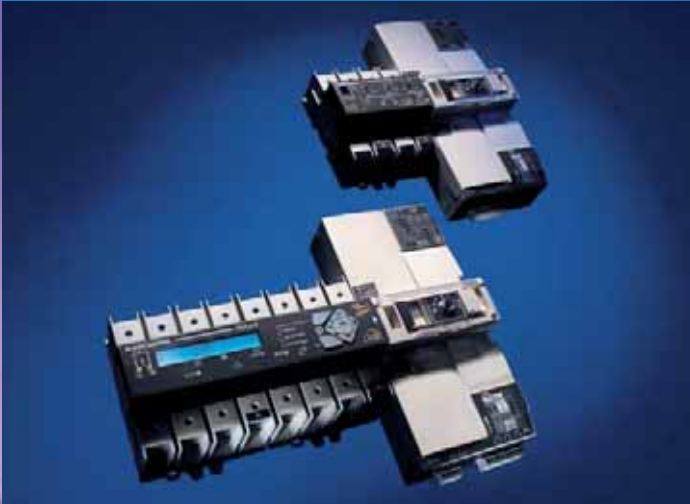


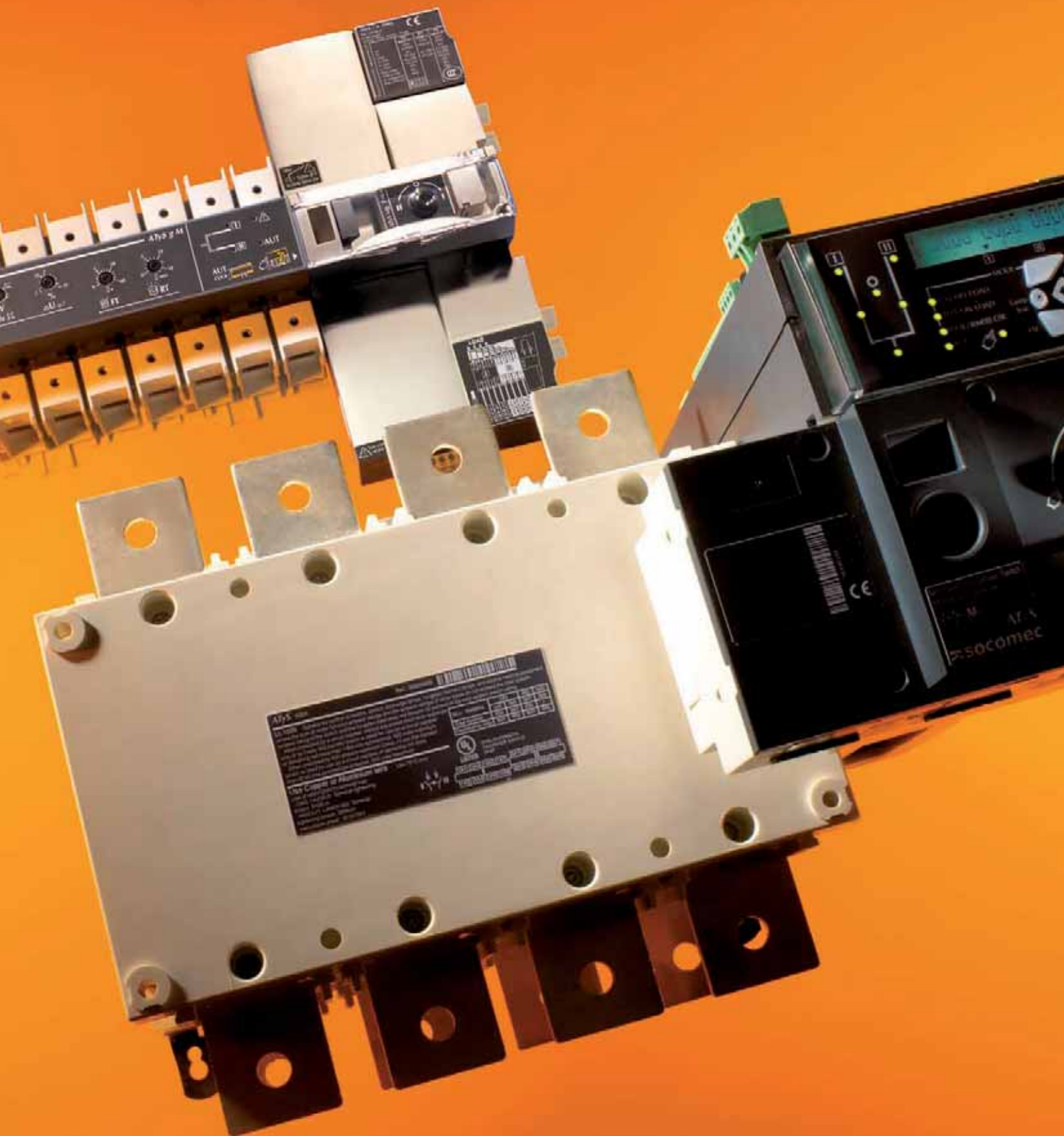
Transfer switching solutions from 40 to 6300 A

2017



your energy
our expertise

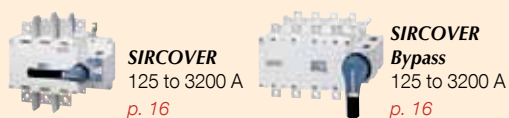




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The SOCOMEC Group	p. 4
Security and reliability for your transfer applications	p. 12
Remotely operated and Automatic Transfer Switching Equipment selection guide	p. 14
TSE Technical Guide	p. 111
References list	p. 130

Manual transfer switches



Motorised modular transfer switches

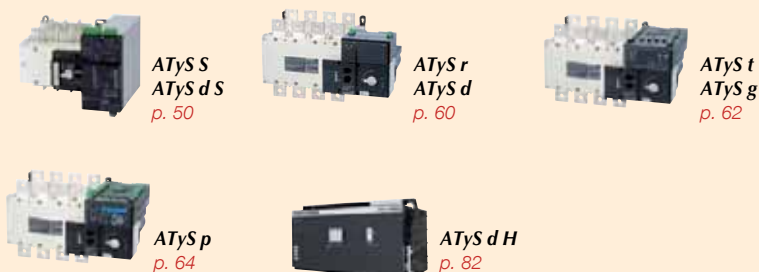
ATyS M range p. 32
40 to 160 A



Motorised transfer switches

ATyS S range p. 48
40 to 6300 A

ATyS range p. 58



Universal ATS controller

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



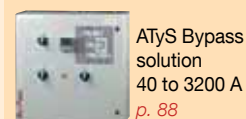
UL product range

UL range p. 92



Enclosed solution

- > SOCOMEC offers a range of pre-equipped enclosures in steel. More information is available in the accessory pages of the different products.
- > A complete solution is also available to ensure power supply continuity.



Any particular requirement?

Thanks to our extensive experience we have developed an impressive portfolio of customised solutions (motorised transfer switches with overlapping contacts and cooled poles, specific software, etc.). Please contact us if you have any specific requests.

For all your applications, even the most critical, trust the experts.

An independent manufacturer

The benefit of a specialist

3,500 m²
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.

SYDW 161 B



Your energy, our expertise



Critical Power

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.



© Datarock



Power Control & Safety

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 applications,
- continuity of the power supply to electrical facilities via manual or automatic changeover switching systems,
- protection of persons and assets via fuse-based and other specialist solutions.



APPLI 575A



Energy Efficiency

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.



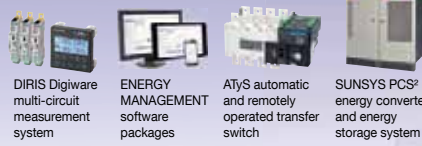
APPLI 760A

Adapted solutions

to meet your energy objectives

SMART BUILDINGS

Reducing your energy bills and energy dependency



DIRIS Digiware multi-circuit measurement system

ENERGY MANAGEMENT software packages

AtYS automatic and remotely operated transfer switch

SUNSYS PCS² energy converter and energy storage system

HEAVY

Controlling and securing your energy



DELPHYS MX UPS

COUNTIS E energy meter and DIRIS A multifunction meter (PMD)

NAVAL SHIPS

Energy conversion in environments with harsh restrictions



SHARYS IP rectifier

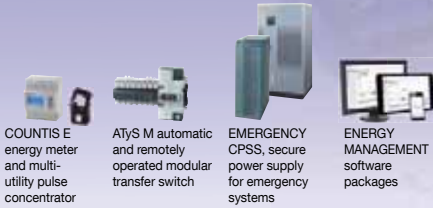
NETYS RT-M UPS

UPS and other customised products

SIRCO load break switches

SHOPPING CENTERS

Assuring your business continuity and visitor safety



COUNTIS E energy meter and multi-utility pulse concentrator

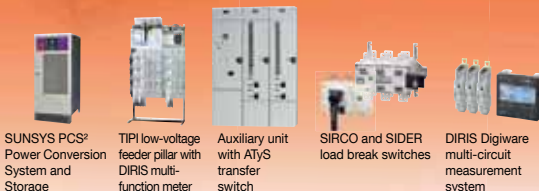
AtYS M automatic and remotely operated modular transfer switch

EMERGENCY CPSS, secure power supply for emergency systems

ENERGY MANAGEMENT software packages

PUBLIC DISTRIBUTION AND SMART GRID

Helping you to meet the challenge of energy demand and response



SUNSYS PCS² Power Conversion System and Storage

TIPI low-voltage feeder pillar with DIRIS multi-function meter

Auxiliary unit with AtYS transfer switch

SIRCO and SIDER load break switches

DIRIS Digiware multi-circuit measurement system

RENEWABLE ENERGY

Guaranteeing the performance, security and durability of your photovoltaic facilities



SUNSYS PCS² Power Conversion System and Storage

INOSYS load break switches with tripping function

PV string enclosure combiner box

INDUSTRY

FUSERBLOC fuse combination switches

Safety enclosure with switch disconnector for standard and explosive environment

POWER PLANTS

Securing the piloting of your high-security installations and installations with seismic constraints

SHARYS IP rectifier

UPS and other customised products

DIRIS Digiware multi-circuit measurement system

TRANSPORT

Securing the continuity of your installations

ATYS Bypass zero outage solution

MASTERYS IP+ Rail UPS

DIRIS A multifunction meter (PMD)

DATA CENTRES

Meeting the challenge of the availability and performance of your energy

MODULYS RM GP Rack-mount modular hot scalable UPS system

DELPHYS Xtend GP Rack-mount modular hot scalable UPS system

ATYS automatic and remotely operated transfer switch

DIRIS Digiware multi-circuit measurement system

MEDICAL FACILITIES

Assuring patient safety and the energy performance of your hospital

Green Power 2.0 UPS

ATYS automatic and remotely operated transfer switch

DIRIS Digiware multi-circuit measurement system

INDUSTRY

Ensuring the competitiveness of your site

MASTERYS IP+ UPS for harsh industrial environments

ENERGY MANAGEMENT software packages

Components for distribution enclosure with FUSERBLOC fuse-combination switches

DIRIS Digiware multi-circuit measurement system

SIRCO load break switches

Expert Services your partner

enabling available, safe and efficient energy

SOCOMEK is committed to deliver a wide range of value-added services to ensure the availability of your critical installation, the safety of your site operations and the performance optimisation of your low voltage equipment during its life cycle. The expertise and proximity of our specialists are there to ensure the reliability and durability of your equipment.



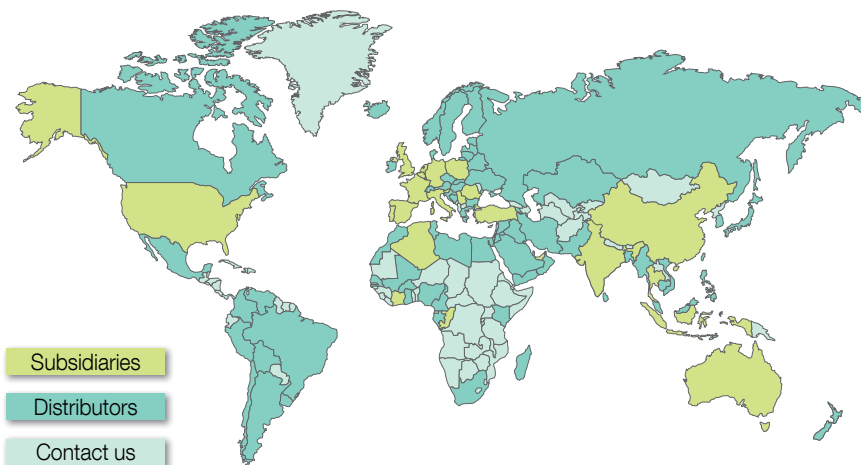
APPLI 724-A

Key figures

More than 370 Socomec experts supported by 175 engineers and technicians from our distributors, drive the solutions to your specific needs.

Our global presence includes:

- 10 branches in France,
- 12 European subsidiaries,
- 8 Asian subsidiaries,
- representatives in 70+ countries.



CARTE 068 H

On-site service management

- 60,000 service operations per year (mainly preventive visits).
- 98% Service Level Agreement compliance rate.



APPLI 571 A

Technical hotline network

- 20+ languages spoken.
- 3 advanced technical support centres.
- 100,000+ incoming calls handled per year.



SITE 598 A

Certified expertise

- 4,500 hours of technical training deployed per year (product, methodology and safety).



CCPRO 289 A

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 switchgears, components and switchgear assemblies.

4 M€ has been invested since 2011 in this 2000 m² 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 100 MVA (I_{cc} 100 kA rms 1 s) short-circuit platform, three 10 kA overload platforms and many other test facilities covering 2000 m² for:

- functional tests,
- mechanical tests: endurance,
- dielectric tests,
- environmental tests: vibrations,
- 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...).



A high-quality power supply

innovative solutions

Critical equipment requires an uninterrupted and continuously available power supply, using energy of the highest quality. Our uninterruptible power supplies (UPS), static transfer systems (STS), energy storage systems and rectifiers comprise the most complete ranges in the world and cover a very wide variety of applications for every sector of activity.



RANGE 568 B

100% availability

High quality energy supply at any moment is strategic in many fields such as telecommunications, data processing or certain industrial processes. It is vital to a number of medical applications. In all these sectors, SOCOMEC has over 45 years of experience at your disposal.

Customised solutions

Underpinned by significant R&D resources, our products are constantly evolving to adapt to the needs of our customers.

Our products have the approval of some of the most stringently demanding users: telecom companies, nuclear industry, naval industry, and many more.

Recognised expertise

SOCOMECS UPS solutions (inverters) have received the most prestigious awards in the industry; testimony to the way we listen to the needs of our users:

- Award for excellence in customer service (2004),
- Award for product innovation (2006),
- Award for Europe's best product range strategy (UPS) (2009),
- Award for product innovation (2011),
- Award for excellence in product differentiation (2013)
- Award for European company of the year in the UPS sector (2014)
- Award for European technological leadership (UPS) (2015)

Continuous innovation

Embedded in the DNA of SOCOMEC, innovation is a challenge that itself undergoes constant reinvention:

- First French manufacturer to offer static power supplies (1968)
- First UPS to use PWM technology (1980)
- First high-performance range of UPS with IGBT technology (1996)
- First modular UPS, with scalable and redundant architecture (2001)
- First manufacturer to integrate hybrid components (2001)
- First 200-kVA UPS with IGBT rectifier (2003)
- New battery charging design (2004)
- Dynamic energy storage system: the flywheel (2006)
- First UPS with 96% efficiency in online double conversion mode (2008)
- Most compact STS with 19" hot-swappable rack design (2009)
- Most compact 900-kVA UPS (2010)
- First complete UPS range (10-2400 KW/ kVA) with triple-tier technology, 96% efficiency and an output power factor of 1 (2012)
- "Forever Young" design for modular UPS (2014)

Always attentive to customer needs

With our extensive sales and after-sales network, we are always there for you. Our clients are happy with the quality of our products and their availability and our commitment to their needs.

Keeping on track with Socomec

SUNSYS PCS² power converter storage solution



This bidirectional power converter is the key element of the energy storage system. It ensures that the batteries are charged and discharged according to the required functions.



Webspace at your service

all our solutions can be adapted to your needs

www.socomec.com

Expertise, customised solutions, products and services, downloads... All yours in a couple of clicks!

- 1 Tap into our expertise
- 2 Discover our customised solutions
- 3 Access all our products and services
- 4 Download photos, documentation, software and CAD files



CORFO 085 A

www.diris-digiware.com

Check out the dedicated site about DIRIS Digiware, our measuring and monitoring system. It gives you all the information you need, including videos, images and documentation on the most revolutionary solution on today's market.



CORFO 466 A

Follow us on social media!





Security and reliability for your transfer applications

Transfer switches

An undisputed leader in the field of changeover switching, SOCOMEC is continuously innovating to ensure the continuity of electrical distribution.

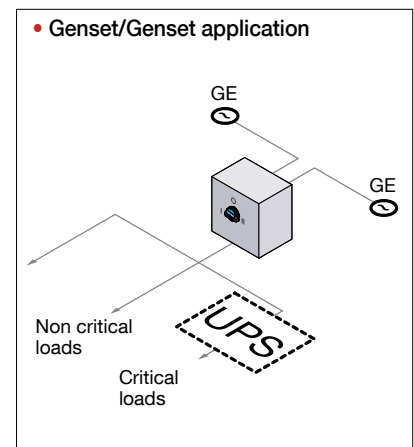
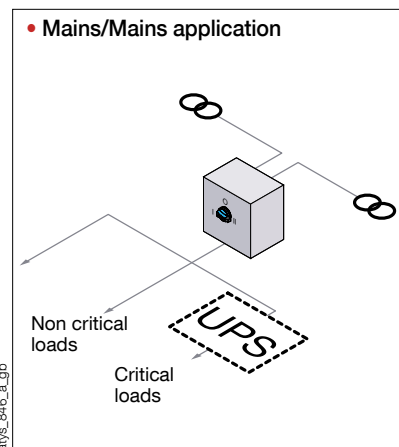
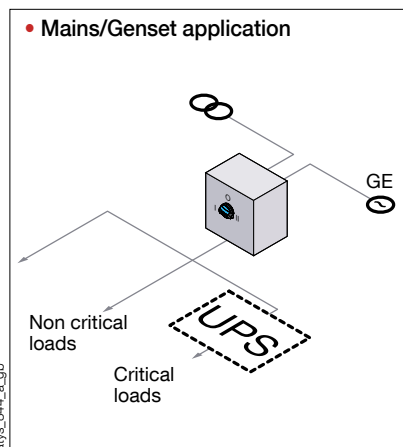
From the COMO C manual transfer switch (25 - 100 A) to the ATyS p automatic transfer switch (up to 3200 A) and the ATyS d H remotely operated transfer switch (up to 6300 A), our range of changeover switches cover most applications as standard.

Products for all switching applications from 25 to 6300 A

SOCOMEC transfer switches can be used not only for normal/emergency source switching, but also to manage the switching of loads or for earthing/earthing solutions.

Your application	Manual changeover switches	Motorised changeover switches	Automatic changeover switches
Changeover switches (network/network - network/genset - genset/genset)	•	•	•
Bypass application	•	•	•
Other AC applications (load switching - grounding/earthing - phase switching)	•		
Photovoltaic applications	•		

Secure switching for all your transfers



Expert Services

- > Study, definition, advice, implementation, maintenance and training...
- > Our Expert Services extend to a complete offer of customised services to make your project a success.



Secure switching compliant with standard IEC 60947-6-1

The standard IEC 60947-6-1 “Low-voltage switchgear and controlgear – Multiple function equipment – Transfer Switching Equipment” is dedicated to changeover switches.

This standard applies to Transfer Switching Equipment (TSE) with interruption of the supply to the load during transfer, the rated voltage of which does not exceed 1000 VAC or 1500 VDC, be it any of the following:

- **MTSE**
According to the standard IEC 60947-6-1, MTSE (Manually operated Transfer Switching Equipment) is manually operated transfer switching equipment. As such, it requires a person to be present to operate the handle.
- **RTSE**
According to the standard IEC 60947-6-1, RTSE (Remotely operated Transfer Switching Equipment) is transfer switching equipment that is controlled remotely. As such, they require an external controller to provide them with commands.
- **ATSE**
According to the standard IEC 60947-6-1, ATSE (Automatic Transfer Switching Equipment) is transfer switching equipment that is controlled automatically. It differs from RTSE in that it has an integrated controller. As such, these devices are self-monitoring in terms of power source availability, and will start up the genset if required and switch automatically to the power source that is present.

This standard also defines categories of use, depending on the needs of the application, which may apply to the TSE:

Type of current	Utilisation category		Type of load
	Application A ⁽¹⁾	Application B ⁽²⁾	
Alternating current	AC-31A	AC-31B	Non-inductive or low-inductive loads
	AC-32A	AC-32B	Mixed resistive and inductive loads, including moderate overvoltages
	AC-33A	AC-33B	Motors or various loads including motors, resistive loads and loads comprising up to 30% incandescent lamps

(1) Application A: Frequent switching.

(2) Application B: Infrequent switching.

UL applications

SOCOMECL UL 1008 transfer switches are designed for use in “total system optional standby power” applications with a secure transfer of load power between a regular source and a backup source.

“Optional standby systems” are installed to provide a backup power supply for buildings where a power failure could mean disruption, interruptions to operation or damage to products or processes.









Selection guide

Remotely operated and Automatic Transfer Switching Equipment ATyS

Transfer switches

Which type of power supply?

Which application?

RTSE (Remotely operated)					
40 to 125 A		40 to 160 A	125 to 3200 A		4000 to 6300 A
					
ATyS S <i>p. 50</i>	ATyS d S <i>p. 50</i>	ATyS d M <i>p. 34</i>	ATyS r <i>p. 60</i>	ATyS d <i>p. 60</i>	ATyS d H <i>p. 82</i>

Type of power supply

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

Connection of remote control interface

D10					•	
D20						

Application

Mains/Mains	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾
Mains/Genset	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾
Genset/Genset	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾

Configuration

Configuration using potentiometers and dip switches						
Configuration using display and keyboard						
Voltage and frequency auto-configuration						

Functions

Contact for product availability				•	•	
Fixed function inputs/outputs (defined by the factory)	•	•	•	•	•	•
Configurable inputs/outputs						
Voltage and frequency checks						
Phase rotation check						
Unbalanced phase check						
LED indication of source availability					•	
LED position indication						
Programming of genset startup						
Genset connected on switch II	•	•	•	•	•	•
Genset connected on switch I	•	•	•	•	•	•
Test On Load						
Test Off Load						
Load shedding						
Display and measurement of powers and energy (when utilising CTs)						







Supervision

Programming of genset startup						
RS485 communication						
Ethernet communication						
Websserver via Ethernet module						
Data logging						

- (1) With an external controller.
 (2) Only on two pole versions.
 (3) Only available on the version with COM.
 (4) Configurable output.

Which application?

Need of supervision?

ATSE (Automatic)						
40 to 160 A			125 to 3200 A			
						
<i>ATyS t M</i> p. 36	<i>ATyS g M</i> p. 36	<i>ATyS p M</i> p. 38	<i>ATyS t</i> p. 62	<i>ATyS g</i> p. 62	<i>ATyS p</i> p. 64	
•	•	•	•	•	•	•
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		• ⁽⁴⁾	•	•		•
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SIRCOVER

Manually operated Transfer Switching Equipment
from 125 to 3200 A

Transfer switches



SIRCOVER
250 A



SIRCOVER Bypass
500 A

The solution for

- > Manufacturing
- > Power distribution



Strong points

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

Conformity to standards

- > IEC 60947-6,-1
- > IEC 60947-3
- > GB 14048-11



Approvals and certifications⁽¹⁾



(1) Product references on request.

Function

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

- SIRCOVER for open transition switching (I-0-II) available in 3 or 4 pole,
- SIRCOVER 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.

- SIRCOVER 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 SIRCOVER 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

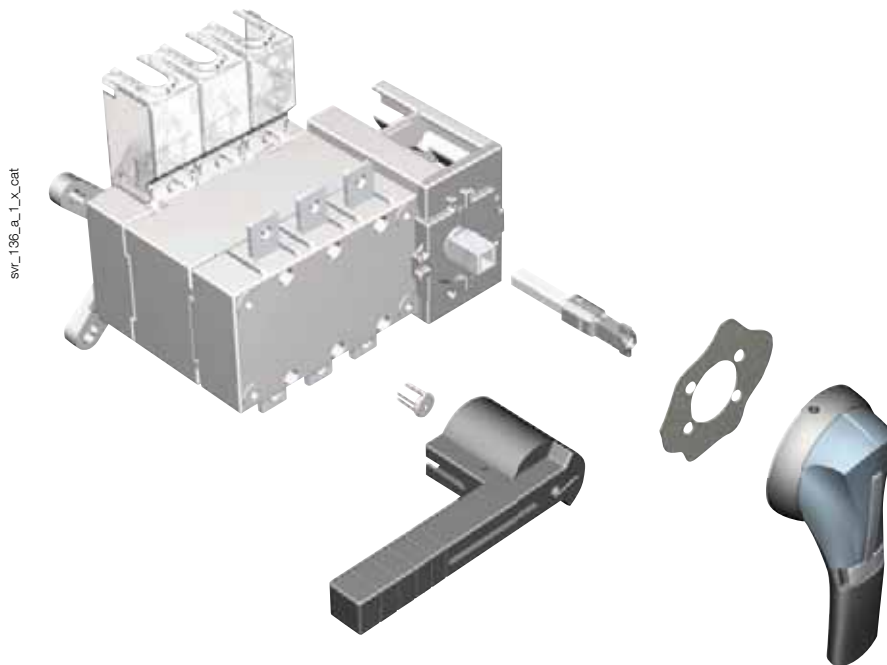
SIRCOVER devices have three stable positions, unaffected by voltage fluctuations and vibrations, protecting your loads from network disturbances.

On-load switching

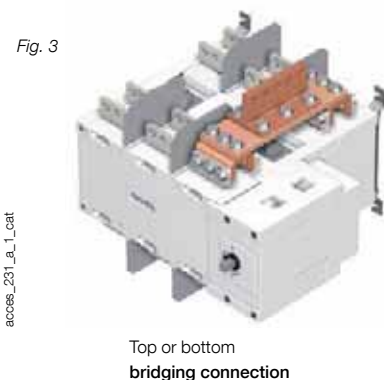
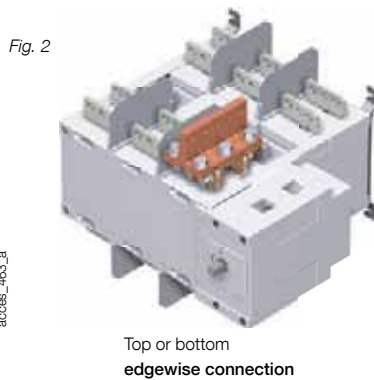
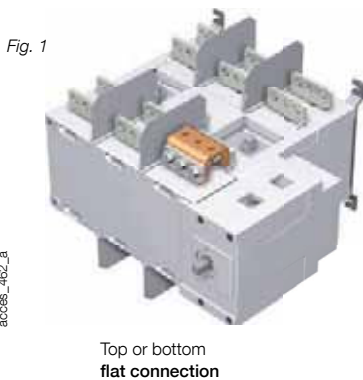
With its AC-23 and AC-33 characteristics, tested according to standards IEC 60947-3 and IEC 60947-6-1, the SIRCOVER enables safe on-load switching for any type of load. With its on-load transfer capabilities, it is not necessary to isolate loads prior to transfer therefore the SIRCOVER offers an economical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

What you need to know

- SIRCOVER (I-0-II) switches have **3 stable positions** and are available as 3 or 4 pole models with ratings of 63 to 3200 A. They are available in steel or polyester enclosures (125 to 1600 A).
- SIRCOVER switches with **3 overlapping contact positions (I-I+II-II)** are available as 3 or 4 pole models from 125 to 1600 A. They are available in steel enclosures.
- With **3 stable positions (I-0-II)**, SIRCOVER Bypass devices are a combination of three interlocked switches enabling the use with 3+6 or 4+8 poles from 125 to 1600 A. They are available in steel enclosures.
- All SIRCOVER can be operated with **direct front operation** or **external handles**.



- **Connection pieces for copper bars** allows the connection between the 2 power terminals of the same pole (Fig. 1 and 2) and the bridging of switch I and switch II on the top or the bottom for ratings 2000, 2500 and 3200 A (Fig. 3).



SIRCOVER

Manually operated Transfer Switching Equipment
from 125 to 3200 A

References

SIRCOVER I-0-II

Rating (A) / Frame size	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contact	Terminal shrouds	Terminal screens
125 A / B3	3 P	41AC 3013	J2 type Blue 1122 1111 Red 1123 1111	S2 type Black IP55 1421 2113 Black IP65 1423 2113 ⁽¹⁾	200 mm 1400 1020 320 mm 1400 1032 ⁽¹⁾	3 P 4109 3019 4 P 4109 4019	1 st /2 nd NO/NC contact 4109 0021 ⁽²⁾	3 P 2694 3014 ⁽³⁾⁽⁴⁾ 4 P 2694 4014 ⁽³⁾⁽⁴⁾	3 P 1509 3012 4 P 1509 4012
	160 A / B3	4 P							
3 P		41AC 3016							
200 A / B3	4 P	41AC 4016							
	3 P	41AC 3020							
250 A / B4	4 P	41AC 4020							
	3 P	41AC 3025							
315 A / B4	4 P	41AC 4025							
	3 P	41AC 3031							
400 A / B4	4 P	41AC 4031							
	3 P	41AC 3040							
500 A / B5	4 P	41AC 4040							
	3 P	41AC 3050							
630 A / B5	4 P	41AC 4050							
	3 P	41AC 3063							
800 A / B6	4 P	41AC 4063							
	3 P	41AC 3080							
1000 A / B6	4 P	41AC 4080							
	3 P	41AC 3100							
1250 A / B6	4 P	41AC 4100							
	3 P	41AC 3120							
1600 A / B7	4 P	41AC 4120							
	3 P	41AC 3160							
2000 A / B8	4 P	41AC 4160							
	3 P	41AC 3200							
2500 A / B8	4 P	41AC 4200							
	3 P	41AC 3250							
3200 A / B8	4 P	41AC 4250							
	3 P	41AC 3320							
	4 P	41AC 4320							
			C1 type Black 2799 7052	S4 type Black IP65 1443 3113	200 mm 1401 1520 320 mm 1401 1532 ⁽¹⁾	3 P 4109 3080 3 P 4109 4080		3 P 2694 3051 ⁽³⁾⁽⁴⁾ 4 P 2694 4051 ⁽³⁾⁽⁴⁾	3 P 1509 3080 4 P 1509 4080
			S5 type Black 2799 7042	S5 type Black IP65 1453 8113	200 mm 2799 3015 320 mm 2799 3018 ⁽¹⁾ 450 mm 2799 3019	(5)	1 st and 2 nd NO/NC contact included		included

(1) Standard.

(2) 2 contacts supplied: one for position I and one for position II.

(3) To fully shroud the front and rear at the top and bottom, order quantity 4.

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

(5) See "Copper bar connection pieces" page 21.

Also available

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.

References: 46AC XYYY

X = number of poles	Y = rating (A)	
3 : 3 poles	013 : 125	050 : 500
4 : 4 poles	016 : 160	063 : 630
	020 : 200	080 : 800
	025 : 250	100 : 1000
	031 : 315	120 : 1250
	040 : 400	160 : 1600

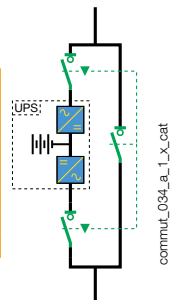
SIRCOVER Bypass

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.

References: 4ZAC XYYY

Z = switching type	X = number of poles	Y = rating (A)	
1 : I-0-II	7 : 3+6 poles	013 : 125	050 : 500
6 : I-I+II-II	9 : 4+8 poles	016 : 160	063 : 630
		020 : 200	080 : 800
		025 : 250	100 : 1000
		031 : 315	120 : 1250
		040 : 400	160 : 1600



Accessories

Direct operation handle

SIRCOVER I-0-II and I-I+II-II				
Rating (A)	Frame size	Handle colour	Handle type	Reference
125 ... 630	B3 ... B5	Blue	J2	1122 1111
125 ... 630	B3 ... B5	Red	J2	1123 1111
800 ... 1600	B6 ... B7	Black	C1	2799 7052
2000 ... 3200	B8	Black	S5	2799 7042 ⁽¹⁾

SIRCOVER Bypass				
Rating (A)	Frame size	Handle colour	Handle type	Reference
125 ... 200	B3	Blue	J2	1122 1111
250 ... 630	B4 ... B5	Black	C1	2799 7052
800 ... 1600	B6 ... B7	Black	C2	2799 7012 ⁽¹⁾

(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 and I-I+II-II					
Rating (A)	Frame size	Switching type	External IP ⁽¹⁾	Handle type	Reference
125 ... 630	B3 ... B5	I - 0 - II	IP55	S2	1421 2113
125 ... 630	B3 ... B5	I - 0 - II	IP65	S2	1423 2113
125 ... 630	B3 ... B5	I - I+II - II	IP65	S2	1423 2114
800 ... 1600	B6 ... B7	I - 0 - II	IP65	S4	1443 3113 ⁽²⁾
800 ... 1600	B6 ... B7	I - I+II - II	IP65	S4	1443 3114 ⁽²⁾
2000 ... 3200	B8	I - 0 - II	IP65	S5	1453 8113 ⁽²⁾

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

(2) Double lever handle.

SIRCOVER Bypass					
Rating (A)	Frame size	Switching type	External IP ⁽¹⁾	Handle type	Reference
125 ... 200	B3	I - 0 - II	IP55	S2	1421 2113
125 ... 200	B3	I - 0 - II	IP65	S2	1423 2113
250 ... 630	B4 ... B5	I - 0 - II	IP65	S3	1433 3113
800 ... 1600	B6 ... B7	I - 0 - II	IP65	V2	4199 7146

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



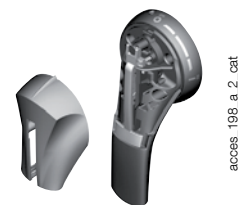
Alternative S type handle cover colours

Use

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

Other colours available: consult us.

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



S type handle adapter

Use

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

Dimensions

Add 12 mm to the handle depth.

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

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



SIRCOVER

Manually operated Transfer Switching Equipment
from 125 to 3200 A

Accessories (continued)

Shaft guide for external operation

Use

For use with S type handles, to guide the shaft extension into the external handle.

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

Recommended for a shaft length over 320 mm.



access_260_a_2_cat

Designation	Reference
Shaft guide	1429 0000

Shaft for external operation

Use

Standard lengths:

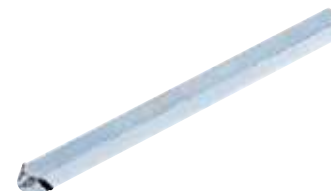
- 200 mm,
- 320 mm,
- 450 mm.

Other lengths available: consult us.



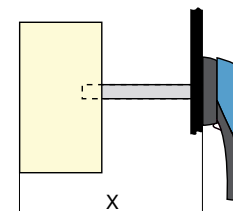
access_369_a_1_cat

SIRCOVER I-0-II and I-I+II-II Rating (A)	Frame size	Length (mm)	Side X (mm)	Reference
125 ... 400	B3 ... B4	200	210 ... 310	1400 1020
125 ... 400	B3 ... B4	320	210 ... 430	1400 1032
500 ... 630	B5	200	280 ... 390	1400 1020
500 ... 630	B5	320	280 ... 510	1400 1032
800 ... 1600	B6 ... B7	200	425 ... 577	1401 1520
800 ... 1600	B6 ... B7	320	425 ... 697	1401 1532
2000 ... 3200	B8	200	653 ... 803	2799 3015
2000 ... 3200	B8	320	653 ... 923	2799 3018
2000 ... 3200	B8	450	653 ... 1053	2799 3019



access_144_b_1_cat

SIRCOVER Bypass Rating (A)	Frame size	Length (mm)	Side X (mm)	Reference
125 ... 200	B3	200	320 ... 450	1400 1020
125 ... 200	B3	320	320 ... 570	1400 1032
250 ... 400	B4	200	298 ... 420	1401 1520
250 ... 400	B4	320	298 ... 540	1401 1532
500 ... 630	B5	200	417 ... 539	1401 1520
500 ... 630	B5	320	417 ... 659	1401 1532
800 ... 1600	B6 ... B7	200	550 ... 680	2799 3015
800 ... 1600	B6 ... B7	320	550 ... 800	2799 3018
800 ... 1600	B6 ... B7	450	550 ... 930	2799 3019



access_202_a_1_X_cat

Bridging bars

Use

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

For SIRCOVER Bypass, two sets of bridging bars are required (3/6 pole or 4/8 pole switch).

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

SIRCOVER I-0-II and SIRCOVER I-I+II-II

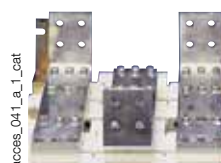


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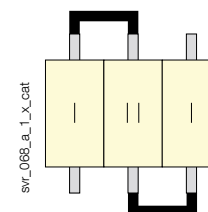
SIRCOVER Bypass



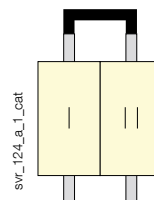
access_208_a_2_cat



access_041_a_1_cat



svr_068_a_1_x_cat



svr_124_a_1_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.

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		2 ⁽²⁾	included	
Bolt kit 35 mm - part B	2699 1201	1 ⁽¹⁾		2 ⁽²⁾	1 ⁽¹⁾		2 ⁽²⁾
Bolt kit 45 mm - part B	2699 1200	1 ⁽¹⁾			1 ⁽¹⁾		
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.

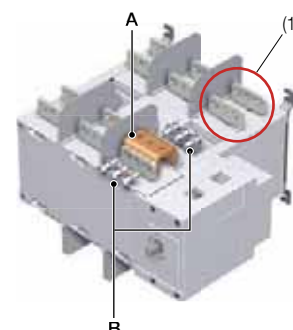
(2) For bridging connections, quantity 2 pieces are required for creating the link between the two power terminals of the same pole for switch bodies I and II.

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



(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

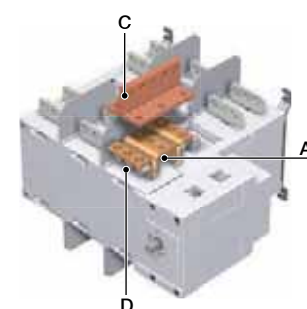
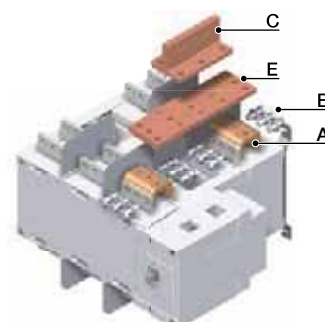


Fig. 3



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.

Electrical characteristics

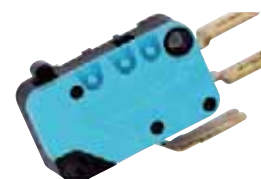
30,000 operations.

Characteristics

Rating (A)	Frame size	Nominal current (A)	Operating current I _e (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

NO/NC changeover contact

Rating (A)	Frame size	Contact(s)	Reference
125 ... 1600	B3 ... B7	1 st / 2 nd	4109 0021
2000 ... 3200	B8	1 st / 2 nd	included



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access_457_a_1_x_cat

access_230_c_1_x_cat

svr_065_a_1_cat

access_065_a_1_cat

SIRCOVER

Manually operated Transfer Switching Equipment
from 125 to 3200 A

Accessories (continued)

Terminal shrouds

Use

Protection against direct contact with terminals or connecting parts.

Advantage

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

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



access_206_a_2_cat

(1) For complete shrouding at front, rear, top and bottom, order 4 x for a SIRCOVER and 6 x for a SIRCOVER Bypass; if equipped with bridging bars order 3 x for a SIRCOVER and 4 x for a SIRCOVER Bypass.
(2) For top and bottom shrouding for the front only, order 2 x for a SIRCOVER and a SIRCOVER Bypass.

Terminal screens

Use

Upstream and downstream protection against direct contact with terminals or connection parts. For upstream and downstream protection, order quantity 1.

Rating (A)	Frame size	No. of poles	Position	Reference
125 ... 200	B3	3 P	top / bottom	1509 3012
125 ... 200	B3	4 P	top / bottom	1509 4012
250 ... 400	B4	3 P	top / bottom	1509 3025
250 ... 400	B4	4 P	top / bottom	1509 4025
500 ... 630	B5	3 P	top / bottom	1509 3063
500 ... 630	B5	4 P	top / bottom	1509 4063
800 ... 1250	B6	3 P	top / bottom	1509 3080
800 ... 1250	B6	4 P	top / bottom	1509 4080
1600	B7	3 P	top / bottom	1509 3160
1600	B7	4 P	top / bottom	1509 4160
2000 ... 3200	B8	3 / 4 P	top / bottom	included



access_207_a_2_cat

Inter-phase barrier

Use

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

Rating (A)	Frame size	No. of poles	Reference
125 ... 200	B3	2 P	2998 0033
125 ... 200	B3	3 P	2998 0034
250 ... 400	B4	2 P	2998 0023
250 ... 400	B4	3 P	2998 0024
500 ... 630	B5	2 P	2998 0013
500 ... 630	B5	3 P	2998 0014
800 ... 3200	B6 ... B8	2/3 P	included

Key handle interlocking system

Padlocking in position I, 0 or II				
SIRCOVER Rating (A) / Frame size	SIRCOVER Bypass Rating (A) / Frame size	Operation	Figure	Reference
125 ... 630 / B3 ... B5	125 ... 200 / B3	external	1	1423 2813

Locking using RONIS EL11AP lock in position 0 (not included)				
SIRCOVER Rating (A) / Frame size	SIRCOVER Bypass Rating (A) / Frame size	Operation	Figure	Reference
125 ... 630 / B3 ... B5	125 ... 200 / B3	direct	2	4109 1006 ⁽¹⁾
	250 ... 630 / B4 ... B5	direct	3	consult us
800 ... 1600 / B6 ... B7	800 ... 1600 / B6 ... B7	direct	3	4109 1004 ⁽²⁾
2000 ... 3200 / B8		direct	3	4109 2007 ⁽²⁾
125 ... 630 / B3 ... B5	125 ... 630 / B3 ... B5	external	4	1499 7701 ⁽²⁾
2000 ... 3200 / B8	800 ... 1600 / B6 ... B7	external	4	2799 7002 ⁽²⁾

(1) Specific handle included.

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

Locking using RONIS EL11AP lock in position I, 0, II (not included)				
SIRCOVER Rating (A) / Frame size	SIRCOVER Bypass Rating (A) / Frame size	Operation	Figure	Reference
125 ... 630 / B3 ... B5	125 ... 200 / B3	direct	2	4109 1002 ⁽¹⁾
	250 ... 630 / B4 ... B5	direct	3	consult us
800 ... 1600 / B6 ... B7	800 ... 1600 / B6 ... B7	direct	3	4109 1004 ⁽²⁾
2000 ... 3200 / B8		direct	3	4109 2007 ⁽²⁾
125 ... 630 / B3 ... B5	125 ... 630 / B3 ... B5	external	4	1499 7701 ⁽²⁾
2000 ... 3200	800 ... 1600 / B6 ... B7	external	4	2799 7002 ⁽²⁾

(1) Specific handle included.

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

Locking using 230 VAC undervoltage coil in position 0 (factory fitted)				
SIRCOVER Rating (A) / Frame size	SIRCOVER Bypass Rating (A) / Frame size	Operation	Figure	Reference
800 ... 3200 / B6 ... B8	800 ... 1600 / B6 ... B7	direct	3	consult us

Locking using Type K CASTELL lock (not supplied)				
SIRCOVER Rating (A) / Frame size	SIRCOVER Bypass Rating (A) / Frame size	Operation	Figure	Reference
125 ... 1600 / B3 ... B7	125 ... 630 / B3 ... B5	external	4	1499 7702
2000 ... 3200 / B8	800 ... 1600 / B6 ... B7	external	4	2799 7003

Use

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

Fig. 1

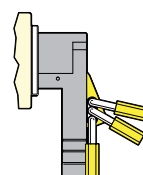


Fig. 2

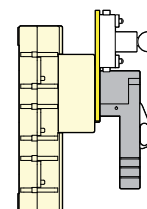
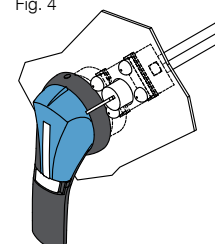


Fig. 3



Fig. 4



Other specific accessories



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

SIRCOVER

Manually operated Transfer Switching Equipment
from 125 to 3200 A

Polyester enclosed solution

General characteristics

- Adapted to chemical attack, dust hazard, contamination hazard and atmospheric corrosion.
- Operating handle: S type black handle padlockable in position 0.
- Protection degree: IP55 / IK 10.
- Colour: RAL 7030 (rating < 400 A), RAL 9002 (rating ≥ 400 A).
- Cable gland plate: none.
- Material: glass fibre reinforced polyester.
- Coating: none.
- Wall mounting: 4 mounting brackets supplied (not fitted).
- Locking device: screw (rating < 400 A), 3 mm double bar key (rating ≥ 400 A), key supplied.
- Miscellaneous: high resistance to chemicals, self-extinguishable at 960°C, 3 bolted earth connection points.

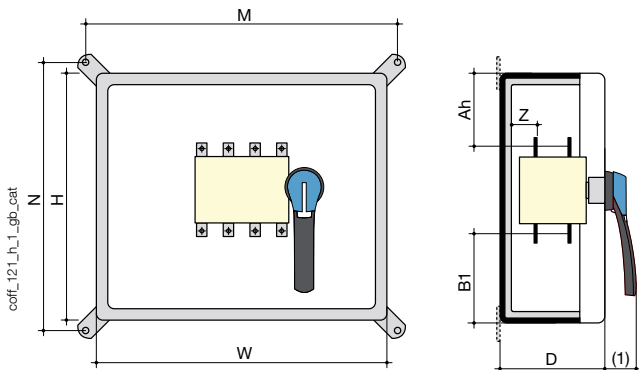
References

Rating (A)	No. of poles	Top/bottom connection I - O - II Reference
125	3 P	4215 3012
125	4 P	4215 4012
160	3 P	4215 3016
160	4 P	4215 4016
250	3 P	4215 3025
250	4 P	4215 4025
400	3 P	4215 3040
400	4 P	4215 4040
630	3 P	4215 3063
630	4 P	4215 4063



conf_299_a_1_cat

Dimensions



(1) 125 ... 630 A: 45 mm

Rating (A)	No. of poles	H x W x D (mm)	Max. connection cross-section (mm ²)	M (mm)	N (mm)	Z (mm)	Top/bottom connection		
							Ah (mm)	B1 (mm)	Weight (kg)
125	3 P	540 x 270 x 233	50	272	542	28	210	210	9
125	4 P	540 x 360 x 233	50	362	542	28	210	210	10
160	3 P	540 x 270 x 233	95	272	542	28	210	210	9
160	4 P	540 x 360 x 233	95	362	542	28	210	210	10
250	3 P	540 x 360 x 233	150	362	542	29	205	205	11
250	4 P	540 x 360 x 233	150	362	542	29	205	205	12
400	3 P	800 x 600 x 300	240	620	796	29	330	330	30
400	4 P	800 x 600 x 300	240	620	796	29	330	330	31
630	3 P	800 x 600 x 300	2 x 300	620	796	45	297	297	38
630	4 P	800 x 600 x 300	2 x 300	620	796	45	297	297	40

Steel enclosed solution

General characteristics

- Adapted to mechanical risk and dust hazard.
- Operating handle: S type black handle padlockable in position 0.
- Protection degree: IP54
- Colour: RAL 7035 up to 630 A, or RAL 7035 apart from casing and door RAL 9001.
- Cable gland plates: top and bottom.
- Material: XC steel, thickness 1.5 mm.
- Coating: epoxy polyester powder (≤ 630 A), polyester powder (≥ 800 A).
- Mounting: 4 wall mounting brackets - not fitted.
- Door: solid with hinges.
- Locking device: 3mm double bar key (≤ 630 A), 8mm spanner key (≥ 800 A), key supplied.
- Miscellaneous: multiple earth connection points, double door locking.

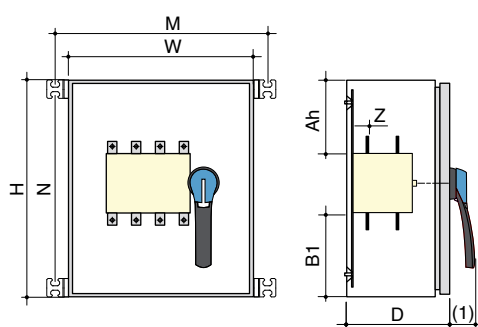
References

Rating (A)	No. of poles	Top/bottom connection I - O - II Reference
125	3 P	4212 3012
125	4 P	4212 4012
160	3 P	4212 3016
160	4 P	4212 4016
250	3 P	4212 3025
250	4 P	4212 4025
400	3 P	4212 3040
400	4 P	4212 4040
500	3 P	4212 3050
500	4 P	4212 4050
630	3 P	4212 3063
630	4 P	4212 4063
800	3 P	4212 3080
800	4 P	4212 4080
1250	3 P	4212 3120
1250	4 P	4212 4120
1600	3 P	4212 3160
1600	4 P	4212 4160



conf_2395_b

Dimensions



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

conf_318_a_1_gpb_cat

Rating (A)	No. of poles	H x W x D (mm)	Max. connection cross-section (mm ²)	M (mm)	N (mm)	Z (mm)	Top/bottom connection		
							Ah (mm)	B1 (mm)	Weight (kg)
125	3/4 P	500 x 400 x 250	50	448	458	28	190	190	23
160	3/4 P	500 x 400 x 250	95	448	458	28	190	190	23
250	3/4 P	500 x 400 x 250	150	448	458	29.3	185	185	23
400	3/4 P	800 x 600 x 300	240	758	552	29.3	330	330	45
500	3/4 P	800 x 600 x 300	240	648	658	45	298	298	55
630	3/4 P	800 x 600 x 300	2 x 300	648	658	45	290	290	55
800	3/4 P	1200 x 700 x 500	2 x 300	740	1152	24	465	465	78
1,250	3/4 P	1200 x 700 x 500	4 x 185	740	1152	24	465	465	88
1,600	3/4 P	1200 x 700 x 500	4 x 300	740	1152		470	470	94

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

125 to 630 A

Thermal current I th at 40°C	125 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A
Frame size	B3	B3	B3	B4	B4	B4	B5	B5
Rated insulation voltage U _i (V)	800	800	800	1000	1000	1000	1000	1000
Rated impulse withstand voltage U _{imp} (kV)	8	8	8	12	12	12	12	12

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

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

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

Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
415 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-23 A / AC-23 B	125/125	160/160	200/200	200/200	315/315	400/400	500/500	500/630
500 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
500 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	200/250	200/315	200/400	500/500	500/500
500 VAC	AC-23 A / AC-23 B	80/80	80/80	80/80	200/200	200/200	200/200	400/400	400/400
690 VAC ⁽³⁾	AC-21 A / AC-21 B	125/125	160/160	200/200	200/200	200/200	200/200	500/500	500/500
690 VAC ⁽³⁾	AC-22 A / AC-22 B	125/125	125/125	125/125	160/160	160/160	160/160	400/400	400/400
690 VAC ⁽³⁾	AC-23 A / AC-23 B	63/80	63/80	63/80	125/125	125/125	125/125	400/400	400/400
220 VDC	DC-21 A / DC-21 B	125/125	160/160	200/200	250/250	250/250	250/250	500/500	630/630
220 VDC	DC-22 A / DC-22 B	125/125	160/160	200/200	250/250	250/250	250/250	500/500	630/630
220 VDC	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630
440 VDC ⁽²⁾	DC-21 A / DC-21 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630
440 VDC ⁽²⁾	DC-22 A / DC-22 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630
440 VDC ⁽²⁾	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500	630/630

Operation power in AC-23 (kW)⁽⁴⁾

At 415 VAC without AC pre-break	58/58	75/75	100/100	100/100	145/145	190/190	235/235	235/280
At 690 VAC without AC pre-break	50/62	50/62	50/62	90/90	90/90	90/90	310/310	310/310

Reactive power (kvar)⁽⁴⁾

At 415 VAC (kvar)	60/60	75/75	100/100	125/125	150/150	200/200	250/250	250/300
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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)	100	100	50	50	50	50	50	50
Prospective short-circuit current with gG DIN fuses at 690 VAC (kA rms)				50	50	50	50	50
Associated fuse rating (A)	125	160	200	250	315	400	500	630

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

Rated short-time withstand current 0.3s I _{cw} at 415 VAC (kA rms)	12	12	12	15 ⁽⁵⁾	15 ⁽⁵⁾	15 ⁽⁵⁾	17 ⁽⁵⁾	17 ⁽⁵⁾
Rated short-time withstand current 1s I _{cw} at 415 VAC (kA rms)	7	7	7	8 ⁽⁵⁾	8 ⁽⁵⁾	8 ⁽⁵⁾	11 ⁽⁵⁾	10 ⁽⁵⁾
Rated peak withstand current at 415 VAC (kA peak)	20	20	20	30	30	30	45	45

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

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

Connection

Minimum Cu cable cross-section as per IEC 60947-1 (mm ²)	35	35	50	95	120	185	2 x 95	2 x 120
Recommended Cu busbar cross-section (mm ²)							2 x 32 x 5	2 x 40 x 5
Maximum Cu cable cross-section (mm ²)	50	95	120	150	240	240	2 x 185	2 x 300
Maximum Cu busbar width (mm)	25	25	25	32	32	32	50	50
Min./max. tightening torque (Nm)	9/13	9/13	9/13	20/26	20/26	20/26	20/26	20/26

Mechanical specifications

Durability (number of operating cycles)	10,000	10,000	10,000	8,000	8,000	8,000	5,000	5,000
Weight 3 P (kg)	2.9	2.9	2.9	3.8	3.9	3.9	8.6	9.1
Weight 4 P (kg)	4.1	4.1	4.1	4.6	4.9	4.9	10.4	11.1

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

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

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
Frame size	B6	B6	B6	B7	B8	B8	B8
Rated insulation voltage U _i (V)	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U _{imp} (kV)	12	12	12	12	12	12	12

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

Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
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

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

Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
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	1000/1000			
690 VAC ⁽³⁾	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/2000	-/2000
690 VAC ⁽³⁾	AC-22 A / AC-22 B	630/630	800/800	1000/1000	1000/1000			
690 VAC ⁽³⁾	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 ⁽²⁾	DC-21 A / DC-21 B	800/800	1000/1000	1250/1250	1250/1250			
440 VDC ⁽²⁾	DC-22 A / DC-22 B	800/800	1000/1000	1250/1250	1250/1250			
440 VDC ⁽²⁾	DC-23 A / DC-23 B	800/800	1000/1000	1250/1250	1250/1250			

Operation power in AC-23 (kW)⁽⁴⁾

At 415 VAC without AC pre-break	375/375	450/450	560/560	560/560	-/710	-/710	-/710
At 690 VAC without AC pre-break	475/475	475/475	620/620	620/620			

Reactive power (kvar)⁽⁴⁾

At 415 VAC (kvar)	400/400	500/500	650/650	650/650	-/850	-/850	-/850
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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	100	100			
Prospective short-circuit current with gG DIN fuses 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 _{cw} at 415 VAC (kA rms)	64	64	64	78	78	78	78
Rated short-time withstand current 1s I _{cw} 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 _{cw} at 415 VAC (kA rms)							
Rated short-time withstand current 60 ms I _{cw} at 415 VAC (kA rms)	20	20	25	32	50	50	50

Connection

Minimum Cu cable cross-section as per IEC 60947-1 (mm ²)	2 x 185						
Recommended Cu busbar cross-section (mm ²)	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 10 x 100
Maximum Cu cable cross-section (mm ²)	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)	20/26	20/26	20/26	40/45	40/45	40/45	40/45

Mechanical specifications

Durability (number of operating cycles)	4,000	4,000	4,000	3,000	3,000	3,000	3,000
Weight 3 P (kg)	20.5	21.0	21.6	25.7	42.0	42.0	52.3
Weight 4 P (kg)	24.8	25.6	26.2	32.0	52.9	52.9	66.6

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

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

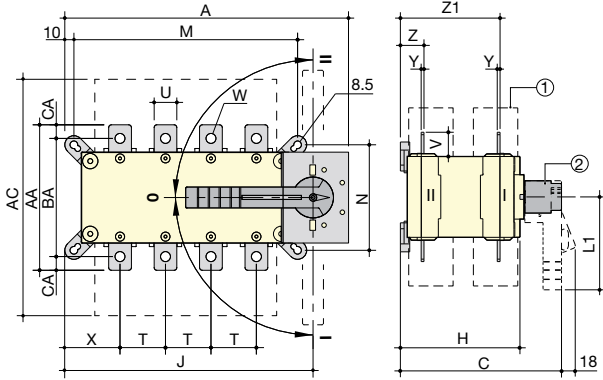
SIRCOVER

Manually operated Transfer Switching Equipment
from 125 to 3200 A

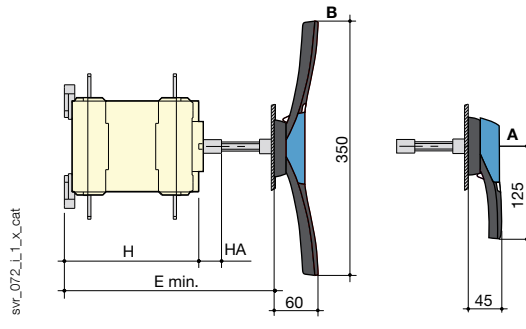
Dimensions

SIRCOVER 125 to 1600 A / B3 to B7

Direct front operation



External front operation



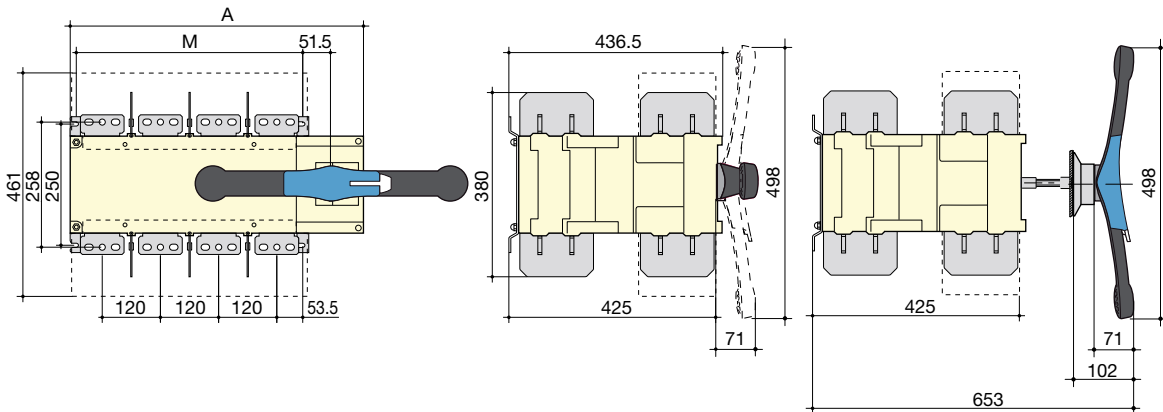
A. S2 type handle for external operation: 125 to 630 A
B. S4 type handle for external operation: 800 to 1600 A

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	221	251	218	208 ... 436	235	148	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	135	115	10
160 / B3	221	251	218	208 ... 436	235	148	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	135	115	10
200 / B3	221	251	218	208 ... 436	235	148	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	135	115	10
250 / B4	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	25	30	11	61	61	3.5	30	124	160	130	15
315 / B4	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	35	35	11	61	61	3.5	30	124	170	140	15
400 / B4	262	312	218	208 ... 436	280	148	25	223	273	196	246	116	50	35	35	11	61	61	3.5	30	124	170	140	15
500 / B5	319	379	295	285 ... 513	401	225	25	272	332	246	306	176	65	32	37	13	70.5	65.5	5	43	180	235	205	15
630 / B5	319	379	295	285 ... 513	400	225	25	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	260	220	20
800 / 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

SIRCOVER 2000 to 3200 A / B8

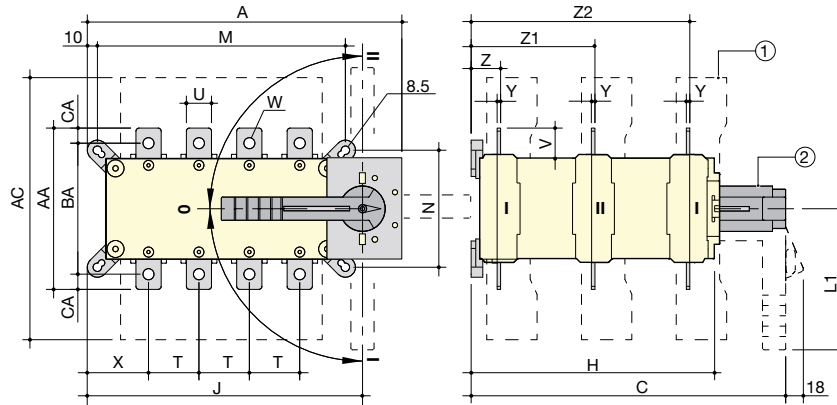
Direct front operation



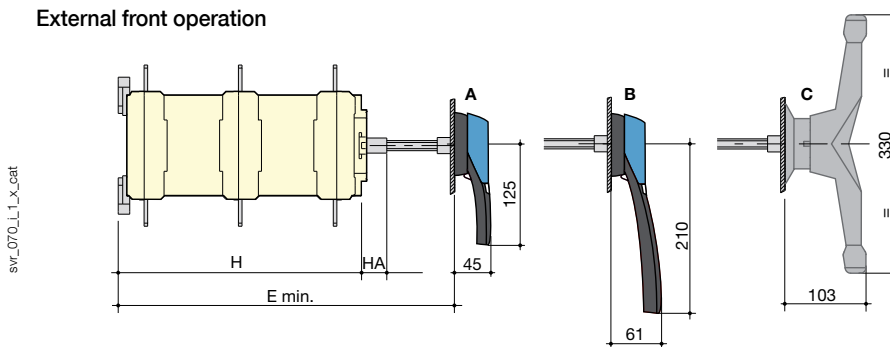
Rating (A) / Frame size	Overall dimensions		Switch mounting	
	A 3p.	A 4p.	M 3p.	M 4p.
2000 ... 3200 / B8	478	598	347	467

SIRCOVER Bypass 125 to 1600 A / B3 to B7

Direct front operation



External front operation



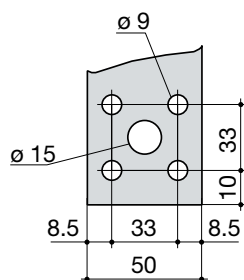
A. S2 type handle for external operation: 125 to 200 A
B. S3 type handle for external operation: 250 to 630 A
C. External double lever handle: 800 to 1600 A

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

Rating (A) / Frame size	Overall dimensions				Terminal shrouds	Switch body				Switch mounting				Connection											
	A 3+6p.	A 4+8p.	C	E min.		AC	H	HA	J 3+6p.	J 4+8p.	M 3+6p.	M 4+8p.	N	T	U	V	W	X 3+6p.	X 4+8p.	Y	Z	Z1	Z2	AA	BA
125 / B3	221	251	313	320	235	243	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
160 / B3	221	251	313	320	235	243	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
200 / B3	221	251	313	320	235	243	25	182	212	156	186	101	36	20	25	8.5	56	50	3.5	28	124	219	135	115	10
250 / B4	262	312	313	298	280	243	25	223	273	196	246	116	50	25	30	11	61	61	3.5	30	124	219	160	130	10
400 / B4	262	312	313	298	280	243	25	223	273	196	246	116	50	35	35	11	61	61	3.5	30	124	219	170	140	15
500 / B5	319	379	432	417	401	362	25	272	332	246	306	176	65	32	37	13	70.5	65.5	5	43	180	317	235	205	15
630 / B5	319	379	432	417	400	362	25	272	332	246	306	176	65	45	50	13	70.5	65.5	5	43	180	317	260	220	20
800 / B6	386	466	560	550	459	479	29	306.5	386.5	255	335	250	80	50	60.5	15	48	48	7	66.5	253.5	439.5	321		26.5
1250 / B6	386	466	560	550	459	479	29	306.5	386.5	255	335	250	80	60	65	16x11	48	48	7	66.5	253.5	439.5	320		29.25
1600 / B7	478	598	560	550	461	479	29	388.5	518.5	347	467	250	120	90	43.5	12.5x5	54	54	8	66.5	253.5	439.5	288		15

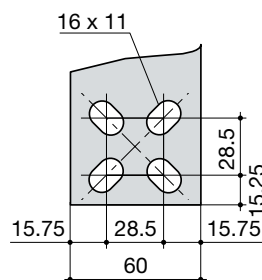
Connection terminals

SIRCOVER and SIRCOVER Bypass 800 A / B6



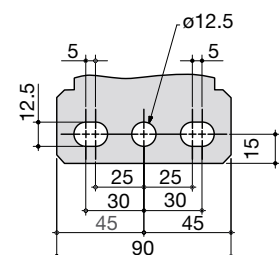
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SIRCOVER and SIRCOVER Bypass 1250 A / B6



svr_078_b_1_x_cat

SIRCOVER 1600 to 3200 A / B7 to B8
SIRCOVER Bypass 1600 A / B7



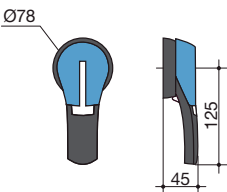
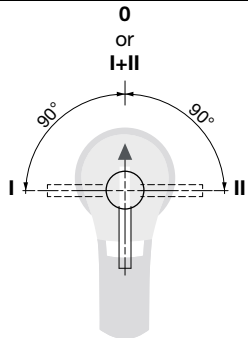
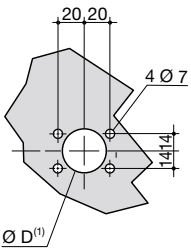
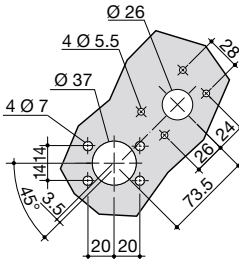
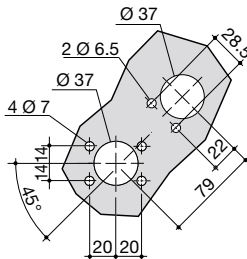
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SIRCOVER

Manually operated Transfer Switching Equipment
from 125 to 3200 A

Dimensions for external handles

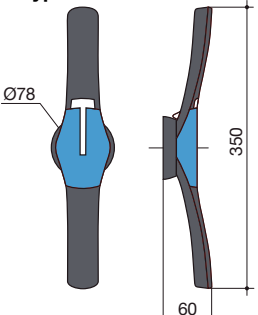
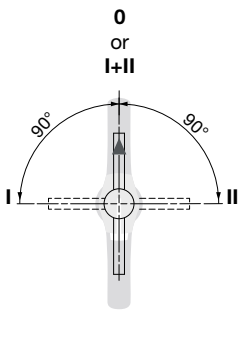
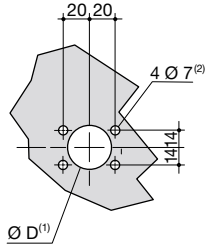
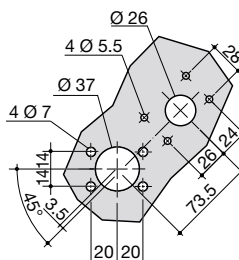
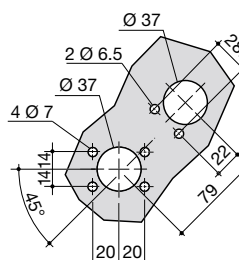
SIRCOVER 125 to 630 A / B3 to B5

Handle type	Front operation Direction of operation	Door drilling		
S2 type 			With lock RONIS EL11AP 	With lock CASTELL K 

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

poign_030_a_1_gb_cat

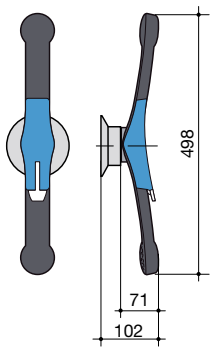
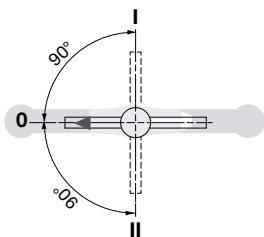
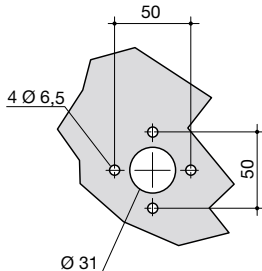
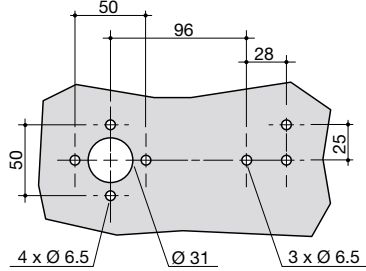
SIRCOVER 800 to 1600 A / B6 to B7

Handle type	Front operation Direction of operation	Door drilling		
S4 type 			With lock RONIS EL11AP 	With lock CASTELL K 

(1) Ø31 to Ø37: rear screw mounting,
Ø37: front clip mounting.
(2) Ø6 to Ø7: clip mounting

poign_031_a_1_gb_cat

SIRCOVER 2000 to 3200 A / B8

Handle type	Front operation Direction of operation	Door drilling	
S5 type with V Escutcheon 			With lock CASTELL K 

poign_023_a_1_gb_cat

SIRCOVER Bypass 125 to 200 A / B3

Handle type	Front operation Direction of operation	Door drilling	
S2 type			<div style="display: flex; justify-content: space-around;"> <div> <p>With lock RONIS EL11AP</p> </div> <div> <p>With lock CASTELL K</p> </div> </div>

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

SIRCOVER Bypass 250 to 630 A / B4 to B5

Handle type	Front operation Direction of operation	Door drilling	
S3 type			<div style="display: flex; justify-content: space-around;"> <div> <p>With lock RONIS EL11AP</p> </div> <div> <p>With lock CASTELL K</p> </div> </div>

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

SIRCOVER Bypass 800 to 1600 A / B6 to B7

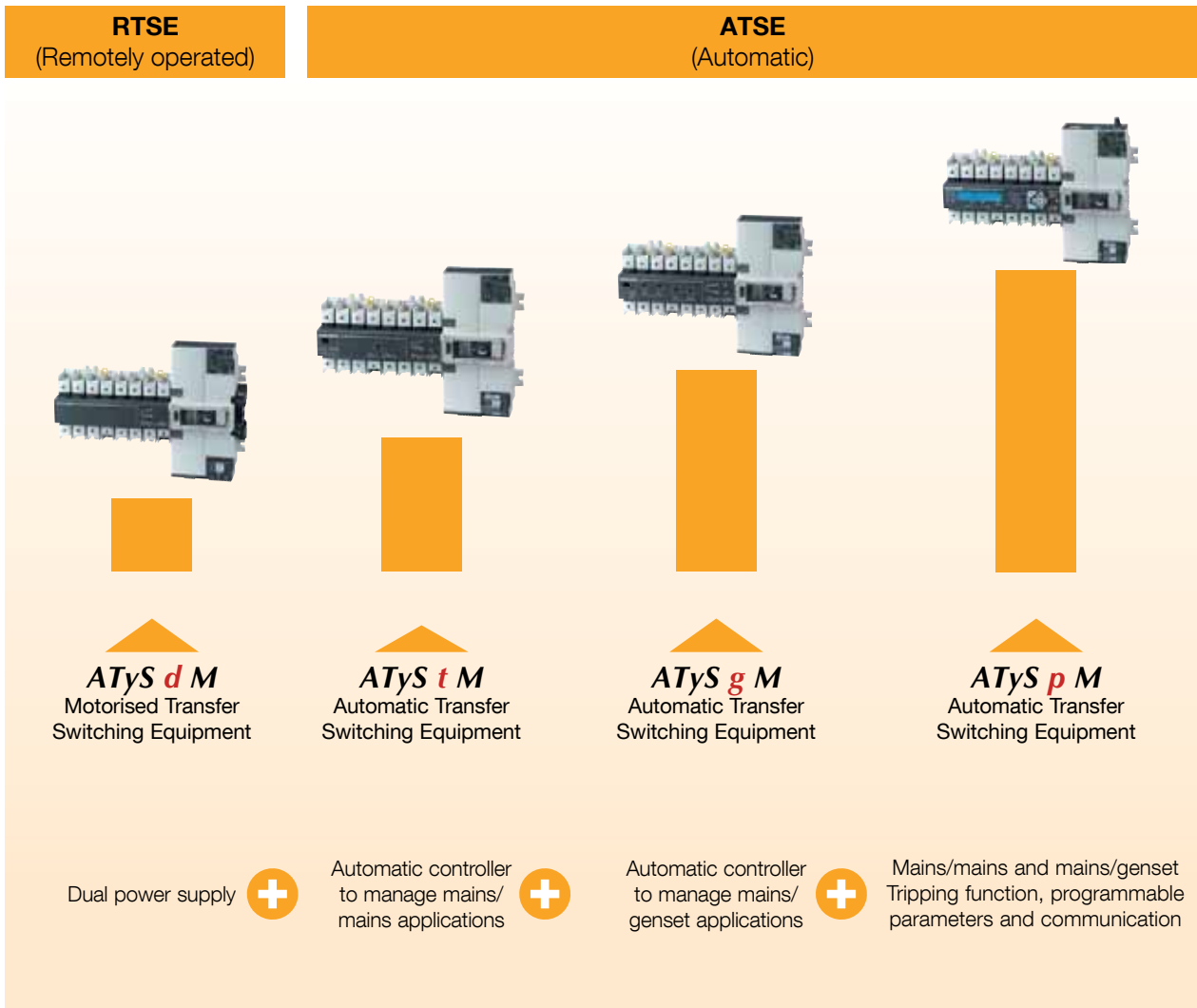
Handle type	Front operation Direction of operation	Door drilling	
C type			<p>With lock CASTELL K</p>



The *ATyS M* range: safe and reliable solutions

Transfer switches

A complete range of automatic and remotely operated 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 g M and 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 (ATyS d M < 90ms) 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 d M**: No configuration required.
- **ATyS t M** and **ATyS g 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 d M

Remotely operated Transfer Switching Equipment from 40 to 160 A

Transfer switches



ATyS d M
I-O-II 4P

The solution for

- > Applications with a normal/emergency external controller
- > Building Management System (BMS)



Strong points

- > Secure
- > Superior electrical performance
- > High-speed transfer
- > Immune to voltage fluctuations

Conformity to standards

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



Approvals and certifications



Function

ATyS d M devices are 2 pole or 4 pole transfer switches that are remotely controlled using volt-free contacts from an external controller. They are modular products with positive break indication. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

Advantages

Secure

ATyS M have both electrical and mechanical interlocks for optimum security. They also feature a positive break indicator, confirming switch position with dual mechanical indicators for increased safety.

Superior electrical performance

ATyS M devices are compliant with IEC 60947-6-1, the standard governing transfer switches. Their AC-33B properties of up to 125 A mean you can use the same product for resistive and inductive loads.

High-speed transfer

ATyS d M devices are based on a coil solution with rotating contacts, therefore ensuring an extremely short black-out duration (< 90ms).

Immune to voltage fluctuations

The power supply of the ATyS d M is only active during transfer. As the product is based on stable positions, it is not affected by network voltage fluctuations.

Operating modes



ATySm_014_c

Easy selection of AUT/MAN mode



ATySm_015_c-1_cat

Manual emergency operation



ATySm_016_c-1_cat

Padlocking facility

What you need to know

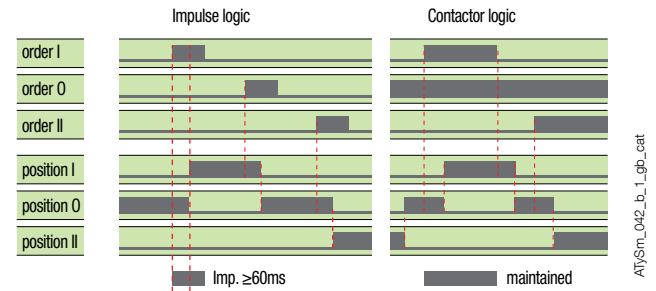
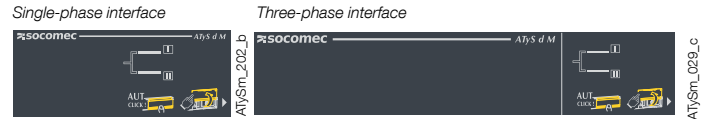
Electrical control

The positions are controlled by dry contacts on any external automated system (e.g. ATyS C30). These positions are stable even in case of loss of input supply.

Control logic

Two types of control logic are offered:

- Pulse logic
 - A switching command of at least 60 ms is necessary to initiate operation.
 - Commands I and II have priority over command 0.
 - The first command received (I or II) has priority as long as it remains present.
- Contactor logic
 - Command 0 must be maintained.
 - If command I or II disappears, the device returns to position 0, so long as the power supply is available.



Power supply

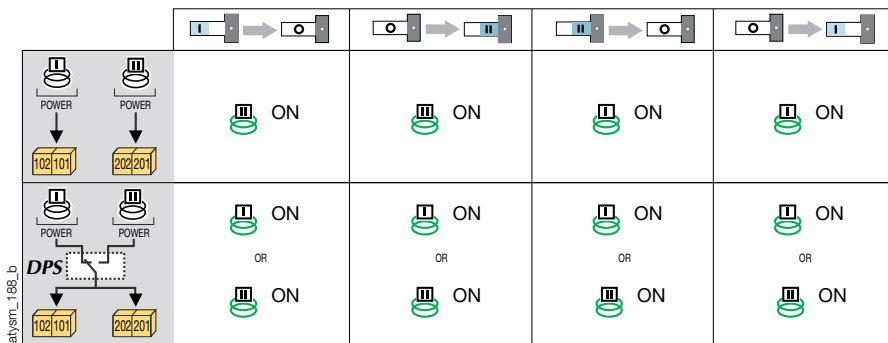
The ATyS d M is equipped with two independent 230 VAC power inputs (176-288 VAC), 50/60 Hz (45/65 Hz).

These two supplies can be connected individually; one to switch I and the other to switch II:

- Power supply 101-102 must be available to reach position I
- Power supply 201-202 must be available to reach position II.

The use of a dual power supply (DPS) or an external supply module secures the command of the 3 positions irrespective of the power supply source.

In this case, both the supply inputs must be connected in parallel.



References

ATyS d M

Rating (A)	No. of poles	ATyS d M	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block
40 A	2 P	9323 2004	2 P 1309 2006 4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 st unit included 2 nd unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾
	4 P	9323 4004				
63 A	2 P	9323 2006				
	4 P	9323 4006				
80 A	2 P	9323 2008				
	4 P	9323 4008				
100 A	2 P	9323 2010				
	4 P	9323 4010				
125 A	2 P	9323 2012				
	4 P	9323 4012				
160 A	2 P	9323 2016	1309 2016			
	4 P	9323 4016	1309 4016			

(1) For the three-phase version, for complete upstream and downstream protection, please order 2x; for the single-phase version please order the part just 1x.
(2) 1 NO/NC contact block for positions I, 0 and II.



ATyS t M - ATyS g 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



ATyS g M
1-0-II 2P

atyS-gm_001_b_1_cat

The solution for

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



Strong points

- > Fast commissioning
- > ATyS d M with an integrated controller for dedicated mains/mains or mains/genset functions
- > Secure programming

Conformity to standards

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



Approvals and certifications⁽¹⁾



⁽¹⁾ Product references on request.

Function

ATyS t M and ATyS g M are modular automatic transfer switches with positive break indication. ATyS t M are 4 pole (three-phase) devices and ATyS g M are 2 or 4 pole (single or three-phase) devices.

They have all the functions of the ATyS d M together with an integrated controller, giving them automatic features dedicated to mains/mains (ATyS t M) and mains/genset (ATyS g M) applications. 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 (4 on the ATyS g M) and four DIP switches, a screwdriver is all that is required to configure the parameters.

ATyS g M: dedicated to mains/genset applications

In addition to its single-phase and three-phase voltage & frequency monitoring for both incoming sources, the product's integrated controller also features functions that are specific to mains/genset applications (genset control, test on load, etc.).

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.

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.

What you need to know

The ATyS t M and ATyS g 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 4004	4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾	1359 0000
63 A	4 P	230/400	9344 4006					
80 A	4 P	230/400	9344 4008					
100 A	4 P	230/400	9344 4010					
125 A	4 P	230/400	9344 4012					
160 A	4 P	230/400	9344 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.

ATyS g M

Rating (A)	No. of poles	Network (VAC) ⁽³⁾	ATyS g M	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block	Sealable cover
40 A	2 P	230	9353 2004	2 P 1309 2006 4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾	2 P 1359 2000 4 P 1359 0000
	4 P	230/400	9354 4004					
63 A	2 P	230	9353 2006					
	4 P	230/400	9354 4006					
80 A	2 P	230	9353 2008					
	4 P	230/400	9354 4008					
100 A	2 P	230	9353 2010					
	4 P	230/400	9354 4010					
125 A	2 P	230	9353 2012					
	4 P	230/400	9354 4012					
160 A	2 P	230	9353 2016	1309 2016				
	4 P	230/400	9354 4016	1309 4016				

(1) 4 pole version - for complete upstream and downstream protection please order quantity 2; for 2 pole version order quantity 1.

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

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



ATyS p M

Automatic Transfer Switching Equipment
from 40 to 160 A

Transfer switches



ATyS p M
I-0-II 4P

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



Function

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

Functions include ATyS t M and ATyS g 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

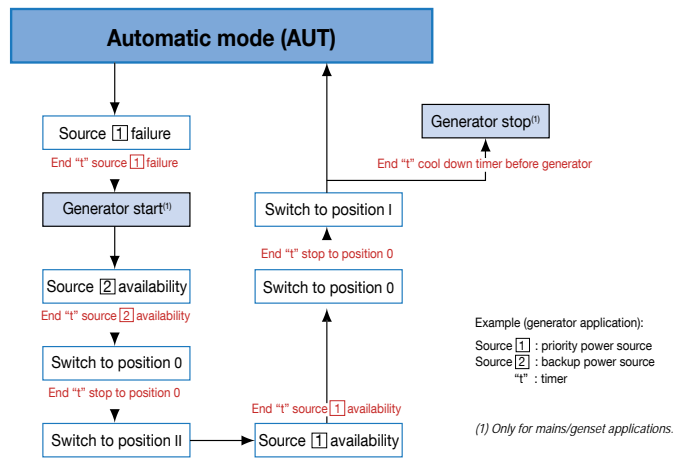
A specific version of ATyS p M is available with integrated Modbus communication. This gives access to most product data (status, voltages, frequencies...). A user friendly configuration software is also available free (Easyconfig) to configure, view and save all the parameters in the ATyS p M.

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).

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.



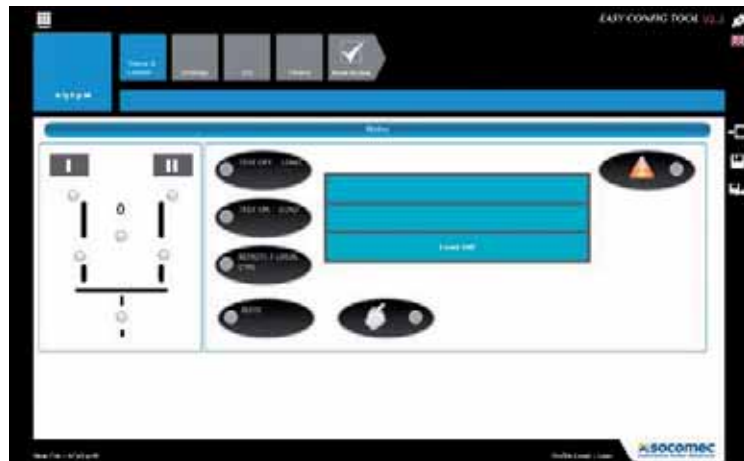
atys_028_h_1_gb_cat

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 ⁽¹⁾	1 piece	D10 9599 2010 D20 9599 2020
63 A	4 P	230/400	9364 4006	9384 4006				Separate common points 1309 0001 ⁽²⁾	
80 A	4 P	230/400	9364 4008	9384 4008				Linked common points 1309 0011 ⁽²⁾	
100 A	4 P	230/400	9364 4010	9384 4010					
125 A	4 P	230/400	9364 4012	9384 4012	1309 4016				
160 A	4 P	230/400	9364 4016	9384 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 *d* M, ATyS *t* M, ATyS *g* M, ATyS *p* M
from 40 to 160 A

Transfer switches

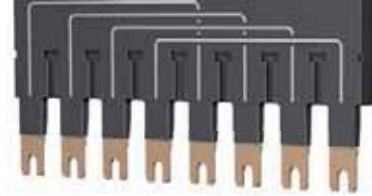
Accessories

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.

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



atysm_026_a

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 ⁽¹⁾

(1) Reference composed of 2 pieces.

Auxiliary contact

Use

A maximum of two auxiliary contact blocks can be fitted to each product. Each auxiliary contact block integrates 3 NO/NC auxiliary contacts (I, O, II).

The ATyS *d* M is delivered as standard with 1 block with separate common points.

Characteristics:

250 VAC / 5 A maximum.

24 VDC / 2 A maximum.

Rating (A)	Type	Reference
40 ... 160	Separate common points	1309 0001
40 ... 160	Linked common points	1309 0011



access_383_a

access_388_a

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_313_a

Polycarbonate enclosure

Use

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



atysm_036_b_1_cat

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

Extension unit

Use

Combined with the polycarbonate enclosure, the extension unit provides additional space in order to connect 70 mm² cables to the ATyS M with ease.



atysm_039_a_1_x_cat

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

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.



atysm_196_a_1_cat

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

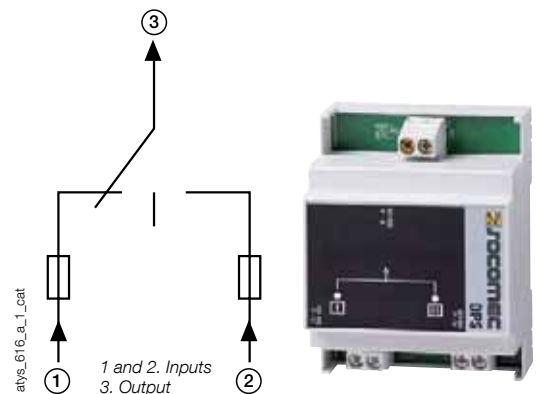
Double power supply - DPS

Use

Allows an ATyS d M to be supplied by two 230 VAC 50/60 Hz networks.

Input

- The input is considered as "active" from 200 VAC.
- Maximum voltage: 288 VAC.
- Internal protection: each input is fuse protected (3.15 A).
- Connection on terminals: max. 6 mm².
- Modular product: the width of 4 modules.



atys_612_a_2_cat

Description of accessories	Reference
DPS	1599 4001

Input 1	Input 2	Output
230 VAC	0 VAC	230 VAC (input 1)
0 VAC	230 VAC	230 VAC (input 2)
230 VAC	230 VAC	230 VAC (input 1)
0 VAC	0 VAC	0 VAC

ATyS M range

ATyS d M, ATyS t M, ATyS g M, ATyS p M

from 40 to 160 A

Accessories (continued)

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.



trafo_165_b_1

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

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

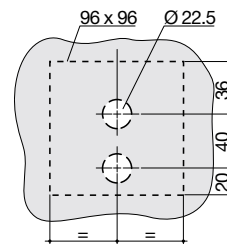


atys_565_c_1_cat



atys_597_a_1_cat

RJ45 to connect to ATyS p M



Drillings

atys_161_a_1_x_cat

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.



access_209_a_2_cat

Type	Length	Reference
RJ45 cable	3 m	1599 2009

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 mm² cables or one 70 mm² cable. Compatible with aluminium terminals. Each power connection terminal is provided with separation screens.



access_292_a_1_cat

Rating (A)	Reference
40 ... 160	1399 4017 ⁽¹⁾

(1) For complete conversion, order quantity 3.

Polycarbonate enclosed solution

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.

References

ATyS d M single-phase model (2 P)

Rating (A)	Reference
40	1823 2004
63	1823 2006
80	1823 2008
100	1823 2010
125	1823 2012
160	1823 2016

ATyS g M single-phase model (2 P)

Rating (A)	Reference
40	1854 2004
63	1854 2006
80	1854 2008
100	1854 2010
125	1854 2012
160	1854 2016



atysm_251_a_1_cat

Accessories

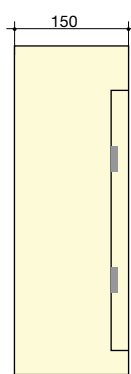
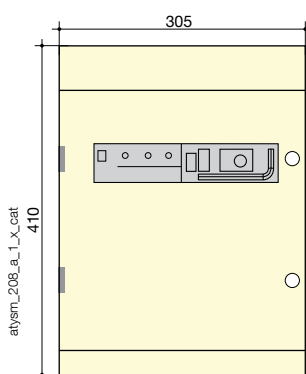
Customer fit

Description	Reference
Auxiliary contact	1309 0001
Voltage sensing and power supply tap (2 per reference)	1399 4006

For model ATyS d M only

Description	Reference
ATyS C30 relay driver	1599 3030
ATyS C40 relay driver	1599 3040
Dual power supply	1599 4001

Dimensions



- Weight: 5.5 kg.
- Connection: recommended cable size (Cu): 25 to 70 mm² according to rating (max. cable size: 70 mm²).

ATyS M range

ATyS d M, ATyS t M, ATyS g M, ATyS p M

from 40 to 160 A

Solutions with steel enclosure

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).

References

ATyS d M models

Rating (A)	No. of poles	IP 3X Reference	IP 54 Reference
40	4 P	1823 4004	1823 4005
63	4 P	1823 4006	1823 4007
80	4 P	1823 4008	1823 4009
100	4 P	1823 4010	1823 4011
125	4 P	1823 4012	1823 4013
160	4 P	1823 4016	1823 4017

ATyS g M models

Rating (A)	No. of poles	IP 3X Reference	IP 54 Reference
40	4 P	1854 4004	1854 4005
63	4 P	1854 4006	1854 4007
80	4 P	1854 4008	1854 4009
100	4 P	1854 4010	1854 4011
125	4 P	1854 4012	1854 4013
160	4 P	1854 4016	1854 4017

ATyS p M + COM RS485 models

Rating (A)	No. of poles	IP 3X Reference	IP 54 Reference
40	4 P	1884 4004	1884 4005
63	4 P	1884 4006	1884 4007
80	4 P	1884 4008	1884 4009
100	4 P	1884 4010	1884 4011
125	4 P	1884 4012	1884 4013
160	4 P	1884 4016	1884 4017



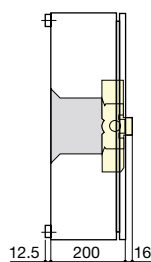
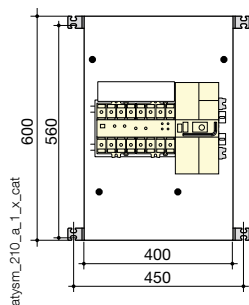
conf_366_b

Accessories

Customer fit

Description	Reference
Solid neutral	1309 9008
IP54 kit	1399 4016

Dimensions

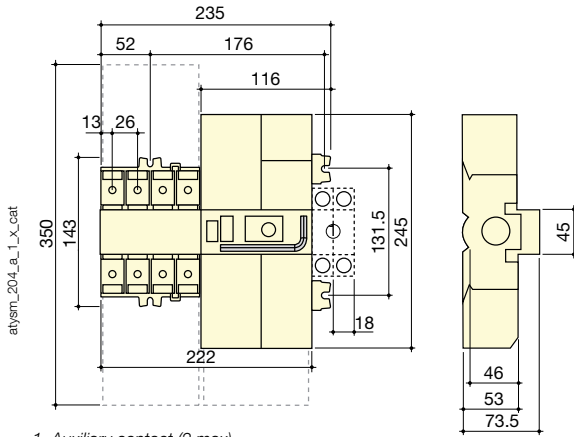


- Weight (without accessories): 15 kg.
- Connection (without cage/terminal interface): min. Cu 10 mm², max. 70 mm².

Dimensions

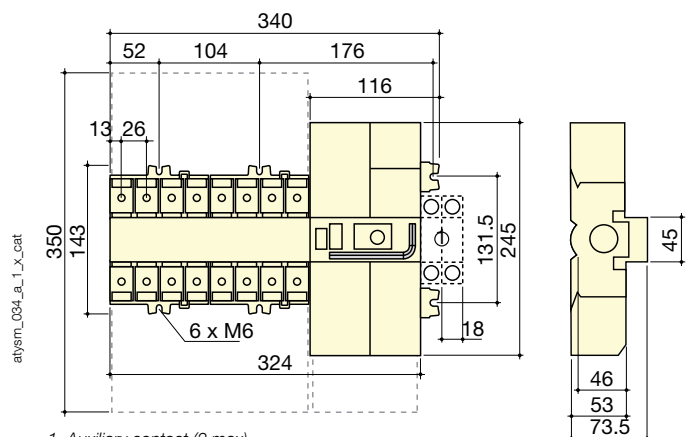
ATyS M 40 to 160 A

Single-phase ATyS M



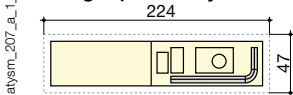
1. Auxiliary contact (2 max).

Three-phase ATyS M

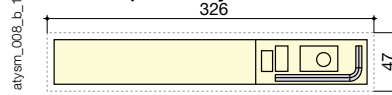


1. Auxiliary contact (2 max).

Single-phase ATyS M - door cut-out



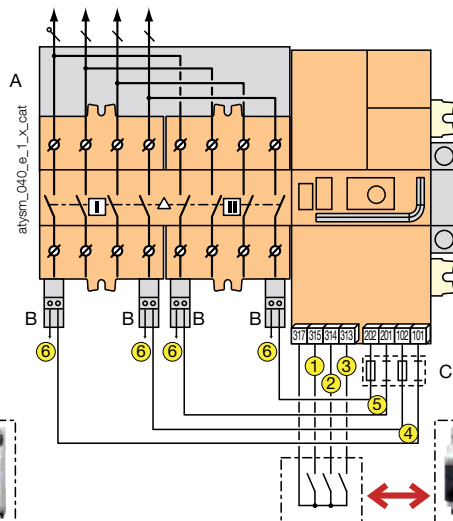
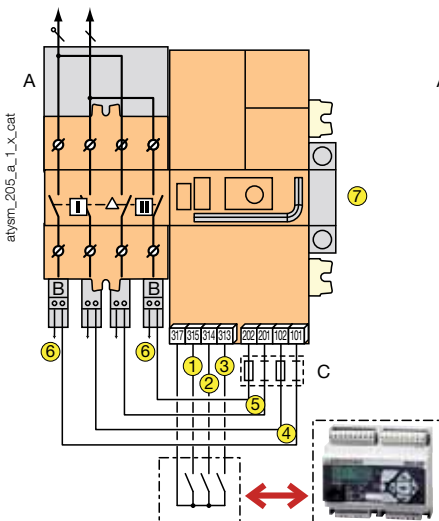
Three-phase ATyS M - door cut-out



Terminals and connections

Single-phase ATyS d M

Three-phase ATyS d M



- 1: position I control
- 2: position II control
- 3: position 0 control C
- 4: power supply I (230 VAC)
- 5: power supply II (230 VAC)
- 6: voltage tap
- 7: auxiliary contact block - 1 NO/NC per position I, 0, II (factory fitted)

- A: bridging bar (accessory)
- B: voltage sensing tap (accessory)
- C: F1 / F2 = fuse 10 A gG

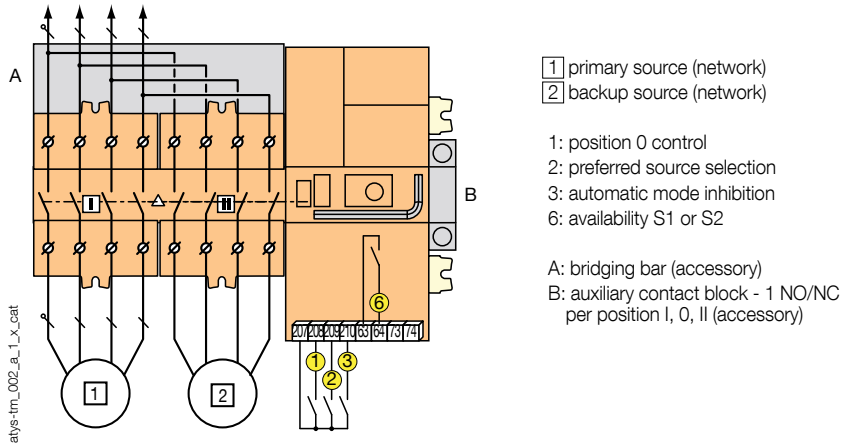
ATyS M range

ATyS d M, ATyS t M, ATyS g M, ATyS p M

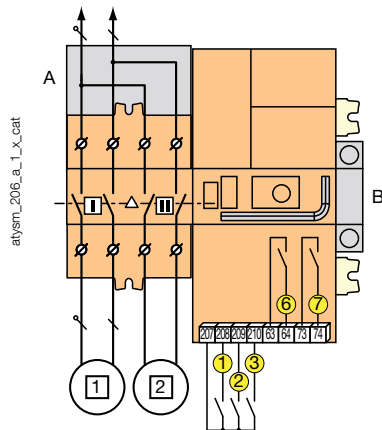
from 40 to 160 A

Terminals and connections (continued)

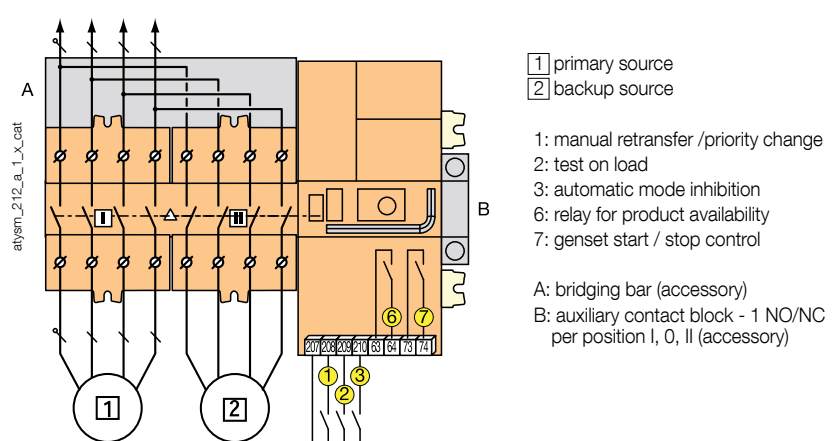
Three-phase ATyS t M



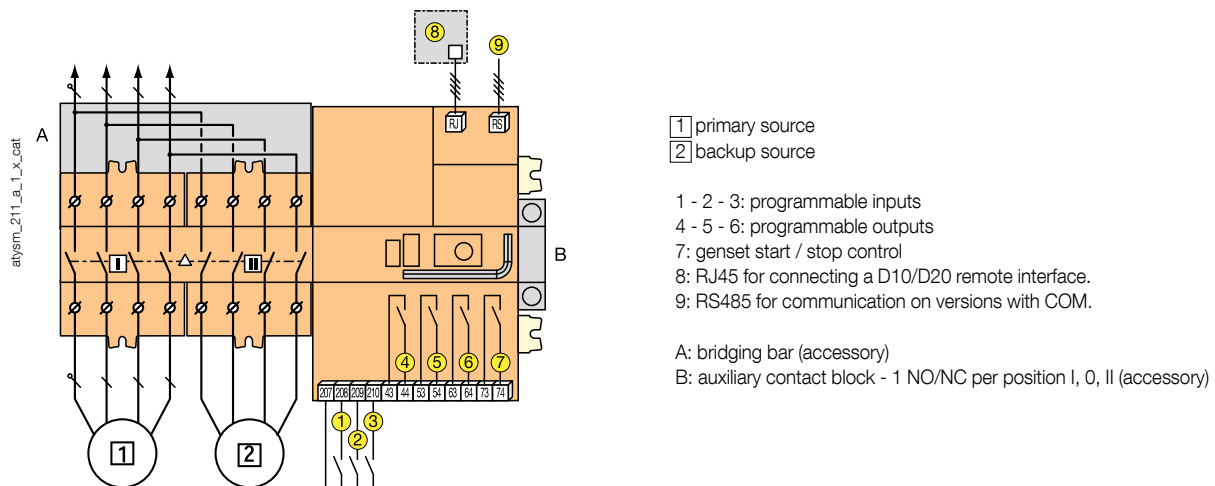
Single-phase ATyS g M



Three-phase ATyS g M



Three-phase ATyS p M



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

40 to 160 A

Thermal current I_{th} at 40°C	40 A	63 A	80 A	100 A	125 A	160 A
Rated insulation voltage U_i (V) (power circuit)	800	800	800	800	800	800
Rated impulse withstand voltage U_{imp} (kV) (power circuit)	6	6	6	6	6	6
Rated insulation voltage U_i (V) (control circuit)	300	300	300	300	300	300
Rated impulse withstand voltage U_{imp} (kV) (control circuit) - ATyS d M	4	4	4	4	4	4
Rated impulse withstand voltage U_{imp} (kV) (control circuit) - ATyS t M, g M and p M	2.5	2.5	2.5	2.5	2.5	2.5

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

Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
415 VAC	AC-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

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

Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
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

Current rated as conditional short-circuit with fuse gG DIN

Conditional short-circuit current (kA rms)	50	50	50	50	50	40
Associated fuse rating (A)	40	63	80	100	125	160

Current rated as conditional short-circuit with any brand of circuit breaker that ensures tripping in less than 0.3s⁽⁴⁾

Current rated as short-time withstand low 0.3s (kA rms)	7	7	7	7	7	7
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Short-circuit operation (switch only)

Current rated as short-time withstand I_{cw} 1s (kA rms) ⁽²⁾	4	4	4	4	4	4
Rated peak withstand current (kA peak) ⁽²⁾	17	17	17	17	17	17

Connection

Min. connection cross-section	10	10	10	10	10	10
Minimum Cu cable cross-section (mm ²)	70	70	70	70	70	70
Tightening torque (Nm)	5	5	5	5	5	5

Switching time⁽⁵⁾

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) ⁽³⁾	150	150	150	150	150	150

Power supply

Min./max. supply (VAC) (ATyS d M, 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

Control supply power demand

Rated power (VA)	6	6	6	6	6	6
Max. intensity at 230 VAC (A) - ATyS d M, 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

Mechanical specifications

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 $U_e = 400$ 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.



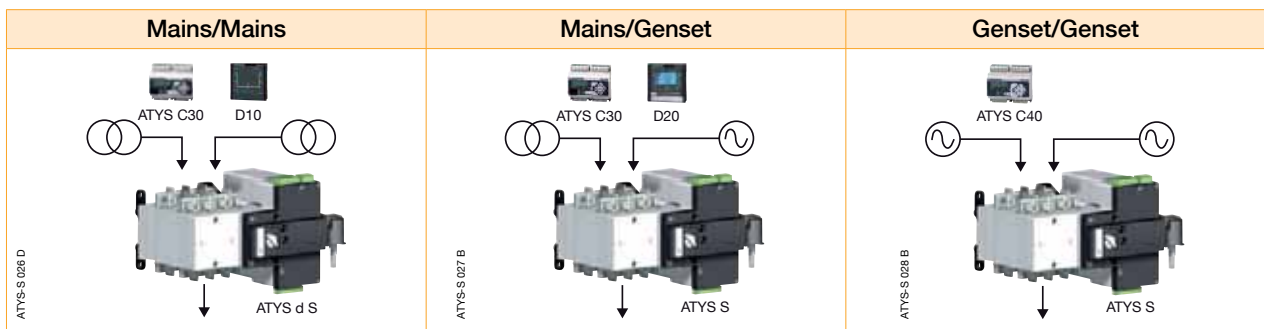
The *ATyS S* range: a robust solution

Transfer switches

A range of transfer switches from 40 to 125 A



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

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 faults. 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.

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
- > IEC 60947-3
- > GB 14048-11



Approvals and certifications



References

ATyS S

Rating (A)	No. of poles	Power supply	ATyS S	Bridging bars	Terminal shrouds	Voltage tap	Terminal retainer	DIN rail				
40 A	4 P	24/48 VDC	9506 4004	4 P 9509 4013	Source side 2 pieces 9594 4012 Load side 2 pieces 9594 9012		2 pieces 9599 4003	4 modules 9599 4002				
	4 P	12 VDC	9505 4004						9599 4001			
	4 P	230 VAC	9503 4004									
63 A	4 P	24/48 VDC	9506 4006							9599 4001		
	4 P	12 VDC	9505 4006									
	4 P	230 VAC	9503 4006									
80 A	4 P	24/48 VDC	9506 4008							9599 4001		
	4 P	12 VDC	9505 4008									
	4 P	230 VAC	9503 4008									
100 A	4 P	24/48 VDC	9506 4010							9599 4001		
	4 P	12 VDC	9505 4010									
	4 P	230 VAC	9503 4010									
125 A	4 P	24/48 VDC	9506 4012			9599 4001						
	4 P	12 VDC	9505 4012									
	4 P	230 VAC	9503 4012									

ATyS d S

Rating (A)	No. of poles	Power supply	ATyS d S	Bridging bars	Terminal shrouds	Voltage tap	Terminal retainer	DIN rail
40 A	4 P	2 x 230 VAC	9513 4004	4 P 9509 4013	Source side 2 pieces 9594 4012 Load side 2 pieces 9594 9012	9599 4001	2 pieces 9599 4003	4 modules 9599 4002
63 A	4 P	2 x 230 VAC	9513 4006					
80 A	4 P	2 x 230 VAC	9513 4008					
100 A	4 P	2 x 230 VAC	9513 4010					
125 A	4 P	2 x 230 VAC	9513 4012					

ATyS S - ATyS d S

Remotely operated Transfer Switching Equipment
from 40 to 125 A

Accessories

Bridging bars

Use

For bridging power terminals on the top or bottom side of the switch.

Rating (A)	No. of poles	Reference
40 ... 125	4 P	9509 4013



access_385_a_2_cat

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 4001



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 4003



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 4012

Terminal shrouds for the load side

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



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

75x80x72 mm

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

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 4002



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 2x230 VAC
40	9505 5004	9506 5004	9503 5004	9513 5004
63	9505 5006	9506 5006	9503 5006	9513 5006
80	9505 5008	9506 5008	9503 5008	9513 5008
100	9505 5010	9506 5010	9503 5010	9513 5010
125	9505 5012	9506 5012	9503 5012	9513 5012



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 1004
63	9509 1006
80	9509 1008
100	9509 1010
125	9509 1012



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 5012



poign_058_a_1_x_cat

Connector kit

Use

This kit, including all the connector types for the different products, can be ordered in case of loss or breaking of one connector.

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



access_416_a_1_cat

ATyS S - ATyS d S

Remotely operated Transfer Switching Equipment

from 40 to 125 A

Enclosed solutions

General characteristics



coff_418_a

ATyS S and ATyS d S

- Adapted to mechanical risk and dust hazard.
- Protection degree: IP3X (IP54 optional)
- Colour: RAL 7035, epoxy polyester powder.
- Wall mounting: 4 fixing lugs supplied loose.
- Connection of cables: top or bottom.
- Locking system: 3 mm double-bar Lock (key supplied)
- Power network 230/400 VAC +/-30%, 50/60 Hz.
- Two power supplies: 12 VDC and 2 x 230 VAC.
- Manual emergency operation handle provided with the enclosure.
- Bridging bars provided fitted on the product.

References

Rating (A)	No. of poles	ATyS S 12 VDC	ATyS d S 2 x 230 VAC
40	4 P	3505 4004	3513 4004
63	4 P	3505 4006	3513 4006
80	4 P	3505 4008	3513 4008
100	4 P	3505 4010	3513 4010
125	4 P	3505 4012	3513 4012

Accessories

Factory fitted

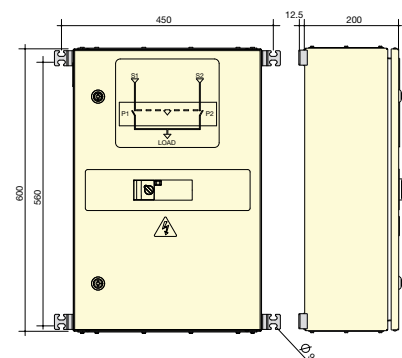
Description	Reference
LEDs indicating if voltage is present	9599 0005
LEDs for position indication	9599 0006
TESTS/AUTO modes selection (with C30 option)	9599 0007
Priority selection (with C30 option)	9599 0008
Surge arresters for enclosure (SURGYS D40)	9599 0010
Three-phase kit without neutral	9599 0012
Kit for auxiliary output (3Ph+N) 16A	9599 0016
Copper bar connection kit	9599 0019
IP54 kit	9599 0020
IPXXB protection screen (door open)	9599 0021
Battery charger	9599 0024
Kit for voltage sensing on terminals	9599 0028
Auxiliary kit for control on terminals	9599 0029
Kit for ATyS C30 control/command	9599 0030

Customer fit

Description	Reference
Copper bar connection kit	9599 0018
IP54 kit	9599 0020
IPXXB protection screen (door open)	9599 0021

Dimensions

Rating (A)	Connection cross-section (mm ²)	H (mm)	L (mm)	P (mm)	Weight (kg)
40	10	600	400	200	25
63	16	600	400	200	25
80	25	600	400	200	25
100	35	600	400	200	25
125	50	600	400	200	25



coff_423_a_1_cat

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

40 to 125 A

Thermal current I_{th} at 40°C	40 A	63 A	80 A	100 A	125 A
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

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

Rated voltage	Utilisation category	A/B	A/B	A/B	A/B	A/B
415 VAC	AC-31 B	40	63	80	100	125
415 VAC	AC-32 B	40	63	80	80	80

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

Rated voltage	Utilisation category	A/B	A/B	A/B	A/B	A/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

Fuse protected short-circuit withstand (kA rms prospective)

Prospective short-circuit current (kA rms)	50	50	50	25	15
Associated fuse rating (A)	40	63	80	100	125

Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s⁽¹⁾

Rated short-time withstand current 0.3s I_{cw} (kA rms)	3.5	3.5	3.5	3.5	3.5
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Short-circuit capacity as per IEC 60947-6-1

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	-

Short-circuit capacity as per IEC 60947-3 (without protection)

Rated short-time withstand current 1 s. I_{cw} (kA rms)	2.5	2.5	2.5	2.5	2.5
Rated peak withstand current (kA peak)	12	12	12	12	12

Connection

Maximum Cu cable cross-section (mm ²)	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

Switching time (Standard setting)

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

Power supply

Power supply 12 VDC min / max (VDC)	9/15	9/15	9/15	9/15	9/15
Power supply 24/48 VDC min / max (VDC)	17/62	17/62	17/62	17/62	17/62
Power supply 230 VAC min / max (VAC)	160/310	160/310	160/310	160/310	160/310

Control supply power demand

Power supply 12 VDC inrush / nominal (VA)	200/40	200/40	200/40	200/40	200/40
Power supply 24/48 VDC inrush / nominal (VA)	200/40	200/40	200/40	200/40	200/40
Supply 230 VAC inrush / nominal (VA)	200/40	200/40	200/40	200/40	200/40

Mechanical characteristics

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

(1) 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.

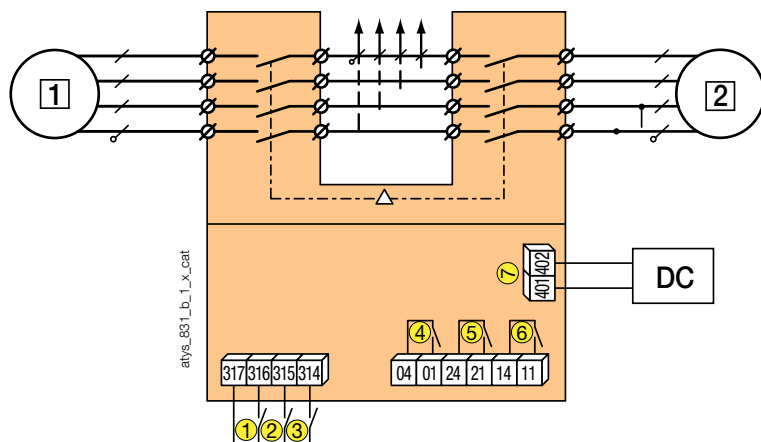
ATyS S - ATyS d S

Remotely operated Transfer Switching Equipment

from 40 to 125 A

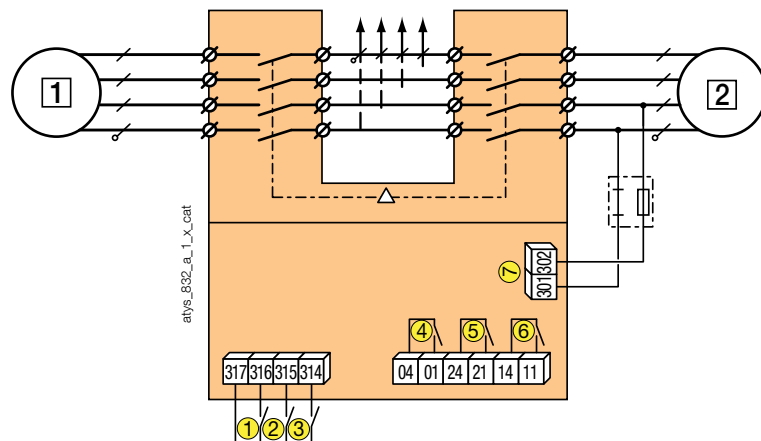
Terminals and connections

ATyS S DC version



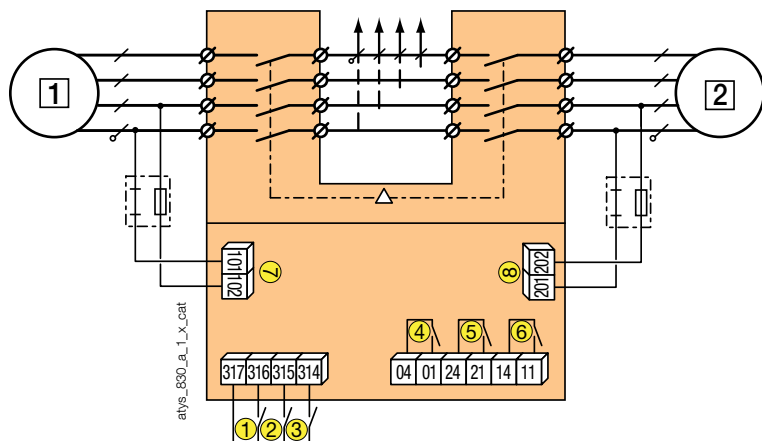
- 1 preferred source
- 2 alternate source
- 1: position 0 control
- 2: position I control
- 3: position II control
- 4: auxiliary contact, closed when the switch is in position 0
- 5: auxiliary contact, closed when the switch is in position II
- 6: auxiliary contact, closed when the switch is in position I
- 7: power supply 12 VDC (9-15 VDC) or 24 VDC / 48 VDC (17-62 VDC) depending on the version.

ATyS S: 230 VAC



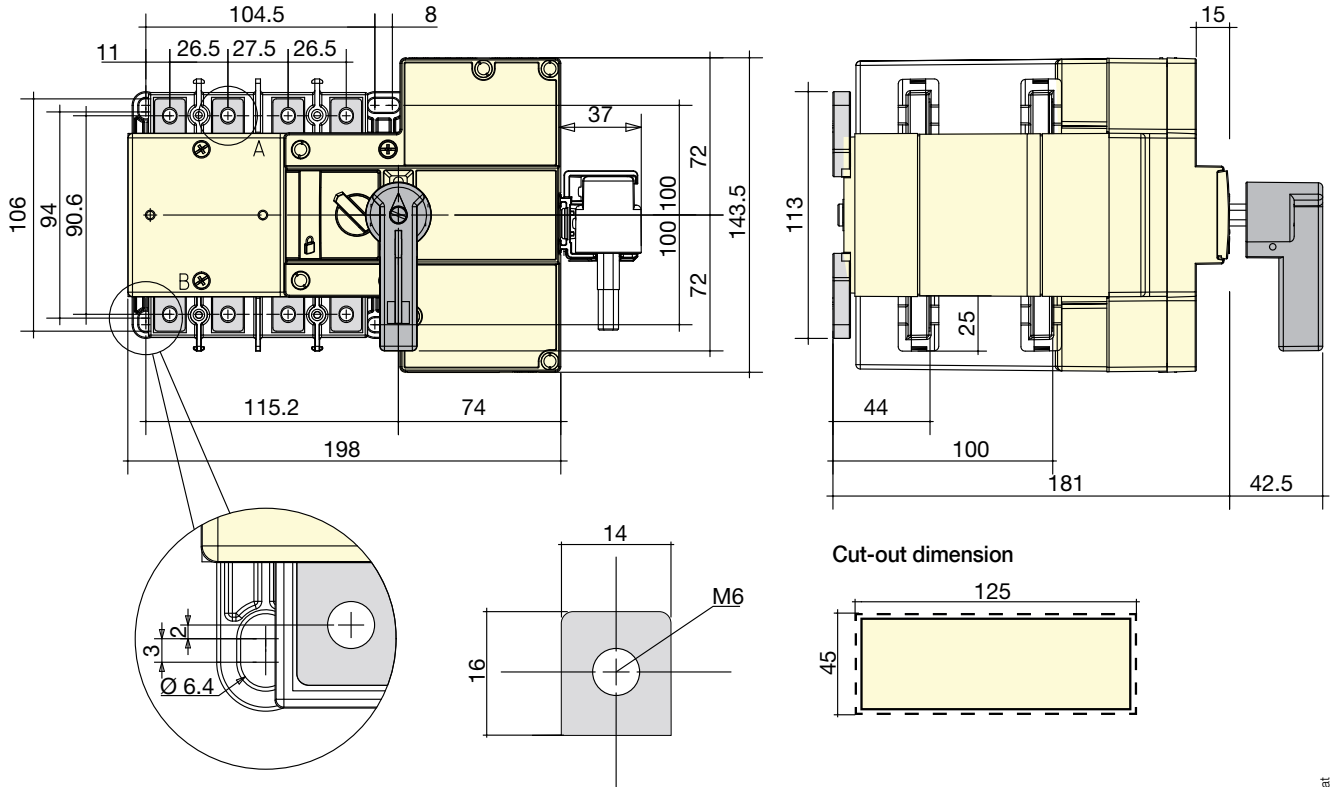
- 1 preferred source
- 2 alternate source
- 1: position 0 control
- 2: position I control
- 3: position II control
- 4: auxiliary contact, closed when the switch is in position 0
- 5: auxiliary contact, closed when the switch is in position II
- 6: auxiliary contact, closed when the switch is in position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

ATyS d S: 2 x 230 VAC



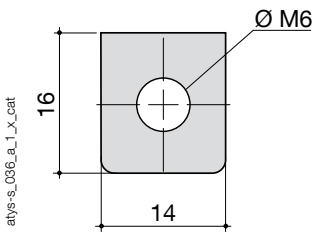
- 1 preferred source
- 2 alternate source
- 1: position 0 control
- 2: position I control
- 3: position II control
- 4: auxiliary contact, closed when the switch is in position 0
- 5: auxiliary contact, closed when the switch is in position II
- 6: auxiliary contact, closed when the switch is in position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

Dimensions



atyS-s_024_a_1_x_cat

Connection terminal



atyS-s_036_a_1_x_cat

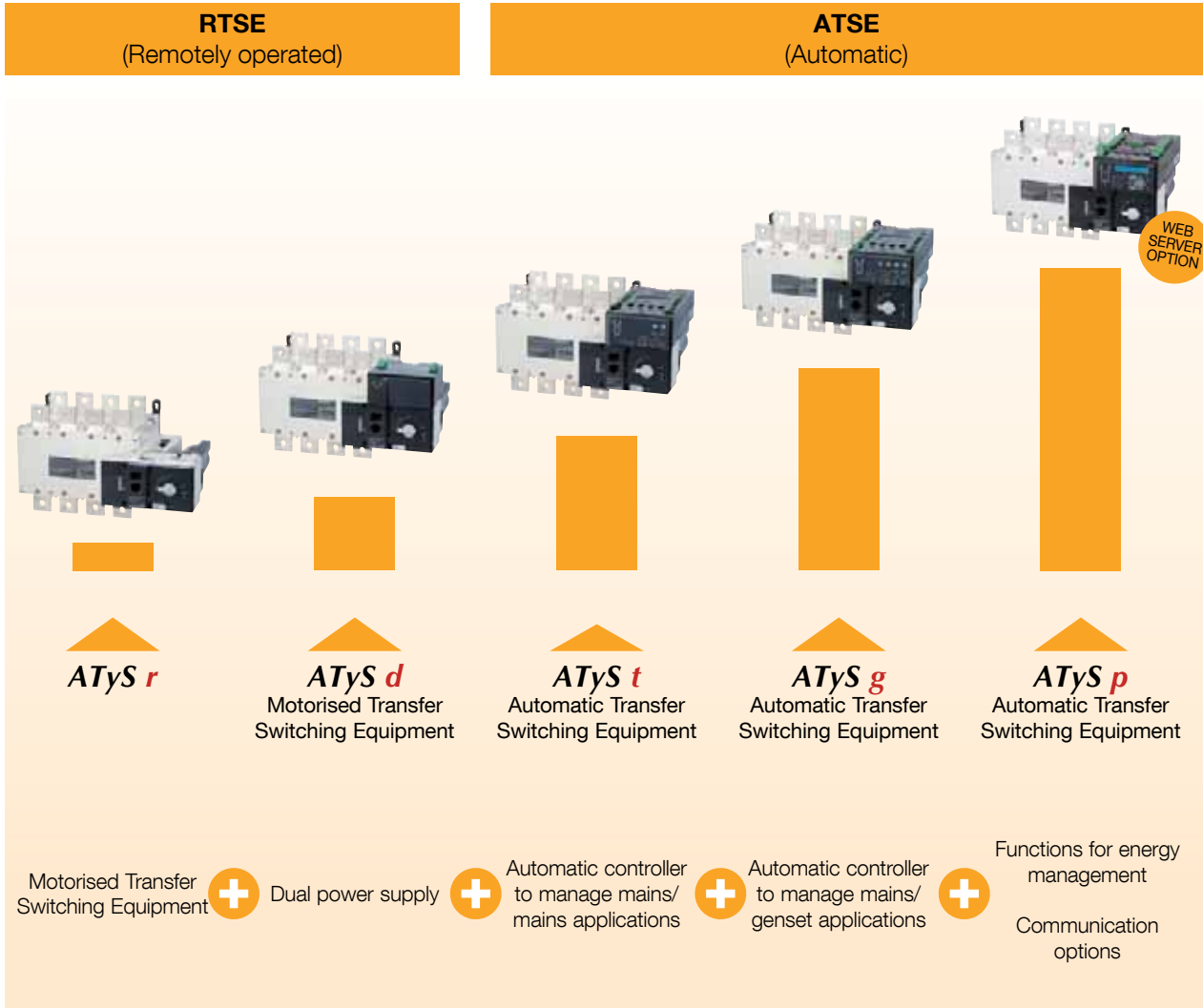


The **ATyS** range: intuitive, reliable and robust solutions

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

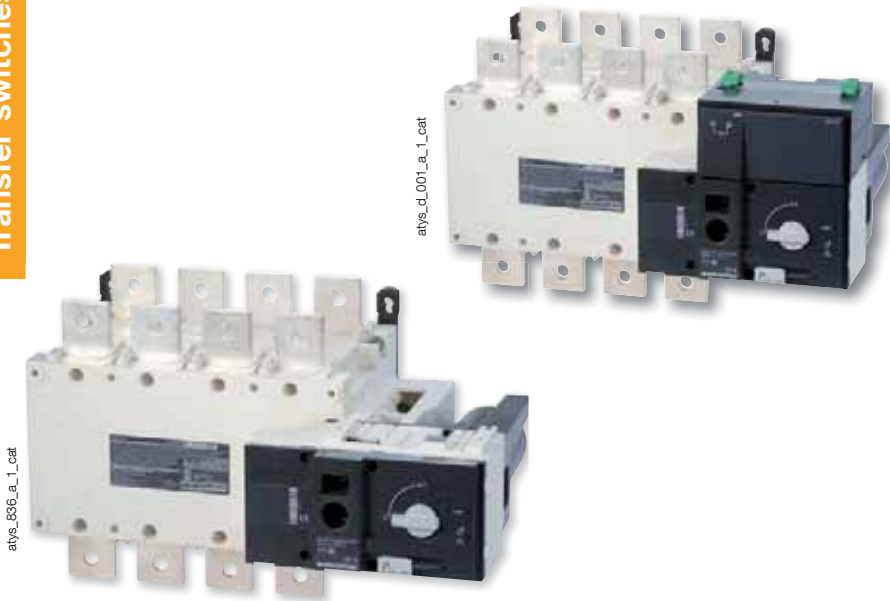




ATyS *r* - ATyS *d*

Remotely operated Transfer Switching Equipment
from 125 to 3200 A

Transfer switches



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
- > ATyS d: integrated dual power supply

Conformity to standards

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



External automatic controller

- > The ATyS r and ATyS d 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 and **ATyS d** 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 and ATyS d products are equipped with a Watchdog relay which constantly monitors your product, thereby securing the installation.

This relay informs in real time the user 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 and ATyS d 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 and ATyS d products offer greater availability thanks to their extensive power supply range of 208 to 277 VAC \pm 20%.

ATyS d: integrated dual power supply

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

References

ATyS r - ATyS d

Rating (A) / Frame size	No. of poles	ATyS r	ATyS d	Bridging bars	Terminal shrouds	Terminal screens	Auxiliary contact	3 position padlocking	Auto transformer
125 A / B3	3 P	9523 3012	9533 3012						
	4 P	9523 4012	9533 4012						
160 A / B3	3 P	9523 3016	9533 3016	3 P 4109 3019 4 P 4109 4019	3 P 2694 3014 ⁽²⁾ 4 P 2694 4014 ⁽²⁾	3 P 1509 3012 4 P 1509 4012			
	4 P	9523 4016	9533 4016						
200 A / B3	3 P	9523 3020	9533 3020						
	4 P	9523 4020	9533 4020						
250 A / B4	3 P	9523 3025	9533 3025	3 P 4109 3025 4 P 4109 4025			1599 0502	9599 0003 ⁽³⁾	
	4 P	9523 4025	9533 4025						
315 A / B4	3 P	9523 3031	9533 3031	3 P 4109 3039 4 P 4109 4039	3 P 2694 3021 ⁽²⁾ 4 P 2694 4021 ⁽²⁾	3 P 1509 3025 4 P 1509 4025			
	4 P	9523 4031	9533 4031						
400 A / B4	3 P	9523 3040	9533 3040						
	4 P	9523 4040	9533 4040						
500 A / B5	3 P	9523 3050	9533 3050	3 P 4109 3050 4 P 4109 4050	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3063 4 P 1509 4063			400/230 VAC 1599 4064
	4 P	9523 4050	9533 4050						
630 A / B5	3 P	9523 3063	9533 3063	3 P 4109 3063 4 P 4109 4063					
	4 P	9523 4063	9533 4063						
800 A / B6	3 P	9523 3080	9533 3080	3 P 4109 3080 4 P 4109 4080					
	4 P	9523 4080	9533 4080						
1000 A / B6	3 P	9523 3100	9533 3100			3 P 1509 3080 4 P 1509 4080	1599 0532		
	4 P	9523 4100	9533 4100						
1250 A / B6	3 P	9523 3120	9533 3120	3 P 4109 3120 4 P 4109 4120					
	4 P	9523 4120	9533 4120						
1600 A / B7	3 P	9523 3160	9533 3160	3 P 4109 3160 4 P 4109 4160		3 P 1509 3160 4 P 1509 4160		9599 0004 ⁽³⁾	
	4 P	9523 4160	9533 4160						
2000 A / B8	3 P	9523 3200	9533 3200						
	4 P	9523 4200	9533 4200						
2500 A / B8	3 P	9523 3250	9533 3250	(1)		3 P 1509 3200 4 P 1509 4200	included		
	4 P	9523 4250	9533 4250						
3200 A / B8	3 P	9523 3320	9533 3320						
	4 P	9523 4320	9533 4320						

(1) See "Copper bar connection pieces" page 69.

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

(3) Factory mounting only.

Technical information

- > Accessories: see page 68.
- > Characteristics: see page 76.
- > Terminals and connections: see page 78.
- > Dimensions: see page 80.



ATyS t - ATyS g

Automatic transfer switching equipment
from 125 to 3200 A

Transfer switches



The solution for

- > Mains/mains applications (ATyS t)
- > Mains/genset applications (ATyS g)



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
- > IEC 60947-3
- > GB 14048.11



Function

ATyS t and **ATyS g** 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 (ATyS t) and **mains/genset** applications (ATyS g).

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 and g switches offer significant time saving during commissioning (process takes 2 to 3 minutes). Owing to the design that allows commissioning through just two potentiometers (4 on the ATyS g) 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.

ATyS t: 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.

ATyS g: specifically designed for mains/genset applications

The ATyS g's integrated controller has been designed to provide specific functions for these applications (genset startup, on-load or off-load tests...) together with the monitoring of the voltage and frequency of both sources for three-phase and single-phase networks.

The generator supply must be connected to switch II, located at the rear.

References

ATyS t - ATyS g

Rating (A) / Frame size	No. of poles	ATyS t	ATyS g	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Terminal screens	Auxiliary contact					
125 A / B3	3 P	9543 3012	9553 3012	3 P 4109 3019 4 P 4109 4019	3 P 1559 3012 4 P 1559 4012 ⁽¹⁾	3 P 2694 3014 ⁽²⁾ 4 P 2694 4014 ⁽²⁾	3 P 1509 3012 4 P 1509 4012	1599 0502					
	4 P	9543 4012	9553 4012										
160 A / B3	3 P	9543 3016	9553 3016										
	4 P	9543 4016	9553 4016										
200 A / B3	3 P	9543 3020	9553 3020										
	4 P	9543 4020	9553 4020										
250 A / B4	3 P	9543 3025	9553 3025						3 P 4109 3025 4 P 4109 4025	3 P 1559 3025 4 P 1559 4025	3 P 2694 3021 ⁽²⁾ 4 P 2694 4021 ⁽²⁾	3 P 1509 3025 4 P 1509 4025	1599 0502
	4 P	9543 4025	9553 4025										
315 A / B4	3 P	9543 3031	9553 3031						3 P 4109 3039 4 P 4109 4039	3 P 1559 3040 4 P 1559 4040	3 P 2694 3021 ⁽²⁾ 4 P 2694 4021 ⁽²⁾	3 P 1509 3025 4 P 1509 4025	
	4 P	9543 4031	9553 4031										
400 A / B4	3 P	9543 3040	9553 3040						3 P 4109 3039 4 P 4109 4039	3 P 1559 3040 4 P 1559 4040	3 P 2694 3021 ⁽²⁾ 4 P 2694 4021 ⁽²⁾	3 P 1509 3025 4 P 1509 4025	
	4 P	9543 4040	9553 4040										
500 A / B5	3 P	9543 3050	9553 3050	3 P 4109 3050 4 P 4109 4050	3 P 1559 3063 4 P 1559 4063	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3063 4 P 1509 4063	1599 0532					
	4 P	9543 4050	9553 4050										
630 A / B5	3 P	9543 3063	9553 3063	3 P 4109 3063 4 P 4109 4063	3 P 1559 3063 4 P 1559 4063	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3063 4 P 1509 4063						
	4 P	9543 4063	9553 4063										
800 A / B6	3 P	9543 3080	9553 3080	3 P 4109 3080 4 P 4109 4080	3 P 1559 3080 4 P 1559 4080	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3080 4 P 1509 4080						
	4 P	9543 4080	9553 4080										
1000 A / B6	3 P	9543 3100	9553 3100	3 P 4109 3120 4 P 4109 4120	3 P 1559 3120 4 P 1559 4120	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3080 4 P 1509 4080						
	4 P	9543 4100	9553 4100										
1250 A / B6	3 P	9543 3120	9553 3120	3 P 4109 3120 4 P 4109 4120	3 P 1559 3120 4 P 1559 4120	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3080 4 P 1509 4080						
	4 P	9543 4120	9553 4120										
1600 A / B7	3 P	9543 3160	9553 3160	3 P 4109 3160 4 P 4109 4160	3 P 1559 3160 4 P 1559 4160	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3160 4 P 1509 4160						
	4 P	9543 4160	9553 4160										
2000 A / B8	3 P	9543 3200	9553 3200	(1)	3 P 1559 3200 4 P 1559 4200	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3080 4 P 1509 4080	1599 0532					
	4 P	9543 4200	9553 4200										
2500 A / B8	3 P	9543 3250	9553 3250						3 P 1559 3200 4 P 1559 4200	3 P 1559 3200 4 P 1559 4200	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3160 4 P 1509 4160	
	4 P	9543 4250	9553 4250										
3200 A / B8	3 P	9543 3320	9553 3320						3 P 1559 3200 4 P 1559 4200	3 P 1559 3200 4 P 1559 4200	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3160 4 P 1509 4160	
	4 P	9543 4320	9553 4320										

(1) See "Copper bar connection pieces" page 69.

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

Technical information

- > Accessories: see page 68.
- > Characteristics: see page 76.
- > Terminals and connections: see page 78.
- > Dimensions: see page 80.



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
- > 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 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

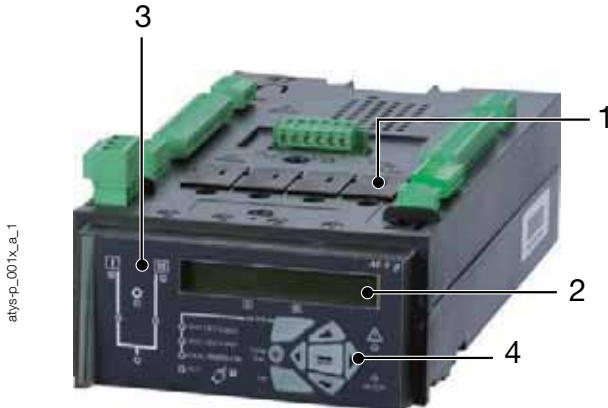
ATyS p products are particularly suited to energy management and monitoring.

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.

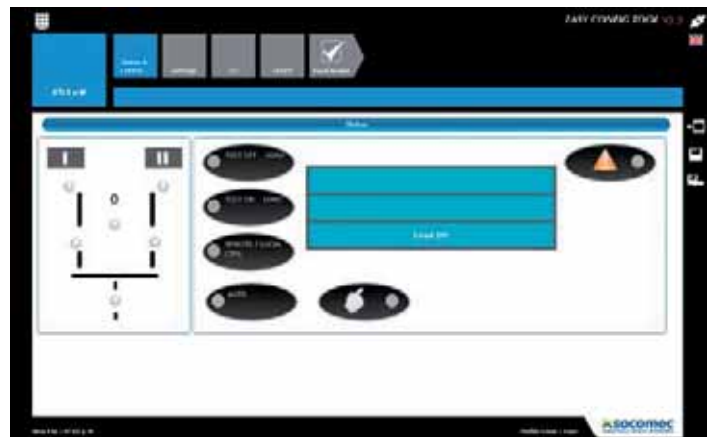
Communication and configuration

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...



atys 849 b gb

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 ATySp 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.



atys 850 a

References

ATyS p

Rating (A) / Frame size	No. of poles	ATyS p	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Terminal screens	Optional modules	Auxiliary contact
125 A / B3	3 P	9573 3012						
	4 P	9573 4012						
160 A / B3	3 P	9573 3016	3 P 4109 3019	3 P 1559 3012	3 P 2694 3014 ⁽²⁾	3 P 1509 3012		
	4 P	9573 4016	4 P 4109 4019	4 P 1559 4012	4 P 2694 4014 ⁽²⁾	4 P 1509 4012		
200 A / B3	3 P	9573 3020						
	4 P	9573 4020						
250 A / B4	3 P	9573 3025	4109 3025					
	4 P	9573 4025	4109 4025					
315 A / B4	3 P	9573 3031		3 P 1559 3025				
	4 P	9573 4031		4 P 1559 4025				
400 A / B4	3 P	9573 3040	3 P 4109 3039		3 P 2694 3021 ⁽²⁾	3 P 1509 3025	RS485 MODBUS communication 4825 0092	1599 0502
	4 P	9573 4040	4 P 4109 4039		4 P 1509 4025			
500 A / B5	3 P	9573 3050	4109 3050				2 inputs / 2 outputs 1599 2001	
	4 P	9573 4050	4109 4050					
630 A / B5	3 P	9573 3063	4109 3063	3 P 1559 3063	3 P 2694 3051 ⁽²⁾	3 P 1509 3063	Ethernet communication 4825 0203	
	4 P	9573 4063	4109 4063	4 P 1559 4063	4 P 2694 4051 ⁽²⁾	4 P 1509 4063		
800 A / B6	3 P	9573 3080		3 P 1559 3080			Ethernet communication + RS485 MODBUS gateway 4825 0204	
	4 P	9573 4080		4 P 1559 4080				
1000 A / B6	3 P	9573 3100	4109 4080				Analogue outputs 4825 0093	
	4 P	9573 4100						
1250 A / B6	3 P	9573 3120	4109 3120	3 P 1559 3120			Pulse outputs 4825 0090	1599 0532
	4 P	9573 4120	4109 4120	4 P 1559 4120				
1600 A / B7	3 P	9573 3160	4109 3160	3 P 1559 3160		1509 3160		
	4 P	9573 4160	4109 4160	4 P 1559 4160		1509 4160		
2000 A / B8	3 P	9573 3200						
	4 P	9573 4200						
2500 A / B8	3 P	9573 3250	(1)	3 P 1559 3200		3 P 1509 3200		included
	4 P	9573 4250		4 P 1559 4200		4 P 1509 4200		
3200 A / B8	3 P	9573 3320						
	4 P	9573 4320						

(1) See "Copper bar connection pieces" page 69.

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

To shroud front switch top and bottom 2 references required.

ATyS p

Rating (A) / Frame size	No. of poles	ATyS p	DC power supply	3 position padlocking	Key handle interlocking system	Door protective surround	Mounting spacers	Remote control interface
125 A / B3	3 P	9573 3012	12 VDC/230 VAC 1599 5012 24 VDC/230 VAC 1599 5112 48 VDC/230 VAC 1599 5212	9599 0003 ⁽¹⁾	Using lock RONIS EL11AP in position 0 9599 1006 ⁽¹⁾	1539 0012	1 set of 2 spacers 1509 0001	D20 9599 2020 + RJ45 cable connection 1599 2009
	4 P	9573 4012						
160 A / B3	3 P	9573 3016						
	4 P	9573 4016						
200 A / B3	3 P	9573 3020						
	4 P	9573 4020						
250 A / B4	3 P	9573 3025						
	4 P	9573 4025						
315 A / B4	3 P	9573 3031						
	4 P	9573 4031						
400 A / B4	3 P	9573 3040						
	4 P	9573 4040						
500 A / B5	3 P	9573 3050						
	4 P	9573 4050						
630 A / B5	3 P	9573 3063						
	4 P	9573 4063						
800 A / B6	3 P	9573 3080						
	4 P	9573 4080						
1000 A / B6	3 P	9573 3100						
	4 P	9573 4100						
1250 A / B6	3 P	9573 3120						
	4 P	9573 4120						
1600 A / B7	3 P	9573 3160						
	4 P	9573 4160						
2000 A / B8	3 P	9573 3200						
	4 P	9573 4200						
2500 A / B8	3 P	9573 3250						
	4 P	9573 4250						
3200 A / B8	3 P	9573 3320						
	4 P	9573 4320						
				9599 0004 ⁽¹⁾	Using lock RONIS EL11AP in position 0 9599 1004 ⁽¹⁾	1539 0080		

(1) Factory mounting only.



ATyS range

ATyS *r*, ATyS *d*, ATyS *t*, ATyS *g*, 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	3 P	top / bottom / front (I) / rear (II)	2694 3014 ⁽¹⁾⁽²⁾
125 ... 200	B3	4 P	top / bottom / front (I) / rear (II)	2694 4014 ⁽¹⁾⁽²⁾
250 ... 400	B4	3 P	top / bottom / front (I) / rear (II)	2694 3021 ⁽¹⁾⁽²⁾
250 ... 400	B4	4 P	top / bottom / front (I) / rear (II)	2694 4021 ⁽¹⁾⁽²⁾
500 ... 630	B5	3 P	top / bottom / front (I) / rear (II)	2694 3051 ⁽¹⁾⁽²⁾
500 ... 630	B5	4 P	top / bottom / front (I) / rear (II)	2694 4051 ⁽¹⁾⁽²⁾



access_206_a_2_cat

(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.

Terminal screens

Use

Upstream and downstream protection against direct contact with terminals or connection parts.

For upstream and downstream protection, order quantity 1.

Rating (A)	Frame size	No. of poles	Position	Reference
125 ... 200	B3	3 P	top / bottom	1509 3012
125 ... 200	B3	4 P	top / bottom	1509 4012
250 ... 400	B4	3 P	top / bottom	1509 3025
250 ... 400	B4	4 P	top / bottom	1509 4025
500 ... 630	B5	3 P	top / bottom	1509 3063
500 ... 630	B5	4 P	top / bottom	1509 4063
800 ... 1250	B6	3 P	top / bottom	1509 3080
800 ... 1250	B6	4 P	top / bottom	1509 4080
1600	B7	3 P	top / bottom	1509 3160
1600	B7	4 P	top / bottom	1509 4160
2000 ... 3200	B8	3 P	top / bottom	1509 3200
2000 ... 3200	B8	4 P	top / bottom	1509 4200



access_207_a_2_cat

Bridging bars

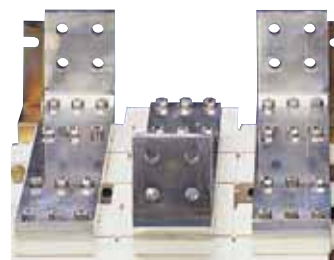
Use

For bridging power terminals on the upstream or downstream side of the switch.
One reference required per ATyS.

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



access_205_a_2_cat



access_041_a_1_cat

Copper bar connection pieces

Use

For ratings 2000 to 3200 A.

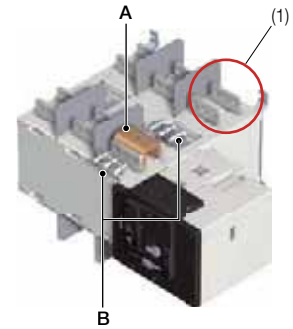
Enables:

- 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.

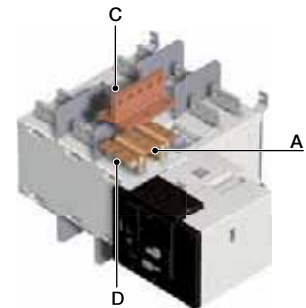
Fig. 1



access_459_a_1_x_cat

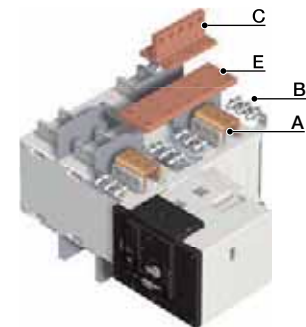
(1) Single pole connection: 1 pole (top or bottom) comprises two power terminals which are to be linked with the copper connection kit.

Fig. 2



access_460_a_1_x_cat

Fig. 3



access_461_a_1_x_cat

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 ⁽¹⁾		2 ⁽²⁾	1 ⁽¹⁾		
Bolt kit 45 mm - part B	2699 1200	1 ⁽¹⁾			1 ⁽¹⁾		
T + Bolt kit - part C	2629 1200		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

Solid neutral

Use

The solid neutral kit provides connection between the incoming and outgoing neutrals with no disconnection during transfer.

Rating (A)	Frame size	Reference
125 ... 200	B3	9509 0012
200 ... 315	B4	9509 0025
400	B4	9509 0040
500 ... 630	B5	9509 0063
800 ... 1000	B6	9509 0080
1250	B6	9509 0120
1600	B7	9509 0160

ATyS range

ATyS r, ATyS d, ATyS t, ATyS g, 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 4064

DC power supply

Use

Allows an ATyS to be supplied from a 12 or 24 VDC source. To be positioned as close as possible to the DC power supply source.

Rating (A)	Frame size	Operating voltage	Reference
125 ... 1600	B3 ... B7	12 VDC / 230 VAC	1599 5012
125 ... 1600	B3 ... B7	24 VDC / 230 VAC	1599 5112
125 ... 1600	B3 ... B7	48 VDC / 230 VAC	1599 5212

Voltage tapping and power supply kit

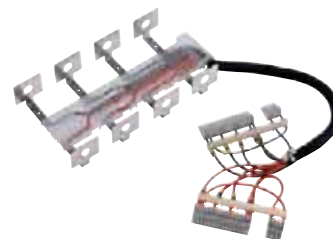
Use

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_603_a_2_cat

For ATyS t, g and ATyS p - 3 pole

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

For ATyS t, g and ATyS p - 4 pole

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

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 0056



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

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



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 _e (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 0502
800 ... 1600	B6 ... B7	Customer fit	1599 0532
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 0001



atys_009_a_2_cat

3 position padlocking (I - 0 - II)

Use

Enables the product to be padlocked in positions 0, I and II (factory fitted).

Rating (A)	Frame size	Reference
125 ... 630	B3 ... B5	9599 0003
800 ... 3200	B6 ... B8	9599 0004



atys_867_a

Key handle interlocking system

Use

With the product in manual mode, it enables locking in position 0 using a RONIS EL1 1AP 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 1006
800 ... 3200	B6 ... B8	9599 1004



atys_866_a

ATyS range

ATyS r, ATyS d, ATyS t, ATyS g, ATyS p

from 125 to 3200 A

Accessories (continued)

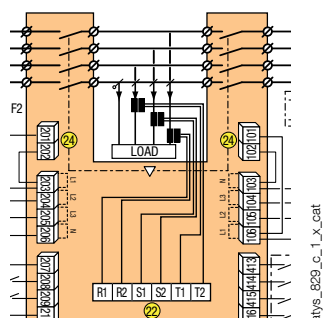
Current transformer

Use - for ATyS p only

Used with ATyS p units, these current transformers enable information to be obtained on the load current.

References

See our general catalogue or our website:
www.socomec.com.



trafo_025_a_2_cat



trafo_077_b_1_cat

Plug-in optional modules

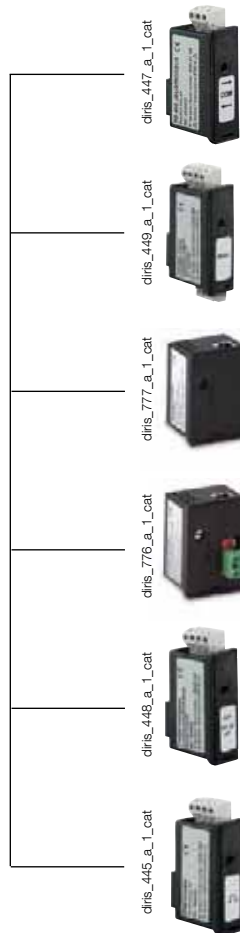
Use - for ATyS p only

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



RS485 JBUS / MODBUS® communication

- RS485 link with JBUS / MODBUS® protocol (speed up to 38400 bauds).

2 inputs - 2 outputs

- 2 inputs and 2 outputs (programmable) on each module.

Ethernet communication

- Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP.
- Embedded Ethernet Webserver software.

Ethernet communication with RS485 JBUS/MODBUS gateway

- Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP.
- Connect 1 to 247 RS485 JBUS/MODBUS slaves.
- Embedded Ethernet Webserver software.

Analogue outputs

- Allocate outputs to: 3I, In, 3V, 3U, F, ± ΣP, ± ΣQ, ΣS.

Pulse outputs

- 2 configurable pulse outputs (type, weight and duration) on ±kWh, ±kvarh and kVAh.

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

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 d, ATyS t and ATyS g

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.

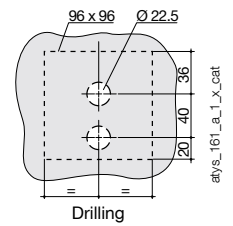


atys_564_d_1_cat

atys_565_d_1_cat



atys_597_a_1_cat



atys_161_a_1_x_cat

RJ45 port to connect to ATyS.

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 d, t, g or p).

Characteristics

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



access_209_a_2_cat

For ATyS d, t, g and p		
Type	Length	Reference
RJ45 cable	3 m	1599 2009

Sealable cover

Use - for ATyS t and g

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

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



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 1007



atys_869_a

Double power supply - DPS

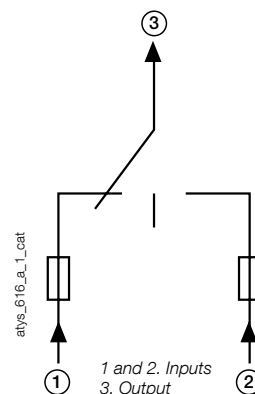
Use

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 mm².
- Modular device: 4 module width.

Description of accessories	Reference
DPS	1599 4001



atys_612_a_2_cat

ATyS range

ATyS r, ATyS d, ATyS t, ATyS g, ATyS p

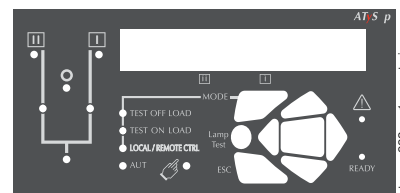
from 125 to 3200 A

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 1008



atys-p_002_a_1_x_cat.ai

Electronic module

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

Product model	Reference
ATyS d	9539 2001
ATyS t	9549 2001
ATyS g	9559 2001
ATyS p	9579 2001



atys-p_001_b

Motorisation module

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

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



atys_071_a

Switching module

If you need to replace just the switching part on an ATyS r, d, t, g or p, order SIRCOVER items. Please refer to page 18.



svr_151_a

Enclosed solutions

General characteristics

ATyS d and ATyS p

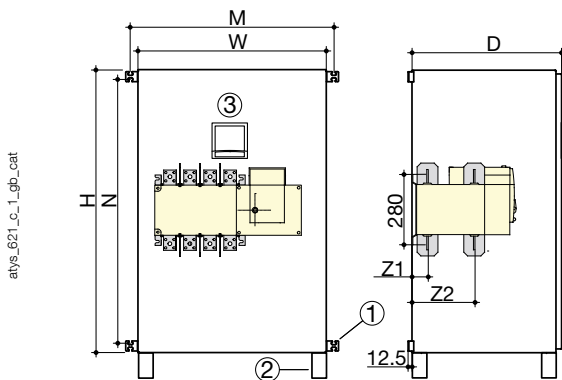
- Adapted to mechanical risk and dust hazard.
- IP rating: IP54.
- Colour: RAL 7035.
- Connecting the cables: upstream or downstream up to 250 A then downstream only.
- The auxiliary contacts are wired to terminal blocks.
- Material: 2 mm-thick XC steel.
- Coating: epoxy varnish.
- Mounting: 4 wall mounting brackets, not mounted ≤ 400 A, floor standing feet > 630 A
- Door: solid with hinges.
- Door lock: 3 mm double-bar lock (key included)

Rating (A)	No. of poles	ATyS d Reference	ATyS p Reference
125	4 P	1723 4012	1763 4012
160	4 P	1723 4016	1763 4016
250	4 P	1723 4025	1763 4025
400	4 P	1723 4040	1763 4040
630	4 P	1723 4063	1763 4063
800	4 P	1723 4080	1763 4080
1000	4 P	1723 4100	1763 4100
1250	4 P	1723 4120	1763 4120
1600	4 P	1723 4160	1763 4160
2000	4 P	1723 4200	1763 4200
2500	4 P	1723 4250	1763 4250
3200	4 P	1723 4320	1763 4320



conf_3006_b_1

Dimensions



- (1) Wall mounting brackets supplied up to 400 A.
 (2) Floor standing feet from 630 A (add 200 mm for H dimension feet).
 (3) D10 or D20 interfaces (optional).

Rating (A)	Max. Cu cable cross-section (mm ²)	H (mm)	W (mm)	D (mm)	M (mm)	N (mm)	Z1 (mm)	Z2 (mm)	Weight (kg)
125	50	650	400	300	448	608	38	134	25
160	70	650	400	300	448	608	38	134	25
250	120	1000	650	475	698	958	39.5	134.5	45
400	240	1000	650	475	698	958	39.5	134.5	50
630	2 x 185	1000	650	475			53	190	70
800	2 x 240	1200	800	660			66.5	253.5	135
1000	4 x 150	1200	800	660			66.5	253.5	140
1250	4 x 185	1600	1000	830			66.5	253.5	270
1600	4 x 240	1600	1000	830			67.5	253.5	375
2000	8 x 150	2000	1000	1000					400
2500	8 x 185	2000	1000	1000					400
3200	8 x 240	2000	1000	1000					400

ATyS range

ATyS r, ATyS d, ATyS t, ATyS g, ATyS p

from 125 to 3200 A

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
Frame size	B3	B3	B3	B4	B4	B4	B5	B5
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
Rated operational currents I_e (A) according to IEC 60947-3								
Rated voltage	Utilisation category	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾
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	200/250	200/315	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 ⁽³⁾	AC-21 A / AC-21 B	125/125	160/160	200/200	200/200	200/200	200/200	500/500
690 VAC ⁽³⁾	AC-22 A / AC-22 B	125/125	125/125	125/125	160/160	160/160	160/160	400/400
690 VAC ⁽³⁾	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 ⁽²⁾	DC-21 A / DC-21 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500
440 VDC ⁽²⁾	DC-22 A / DC-22 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500
440 VDC ⁽²⁾	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	200/200	500/500
Rated operational currents I_e (A) according to IEC 60947-6-1								
Rated voltage	Utilisation category							
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
Current rated as conditional short-circuit with fuse gG DIN, according to IEC 60947-3								
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
Short-circuit withstand without protection as per IEC 60947-3								
Rated short-time withstand current 0.3s I_{cw} at 415 VAC (kA rms)		12	12	12	15 ⁽⁴⁾	15 ⁽⁴⁾	15 ⁽⁴⁾	17 ⁽⁴⁾
Rated short-time withstand current 1s I_{cw} at 415 VAC (kA rms)		7	7	7	8 ⁽⁴⁾	8 ⁽⁴⁾	8 ⁽⁴⁾	11 ⁽⁴⁾
Rated peak withstand current at 415 VAC (kA peak)		20	20	20	30	30	30	45
Short-circuit withstand without protection as per IEC 60947-6-1								
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
Connection								
Minimum Cu cable cross-section as per IEC 60947-1 (mm ²)		35	35	50	95	120	185	2 x 95
Recommended Cu busbar cross-section (mm ²)								2 x 32 x 5
Maximum Cu cable cross-section (mm ²)		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
Switching time (rated voltage, after receiving command)								
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
Power supply								
Min./max. power (VAC)		166/332	166/332	166/332	166/332	166/332	166/332	166/332
Control supply power demand								
Demand/rated power (VA) - ATyS r, ATyS d		184/92	184/92	184/92	276/115	276/115	276/115	276/150
Demand/rated power (VA) - ATyS t, g, p		206/114	206/114	206/114	298/137	298/137	298/137	298/172
Mechanical specifications								
Durability (number of operating cycles)		10,000	10,000	10,000	8,000	8,000	8,000	5,000
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 d 3 P / 4 P (kg)		6.3/ 7.5	6.3/ 7.5	6.3/ 7.5	7.2/ 8.0	7.3/ 8.4	7.3/ 8.4	12.0/ 13.9
Weight ATyS t, g, 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
Frame size	B6	B6	B6	B7	B8	B8	B8
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⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾
415 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/3200
415 VAC	AC-22 A / AC-22 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/3200
415 VAC	AC-23 A / AC-23 B	800/800	1000/1000	1250/1250	1250/1250	-/1600	-/1600
500 VAC	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	-/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	1000/1000		
690 VAC ⁽³⁾	AC-21 A / AC-21 B	800/800	1000/1000	1250/1250	1600/1600	-/2000	-/2000
690 VAC ⁽³⁾	AC-22 A / AC-22 B	630/630	800/800	1000/1000	1000/1000		
690 VAC ⁽³⁾	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 ⁽²⁾	DC-21 A / DC-21 B	800/800	1000/1000	1250/1250	1250/1250		
440 VDC ⁽²⁾	DC-22 A / DC-22 B	800/800	1000/1000	1250/1250	1250/1250		
440 VDC ⁽²⁾	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
415 VAC	AC-32 B	800	1000	1250	1250	2000	2000
415 VAC	AC-33 B	800	1000	1000	1000	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
Rated short-time withstand current 1s I_{sc} at 415 VAC (kA rms)		35	35	35	50	50	50
Rated peak withstand current at 415 VAC (kA peak)		55	55	80	110	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
Connection							
Minimum Cu cable cross-section as per IEC 60947-1 (mm ²)		2 x 185					
Recommended Cu busbar cross-section (mm ²)		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
Maximum Cu cable cross-section (mm ²)		4 x 185	4 x 185	4 x 185	6 x 185		
Maximum Cu busbar width (mm)		63	63	63	100	100	100
Min./max. tightening torque (Nm)		9/13	9/13	20/26	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
I-0 or II-0 (s)		1.4	1.4	1.4	1.4	1.8	1.8
Contact transfer time ("black-out" I-II) minimum (s)		1.4	1.4	1.4	1.5	1	1
Power supply							
Min./max. power (VAC)		166/332	166/332	166/332	166/332	166/332	166/332
Control supply power demand							
Demand/rated power (VA) - ATyS r, ATyS d		460/184	460/184	460/184	460/230	812/322	812/322
Demand/rated power (VA) - ATyS t, g, p		482/206	482/206	482/206	482/252	834/344	834/344
Mechanical specifications							
Durability (number of operating cycles)		4,000	4,000	4,000	3,000	3,000	3,000
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
Weight ATyS d 3 P / 4 P (kg)		28.5/ 32.8	29.0/ 33.5	29.5/ 34.2	33.7/ 40.0	51.3/ 62.2	51.3/ 62.2
Weight ATyS t, g, 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

(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.

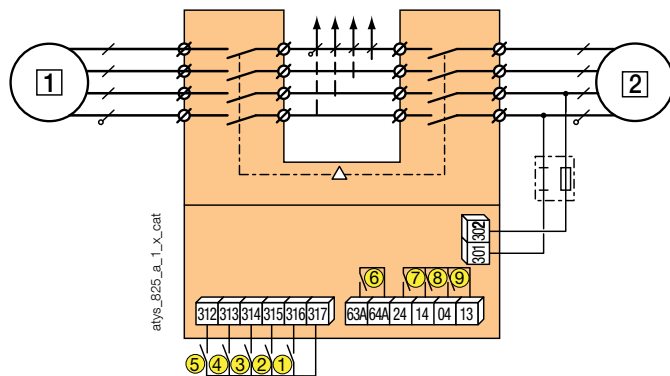
ATyS range

ATyS r, ATyS d, ATyS t, ATyS g, ATyS p

from 125 to 3200 A

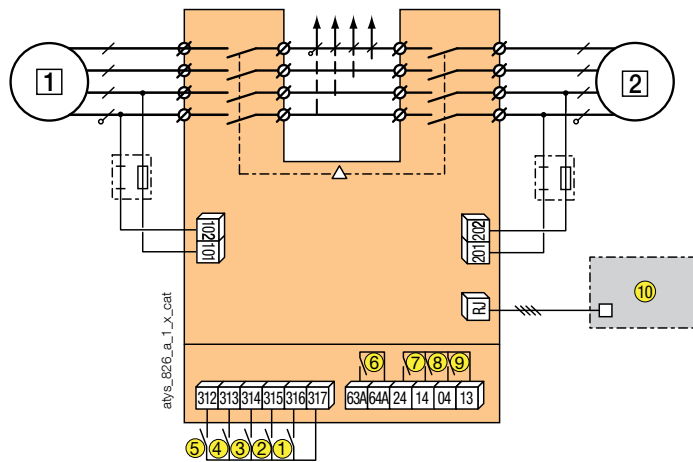
Connections and terminals

ATyS r



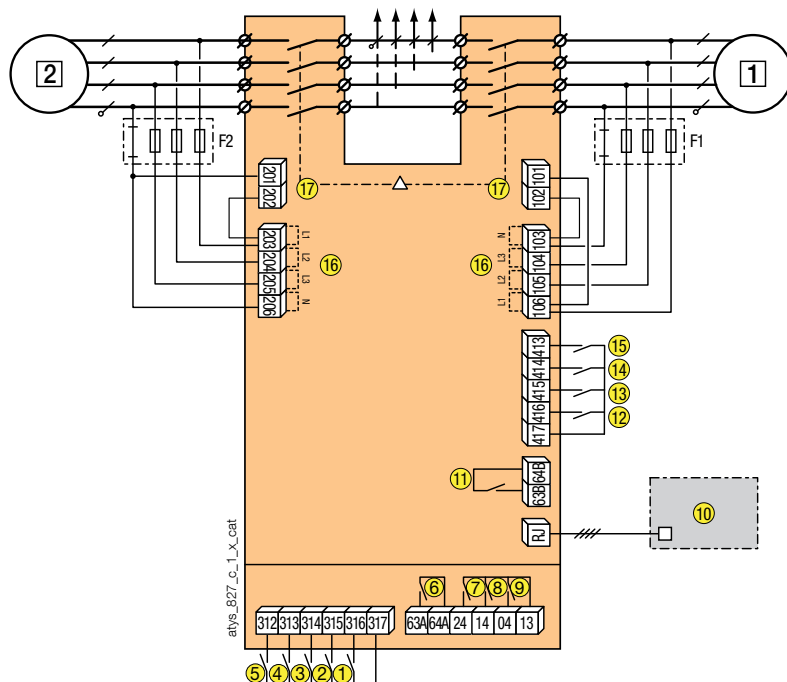
- 1 primary source (network or genset)
- 2 backup source (mains network or genset)
- 1 : position 0 control (contact or logic if closed)
- 2: position I control
- 3: position II control
- 4: primary control position 0
- 5: closing this contact allows position control commands
- 6: product availability 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 d



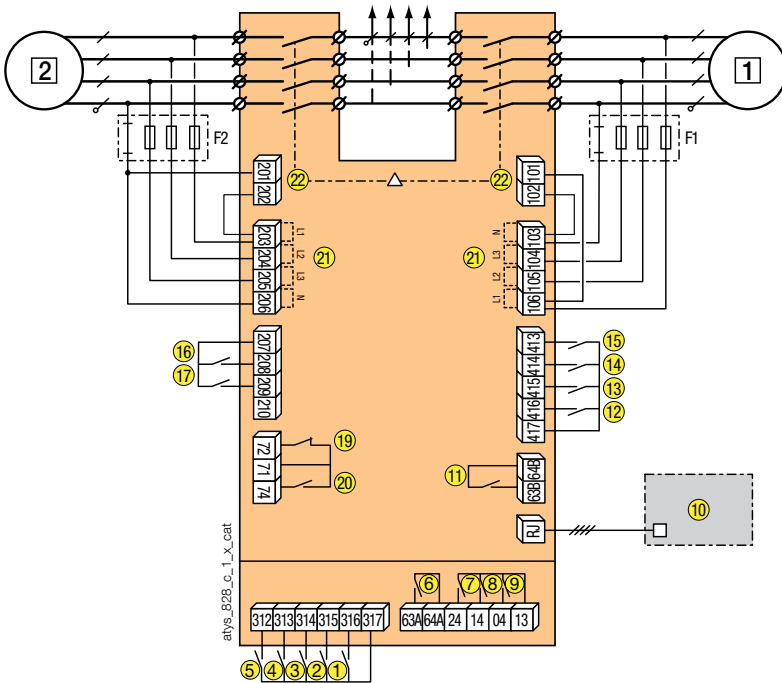
- 1 primary source (mains network or genset)
- 2 backup source (mains network or genset)
- 1 : position 0 control (contact or logic if closed)
- 2: position I control
- 3: position II control
- 4: primary control position 0
- 5: closing this contact allows position control commands
- 6: product availability 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
- 10: D10 remote interface

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 g



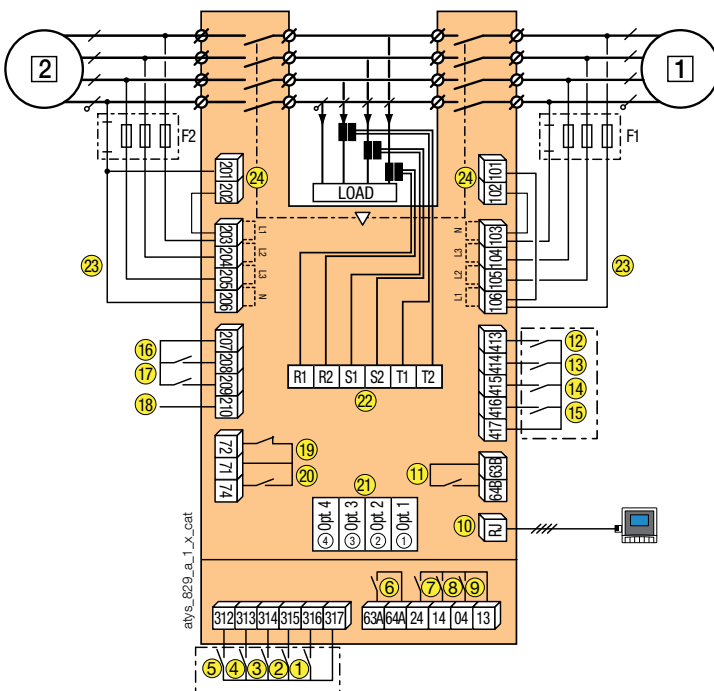
- 1 primary source (mains network)
- 2 backup source (genset or network)
- 1: position 0 control (contact or logic if closed)
- 2: position I control
- 3: position II control
- 4: primary control position 0
- 5: closing this contact allows position control commands
- 6: Motor unit availability relay
- 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: bypass for time delay 2AT
- 15: M/G: priority test on load.
M/M: with or without priority.
- 16: remote test without load
- 17: M/G: test on load
M/M: preferred source selection
- 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 : voltage inputs

22: 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: TI measurement connection

23 : voltage inputs

24: power inputs

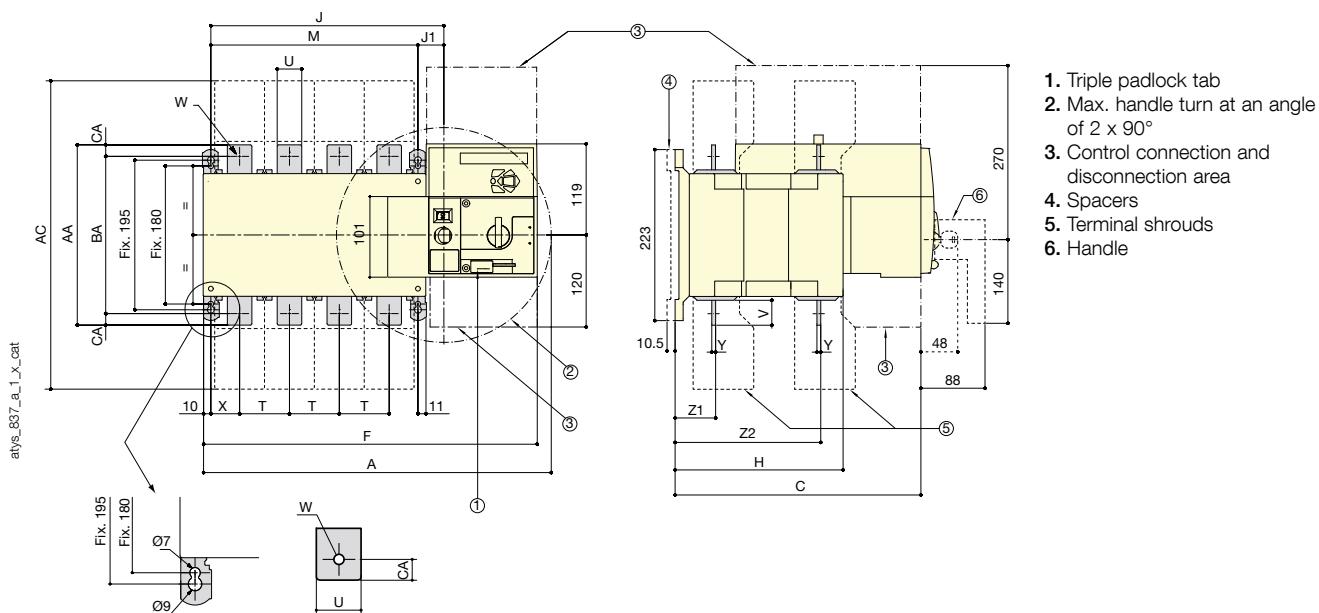
ATyS range

ATyS r, ATyS d, ATyS t, ATyS g, ATyS p

from 125 to 3200 A

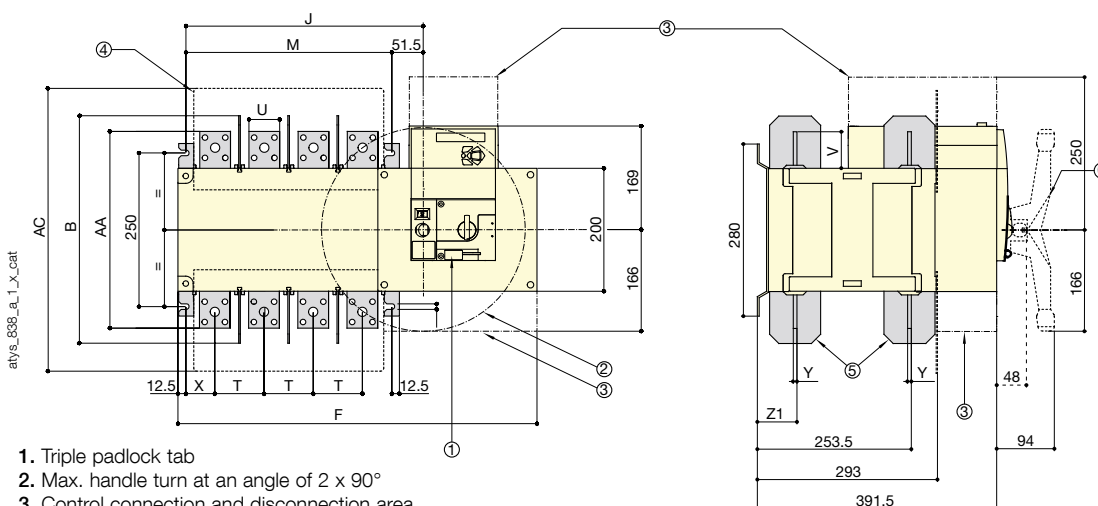
Dimensions

125 to 630 A / B3 to B5



Rating (A) / Frame size	Overall dimensions			Terminal shrouds		Switch body				Switch mounting				Connection										
	A 3p.	A 4p.	C	AC	F 3p.	F 4p.	H	J 3p.	J 4p.	J1	M 3p.	M 4p.	T	U	V	W	X 3p.	X 4p.	Y	Z1	Z2	AA	BA	AC
125 / B3	304	334	244	233	286.5	317	151	154	184	34	120	150	36	20	25	9	28	22	3.5	38	134	135	115	10
160 / B3	304	334	244	233	286.5	317	151	154	184	34	120	150	36	20	25	9	28	22	3.5	38	134	135	115	10
200 / B3	304	334	244	233	286.5	317	151	154	184	34	120	150	36	20	25	9	28	22	3.5	38	134	135	115	10
250 / B4	345	395	244	288	328	378	152	195	245	35	160	210	50	25	30	11	33	33	3.5	39.5	133.5	160	130	15
315 / B4	345	395	244	288	328	378	152	195	245	35	160	210	50	35	35	11	33	33	3.5	39.5	133.5	170	140	15
400 / B4	345	395	244	288	328	378	152	195	245	35	160	210	50	35	35	11	33	33	3.5	39.5	133.5	170	140	15
500 / B5	394	454	320.5	402	377	437	221	244	304	34	210	270	65	32	50	14	42.5	37.5	5	53	190	260	220	15
630 / B5	394	454	320.5	402	377	437	221	244	304	34	210	270	65	45	50	13	42.5	37.5	5	53	190	260	220	20

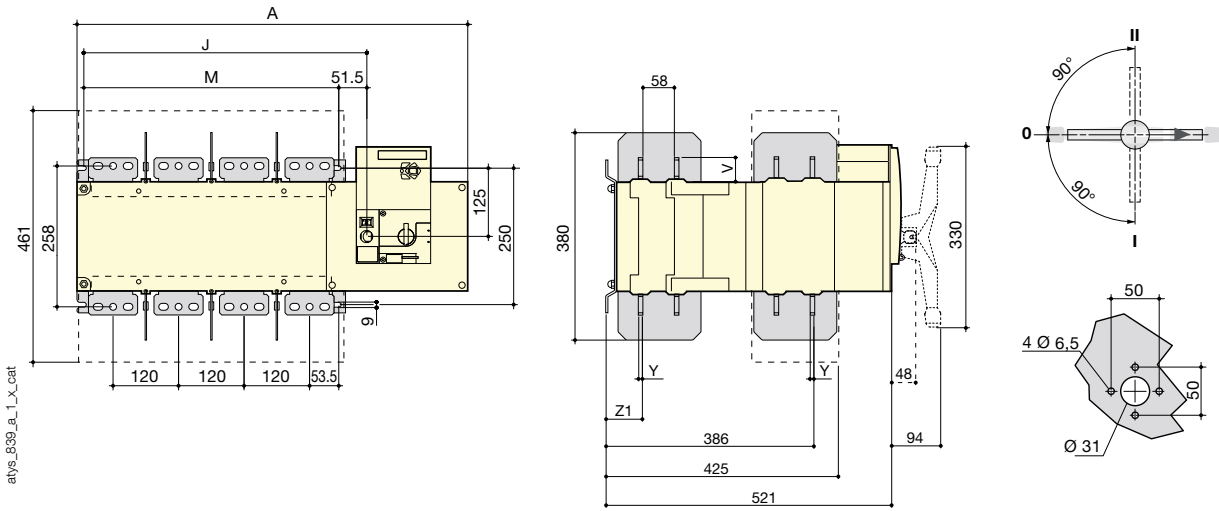
800 to 1600 A / B6 to B7



1. Triple padlock tab
2. Max. handle turn at an angle of 2 x 90°
3. Control connection and disconnection area
4. Terminal screens
5. Inter-phase screen
6. Handle

Rating (A) / Frame size	Overall dimensions		Terminal shrouds		Switch body				Switch mounting				Connection			
	B	AC	F 3p.	F 4p.	J 3p.	J 4p.	M 3p.	M 4p.	T	U	V	X	Y	Z1	AA	
800 / B6	370	461	504	584	306.5	386.5	255	335	80	50	60.5	47.5	7	66.5	321	
1000 / B6	370	461	504	584	306.5	386.5	255	335	80	50	60.5	47.5	7	66.5	321	
1250 / B6	370	461	504	584	306.5	386.5	255	335	80	60	65	47.5	7	66.5	330	
1600 / B7	380	531	596	716	398.5	518.5	347	467	120	90	44	53	8	67.5	288	

2000 to 3200 A / B8

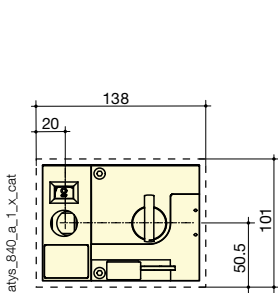


Rating (A)	Overall dimensions B	Terminal shrouds AC	Switch body				Switch mounting			Connection					
			A 3p.	A 4p.	J 3p.	J 4p.	M 3p.	M 4p.	T	U	V	X	Y	Z1	AA
2000 ... 3200	380	531	596	716	399	519	347	467	120	90	44	53	8	67.5	288

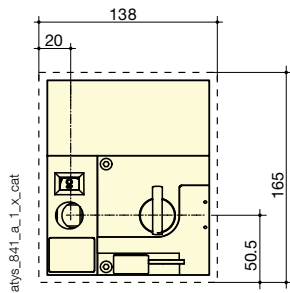
Door cutout

125 to 630 A / B3 to B5

ATyS r

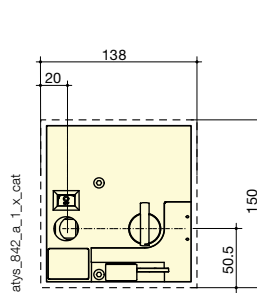


ATyS d, t, g, p

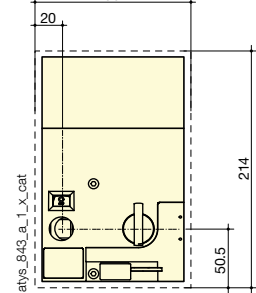


800 to 1600 A / B6 to B7

ATyS r

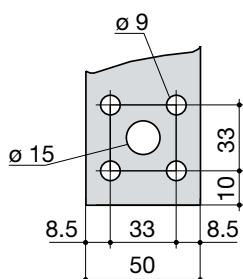


ATyS d, t, g, p

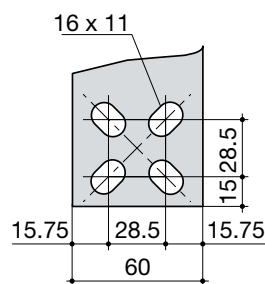


Connection terminals

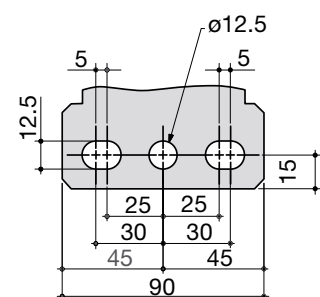
800 to 1000 A / B6



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_065_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 SOCOMEK 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

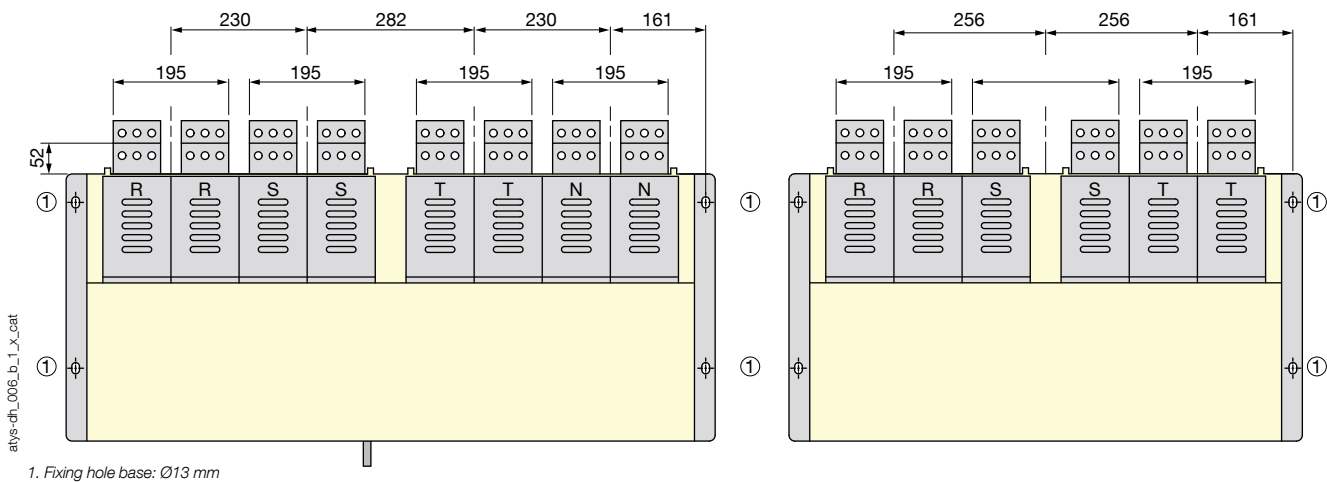
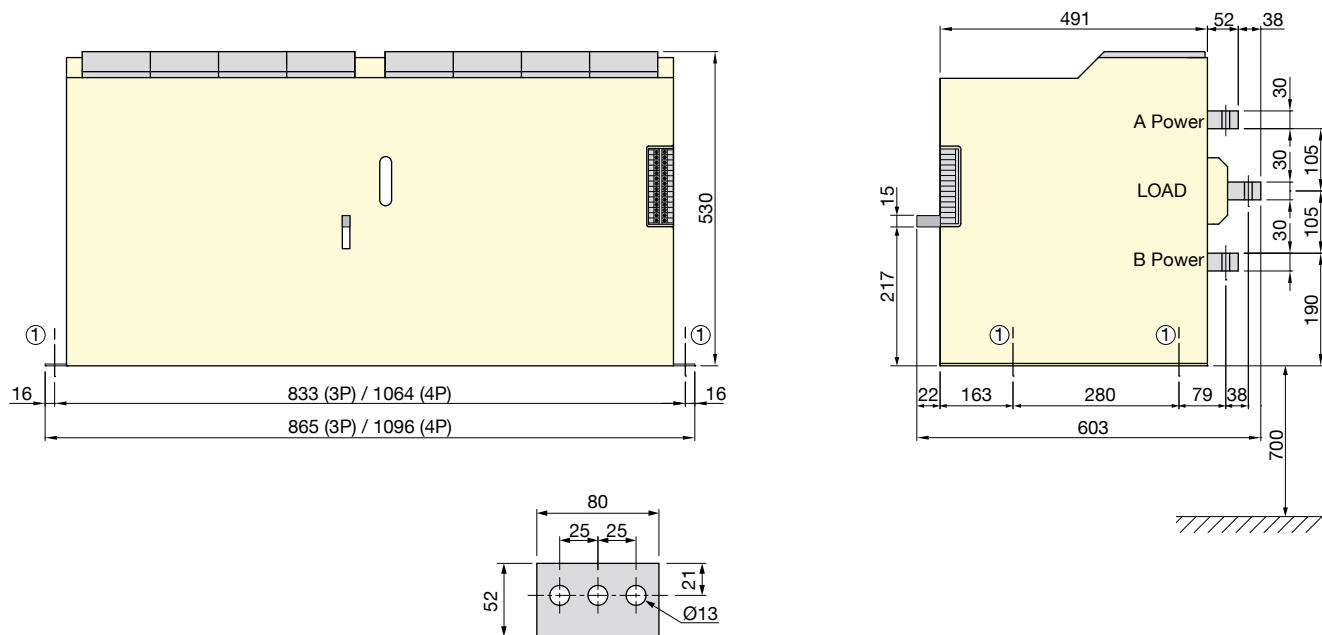
4000 to 6300 A

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		
Rated short-circuit withstand at 660 VAC			
Rated short-time withstand current 0.1s I_{cw} (kA rms)	65		
Rated peak withstand current (kA peak)	143		
Rated operational current I_e (A), at 660 VAC - AC32B	4000	5000	6300
Rated operational current I_e (A), at 660 VAC - AC33iB (6xln cos ϕ 0.5)	4000	5000	6300
Connection			
Rear connection with busbar	•	•	•
Switching time			
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		
Power supply			
VAC power supply (powered directly on terminals S1 and S2)	230		
Main coil operating current (peak during transfers)	65 A ⁽¹⁾		
Mechanical characteristics			
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.

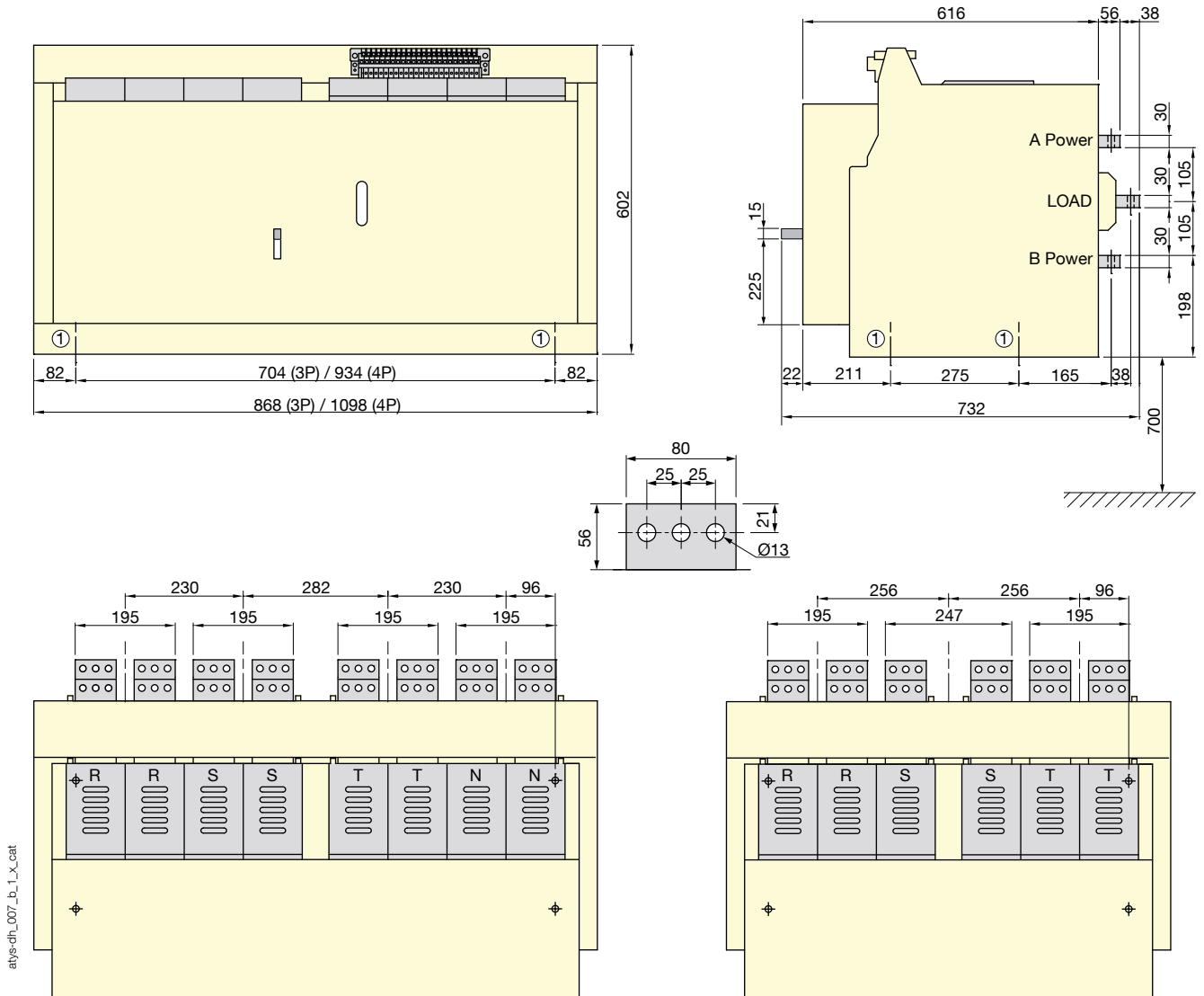
Dimensions

Dimensions for fixed models



1. Fixing hole base: $\varnothing 13$ mm

Dimensions for drawout models



1. Fixing hole base: $\varnothing 13$ mm

atys-dh_007_b_1_x_cat



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.

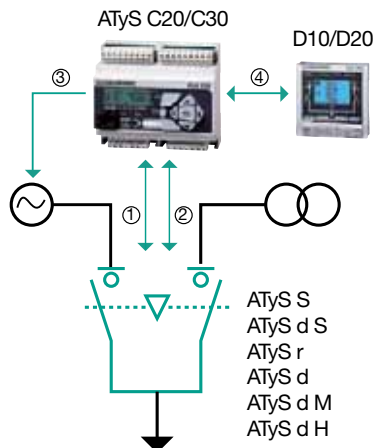
Extended compatibility of use

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:

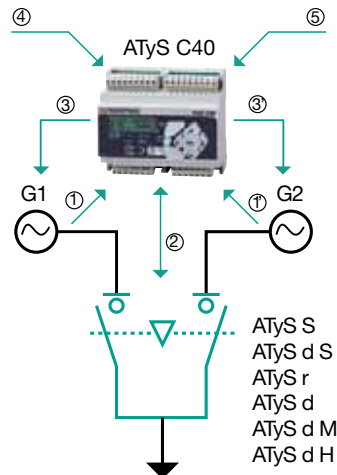
Mains/mains and mains/genset applications



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



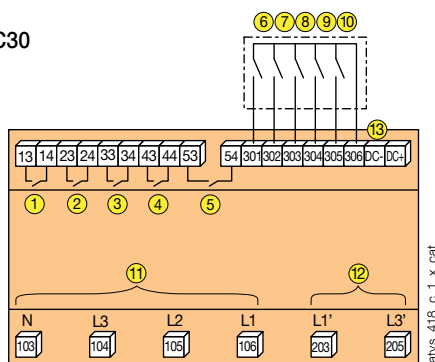
- 1 and 1'. 1U and F measurement for each genset
2. Control and position information feedback
- 3 and 3'. Genset "start/stop" control
4. External "start/stop" command for basic cycle
5. DC power supply

Electrical characteristics

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

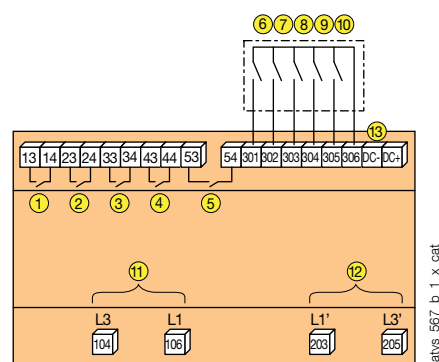
Terminals

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. DC power supply 9-30 VDC (version 1599 3031)

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 3020	1599 3030	
DC power supply		1599 3031	1599 3040



Enclosed transfer switch solutions

ATyS Bypass “no-break” solution

ATSE* - Automatic equipment from 40 to 3200 A

Transfer switches



tablo_006_a_1_cat



tablo_005_a_1_cat

The solution for

- > Data centres
- > Power production
- > Healthcare buildings
- > High-rise buildings
- > Banking and Insurance
- > Transportation



Strong points

- > No-break load transfer in Bypass mode
- > Solution certified by a manufacturer
- > Optional accessories available

Conformity to standards

- > IEC 61439-2
- > IEC 60947-6-1
- > IEC 60947-3
- > BS 60947-6-1



Function

- Automatic transfer between two sources to ensure continuity of supply to critical loads such as sprinklers, fire lifts, water pumps...
- Guaranteed continuity of the power supply during maintenance and test operations.
- Complete isolation of the Automatic Transfer Switch ensuring maintenance safety.
- The association of an **ATyS** along with a remote interface **D20**, enables configuration, exploitation and visualisation of the data shown on the front of the equipment (timer settings, hysteresis, start/stop of the genset...).

General characteristics

- From 40 to 3200 A - 4 poles.
- 230/400 VAC \pm 20%, 50/60 Hz, self-powered from incoming sources.
- Normal/Emergency logic control sequence.
- Voltage and frequency checking of networks I and II.
- Control of phase rotation.
- 1 configurable output relay for generator start/stop command.
- Position I, 0, II control by external dry contact.
- Manual emergency operation.
- Auxiliary contacts.
- MODBUS communication (factory fitted).
- AUTO / MANU selector.
- Equipment protection degree: IP41 as standard - Other IP upon request.
- Hinged door.
- Wall mounting brackets supplied up to 160 A.
- Floor standing feet from 250 to 3200 A.
- Easy extraction of ATyS from 160 A.
- Phase identification.
- Mimic panel (3 LEDs; source availability (1 and 2) and load; 16 LED mimic panel optional).
- Integral protection against direct contact on each functional unit.
- Steel enclosure.
- Colour: RAL 7035.

Expert Services

Study, definition, advice, implementation, maintenance and training...

Our Expert Services team offers customised support to make your project a success.



*ATSE: Automatic Transfer Switch Equipment

Enclosed transfer switch solutions

ATyS Bypass "no-break" solution

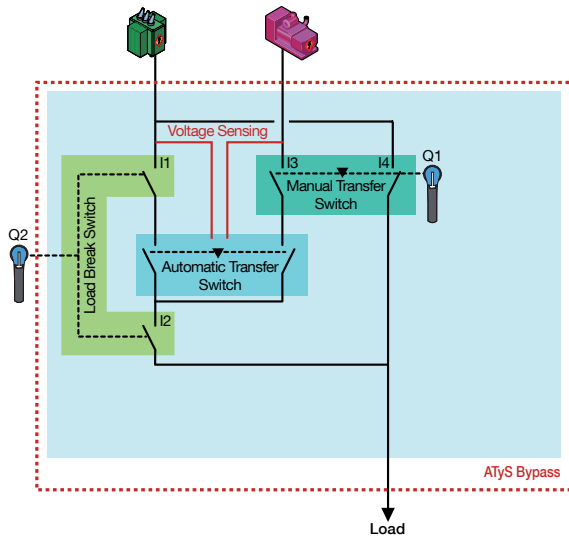
ATSE - Automatic equipment from 40 to 3200 A

2 versions

ATyS Bypass Single Line

- It consists of 2 functions: an automatic transfer switch and a single Bypass line connected to the preferred supply source.

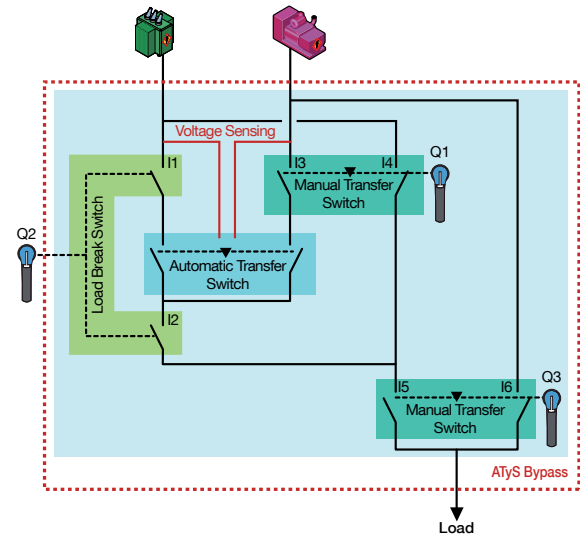
ATyS Bypass - SINGLE LINE



ATyS Bypass Double Line

- It consists of 3 functions: an automatic transfer switch, an ATyS Bypass and a facility for selecting between supply sources when in Bypass.

ATyS Bypass - DOUBLE LINE



Use

Normal Position:

- The load is supplied by the supply defined as the preferred source. In case of primary source failure, the ATyS automatically transfers the load to the alternate source when available.

Bypass position:

- Manually switch Q1 to bypass mode without interrupting supply to the load. Then open switch Q2 to completely isolate the ATyS for inspection.

Test Position:

- From the Bypass position, switch Q2 can be closed to supply the ATyS and achieve operational checks, without jeopardizing the supply to the load. Transfer to the normal position can then be achieved.

References

Standard product - 230 VAC for ATyS p M

Rating (A)	No. of poles	Single Line Reference	Double Line Reference
40	4 P	1785 4004	1786 4004
63	4 P	1785 4006	1786 4006
80	4 P	1785 4008	1786 4008
100	4 P	1785 4010	1786 4010
125	4 P	1785 4012	1786 4012

Standard product- 230 VAC for ATyS p

Rating (A)	No. of poles	Single Line Reference	Double Line Reference
160	4 P	1785 4016	1786 4016
250	4 P	1785 4025	1786 4025
400	4 P	1785 4040	1786 4040
630	4 P	1785 4063	1786 4063
800	4 P	1785 4080	1786 4080
1000	4 P	1785 4100	1786 4100
1250	4 P	1785 4120	1786 4120
1600	4 P	1785 4160	1786 4160
2000	4 P	1785 4200	1786 4200
2500	4 P	1785 4250	1786 4250
3200	4 P	1785 4320	1786 4320

Enclosed transfer switch solutions

ATyS Bypass "no-break" solution

ATSE - Automatic equipment from 40 to 3200 A

Accessories

Customer fit

Description	Reference
2 inputs / 2 outputs module (ATyS p only)	1599 2001 ⁽¹⁾

(1) Up to 3 can be fitted.

Extension cabinet

Use

From 1250A to 3200 A, the standard enclosed ATyS Bypass is supplied with connections to allow for Bottom/Bottom or Bottom/Top cable entry.

In order to facilitate the wiring, we propose the use of an extension cabinet, which can be mounted to the side of the standard ATyS Bypass enclosure, when utilising all other types of connections (TT/TB/BT). The extension cabinet also enables any necessary future adaptation.



kdrys_504_a_2_cat

Rating (A)	Reference
1250 ... 2000	1599 9004
2500 ... 3200	1599 9005

Protection against overvoltages

Use

In order to ensure protection of the equipment against overvoltages, type 1 and 2 surge protection is available.

For more information, please see our general catalogue.



sgys_069_a_1_cat

Rating (A)	Reference
40 ... 125	1599 9016
250 ... 400	1599 9017
630 ... 3200	1599 9018

Multifunction meter

Use

Multifunction meters are now available for the display and monitoring of all the electrical parameters.

For more information, please see our general catalogue.



diris_750_a_1_cat

Engine Exerciser

Use

The enclosed ATyS Bypass up to 125 A can be supplied with a genset exerciser (configure generator Start/Stop times, enable/disable routines, etc.).



access_276_a_1_cat

Description	Reference
Engine Exerciser	1599 9006

Tinned Busbars

Use

Tinned busbar option for severe environmental conditions.

Rating (A)	Reference
250	1599 9007
400	1599 9008
630	1599 9009
800	1599 9010
1000	1599 9011
1250 ... 1600	1599 9013
2000	1599 9014
2500 ... 3200	1599 9015

Enclosed transfer switch solutions

ATyS Bypass "no-break" solution

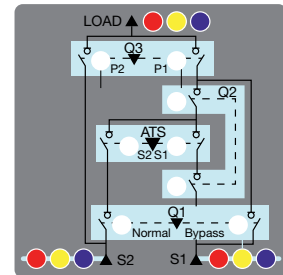
ATSE - Automatic equipment from 40 to 3200 A

Signalling

Use

To get a global overview of the system status, an optional 17 LED mimic panel is available (voltage availability per phase and device positions).

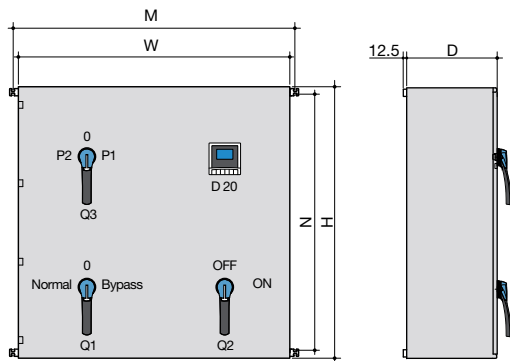
Rating (A)	Mimic panel	
	Single Line Reference	Double Line Reference
40 ... 3200	1599 9033	1599 9034



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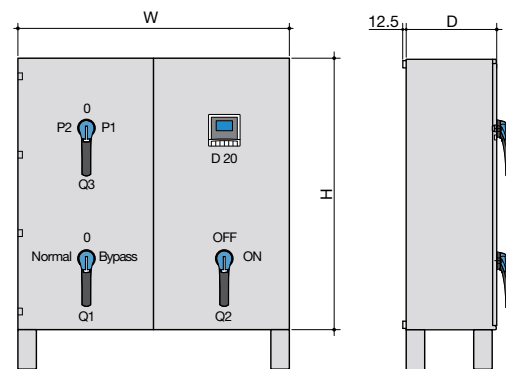
Dimensions

40 to 160 A



atys_749_d_1_gb_cat

≥ 250 A



atys_759_d_1_gb_cat

Wall mounting - Bottom

Rating (A)	Recommended connection cross-section (mm ²)	H (mm)	W (mm)	D (mm)	M (mm)	N (mm)	Weight (kg)
40	10	800	800	300	848	752	80
63	16	800	800	300	848	752	80
80	25	800	800	300	848	752	80
100	35	1000	800	300	848	752	80
125	50	1000	800	300	848	752	80
160	70	1000	800	400	848	752	160

Floor fixing - Bottom

Rating (A)	Recommended connection cross-section (mm ²)	H (mm)	W (mm)	D (mm)	Weight (kg)
250	120	1200 ⁽¹⁾	1000	550	180
400	240	1200 ⁽¹⁾	1000	550	200
630	2 x 185	1600 ⁽¹⁾	1200	600	600
800	2 x 240	1800 ⁽¹⁾	1600	800	1000
1000	4 x 150	1800 ⁽¹⁾	1600	800	1000
1250	4 x 185	2000 ⁽¹⁾	2000	1000	2000
1600	4 x 240	2000 ⁽¹⁾	2000	1000	2000
2000	8 x 150	2000 ⁽¹⁾	2200	1000	2500
2500	8 x 185	2000 ⁽¹⁾	2200	1000	2500
3200	8 x 240	2000 ⁽¹⁾	2200	1000	2500

(1) Add 100 mm for feet.

Connection (input / output)

- From 40 to 125 A (B/B or T/B or T/T or B/T),
- From 160 to 400 A (B/B or B/T),
- 630 A (B/B),
- ≥ 800 A (Consult us).



The UL product range

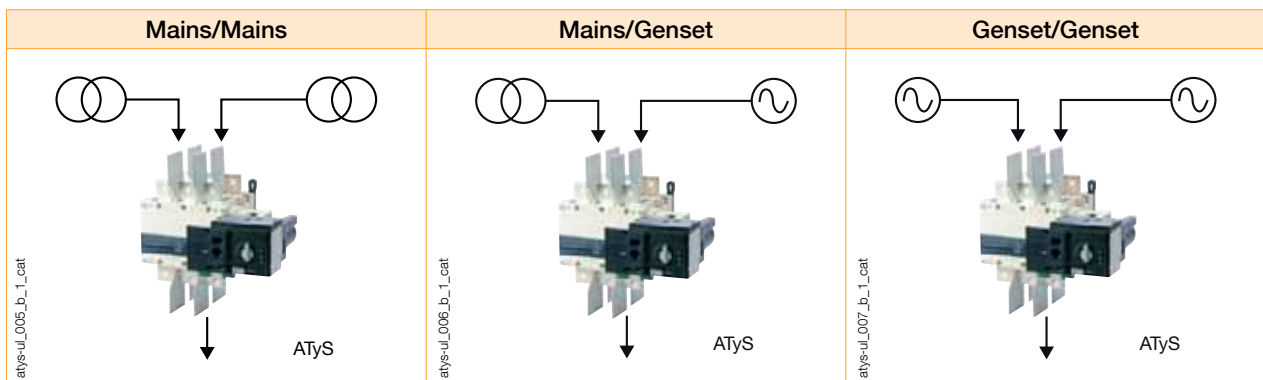
Transfer switches

A range of manual or remotely operated transfer switches up to 1200 A

MTSE (Manual)	RTSE (Remotely operated)
 <p data-bbox="197 1104 576 1167">SIRCOVER UL1008 Manual Transfer Switching Equipment</p>	 <p data-bbox="593 1104 997 1167">ATyS UL1008 Motorised Transfer Switching Equipment</p>

Typical applications

The ATyS UL 1008 range provides safe transfer for mains/genset and genset/genset applications.



Function

ATYS and SIRCOVER UL 1008 transfer switching equipment ensure:

- Maintenance free transfer switching equipment with a robust and reliable design.
- Power control and safety between a normal and an alternate source.
- Integrated and robust switch disconnection.
- A stable OFF position with integrated padlocking to facilitate safe downstream maintenance.
- Positive break indication with clear visible position indication I - 0 - II.
- An inherent failsafe mechanical interlock prevents asynchronous paralleling of the two sources.
- Stable positions (I - 0 - II) non-affected by typical vibration and shock.
- Constant pressure on the contacts non affected by network voltage perturbation.
- Quick, easy and extremely safe manual operation.

Further to the above the ATyS also includes:

- A simple and secure motorisation remote controls interface.
- Integrated switch position auxiliary contacts.
- An active "product availability" status feedback.
- Compatibility with virtually any make of ATS, AMF and Genset controller provided with volt-free contacts.

Power supply continuity for most electrically controlled total system optional standby power applications.

SOCOME UL products

The ATYS UL is a full load break transfer switch where the main switching components are from proven technology devices (SIRCOVER - Manual Transfer Switches) also fulfilling requirements in UL 98 and IEC 60947-3 standards. The transfer is done in open transition with a minimum supply interruption during transfer ensuring full compliance with UL 1008 and IEC 60947-6-1 international TSE standards.

As a stand-alone product, the ATyS is a non-automatic power transfer switch (an electrically operated transfer switch that is not self-acting), generally used in applications where the load is non-emergency, does not require automatic transfer and where operating persons can be made available to initiate the transfer.

The electrical control of the ATyS UL may be direct through push-buttons and dry contacts fitted onto the enclosure door or through a dedicated local or remote ATS controller.

Your preferred brand of ATS controller, genset / AMF controller or power / building management system, may easily be paired with the ATyS to provide a complete automatic transfer switch to suit your needs.

ATyS have three stable positions (I-0-II) which can be selected remotely, via volt-free contacts, or directly, through use of the emergency operation handle; emergency operation requires no supply to be present. The OFF position provides disconnection of both supplies ensuring downstream isolation for safe maintenance.

UL Applications

ATYS UL 1008 transfer switches are rated from 100 to 400 A and designed for use in total system optional standby power applications for the safe transfer of a load supply between a normal and an alternate source.

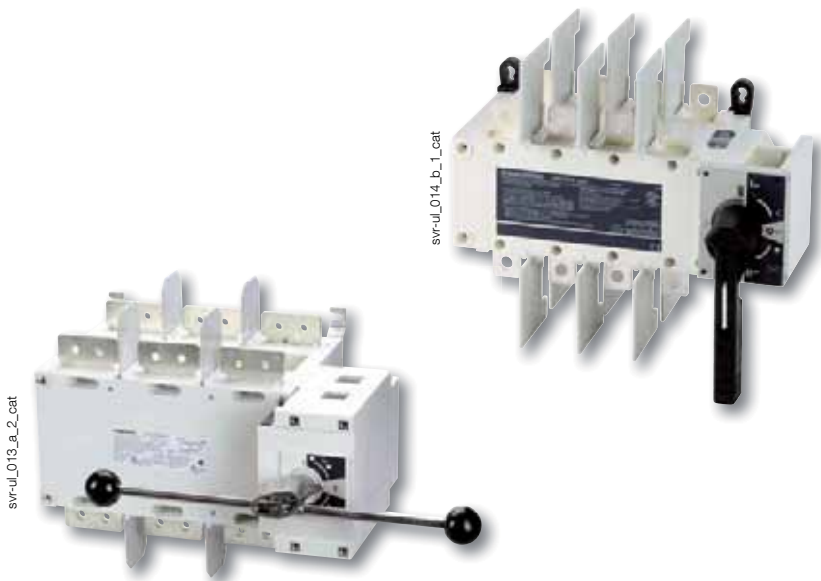
Optional standby systems are those systems installed to provide an alternate source of power for structures for which a power outage could cause discomfort or interruption or damage to products or processes.



SIRCOPER UL1008

Manually operated Transfer Switching Equipment
from 100 to 1200 A

Transfer switches



The solution for

- > Manufacturing industry
- > Power distribution
- > Domestic



Strong points

- > Stable positions
- > Compact design
- > On-load switching
- > Reliability

Conformity to standards

- > UL 1008, Guide WPYV, file 317092
- > UL 98, Guide WHTY, file 201138
- > CSA 22.2#4, Class 4651-02



UL 98 and CSA from 600-1200 A with 100-400 A on request with a specific reference.

Function

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

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

Advantages

Stable positions

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

Compact design

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

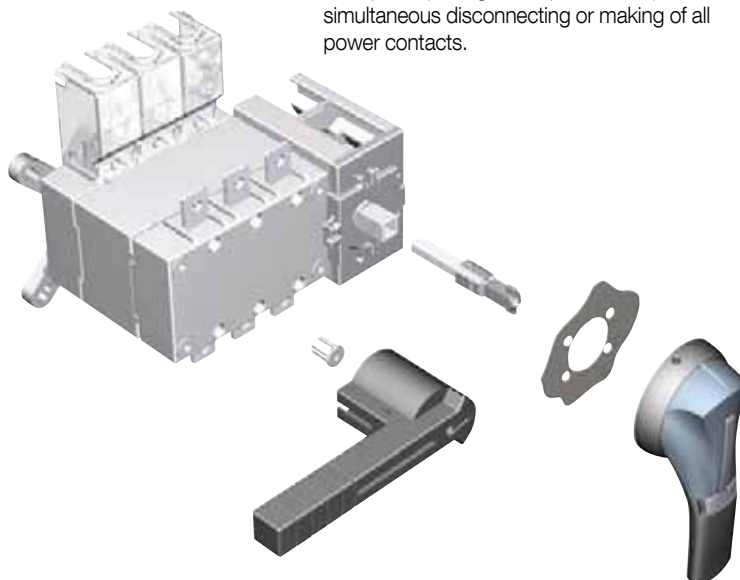
On-load switching

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

Reliability

The SIRCOPER has double breaking per pole achieved through its sliding bar contacts system.

The quick opening and rapid closure provides simultaneous disconnecting or making of all power contacts.

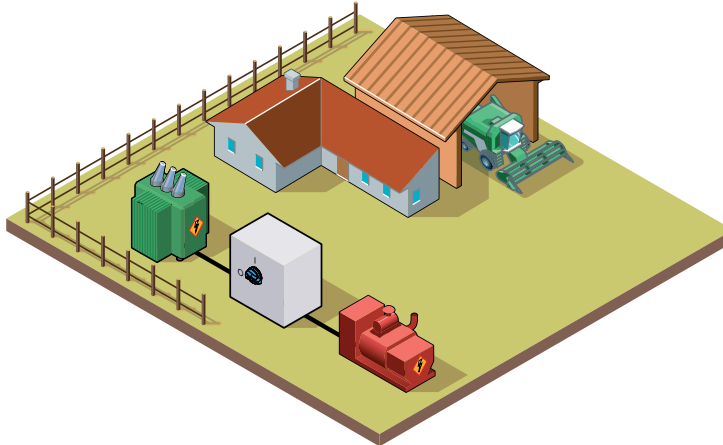


svr_136_a_2_cat

Typical application

The SIRCOVER UL 1008 range provides safe transfer and disconnection at all levels within your LV installation. They can be used for changing motor phase for rotation control or equipment grounding as well.

Normal power supply to genset transfer
 The source transfer will be operated safely even under on-load or over-load conditions



svr-ul_017_a

SOCOMEc solution up to 1200 A



svr-ul_014_b_2_cat



UL 1008 Manual Transfer Switch
 From 100 to 400 A for resistive and total systems applications.
 UL 98 versions on request



svr-ul_019_a_2_cat



UL 1008 and UL 98 Manual Transfer Switch
 From 600 to 1200 A for resistive and total systems applications.
 Has UL 98/CSA 22.2#4 certification

IEC solution up to 3200 A

The SIRCOVER UL 1008 is part of a large range that includes an IEC products of standalone or enclosed manual transfer switches and manual bypass switches with overlapping options. Contact us for further information on our complete range.



SIRCOVER UL1008

Manually operated Transfer Switching Equipment
from 100 to 1200 A

References

SIRCOVER UL 1008

Rating (A)	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contacts	Terminal screens		
100 A	2 P	4150 2012	Black 4199 4012	S2 type Black I - 0 - II 4, 4X 142D 2113	S2 type 200 mm 7.9 inches 1400 1020	2P 4159 2021 3P 4159 3021 4P 4159 4021	Contact NO/NC 4159 0021 Low level 4159 0022	2P & 3P 4158 3021 4P 4158 4021		
	3 P	4150 3012								
	4 P	4150 4012								
200 A	2 P	4150 2022		S2 type Black I - 0 - II 4, 4X 142D 2813 ⁽¹⁾	320 mm 12.6 inches 1400 1032	400 mm 15.7 inches 1400 1040		2P 4159 2021 3P 4159 3021 4P 4159 4021		
	3 P	4150 3022								
	4 P	4150 4022								
260 A	2 P	4150 2026	Black 4199 4012	S3 type Black I - 0 - II 4, 4X 143D 3113	S3, S4 type 200 mm 7.9 inches 1401 1520	2P 4159 2041 3P 4159 3041 4P 4159 4041	Contact NO/NC 4159 0021 Low level 4159 0022	2P & 3P 4158 3041 4P 4158 4041		
	3 P	4150 3026								
	4 P	4150 4026								
400 A	2 P	4150 2042		Black 4199 4012	S3 type Black I - 0 - II 4, 4X 143D 3113	S3, S4 type 200 mm 7.9 inches 1401 1520		2P 4159 2041 3P 4159 3041 4P 4159 4041	Contact NO/NC 4159 0021 Low level 4159 0022	2P & 3P 4158 3041 4P 4158 4041
	3 P	4150 3042								
	4 P	4150 4042								
600 A	3 P	4150 3060	Black 4199 7012		S4 type Black I - 0 - II 4, 4X 144D 3813 ⁽¹⁾	320 mm 12.6 inches 1401 1532	3 P 4159 3063 4 P 4159 4063	Contact NO/NC as standard		3 P 1609 3063 4 P 1609 4063
	4 P	4150 4060								
800 A	3 P	4150 3080	Black 4199 7062		S4 type Black I - 0 - II 4, 4X 144D 3813 ⁽¹⁾	400 mm 15.7 inches 1401 1540	3 P 4159 3080 4 P 4159 4080	Contact NO/NC as standard		3 P 1609 3080 4 P 1609 4080
	4 P	4150 4080								
1200 A	3 P	4150 3120	Black 4199 7062	S4 type Black I - 0 - II 4, 4X 144D 3813 ⁽¹⁾	320 mm 12.6 inches 1401 1532	3 P 4159 3080 4 P 4159 4080	Contact NO/NC as standard	3 P 1609 3080 4 P 1609 4080		
	4 P	4150 4120								

(1) Padlockable in all 3 positions.

Accessories

Direct handle

Rating (A)	Type	Colour	Handle type	Reference
100 ... 400	B3	Black	1 lever	4199 4012
600	C2	Black	2 lever	4199 7012
800 ... 1200	V1	Metal	2 lever	4199 7062



External handle

Rating (A)	Handle type	Colour	Nema type	Lockable in 3 positions	Reference
100 ... 200	S2	Black	4, 4X	no	142D 2113
100 ... 200	S2	Red/Yellow	4, 4X	no	142E 2113
100 ... 200	S2	Black	1, 3R, 12	no	142F 2113
100 ... 200	S2	Red/Yellow	1, 3R, 12	no	142G 2113
100 ... 200	S2	Black	4, 4X	yes	142D 2813
100 ... 200	S2	Red/Yellow	4, 4X	yes	142E 2813
100 ... 200	S2	Black	1, 3R, 12	yes	142F 2813
100 ... 200	S2	Red/Yellow	1, 3R, 12	yes	142G 2813
260 ... 600	S3	Black	4, 4X	no	143D 3113
260 ... 600	S3	Red/Yellow	4, 4X	no	143E 3113
260 ... 600	S3	Black	1, 3R, 12	no	143F 3113
260 ... 600	S3	Red/Yellow	1, 3R, 12	no	143G 3113
260 ... 600	S3	Black	4, 4X	yes	143D 3813
260 ... 600	S3	Red/Yellow	4, 4X	yes	143E 3813
260 ... 600	S3	Black	1, 3R, 12	yes	143F 3813
260 ... 600	S3	Red/Yellow	1, 3R, 12	yes	143G 3813
800 ... 1200	S4	Black	4, 4X	no	144D 3113
800 ... 1200	S4	Black	1, 3R, 12	no	144E 3113
800 ... 1200	S4	Black	1, 3R, 12	no	144E 3113
800 ... 1200	S4	Red/Yellow	1, 3R, 12	no	144G 3113
800 ... 1200	S4	Black	4, 4X	yes	144D 3813
800 ... 1200	S4	Red/Yellow	4, 4X	yes	144E 3813
800 ... 1200	S4	Black	1, 3R, 12	yes	144F 3813
800 ... 1200	S4	Red/Yellow	1, 3R, 12	yes	144G 3813
800 ... 1200	S5	Black	1, 3R, 12 ⁽¹⁾	no	1453 8113
800 ... 1200	S5	Red/Yellow	1, 3R, 12 ⁽¹⁾	no	1454 8113
800 ... 1200	V1	Black	1, 3R, 12 ⁽¹⁾	no	4199 7149

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

Use

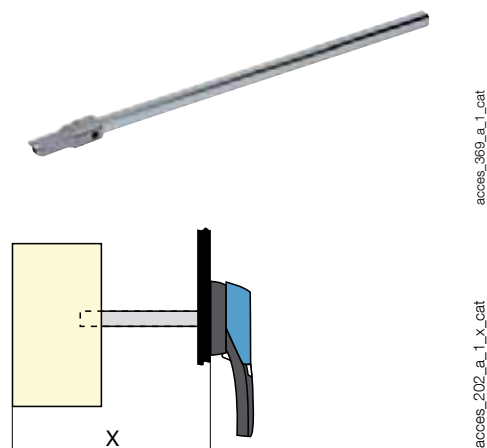
The handle interlocking function prevents the user from opening the door of the enclosure when the switch is in the "ON" position. Opening the door when the switch is in the "ON" position is possible by defeating the interlocking function (not S5 and V handles) with the use of a tool (authorised persons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

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



Shaft for external handle

Rating (A)	Handle type	Length		Dimension		Reference
		(in)	(mm)	(in)	(mm)	
100 ... 200	S2	7.9	200	10 ... 14.3	254 ... 362	1400 1020
100 ... 200	S2	12.6	320	10 ... 19	254 ... 482	1400 1032
100 ... 200	S2	15.7	400	10 ... 22.1	254 ... 562	1400 1040
260 ... 400	S3	7.9	200	12 ... 18.4	305 ... 467	1401 1520
260 ... 400	S3	12.6	320	12 ... 23.1	305 ... 587	1401 1532
260 ... 400	S3	15.7	400	12 ... 26.3	305 ... 667	1401 1540
260 ... 400	S3	7.9	200	20 ... 23.4	508 ... 594	1401 1520
260 ... 400	S3	12.6	320	20 ... 28.1	508 ... 714	1401 1532
260 ... 400	S3	15.7	400	20 ... 31.3	508 ... 794	1401 1540
800 ... 1200	S4	7.9	200	20 ... 23.4	508 ... 594	1401 1520
800 ... 1200	S4	12.6	320	20 ... 28.1	508 ... 714	1401 1532
800 ... 1200	S4	15.7	400	20 ... 31.3	508 ... 794	1401 1540
800 ... 1200	V1 / S5	12.6	320	20 ... 28.1	508 ... 714	4199 3018
800 ... 1200	V1 / S5	15.7	400	20 ... 31.3	508 ... 794	4199 3019



SIRCOVER UL1008

Manually operated Transfer Switching Equipment
from 100 to 1200 A

Accessories (continued)

Bridging bars

Use

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

Rating (A)	No. bridging bar	Reference
100 ... 200	2	4159 2021
100 ... 200	3	4159 3021
100 ... 200	4	4159 4021
260 ... 400	2	4159 2041
260 ... 400	3	4159 3041
260 ... 400	4	4159 4041
600	3	4159 3063
600	4	4159 4063
800 ... 1200	3	4159 3080
800 ... 1200	4	4159 4080



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Terminal protection screen

Use

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

Rating (A)	No. of poles	Reference
100 ... 200	2P / 3P	4158 3021
100 ... 200	4 P	4158 4021
260 ... 400	2P / 3P	4158 3041
260 ... 400	4 P	4158 4041
600	6 P	1609 3063
600	4 P	1609 4063
800 ... 1200	3 P	1609 3080
800 ... 1200	4 P	1609 4080



access_207_a_1_cat

Auxiliary contacts

Use

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

Electrical characteristics

A300.

NO/NC auxiliary contact

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



access_065_a_1_cat

access_065_a_1_cat

Terminal lugs

Use

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

Rating (A)	Wires range	No wires per lug	Lugs per kit	Wires	Reference
100 ... 200	6 - 300MCM	1	2	Cu / Al	3954 2020
100 ... 200	6 - 300MCM	1	3	Cu / Al	3954 3020
100 ... 200	6 - 300MCM	1	4	Cu / Al	3954 4020
260 ... 400	4 - 600MCM	1	2	Cu / Al	3954 2040
260 ... 400	4 - 600MCM	1	3	Cu / Al	3954 3040
260 ... 400	4 - 600MCM	1	4	Cu / Al	3954 4040
600	2x (#2 - 600MCM)	2	3	Cu / Al	3954 3060
600	2x (#2 - 600MCM)	2	4	Cu / Al	3954 4060
800 ... 1200 ⁽¹⁾	2x 2x(#2 - 600MCM)	2	6	Cu / Al	3954 3120
800 ... 1200 ⁽¹⁾	2x 2x(#2 - 600MCM)	2	8	Cu / Al	3954 4120



ul_032_a

(1) To be used to connect 4 wires on one terminal. In such a case, 2 lugs are placed side-by-side on one terminal. Please refer to dimensions diagram

Characteristics

Characteristics according to UL 1008

General use rating (A)	100 A	200 A	260 A	400 A	600 A	800 A	1200 A
Operation voltage 2 P / 3-4 P	240 / 600	240 / 600	240 / 600	240 / 600	- / 600	- / 600	- / 600
Short circuit rating with circuit breaker (kA) / Short-circuit capacity (ms)	10 / 25	10 / 25	14 / 50	14 / 50	35 / 50	35 / 50	35 / 50
Short circuit rating at 600 VAC (kA)	100	100	65	65	100	100	100
Type of fuse	J	J	J	J	L	L	L
Max. fuse rating (A)	200	400	600	600	800	1000	1600

Short circuit rating at 600 VAC with "Specific Circuit Breaker" (kA)

Square D JJ breaker 250 A 2 poles 240 VAC / 3-4 poles 480 VAC	65	65	-	-	-	-	-
Schneider Electric NSX-F 160 A 3-4 poles 480 VAC	35	-	-	-	-	-	-

Rated operational current 1 ph

240 VAC "Total system" (A)	100	200	260	400	-	-	-
240 VAC resistive load (A)	100	200	260	400	-	-	-

Rated operational current 3 ph

240 VAC "Total System" (A)	100	200	260	400	400	700	700
240 VAC resistive load (A)	100	200	260	400	600	800	1200
480 VAC "Total System" (A)	100	100	260	400	350	600	600
480 VAC resistive load (A)	100	200	260	400	600	800	1200
600 VAC "Total System" (A)	100	100	200	200	-	-	-
600 VAC resistive load (A)	100	200	260	400	400	800	1200

Mechanical endurance

Endurance (number of operating cycles)	6050	6050	6050	4050	3050	3050	3050
--	------	------	------	------	------	------	------

Connection terminals

Min. connection section / AWG	#6	#6	#4 / 2 x 1 / 0	#4 / 2 x 1 / 0	2 x #2	2 x #2	4 x #2
Max. connection section / AWG	300MCM	300MCM	600MCM / 2 x 250MCM	600MCM / 2 x 250MCM	2 x 600MCM	2 x 600MCM	4 x 600MCM

Characteristics according to UL 98/CSA 22.2#4

General use rating at 600 VAC and 250 VDC (A)	Specific reference upon request				600 A	800 A	1200 A
Short circuit rating at 600 VAC (kA)	-	-	-	-	200	100	100
Type of fuse	-	-	-	-	J	L	L
Max. fuse rating (A)	-	-	-	-	600	800	1200

Max. motor, hp / FLA 3 ph motor max.

220-240 VAC	-	-	-	-	200 / 480	-	-
440-480 VAC	-	-	-	-	400 / 477	-	-
600 VAC	-	-	-	-	500 / 472	-	-

Mechanical characteristics

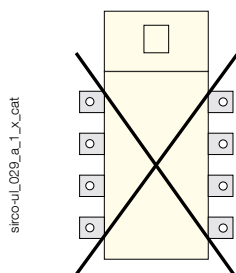
Endurance (number of operating cycles)	-	-	-	-	5000	3500	2500
Operating torque (lbs.in/Nm)	-	-	-	-	327.5/37	442.5/50	442.5/50

Auxiliary contacts

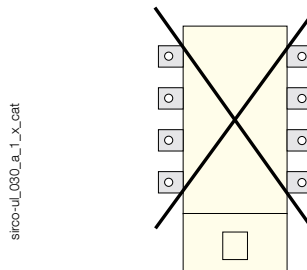
Electrical characteristics	A300	A300	A300	A300	A300	A300	A300
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Mounting orientation

100 to 400 A



600 to 1200 A

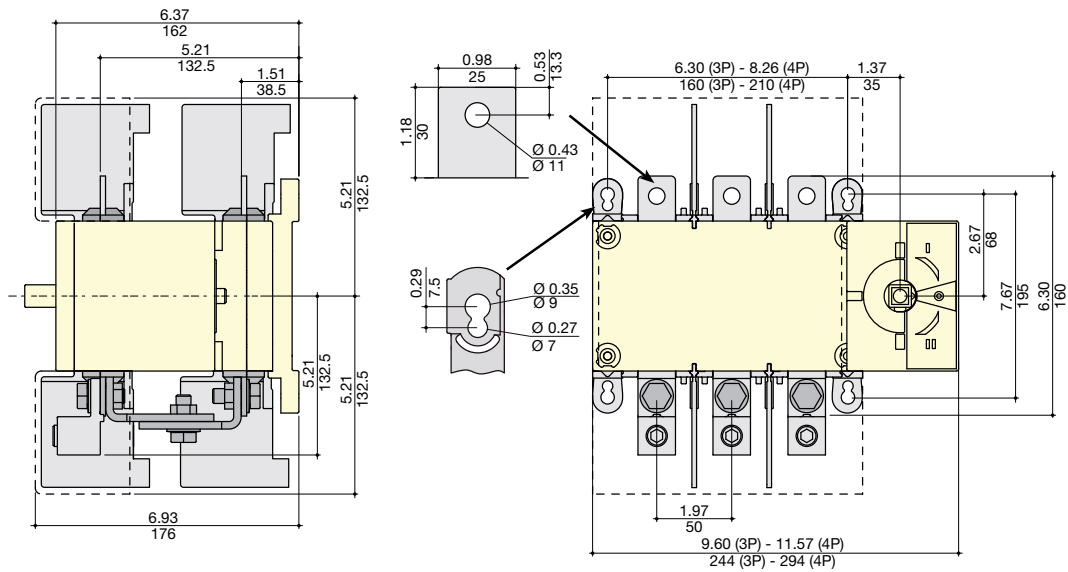


SIRCOVER UL1008

Manually operated Transfer Switching Equipment
from 100 to 1200 A

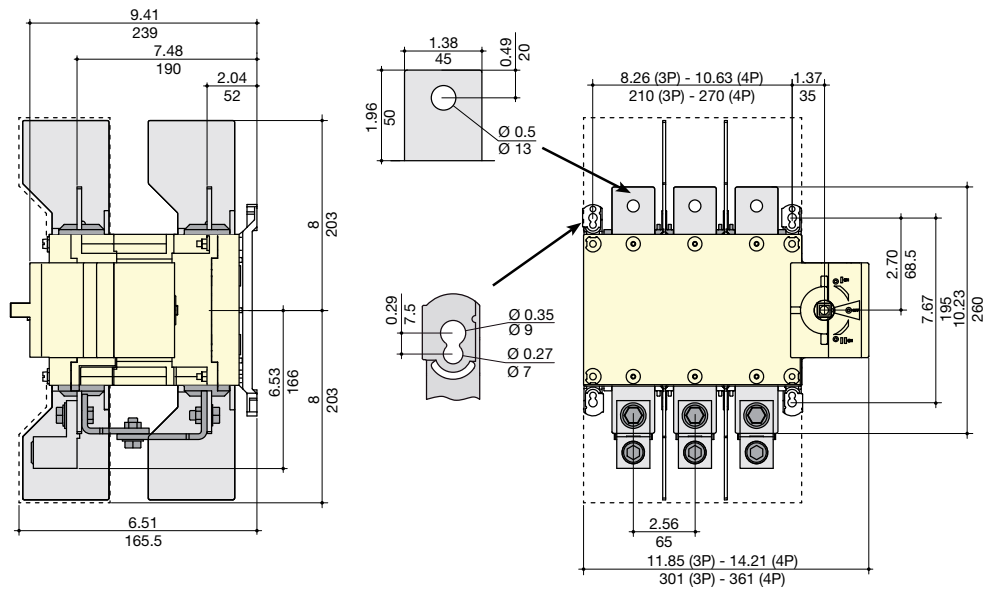
Dimensions (in/mm)

100 to 200 A



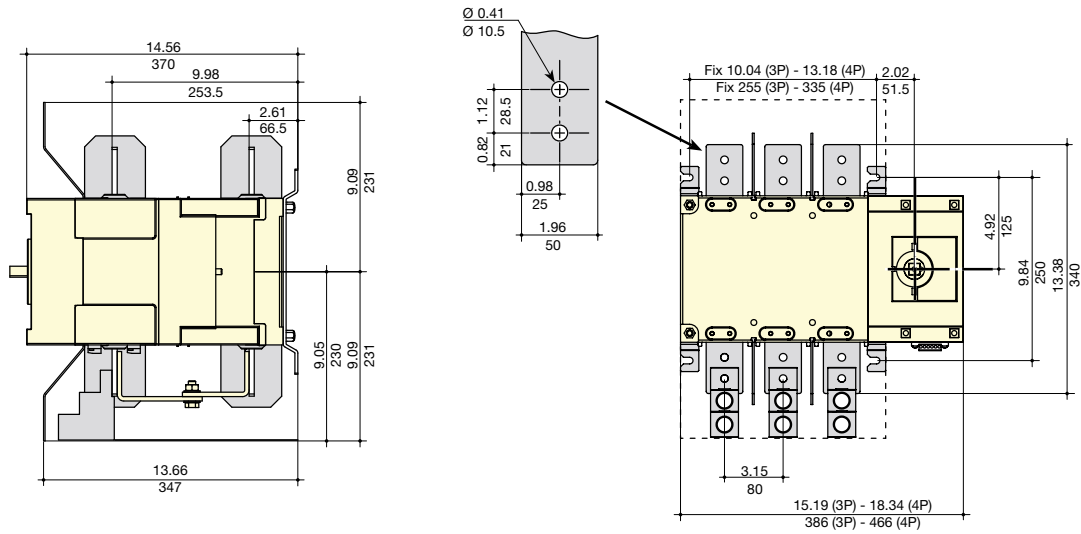
svr-ul015_c_1_x_cat

260 to 400 A



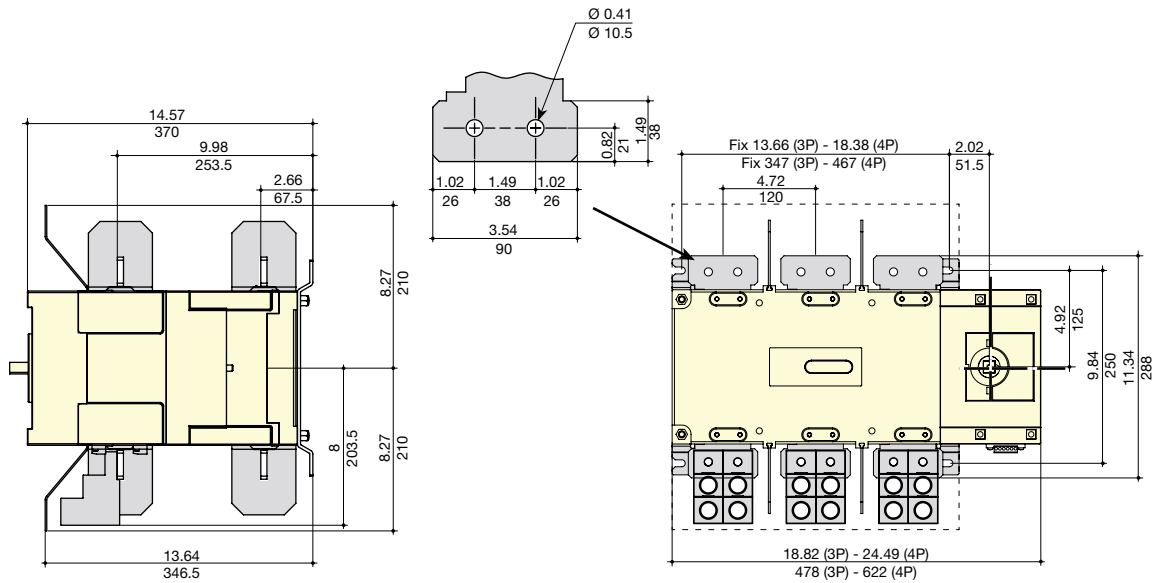
svr-ul016_c_1_x_cat

600 A



svr-ul_003_a_x_cat

800 to 1200 A



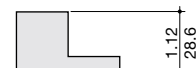
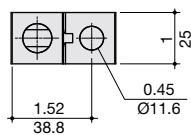
svr-ul_004_c_1_x_cat

SIRCOVER UL1008

Manually operated Transfer Switching Equipment
from 100 to 1200 A

Terminal lugs (in/mm)

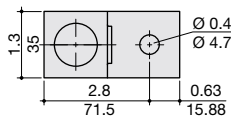
100 to 200 A



300 kcmil

sirco_115_b_1_us_cat

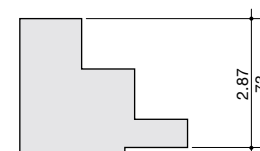
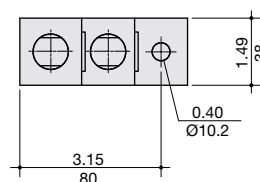
260 to 400 A



600 kcmil

sirco-ul_010_a_1_us_cat

600 to 1200 A



2 x 600 kcmil

sirco_116_b_1_us_cat

External handles dimensions (in/mm)

100 and 200 A

Handle type	Front operation Direction of operation	Door drilling
S2 type 		

poign_067_a_1_us_cat

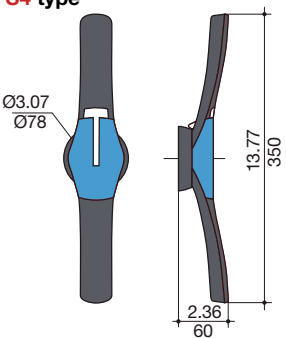
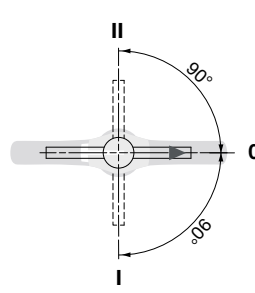
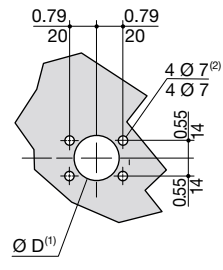
260 and 600 A

Handle type	Front operation Direction of operation	Door drilling
S3 type 		

poign_064_a_1_fr_cat

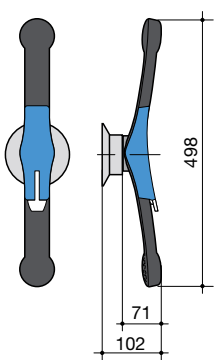
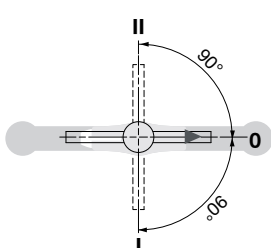
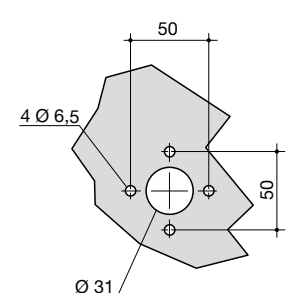
External handles dimensions (in/mm) (continued)

800 to 1200 A

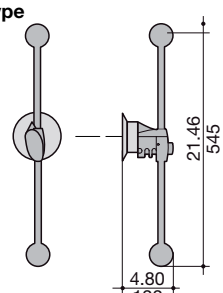
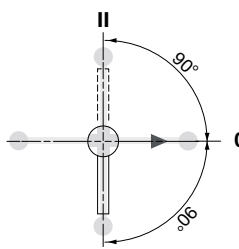
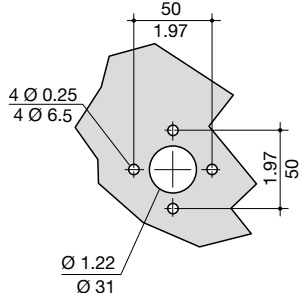
Handle type	Front operation Direction of operation	Door drilling
<p>S4 type</p> 		

poign_065_a_1_gb_cat

800 to 1200 A

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

poign_047_a_1_gb_cat

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

poign_066_a_1_us_cat



ATyS UL1008

Remotely operated Transfer Switching Equipment from 100 to 400 A

Transfer switches



atyS-ul1008_a_1_cat

The solution for

- > Commercial
- > Light Industry
- > Residential applications



Strong points

- > Robust and reliable design
- > Compatible with virtually any ATS controller
- > On-load manual operation
- > Maintenance free

Conformity to standards

- > UL 1008, Guide WPYV, file 317092



Product reference on request.

Your choice of ATS controls

- > Your preferred brand of ATS controller, genset/AMF controller or power/building management system, may easily be paired with the ATyS to provide a complete automatic transfer switch that perfectly suits your needs.

Function

ATyS non-automatic transfer switches are designed for use in total system optional standby applications for the safe transfer between a normal and an alternate power source.

The changeover is done in open transition and with minimum supply interruption during transfer ensuring full compliance with UL 1008 and IEC 60947-6-1. The ATyS is a full on-load disconnecter where the main components are based on proven technology also fulfilling requirements in UL 98 and IEC 60947-3 standards.

Advantages

Robust and reliable design

ATyS is a remotely operated transfer switch tested in full compliance with UL 1008. The design integrates a failsafe mechanical interlock to ensure that the main source is never inadvertently connected to the alternate. The stable position design ensures that the switch is unaffected by vibration or network voltage perturbation. The ATyS also includes a removable handle for emergency manual operation. This is extremely safe and easy to use.

Maintenance free

The self-cleaning contacts of the ATyS allow the power section to be maintenance free. For safe downstream maintenance the ATyS includes a facility for isolation and padlocking in the zero position.

In the unlikely event of a motorisation failure, the ATyS is designed in a way that the motorisation can be replaced easily and very quickly. Furthermore, the ATyS remains manually operational with or without the motorisation in place.

Compatible with virtually any ATS controls

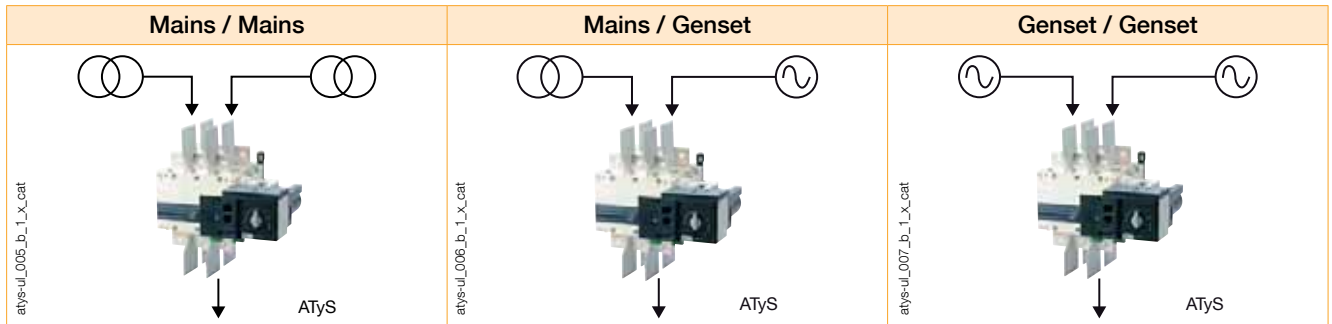
The ATyS is directly compatible with virtually any transfer switching control solution that provides volt free contacts. This allows the ATyS to be combined with most ATS controls available on the market and then used in automatic transfer switch applications.



atyS_2008_b

Typical applications

The ATyS UL 1008 range provides safe transfer for mains/mains, mains/genset and genset/genset applications.


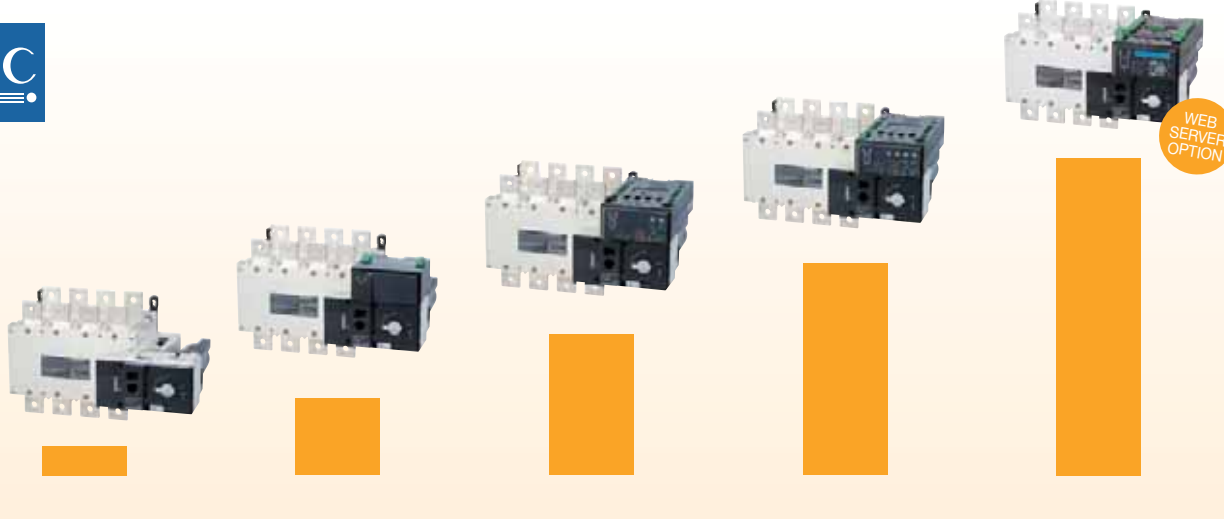


Part of a globally recognized range

The ATyS UL 1008 is part of a large family of products including a complete range of remotely operated and fully automatic transfer switches that comply to IEC and GB standards.

The ATyS range is a world renowned product family trusted by some of the largest manufacturers in the genset industry.

The key to success has been through reliable power availability provided by products that are safe and easy to use.

ATyS <i>r</i>	ATyS <i>d</i> Remote Transfer Switching (RTS)	ATyS <i>t</i> Automatic Transfer Switching (ATS)	ATyS <i>g</i> Automatic Transfer Switching (ATS)	ATyS <i>p</i> Automatic Transfer Switching (ATS)
Remote Transfer Switching	Dual power supply	Automatic controller to manage mains/mains applications	Automatic controller to manage mains/genset applications	Functions for energy management Communication options

Please don't hesitate to contact SOCOMEC with any questions regarding the IEC ATyS range of products above rated from 125 to 3200 A.

ATyS UL1008

Remotely operated Transfer Switching Equipment
from 100 to 400 A

References

ATYS UL 1008

Rating (A)	No. of poles	ATyS	Bridging bars	Terminal screens	Auxiliary contact	Lug kits
100 A	2 P	9723 2010	2 P 4159 2021 3 P 4159 3021 4 P 4159 4021	2/3 P 4158 3021 4 P 4158 4021	NO / NC 4159 0021 Low level 4159 0022	2 P 3954 2020 ⁽¹⁾ 3 P 3954 3020 ⁽¹⁾ 4 P 3954 4020 ⁽¹⁾
	3 P	9723 3010				
	4 P	9723 4010				
200 A	2 P	9723 2020	2 P 4159 2041 3 P 4159 3041 4 P 4159 4041	2/3 P 4158 3021 4 P 4158 4021		2 P 3954 2040 ⁽²⁾ 3 P 3954 3040 ⁽²⁾ 4 P 3954 4040 ⁽²⁾
	3 P	9723 3020				
	4 P	9723 4020				
260 A	2 P	9723 2026	2 P 4159 2041 3 P 4159 3041 4 P 4159 4041	2/3 P 4158 3021 4 P 4158 4021	2 P 3954 2040 ⁽²⁾ 3 P 3954 3040 ⁽²⁾ 4 P 3954 4040 ⁽²⁾	
	3 P	9723 3026				
	4 P	9723 4026				
400 A	2 P	9723 2040	2 P 4159 2041 3 P 4159 3041 4 P 4159 4041	2/3 P 4158 3021 4 P 4158 4021	2 P 3954 2040 ⁽²⁾ 3 P 3954 3040 ⁽²⁾ 4 P 3954 4040 ⁽²⁾	
	3 P	9723 3040				
	4 P	9723 4040				

(1) 1x #6-300MCM.

(2) 1x #6-600MCM.

Accessories

Terminal screens

Use

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

For upstream and downstream protection, order quantity 1.

Rating (A)	No. of poles	Position	Reference
100 ... 200	2/3 P	top / bottom	4158 3021
100 ... 200	4 P	top / bottom	4158 4021
260 ... 400	2/3 P	top / bottom	4158 3041
260 ... 400	4 P	top / bottom	4158 4041



access_207_a_2_cat

Bridging bars

Use

For bridging power terminals on the top or bottom side of the switch.

When ordering one reference is required per switch.

Rating (A)	No. bridging bar	Reference
100 ... 200	2	4159 2021
100 ... 200	3	4159 3021
100 ... 200	4	4159 4021
260 ... 400	2	4159 2041
260 ... 400	3	4159 3041
260 ... 400	4	4159 4041



4159 4021

access_205_a_2_cat

Accessories (continued)

Auxiliary contacts

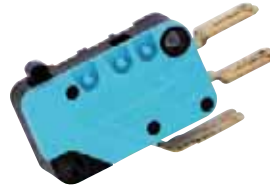
Use

Pre-break and signalling of positions I and II: each reference provides 1 NO/NC auxiliary contact for positions I and II.

ATyS are supplied with 1 NO auxiliary contact for all three positions as standard.

Rating (A)	Designation	Reference
100 ... 400	NO / NC	4159 0021
100 ... 400	Low level NO / NC	4159 0022

A maximum of 2 Aux contacts per position may be added.



acce065_a_1_cat



acce065_a_1_cat

Spares

Motorisation module

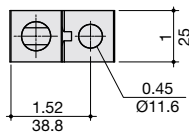
Rating (A)	No. of poles	Frame size	Used for ATyS Reference	Motorisation module Reference
100 A	2, 3, 4 P	B4	9723 2010 - 9723 3010 - 9723 4010	9709 5010
200 A	2, 3, 4 P		9723 2020 - 9723 3020 - 9723 4020	9709 5020
260 A	2, 3, 4 P	B5	9723 2026 - 9723 3026 - 9723 4026	9709 5026
400 A	2, 3, 4 P		9723 2040 - 9723 3040 - 9723 4040	9709 5040



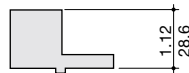
atys_871_la_1_cat.eps

Terminals lugs (in/mm)

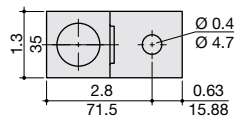
100 to 200 A



sifco_115_b_1_us_cat



260 to 400 A



sifco-ul010_a_1_us_cat



Rating (A)	Wires range	Lugs per kit	Wires	Reference
100 ... 200	6 - 300MCM	2	Cu / Al	3954 2020
100 ... 200	6 - 300MCM	3	Cu / Al	3954 3020
100 ... 200	6 - 300MCM	4	Cu / Al	3954 4020
260 ... 400	4 - 600MCM	2	Cu / Al	3954 2040
260 ... 400	4 - 600MCM	3	Cu / Al	3954 3040
260 ... 400	4 - 600MCM	4	Cu / Al	3954 4040



ul_032_a

Mounting orientation

100 to 400 A

atys-ul_013 ... 014_a_1_x_cat

Recommended	OK	Not allowed	Not allowed

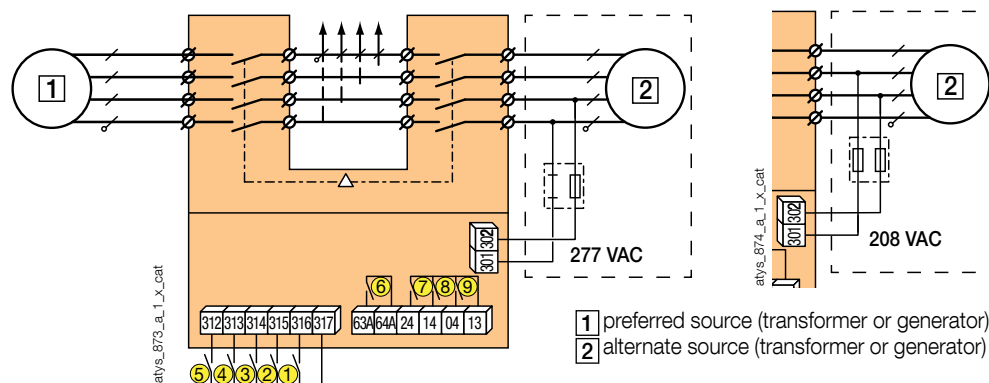
Characteristics according to UL 1008 (Optional standby)

100 to 400 A

Frame size	B4		B5	
General use rating (A)	100 A	200 A	260 A	400 A
Operation voltage 2 P / 3-4 P	240 / 600	240 / 600	240 / 600	240 / 600
Short-circuit rating with any breaker (kA) / Short-circuit capacity (ms)	10 / 25	10 / 25	14 / 50	14 / 50
Short-circuit rating at 600 VAC (kA) with fuses	100	100	65	65
Type of fuse	J	J	J	J
Max. fuse rating (A)	200	400	600	600
Short-circuit rating with specific breaker (kA)				
Square D JJ breaker 250 A 2 poles 240 VAC / 3-4 poles 480 VAC	65	65	-	-
Schneider Electric NSX-F 160 A 3-4 poles 480 VAC	35	-	-	-
Rated operational current 1 ph				
240 VAC "Total system" (A)	100	200	260	400
240 VAC resistive load (A)	100	200	260	400
Rated operational current 3 ph				
240 VAC "Total system" (A)	100	200	260	400
240 VAC resistive load (A)	100	200	260	400
480 VAC "Total system" (A)	100	100	260	400
480 VAC resistive load (A)	100	200	260	400
600 VAC "Total system" (A)	100	100	200	200
600 VAC resistive load (A)	100	200	260	400
Mechanical endurance				
Endurance (number of operating cycles)	6050	6050	6050	4050
Connection terminals				
Min. connection section / AWG	#6	#6	#4 / 2 x 1/0	#4 / 2 x 1/0
Max. connection section / AWG	300MCM	300MCM	600MCM / 2x 250MCM	600MCM / 2x 250MCM
Power Supply				
Supply voltage VAC 50/60 Hz	208-277 VAC			
Switching time				
I to II or II to I (s)	1.3			
I to 0 or 0 to II (s)	0.85			
Duration of electrical blackout (s)	0.6			

Terminals and connections

Typical wiring for 480/277 VAC and 208/120 VAC networks



1: position 0 control (contactor logic if closed)

2: position I control

3: position II control

4: position 0 priority control

5: closure of this contact enables the position control orders

6: product availability relay

7: auxiliary contact, closed when the switch is in position II

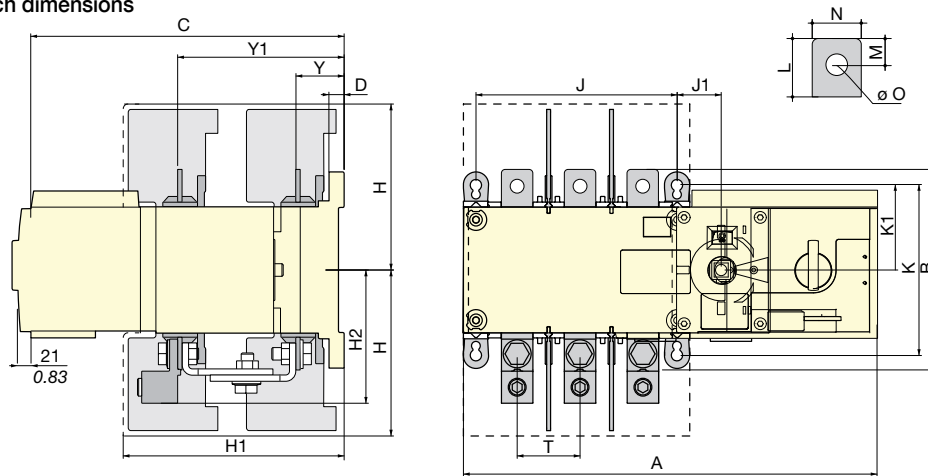
8: auxiliary contact, closed when the switch is in position I

9: auxiliary contact, closed when the switch is in position 0

Dimensions (in/mm)

100 to 400 A

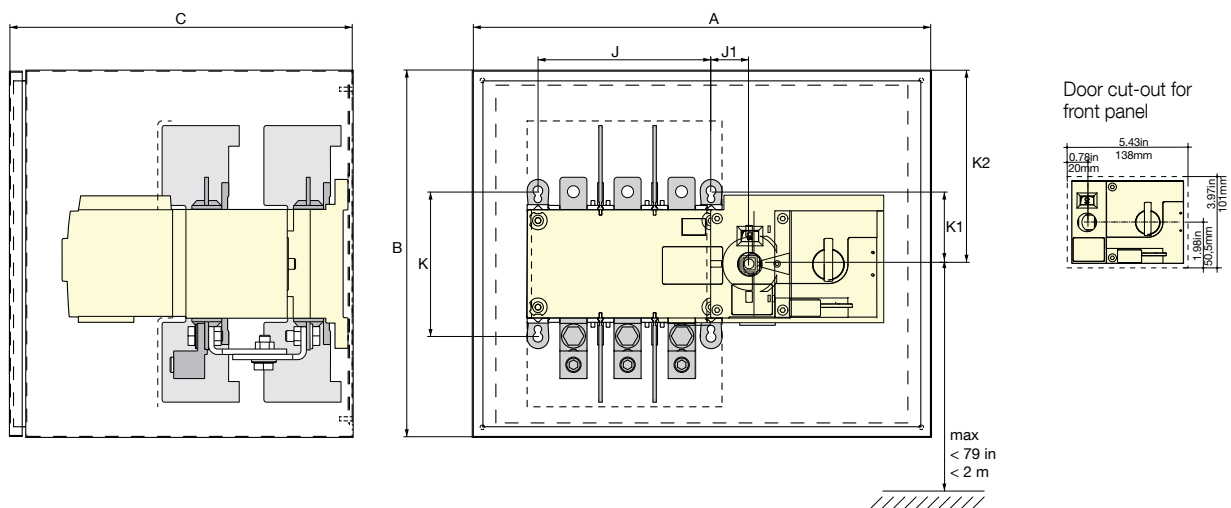
Transfer switch dimensions



Rating (A)	Reference	No. of poles	A		B		C		D		H		H1		H2		Y		Y1	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
100 - 200	9723 2010 - 9723 2020	2 P	12.91	328	6.30	160	9.60	244	0.41	10.5	5.08	129	6.93	176	4.21	107	1.51	38.5	5.21	132.5
	9723 3010 - 9723 3020	3 P																		
	9723 4010 - 9723 4020	4 P	14.88	378																
260 - 400	9723 2026 - 9723 2040	2 P	14.84	377	10.23	260	12.62	320.5	0.41	10.5	8	203	6.51	165.5	6.53	166	2.04	52	7.48	190
	9723 3026 - 9723 3040	3 P																		
	9723 4026 - 9723 4040	4 P	17.20	437																

Rating (A)	Reference	No. of poles	J		J1		K		K1		L		M		N		O		T	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
100 - 200	9723 2010 - 9723 2020	2 P	6.30	160	1.37	35	7.67	195	3.84	97.5	1.18	30	0.53	13.3	0.98	25	0.43	11	2	50
	9723 3010 - 9723 3020	3 P																		
	9723 4010 - 9723 4020	4 P	8.26	210																
260 - 400	9723 2026 - 9723 2040	2 P	8.26	210	1.37	35	7.67	195	3.84	97.5	1.96	50	0.49	20	1.38	45	0.51	13	2.6	65
	9723 3026 - 9723 3040	3 P																		
	9723 4026 - 9723 4040	4 P	10.63	270																

Minimum recommended enclosure dimensions



Rating (A)	Reference	No. of poles	A		B		C		J		J1		K		K1		K2	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
100 - 200	9723 2010 - 9723 2020	2 P	24	610	24	610	12	305	6.30	160	1.37	35	7.67	195	2.67	68	12	305
	9723 3010 - 9723 3020	3 P																
	9723 4010 - 9723 4020	4 P							8.26	210								
260 - 400	9723 2026 - 9723 2040	2 P							8.26	210								
	9723 3026 - 9723 3040	3 P	32	813	32	813	16	406	1.37	35	7.67	195	3.84	97.5	15	381		
	9723 4026 - 9723 4040	4 P							10.63	270								

U = RI

TSE technical guide

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Types of transfer switching	<i>p. 113</i>
The sources	<i>p. 114</i>
The loads	<i>p. 114</i>
Typical electrical diagrams	<i>p. 115</i>
Automatic transfer	<i>p. 126</i>
Specific applications	<i>p. 128</i>
IEC 60947-6-1 standard	<i>p. 129</i>

Transfer Switching Equipment (TSE) in LV installations

The applications

Introduction

The word transfer is applied to any application requiring a switching operation from one power circuit to another.

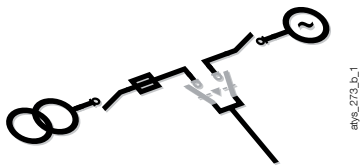
The transfer concept is mainly applied to two sources requiring changeover, one considered as a main power supply and the other one as an alternate source or backup supply.

The expression 'normal/emergency' is used to name this backup function. The most useful transfer application concerns installations requiring switching to an alternate power supply in case of loss of the main's network (electricity provider, hospital,...).

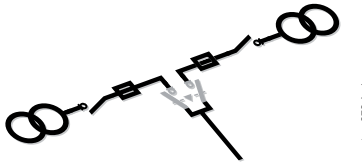
Another typical application is "Genset/Genset", and this is when the load is supplied by two generators.

Normal/emergency applications

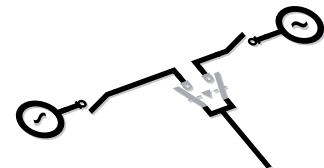
Mains/Genset application



Mains/Mains application



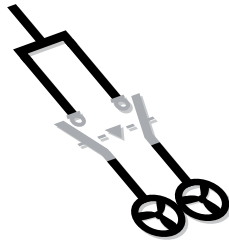
Genset/Genset application



'Normal/emergency' applications are dedicated to safety installations. They ensure continuity in the supply to the loads and facilitate evacuation of the building for security matters. Typical safety equipment include lighting, alarm systems (fire...), smoke extraction systems, fire pumps, air compressors, sprinkler systems, lifts, ...

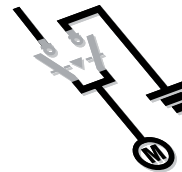
Other typical applications

Switching between loads



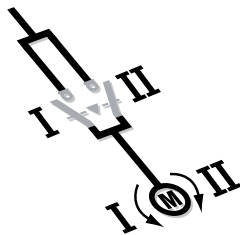
Switching the power supply from one load to another generates redundancy with a balanced operating time for the two loads.

Earthing



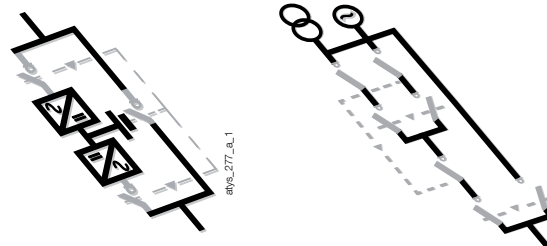
Safely isolating a load from the supply whilst earthing equipment such as motors or electrical lines. This enables work to be carried out downstream of the transfer switch in total safety.

Phase and rotation inversion on motors



Inversion between two out of three phases supplying a motor in order to modify the direction of rotation. This application requires a delay in the off position to prevent damage to the equipment.

Bypass



Isolation of the a transfer switch, a UPS or other equipment for scheduled maintenance or tests. This is done by safely disconnecting upstream and downstream circuits, whilst continuing to supply the load via a parallel circuit referred to as a Bypass circuit.

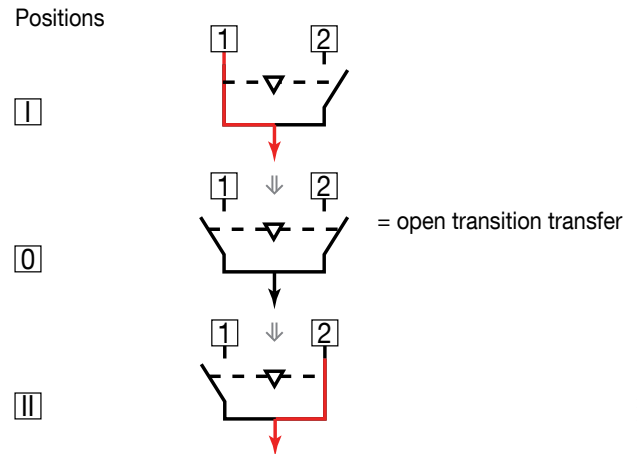
Types of transfer switching

Break before make (Open Transition)

The transfer from one source to a second source goes through a 0 position to ensure that the main and alternate source do not overlap. An off time can be counted down to allow the load residual voltage to decrease below a non critical value before transferring. Transferring the load too quickly to another source can lead to power transfers between the load and the supply, which often cause damage. This can potentially damage sensitive equipment and cause protection devices to trip. The 0 position is a stable safe off position, which enables work to be carried out downstream of the transfer switch in safely once padlocked. The off time delay setting should be configured according to the equipment installed. The international standard IEC 60947-6-1, dedicated to transfer switching equipment, states that any time delay or off-time provided in the total operating transfer time, from the normal to the alternative or the alternative to the normal supply, shall not be less than 50 ms. For applications that require a faster transfer time it is recommended to include adequate measurement and protection in the installation. Typically sync check relays. If this time is not respected, then the installation must have adapted synchronisation and protection functions.

SOCOMEc transfer switching equipment is designed as open transition that meets the requirements for most applications.

In fact for most applications the backup supply is rarely a hot standby (example a genset needs to be started) whilst critical loads are usually supplied through a UPS.



Closed transition (Synchronous transfer)

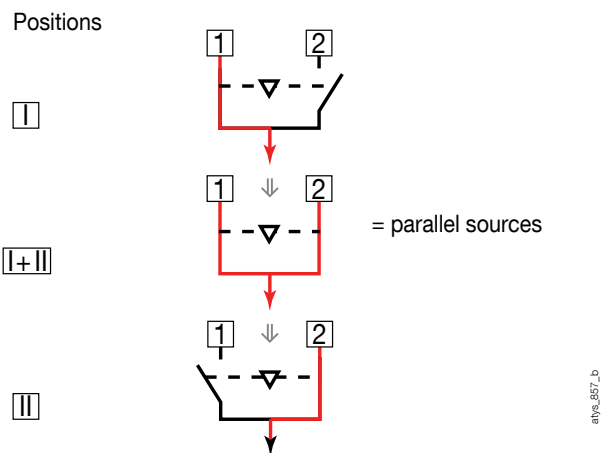
Depending on the local network regulations the normal and the alternative source may temporarily run in parallel for a period of <100ms. This is typically used for scheduled transfers, for example returning to the Normal source from the alternative source.

To allow a synchronised transfer the two sources must be in sync to allow the transfer:

- Their phases angles must be in phase (less than a 5° difference).
- Their frequency and amplitudes are virtually identical (less than 0.2Hz and 5%V).

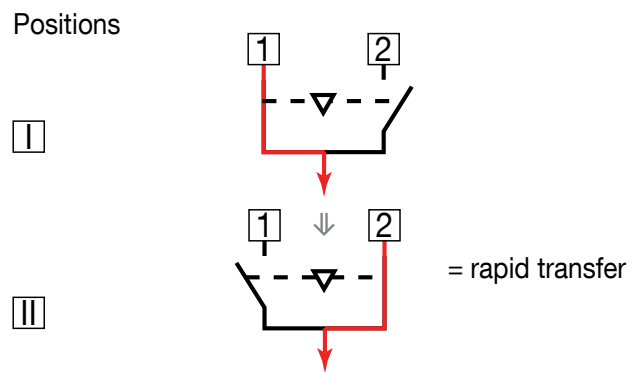
When synchronised within these limits a scheduled or return to normal supply transfer may take place without a blackout time allowing continuity of service.

When the Normal source is lost, or the power supplies cannot be synchronised (out of limits explained above) the transfer is carried out in open transition.



Asynchronous Transfer

This type of transfer mode is typically applicable to applications with large asynchronous motor loads. A fast open transition transfer is used to allow a direct transfer without having to stop the motor. This transfer time is usually less than 50 ms and achievable safely when using a transfer switch coupled with a sync check relay. Although the transfer is carried out in open transition without overlapping contacts, the same conditions (in terms of voltage, phase angle and phase angle) as with closed transition apply.



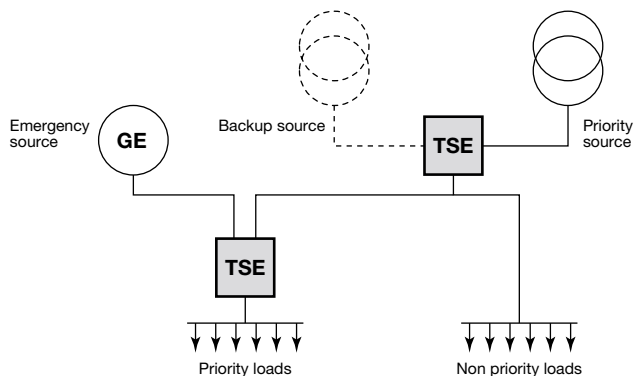
Transfer Switching Equipment (TSE) in LV installations

The sources

Types of sources

The source supplies can be described as follows:

- One source considered as priority (normal source): a power grid/network through one or several transformers in parallel. Possible source redundancy can be achieved using an alternative source to ensure continuity of power in case of the normal supply failure.
- One alternative (backup source): a power generating plant (gensets, turbines, fuel cells, UPS, wind farms, ...)



Classification of safety power supplies

In accordance with the standard NFC 15-100, governing Low voltage electrical installations, a safety power supply allows devices critical for personal safety to be kept in operational condition. This type of power supply is categorised as follows:

Category	Transfer time
No shutdown	Continuous power supply
Short shutdown	≤ 0.5s
Medium shutdown	≤ 10s
Long shutdown	> 10s

The loads

The transfer mode and the type of emergency sources to use are linked to the loads available.

Load criticality and sensitivity

Loads can generally be classified by two main criteria; their criticality, i.e. whether or not they require backup power, and their sensitivity, i.e. the blackout time permitted.

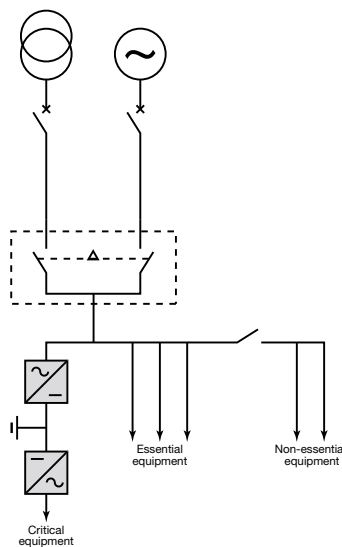
Various categories have been identified:

- Critical equipment that can not accept shutdown. They are supplied by a UPS to ensure service continuity in case of main's supply shutdown. Their power capacity is limited and depends on the load's consumption, the battery level of charge and maintenance.
- Essential equipment: a fast return of power is required (from a few seconds to several minutes).
- Non-essential equipment: only powered back on after the normal supply returns and transfer back from the alternative to the main supply is done.

Example of load criticality: NFC 15 211

Installations in medical premises

	Shutdown
Level 1: Surgical room, intensive care...	None
Level 2: Postsurgical Monitoring ...	<15 sec
Level 3: Radiology ...	15 sec to 30 min



Transfer Switching Equipment (TSE) in LV installations

Typical electrical diagrams

The following diagrams offer technical solutions based on SOCOMEC transfer switches, in order to meet most of the ATS installation diagrams made with others technologies.

Choosing the right changeover switch

Socomec changeover switches aim at ensuring ever more efficient ways to guarantee the continuity of distribution and, therefore, the rate of availability of your energy.

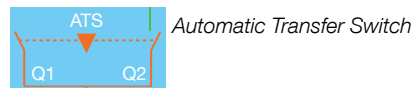
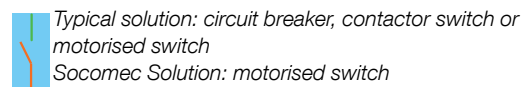
Those changeover switches can be used not just for Normal/Backup operation, but also for managing the switching of loads or the connection of equipment to earth.

In addition to the rating and the related electrical breaking specifications, the selection criteria are:

- type of control
- installation restrictions inside the enclosure

Furthermore, these solutions based on open transition switching and integrating interlocking, guarantee there will be no overlapping between the Normal source and the alternative source.

Glossary

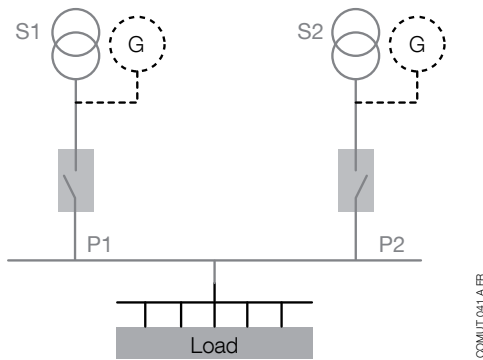


Transfer Switching Equipment (TSE) in LV installations

Transfer between 2 sources - 1 busbar

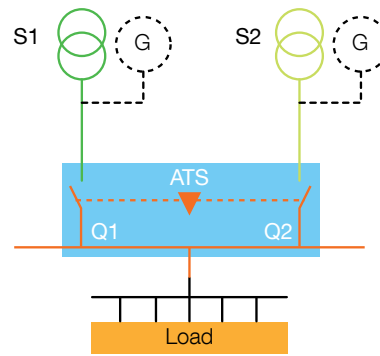
$$S1 \text{ (kVA)} = S2 \text{ (kVA)}$$

Typical solution



COMUT 041 A FR

SOCOMEK solution



COMUT 042 A FR

Truth table

S1	S2	Typical solution	SOCOMEK	Load
0	0	X:	X:	Not supplied
0	1	P2	Q2	Supplied
1	0	P1	Q1	Supplied
1	1	*	*	Supplied

* depends on the preferred source

Advantages of the Socomec solution

Operation

- Only one emergency handle
- Secured padlocking system

Implementation

- Only one product (built-in solution)
- Compact design
- Plug and Play
- Mechanical and electrical interlocking are built-in

SOCOMEK products

Mains/Mains - Mains/Genset:

- ATyS or ATyS M, models t, g or p



ATyS_MP 001 LB - ATyS 1 001 A

Genset/Genset

- ATyS d M, ATyS r or ATyS d, ATyS S + C40



ATyS_M 013 B - ATyS 836 A
ATyS 599 C

- ATyS d M, ATyS r or ATyS d, ATyS S + C20 or C30



ATyS_M 031 B - ATyS 836 A
ATyS 443 B

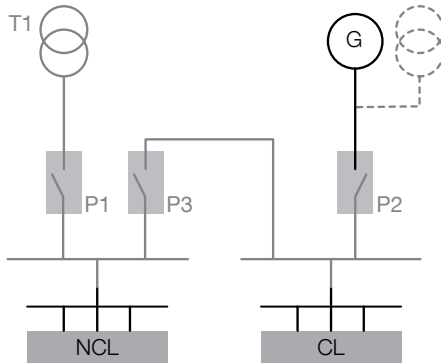
Transfer Switching Equipment (TSE) in LV installations

Transfer between 2 sources - 2 busbars

1) Sources are usually 1 transformer and 1 genset:
loads are split between critical and non critical

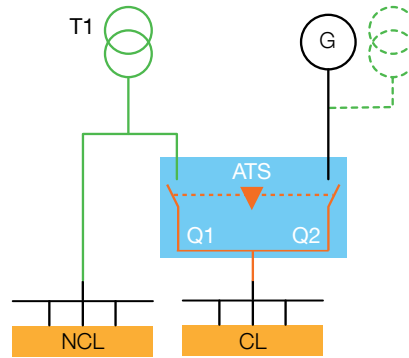
First type of architecture: $S1 \text{ (kVA)} > SG \text{ (kVA)}$

Typical solution



COMUT 043 A

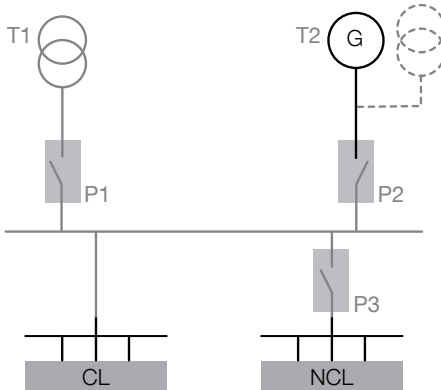
SOCOMEK solution



COMUT 044 A

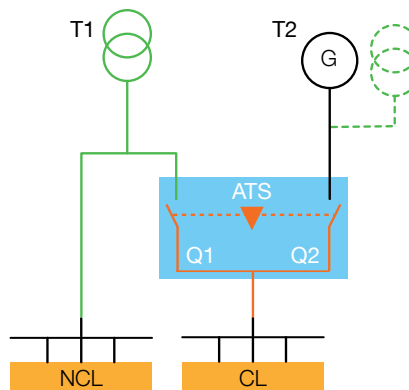
Second type of architecture: $S1 \text{ (kVA)} > S2 \text{ (kVA)}$

Typical solution



COMUT 043 A

SOCOMEK solution



COMUT 043 A

Truth table

T1	G	Typical solution	SOCOMEK	NCL	CL
0	0	X:	X:	Not supplied	Not supplied
0	1	P2	Q2	Not supplied	Supplied
1	0	P1 + P3	Q1	Supplied	Supplied

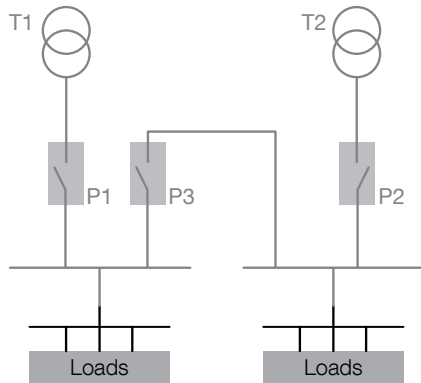
Transfer Switching Equipment (TSE) in LV installations

Transfer between 2 sources - 2 busbars (continued)

2) Sources are 2 transformers: loads are not differentiated

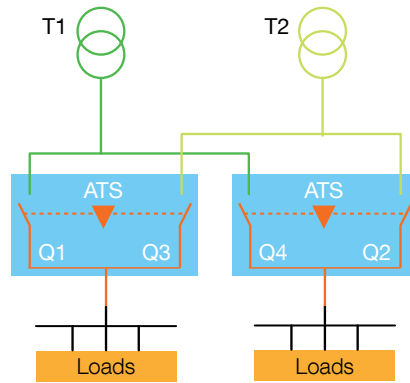
$$S1 \text{ (kVA)} = S2 \text{ (kVA)}$$

Typical solution



COMUT 047 A FR

SOCOMEC solution



COMUT 048 A FR

Truth table

T1	T2	Typical solution	SOCOMEC	Loads
0	0	X:	X:	Not supplied
0	1	P2 + P3	Q2 + Q3	Supplied
1	0	P1 + P3	Q1 + Q4	Supplied
1	1	P1 + P2	Q1 + Q2	Supplied

Advantages of the Socomec solution

Operation

- Only one emergency handle (2 in the last case)
- Secured padlocking system
- In the first case (between transformer and genset), a motorised switch can be added on the Non Critical Loads for optional disconnection

Implementation

- Fewer products
- Compact design
- Plug and Play
- Mechanical and electrical interlocking are built-in

SOCOMEC products

Mains/Mains - Mains/Genset:

- ATyS or ATyS M, models t, g or p



ATyS_MP 001 B - ATyS+001 A

Motorised switch as an option on Non Critical Loads

- SIRCO MOT AT



SIRCO 310 B

- ATyS d M, ATyS r or ATyS d, ATyS S + C20 or C30



ATyS_MD 001 B - ATyS 838 A
ATyS 448 B

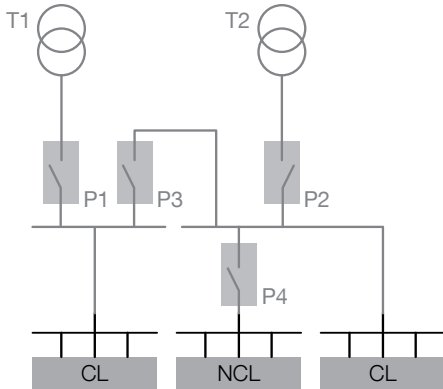
Transfer Switching Equipment (TSE) in LV installations

Transfer between 2 sources - 3 busbars

1) Sources are 2 transformers

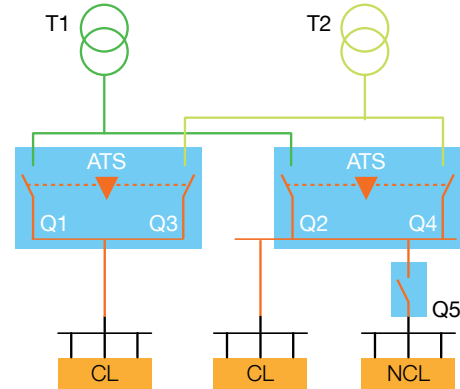
$$S1 \text{ (kVA)} = S2 \text{ (kVA)}$$

Typical solution



COMJUT 049 A

SOCOMEK solution



COMJUT 060 A

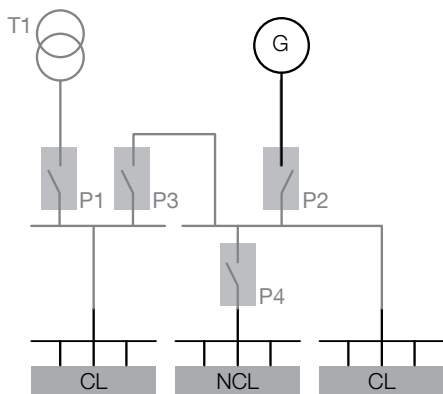
Truth table

T1	T2	Typical solution	SOCOMEK	CL	NCL
0	0	X:	X:	Not supplied	Not supplied
0	1	P2 + P3	Q3 + Q4	Supplied	Not supplied
1	0	P1 + P3	Q1 + Q2	Supplied	Not supplied
1	1	P1 + P2 + P4	Q1 + Q4 + Q5	Supplied	Supplied

2) Sources are 1 transformer and 1 genset:

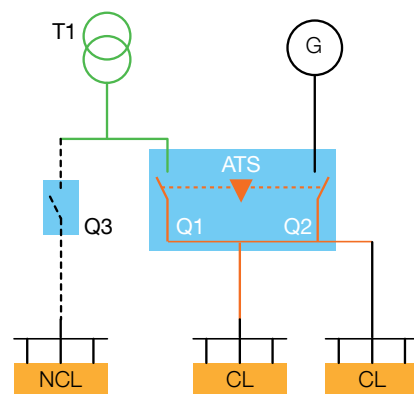
$$S1 \text{ (kVA)} > S2 \text{ (kVA)}$$

Typical solution



COMJUT 051 A

SOCOMEK solution



COMJUT 052 A

Truth table

T1	G	Typical solution	SOCOMEK	CL	NCL
0	0	X:	X:	Not supplied	Not supplied
0	1	P2 + P3	Q2	Supplied	Not supplied
1	0	P1 + P3 + P4	Q1 + Q3	Supplied	Supplied

Transfer Switching Equipment (TSE) in LV installations

Transfer between 2 sources - 3 busbars (continued)

Advantages of the Socomec solution

Operation

- Only 2 or 3 emergency handles instead of 4
Redundancy of P3
- Secured padlocking system
- In the second case (between transformer and genset),
a motorised switch can be added on the Non Critical
Loads for optional disconnection

Implementation

- Fewer products
- Compact design
- Plug and Play
- Mechanical and electrical interlocking are built-in

SOCOMEc products

Mains/Mains - Mains/Genset:

- ATyS or ATyS M, models t, g or p



Motorised switch as an option on Non Critical Loads

- SIRCO MOT AT



- ATyS d M, ATyS r or ATyS d, ATyS S + C20 or C30



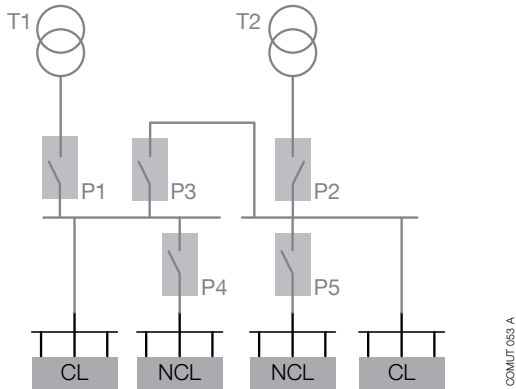
Transfer Switching Equipment (TSE) in LV installations

Transfer between 2 sources - 4 busbars

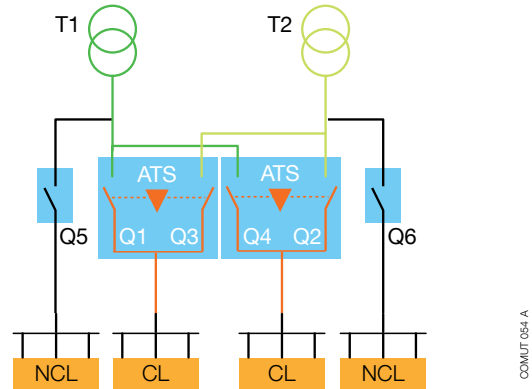
1) Sources are 2 transformers

$$S1 \text{ (kVA)} = S2 \text{ (kVA)}$$

Typical solution



SOCOMEC solution



Truth table

T1	T2	Typical solution	SOCOMEC	CL	NCL
0	0	X:	X:	Not supplied	Not supplied
0	1	P2 + P3	Q2 + Q3	Supplied	Not supplied
1	0	P1 + P3	Q1 + Q4	Supplied	Not supplied
1	1	P1 + P2 + P4 + P5	Q1 + Q2 + Q5 + Q6	Supplied	Supplied

Advantages of the Socomec solution

Operation

- Only 4 emergency handles instead of 5
- Redundancy of P3
- Secured padlocking system

Implementation

- Fewer products
- Compact design
- Plug and Play
- Mechanical and electrical interlocking are built-in

SOCOMEC products

Mains/Mains - Mains/Genset:

- ATyS or ATyS M, models t, g or p



- ATyS d M, ATyS r or ATyS d, ATyS S + C20 or C30



Motorised switch as an option on Non Critical Loads

- SIRCO MOT AT

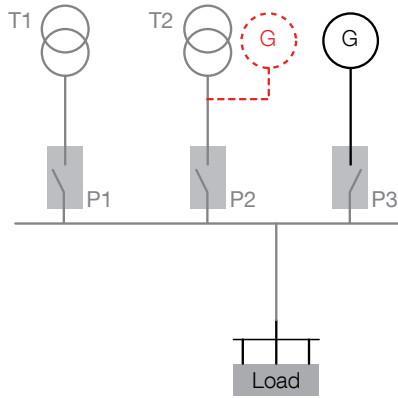


Transfer Switching Equipment (TSE) in LV installations

Transfer between 3 sources - 1 busbar

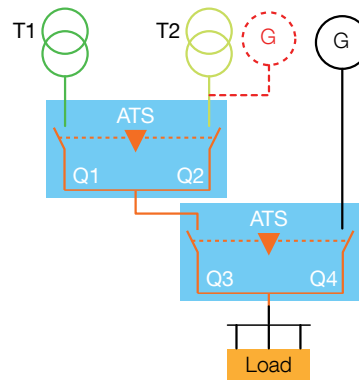
$$S1 \text{ (kVA)} = S2 \text{ (kVA)} = SG \text{ (kVA)}$$

Typical solution



COMUT 058 A FR

SOCOMEK solution



COMUT 058 A FR

Truth table

Standard solution

T1	T2	G	Typical solution	SOCOMEK	Load
0	0	0	X:	X:	Not supplied
1	0	0	P1	Q1 + Q3	Supplied
0	1	0	P2	Q2 + Q3	Supplied
0	0	1	P3	Q4	Supplied

Advantages of the Socomec solution

Operation

- Only 2 emergency handles instead of 3
- Secured padlocking system

Implementation

- Compact design
- Plug and Play
- Mechanical and electrical interlocking are built-in

SOCOMEK products

Mains/Mains - Mains/Genset:

- ATyS or ATyS M, models t, g or p



ATyS_MP 001 B - ATyS-1 001 A

Genset/Genset

- ATyS d M, ATyS r or ATyS d, ATyS S + C40



ATyS_MD 001 B - ATyS 836 A
ATyS 448 B

- ATyS d M, ATyS r or ATyS d, ATyS S + C20 or C30



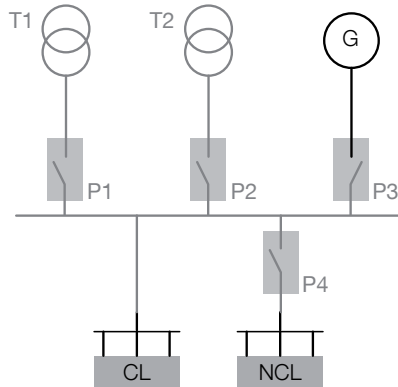
ATyS_MD 001 B - ATyS 836 A
ATyS 448 B

Transfer Switching Equipment (TSE) in LV installations

Transfer between 3 sources - 2 busbars

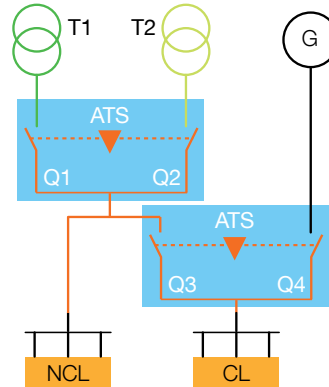
First type of architecture: $S1 \text{ (kVA)} = S2 \text{ (kVA)} > SG \text{ (kVA)}$

Typical solution



COMJUT 057 A

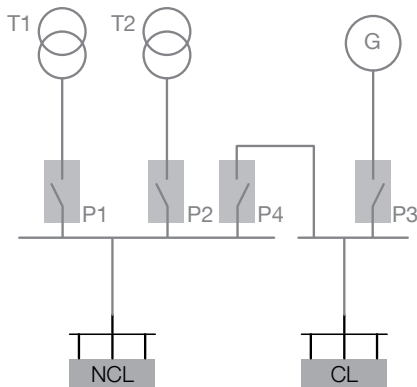
SOCOMEK solution



COMJUT 058 A

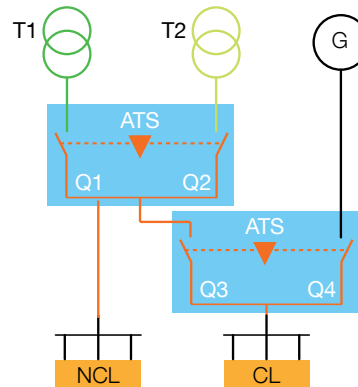
Second type of architecture: $S1 \text{ (kVA)} = S2 \text{ (kVA)} > SG \text{ (kVA)}$

Typical solution



COMJUT 061 A

SOCOMEK solution



COMJUT 062 A

Truth table

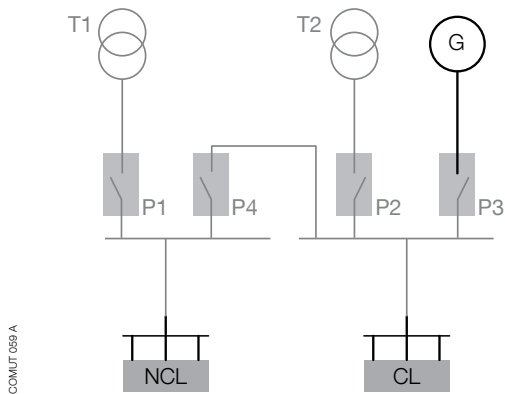
T1	T2	G	Typical solution	SOCOMEK	CL	NCL
0	0	0	X:	X:	Not supplied	Not supplied
1	0	0	P1 + P4	Q1 + Q3	Supplied	Supplied
0	1	0	P2 + P4	Q2 + Q3	Supplied	Supplied
0	0	1	P3	Q4	Supplied	Not supplied

Transfer Switching Equipment (TSE) in LV installations

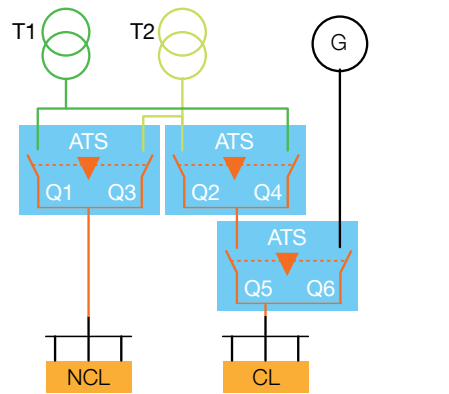
Transfer between 3 sources - 2 busbars (continued)

Third type of architecture: $S1 \text{ (kVA)} = S2 \text{ (kVA)} > SG \text{ (kVA)}$

Typical solution



SOCOMEK solution

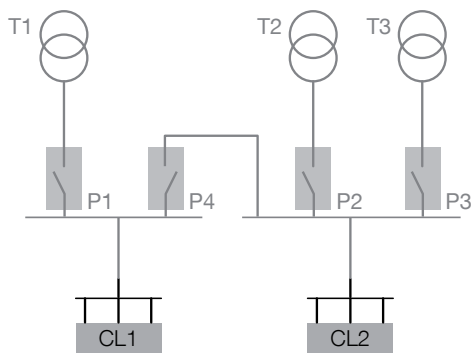


Truth table

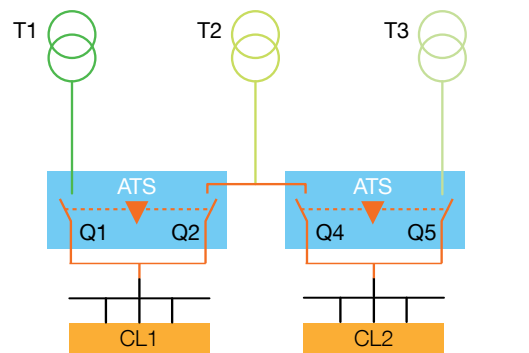
T1	T2	G	Typical solution	SOCOMEK	CL	NCL
0	0	0	X:	X:	Not supplied	Not supplied
1	0	0	P1 + P4	Q1 + Q4 + Q5	Supplied	Supplied
0	1	0	P2 + P4	Q3 + Q2 + Q5	Supplied	Supplied
0	0	1	P3	Q6	Supplied	Not supplied
1	1	0	P1 + P2	Q1 + Q2 + Q5	Supplied	Supplied

Fourth type of architecture: $S2 \text{ (kVA)} > S1 \text{ (kVA)}$ et $S2 \text{ (kVA)} > S3 \text{ (kVA)}$

Typical solution



SOCOMEK solution



Truth table

T1	T2	T3	Typical solution	SOCOMEK	CL1	CL2
0	0	0	X:	X:	Not supplied	Not supplied
1	0	0	P1	Q1	Supplied	Not supplied
0	1	0	P2 + P4	Q2 + Q4	Supplied	Supplied
0	0	1	P3	Q5	Not supplied	Supplied
1	0	1	P1 + P3	Q5 + Q1	Supplied	Supplied

Transfer Switching Equipment (TSE) in LV installations

Transfer between 3 sources - 2 busbars (continued)

Advantages of the Socomec solution

Operation

- Only 2 or 3 emergency handles instead of 4 or 5
- A motorized switch can be added to the Non Critical Loads for optional disconnection
- Secured padlocking system

Implementation

- Compact design
- Plug and Play
- Mechanical and electrical interlocking are built-in

SOCOMEc products

Mains/Mains - Mains/Genset:

- ATyS or ATyS M, models t, g or p



Motorised switch as an option on Non Critical Loads

- SIRCO MOT AT



- ATyS d M, ATyS r or ATyS d, ATyS S + C20 or C30



Transfer Switching Equipment (TSE) in LV installations

Automatic transfer

Introduction

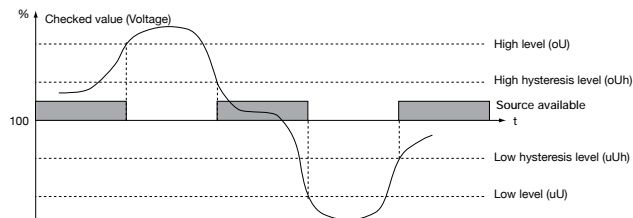
The automatic transfer, commonly known as the "ATS Controller", can be either external to the transfer switching equipment, or integrated in the product. The main functions of these controllers, are listed below.

Monitoring of voltages and frequency

Usually, controllers include at least the monitoring of voltages and frequencies.

Monitoring these values enable:

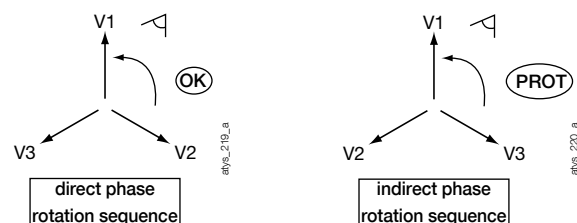
- A problem with the source to be detected if the voltage or frequency are outside of the limits (whether these are set by the controller or adjusted to customer requirements). The source will then be declared unavailable, and the sequence for transferring to the secondary source will be started.
- Validate the presence of the backup source to allow the transfer.



High and low thresholds with time delay define the stable power supply range of the load. High and low hysteresis levels are generally associated with a new stable condition.

Monitoring of the phase rotation sequence

For certain applications, particularly rotating machine loads on three-phase networks, it may be recommended that the direction of phase rotation is monitored. This monitoring will ensure that the direction of rotation of the two sources is consistent. If not consistent, the source will not be declared available.

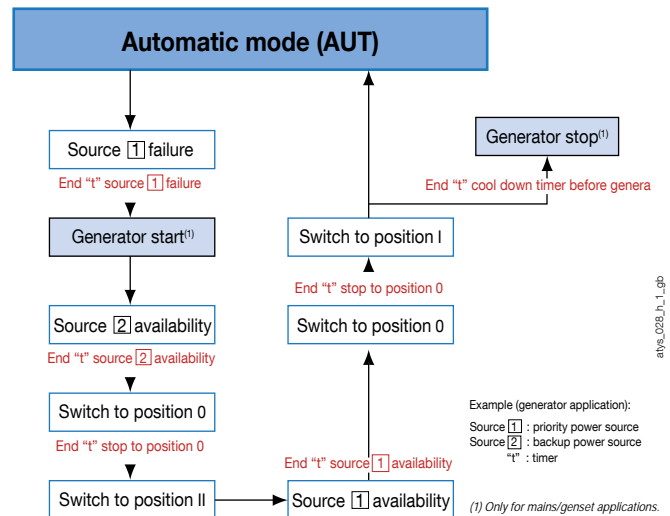


Transfer Switching Equipment (TSE) in LV installations

Automatic transfer cycles

Loss and return of the priority source

- Starting the cycle: the product is in the stable position on the priority source, and the latter is present.
- If the priority source has disappeared (end of the time delay):
 - If the secondary source is a transformer, the availability of this source is verified, then the transfer is initiated.
 - If the secondary source is a generator, the generator starting order is sent before its availability is verified. Then the transfer is initiated.
- If the priority source returns, the controller checks whether it is actually deemed to be present before initiating the transfer back to it.
- If a generator is used as the secondary source, the generator starting contact is only stopped after a time delay has elapsed. This time delay starts counting after the product returns to the priority position. This allows for an a slow cooling down of the genset.

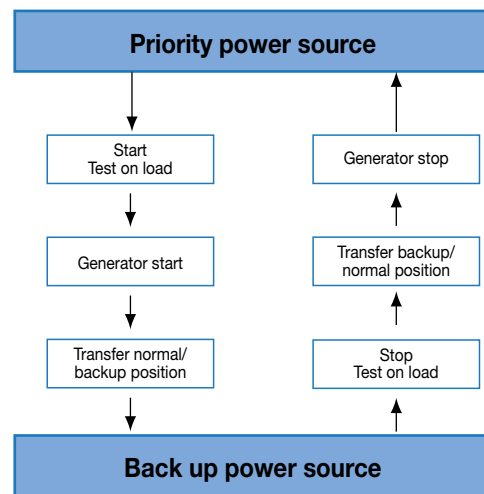


Test cycles

Test On Load

Many standards and circulars now require periodic tests to be carried out on electrical installations and equipment. Healthcare establishments are required by circular DHOS/E4 to have monthly tests of the normal and backup installations carried out and standard IEC 60364-7-710 requires annual operating tests of the changeover switches (standard dedicated to "Electrical installations of buildings - Requirements for special installations or locations - Medical locations").

With the ATS automated control, it is possible to run a test cycle on the transfer switching equipment. This test, commonly known as the test on load, simulates the loss of the priority network, starts the backup source and initiates the transfer sequence.



Test Off Load

It is also possible to run a test cycle on the generator. This test, commonly known as the test off load, consists of sending a starting order to the generator, without switching the load.

Engine Exerciser (Programmed periodic startup)

This function is used to programme on load or off load tests to a scheduled frequency (daily, monthly, annually), typically for scheduled maintenance. In addition, it is common that the test is activated periodically, by communication or via an external contact.

Transfer Switching Equipment (TSE) in LV installations

Specific applications

Automatic transfer inhibition

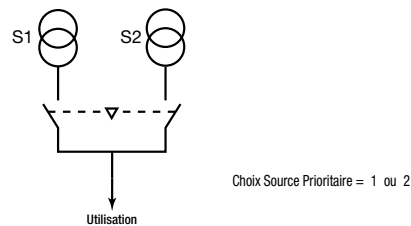
During normal operation, the controller takes over the product and manages the automation. In certain cases, (for example if a protection is triggered off upstream), it may be necessary to remotely intervene and prevent automatic operation. This is possible by activating a programmable contact on the ATS controller that is dedicated to the inhibition function to pause the automation.

Changing to priority Source

The transfer applications between two transformers may require periodic reallocation of the priority source. It is preferential in this case to try and preserve the same lifetime on both transformers and to determine the preferred source, based on the power consumption of the load together with the power capacity of the source.

This change in priority may be carried out locally via the product interface, remotely via a potential-free contact or via the communication.

Specific time and cycle sequences remain the same. Only the position considered as having priority is modified.

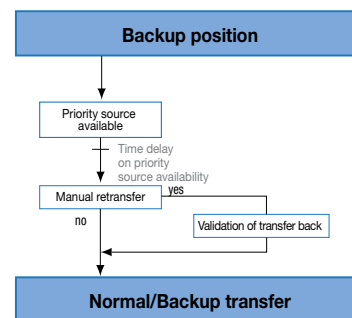


Changing to priority Source

Controlled transfer

Following a return to the priority source, the transfer back to it from the backup source may be initiated automatically or manually.

The latter option enables controlled switching of the load. Therefore, the transfer remains blocked (load supplied by the backup source) whilst awaiting the external transfer order. The automatic sequence remains operational and initiates the transfer in case of loss of the emergency source.



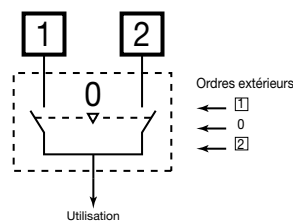
Controlled transfer

External Control of the positions

The Transfer system allows autonomous operation of the system. However, position of the switch can be activated remotely or via user handling. This control mode externally overrides the switch positions (I, 0, II), whilst taking over control of automatic operation.

Return to position 0

In certain cases, depending on the type of switching equipment used, the controller may suggest a function returning to position 0 with no power supply (tripping). This function is used to protect the load in the event of an unstable source and to prevent on-load starting, if there are concerns about the generator.



External Control of the positions

Load shedding

Normal and emergency supplies feeding the load are generally of a different type: Mains (transformer) or Generator (genset).

Operation in emergency mode can authorise a partial feed back of connected loads (strategic loads only) and enable the backup source to have a lower power capacity than the nominal capacity of the Normal source.

A specific contact can be closed just before transferring the load to the emergency source, to enable previous load shedding. This contact is open after re-transfer from the backup source to the Normal source. The time delay from contact closure to transfer (load shedding timer) can be modified.

Transfer Switching Equipment (TSE) in LV installations

IEC 60947-6-1 standard

IEC 60947-6-1 International standard "Low-voltage switchgear and controlgear - Multiple function equipment - Transfer switching equipment" is dedicated to transfer switches.

This standard applies to all open transition transfer switching equipment (TSE) for power systems rated up to 1 000 Vac. or 1 500 Vdc. It covers:

- Manually operated transfer switching equipment (MTSE),
- Remotely operated transfer switching equipment (RTSE),
- Automatic transfer switching equipment (ATSE).

Transfer switching equipment is classified according to:

- The method of controlling the transfer: MTSE – RTSE – ATSE
- Their short-circuit capability
 - Class PC: TSE that is capable of making and intended for withstanding short-circuit currents with and without a SCPD. Not intended for breaking short-circuit currents. (Contactors can only be used in class PC if they fulfill Class PC test req. (lcm ; lcw).
 - Class CB: TSE that is capable of making withstanding and breaking short-circuit currents. Intended for breaking short-circuit currents.
 - Class CC: TSE that is capable of making and withstanding short-circuit currents with a SCPD only. Not intended for breaking short-circuit currents.

The standard also defines some utilisation categories for TSE in compliance with the application needs:

Nature of current	Utilisation category		Typical applications
	Operation A	Operation B	
Alternating current	AC-31A	AC-31B	Non-inductive or slightly inductive loads
	AC-32A	AC-32B	Switching of mixed resistive and inductive loads, including moderate overloads
	AC-33A	AC-33B	Motor loads or mixed loads including motors, resistive loads and up to 30% of incandescent lamp loads

TSE assigned any utilisation category shall comply with the rated making and breaking capacity and the electrical and mechanical operational performance requirements corresponding to the assigned utilisation.

The designation of utilisation categories is completed by the suffix A or B, according to the number of operations required by the application.

To sum up:

- This standard is dedicated to transfer switching equipment and therefore guarantees that the products are «designed and tested» specifically for source changeover applications.
- Transfer switching equipment may come from different technologies that fall under their specific IEC standards:
 - Circuit breakers: IEC 60947-2
 - Switch disconnects: IEC 60947-3
 - Contactor switch: IEC 60947-4-1
- The product markings on the sticker must make reference to the IEC standard for TSE: IEC 60947-6-1.

ATyS d M 40A			
Ref.: 92234004			
Power supply: 230Va.c.			
CE			
PRODUCT PATENTED www.socomec.com		IEC 60947-6-1	IEC 60947-3
	Ue	415V	415V
	Fn	50/60Hz	50/60Hz
	Class	PC	PC
le 40A	AC-33B	AC-23A	AC-33B
le 40A	AC-32A		AC-32A
Uimp power	6kV		6kV
Uimp control	4kV		4kV
Icc prospective (fuse 40A gG)	50kA		50kA

atys-dm_003_a

References list

References	Pages	References	Pages	References	Pages	References	Pages
11xx xxxx	18, 19	1509 40xx	18, 22, 61, 63, 66, 80	3954 406x	98	9509 5xxx	86
1309 0001	35, 36, 39, 46, 49	1509 41xx	18, 22, 61, 63, 66, 80	3954 41xx	98	9513 4xxx	51
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Impression : GRASPO CZ, a.s. Pod Šternberkem 324
763 02 Zlín – Czech Republic
IČ: 255 86 092
Bureau France : Nord Est Offset



Socomec worldwide

IN EUROPE

BELGIUM

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +32 2 340 02 30
Fax +32 2 346 28 99
info.be@socomec.com

FRANCE

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +33 1 45 14 63 00
Fax +33 1 48 67 31 12
dcm.ups.fr@socomec.com

GERMANY

Critical Power

Tel. +49 621 71 68 40
Fax +49 621 71 68 444
info.ups.de@socomec.com

Power Control & Safety / Energy Efficiency

Tel. +49 7243 65292 0
Fax +49 7243 65292 13
info.scp.de@socomec.com

ITALY

Critical Power

Tel. +39 02 98 242 942
Fax +39 02 98 240 723
info.ups.it@socomec.com

Power Control & Safety / Energy Efficiency

Tel. +39 02 98 49 821
Fax +39 02 98 24 33 10
info.scp.it@socomec.com

NETHERLANDS

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +31 30 760 0900
Fax +31 30 637 2166
info.nl@socomec.com

POLAND

Critical Power

Tel. +48 22 825 73 60
Fax. +48 22 825 73 70
info.ups.pl@socomec.com

Power Control & Safety / Energy Efficiency

Tel. +48 91 442 64 11
Fax +48 91 442 64 19
info.scp.pl@socomec.com

PORTUGAL

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +351 261 812 599
Fax +351 261 812 570
info.ups.pt@socomec.com

ROMANIA

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +40 21 319 36 88
Fax +40 21 319 36 89
info.ro@socomec.com

SERBIA

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +381 11 40 43 246
Fax +381 11 40 43 245
info.rs@socomec.com

SLOVENIA

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +386 1 5807 860
Fax +386 1 561 11 73
info.si@socomec.com

SPAIN

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +34 93 540 75 75
Fax +34 93 540 75 76
info.es@socomec.com

SWITZERLAND

Critical Power

Tel. +41 44 745 40 80
Fax +41 44 745 40 85
info@socomec.ch

TURKEY

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +90 216 540 71 20-21-22
Fax +90 216 540 71 27
info.tr@socomec.com

UNITED KINGDOM

Critical Power

Tel. +44 1285 863 300
Fax +44 1285 862 304
info.uk@socomec.com

Power Control & Safety / Energy Efficiency

Tel. +44 1462 440 033
Fax +44 1462 431 143
info.uk@socomec.com

IN ASIA PACIFIC

AUSTRALIA

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +61 2 9325 3900
Fax +61 2 9888 9544
info.ups.au@socomec.com

CHINA

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +86 21 52 98 95 55
Fax +86 21 62 28 34 68
info.cn@socomec.com

INDIA

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +91 44 39215400
Fax +91 44 39215450 & 51
info.in@socomec.com

SINGAPORE

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +65 6506 7600
Fax +65 64 58 7377
info.sg@socomec.com

THAILAND

Critical Power

Tel. +66 2 941 1644 7
Fax +66 2 941 1650
info.ups.th@socomec.com

IN MIDDLE EAST

UNITED ARAB EMIRATES

Critical Power / Power Control & Safety / Energy Efficiency

Tel. +971 4 29 98 441
Fax +971 4 29 98 449
info.ae@socomec.com

IN AMERICA

USA, CANADA & MEXICO

Power Control & Safety / Energy Efficiency

Tel. +1 617 245 0447
Fax +1 617 245 0437
info.us@socomec.com

OTHER COUNTRIES

NORTH AFRICA

Algeria / Morocco / Tunisia
info.naf@socomec.com

AFRICA

Other countries
info.africa@socomec.com

SOUTH EUROPE

Cyprus / Greece / Israel / Malta
info.se@socomec.com

SOUTH AMERICA

Tel. +34 93 540 75 75
info.es@socomec.com

MORE DETAILS

www.socomec.com/worldwide

HEAD OFFICE

SOCOMECS GROUP

SAS SOCOMECS capital 10 686 000 €
R.C.S. Strasbourg B 548 500 149
B.P. 60010 - 1, rue de Westhouse
F-67235 Benfeld Cedex - FRANCE
Tel. +33 3 88 57 41 41
Fax +33 3 88 74 08 00
info.scp.isd@socomec.com

www.socomec.com

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