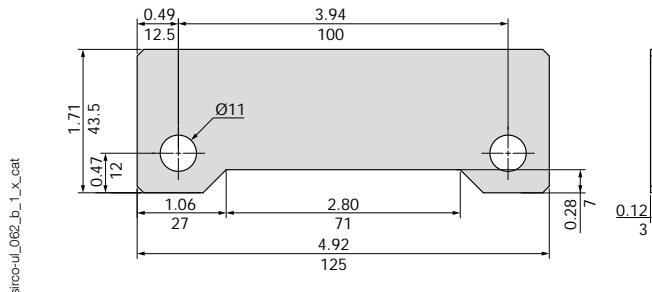
### B4

2609 0025A



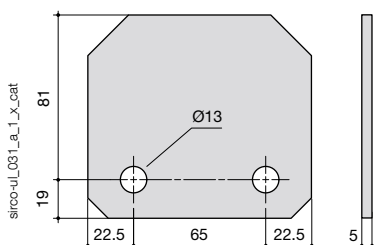
### B5

2709 0045A



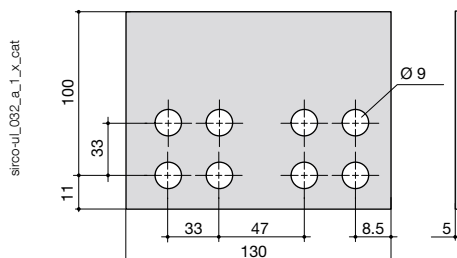
### B5 - B5<sub>DS</sub>

2609 0080A



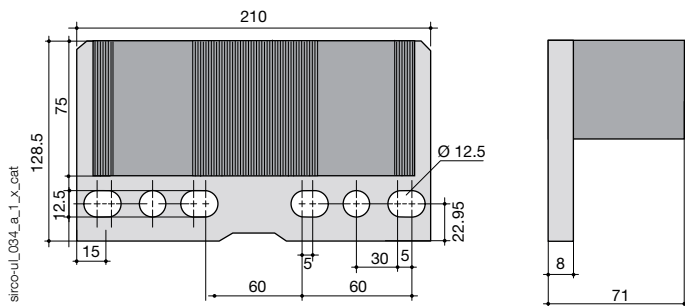
### B6 - B6<sub>DS</sub>

2609 1100A



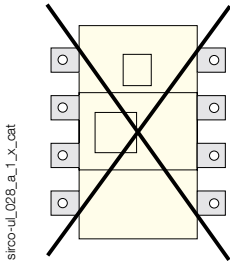
### B7 - B7<sub>DS</sub>

2609 1200A

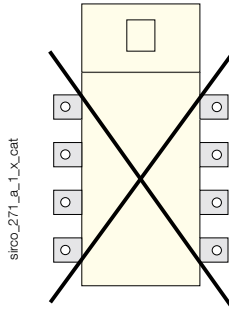


## Mounting orientation

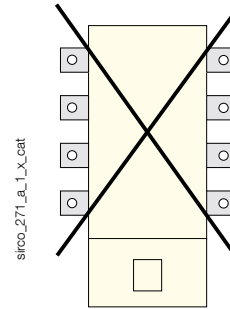
### All frames



### B5<sub>DS</sub>



### B6<sub>DS</sub> - B7<sub>DS</sub>





# SIRCORDER

Manually operated transfer switching equipment  
from 63 to 3200 A

Transfer switches



SIRCORDER  
4 P 400 A



SIRCORDER  
4 P 400 A

## The solution for

- > Manufacturing
- > Power distribution



## Strong points

- > Complete range
- > Easy to connect
- > Stable positions
- > On-load and isolation switching

## Conformity to standards

- > IEC 60947-6-1
- > IS/IEC 60947-3



## Enclosed solutions

- > Adapted to harsh mechanical risk and dust hazards
- > Isolation and padlocking
- > Top and bottom extension boxes available
- > Colour: STR RAL 7035
- > Cable gland plates: top & bottom
- > Steel, thickness 1.2 to 2.0 mm
- > Coating: epoxy polyester powder
- > 4 wall mounting brackets provided
- > Door: solid with hinges
- > Metal cam lock



## Function

SIRCORDER products are manually operated transfer switches with positive break indication. There are 3 ranges in the series:

- SIRCORDER for open transition switching (I-0-II) available in 3 or 4 pole,
- SIRCORDER for overlapping contact switching (I-I+II-II),

For applications where both sources are synchronised and there is to be no interruption to the load supply during transfer - available in 3 or 4 pole,

- SIRCORDER Bypass. This combination of three interlocked load break switches provides 3+6 or 4+8 poles for bypass applications.

They provide on-load transfer between two sources for any low voltage power circuit, as well as safety isolation by double breaking per pole. Other applications include source inversion (e.g. to change the direction of a motor) or grounding/earthing.

## Advantages

### A complete range

There are 3 SIRCORDER models to meet every need: The standard model I-0-II, the overlapping contact model I-I+II-II and the Bypass model.

### Easy to connect

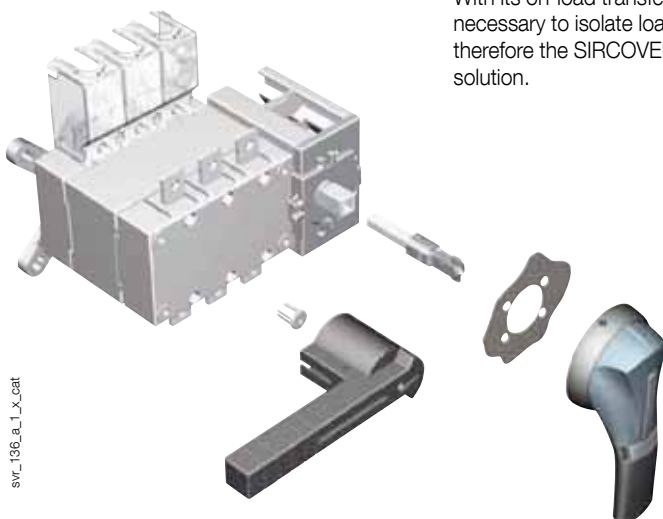
For ratings of 2000 to 3200 A, we offer copper bar connection pieces. This gives you the option of different connection methods - flat, edgewise with top or bottom bridging.

### Stable positions

SIRCORDER devices have three stable positions, unaffected by voltage fluctuations and vibrations, protecting your loads from network disturbances.

### On-load and isolation switching

With its AC-23 and AC-33 characteristics, tested according to standards IEC 60947-3 and IEC 60947-6-1, the SIRCORDER enables safe on-load switching for any type of load. With its on-load transfer capabilities, it is not necessary to isolate loads prior to transfer therefore the SIRCORDER offers an economical solution.



svr\_136\_a\_1\_x\_cat

## References - SIRCOVER kit and enclosed solutions

### SIRCOVER I-0-II

Rating (A) / Frame size	No. of poles	Kit 1 with direct handle <sup>(1)</sup>	Kit 2 with external handle <sup>(2)</sup>	Enclosed solutions		
				Enclosure size	Enclosed switch	Top or bottom extension box <sup>(5)</sup>
63 A / B2	4 P	41K1 4006A <sup>(3)</sup>	41K2 4006A <sup>(3)</sup>	Size 1	41E1 4006A	41E1 0001A
100 A / B2	4 P	41K1 4010A <sup>(3)</sup>	41K2 4010A <sup>(3)</sup>		41E1 4010A	
125 A / B2	4 P	41K1 4011A <sup>(3)</sup>	41K2 4011A <sup>(3)</sup>		41E1 4011A	
125 A / B3	3 P	41K1 3013A	41K2 3013A	Size 2	41E1 3013A	41E1 0002A
	4 P	41K1 4013A	41K2 4013A		41E1 4013A	
160 A / B3	3 P	41K1 3016A	41K2 3016A		41E1 3016A	
	4 P	41K1 4016A	41K2 4016A		41E1 4016A	
200 A / B3	3 P	41K1 3020A	41K2 3020A		41E1 3020A	
	4 P	41K1 4020A	41K2 4020A		41E1 4020A	
250 A / B4	3 P	41K1 3025A	41K2 3025A	Size 3	41E1 3025A	41E1 0003A
	4 P	41K1 4025A	41K2 4025A		41E1 4025A	
315 A / B4	3 P	41K1 3031A	41K2 3031A		41E1 3031A	
	4 P	41K1 4031A	41K2 4031A		41E1 4031A	
400 A / B4	3 P	41K1 3040A	41K2 3040A	Size 4	41E1 3040A	41E1 0004A
	4 P	41K1 4040A	41K2 4040A		41E1 4040A	
500 A / B5	3 P	41K1 3050A	41K2 3050A	Size 5	41E1 3050A	41E1 0005A
	4 P	41K1 4050A	41K2 4050A		41E1 4050A	
630 A / B5	3 P	41K1 3063A	41K2 3063A		41E1 3063A	
	4 P	41K1 4063A	41K2 4063A		41E1 4063A	
800 A / B6	3 P	41K1 3080A	41K2 3080A	Size 6	41E1 3080A	41E1 0006A
	4 P	41K1 4080A	41K2 4080A		41E1 4080A	
1000 A / B6	3 P	41K1 3100A	41K2 3100A		41E1 3100A	
	4 P	41K1 4100A	41K2 4100A		41E1 4100A	
1250 A / B6	3 P	41K1 3120A	41K2 3120A	Size 7	41E1 3120A	41E1 0007A
	4 P	41K1 4120A	41K2 4120A		41E1 4120A	
1600 A / B7	3 P	41K1 3160A	41K2 3160A		41E1 3160A	
	4 P	41K1 4160A	41K2 4160A		41E1 4160A	
2000 A / B8	3 P	41K1 3200A <sup>(4)</sup>	41K2 3200A <sup>(4)</sup>	Size 8	41E1 3200A	41E1 0008A
	4 P	41K1 4200A <sup>(4)</sup>	41K2 4200A <sup>(4)</sup>		41E1 4200A	
2500 A / B8	3 P	41K1 3250A <sup>(4)</sup>	41K2 3250A <sup>(4)</sup>		41E1 3250A	
	4 P	41K1 4250A <sup>(4)</sup>	41K2 4250A <sup>(4)</sup>		41E1 4250A	
3200 A / B8	3 P	41K1 3320A <sup>(4)</sup>	41K2 3320A <sup>(4)</sup>		41E1 3320A	
	4 P	41K1 4320A <sup>(4)</sup>	41K2 4320A <sup>(4)</sup>		41E1 4320A	

(1) Kit 1 includes: Switch body + direct handle + interphase barriers + bridging bars.

(2) Kit 2 includes Switch body + external handle + 200 mm shaft + interphase barriers + bridging bars.

(3) Without interphase barriers.

(4) Without bridging bars.

(5) Optional extension boxes may be attached to the Top and/or Bottom of the enclosure.

## Also available<sup>(1)</sup>

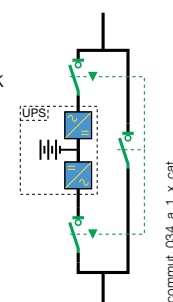
### SIRCOVER I-I+II-II

From 125 to 1600 A: with these manual changeover switches you can transfer a normal source to a backup source without any interruption. All you have to do is ensure that both sources are synchronised.

(1) For any request on these ranges please consult us.

### SIRCOVER Bypass

From 125 to 1600 A: with these manual changeover switches you can isolate then switch a backup power supply, such as a UPS, using 3 interlocking load break switches assembled into one very compact device. There are two bypass models, one with open transition switching and the other with contact overlapping.



# SIRCOVER

Manually operated transfer switching equipment  
from 63 to 3200 A

## Accessories

### Direct operation handle

SIRCOVER I-0-II				
Rating (A)	Frame size	Handle colour	Handle type	Reference
63 ... 125	B2	Black	SH0	4299 0002A
125 ... 630	B3 ... B5	Black	B3	4199 5012A
800 ... 1600	B6 ... B7	Black	C1	2799 7052A
2000 ... 3200	B8	Black	C2	2799 7012A <sup>(1)</sup>

(1) Double lever handle.



### External operation handle

#### Use

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

SIRCOVER I-0-II				
Rating (A)	Frame size	External IP <sup>(1)</sup>	Handle type	Reference
63 ... 125	B2	IP42	SH0	4259 0002A
125 ... 630	B3 ... B5	IP55	S2	1421 2113A
800 ... 1600	B6 ... B7	IP65	S4	1443 3113A <sup>(2)</sup>
2000 ... 3200	B8	IP65	S5	1453 8113A <sup>(2)</sup>

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

(2) Double lever handle.



### Shaft for external operation

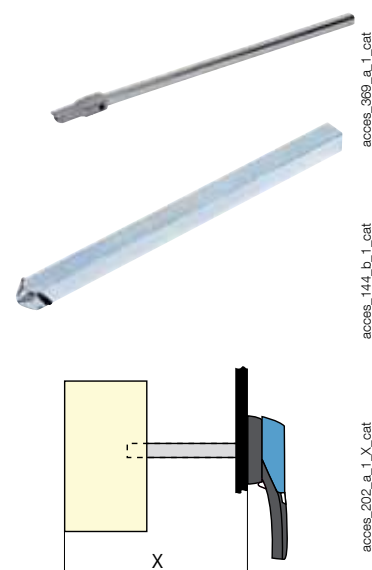
#### Use

Standard lengths:

- 200 mm,
- 320 mm.

Other lengths available: consult us.

SIRCOVER I-0-II				
Rating (A)	Frame size	Length (mm)	Side X (mm)	Reference
125 ... 400	B3 ... B4	200	210 ... 310	1400 1020A
125 ... 400	B3 ... B4	320	210 ... 430	1400 1032A
500 ... 630	B5	200	280 ... 390	1400 1020A
500 ... 630	B5	320	280 ... 510	1400 1032A
800 ... 1600	B6 ... B7	200	425 ... 577	1401 1520A
800 ... 1600	B6 ... B7	320	425 ... 697	1401 1532A
2000 ... 3200	B8	200	653 ... 803	2799 3015A
2000 ... 3200	B8	320	653 ... 923	2799 3018A



## Accessories (continued)

### Bridging bars

#### Use

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

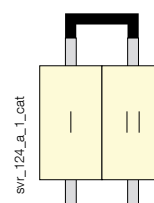
SIRCOVER I-0-II				
Rating (A)	Frame size	No. of poles	Cross section (mm)	Reference
63 ... 125	B2	4 P	12.7 x 2.6	4109 4006A
125 ... 200	B3	3 P	20 x 2.5	4109 3019A
125 ... 200	B3	4 P	20 x 2.5	4109 4019A
250	B4	3 P	25 x 2.5	4109 3025A
250	B4	4 P	25 x 2.5	4109 4025A
315 ... 400	B4	3 P	32 x 5	4109 3039A
315 ... 400	B4	4 P	32 x 5	4109 4039A
500	B5	3 P	32 x 5	4109 3050A
500	B5	4 P	32 x 5	4109 4050A
630	B5	3 P	50 x 5	4109 3063A
630	B5	4 P	50 x 5	4109 4063A
800 ... 1000	B6	3 P	50 x 6	4109 3080A
800 ... 1000	B6	4 P	50 x 6	4109 4080A
1250	B6	3 P	60 x 8	4109 3120A
1250	B6	4 P	60 x 8	4109 4120A
1600	B7	3 P	90 x 10	4109 3160A
1600	B7	4 P	90 x 10	4109 4160A



svr\_205\_a.eps



access\_041\_a\_1\_cat



svr\_124\_a\_1\_cat

### Auxiliary contact

#### Use

Pre-breaking and signalling of positions I and II: 1 to 2 NO/NC auxiliary contacts in each position.

Low level AC: consult us.

#### Connection to the control circuit

By 6.35 mm fast-on terminal.



svr\_058\_a\_1\_cat

#### Characteristics

Rating (A)	Frame size	Nominal current (A)	Operating current I <sub>o</sub> (A)				Electrical endurance
			250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13	
63 ... 125	B2	16	16 (EN 61058-1)	-	-	-	10 000
125 ... 3200	B3 ... B8	16	12	8	14	6	30 000



access\_065\_a\_1\_cat

#### NO/NC changeover contact

Rating (A)	Frame size	Contact(s)	Reference
63 ... 125	B2	1 <sup>st</sup> / 2 <sup>nd</sup>	4209 1030A
125 ... 1600	B3 ... B7	1 <sup>st</sup> / 2 <sup>nd</sup>	4109 0021A
2000 ... 3200	B8	1 <sup>st</sup> / 2 <sup>nd</sup>	included

# SIRCOVER

Manually operated transfer switching equipment  
from 63 to 3200 A

## Copper bar connection pieces

### Use

For ratings 2000 to 3200 A.

Enables:

- Flat connection: The connection pieces provide a link between the two power terminals of the same pole (Fig. 1).
- Edgewise connection: The connection pieces provide a link between the two power terminals of the same pole and an edgewise bar connection terminal.
- Top or bottom bridging between two poles (Fig. 3).

Once installed, the power terminal is connection ready

For 3200 A rating, connection pieces (part A) are supplied as standard. Bolt sets must be ordered separately.

Connection: The quantities given in the below table refer to the number of pieces required per pole, top or bottom.

Bridging connection: The quantities given refer to the number of pieces required to complete a single bridging connection between two poles.

	Reference	2000 – 2500 A			3200 A		
		Fig. 1	Fig. 2	Fig. 3	Fig. 1	Fig. 2	Fig. 3
		Connection		Bridging connection I - II	Connection		Bridging connection I - II
Flat	Edgewise	Flat	Edgewise				
Connection - part A	2619 1200	1	1	2 <sup>(2)</sup>	included	included	included
Bolt kit 35 mm - part B	2699 1201	1 <sup>(1)</sup>		2 <sup>(2)</sup>	1 <sup>(1)</sup>		2 <sup>(2)</sup>
Bolt kit 45 mm - part B	2699 1200	1 <sup>(1)</sup>			1 <sup>(1)</sup>		
T + Bolt kit - part C	2629 1200		1	1		1	1
Bracket + Bolt kit - part D	2639 1200		1			1	
Bar + Bolt kit - part E	4109 0320			1			1

(1) Choose the bolt length according to the thickness of the bars being connected; if bar thickness is greater than 20 mm, 45 mm bolts are required.

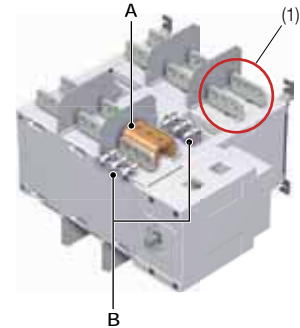
(2) For bridging connections, quantity 2 pieces are required for creating the link between the two power terminals of the same pole for switch bodies I and II.

The quantities of the applicable pieces then need to be multiplied by the number of connection points (power terminals) in order to determine the total quantity required of each part.

Example: For a 4 pole 2500 A SIRCOVER with upstream edgewise connection (Fig. 2) and downstream bridging (Fig. 3), the following quantities will be required:

Part	Upstream edgewise quantity	Downstream bridging quantity	Total quantity
A	8	8	16
B	0	8	8
C	8	4	12
D	8	0	8
E	0	4	4

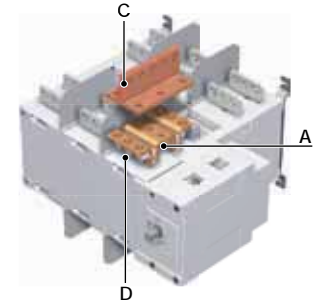
Fig. 1



access\_457\_a\_1\_x\_cat

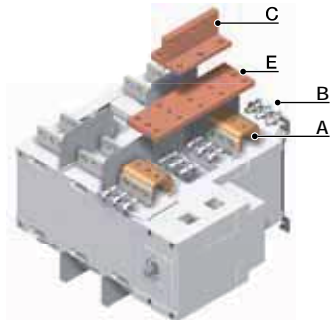
(1) Single pole connection: 1 pole (top or bottom) comprises two power terminals which are to be linked with the copper connection kit.

Fig. 2



access\_457\_a\_1\_x\_cat

Fig. 3



access\_220\_c\_1\_x\_cat



## Accessories (continued)

### Terminal shrouds

#### Use

Protection against direct contact with terminals or connecting parts.

#### Advantage

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

Rating (A)	Frame size	No. of poles	Position	Reference
63 ... 125	B2	4 P	top / bottom / front (I) / rear (II)	2994 4008A <sup>(1)(2)</sup>
125 ... 200	B3	3 P	top / bottom / front (I) / rear (II)	2694 3014A <sup>(1)(2)</sup>
125 ... 200	B3	4 P	top / bottom / front (I) / rear (II)	2694 4014A <sup>(1)(2)</sup>
250 ... 400	B4	3 P	top / bottom / front (I) / rear (II)	2694 3021A <sup>(1)(2)</sup>
250 ... 400	B4	4 P	top / bottom / front (I) / rear (II)	2694 4021A <sup>(1)(2)</sup>
500 ... 630	B5	3 P	top / bottom / front (I) / rear (II)	2694 3051A <sup>(1)(2)</sup>
500 ... 630	B5	4 P	top / bottom / front (I) / rear (II)	2694 4051A <sup>(1)(2)</sup>



access\_472\_a.eps

(1) For complete shrouding at front, rear, top and bottom, order quantity 4, if equipped with bridging bars only 3x.  
(2) For top and bottom shrouding for the front only, order quantity 2.

### Terminal screens

Rating (A) / Frame size	No. of poles	Position	Type of screens	Reference	
125 ... 200 / B3	3 P	Top and bottom	Standard	1509 3012A	
	4 P			1509 4012A	
	3 P		Wide	1509 3013A	
	4 P			1509 4013A	
250 ... 400 / B4	3 P		Standard	1509 3025A	
	4 P			1509 4025A	
	3 P		Wide	1509 3026A	
	4 P			1509 4026A	
500 ... 630 / B5	3 P		Standard	1509 3063A	
	4 P			1509 4063A	
	3 P			Wide	1509 3064A
	4 P				1509 4064A
800 ... 1250 / B6	3 P	Standard	1509 3080A		
	4 P		1509 4080A		
	3 P	Wide	1509 3081A		
	4 P		1509 4081A		
1600 / B7	3 P	Standard	1509 3160A		
	4 P		1509 4160A		
2000 ... 3200 / B8	3 P	Standard	Included		
	4 P				

#### Use

Upstream and downstream protection against direct contact with terminals or connection parts. In case of use of spreaders, use the wide screens.

For upstream and downstream protection, order quantity one.



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### Spreaders

Rating (A) / Frame size	No. of poles	Reference
125 ... 200 / B3	3 P	4106 3016A
	4 P	4106 4016A
250 / B4	3 P	4106 3025A
	4 P	4106 4025A
315 ... 400 / B4	3 P	4106 3040A
	4 P	4106 4040A
500 / B5	3 P	4106 3050A
	4 P	4106 4050A
630 / B5	3 P	4106 3063A
	4 P	4106 4063A

#### Use

They widen the terminals of the products, therefore enabling bigger Aluminium connections.



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# SIRCOVER

Manually operated transfer switching equipment  
from 63 to 3200 A

## Characteristics according to IEC 60947-3 and IEC 60947-6-1

63 to 400 A

Thermal current I <sup>th</sup> at 40°C	63 A	100 A	125 A	125 A	160 A	200 A	250 A	315 A	400 A		
Frame size	B2	B2	B2	B3	B3	B3	B4	B4	B4		
Rated insulation voltage U <sub>i</sub> (V)	800	800	800	800	800	800	1000	1000	1000		
Rated impulse withstand voltage U <sub>imp</sub> (kV)	6	6	6	8	8	8	12	12	12		
Rated operational currents I <sub>e</sub> (A) according to IEC 60947-6-1											
Rated voltage	Utilisation category		A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	
415 VAC	AC-31 B		63	100	125	125	160	200	250	315	400
415 VAC	AC-32 B		63	80	80				200	315	400
415 VAC	AC-33 B							200	200	200	
Rated operational currents I <sub>e</sub> (A) according to IEC 60947-3											
Rated voltage	Utilisation category		A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	
415 VAC	AC-21 A / AC-21 B		63/63	100/100	100/125	125/125	160/160	200/200	250/250	315/315	400/400
415 VAC	AC-22 A / AC-22 B		63/63	100/100	100/125	125/125	160/160	200/200	250/250	315/315	400/400
415 VAC	AC-23 A / AC-23 B		-/63	-/63	-/63	125/125	125/125	125/125	200/200	315/315	400/400
500 VAC	AC-21 A / AC-21 B					125/125	160/160	200/200	250/250	315/315	400/400
500 VAC	AC-22 A / AC-22 B					125/125	160/160	200/200	200/250	200/315	200/400
500 VAC	AC-23 A / AC-23 B					80/80	80/80	80/80	200/200	200/200	200/200
690 VAC <sup>(3)</sup>	AC-21 A / AC-21 B					125/125	160/160	200/200	200/200	200/200	200/200
690 VAC <sup>(3)</sup>	AC-22 A / AC-22 B					125/125	125/125	125/125	160/160	160/160	160/160
690 VAC <sup>(3)</sup>	AC-23 A / AC-23 B					63/80	63/80	63/80	125/125	125/125	125/125
220 VDC	DC-21 A / DC-21 B					125/125	160/160	200/200	250/250	250/250	250/250
220 VDC	DC-22 A / DC-22 B					125/125	160/160	200/200	250/250	250/250	250/250
220 VDC	DC-23 A / DC-23 B					125/125	125/125	125/125	200/200	200/200	200/200
440 VDC <sup>(2)</sup>	DC-21 A / DC-21 B					125/125	125/125	125/125	200/200	200/200	200/200
440 VDC <sup>(2)</sup>	DC-22 A / DC-22 B					125/125	125/125	125/125	200/200	200/200	200/200
440 VDC <sup>(2)</sup>	DC-23 A / DC-23 B					125/125	125/125	125/125	200/200	200/200	200/200
Operation power in AC-23 (kW) <sup>(4)</sup>											
At 415 VAC without AC pre-break	-/30	-/30	-/30	58/58	75/75	100/100	100/100	145/145	190/190		
At 690 VAC without AC pre-break				50/62	50/62	50/62	90/90	90/90	90/90		
Reactive power (kvar) <sup>(4)</sup>											
At 415 VAC (kvar)	-/30	-/30	-/30	60/60	75/75	100/100	125/125	150/150	200/200		
Fuse protected short-circuit withstand as per IEC 60947-3 (kA rms prospective)											
Prospective short-circuit current with gG DIN fuses at 415 VAC (kA rms)	50	25	15	100	100	50	50	50	50		
Prospective short-circuit current with gG DIN fuses at 690 VAC (kA rms)							50	50	50		
Associated fuse rating (A)	63	100	125	125	160	200	250	315	400		
Short-circuit withstand without protection as per IEC 60947-3											
Rated short-time withstand current 0.3s I <sub>cw</sub> at 415 VAC (kA rms)	3.5	3.5	3.5	12	12	12	15 <sup>(5)</sup>	15 <sup>(5)</sup>	15 <sup>(5)</sup>		
Rated short-time withstand current 1s I <sub>cw</sub> at 415 VAC (kA rms)	2.5	2.5	2.5	7	7	7	8 <sup>(5)</sup>	8 <sup>(5)</sup>	8 <sup>(5)</sup>		
Rated peak withstand current at 415 VAC (kA peak)	15	15	15	20	20	20	30	30	30		
Short-circuit withstand without protection as per IEC 60947-6-1											
Rated short-time withstand current 30 ms I <sub>cw</sub> at 415 VAC (kA rms)	5	5	-	10	10	10	10	10	10		
Connection											
Minimum Cu cable cross-section (mm <sup>2</sup> )	10	10	10	35	35	50	95	120	185		
Recommended Al cable cross-section (mm <sup>2</sup> )	35	50	50	70	95	150	185	240	300		
Recommended Al busbar cross-section (mm <sup>2</sup> )				20x8	20x8	25x10	25x10	40x10	40x12		
Maximum Cu cable cross-section (mm <sup>2</sup> )	50	50	50	50	95	120	150	240	240		
Maximum busbar width (mm)				25	25	25	32	32	50		
Maximum busbar width with spreaders (mm)				25	25	25	25	40	40		
Tightening torque min/max (Nm)	1.2/3	1.2/3	1.2/3	9/13	9/13	9/13	20/26	20/26	20/26		
Mechanical characteristics											
Durability (number of operating cycles)	25000	25000	25000	10000	10000	10000	8000	8000	5000		
Weight of a 3 pole device with no accessories (kg)				2.9	2.9	2.9	3.8	3.9	3.9		
Weight of a 4 pole device with no accessories (kg)				4.1	4.1	4.1	4.6	4.6	4.6		

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

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

4-pole device with 2 poles in series by polarity.

(3) Interphase barriers must be installed on the products.

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

(5) Values given at 690 VAC.

## Characteristics according to IEC 60947-3 and IEC 60947-6-1

### 500 to 3200 A

Thermal current I <sup>th</sup> at 40°C	500 A	630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A
<b>Frame size</b>	<b>B5</b>	<b>B5</b>	<b>B6</b>	<b>B6</b>	<b>B6</b>	<b>B7</b>	<b>B8</b>	<b>B8</b>	<b>B8</b>
Rated insulation voltage U <sub>i</sub> (V)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U <sub>imp</sub> (kV)	12	12	12	12	12	12	12	12	12
Rated operational currents I <sub>e</sub> (A) according to IEC 60947-6-1									
<b>Rated voltage</b>	<b>Utilisation category</b>		<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>
415 VAC	AC-31 B		500	630	800	1000	1250	1600	2000
415 VAC	AC-32 B		500	500	800	1000	1250	1250	2000
415 VAC	AC-33 B		400	400	800	1000	1000	1250	1250
Rated operational currents I <sub>e</sub> (A) according to IEC 60947-3									
<b>Rated voltage</b>	<b>Utilisation category</b>		<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>
415 VAC	AC-21 A / AC-21 B		500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	-/2000
415 VAC	AC-22 A / AC-22 B		500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	-/2000
415 VAC	AC-23 A / AC-23 B		500/500	500/630	800/800	1000/1000	1250/1250	1250/1250	-/1600
500 VAC	AC-21 A / AC-21 B		500/500	630/630	800/800	1000/1000	1250/1250	1600/1600	-/2000
500 VAC	AC-22 A / AC-22 B		500/500	500/500	630/630	800/800	1000/1000	1600/1600	
500 VAC	AC-23 A / AC-23 B		400/400	400/400	630/630	630/630	800/800	1000/1000	
690 VAC <sup>(3)</sup>	AC-21 A / AC-21 B		500/500	500/500	800/800	1000/1000	1250/1250	1600/1600	-/2000
690 VAC <sup>(3)</sup>	AC-22 A / AC-22 B		400/400	400/400	630/630	800/800	1000/1000	1000/1000	
690 VAC <sup>(3)</sup>	AC-23 A / AC-23 B		400/400	400/400	630/630	630/630	800/800	800/800	
220 VDC	DC-21 A / DC-21 B		500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	
220 VDC	DC-22 A / DC-22 B		500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	
220 VDC	DC-23 A / DC-23 B		500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	
440 VDC <sup>(2)</sup>	DC-21 A / DC-21 B		500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	
440 VDC <sup>(2)</sup>	DC-22 A / DC-22 B		500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	
440 VDC <sup>(2)</sup>	DC-23 A / DC-23 B		500/500	630/630	800/800	1000/1000	1250/1250	1250/1250	
Operation power in AC-23 (kW) <sup>(4)</sup>									
At 415 VAC without AC pre-break	235/235	235/280	375/375	450/450	560/560	560/560	-/710	-/710	-/710
At 690 VAC without AC pre-break	310/310	310/310	475/475	475/475	620/620	620/620			
Reactive power (kvar) <sup>(4)</sup>									
At 415 VAC (kvar)	250/250	250/300	400/400	500/500	650/650	650/650	-/850	-/850	-/850
Fuse protected short-circuit withstand as per IEC 60947-3 (kA rms prospective)									
Prospective short-circuit current with gG DIN fuses at 415 VAC (kA rms)	50	50	50	50	100	100			
Prospective short-circuit current with gG DIN fuses at 690 VAC (kA rms)	50	50	50	50	50				
Associated fuse rating (A)	500	630	800	1000	1250	2x800			
Short-circuit withstand without protection as per IEC 60947-3									
Rated short-time withstand current 0.3s I <sub>sw</sub> at 415 VAC (kA rms)	17 <sup>(5)</sup>	17 <sup>(5)</sup>	64	64	64	78	78	78	78
Rated short-time withstand current 1s I <sub>sw</sub> at 415 VAC (kA rms)	11 <sup>(5)</sup>	10 <sup>(5)</sup>	35	35	35	50	50	50	50
Rated peak withstand current at 415 VAC (kA peak)	45	45	55	55	80	110	120	120	120
Short-circuit withstand without protection as per IEC 60947-6-1									
Rated short-time withstand current 60 ms I <sub>sw</sub> at 415 VAC (kA rms)	10	12.6	20	20	25	32	50	50	50
Connection									
Minimum Cu cable cross-section (mm <sup>2</sup> )	2x95	2x120	2x185						
Recommended Al cable cross-section (mm <sup>2</sup> )									
Recommended Cu busbar cross-section (mm <sup>2</sup> )	2x32x5	2x40x5	2x50x5	2x63x5	2x60x7	2x100x5	3x100x5	2x100x10	3x100x10
Recommended Al busbar cross-section (mm <sup>2</sup> )	50x12	2x50x10	2x50x10	2x60x10	2x75x10	2x100x10	3x80x10	3x100x10	4x100x10
Maximum Cu cable cross-section (mm <sup>2</sup> )	2x185	2x300	2x300	4x185	4x185	6x185			
Maximum busbar width (mm)	50	50	63	63	63	63	100	100	100
Maximum busbar width with spreaders (mm)	50	60	75	75	75				
Tightening torque min/max (Nm)	20/26	20/26	20/26	20/26	20/26	40/45	40/45	40/45	40/45
Mechanical characteristics									
Durability (number of operating cycles)	5000	5000	4000	4000	4000	3000	3000	3000	3000
Weight of a 3 pole device with no accessories (kg)	8.6	9.1	20.5	21	21.6	25.7	42	42	52.3
Weight of a 4 pole device with no accessories (kg)	10.4	11.1	24.8	25.6	25.6	32	52.9	52.9	66.6

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

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

4-pole device with 2 poles in series by polarity.

(3) Interphase barriers must be installed on the products.

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

(5) Values given at 690 VAC.

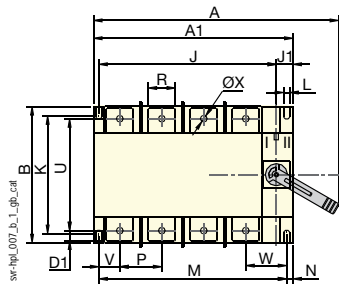
# SIRCOVER

Manually operated transfer switching equipment  
from 63 to 3200 A

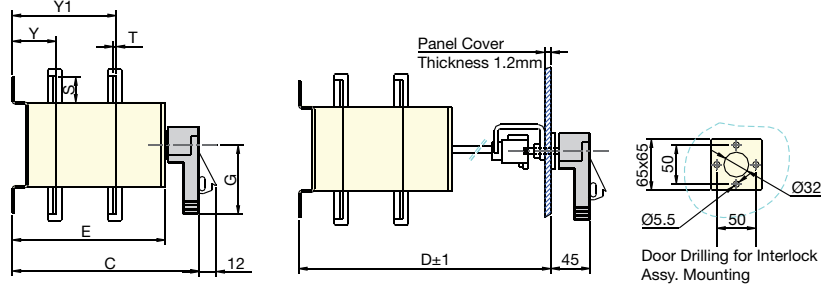
## Dimensions

### 63 to 125 A / B2

Direct front operation



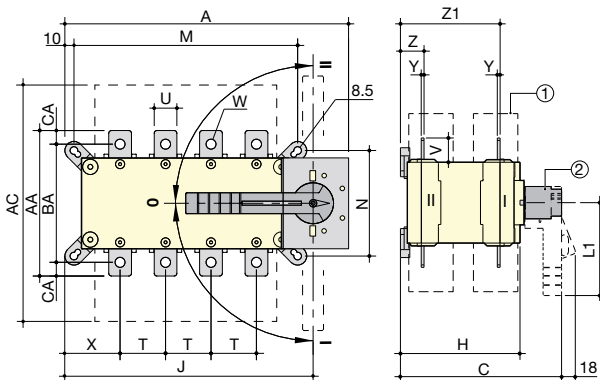
External front operation



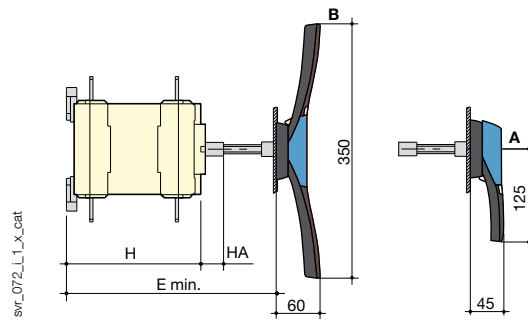
Rating (A)/ Frame size	Dimensions										Fixing of Sw.					Connection terminal					Sw. Wt. Open Ex. (kg)				
	A	A1	B	C	D	D1	E	G	J	J1	K	L	M	N	P	R	S	T	U	V		W	ØX	Y	Y1
4 x 63 ... 125 / B2	181	141.5	111	168.5	192	44	127	62	116	18	95	6.5	127	6.25	27	14	16	2.6	91	11	35	6.5	45	101	2

### 125 to 1600 A / B3 to B5

Direct front operation



External front operation



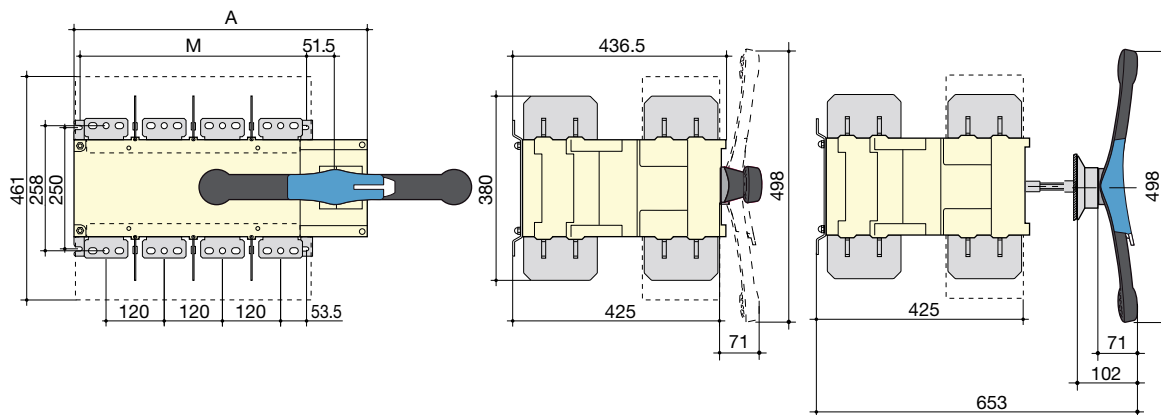
A. S2 type handle for external operation: 125 to 630 A  
B. S4 type handle for external operation: 800 to 1600 A

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

Rating (A)/ Frame size	Overall dimensions				Terminal shrouds	Switch body				Switch mounting				Connection										
	A 3p.	A 4p.	C	E min		AC	H	HA	J 3p.	J 4p.	M 3p.	M 4p.	N	T	U	V	W	X 3p.	X 4p.	Y	Z	Z1	AA	BA
125 / B3	225	255	236	320	235	166	25	186	216	156	186	101	36	20	25	8.5	60	55	3.5	45.5	141	135	115	10
160 / B3	225	255	236	320	235	166	25	186	216	156	186	101	36	20	25	8.5	60	55	3.5	45.5	141	135	115	10
200 / B3	225	255	236	320	235	166	25	186	216	156	186	101	36	20	25	8.5	60	55	3.5	45.5	141	135	115	10
250 / B4	266	316	236	298	280	166	25	227	277	196	246	116	50	25	30	11	65	65	3.5	46.8	141	160	130	15
315 / B4	266	316	236	298	280	166	25	227	277	196	246	116	50	35	35	11	65	65	3.5	46.8	141	170	140	15
400 / B4	266	316	236	298	280	166	25	227	277	196	246	116	50	35	35	11	65	65	3.5	46.8	141	170	140	15
500 / B5	323	383	313	417	401	243	25	276	336	246	306	176	65	32	37	14	75	69.6	4.8	61	198	235	205	15
630 / B5	323	383	313	417	400	243	25	276	336	246	306	176	65	45	50	13	75	69.6	4.8	61	198	260	220	20
800 / B6	386	466	375	425 ... 577	459	298	29	306.5	386.5	255	336	250	80	50	60.5	15	48	48	7	66.5	253.5	321		26.5
1000 / B6	386	466	375	425 ... 577	459	298	29	306.5	386.5	255	336	250	80	50	60.5	15	48	48	7	66.5	253.5	321		26.5
1250 / B6	386	466	375	425 ... 577	459	298	29	306.5	386.5	255	336	250	80	60	65	16x11	48	48	7	66.5	255.5	330		29.5
1600 / B7	478	598	375	425 ... 577	461	298	29	388.5	518.5	347	467	250	120	90	43.5	12.5x5	54	54	8	66.5	255.5	288		15

## 2000 to 3200 A / B8

Direct front operation



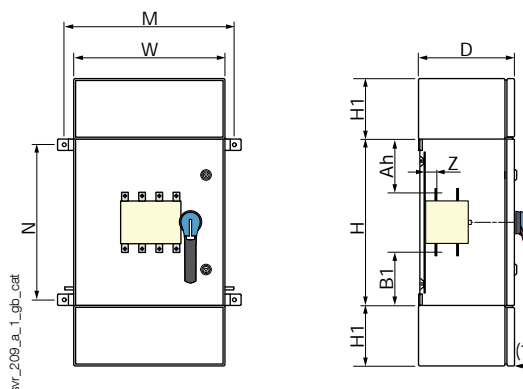
svr\_150\_a\_1\_x\_cat

Rating (A) / Frame size	Overall dimensions		Switch mounting	
	A 3p.	A 4p.	M 3p.	M 4p.
2000 ... 3200 / B8	478	598	347	467

## Enclosed dimensions

Rating (A) / Enclosure size	H x W x D (mm)	M (mm)	N (mm)	Z (mm)	Ah (mm)	B1 (mm)	H1 (mm)
63 / Size 1	250 x 300 x 205	350	210	44.5	87.75	87.75	100
125 ... 200 / Size 2	350 x 350 x 250	400	310	45.4	115	115	150
250 ... 315 / Size 3	450 x 400 x 250	450	410	46.8	160	160	150
400 / Size 4	600 x 400 x 300	450	560	46.8	230	230	150
500 ... 630 / Size 5	600 x 500 x 330	550	560	61	190	190	200
800 ... 1000 / Size 6	700 x 700 x 500	750	660	136.5	215	215	250
1250 ... 1600 / Size 7	800 x 750 x 500	800	760	162	265	265	300
2000 ... 3200 / Size 8	1000 x 830 x 600	880	960	-	370	370	300

Drawings as shown include the optional top and bottom extension boxes (WxH1).



svr\_209\_a\_1\_gp\_cat

- (1) 125 ... 630 A: 58 mm  
800 ... 1 600 A: 74 mm.

# SIRCOVER

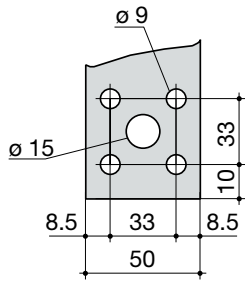
Manually operated transfer switching equipment  
from 63 to 3200 A

## Connection terminals

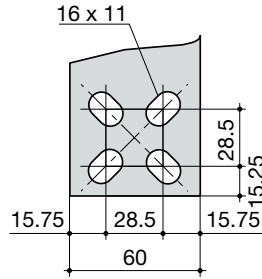
800 to 1000 A / B6

1250 A / B6

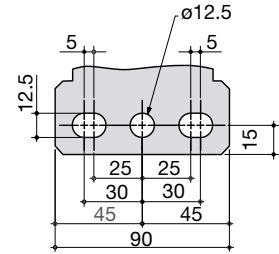
1600 to 3200 A / B7 to B8



svr\_077\_a\_1\_x\_cat



svr\_078\_b\_1\_x\_cat



svr\_085\_a\_1\_x\_cat

## Dimensions for external handles

63 to 125 A / B2

Handle type	Front operation Direction of operation	Door drilling
<b>SH0 type</b> 		

poign\_030\_a\_1\_gb\_cat

125 to 630 A / B3 to B5

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

poign\_030\_a\_1\_gb\_cat

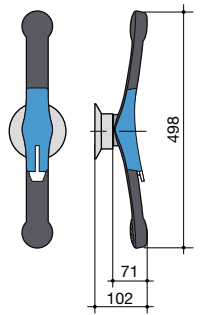
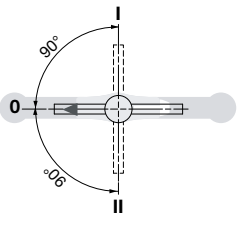
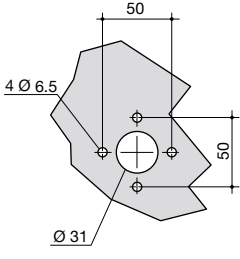
800 to 1600 A / B6 to B7

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

poign\_031\_a\_1\_gb\_cat

## Dimensions for external handles (continued)

2000 to 3200 A / B8

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

(1) Ø 31 to Ø 37: rear screw mounting, Ø 37: front clip mounting.

(2) Ø 6 to Ø 7: clip mounting.

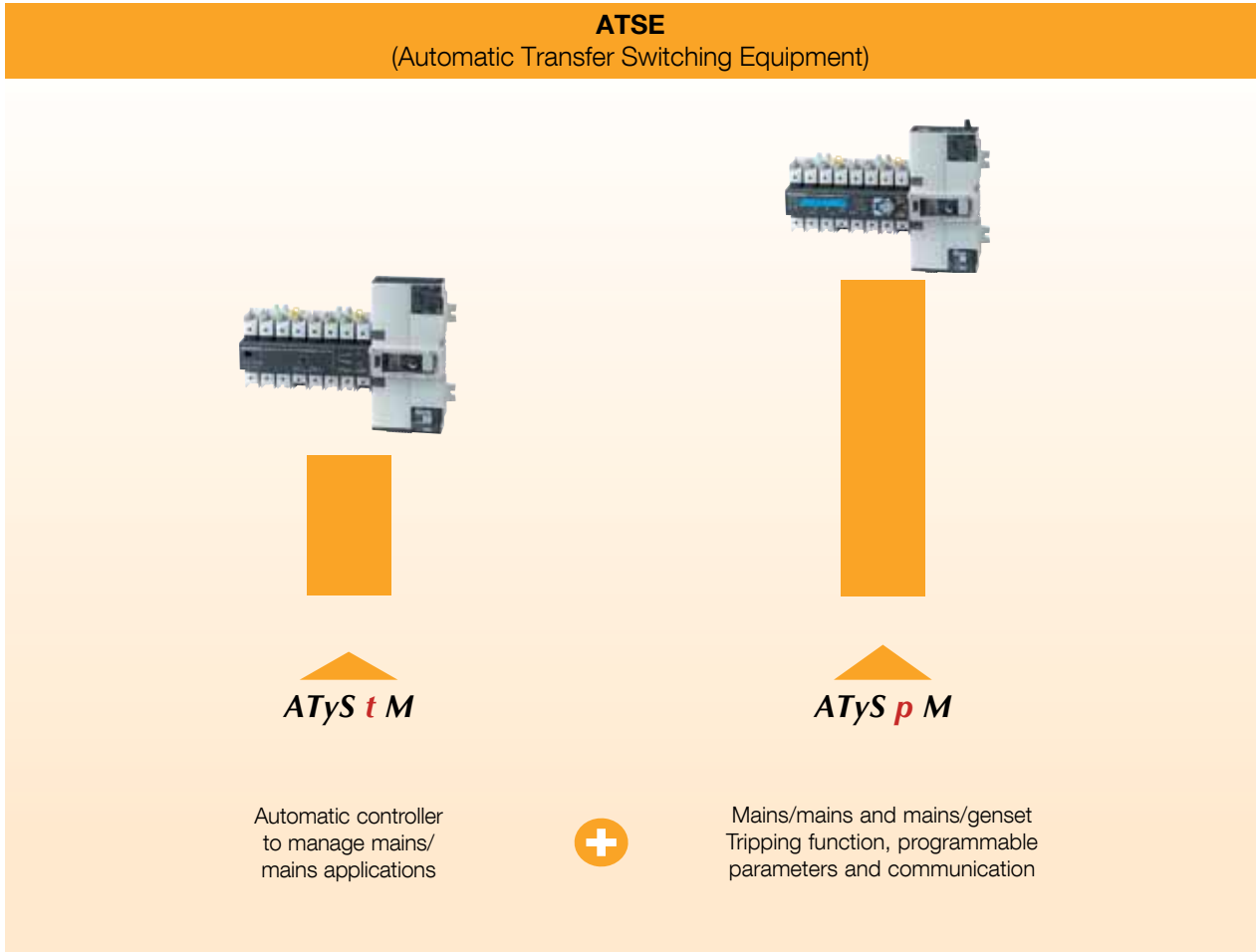
polign\_023\_a\_1\_sfb\_cat



# The *ATyS M* range: safe and reliable solutions

Transfer switches

A complete range of automatic transfer switches from 40 to 160 A





## The advantages



### Secure operation

- Electrical and mechanical interlocking for optimum safety.
- Positive break indication with two mechanical switch position indicators for clear and secure use.
- Padlocking in the 0 position enables the lockout function on each product.
- Padlocking in 3 positions can also be configured prior to installation.
- Permanent indication of product availability thanks to the Watchdog relay, which constantly monitors the product operating conditions (ATyS p M).



### High performance

- On-load making and isolation for using a single product with any load type, including inductive loads (AC-33).
- Immunity to control voltage fluctuations thanks to stable positions and power supply only required during switching.
- Excellent dynamic withstand for improved safety when closing on a short-circuit.
- Extremely low electrical blackout time guaranteed thanks to the electromagnetic actuator technology used with rotary self-cleaning contacts.



### A fully compact solution

- All-in-one solution, with minimum risk of incorrect mounting or wiring.
- Highly reliable thanks to the compliance with IEC 60947-6-1, the standard governing transfer switching equipment.
- Simplified ordering process: a single reference for the complete solution.



### Intuitive use

- Manual emergency control: The product can be operated **quickly and safely** using an emergency handle.
- Simple selection of operating mode (Auto/Manual) using an integrated selector.



### Rapid commissioning

- **ATyS t M**: Configuration in just a few minutes using a screwdriver.
- **ATyS p M**: Simplified configuration (EASY CONFIG software and LCD screen on the device).



### Easy to install

- Two switching devices mounted side-by-side for easy access to cabling with installation in a standard 18 module enclosure (product has a very low depth).
- Quick and easy mounting on a DIN rail or back plate.
- Simplified wiring thanks to the cage clamp terminals and dedicated bridging bars that allows a common outgoing connection whilst retaining the cage terminal connections.

### Performance

#### IEC 60947-6-1 / GB 14048-11

- > AC 32B - up to 160 A
- > AC 33B - up to 125 A
- > AC 33IB - up to 160 A

#### IEC 60947-3

- > AC 23B - up to 160 A

### Expert Services

- > Study, definition, advice, implementation, maintenance and training...
- > Our Expert Services team offers customised support to make your project a success.





# ATyS t M

## Automatic Transfer Switching Equipment from 40 to 160 A

Transfer switches



ATyS t M  
1-0-II 4P

atyS-tM\_001\_b\_1\_cat

### The solution for

- > High-rise buildings
- > Data centers
- > Healthcare buildings



### Strong points

- > Fast commissioning
- > Secure programming

### Conformity to standards

- > IEC 60947-6, -1
- > IEC 60947-3
- > GB 14048.11



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



<sup>(1)</sup> Product references on request.

### Function

ATyS t M are modular automatic transfer switches with positive break indication. They are 4 pole (three-phase) devices.

ATyS t M include a specific integrated automatic controller for features either dedicated to mains/ mains. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

### Advantages

#### Quick start

ATyS t M and g M transfer switches offer significant time saving during commissioning (the process takes 2 to 3 minutes). Thanks to the design that allows commissioning through just one potentiometer and four DIP switches, a screwdriver is all that is required to configure the parameters.

#### Secure programming

To ensure that the correct configuration is maintained an optional sealable cover can be fitted in order to avoid any unintentional modifications to the programming.

#### ATyS t M: dedicated to three-phase mains/mains applications

The ATyS t M integrated controller has been designed to provide all the functions necessary for these applications (operation with or without priority, preferred source selection) together with the monitoring of the voltage and frequency of both sources for three-phase networks.

## What you need to know

The ATyS t M are automatic transfer switching equipment that include a fully integrated ATS controller. These products are self powered from incoming supplies: 230 VAC (176-288 VAC), 50/60 Hz (45/65Hz).

## References

### ATyS t M

Rating (A)	No. of poles	Network (VAC)	ATyS t M	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block	Sealable cover
40 A	4 P	230/400	9344 <b>4004</b>	4 P 1309 <b>4006</b>	2 pieces 1399 <b>4006</b>	2 pieces 2294 <b>4016</b> <sup>(1)</sup>	1 unit Separate common points 1309 <b>0001</b> <sup>(2)</sup> Linked common points 1309 <b>0011</b> <sup>(2)</sup>	1359 <b>0000</b>
63 A	4 P	230/400	9344 <b>4006</b>					
80 A	4 P	230/400	9344 <b>4008</b>					
100 A	4 P	230/400	9344 <b>4010</b>					
125 A	4 P	230/400	9344 <b>4012</b>	1309 <b>4016</b>				
160 A	4 P	230/400	9344 <b>4016</b>					

(1) For complete upstream and downstream protection please order quantity 2.

(2) 1 NO/NC contact block for positions I, 0 and II.



# ATyS p M

## Automatic Transfer Switching Equipment from 40 to 160 A

Transfer switches



ATyS p M  
I-0-II 4P

### Function

ATyS p M are single-phase or three-phase modular automatic transfer switches with positive break indication.

Functions include ATyS t M capability, with additional programmable parameters and a tripping function. A product model with communication is available. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

### Advantages

#### Flexible programming

ATyS p M time delays and inputs/outputs are completely configurable, hence enabling the easy monitoring of specific applications (load shedding, test...) and the definition of an operating cycle specifically adapted to your application.

#### Trip function

ATyS p M features a function for returning to the 0 position in case of the loss of both power supply sources (tripping). This protects the load from issues due to source instability.

#### Communication and configuration

A specific version of ATyS p M is available with integrated Modbus communication. This gives access to most product data (status, voltages, frequencies...). A user friendly configuration software is also available free (Easyconfig) to configure, view and save all the parameters in the ATyS p M.

#### Remote control interface

Specifically designed for installations where the product is enclosed, the remote interface displays product status on the front panel (D10) or displays and controls with access to programming (D20).

### The solution for

- > High-rise buildings
- > Data centres
- > Healthcare buildings
- > Banks and insurance companies
- > Transport (airports, tunnels, etc.)



### Strong points

- > Flexible programming
- > Trip function
- > Communication and configuration
- > Remote control interface

### Conformity to standards

- > IEC 60947-6,-1
- > IEC 60947-3
- > GB 14048.11

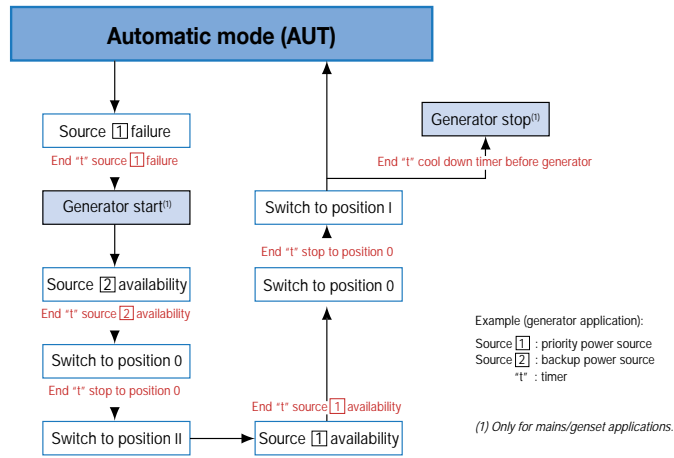


### Approvals and certifications



## What you need to know

The ATyS p M are automatic transfer switching equipment that include a fully integrated ATS controller. These products are self powered from incoming supplies: 230 VAC (160-305 VAC), 50/60 Hz (45/65Hz). Automatic products are all equipped with a sequence logic. Here is an example of the sequence logic in case of loss and return of the preferred source.



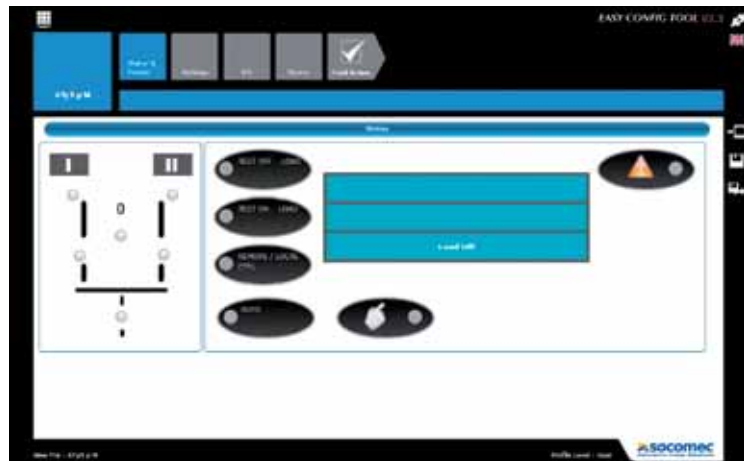
atys\_028\_h\_1\_gb\_cat

## Easyconfig

Easyconfig software is the ideal solution to save time and simplify complex configuration.

You can configure the following parameters:

- application type,
- voltage and frequency thresholds,
- timers,
- inputs/outputs...



atys\_b49\_b\_gb

## ATyS p M

Rating (A)	No. of poles	Network (VAC) (3)	ATyS p M	ATyS p M + com	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block	Remote interface
40 A	4 P	230/400	9364 4004	9384 4004	4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 <sup>(1)</sup>	1 piece	D10 9599 2010 D20 9599 2020
63 A	4 P	230/400	9364 4006	9384 4006				Separate common points 1309 0001 <sup>(2)</sup>	
80 A	4 P	230/400	9364 4008	9384 4008				Linked common points 1309 0011 <sup>(2)</sup>	
100 A	4 P	230/400	9364 4010	9384 4010					
125 A	4 P	230/400	9364 4012	9384 4012					
160 A	4 P	230/400	9364 4016	9384 4016	1309 4016				

(1) For complete upstream and downstream protection please order quantity 2.

(2) 1 NO/NC contact block for positions I, 0 and II.

(3) For 127/230VAC networks, please contact us.



# ATyS M range

ATyS *t* M, ATyS *p* M

from 40 to 160 A

Transfer switches

## Accessories

### Bridging bars

#### Use

Used to bridge the outgoing common connection between switch I and switch II. The bridging bar does not reduce the connection capacity of the cage terminals.

Rating (A)	No. of poles	Reference
40 ... 125	2 P	1309 2006
160	2 P	1309 2016
40 ... 125	4 P	1309 4006
160	4 P	1309 4016



atysm\_025\_a

### Voltage sensing and power supply tap

#### Use

It allows connection of  $2 \times \leq 1.5 \text{ mm}^2$  voltage sensing or power cables.

The single-pole voltage sensing tap can be mounted in any of the terminals (incoming) without reducing their connecting capacity.



atysm\_026\_a

Rating (A)	Pack	Reference
40 ... 160	2 pieces	1399 4006

### Terminal shrouds

#### Use

Protection against direct contact with terminals or connecting parts.

#### Advantages of the terminal shrouds

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

#### Mounting

For complete upstream and downstream protection of 4 pole products, please order quantity 2; for 2 pole products please order quantity 1.



atysm\_027\_a

Rating (A)	Position	Reference
40 ... 160	top / bottom	2294 4016 <sup>(1)</sup>

(1) Reference composed of 2 pieces.

### Sealable cover

#### Use

Prevents access to the ATyS *t* M and ATyS *g* M configuration panels.

Rating (A)	No. of poles	Reference
40 ... 160	2 P	1359 2000
40 ... 160	4 P	1359 0000



atysm\_013\_a

### Polycarbonate enclosure

#### Use

Dedicated to the installation of a three-phase ATyS M, it enables easy integration of a compact transfer switch solution.

Rating (A)	H x W x D (mm)	Reference
40 ... 160	385 x 385 x 193	1309 9006



atysm\_026\_b\_1\_cat

### Extension unit

#### Use

Combined with the polycarbonate enclosure, the extension unit provides additional space in order to connect 70 mm<sup>2</sup> cables to the ATyS M with ease.

Rating (A)	Reference
40 ... 160	1309 9007



atysm\_028\_a\_1\_x\_cat

## Residential enclosure

### Use

Dedicated to the implementation of a single-phase ATyS M, the plastic enclosure provides a compact IP41 transfer switch solution with easy integration.

Rating (A)	H x W x D (mm)	Reference
40 ... 160	410 x 305 x 150	1309 9056



atysm\_196\_a\_1\_cat

## Auto-transformer

### Use

For use with ATyS M in 400 VAC three-phase applications that have no distributed neutral.

The ATyS M includes integrated sensing and power supply circuits, therefore a neutral connection is required for 400 VAC three-phase applications. When no neutral connection is available this autotransformer (400/230 VAC, 400 VA) provides the 230 VAC required for the ATyS to function.

Rating (A)	Reference
40 ... 160	1599 4121



tralo\_165\_b\_1

## Remote interfaces for ATyS p M

### Use

To remotely display source availability and position indication on the front of a panel when the ATyS M is enclosed.

The remote interface is powered directly from the ATyS M via the RJ45 connection cable.

Maximum cable length: 3 m.

### D10

To display source availability and position indication on the front panel of an enclosure.

Protection degree: IP21.

### D20

In addition to the functions of the D10, the D20 displays measurements and enables control and configuration from the front of the display panel.

Protection degree: IP21.

### Door mounting

2 holes Ø 22.5.

ATyS M connection via RJ45 cable, not isolated.

Cable not provided.



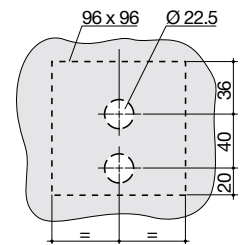
atys\_564\_c\_1\_cat



atys\_565\_c\_1\_cat



atys\_567\_a\_1\_cat



atys\_161\_a\_1\_x\_cat

RJ45 to connect to ATyS p M

Drillings

Description of accessories	Reference
D10	9599 2010
D20	9599 2020

## Connecting cable for remote interfaces

### Use

To connect between a remote interface (type D10 or D20) and a control product (ATyS p M).

### Characteristics:

RJ45 8 wire straight-through, non isolated cable. Length 3 m.

Type	Length	Reference
RJ45 cable	3 m	1599 2009



access\_209\_a\_2\_cat

## Cage-terminal interface

### Use

The power connection terminals allow conversion of the cage clamp terminals into bolt-on type connection terminals, enabling connection of up to two 35 mm<sup>2</sup> cables or one 70 mm<sup>2</sup> cable. Compatible with aluminium terminals. Each power connection terminal is provided with separation screens.

Rating (A)	Reference
40 ... 160	1399 4017 <sup>(1)</sup>

<sup>(1)</sup> For complete conversion, order quantity 3.



access\_252\_a\_1\_cat

# ATyS M range

ATyS t M, ATyS p M

from 40 to 160 A

## Polycarbonate enclosed solution

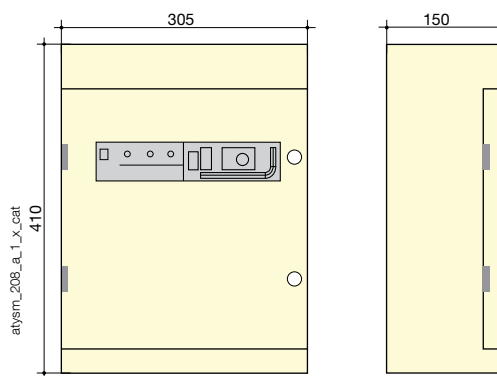
atysm\_251\_a\_1\_cat



### General characteristics

- From 40 to 160 A.
- 230 VAC [176 VAC-288 VAC] 50 Hz network or 60 Hz [45 Hz-65 Hz]
- Protection degree: IP 55, IK08.
- Colour: RAL 7035.
- Material: transparent cover, enclosure base: polycarbonate.
- Mounting: 4 holes on the rear of the enclosure.
- Flame resistant to 650°C.

### Dimensions



- Weight: 5.5 kg.
- Connection: recommended cable size (Cu): 25 to 70 mm<sup>2</sup> according to rating (max. cable size: 70 mm<sup>2</sup>).

## Steel enclosed solution

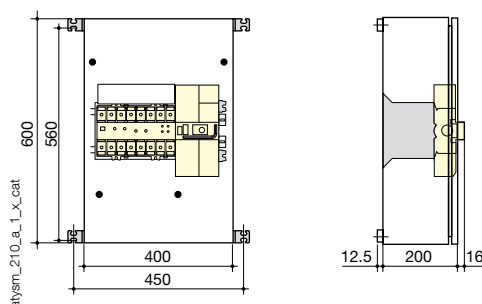
coff\_366\_b



### General characteristics

- Adapted to mechanical risk and dust hazard.
- Integrated bridging bar.
- Protection degree: IP3x or IP54.
- Colour: RAL 7035.
- Cable gland plates: top and bottom.
- Material: 1.2 mm thick steel.
- Coating: epoxy polyester powder.
- Mounting: 4 wall mounting brackets - not fitted.
- Door: hinged, cut-out 327.4x47.6 mm.
- Door lock: 3 mm double bar (key included).

### Dimensions



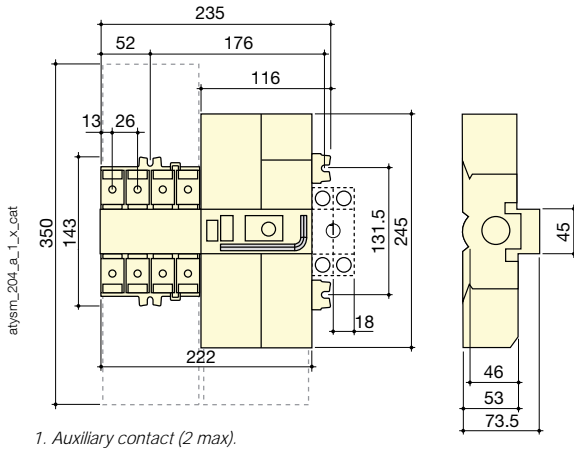
- Weight (without accessories): 15 kg.
- Connection (without cage/terminal interface): min. Cu 10 mm<sup>2</sup>, max. 70 mm<sup>2</sup>.



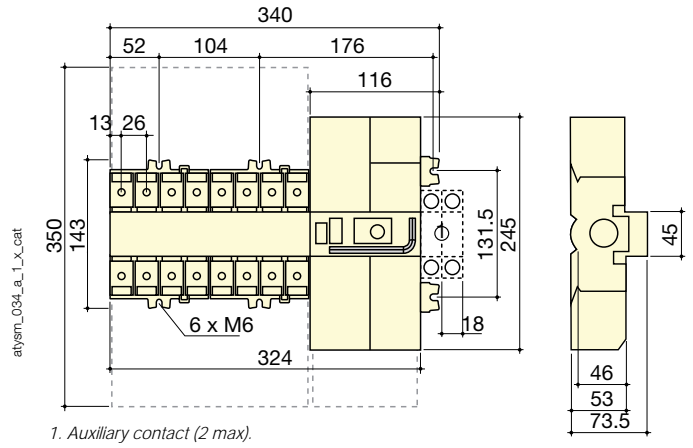
## Dimensions

### ATyS M 40 to 160 A

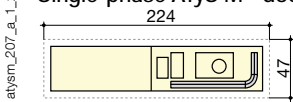
#### Single-phase ATyS M



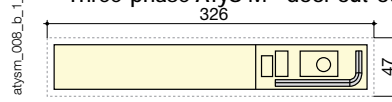
#### Three-phase ATyS M



#### Single-phase ATyS M - door cut-out



#### Three-phase ATyS M - door cut-out



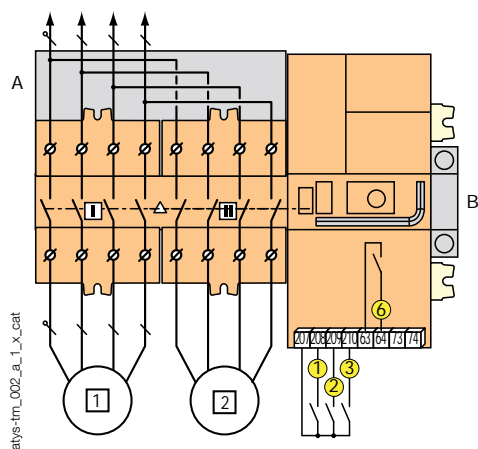
# ATyS M range

ATyS t M, ATyS p M

from 40 to 160 A

## Terminals and connections

### Three-phase ATyS t M

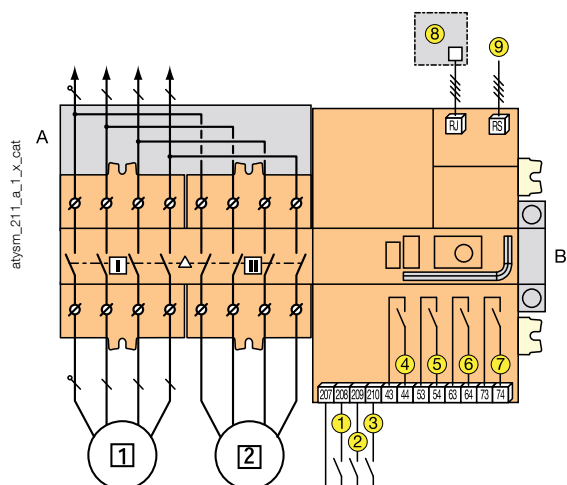


- 1 primary source (network)
- 2 backup source (network)

- 1: position 0 control
- 2: preferred source selection
- 3: automatic mode inhibition
- 6: availability S1 or S2

- A: bridging bar (accessory)
- B: auxiliary contact block - 1 NO/NC per position I, 0, II (accessory)

### Three-phase ATyS p M



- 1 primary source
- 2 backup source

- 1 - 2 - 3: programmable inputs
- 4 - 5 - 6: programmable outputs
- 7: genset start / stop control
- 8: RJ45 for connecting a D10/D20 remote interface.
- 9: RS485 for communication on versions with COM.

- A: bridging bar (accessory)
- B: auxiliary contact block - 1 NO/NC per position I, 0, II (accessory)

## Characteristics according to IEC 60947-3 and IEC 60947-6-1

### 40 to 160 A

<b>Thermal current I<sub>th</sub> at 40°C</b>		<b>40 A</b>	<b>63 A</b>	<b>80 A</b>	<b>100 A</b>	<b>125 A</b>	<b>160 A</b>
Rated insulation voltage U <sub>i</sub> (V) (power circuit)		800	800	800	800	800	800
Rated impulse withstand voltage U <sub>imp</sub> (kV) (power circuit)		6	6	6	6	6	6
Rated insulation voltage U <sub>i</sub> (V) (control circuit)		300	300	300	300	300	300
Rated impulse withstand voltage U <sub>imp</sub> (kV) (control circuit) - ATyS t M, g M and p M		2.5	2.5	2.5	2.5	2.5	2.5
<b>Rated operational currents I<sub>e</sub> (A) according to IEC 60947-6-1</b>							
<b>Rated voltage</b>	<b>Utilisation category</b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>
415 VAC	AC-31 A / AC-31 B	40/40	63/63	80/80	100/100	100/125	100/160
415 VAC	AC-32 A / AC-32 B	40/40	63/63	80/80	100/100	100/125	100/160
415 VAC	AC-33 A / AC-33 B	-/40	-/63	-/80	-/100	-/125	-/125
<b>Rated operational currents I<sub>e</sub> (A) according to IEC 60947-3</b>							
<b>Rated voltage</b>	<b>Utilisation category</b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>
415 VAC	AC-20 A / AC-20 B	40/40	63/63	80/80	100/100	125/125	160/160
415 VAC	AC-21 A / AC-21 B	40/40	63/63	80/80	100/100	125/125	160/160
415 VAC	AC-22 A / AC-22 B	40/40	63/63	80/80	100/100	125/125	160/160
415 VAC	AC-23 A / AC-23 B	40/40	63/63	80/80	100/100	125/125	125/160
690 VAC	AC-21 A / AC-21 B	40/40	63/63	80/80	100/100	125/125	160/160
690 VAC	AC-22 A / AC-22 B	40/40	63/63	80/80	80/80	100/125	100/125
690 VAC	AC-23 A / AC-23 B	40/40	63/63	63/63	80/80	80/80	80/80
<b>Current rated as conditional short-circuit with fuse gG DIN</b>							
Conditional short-circuit current (kA rms)		50	50	50	50	50	40
Associated fuse rating (A)		40	63	80	100	125	160
<b>Current rated as conditional short-circuit with any brand of circuit breaker that ensures tripping in less than 0.3s<sup>(4)</sup></b>							
Current rated as short-time withstand I <sub>cw</sub> 0.3s (kA rms)		7	7	7	7	7	7
<b>Short-circuit operation (switch only)</b>							
Current rated as short-time withstand I <sub>cw</sub> 1s (kA rms) <sup>(2)</sup>		4	4	4	4	4	4
Rated peak withstand current (kA peak) <sup>(2)</sup>		17	17	17	17	17	17
<b>Connection</b>							
Min. connection cross-section		10	10	10	10	10	10
Minimum Cu cable cross-section (mm <sup>2</sup> )		70	70	70	70	70	70
Tightening torque (Nm)		5	5	5	5	5	5
<b>Switching time<sup>(5)</sup></b>							
I - 0 or II - 0, following a command (ms)		45	45	45	45	45	45
Transfer time I - II or II - I, following a command (ms)		180	180	180	180	180	180
I-0 or II-0, after outage (s)		1.2	1.2	1.2	1.2	1.2	1.2
I-II or II-I transfer time, after outage (s)		1.4	1.4	1.4	1.4	1.4	1.4
Contact transfer time ("black-out") I-II min. (ms) <sup>(3)</sup>		150	150	150	150	150	150
<b>Power supply</b>							
Min./max. supply (VAC) (ATyS t M and g M)		176/288	176/288	176/288	176/288	176/288	176/288
Min./max. supply (VAC) (ATyS p M)		160/305	160/305	160/305	160/305	160/305	160/305
<b>Control supply power demand</b>							
Rated power (VA)		6	6	6	6	6	6
Max. intensity at 230 VAC (A) - ATyS t M and g M		30	30	30	30	30	30
Max. intensity at 230 VAC (A) - ATyS p M		20	20	20	20	20	20
<b>Mechanical specifications</b>							
Durability (number of operating cycles)		10,000	10,000	10,000	10,000	10,000	10,000
Weight of single-phase models - non-packaged (kg)		2.8	2.8	2.8	2.8	2.8	2.8
Weight of single-phase models - including packaging (kg)		3.5	3.5	3.5	3.5	3.5	3.5
Weight of three-phase models - non-packaged (kg)		3.5	3.5	3.5	3.5	3.5	3.5
Weight of three-phase models - including packaging (kg)		4.2	4.2	4.2	4.2	4.2	4.2

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

(2) For a rated operational voltage U<sub>e</sub> = 400 VAC.

(3) 5% tolerance.

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

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

(5) At rated voltage - excluding time delays, where applicable.



# The *ATyS S* range: a robust solution

Transfer switches

A range of transfer switches from 40 to 125 A

**RTSE**  
(Remotely operated)



**ATyS S**

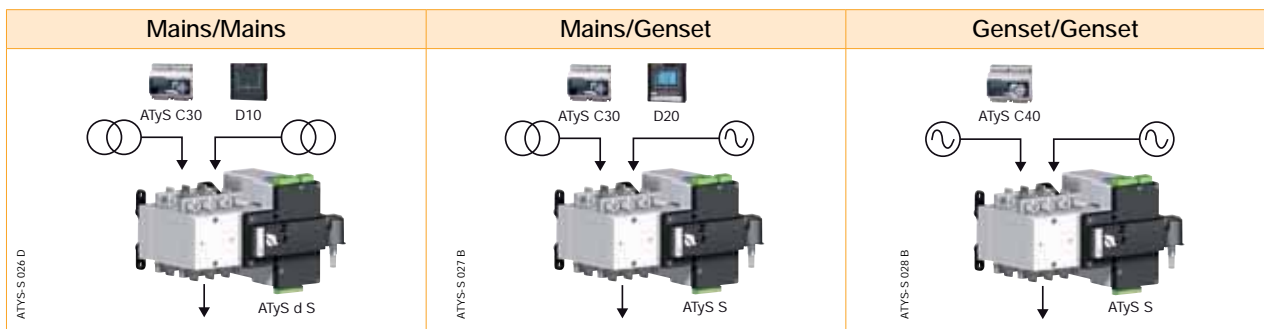
Motorised Transfer Switching Equipment



**ATyS d S**  
Motorised Transfer Switching Equipment

+ Dual power supply

## Three application types



## The advantages



### Safe and reliable

- An extended lifetime thanks to a switching principle based on stable positions.
- Positive break indication.
- Mechanical position interlocking.
- Stable power supply to the loads because the ATyS S does not require power supply for the position to be maintained.
- Various power supply voltages are available: 12 or 24/48 VDC and 230 VAC or 2 x 230 VAC.



### Easy to use

- Manual emergency control:  
The product can be controlled **quickly and safely** using an emergency handle (motor installed or removed).
- Simple selection of the operating mode (Auto/Manual/Padlocked) using an integrated selector.



### Total integration

- Integrated and tested solution: components factory assembled and wired.
- Reliable product: compliance with IEC 60947-6-1, the standard governing transfer switches.



### Easy maintenance

- Self-cleaning sliding contacts.
- Easy replacement of the motor unit, even during on load operation.



### Cost-saving

- Low power consumption thanks to a switching principle based on stable positions: power is only required during transfer.
- Easy and fast installation: only four fixing points, three connectors and the power cables to connect.
- Shorter bridging bars that are consequently more economical than any other solution on the market.

### Compact design

- > Combining two switches mounted back-to-back and being only 197 mm wide, the ATyS S offers significant space saving when compared with a side-by-side solution.

## Expert Services

- > Study, definition, advice, implementation, maintenance and training...
- > Our Expert Services team offers customised support to make your project a success.





# ATyS S - ATyS d S

Remotely operated transfer switching equipment  
from 40 to 125 A

Transfer switches



atys-s\_018\_a

## The solution for

- > Genset < 90 kVA
- > Heating systems
- > Climate control
- > Ventilation systems
- > Telecommunications



## Strong points

- > Extensive power supply range
- > Safety and reliability
- > Easy integration
- > Simplified maintenance
- > ATyS d S: Dual power supply

## Conformity to standards

- > IEC 60947-6-1
- > IS/IEC 60947-3
- > GB 14048-11



## Approvals and certifications



## Function

ATyS S products are 4 pole remotely operated transfer switches with positive break indication. They enable the on-load transfer of two three-phase supplies via remote volt-free contacts, from either an external automatic controller, using pulse logic, or a switch. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

## Advantages

### Extensive power supply range

The ATyS S is available in four supply versions, each with a broad range (+/-30%). The four versions are:

- 12 VDC power supply.
- 24/48 VDC power supply.
- 230 VAC single power supply.
- 2 x 230 VAC dual power supply.

### Safety and reliability

ATyS S products use stable position technology, ensuring constant pressure on the contacts and preventing premature aging. In addition, they do not require a power supply to maintain position, thus protecting their loads from voltage fluctuations.

### Easy integration

ATyS S products can be easily installed inside enclosures. Their design, and in particular their compact size, enables integration within most 200 mm deep enclosures.

### Simplified maintenance

Maintenance can be carried out easily under load, with manual operation still available. The control and motorisation section can be replaced simply by removing 4 screws, with no work required on the installation cabling.

### ATyS d S: Dual power supply

In addition to the functions offered by the ATyS S, the ATyS d S incorporates supply redundancy without the need for additional wiring. This is obtained by integrating a double supply (2 independent supplies) directly within the product.

## References

### ATyS S - ATyS d S

Rating (A)	No. of poles	Power supply	ATyS S - ATyS d S + bridging bars	Terminal shrouds	Voltage tap	Terminal retainer	DIN rail
40 A	4 P	12 VDC	9505 4004SL	Source side 2 pieces 9594 4012A  Load side 2 pieces 9594 9012A	9599 4001G	2 pieces 9599 4003G	4 modules 9599 4002G
	4 P	230 VAC	9503 4004SL				
	4 P	2 x 230 VAC	9513 4004SL				
63 A	4 P	12 VDC	9505 4006SL		9599 4001G		
	4 P	230 VAC	9503 4006SL				
	4 P	2 x 230 VAC	9513 4006SL				
80 A	4 P	12 VDC	9505 4008SL		9599 4001G		
	4 P	230 VAC	9503 4006SL				
	4 P	2 x 230 VAC	9513 4006SL				
100 A	4 P	12 VDC	9505 4010SL		9599 4001G		
	4 P	230 VAC	9503 4006SL				
	4 P	2 x 230 VAC	9513 4006SL				
125 A	4 P	12 VDC	9505 4012SL	9599 4001G			
	4 P	230 VAC	9503 4012SL				
	4 P	2 x 230 VAC	9513 4012SL				

## Accessories

### Voltage tap

#### Use

Enables the required power supply for ATyS S 230 VAC and ATyS d S products to be tapped directly from the product's incoming power terminals. Can also be utilised in applications without neutral, to provide 400 VAC to the autotransformer.

Rating (A)	Reference
40 ... 125	9599 4001G



atys-s\_022\_a

### Terminal retainer

#### Use

These clips have a dual function: - to prevent direct access to the power supply and control terminals and - to secure these connector terminals.

Rating (A)	Pack	Reference
40 ... 125	2 pieces	9599 4003G



atys-s\_021\_a

### Terminal shrouds

#### Use

IP2X protection against direct contact with terminals or connecting parts.

#### Terminal shrouds for the source side

Rating (A)	Pack	Reference
40 ... 125	2 pieces	9594 4012A

#### Terminal shrouds for the load side

Rating (A)	Pack	Reference
40 ... 125	2 pieces	9594 9012A



atys-s\_020\_a



atys-s\_020\_a

### Autotransformer 400/230 VAC

#### Use

For applications without neutral, this autotransformer provides the 230 VAC required to power these ATyS products.

#### Dimensions

75 x 80 x 72 mm

Rating (A)	Reference
40 ... 125	9599 4004G

# ATyS S - ATyS d S

Remotely operated transfer switching equipment  
from 40 to 125 A

## Accessories (continued)

### DIN rail

#### Use

This 4-module DIN rail can be installed directly on the front of the ATyS S and can be utilised, for example, for the installation of a surge protection device.

Rating (A)	Reference
40 ... 125	9599 4002G



access\_417\_a\_1\_cat

## Spares

### Motorisation unit

#### Use

The motorisation module of the ATyS S can be easily replaced in case of problems, even when the load is supplied.

Rating (A)	ATyS S 12 VDC	ATyS S 24/48 VDC	ATyS S 230 VAC	ATyS d S 2 x 230 VAC
40	9505 5004G	9506 5004G	9503 5004G	9513 5004G
63	9505 5006G	9506 5006G	9503 5006G	9513 5006G
80	9505 5008G	9506 5008G	9503 5008G	9513 5008G
100	9505 5010G	9506 5010G	9503 5010G	9513 5010G
125	9505 5012G	9506 5012G	9503 5012G	9513 5012G



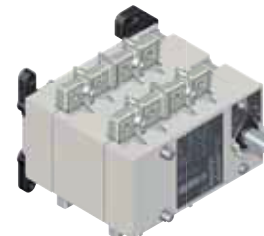
access\_415\_a\_1\_cat

### Switching unit

#### Use

References to be used for replacing the switching module of ATyS S products.

Rating (A)	Reference
40	9509 1004G
63	9509 1006G
80	9509 1008G
100	9509 1010G
125	9509 1012G



access\_414\_a\_1\_cat

### Manual emergency operation handle

#### Use

This handle can be used on the product whether the motor unit is mounted or not.

Rating (A)	Reference
40 ... 125	9599 5012G



poign\_058\_a\_1\_x\_cat

### Connector kit

#### Use

This kit, which includes all of the ATyS S connectors, can be ordered to replace any lost or broken terminal connectors.

Rating (A)	Reference
40 ... 125	9509 0002G



access\_416\_a\_1\_cat



## Characteristics according to IEC 60947-3 and IEC 60947-6-1

### 40 to 125 A

<b>Thermal current <math>I_{th}</math> at 40°C</b>	<b>40 A</b>	<b>63 A</b>	<b>80 A</b>	<b>100 A</b>	<b>125 A</b>	
Rated insulation voltage $U_i$ (V) (power circuit)	800	800	800	800	800	
Rated impulse withstand voltage $U_{imp}$ (kV) (power circuit)	6	6	6	6	6	
Rated insulation voltage $U_i$ (V) (operation circuit)	300	300	300	300	300	
Rated impulse withstand voltage $U_{imp}$ (kV) (operation circuit)	4	4	4	4	4	
<b>Rated operational currents <math>I_e</math> (A) according to IEC 60947-6-1</b>						
<b>Rated voltage</b>	<b>Utilisation category</b>	<b>A/B</b>	<b>A/B</b>	<b>A/B</b>	<b>A/B</b>	
415 VAC	AC-31 B	40	63	80	100	125
415 VAC	AC-32 B	40	63	80	80	80
<b>Rated operational currents <math>I_e</math> (A) according to IEC 60947-3</b>						
<b>Rated voltage</b>	<b>Utilisation category</b>	<b>A/B</b>	<b>A/B</b>	<b>A/B</b>	<b>A/B</b>	
415 VAC	AC-20 A / AC-20 B	40/40	63/63	80/80	100/100	125/125
415 VAC	AC-21 A / AC-21 B	40/40	63/63	80/80	100/100	100/125
415 VAC	AC-22 A / AC-22 B	40/40	63/63	80/80	100/100	100/100
415 VAC	AC-23 A / AC-23 B	-/40	-/63	-/63	-/63	-/63
<b>Fuse protected short-circuit withstand (kA rms prospective)</b>						
Prospective short-circuit current (kA rms)	50	50	50	25	15	
Associated fuse rating (A)	40	63	80	100	125	
<b>Short-circuit capacity as per IEC 60947-6-1</b>						
Rated short-time withstand current 0.03 s. (kA)	5	5	5	5	-	
Rated short-circuit making capacity $I_{cm}$ (kA peak)	7.65	7.65	7.65	7.65	-	
<b>Short-circuit capacity as per IEC 60947-3 (without protection)</b>						
Rated short-time withstand current 1 s. $I_{cw}$ (kA rms)	2.5	2.5	2.5	2.5	2.5	
Rated short-time withstand current 0.3s $I_{cw}$ (kA rms) <sup>(1)</sup>	3.5	3.5	3.5	3.5	3.5	
Rated peak withstand current (kA peak)	12	12	12	12	12	
<b>Connection</b>						
Maximum Cu cable cross-section (mm <sup>2</sup> )	50	50	50	50	50	
Tightening torque mini / maxi (Nm)	1.2/3	1.2/3	1.2/3	1.2/3	1.2/3	
<b>Switching time (Standard setting)</b>						
I - 0 or II - 0 (ms)	500	500	500	500	500	
I - II or II - I (ms)	1000	1000	1000	1000	1000	
Duration of "electrical blackout" I - II (ms) minimum	500	500	500	500	500	
<b>Power supply</b>						
Power supply 12 VDC min / max (VDC)	9/15	9/15	9/15	9/15	9/15	
Power supply 230 VAC min / max (VAC)	160/310	160/310	160/310	160/310	160/310	
<b>Control supply power demand</b>						
Power supply 12 VDC inrush / nominal (VA)	200/40	200/40	200/40	200/40	200/40	
Power supply 230 VAC inrush / nominal (VA)	200/40	200/40	200/40	200/40	200/40	
<b>Mechanical characteristics</b>						
Durability (number of operating cycles)	25 000	25 000	25 000	25 000	25 000	
Weight ATyS S and ATyS d S 4 P (kg)	3	3	3	3	3	

<sup>(1)</sup> Value for coordination with any circuit breaker that ensures tripping in less than 0.3s. For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

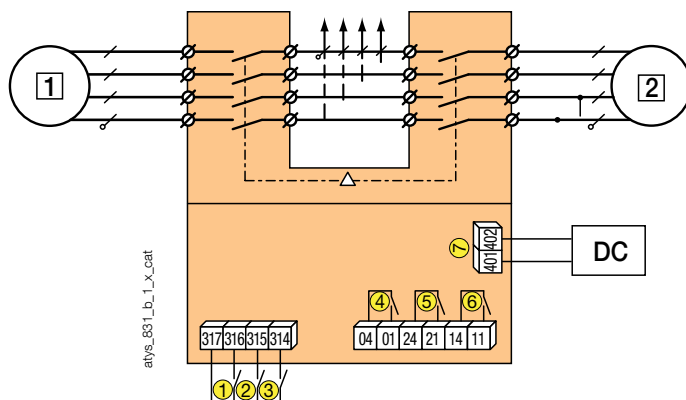
# ATyS S - ATyS d S

Remotely operated transfer switching equipment

from 40 to 125 A

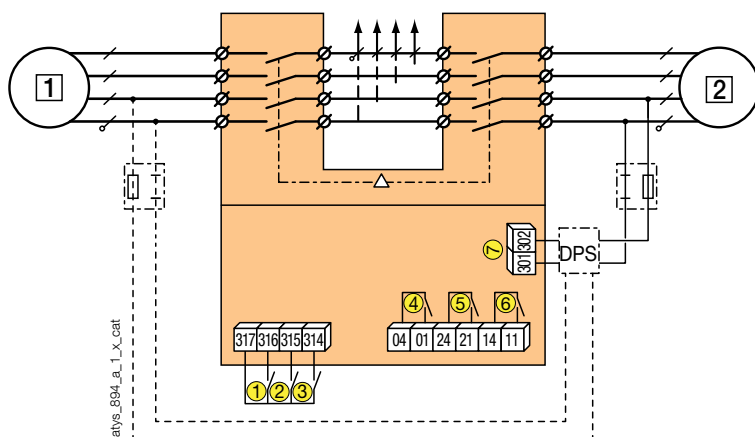
## Terminals and connections

### ATyS S DC version



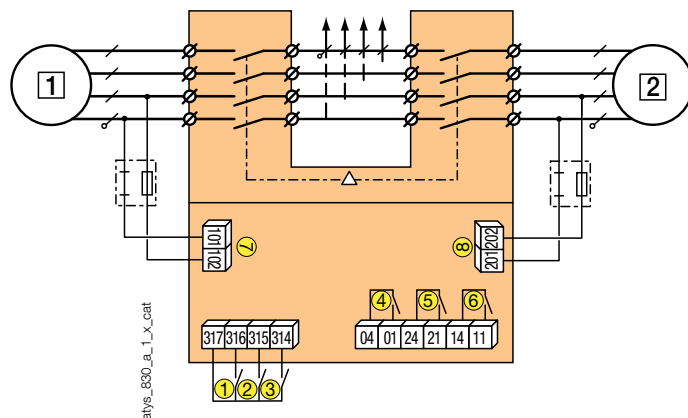
- 1 preferred source
- 2 alternate source
- 1: position 0 control
- 2: position I control
- 3: position II control
- 4: auxiliary contact, closed when the switch is in position 0
- 5: auxiliary contact, closed when the switch is in position II
- 6: auxiliary contact, closed when the switch is in position I
- 7: power supply :12 VDC (9-15 VDC).

### ATyS S: 230 VAC



- 1 preferred source
- 2 alternate source
- 1: position 0 control
- 2: position I control
- 3: position II control
- 4: auxiliary contact, closed when the switch is in position 0
- 5: auxiliary contact, closed when the switch is in position II
- 6: auxiliary contact, closed when the switch is in position I
- 7: power supply: 230 VAC (160-310 VAC)

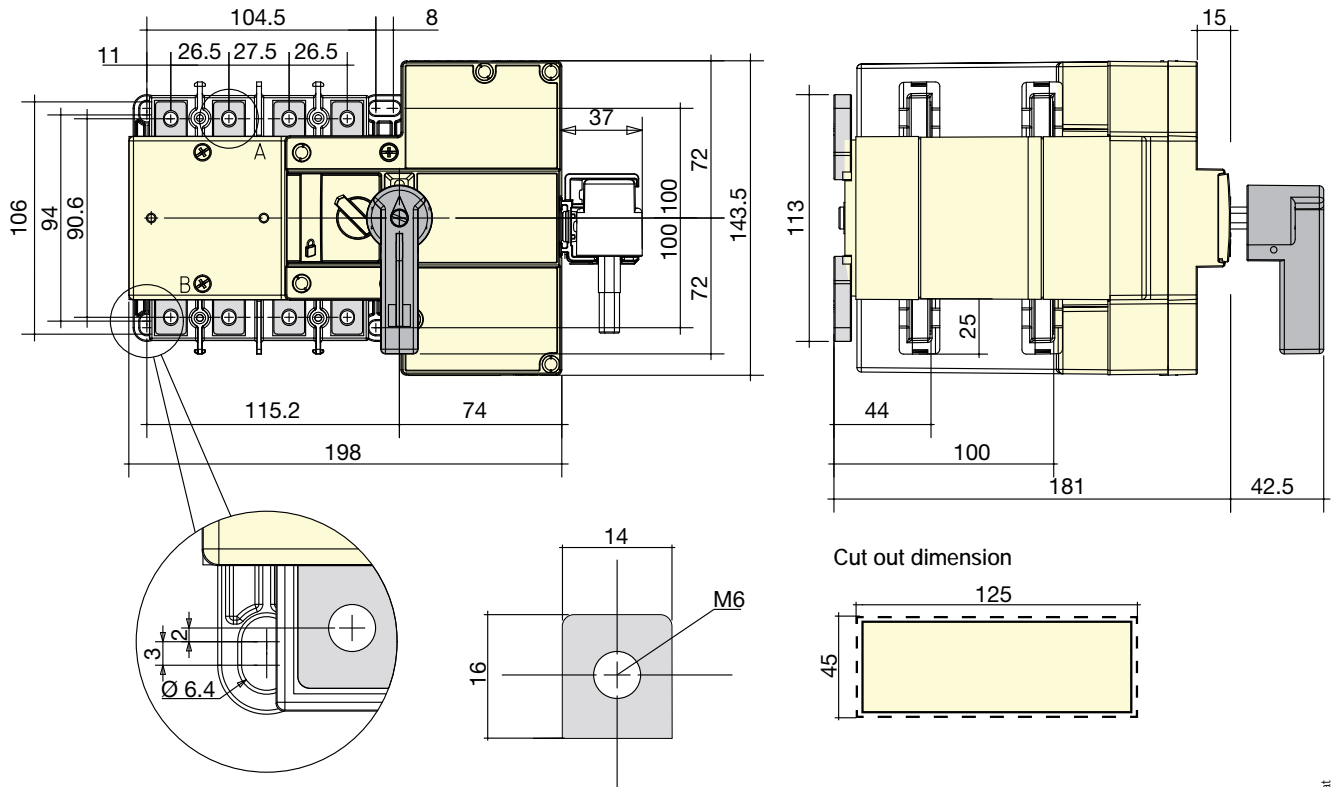
### ATyS d S: 2 x 230 VAC



- 1 preferred source
- 2 alternate source
- 1: position 0 control
- 2: position I control
- 3: position II control
- 4: auxiliary contact, closed when the switch is in position 0
- 5: auxiliary contact, closed when the switch is in position II
- 6: auxiliary contact, closed when the switch is in position I
- 7: power supply I: 230 VAC (160-310 VAC)
- 8: power supply II: 230 VAC (160-310 VAC)

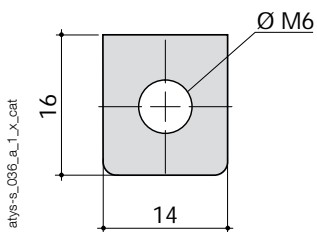
Includes a built-in dual power supply.

### Dimensions



a1ys-s\_024\_a\_1\_x\_cat

### Connection terminal



a1ys-s\_036\_a\_1\_x\_cat

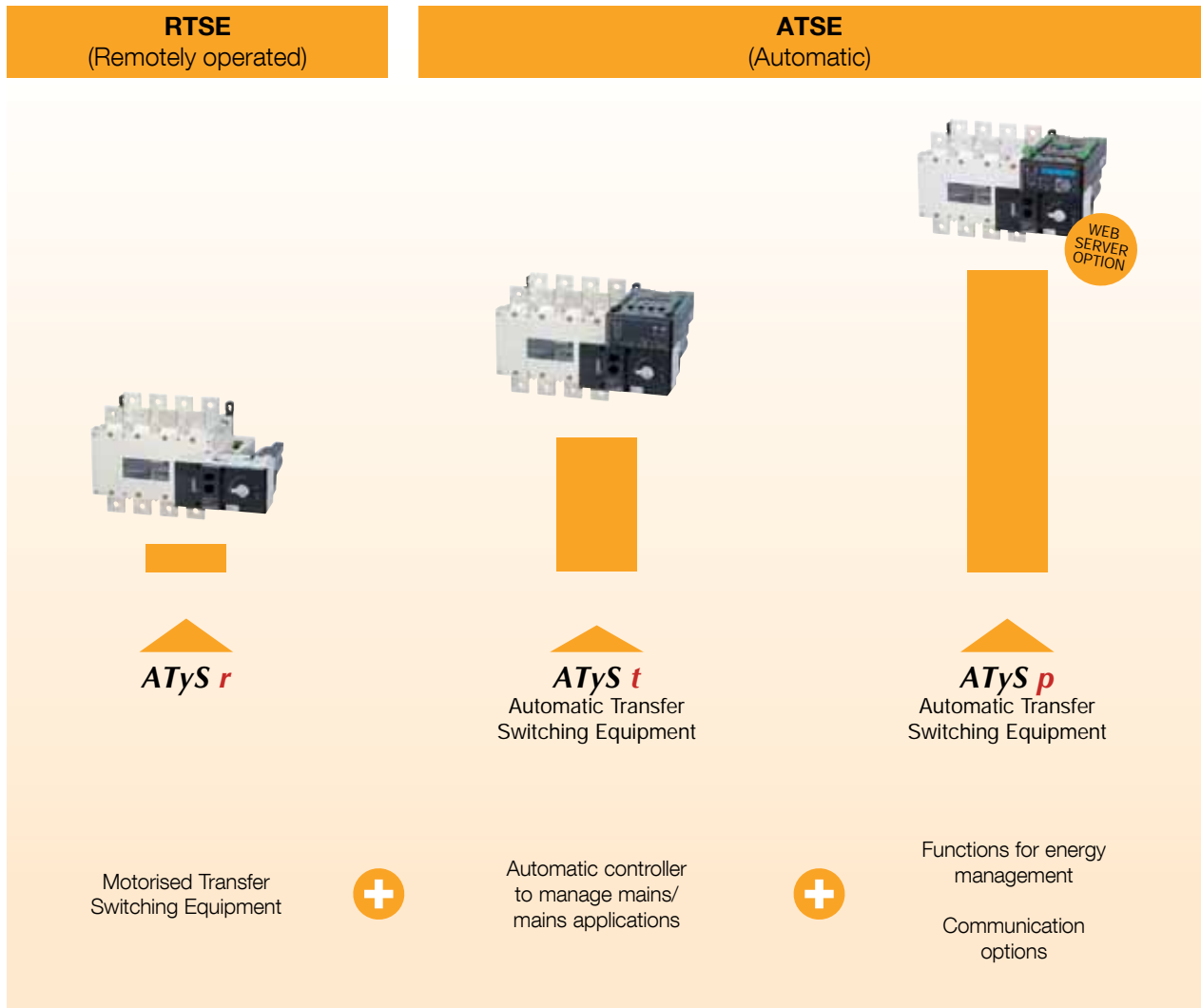


# The **ATyS** range: intuitive, reliable and robust solutions

Transfer switches

A complete range of automatic and remotely operated transfer switches from 125 to 3200 A

To meet the increasing demands of its users, the ATyS range is constantly evolving to offer new functions. Five product versions are available to find the right solution perfectly adapted to your application.



# The ATyS range: intuitive, reliable and robust solutions

## The advantages



### Safe operation

- Permanent indication of product availability (Watchdog relay).
- Positive break indication.
- Mechanical position interlocking.
- Padlocked mode to secure maintenance operations (lockout).
- Secure access to the product configuration.



### Robust integrated solution

A single product with all the functions:

- Integrated and tested solution: components factory assembled and wired.
- Greater reliability: compliance with IEC 60947-6-1, the standard governing transfer switches.

Proven SOCOMEC technology:

- Combination of two "back-to-back" (load break switch) PC class switches.
- Switching based on stable positions guaranteeing constant pressure on the contacts at all times.
- SIRCO contact technology used in numerous products for over 40 years.



### Intuitive use

- Manual emergency control: The product can be controlled **quickly and safely** using an emergency handle (motor installed or removed).
- User friendly selection of the operating mode (Auto/Manual) using an integrated selector.



### Rapid commissioning

- ATyS: no configuration required.
- ATyS t: configuration in just a few minutes using a screwdriver.
- ATyS p: simplified configuration (EASY CONFIG software and LCD display on the device).
- ATyS t, ATyS p: auto-configuration of the network parameters.



### Easy maintenance

- Self-cleaning sliding contacts.
- Easy replacement of the motor and the electronic unit, even on-load.

## Improved on load characteristics

IEC 60947-6-1/GB 14048-11

- AC 31B - up to 3200 A
- AC 32B - up to 2000 A
- AC 33B - up to 1250 A

IEC 60947-3

- AC 23B - up to 1250 A

## Expert Services

- > Study, definition, advice, implementation, maintenance and training...
- > Our Expert Services team offers customised support to make your project a success.





# ATyS r

Remotely operated transfer switching equipment  
from 125 to 3200 A

Transfer switches



atyS\_806\_a\_1\_cat

## The solution for

- > Applications with an external ATS/AMF controller
- > Building Management Systems (BMS)



## Strong points

- > Watchdog relay to check product availability
- > Integrated auxiliary contacts
- > Extended power supply range

## Conformity to standards

- > IEC 60947-6-1
- > IS/IEC 60947-3
- > GB 14048.11



## External automatic controller

- > The ATyS r are compatible with our ATyS C30 external controllers (for mains/mains and mains/genset applications) and ATyS C40 controllers (for genset/genset applications).

## Function

ATyS r are 3 or 4 pole remotely operated motorised transfer switches with positive break indication.

They enable the on-load transfer of two three-phase power supplies via remote volt-free contacts, from either an external automatic controller, using pulse logic, or a switch.

They are intended for use in low voltage power systems where interruption of the load supply is acceptable during transfer.

## Advantages

### Watchdog relay to check product availability

ATyS r products are equipped with a Watchdog relay which constantly monitors your product, thereby securing the installation.

This relay informs the user in real time of the product's availability, i.e. whether it is operational and ready for source switching.

### Integrated auxiliary contacts

As part of the product monitoring function, the ATyS r enable the transmission of information relating to their position. This is possible thanks to the standard integration of an auxiliary contact for each position.

### Extended power supply range

ATyS r products offer greater availability thanks to their extensive power supply range of 208 to 277 VAC  $\pm$  20%.

## References

**ATyS r**

Rating (A) / Frame size	No. of poles	ATyS r + Bridging bars	Auxiliary contacts	Terminal shrouds <sup>(2)</sup>	Terminal screens	Spreaders	Interphase barriers	Autotransformer 400/230VAC
125 A / B3	4 P	9523 4012SL	1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0502G	2694 4014A	Standard 1509 4012A  Wide 1509 4013A	4106 4016A	2998 5038A	400/230 VAC 1599 4064G
160 A / B3	4 P	9523 4016SL						
200 A / B3	4 P	9523 4020SL						
250 A / B4	4 P	9523 4025SL		2694 4021A	Standard 1509 4025A  Wide 1509 4026A	4106 4025A	2998 5028A	
315A / B4	4 P	9523 4031SL				4106 4040A		
400 A / B4	4 P	9523 4040SL						
500 A / B5	4 P	9523 4050SL	2694 4051A	Standard 1509 4063A  Wide 1509 4064A	4106 4050A	2998 5018A		
630 A / B5	4 P	9523 4063SL			4106 4063A			
800 A / B6	4 P	9523 4080SL						
1000 A / B6	4 P	9523 4100SL	1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0532G	Standard 1509 4080A  Wide 1509 4081A	4106 4120A	included		
1250 A / B6	4 P	9523 4120SL						
1600 A / B7	4 P	9523 4160SL						
2000 A / B8	4 P	9523 4200G <sup>(1)</sup>	1 <sup>st</sup> and 2 <sup>nd</sup> NO/NC contact included	Standard 1509 4160A	Standard 1509 4200G	included		
2500 A / B8	4 P	9523 4250G <sup>(1)</sup>						
3200 A / B8	4 P	9523 4320G <sup>(1)</sup>						

Also available in 3 poles.

(1) Without bridging bars, to get them see "Copper bar connection pieces"

(2) To shroud front switch top and bottom, order quantity 2.

page 79.

**Technical information**

- > Accessories: see page 78.
- > Characteristics: see page 86.
- > Terminals and connections: see page 88.
- > Dimensions: see page 90.



# ATyS t

Automatic transfer switching equipment  
from 125 to 3200 A

Transfer switches



### The solution for

- > Mains/mains applications (ATyS t)



### Strong points

- > Rapid commissioning
- > ATyS d with integrated controller for functions dedicated to mains/mains or mains/genset applications

### Conformity to standards

- > IEC 60947-6-1
- > IS/IEC 60947-3
- > GB 14048.11



## Function

ATyS t are 3 or 4 pole automatic transfer switches, with positive break indication. They incorporate all the functions offered by the ATyS d, as well as functions intended for **mains/mains** applications.

In automatic mode they enable the monitoring of, and the onload changeover between, two power supply sources, in accordance with the parameters configured via two potentiometers and four DIP switches.

They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

## Advantages

### Rapid commissioning

ATyS t switches offer significant time saving during commissioning (process takes 2 to 3 minutes). Owing to the design that allows commissioning through just two potentiometers and four DIP switches, a screwdriver is all that is required to configure the parameters.

For added simplicity, they also offer an autoconfiguration function which enables automatic adjustment of the rated voltage and frequency.

### Specifically designed for mains/mains applications

The ATyS t's integrated controller has been designed to provide only the functions required for these applications (operation with or without priority, preferred source selection) together with the monitoring of the voltage and frequency of both sources, for three-phase and single-phase networks.



## References

### ATyS t

Rating (A) / Frame size	No. of poles	ATyS t + Bridging bars	Voltage sensing and power supply kit	Auxiliary contacts	Terminal shrouds <sup>(2)</sup>	Terminal screens	Spreaders	Interphase barriers		
125 A / B3	4 P	9543 4012SL	1559 4012G	1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0502G	2694 4014A	Standard 1509 4012A  Wide 1509 4013A	4106 4016A	2998 5038A		
160 A / B3	4 P	9543 4016SL								
200 A / B3	4 P	9543 4020SL								
250 A / B4	4 P	9543 4025SL	1559 4025G	1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0502G	2694 4021A	Standard 1509 4025A  Wide 1509 4026A	4106 4025A	2998 5028A		
315 A / B4	4 P	9543 4031SL	1559 4040G				4106 4040A			
400 A / B4	4 P	9543 4040SL								
500 A / B5	4 P	9543 4050SL	1559 4063G	1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0532G	2694 4051A	Standard 1509 4063A  Wide 1509 4064A	4106 4050A	2998 5018A		
630 A / B5	4 P	9543 4063SL					4106 4063A			
800 A / B6	4 P	9543 4080SL	1559 4080G				1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0532G			Standard 1509 4080A  Wide 1509 4081A
1000 A / B6	4 P	9543 4100SL								
1250 A / B6	4 P	9543 4120SL	1559 4120G							
1600 A / B7	4 P	9543 4160SL	1559 4160G	1 <sup>st</sup> and 2 <sup>nd</sup> NO/NC contact included		Standard 1509 4160A				
2000 A / B8	4 P	9543 4200G <sup>(1)</sup>	1559 4200G					Standard 1509 4200G		
2500 A / B8	4 P	9543 4250G <sup>(1)</sup>								
3200 A / B8	4 P	9543 4320G <sup>(1)</sup>								

Also available in 3 poles.

(1) Without bridging bars, to get them see "Copper bar connection pieces" page 79.

(2) To shroud front switch top and bottom, order quantity 2.

### Technical information

- > For reference including Voltage sensing and power supply kit, add "VR" at the end of the above reference, from 125 to 1600 A. And replace "G" by "VR" for 2000 to 3200 A
- > Accessories: page 78.
- > Characteristics: page 86.
- > Terminals and connections: page 88.
- > Dimensions: page 90.



# ATyS p

Automatic transfer switching equipment  
from 125 to 3200 A

Transfer switches

atyS-p\_001\_Lb



## The solution for

- > Applications requiring power management and communication.



## Strong points

- > Optional communication modules
- > Recording of events
- > Configuration software
- > Power measurements
- > Possibility to set periodic genset startup

## Conformity to standards

- > IEC 60947-6-1
- > IS/IEC 60947-3
- > GB 14048.11



## Webserver

The Webserver function comprises HTML pages embedded in the Ethernet communication module.

These pages can be accessed via an internet browser, simply by entering the IP address.

The webserver offers the following functionalities:

- > Display of source status and switch position
- > Display of the main measurements
- > Extraction of the latest logged events
- > Display of the product configuration

## Function

ATyS p are 3 or 4 pole automatic transfer switches with positive break indication. They incorporate all the functions offered by the ATyS t and g, as well as functions designed for **power management and communication**.

In automatic mode they enable the monitoring of, and the on-load changeover between, two power supply sources, in accordance with the parameters configured through LCD display, or via communication.

They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

## Advantages

### Recording of events

ATyS p switches enable effective monitoring of your installation thanks to timestamped event recording.

Events can be retrieved and read via communication.

### Optional communication modules

The ATyS p offers communication functions through the addition of optional modules, such as the RS485 Modbus or Ethernet with embedded Webserver.

### Configuration software

Software (Easyconfig) is available enabling the ATyS p parameters to be easily configured and the existing configuration to be saved and sent to other units..

### Power measurements

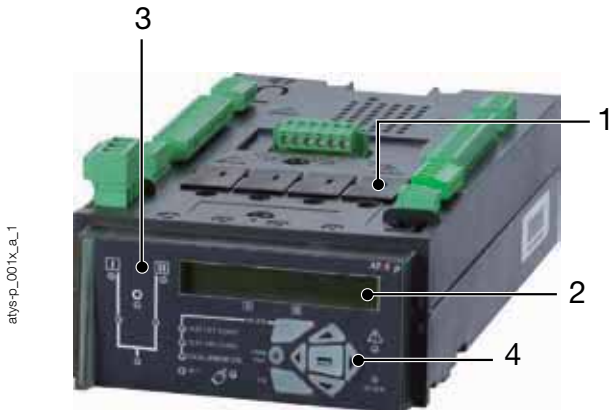
ATyS p products are particularly suited to energy management and monitoring.

In addition to their integrated power and energy measurement functions (with a 2% accuracy level), programmable inputs/outputs can be utilised to control load shedding based on a load level or tariff.

### Possibility to set periodic genset startup

ATyS p switches offer additional functions for maintenance. They include a programmable genset starting function which allows the starting dates and operating times to be configured.

## Front panel



1. Slots for optional plug-in modules.
2. Backlit LCD display.
3. Source availability and position indication LEDs.
4. Pushbuttons for programming and mode selection.

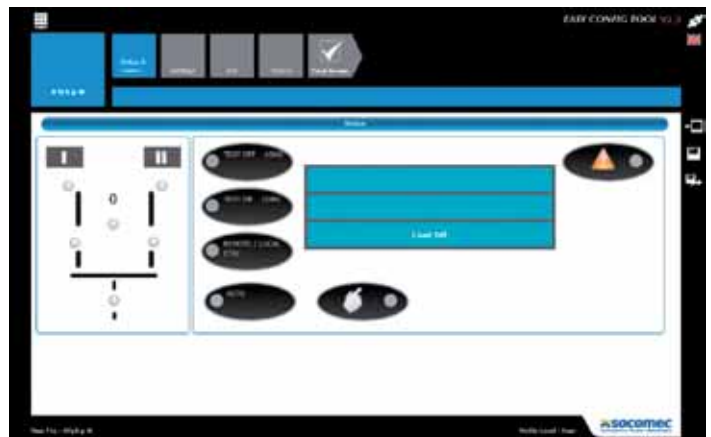
## Communication and configuration

### Easyconfig

Easyconfig software is the ideal solution to save time and simplify complex configuration.

Allows configuration of the following parameters:

- application type,
- voltage/frequency thresholds,
- timers,
- inputs/outputs...



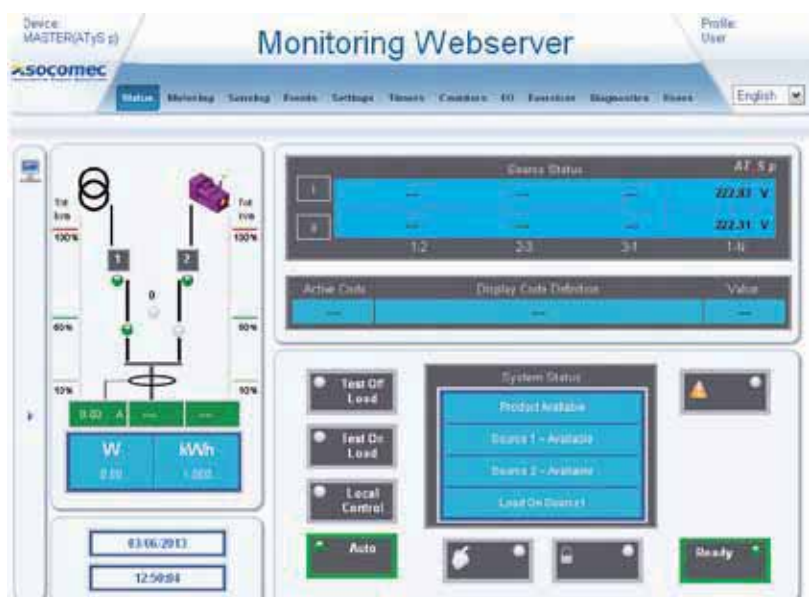
### Webserver

Thanks to optional modules, ATyS p can communicate in Modbus and Ethernet protocols.

The Ethernet communication module includes the Webserver function for access to the ATyS p via an internet browser.

The Webserver function enables:

- display of source status and switch position,
- display of voltage measurements,
- display of parameters,
- access to the list of logged events.



### References

#### ATyS p

Rating (A) / Frame size	N° of poles	ATyS p + Bridging bars	Voltage sensing and power supply kit	Auxiliary contacts	Terminal shrouds <sup>(2)</sup>	Terminal screens	Spreaders	Interphase barriers	Optional modules
125 A / B3	4 P	9573 4012SL	1559 4012G	1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0502G	2694 4014A	Standard 1509 4012A  Wide 1509 4013A	4106 4016A	2998 5038A	Only for ATyS p RS485 4825 0092G  2In/2Out 1599 2001G  Ethernet 4825 0203G  Ethernet + RS485 4825 0204G  Analogue outputs 4825 0093G  Pulse outputs 4825 0090G
160 A / B3	4 P	9573 4016SL							
200 A / B3	4 P	9573 4020SL							
250 A / B4	4 P	9573 4025SL	1559 4025G	2694 4021A	Standard 1509 4025A  Wide 1509 4026A	4106 4025A	2998 5028A		
315 A / B4	4 P	9573 4031SL	1559 4040G			4106 4040A			
400 A / B4	4 P	9573 4040SL	1559 4063G	2694 4051A	Standard 1509 4063A  Wide 1509 4064A	4106 4050A	2998 5018A		
500 A / B5	4 P	9573 4050SL				4106 4063A			
630 A / B5	4 P	9573 4063SL				4106 4063A			

Also available in 3 poles.

(1) Without bridging bars, to get them see "Copper bar connection pieces" page 79.

(2) To shroud front switch top and bottom, order quantity 2.

#### Technical information

> For reference including Voltage sensing and power supply kit, add "VR" at the end of the above reference, from 125 to 1600 A. And replace "G" by "VR" for 2000 to 3200 A

> Accessories: page 74.

> Characteristics: page 86.

> Terminals and connections: page 88.

> Dimensions: page 90.

ATyS p

Rating (A) / Frame size	N° of poles	ATyS p + Bridging bars	Voltage sensing and power supply kit	Auxiliary contacts	Terminal shrouds <sup>(2)</sup>	Terminal screens	Spreaders	Interphase barriers	Optional modules
800 A / B6	4 P	9573 4080SL	1559 4080G	1 <sup>st</sup> /2 <sup>nd</sup> NO/NC contact 1599 0532G		Standard 1509 4080A	4106 4120A	included	Only for ATyS p RS485 4825 0092G  2In/2Out 1599 2001G  Ethernet 4825 0203G  Ethernet + RS485 4825 0204G  Analogue outputs 4825 0093G  Pulse outputs 4825 0090G
1000 A / B6	4 P	9573 4100SL							
1250 A / B6	4 P	9573 4120SL	1559 4120G						
1600 A / B7	4 P	9573 4160SL	1559 4160G	1 <sup>st</sup> and 2 <sup>nd</sup> NO/NC contact included		Standard 1509 4160A			
2000 A / B8	4 P	9573 4200G <sup>(1)</sup>	1559 4200G			Standard 1509 4200G			
2500 A / B8	4 P	9573 4250G <sup>(1)</sup>							
3200 A / B8	4 P	9573 4320G <sup>(1)</sup>							

Also available in 3 poles.

(1) Without bridging bars, to get them see "Copper bar connection pieces" page 79.

(2) To shroud front switch top and bottom, order quantity 2.



# ATyS range

ATyS *r*, ATyS *t*, ATyS *p*  
from 125 to 3200 A

## Accessories

### Terminal shrouds

#### Use

IP2X protection against direct contact with terminals or connecting parts.

#### Advantages

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

Rating (A)	Frame size	No. of poles	Position	Reference
125 ... 200	B3	4 P	top / bottom / front (I) / rear (II)	2694 4014A <sup>(1)(2)</sup>
250 ... 400	B4	4 P	top / bottom / front (I) / rear (II)	2694 4021A <sup>(1)(2)</sup>
500 ... 630	B5	4 P	top / bottom / front (I) / rear (II)	2694 4051A <sup>(1)(2)</sup>

Also available in 3 poles.

(1) For complete shrouding at front, rear, top and bottom, order quantity 4; if equipped with bridging bars order quantity 3.

(2) For top and bottom shrouding for the front only, order quantity 2.



access\_206\_a\_2\_cat

### Terminal screens

#### Use

Upstream and downstream protection against direct contact with terminals or connection parts. In case of use of spreaders, use the wide screens.

For upstream and downstream protection, order quantity one.

Rating (A) / Frame size	No. of poles	Position	Type	Reference
125...200 / B3	4 P	Top and bottom	Standard screens	1509 4012A
	4 P		Wide screens	1509 4013A
250...400 / B4	4 P		Standard screens	1509 4025A
	4 P		Wide screens	1509 4026A
500...630 / B5	4 P		Standard screens	1509 4063A
	4 P		Wide screens	1509 4064A
800...1250 / B6	4 P		Standard screens	1509 4080A
	4 P		Wide screens	1509 4081A
1600 / B7	4 P		Standard screens	1509 4160A
2000...3200 / B8	4 P			1509 4200G

Also available in 3 poles.



access\_207\_a\_2\_cat

## Copper bar connection pieces

### Use

For ratings 2000 to 3200 A.

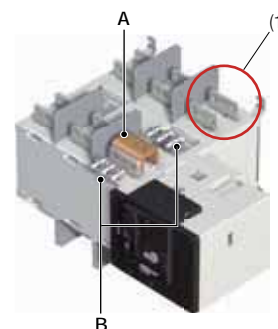
Enables:

- Flat connection: The connection pieces provide a link between the two power terminals of the same pole (Fig. 1).
- Edgewise connection: The connection pieces provide a link between the two power terminals of the same pole and an edgewise bar connection terminal.
- Top or bottom bridging between two poles (Fig. 3).

Once installed, the power terminal is connection ready

For 3200 A rating, connection pieces (part A) are supplied as standard. Bolt sets must be ordered separately.

Fig. 1



access\_459\_a\_1\_x\_cat

(1) Single pole connection: 1 pole (top or bottom) comprises two power terminals which are to be linked with the copper connection kit.

Connection: The quantities given in the below table refer to the number of pieces required per pole, top or bottom.

Bridging connection: The quantities given refer to the number of pieces required to complete a single bridging connection between two poles.

	Reference	2000 – 2500 A			3200 A		
		Fig. 1	Fig. 2	Fig. 3	Fig. 1	Fig. 2	Fig. 3
		Connection		Bridging connection I - II	Connection		Bridging connection I - II
Connection - part A	2619 1200	1	1			included	
Bolt kit 35 mm - part B	2699 1201	1 <sup>(1)</sup>		2 <sup>(2)</sup>	1 <sup>(1)</sup>		2 <sup>(2)</sup>
Bolt kit 45 mm - part B	2699 1200	1 <sup>(1)</sup>			1 <sup>(1)</sup>		
T + Bolt kit - part C	2629 1200		1	1		1	1
Bracket + Bolt kit - part D	2639 1200		1			1	
Bar + Bolt kit - part E	4109 0320			1			1

(1) Choose the bolt length according to the thickness of the bars being connected: if bar thickness is greater than 20 mm, 45 mm bolts are required.

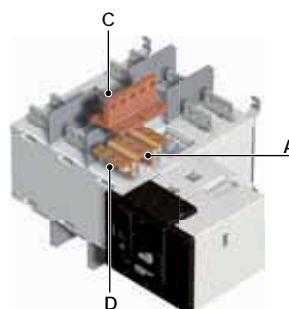
(2) For bridging connections, quantity 2 pieces are required for creating the link between the two power terminals of the same pole for switch bodies I and II.

The quantities of the applicable pieces then need to be multiplied by the number of connection points (power terminals) in order to determine the total quantity required of each part.

Example: For a 4 pole 2500 A SIRCOVER with upstream edgewise connection (Fig. 2) and downstream bridging (Fig. 3), the following quantities will be required:

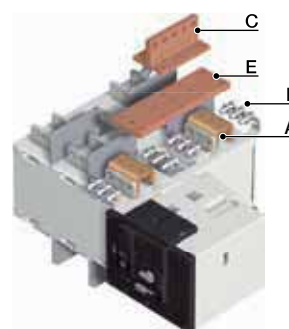
Part	Upstream edgewise quantity	Downstream bridging quantity	Total quantity
A	8	8	16
B	0	8	8
C	8	4	12
D	8	0	8
E	0	4	4

Fig. 2



access\_460\_a\_1\_x\_cat

Fig. 3



access\_461\_a\_1\_x\_cat

## Spreaders

### Use

They widen the terminals of the products, therefore enabling bigger Aluminium connections.

Rating (A) / Frame size	No. of poles	Reference
125 ... 200 / B3	4 P	4106 4016A
250 / B4	4 P	4106 4025A
315 ... 400 / B4	4 P	4106 4040A
500 A / B5	4 P	4106 4050A
630 / B5	4 P	4106 4063A

Also available in 3 poles.



access\_474\_a\_eps

# ATyS range

ATyS r, ATyS t, ATyS p  
from 125 to 3200 A

## Accessories (continued)

### Autotransformer

#### Use

For applications without neutral, this autotransformer provides the 230 VAC required to power these ATyS products.

Rating (A)	Frame size	Reference
125 ... 3200	B3 ... B8	1599 4064G

### Voltage tapping and power supply kit

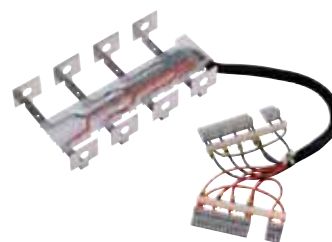
#### Use

For power supply and voltage measurement (4 wire, three-phase) for the ATyS t, g and p. Routing of the conductors is controlled, which means that no specific protective device is necessary for these connections.

The kit can be fitted on the top or bottom of the switch.

**Note: the 3-pole version does not integrate the power supply.**

125 to 630 A kit



atys\_606\_a\_1\_cat

800 to 3200 A kit



atys\_606\_a\_2\_cat

#### For ATyS t, g and ATyS p - 3 pole

Rating (A)	Frame size	Reference
125 ... 200	B3	1559 3012G
250	B4	1559 3025G
315 ... 400	B4	1559 3040G
500 ... 630	B5	1559 3063G
800 ... 1000	B6	1559 3080G
1250	B6	1559 3120G
1600	B7	1559 3160G
2000 ... 3200	B8	1559 3200G

#### For ATyS t, g and ATyS p - 4 pole

Rating (A)	Frame size	Reference
125 ... 200	B3	1559 4012G
250	B4	1559 4025G
315 ... 400	B4	1559 4040G
500 ... 630	B5	1559 4063G
800 ... 1000	B6	1559 4080G
1250	B6	1559 4120G
1600	B7	1559 4160G
2000 ... 3200	B8	1559 4200G

### Voltage relay

#### Use

The DS is a voltage relay for monitoring a single power supply.

If it detects a fault in the source, the default relay contact closes.

Rating (A)	Reference
DS	192X 0056G



atys\_762\_a\_1\_cat



## Door protective surround

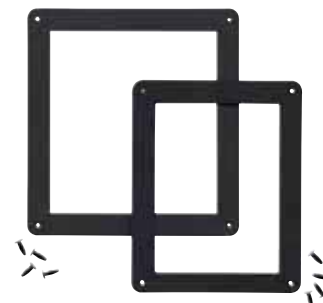
### Use

Door surround to provide a clean and safe finish to the panel's cut-out.

For ATyS r		
Rating (A)	Frame size	Reference
125 ... 630	B3 ... B5	1529 0012G
800 ... 3200	B6 ... B8	1529 0080G

For ATyS t, and ATyS p		
Rating (A)	Frame size	Reference
125 ... 630	B3 ... B5	1539 0012G
800 ... 3200	B6 ... B8	1539 0080G



atys\_595\_a\_2\_cat

## Auxiliary contact

### Use

Pre-break and signalling of positions I and II: each reference provides 1 NO/NC auxiliary contact for positions I and II. Possibility to install up to 2 auxiliary contacts for each position.

Low level AC: contact us. ATyS are supplied with 1 NO aux contact for all three positions as standard.

Rating (A)	Frame size	Nominal current (A)	Operating current I <sub>e</sub> (A)			
			250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
125 ... 3200	B3 ... B8	16	12	8	14	6

Rating (A)	Frame size	Type of mounting	Reference
125 ... 630	B3 ... B5	Customer fit	1599 0502G
800 ... 1600	B6 ... B7	Customer fit	1599 0532G
2000 ... 3200	B8	-	2 AC per position fitted as standard



800 to 1600 A

If additional auxiliary contacts are required please consult us.



125 to 630 A

access\_396\_a

access\_397\_a

## Mounting spacers

### Use

Increases the distance between the rear power terminals and the backplate by 1 cm.

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

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



atys\_009\_a\_2\_cat

## Key handle interlocking system

### Use

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

As standard, locking in position 0.  
 With the 3 position padlocking accessory: key interlocking in I, 0 & II.

Rating (A)	Frame size	Reference
125 ... 630	B3 ... B5	9599 1006G
800 ... 3200	B6 ... B8	9599 1004G



atys\_888\_a

# ATyS range

ATyS r, ATyS t, ATyS p  
from 125 to 3200 A

## Accessories (continued)

### Plug-in optional modules

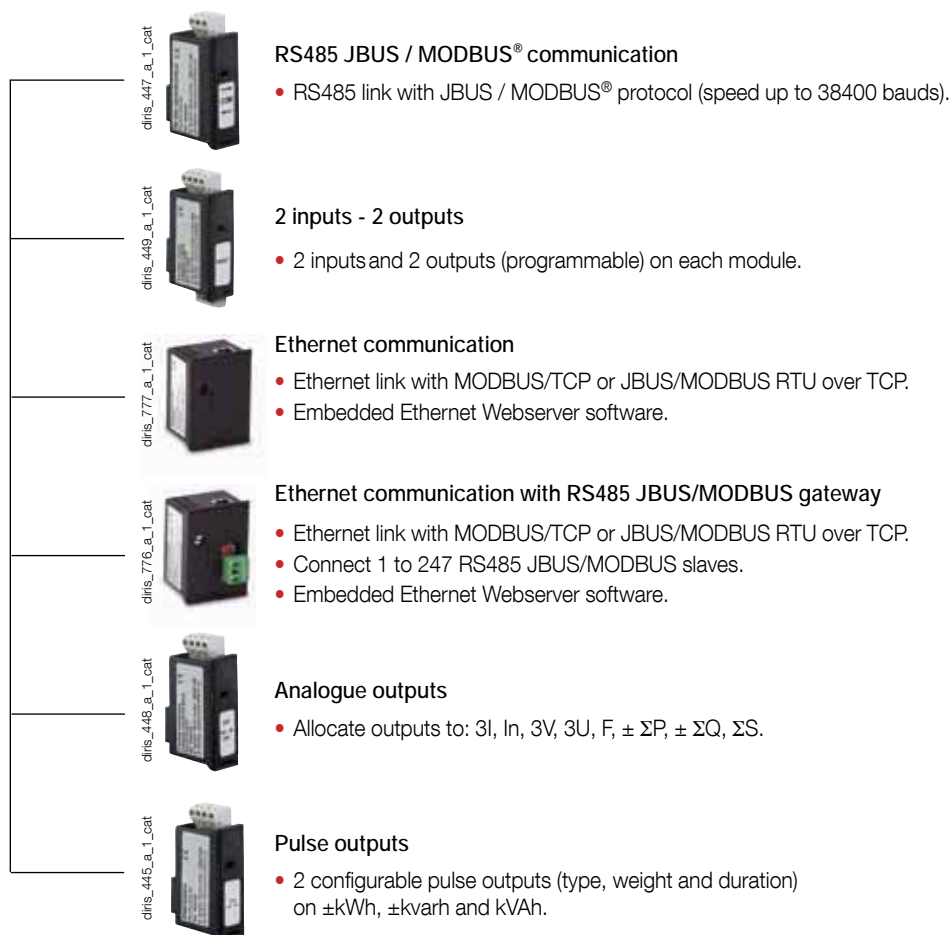
Use - for ATyS p only

Number of modules per device

A maximum of four modules can be fitted to each ATyS p, unless you are using either Ethernet communication module. In this case, you can connect up to 2 modules as well as the Ethernet communication module.



atys\_016\_c\_1\_cat



Description of accessories	Reference
RS485 MODBUS communication	4825 0092G
2 inputs - 2 outputs	1599 2001G
Ethernet communication (embedded Ethernet Webserver software)	4825 0203G
Ethernet communication + RS485 JBUS/MODBUS gateway (embedded Ethernet Webserver software)	4825 0204G
Analogue outputs	4825 0093G
Pulse outputs	4825 0090G

## Remote interfaces

### Use

To remotely display source availability and position indication typically used on the front of a panel when the product is enclosed. Interfaces are powered from the ATyS transfer switch via the RJ45 connection cable.

Maximum cable length: 3 m.

### D10 - for ATyS t

To display source availability and position indication on the front panel of an enclosure. Protection degree: IP21

### D20 - for ATyS p

In addition to the functions of the D10, the D20 displays measurements and enables control and configuration from the front of a panel.

Protection degree: IP21

### Door mounting

2 holes  $\varnothing 22.5$ .

ATyS transfer switch via RJ45 cable, not isolated. Cable available as an accessory.

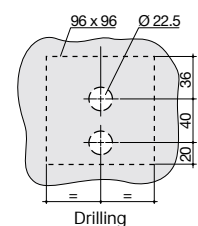


atys\_564\_d\_1\_cat

atys\_565\_d\_1\_cat



RJ45 port to connect to ATyS.



atys\_161\_a\_1\_x\_cat

Description of accessories	Reference
D10	9599 2010G
D20	9599 2020G

## Connecting cable for remote interfaces

### Use

To connect between a remote interface (type D10 or D20) and a control product (ATyS t or ATyS p).

### Characteristics

RJ45 8 straight-through, non insulated cables, length 3 m.

For ATyS t and ATyS p		
Type	Length	Reference
RJ45 cable	3 m	1599 2009G



access\_209\_a\_2\_cat

# ATyS range

ATyS r, ATyS t, ATyS p  
from 125 to 3200 A

## Accessories (continued)

### Sealable cover

Use - for ATyS t

Prevents access to the configuration of ATyS t devices (seals supplied).

Rating (A)	Frame size	Reference
125 ... 3200	B3 ... B8	9599 0000G



atys\_870\_a

### Auto/Manual key selector

Use

Replaces the standard Auto/Manual selector knob with a key selector.

Rating (A)	Frame size	Reference
125 ... 3200	B3 ... B8	9599 1007G



atys\_869\_a

### Double power supply - DPS

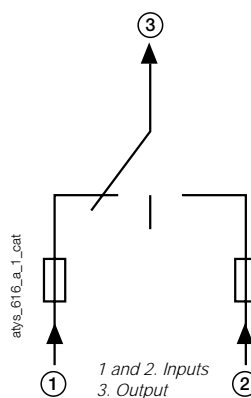
Use

Allows an ATyS r 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 mm<sup>2</sup>.
- Modular device: 4 module width.

Description of accessories	Reference
DPS	1599 4001G



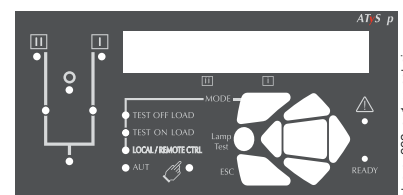
atys\_612\_a\_2\_cat

## Spares

### ATyS p front panel

This front panel is used, for the ATyS p only, if source 2 is connected to unit I and source 1 is connected to unit II. Positions I and II are reversed on the front panel.

Product model	Reference
ATyS p	9599 1008G



### Electronic module

The electrical components of the ATyS t and ATyS p are easy to replace in case there is a problem, even when on-load.

Product model	Reference
ATyS t	9549 2001G
ATyS p	9579 2001G



### Motorisation module

The motor units of the ATyS t and ATyS p are easy to replace in case there is a problem, even when on-load.

Rating (A)	Reference
125 ... 200	9509 5020G
250 ... 400	9509 5040G
500 ... 630	9509 5063G
800 ... 1250	9509 5120G
1600	9509 5160G
2000 ... 3200	9509 5320G



## Characteristics according to IEC 60947-3 and IEC 60947-6-1

### 125 to 630 A

Thermal current $I_{th}$ to 40°C	125 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A
<b>Frame size</b>	<b>B3</b>	<b>B3</b>	<b>B3</b>	<b>B4</b>	<b>B4</b>	<b>B4</b>	<b>B5</b>	<b>B5</b>
Rated insulation voltage $U_i$ (V) (power circuit)	800	800	800	1000	1000	1000	1000	1000
Rated impulse withstand voltage $U_{imp}$ (kV) (power circuit)	8	8	8	12	12	12	12	12
Rated insulation voltage $U_i$ (V) (control circuit)	300	300	300	300	300	300	300	300
Rated impulse withstand voltage $U_{imp}$ (kV) (control circuit)	4	4	4	4	4	4	4	4
<b>Rated operational currents <math>I_e</math> (A) according to IEC 60947-3</b>								
<b>Rated voltage</b>	<b>Utilisation category</b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>	<b>A/B<sup>(1)</sup></b>
415 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500
415 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500
415 VAC	AC-23 A / AC-23 B	125/125	160/160	200/200	200/200	315/315	400/400	500/500
500 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500
500 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	200/200	315/315	200/400	500/500
500 VAC	AC-23 A / AC-23 B	80/80	80/80	80/80	200/200	200/200	200/200	400/400
690 VAC <sup>(3)</sup>	AC-21 A / AC-21 B	125/125	160/160	200/200	200/200	200/200	200/200	500/500
690 VAC <sup>(3)</sup>	AC-22 A / AC-22 B	125/125	125/125	125/125	160/160	160/160	160/160	400/400
690 VAC <sup>(3)</sup>	AC-23 A / AC-23 B	63/80	63/80	63/80	125/125	125/125	125/125	400/400
220 VDC	DC-21 A / DC-21 B	125/125	160/160	200/200	250/250	250/250	250/250	500/500
220 VDC	DC-22 A / DC-22 B	125/125	160/160	200/200	250/250	250/250	250/250	500/500
220 VDC	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500
440 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500
440 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500
440 VDC <sup>(2)</sup>	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500
<b>Rated operational currents <math>I_e</math> (A) according to IEC 60947-6-1</b>								
<b>Rated voltage</b>	<b>Utilisation category</b>							
415 VAC	AC-31 B	125	160	200	250	315	400	500
415 VAC	AC-32 B				200	315	400	500
415 VAC	AC-33 B				200	200	200	400
<b>Current rated as conditional short-circuit with fuse gG DIN, according to IEC 60947-3</b>								
Prospective fuse protected short-circuit withstand at 415 VAC(6)		100	100	50	50	50	50	50
Prospective fuse protected short-circuit withstand at 690 VAC(kA rms)					50	50	50	50
Associated fuse rating (A)		125	160	200	250	315	400	500
<b>Short-circuit withstand without protection as per IEC 60947-3</b>								
Rated short-time withstand current 0.3s $I_{cw}$ at 415 VAC (kA rms)		12	12	12	15 <sup>(4)</sup>	15 <sup>(4)</sup>	15 <sup>(4)</sup>	17 <sup>(4)</sup>
Rated short-time withstand current 1s $I_{cw}$ at 415 VAC (kA rms)		7	7	7	8 <sup>(4)</sup>	8 <sup>(4)</sup>	8 <sup>(4)</sup>	11 <sup>(4)</sup>
Rated peak withstand current at 415 VAC (kA peak)		20	20	20	30	30	30	45
<b>Short-circuit withstand without protection as per IEC 60947-6-1</b>								
Rated short-time withstand current 30 ms $I_{cw}$ at 415 VAC (kA rms)		10	10	10	10	10	10	
Rated short-time withstand current 60 ms $I_{cw}$ at 415 VAC (kA rms)							10	12.6
<b>Connection</b>								
Minimum Cu cable cross-section as per IEC 60947-1 (mm <sup>2</sup> )		35	35	50	95	120	185	2 x 95
Recommended Cu busbar cross-section (mm <sup>2</sup> )								2 x 32 x 5
Maximum Cu cable cross-section (mm <sup>2</sup> )		50	95	120	150	240	240	2 x 185
Maximum Cu busbar width (mm)		25	25	25	32	32	32	50
Min./max. tightening torque (Nm)		9/13	9/13	9/13	20/26	20/26	20/26	40/45
<b>Switching time (rated voltage, after receiving command)</b>								
Transfer time I-II or II-I (s)		0.85	0.85	0.85	0.9	0.9	0.9	0.95
I-0 or II-0 (s)		0.55	0.55	0.55	0.5	0.5	0.5	0.55
Contact transfer time ("black-out" I-II) minimum (s)		0.3	0.3	0.3	0.4	0.4	0.4	0.4
<b>Power supply</b>								
Min./max. power (VAC)		166/332	166/332	166/332	166/332	166/332	166/332	166/332
<b>Control supply power demand</b>								
Demand/rated power (VA) - ATyS r		184/92	184/92	184/92	276/115	276/115	276/115	276/150
Demand/rated power (VA) - ATyS t, ATyS p		206/114	206/114	206/114	298/137	298/137	298/137	298/172
<b>Mechanical specifications</b>								
Durability (number of operating cycles)		10000	10000	10000	8000	8000	8000	5000
Weight ATyS r 3 P / 4 P (kg)		5.7/ 6.9	5.7/ 6.9	5.7/ 6.9	6.6/ 7.4	6.7/ 7.8	6.7/ 7.8	11.4/ 13.3
Weight ATyS t, ATyS p 3 P / 4 P (kg)		6.8/ 8.0	6.8/ 8.0	6.8/ 8.0	7.7/ 8.5	7.8/ 8.9	7.8/ 8.9	12.5/ 14.4

(1) Category with index A = frequent operation - Category with index B = infrequent operation. (3) Interphase barriers must be installed on the products.  
 (2) 3-pole device with 2 pole in series for the "+" an 1 pole for the "-". (4) Values given at 690 VAC.  
 4-pole device with 2 poles in series by polarity.

## 800 to 3200 A

Thermal current $I_{th}$ at 40°C	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A
<b>Frame size</b>	<b>B6</b>	<b>B6</b>	<b>B6</b>	<b>B7</b>	<b>B8</b>	<b>B8</b>	<b>B8</b>
Rated insulation voltage $U_i$ (V) (power circuit)	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage $U_{imp}$ (kV) (power circuit)	12	12	12	12	12	12	12
Rated insulation voltage $U_i$ (V) (control circuit)	300	300	300	300	300	300	300
Rated impulse withstand voltage $U_{imp}$ (kV) (control circuit)	4	4	4	4	4	4	4

### Rated operational currents $I_e$ (A) according to IEC 60947-3

Rated voltage	Utilisation category	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>	A/B <sup>(1)</sup>
415 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/2500	-/3200
415 VAC	AC-22 A / AC-22 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/2500	-/3200
415 VAC	AC-23 A / AC-23 B	800/800	1000/1000	1250/1250	1250/1250	-/1600	-/1600	-/1600
500 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/2000	-/2000
500 VAC	AC-22 A / AC-22 B	630/630	800/800	1000/1000	1600/1600			
500 VAC	AC-23 A / AC-23 B	630/630	630/630	800/800	800/800	1000/1000		
690 VAC <sup>(3)</sup>	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/2000	-/2000
690 VAC <sup>(3)</sup>	AC-22 A / AC-22 B	630/630	800/800	1000/1000	1000/1000			
690 VAC <sup>(3)</sup>	AC-23 A / AC-23 B	630/630	630/630	800/800	800/800			
220 VDC	DC-21 A / DC-21 B	800/800	1000/1000	1250/1250	1250/1250			
220 VDC	DC-22 A / DC-22 B	800/800	1000/1000	1250/1250	1250/1250			
220 VDC	DC-23 A / DC-23 B	800/800	1000/1000	1250/1250	1250/1250			
440 VDC <sup>(2)</sup>	DC-21 A / DC-21 B	800/800	1000/1000	1250/1250	1250/1250			
440 VDC <sup>(2)</sup>	DC-22 A / DC-22 B	800/800	1000/1000	1250/1250	1250/1250			
440 VDC <sup>(2)</sup>	DC-23 A / DC-23 B	800/800	1000/1000	1250/1250	1250/1250			

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

Rated voltage	Utilisation category							
415 VAC	AC-31 B	800	1000	1250	1600	2000	2500	3200
415 VAC	AC-32 B	800	1000	1250	1250	2000	2000	2000
415 VAC	AC-33 B	800	1000	1000	1000	1250	1250	1250

### Current rated as conditional short-circuit with fuse gG DIN, according to IEC 60947-3

Prospective fuse protected short-circuit withstand at 415 VAC (kA rms)	50	50	100	100				
Prospective fuse protected short-circuit withstand at 690 VAC (kA rms)	50	50	50					
Associated fuse rating (A)	800	1000	1250	2x800				

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

Rated short-time withstand current 0.3s $I_{sc}$ at 415 VAC (kA rms)	64	64	64	78	78	78	78
Rated short-time withstand current 1s $I_{sc}$ at 415 VAC (kA rms)	35	35	35	50	50	50	50
Rated peak withstand current at 415 VAC (kA peak)	55	55	80	110	120	120	120

### Short-circuit withstand without protection as per IEC 60947-6-1

Rated short-time withstand current 30 ms $I_{sc}$ at 415 VAC (kA rms)							
Rated short-time withstand current 60 ms $I_{sc}$ at 415 VAC (kA rms)	20	20	25	32	50	50	50

### Connection

Minimum Cu cable cross-section as per IEC 60947-1 (mm <sup>2</sup> )	2 x 185						
Recommended Cu busbar cross-section (mm <sup>2</sup> )	2 x 50 x 5	2 x 63 x 5	2 x 60 x 7	2 x 100 x 5	3 x 100 x 5	2 x 100 x 10	3 x 100 x 10
Maximum Cu cable cross-section (mm <sup>2</sup> )	4 x 185	4 x 185	4 x 185	6 x 185			
Maximum Cu busbar width (mm)	63	63	63	100	100	100	100
Min./max. tightening torque (Nm)	9/13	9/13	20/26	40/45	40/45	40/45	40/45

### Switching time (rated voltage, after receiving command)

Transfer time I-II or II-I (s)	2.8	2.8	2.8	2.9	2.8	2.8	2.8
I-0 or II-0 (s)	1.4	1.4	1.4	1.4	1.8	1.8	1.8
Contact transfer time ("black-out" I-II) minimum (s)	1.4	1.4	1.4	1.5	1	1	1

### Power supply

Min./max. power (VAC)	166/332	166/332	166/332	166/332	166/332	166/332	166/332
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### Control supply power demand

Demand/rated power (VA) - ATyS r	460/184	460/184	460/184	460/230	812/322	812/322	812/322
Demand/rated power (VA) - ATyS t, ATyS p	482/206	482/206	482/206	482/252	834/344	834/344	834/344

### Mechanical specifications

Durability (number of operating cycles)	4000	4000	4000	3000	3000	3000	3000
Weight ATyS r 3 P / 4 P (kg)	27.9/ 32.2	28.4/ 32.9	28.9/ 33.6	33.1/ 39.4	50.7/ 61.6	50.7/ 61.6	61.0/ 75.3
Weight ATyS t, ATyS p 3 P / 4 P (kg)	29.0/ 33.3	29.5/ 34.0	30.0/ 34.7	34.2/ 40.5	51.8/ 62.7	51.8/ 62.7	62.1/ 76.4

(1) Category with index A = frequent operation - Category with index B = infrequent operation. (3) Interphase barriers must be installed on the products.

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

(4) Values given at 690 VAC.

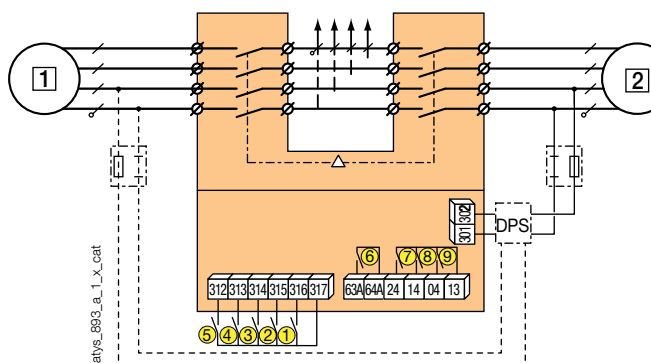
4-pole device with 2 poles in series by polarity.

# ATyS range

ATyS r, ATyS t, ATyS p  
from 125 to 3200 A

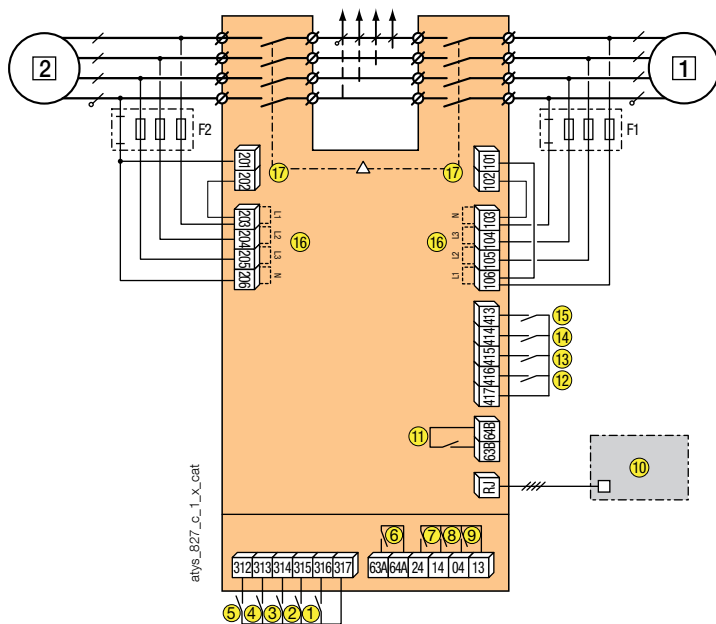
## Connections and terminals

### ATyS r



- 1 primary source (network or genset)
- 2 backup source (mains network or genset)
- 1: position 0 control (contact or logic if closed)
- 2: position I control
- 3: position II control
- 4: primary control position 0
- 5: closing this contact allows position control commands
- 6: product availability relay
- 7: auxiliary contact - closed when the switch is in position II
- 8: auxiliary contact - closed when the switch is in position I
- 9: auxiliary contact - closed when the switch is in position 0

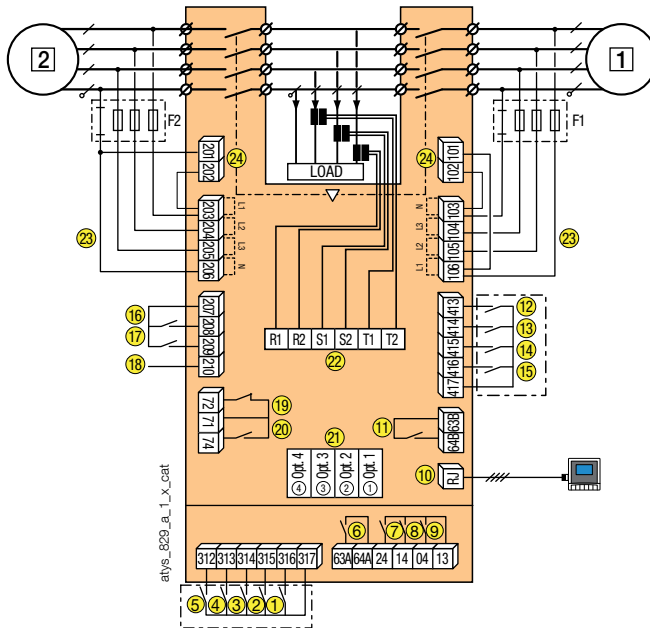
### ATyS t



- 1 primary source (mains network)
- 2 backup source (mains)
- 1: position 0 control (contact or logic if closed)
- 2: position I control
- 3: position II control
- 4: primary control position 0
- 5: closing this contact allows position control commands
- 6: Motor unit availability relay
- 7: auxiliary contact - closed when the switch is in position II
- 8: auxiliary contact - closed when the switch is in position I
- 9: auxiliary contact - closed when the switch is in position 0
- 10: D10 remote interface
- 11: Electrical unit availability relay
- 12: automatic operation inhibited
- 13: confirm manual retransfer
- 14: preferred source selection
- 15: function with or without priority
- 16: voltage inputs
- 17: power inputs



ATyS p



- 1 primary source (network or genset)
- 2 backup source (network or genset)
  - 1: position 0 control (contact or logic if closed)
  - 2: position I control
  - 3: control position II
  - 4: primary control position 0
  - 5: closing this contact allows position control commands
  - 6: Motor unit availability relay
  - 7: auxiliary contact - closed when the switch is in position II
  - 8: auxiliary contact - closed when the switch is in position I
  - 9: auxiliary contact - closed when the switch is in position 0
  - 10: D20 remote interface
  - 11: Electrical unit availability relay
  - 12-17: programmable inputs
  - 18: auxiliary power supply for optional modules
  - 19-20: genset start and stop commands

Order	71/72 (19)	71/74 (20)
Genset start-up	Closed contact	Open contact
Genset stop	Open contact	Closed contact

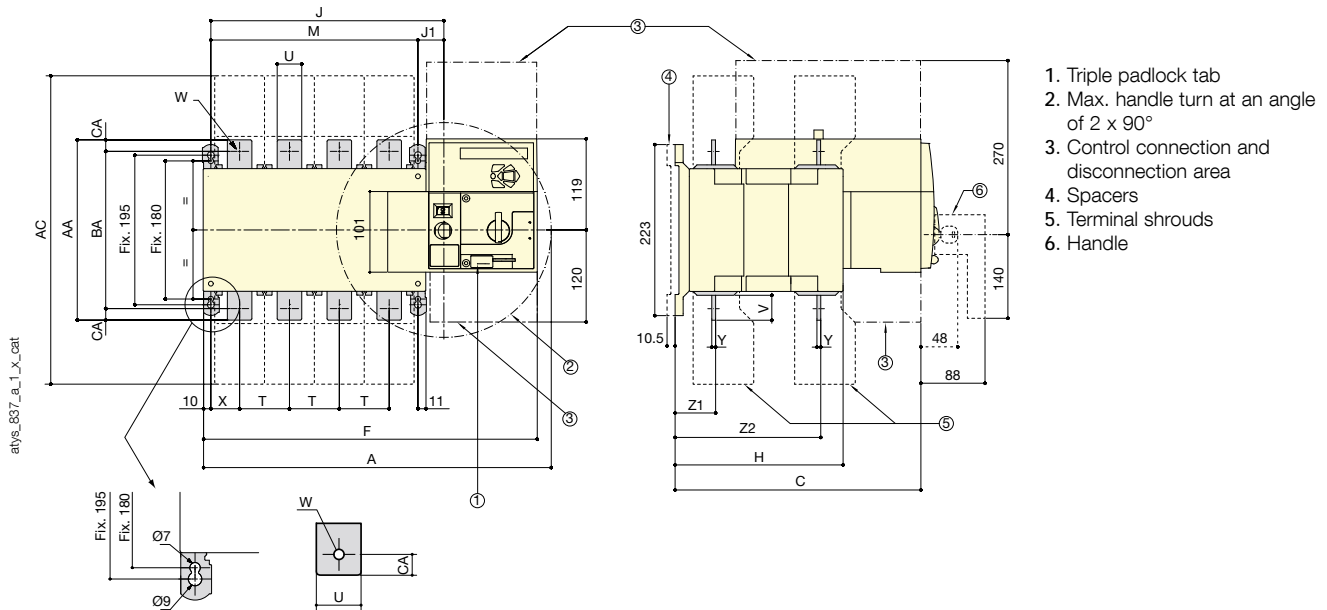
- 21 : 4 slots for optional modules
- 22: T1 measurement connection
- 23 : voltage inputs
- 24: power inputs

# ATyS range

ATyS r, ATyS t, ATyS p  
from 125 to 3200 A

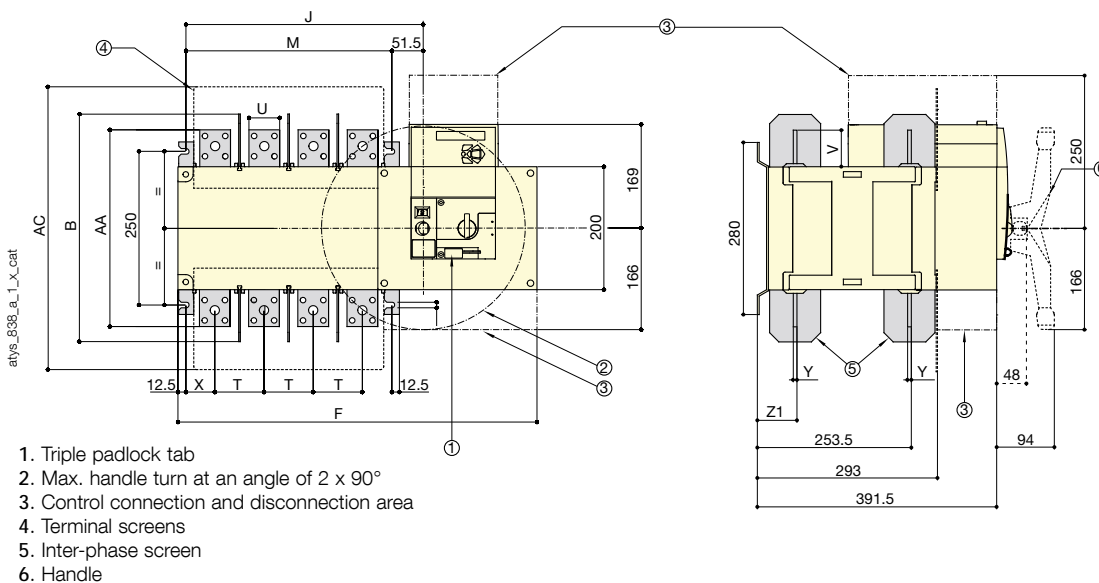
## Dimensions

### 125 to 630 A / B3 to B5



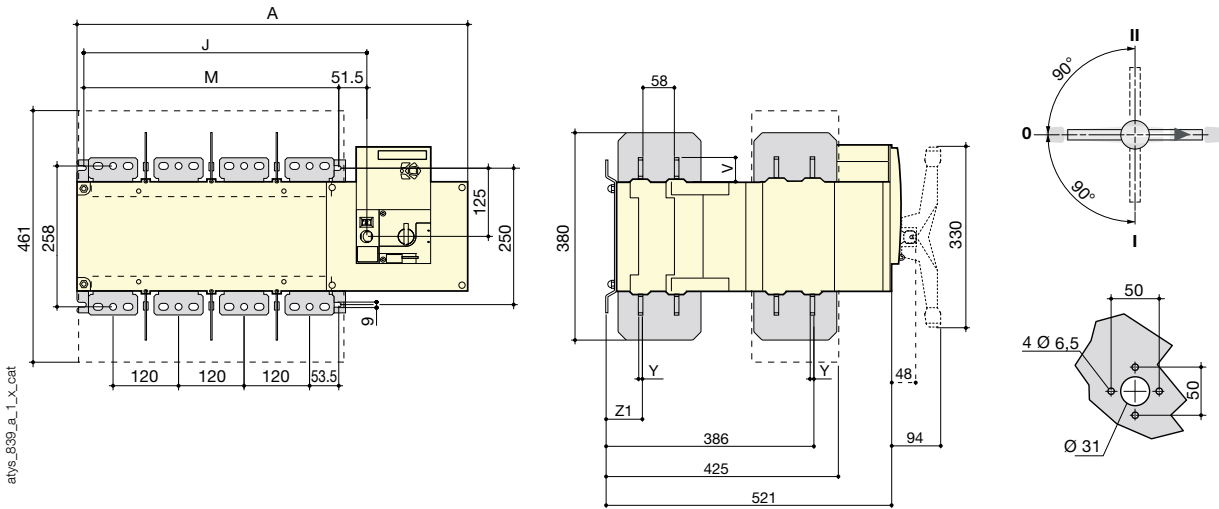
Rating (A) / Frame size	Overall dimensions		Terminal shrouds		Switch body			Switch mounting		Connection									
	A 4p.	C	AC	F 4p.	H	J 4p.	J1	M 4p.	T	U	V	W	X 4p.	Y	Z1	Z2	AA	BA	AC
125 / B3	334	244	233	317	151	184	34	150	36	20	25	9	22	3.5	38	134	135	115	10
160 / B3	334	244	233	317	151	184	34	150	36	20	25	9	22	3.5	38	134	135	115	10
200 / B3	334	244	233	317	151	184	34	150	36	20	25	9	22	3.5	38	134	135	115	10
250 / B4	395	244	288	378	152	245	35	210	50	25	30	11	33	3.5	39.5	133.5	160	130	15
315 / B4	395	244	288	378	152	245	35	210	50	35	35	11	33	3.5	39.5	133.5	170	140	15
400 / B4	395	244	288	378	152	245	35	210	50	35	35	11	33	3.5	39.5	133.5	170	140	15
500 / B5	454	320.5	402	437	221	304	34	270	65	32	50	14	37.5	5	53	190	260	220	15
630 / B5	454	320.5	402	437	221	304	34	270	65	45	50	13	37.5	5	53	190	260	220	20

### 800 to 1600 A / B6 to B7



Rating (A) / Frame size	Overall dimensions		Terminal shrouds		Switch body		Switch mounting			Connection				
	B	AC	F 4p.	J 4p.	M 4p.	T	U	V	X	Y	Z1	AA		
800 / B6	370	461	584	386.5	335	80	50	60.5	47.5	7	66.5	321		
1000 / B6	370	461	584	386.5	335	80	50	60.5	47.5	7	66.5	321		
1250 / B6	370	461	584	386.5	335	80	60	65	47.5	7	66.5	330		
1600 / B7	380	531	716	518.5	467	120	90	44	53	8	67.5	288		

2000 to 3200 A / B8

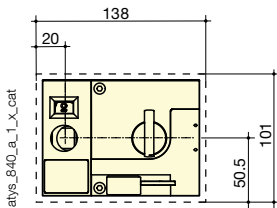


Rating (A)	Overall dimensions		Terminal shrouds		Switch body		Switch mounting		Connection					
	B	AC	A 4p.	J 4p.	M 4p.	T	U	V	X	Y	Z1	AA		
2000 ... 3200	380	531	716	519	467	120	90	44	53	8	67.5	288		

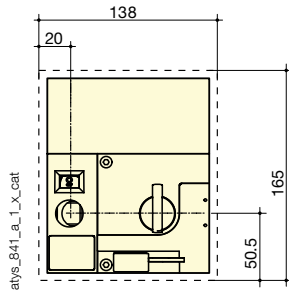
Door cutout

125 to 630 A / B3 to B5

ATyS r

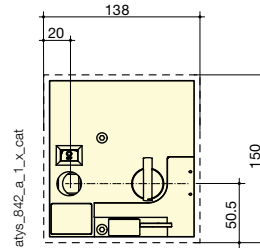


ATyS t, ATyS p

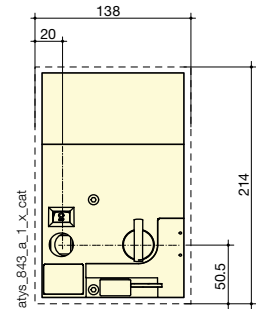


800 to 1600 A / B6 to B7

ATyS r

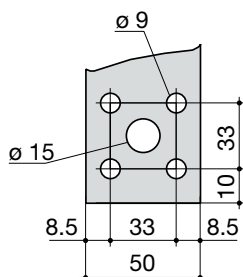


ATyS t, ATyS p

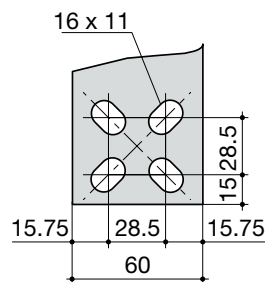


Connection terminals

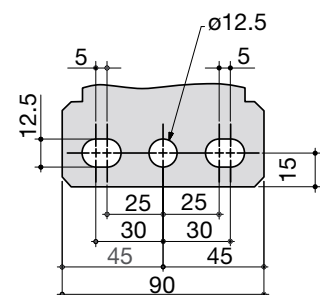
800 to 1000 A / B6



1250 A / B6



1600 to 3200 A / B7 to B8





# ATyS d H

## Remotely operated Transfer Switching Equipment from 4000 to 6300 A

Transfer switches



atyS\_0615\_a

### The solution for

- > Data centre
- > Telecommunications
- > Industries



### Strong points

- > Ready for installation in the enclosure of your choice
- > High-performance switching
- > Safe on-load transfer: I-0-II

### Conformity to standards

- > IEC 60947-6-1
- > GB 14048-11



### Approvals and certifications



### Enclosed solution

- > Please contact your SOCOMECS office

### External automatic controller

- > The ATyS d H is an RTSE which is compatible with most building management systems. It may also be supplied as an ATSE by including an ATyS C20/C30/C40 controller with a door mounted external display.

## Function

The ATyS d H is a three-phase transfer switch, 3 and 4 poles, designed for low voltage high power applications that require high-performance and fast reliable switching. The open transition transfer is performed on-load in line with IEC 60947-6-1 and GB 14048-11 standards (Class PC) with minimal power supply interruption to the load during transfer.

The ATyS d H is remote transfer switching equipment (RTSE) with an integrated dual power supply (DPS) that accepts remote orders through volt-free contacts.

## Advantages

### Ready for installation in the enclosure of your choice

The ATyS d H has been designed to facilitate installation as it is available as a fixed or completely withdrawable type of transfer switch. It is composed of two switches that are mounted one above the other with easily accessible power connections located at the rear. Furthermore the ATyS d H does not need any external bridging bars as the load side is connected within the product. This enables to save time during installation.

### High-performance switching

The ATyS d H offers high withstand short circuit current ratings of 143 kA  $I_{cm}$  (making) and 65 kA for 0.1sec  $I_{cw}$  (withstand). Further to its high short circuit withstand, the ATyS d H performance in terms of load switching capacity is AC-33iB ( $6 \times I_n \cos \phi 0.5$ ) without derating.

### Safe on-load transfer: I-0-II

The ATyS d H includes two mechanically interlocked switches to ensure fast switching whilst providing a neutral (Off - 0) position. This ensures that the main and alternative power supplies do not overlap.

## References

### ATyS d H

Rating (A)	Type	Number of poles	ATyS d H IEC Reference	ATyS d H CCC Reference	Control relay Reference	
4000 A	Fixed	3 P	9533 3400	9533 3400 CN	ATyS C20 1599 3020	
		4 P	9533 4400	9533 4400 CN		
	Withdrawable	3 P	9533 3401	9533 3401 CN		
		4 P	9533 4401	9533 4401 CN		
5000 A	Fixed	3 P	9533 3500	9533 3500 CN		ATyS C30 1599 3030
		4 P	9533 4500	9533 4500 CN		
	Withdrawable	3 P	9533 3501	9533 3501 CN		
		4 P	9533 4501	9533 4501 CN		
6300 A	Fixed	3 P	9533 3630	9533 3630 CN	ATyS C40 1599 3040	
		4 P	9533 4630	9533 4630 CN		
	Withdrawable	3 P	9533 3631	9533 3631 CN		
		4 P	9533 4631	9533 4631 CN		

## Characteristics according to IEC 60947-6-1

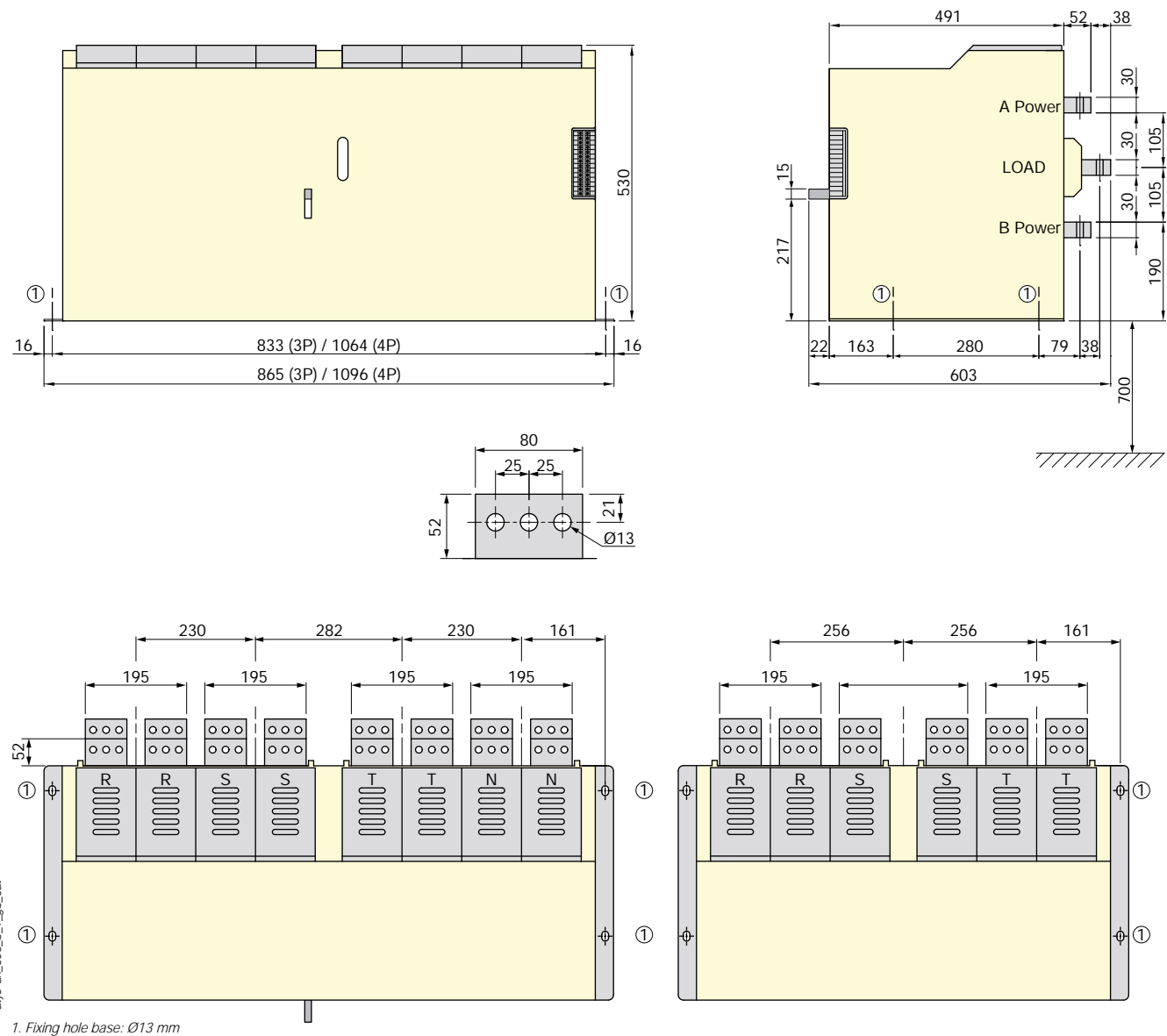
### 4000 to 6300 A

Thermal current $I_{th}$ at 40°C	4000 A	5000 A	6300 A
Rated operating voltage $U_e$ (V)	660		
Rated insulation voltage $U_i$ (V)	660		
Rated impulse withstand voltage $U_{imp}$ (kV)	12		
<b>Rated short-circuit withstand at 660 VAC</b>			
Rated short-time withstand current 0.1s $I_{sc}$ (kA rms)	65		
Rated peak withstand current (kA peak)	143		
Rated operational current $I_b$ (A), at 660 VAC - AC32B	4000	5000	6300
Rated operational current $I_b$ (A), at 660 VAC - AC33iB (6xIn cos $\phi$ 0.5)	4000	5000	6300
<b>Connection</b>			
Rear connection with busbar	•	•	•
<b>Switching time</b>			
I to 0 (ms)	≤ 150		
0 to I and 0 to II (ms)	≤ 90		
II to 0 (ms)	≤ 200		
I-0-II / II-0-I (s)	1.2		
Operating frequency	10 operations per hour		
<b>Power supply</b>			
VAC power supply (powered directly on terminals S1 and S2)	230		
Main coil operating current (peak during transfers)	65 A <sup>(1)</sup>		
<b>Mechanical characteristics</b>			
Durability (number of operating cycles)	3000		
Weight (kg) - Fixed 3/4P model	200 / 250	200 / 250	200 / 250
Weight (kg) - Plug-in 3/4P model	300 / 400	300 / 400	300 / 400

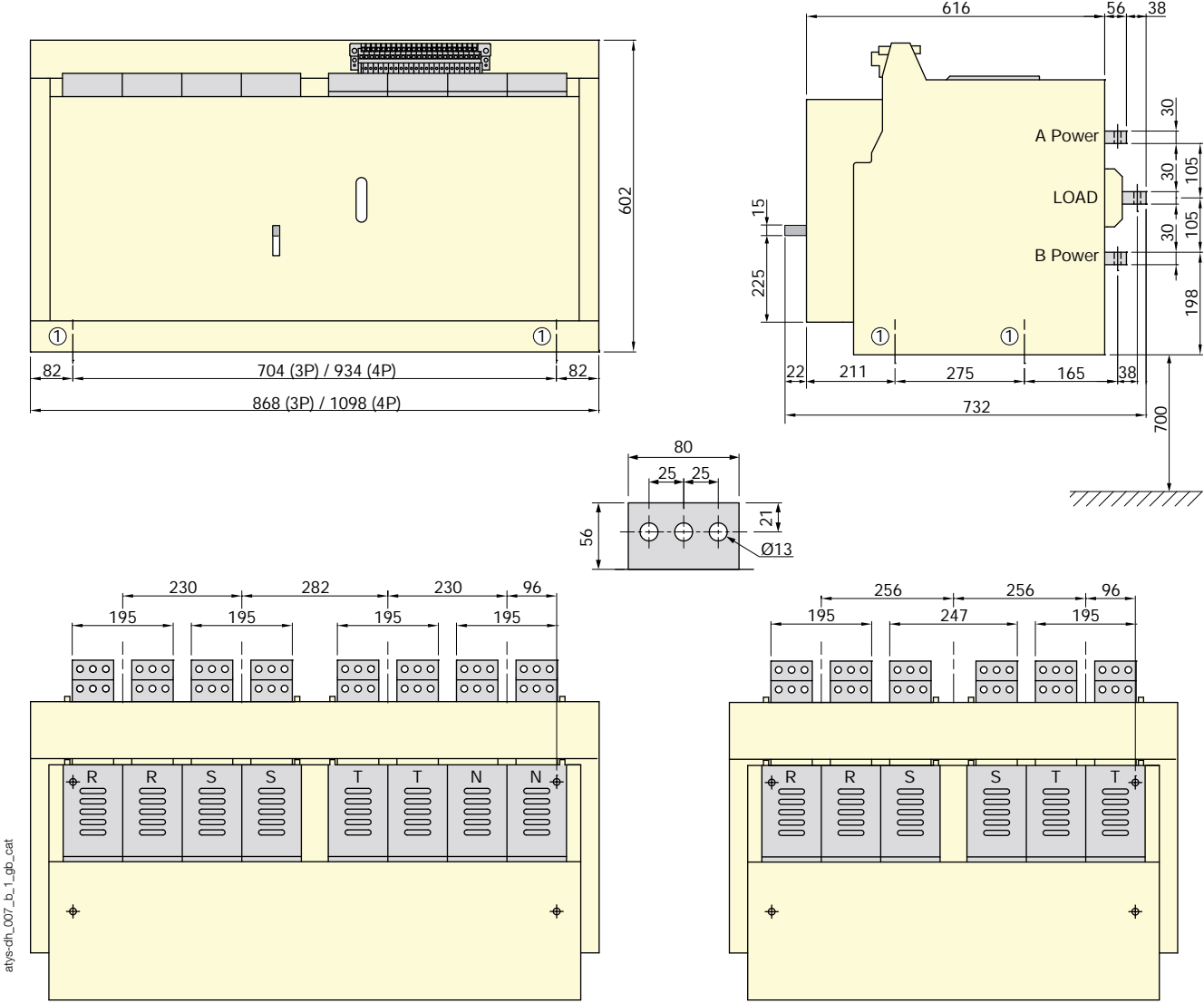
(1) Instantaneous value. For a complete operation, power should be available during 0.5 s.

### Dimensions

#### Dimensions for fixed models



Dimensions for drawout models



atys-dh\_007\_b\_1\_gp\_cat

1. Fixing hole base: Ø13 mm



# ATyS C20/C30/C40

## Control relays

Transfer switches



ATyS C20 controller

ATYS\_451A



ATyS C30 controller

ATYS\_448\_B



ATyS C40 controller

ATYS\_589\_C

### The solution for

- > Power and control separation
- > Genset/Genset applications



### Strong points

- > Auxiliary power supply
- > Modular device
- > Extended compatibility of use

### Conformity to standards

- > IEC 61010-1
- > IEC 61000-4-x
- > IEC 60068-2-x



## Function

ATyS C20/C30/C40 are modular control relays. They ensure the automatic control of remotely controlled transfer switches, ATyS, ATyS S and ATyS M, as well as contactors, circuit breakers or other motorised switches.

## General characteristics

### ATyS C20/C30

- Inputs for auxiliary contact position information.
- 3U measurement on network 1 and 1U on network 2.
- 2 programmable inputs for the following functions: test on/off load, manual retransfer, start/stop transfer cycle.
- Up to 2 programmable outputs for the following functions: source availability information and circuit breaker control.
- 1 relay output for genset control.
- D10 or D20 remote interfaces are available for transferring data or control to the front panel (only on C30 version).

### ATyS C40

- Dual genset controller with a redundant genset application cycle (basic cycle).
- 1U and F measurement on each source - genset 1 & genset 2.
- 3 programmable inputs for the following functions: test on/off load, manual retransfer, start/stop transfer cycle.
- 1 programmable output for the following functions : source availability information and circuit breaker control.
- 2 genset control contacts (Gen1 & Gen2).

## Advantages

### Auxiliary power supply

Two versions of the ATyS C30 are available. One version with an AC supply via the measurement inputs and another with a DC auxiliary supply.

### Modular device

The ATyS C20, C30 and C40 are modular products (6 modules, 105 mm wide) which can be DIN-rail mounted.

### Extended compatibility of use

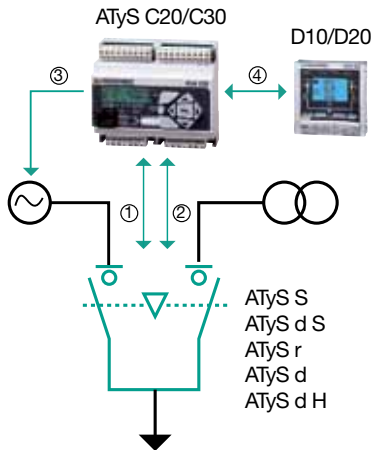
The product is used with Socomec transfer switches, or those using identical technology. It is also compatible with contactor and circuit breaker technologies.



## Configurations

### ATyS C20/C30:

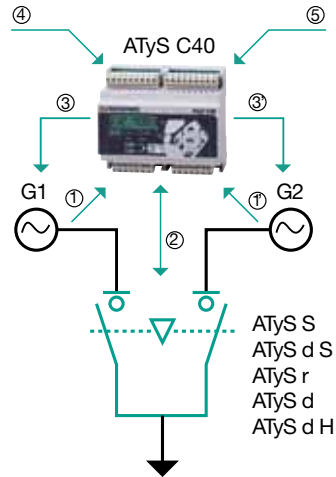
Mains/mains and mains/genset applications



1. Measurement and power supply
2. Control and position information feedback
3. Genset start / stop control
4. ATyS display/interface connection (only on C30 version)

### ATyS C40:

Genset/genset applications



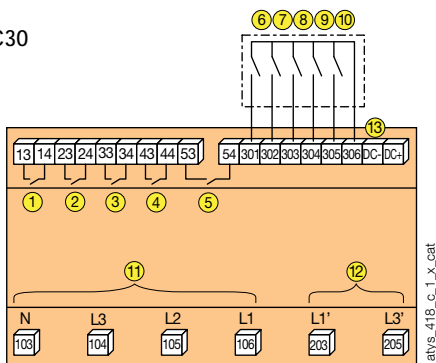
- 1 and 1'. 1U and F measurement for each genset
2. Control and position information feedback
- 3 and 3'. Genset "start/stop" control
4. External "start/stop" command for basic cycle
5. DC power supply

## Electrical characteristics

Supplied from measurement circuit	110 ... 400 VAC
DC power supply	9 ... 30 VDC
Measurement range	110 ... 400 VAC / $\pm 10\%$
Frequency	50/60 Hz
Accuracy	$\pm 1\%$

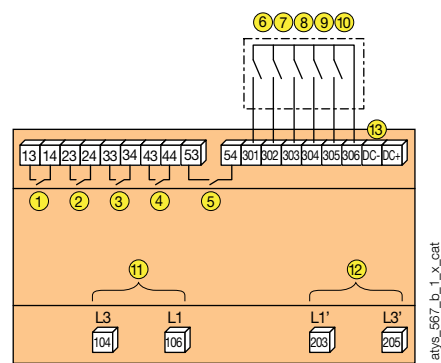
## Terminals

### ATyS C20/C30



1. Genset start / stop control
2. Position 1: power control
3. Position 2: power control
4. O1: programmable output
5. O2: programmable output
6. AC1: auxiliary contact position 1
7. AC0: auxiliary contact position 0
8. AC2: auxiliary contact position 2
9. I1: programmable input
10. I2: programmable input
11. Source 1 : 3 U network measurement and power supply
12. Source 2 : 1 U network measurement and power supply
13. not used

### ATyS C40



1. Genset G1 start / stop control
2. Position 1: power control
3. Position 2: power control
4. O1: programmable output
5. Genset G2 start / stop control
6. AC1: auxiliary contact position 1
7. I3: programmable input
8. AC2: auxiliary contact position 2
9. I1: programmable input
10. I2: programmable input
11. Genset G1: 1U measurement
12. Genset G2: 1U measurement
13. DC power supply 9-30 VDC

## References

Type	ATyS C20 Reference	ATyS C30 Reference	ATyS C40 Reference
Supplied from measurement circuit	1599 3020G	1599 3030G	
DC power supply			1599 3040G



# Safety enclosures

## Normal atmospheres

steel enclosure from 50 to 630 A

Integrated products  
& solutions



eff\_358\_a



eff\_359\_a

### The solution for

- > Cement plants
- > Iron and steel industry
- > Paper mills
- > Sawmills
- > Hydraulic power packs
- > Automobile
- > Mining



### Strong points

- > Operator safety
- > Quick and easy implementation
- > Operating continuity
- > Inductive load breaking (AC23)

### Compliance with standards

- > IEC 60947-3
- > IEC 61439-2



### Specific requirements

- > SOCOMEC can offer you customised solutions to meet your specific requirements. (Eg. Stainless steel enclosure, front operation). Contact your Socomec office for further information.

### Also available

- > ATEX enclosures providing emergency breaking and maintenance isolation for any low voltage electrical circuit which is in an area where there is a risk of explosion due to dust.



## Function

Safety enclosures equipped with SOCOMEC switches provide emergency breaking, breaking for mechanical maintenance and safety isolation in the vicinity of any low voltage final circuit.

## Advantages

### Operator safety

- Protects operators against accidental start-up of machines.
- Ease of operation without risk of error for unqualified operators.
- Maximum security for all types of simple mechanical and electrical maintenance operations.

### Quick and easy implementation

The space available within the enclosure and the dimension of the closing plates facilitate connection.

### Durability

The product is designed for harsh industrial environments with mechanical risks or non-explosive dust risks.

### Operating continuity

- Local disconnection: only the targeted machine is switched off, the rest of the installation can continue operating.
- Reduced costs related to production downtime.

### Inductive load breaking (AC23)

Safety enclosures are designed for use with inductive loads and are able to make and break on load (AC23).

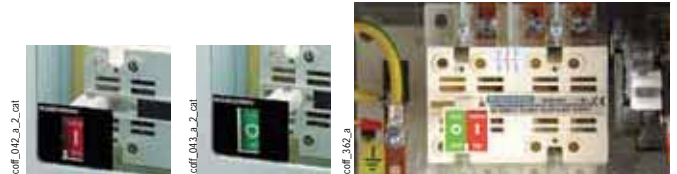
## General characteristics

### Enclosure

The robustness of the safety enclosure is ensured by its 2mm thick sheet steel construction (3mm for the welded roof). Corrosion protection is provided by an anti-corrosion polyester powder coating (RAL7035). The door is hinge-mounted (180° opening) and is secured with a key lock (8 mm square key). Two type of enclosure with different degree of protection IP55 and IP65.

### Switching device

Safety enclosures are equipped with visible break SOCOMEC load break switches. They make and break under load and provide safety isolation for any low voltage electric circuit. Separation of the contacts is visible through the triplex window, located on the enclosure door, providing guaranteed isolation to the operator. A mechanical indicator linked directly to the operation of the contacts, is also provided to give clear position indication.



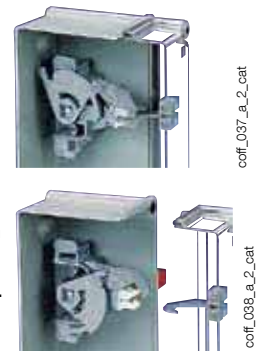
### Operating handle

The safety enclosure is equipped with a red plastic handle with a metal padlocking lever which is used for both normal and emergency cut-off operations. The handle can be locked with up to 3 padlocks with a diameter 4 and 8 mm.



### Double locking

Double locking prevents the opening of the enclosure door with the switch in its closed position and the closing of the switch when the door is open. With the use of a tool authorized personnel can bypass this system when the door is open for maintenance purposes. The locking system comprises a single guard moulded from zamak (aluminium alloy) with a simple and robust mechanism driven directly by the handle's operating shaft.



### Connections

A bottom removable gland plates facilitate cable entry and connections. Cables connect to descending bars.

### Miscellaneous

2 grounding points enables the termination of earth connections inside of the enclosure.



# Safety enclosures

Normal atmospheres

steel enclosure from 50 to 630 A

## References

off\_358\_a



### Side operation - IP55

Rating (A)	No. of poles	Connection cable	Package <sup>(1)</sup>	1 Way <sup>(2)</sup>	2 Way <sup>(3)</sup>	VSD <sup>(4)</sup>
50	3P	Copper	32AS 3005	32AS 3105	32AS 3205	32AS 3305
		Aluminium	32AA 3005	32AA 3105	32AA 3205	32AA 3305
80		Copper	32AS 3008	32AS 3108	32AS 3208	32AS 3308
		Aluminium	32AA 3008	32AA 3108	32AA 3208	32AA 3308
125		Copper	32AS 3012	32AS 3112	32AS 3212	32AS 3312
		Aluminium	32AA 3012	32AA 3112	32AA 3212	32AA 3312
200		Copper	32AS 3020	32AS 3120	32AS 3220	32AS 3320
		Aluminium	32AA 3020	32AA 3120	32AA 3220	32AA 3320
400		Copper	32AS 3040	32AS 3140	32AS 3240	32AS 3340
		Aluminium	32AA 3040	32AA 3140	32AA 3240	32AA 3340
630		Copper	32AS 3063	32AS 3163	32AS 3263	32AS 3363
		Aluminium	32AA 3063	32AA 3163	32AA 3263	32AA 3363

(1) Package: 0 push button; 0 auxiliary contacts.

(2) 1 way: 1 ON and 1 OFF push buttons; 2 NO/NC pre-cut off auxiliary contacts.

(3) 2 way: 2 ON and 1 OFF push buttons; 2 NO/NC pre-cut off auxiliary contacts.

(4) VSD: Variable Speed Drive, 1 ON, 1 OFF and 2 +&- speed push buttons; 2 NO/NC pre-cut off auxiliary contacts.

off\_359\_a



### Side operation - IP65

Rating (A)	No. of poles	Connection cable	Package <sup>(1)</sup>	1 Way <sup>(2)</sup>	2 Way <sup>(3)</sup>	VSD <sup>(4)</sup>
50	3P	Copper	34AS 3005	34AS 3105	34AS 3205	34AS 3305
		Aluminium	34AA 3005	34AA 3105	34AA 3205	34AA 3305
80		Copper	34AS 3008	34AS 3108	34AS 3208	34AS 3308
		Aluminium	34AA 3008	34AA 3108	34AA 3208	34AA 3308
125		Copper	34AS 3012	34AS 3112	34AS 3212	34AS 3312
		Aluminium	34AA 3012	34AA 3112	34AA 3212	34AA 3312
200		Copper	34AS 3020	34AS 3120	34AS 3220	34AS 3320
		Aluminium	34AA 3020	34AA 3120	34AA 3220	34AA 3320
400		Copper	34AS 3040	34AS 3140	34AS 3240	34AS 3340
		Aluminium	34AA 3040	34AA 3140	34AA 3240	34AA 3340
630		Copper	34AS 3063	34AS 3163	34AS 3263	34AS 3363
		Aluminium	34AA 3063	34AA 3163	34AA 3263	34AA 3363

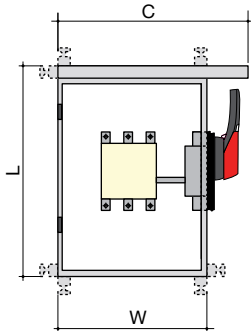
(1) Package: 0 push button; 0 auxiliary contacts.

(2) 1 way: 1 ON and 1 OFF push buttons; 2 NO/NC pre-cut off auxiliary contacts.

(3) 2 way: 2 ON and 1 OFF push buttons; 2 NO/NC pre-cut off auxiliary contacts.

(4) VSD: Variable Speed Drive, 1 ON, 1 OFF and 2 +&- speed push buttons; 2 NO/NC pre-cut off auxiliary contacts.

## Dimensions

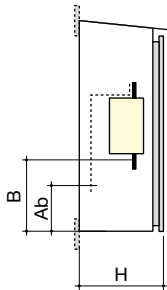


### Copper cable connection

Rating (A)	No. of poles	H x W x D (mm)	Max connection section (mm <sup>2</sup> )	Ab (mm)	B (mm)	C (mm)
50	3 P	374 x 230 x 160	35	172.5	193	300
80	3 P	374 x 230 x 160	35	172.5	193	300
125	3 P	450 x 375 x 230	70	194	216	445
200	3 P	450 x 375 x 230	150	194	214	445
400	3 P	700 x 415 x 300	240	350	379	485
630	3 P	901 x 505 x 354.5	2 x 300	480	513	575

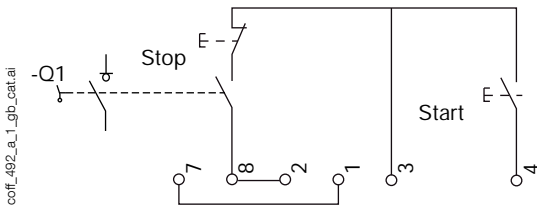
### Aluminium cable connection

Rating (A)	No. of poles	H x W x D (mm)	Max connection section (mm <sup>2</sup> )	Ab (mm)	B (mm)	C (mm)
50	3 P	499 x 310 x 160	35	148.5	148.5	380
80	3 P	499 x 310 x 160	35	148.5	148.5	380
125	3 P	551 x 375 x 230	70	181.5	254	445
200	3 P	551 x 375 x 230	150	189	257	445
400	3 P	900 x 465 x 300	300	423.5	468	535
630	3 P	900.5 x 505 x 354.5	2 x 300	363	418	575

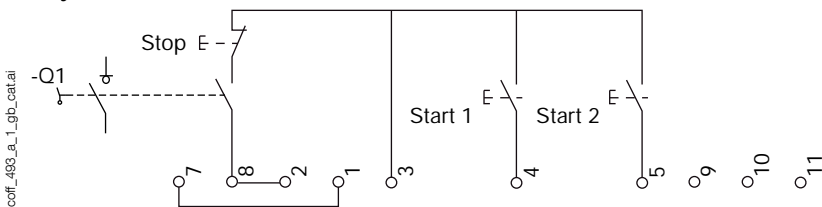


## Control diagram

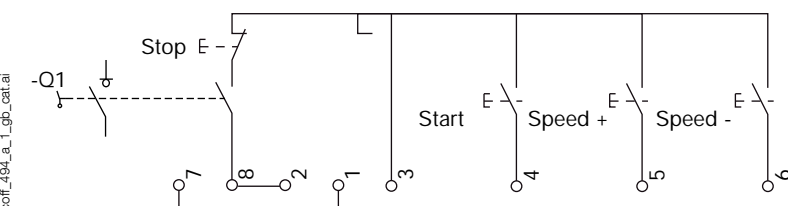
### 1 way



### 2 way



### VSD















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