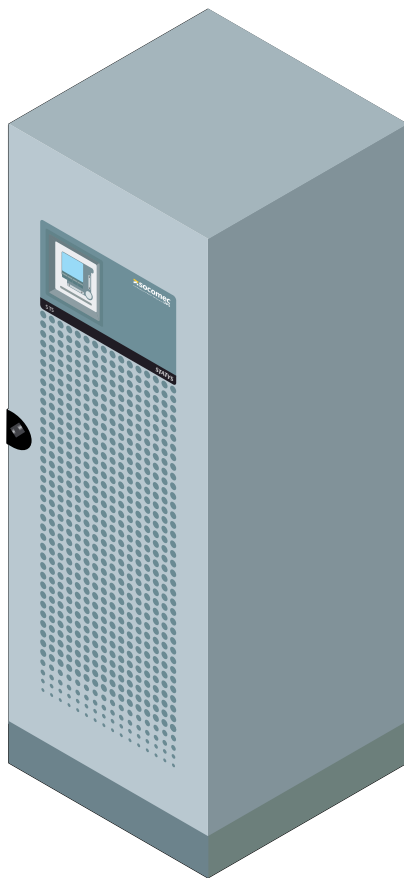


STATYS

Static Transfer System

PRODUCT DESCRIPTION



Энергетические
и телекоммуникационные
системы

socomec
Innovative Power Solutions **UPS**



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GLOSSARY

STS : Static Transfer System

S1 : Source 1 supplying input 1

S2 : Source 2 supplying input 2

SCR : Silicon Controlled Rectifier

UPS: Uninterruptible Power System

Preferred source (PS): source used as normal power supply to the load, considered as the normal power supply source by the operator.

Alternate source (AS): source used as alternative power supply to the load when the preferred source fails, is out of tolerance or is switched off for maintenance.

1. Secure power for guaranteed business continuity

Mission-critical applications require a highly available power supply. The SOCOMEC UPS Static Transfer System (STS) solution provides the highest availability values of permanent power supply, essential for service continuity.

STATYS is a fully automatic 'intelligent' and stand-alone operating system. Its design means that it can be easily configured for redundant "dual power supply" architecture providing a permanent, high availability power supply for all your sensitive or mission-critical applications.

STATYS provides optimal protection against:

- Main power source failure;
- Failures in the upstream power distribution system;
- Failures caused by faulty equipment supplied by the same source;
- Operator errors.

STS user benefits:

- Provides redundant power supply to mission critical loads;
- Increases the power supply availability by choosing the best quality power supply;
- Prevents fault propagation;
- Optimise the use of the power sources during load transients;
- Facilitates electrical infrastructure maintenance without application shutdown;
- Allows easy extension and infrastructure design of the architecture.

In addition STATYS ensures the following benefits:

- Clear and easy to use human interface;
- Full internal redundancy for maximum fault tolerance;
- Minimal heat dissipation;
- Fast and easy front access to every internal component;
- Deep and easy behaviour configuration;
- Independent source management;
- Wide range of communication protocols management;
- High short circuit capability;
- Full compliance to the latest standards and CBEMA / ITIC recommendations for critical loads.

1.1. Satisfies even the most demanding Critical Loads requirements

IT Data Centres, banks, insurance companies, internet service providers, airport security systems... all need round-the-clock energy supply, 7 days a week.

STATYS, the solution for building high resiliency architecture for:

- IT Data processing systems;
- Data servers;
- Critical medical applications;
- Telecom systems;
- Industrial processes monitoring systems;
- Security systems.

1.2. Flexibility and adaptability to in-field conditions or load requirements

STATYS has been carefully designed to provide:

- Redundancy from two alternative and independent power sources,
- Instantaneous manual and automatic transfer,
- Selection of preferred source by the operator,
- Programmable re-transfer after an automatic transfer,
- Programmable automatic restart,
- All pole switching possibilities to keep source fully separated providing compatibility with all types of earthing systems,
- Easy operating thanks to a comprehensive control panel with mimic diagram and display,
- Fast output fault current sensing, preventing the transfer of the faulty equipment to the opposite circuit. Disturbances such as short-circuits on any other equipment can be avoided.,
- Double interlocked maintenance bypass,
- Comprehensive communication facility, SNMP, JBUS/MODBUS, HTTP.
- Ethernet connection to a LAN connection for remote monitoring by the customer (MODBUS TCP),
- Tele-maintenance connection.

1.3. Experience & know-how

As a leading manufacturer with more than 25 years of specialist experience, Socomec has installed thousand of STS systems (LTM range) in all sectors of the economy that have demonstrated their very reliability.



High reliability – internal redundant design



Flexibility – adapts to various type of applications



Saves up to 40% of valuable space thanks to reduced footprint



Operational security and ease-of-use



Remote data transfer in real time from any location

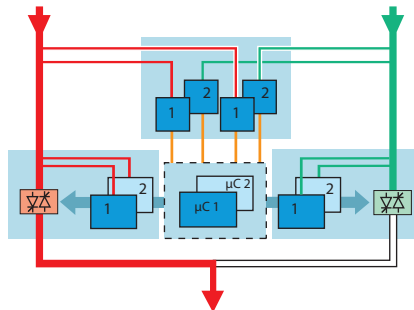


Full support in design, consultancy and maintenance services

1.4. Highly reliable – internal redundant design

STATYS increases the overall availability of the system during abnormal events and programmed maintenance. It allows plant segmentation and intelligent fault management.

Internal redundancy architecture (**STATYS Pack**)



1.4.1. Redundant microprocessor

The “smart technology” built into the **STATYS** equipment must be redundant as much as all the other components. For the highest availability **STATYS** integrates a redundant microprocessor and so the system will not interrupt the power supply even in case of total microprocessor outage.

1.4.2. Dual redundant power supplies

STATYS has a redundant electronic power supply connected to each source that supplies the control boards.

A second redundant power supply means that the **STATYS** system can tolerate one power supply control board malfunction. This also enables the internal redundancy to be maintained even with only one input source.

1.4.3. Robust and independent SCR control

STATYS integrates individual, separate and autonomous control boards on each SCR path.

STATYS offers the possibility to have a redundant power supply on these local SCR control boards: Thus redundancy increases the fault tolerance of each SCR path.

Physical separation between source 1 and source 2 SCRs prevents mutual disturbance.

1.4.4. Redundant cooling systems

Even the best electronics and algorithms are useless if not properly cooled. **STATYS** has been designed to be fault tolerant in every condition and that is why the cooling system is redundant and continuously monitored. Every possible malfunction is promptly detected and the user alerted.

1.4.5. SCR real-time fault sensing (individual control of each SCR)

STATYS automatically detects a SCR control board or a SCR component fault.

When a malfunction is detected, an alarm is immediately activated and the system secures the installation.

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STATYS detects each SCR fault condition:

- **On the live conducting circuit**
 - In case of SCR short-circuit: the transfer is inhibited in order not to connect both sources across.
 - In case of SCR open circuit: immediate load transfer to the other source with retransfer inhibition.
- **On the passive circuit:**
 - In case of SCR short-circuit: immediate transfer to the faulted line and retransfer inhibition to limit the paralleling of the sources.
 - In case of SCR open circuit: allows the passive source availability to be controlled.

The upstream protection tripping can be configured. If this function is enabled, the upstream protection trips automatically; these protection devices have to be provided with shunt trip coils.

1.4.6. Main function separation

The main subsystems are physically divided to avoid any fault propagation , as well for the electrotechnic components as the electronic.

1.4.7. Robust internal communication bus

STATYS has been designed for every application. The CAN-BUS internal communication protocol ensures the highest immunity to EMC pollution.

1.4.8. Continuous source and components monitoring.

Reliability of measurement values is a key point, that is why **STATYS** continuously monitors the 3 connection points: Source 1, Source 2 and output, both neutral and phases. Together with this internal logic control, these three measurements also allow for redundant measurements on the supplying source. One measurement system outage would generate an alarm but does not degrade the primary functions of the STS.

STATYS continuously checks all the electrical parameters such as voltage, slew rate, frequency and many others.

All electrical parameters are compared continuously to programmable thresholds that have been set to the best values (based on SOCOMEC's long experience).

All the internal measurement channels are carefully monitored to detect any deviation and failure to discriminate real outage of input voltage from measurement defects.

A failure of a measurement system would create an alarm signal but would not degrade the primary functions of the STS.

Detection of lost input neutral: this function is used to proactively detect a loss of the neutral in the upstream distribution of the non-conducting three-phase source to ensure its availability in case of transfer.

1.4.9. 24/7/365 real time remote monitoring

Fully compatible with T.SERVICES, the SOCOMEC UPS remote monitoring system. The advantages are: real time notification to maintenance managers and SOCOMEC technician (via email or GSM) of periodical electrical energy usage reports for electrical plant optimization.

1.5. Flexibility – Adapts to various types of applications

STATYS is available in single and three-phase versions, for integration on rack, cabinet or OEM. The three-phase range is suitable for all types of applications and power supply systems. It is available in:

- 3 wires arrangement without neutral
 - No neutral management, with reduced cable costs
 - Local zoning of the applications by using isolation transformers
- 4 wires arrangement, 3-phase with or without fast neutral pole switching (4-pole switching)

1.6. Operational security & ease-of-use

Statys is equipped with a user-friendly control panel providing secured operating controls. Rapid log file access reduces MTBF and MTTR respectively.

1.7. Saves up to 40% of valuable space thanks to reduced footprint

The compact design of **STATYS** takes up much less valuable space and provides easy access for servicing

- small footprint;
- adjacent or back-to-back mounting;
- front access for simplifying maintenance procedures;
- compact hot swap 19" Rack system;
- suitable for compact PDU design with Integrable STS Chassis.

1.8. Remote data transfer in real time from any location

The advanced communication capabilities make **STATYS** integrable with the existing infrastructure for monitoring and controlling in the same way as the IT peripherals.

STATYS fulfil prerequisites for:

- LAN connectivity and customer's Building Management System (BMS) integration;
- Remote connection for monitoring and maintenance;
- Plug and play modular communication ComSlot interfaces for flexible upgrading;
- Programmable output dry contacts and isolated inputs;
- Serial communication ports.

2. General operating principle

STATYS is a Static Transfer System (STS) which supplies applications from two fully independent AC power sources. It provides manual and full automatic seamless transfer to most sensitive equipment or critical applications.

The power source that normally supplies the application is called the preferred source and the other designated as the Alternate source. The user can select the preferred source that normally supplies the critical load in normal conditions.

STATYS senses any output failure and ensures an automatic transfer to the other power source without disturbing the load.

The switching operation is extremely fast and secured, whether in automatic or manual mode. The switching is an "open transition transfer", called "break before make" transfer. Such type of transfer prevents any risk of interference or transient disturbance for your power sources during the switching. The 2 sources are never cross connected together.

The equipment is flexible and can be easily adapted to all environments and operating requirements.

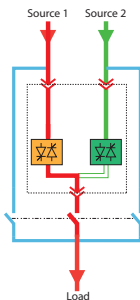
STATYS is available:

- in single-phase in 19" rack: 32-63 A
- in three-phase in different models:
 - 19" rack : 63-100 A
 - Free standing cabinet: 200-300-400-600-800-1200-1500-1800 A
 - Integrable OEM chassis: 200-300-400-600-800-1200-1500-1800 A*

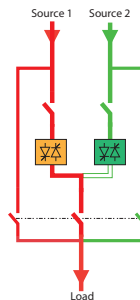
*: over 1800 A: contact us.

STATYS principle diagram

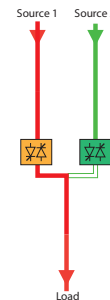
19" rack mounting



free standing cabinet



OEM chassis



- The 19" rack is a system with a hot-swappable electronic power module, the output switch and 2 maintenance bypass switches.
- The cabinet version is a free standing integration including input and output switches as well as 2 maintenance bypass switches.
- The Integrable OEM chassis version is available without switchgears and panels dedicated to be built in a PDU or electrical distribution cabinet.

2.1. Main functions

The input sources can either be:

- Synchronised: the 2 sources are within the fixed tolerances,
- Permanently not synchronised: there is a permanent phase shift or a large frequency difference,
- Rolling sources: the two power sources are no longer synchronous and their phases slowly diverge.

2.2. Manual and automatic modes

STATYS operates either in manual or automatic mode:

• Manual mode

The operator is able to transfer the load manually by using:

- the control panel on the front of the unit,
- the Building Management System controlled by dry contact or JBUS/MODBUS,

The manual transfer is secured and seamless without any disturbances for your applications. It is possible to protect access by password.

• Automatic mode

STATYS permanently monitors the output power supply quality and the availability of both sources (voltage, frequency, phase shift, slew rate variation). An automatic transfer is carried out if the power supply drops or is out of tolerances (in average or instantaneous value), without any load shutdown.

This transfer is fully transparent, without any disturbances for the most sensitive equipment and appropriate to load expectations.

2.2.1. Selecting the preferred source

The preferred source is the one that is considered to be the normal supply for the load in normal condition; the other is the Alternate source.

The selection of the preferred source is easy for the operator. Memorised and indicated on the mimic panel, it enables a return to the initial operating conditions after manual or automatic transfers (with auto-retransfer enabled).

If preferred source selection is modified by the operator via the control panel, the load is automatically transferred onto the new selected preferred source after a time delay.

2.2.2. Automatic re-transfer selection

After an automatic transfer to the Alternate source, **STATYS** automatically re-transfers the load back (after a programmable time delay and in the best conditions) when the preferred source conditions are restored.

According to specific operating conditions, the automatic re-transfer can be disabled via the user settings menu. In such case the transfer will be performed manually by the operator.

2.2.3. Symmetrical load management

The operation and power quality management is similar on both sides (Preferred and Alternate source): the system always chooses the best conditions for the load, which is prior to the preferred source selection.

2.2.4. "In Flight" transfer mode

The "In flight" transfer mode allows the operator to perform a synchronous transfer from the control panel when the two power sources are no longer synchronous and their phases slowly diverge (rolling sources).

This function is also used during an automatic re-transfer in order to switch back to the preferred source in the best conditions.

STATYS performs the transfer exactly at the moment when the sources phase shift is within the preset tolerance window (adjustable).

This "In Flight" Transfer is especially useful when sources are no longer synchronised and when an asynchronous transfer is not allowed by the load.

2.2.5. Transfers: switching mode

Transfers can be either synchronous or asynchronous depending on the state of synchronism of the sources.

The switching operation is extremely fast and secured. The switching is a “break before make” transfer. The two sources are never cross connected, thus avoiding any risk of overlapping of your power sources during the transfer.

2.2.6. Synchronous & Asynchronous switching mode

Most data processing equipment, servers, PCs, as well as some industrial PLCs etc... tolerate important phase shift conditions during switching.

Therefore by default the transfer is fast and set in synchronous & asynchronous-mode acceptance.

2.2.7. Exclusive synchronous transfer mode

For equipment sensitive to phase shift such as motors, it is possible to set the “exclusive synchronous” transfer, so if the phase shift exceeds the preset tolerance window, the transfer is inhibited and the automatic switching onto the other source cannot be performed. An alarm is activated.

The alarm will be reset automatically once the sources recover the normal phase lock conditions.

2.2.8. Transient current limitation switching mode for transformer

This function limits the downstream transient current occurring on asynchronous switching with downstream transformers. The system select the best transfer sequencing to reduce transient inrush current of the transformer for preventing protection tripping.

2.2.9. Calibrated transfer time

For specific applications with permanent non-synch sources, the transfer time can be adjustable from a few milliseconds to several seconds in order to be compliant with loads which do not accept asynchronous transfers. This transfer is available on demand.

2.3. Other functions

2.3.1. Output load discrimination (Short-circuit)

STATYS is fitted with a high-speed current sensing device for permanent output current control.

In case of a load failure, the transfer function is instantaneously inhibited. This feature prevents any short-circuit from being transferred onto the other source and preventing any disturbance on the other power source.

This function is essential to ensure discrimination between faulty equipment and normal inrush current.

2.3.2. Overload management

STATYS has a very high overload capacity able to cope with load failures with a wide safety margin.

In case of overload the conducting source remains in conduction up to the 50% of the single SCR capability. The other source will bear the overload for its full capability. This allows an operating time increase of 1.5 times.

The transfer can also be inhibited depending on the customer's needs (programmable).

STATYS offers the possibility to adjust its nominal current to the distribution sizing in order to manage and alarm the overload considering the overall installation.

2.3.3. Automatic restart

After a shutdown due to an absence of both sources, **STATYS** ensure an automatic restart on the first available source. If the Alternate source is the first source to return within admissible tolerance, the system will automatically re-transfer to the preferred source as soon as it is available and within tolerances.

In order to limit the inrush current at the input sources, a sequential starting of the **STATYS** units is possible, meaning that each **STATYS** unit start up can be delayed.

NB: This function can be set depending on operating requirements.

2.3.4. Transfer disabling

Used for special particular needs with several STS, external transfer disabling is available through serial link, Ethernet or dry contacts. This control blocks the transfer to limit additional load step to the other source which could generate undesired conditions (overloads, imminent shutdown, etc...).

2.3.5. Backfeed protection

To be compliant with the standard IEC 62310-1, **STATYS** is fitted with a “backfeed” protection system to protect against possible voltage backfeed to one source. This function opens the input circuit in case of backfeed.

The upstream protection devices have to be fitted with a remote tripping system which has to be connected to the STS.

The backfeed isolating devices are integrated for **STATYS** single phase.

2.3.6. “Load shutdown” function

This function allows a full control of the output load shutdown. It is protected against operator error by password.

It can be directly activated using either the control panel on **STATYS** or via remote connection.

2.3.7. Specific operating conditions (optional)

STATYS has an autonomous operating function but it can, on request, take into account information coming from the upstream sources in order to supply the critical load in the best conditions.

it is also possible to force the transfer onto the other source by using an external control signal (dry contact). An audible beep is given to indicate that the action has been completed successfully

If there is a critical state of the source (an imminent shutdown, an overload or a UPS functioning on battery), it is possible to relieve it by transferring to another source.

3. User-friendly and secured operation

3.1. Control panel and display

STATYS has a front access control panel allowing easy, safe and secured functioning. The mimic panel provides comprehensive information like status, alarms, event log and measurements.

STATYS display shows:

- Source 1 and 2 input status,
- Sources Synchronisation status,
- Preferred source selection,
- Output supplied by source 1 or 2,
- Transfer impossible,
- Operation on maintenance bypass 1 or 2,
- General alarm.

LCD Mimic Panel



Colour Graphic display with navigator & functions keys



It also displays all useful input/output measurements: voltages and frequency, the sources phase shift, load rate and current, crest factor, power factor and power (kW / kVA). Should abnormal conditions arise, the display screen provides the most important information.

The operator also has access to the **STATYS** controls and user settings which can be protected by two dedicated passwords.

The event log records information for detailed operating analysis and is available either on graphic display rather than via the BMS or the maintenance PC.

The Colour Graphic Display enhances data and status readability thanks to the advanced interfacing capabilities. The coloured display clearly guides the operator in every action by means of intuitive icons increasing drastically the MTBF.

3.2. Communication interfaces facilities

Interfaces and communication software allow easier on-site equipment management.

STATYS is provided with:

- 1 available free slot for 19" rack single phase version,
- 2 available free slots for 19" rack three-phase version,
- 4 available free slots for free standing cabinet and Integrable OEM Chassis version.

MODBUS TCP connection via Ethernet

SNMP connection via Ethernet

Email (on alarm activation)

WEB page (http)

2 Inputs + ESD (in standard)

General alarm + Preventive alarm dry contacts

3.3. "ADC interface" with configurable dry contacts

This interface provides information reported via dry contacts to Building Management Systems (BMS). It comprises 3 inputs (isolated dry contacts) and 4 outputs (NO/NC relays) that are completely programmable (possible to choose between all available status or alarm information).

Alarms configuration: consecutive detection, output short-circuit detection, transfer impossible, imminent shutdown, overload, power path (1 or 2) ...

Status configuration: source 1 or 2, synchronisation, maintenance bypass, operating on preferred source, on Alternate source.

It is also possible to force the transfer onto the other source by using an external control signal (dry contact). An audible "beep" is given to indicate that the action has been completed successfully.

3.4. RS485 Serial Link

One RS 485 serial port with terminal connections for easier on-site connection can be added in a slot.

It allows communication via BMS under JBUS/MODBUS, PROFIBUS* or DEVICENET* protocol. (*cabinet and Integrable version)

3.5. Maintainability

STATYS has been designed for an easy and fast replacement of the components. Despite compactness, all components are front accessible and allow reduced MTTR (Mean Time To Repair).

3.5.1. STS Maintenance

STATYS is fitted with a double maintenance bypass allowing direct supply to the load either from source 1 or source 2, without any interruption of your mission-critical application supply.

This function is fully secured. The associated protection switchgear devices are provided with mechanical and electronic interlocking to prevent any human operator errors.

If the wrong manual by-pass is closed, **STATYS** will automatically secure the installation by transferring the load.

Electro-mechanical dummy-proof protection controlled by the electronics can be provided on request.

If the load is supplied by the STS on source 1, the manual bypass is mechanically locked so that source 2 cannot be forced.

If the load is supplied by the STS on source 2, the manual bypass is mechanically locked so that source 1 cannot be forced.

The switching devices are not included in the Integrable OEM Chassis version. It is possible to connect the open/closed contact of the external devices to **STATYS** in order to manage them as if they were integrated inside.

The whole power and control electronic set can be replaced without shutting down the load. The layout has been designed to provide safe access to the components while the load still being supplied by the maintenance bypass.

The 19" rack versions are providing hot-swap facilities, allowing a safe swapping of the power and electronic control block without any risk of operator error.

3.5.2. Source Maintenance

It is possible to carry out maintenance procedures on one source while keeping the critical loads supplied by the other source.

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3.5.3. Diagnostics & settings via PC

STATYS is fitted with a diagnostic socket for maintenance PC connection.

This socket can be used to adapt programmed parameters and other settings depending on specific operating requirements.

Service personnel can also use this socket to download the event log, statistics and complete information for quick and comprehensive diagnostics.

Flexibility: adapts to any environment and load conditions.

3.6. Neutral Management

STATYS is well adapted to all electrical environments.

For single-phase units, **STATYS** is available in 2-pole switching.

For three-phase units, it is available in 3 or 4-poles switching.

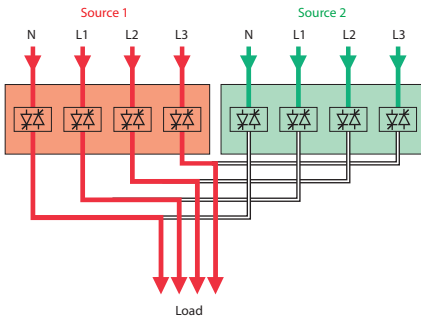
STATYS has a short “make before break” neutral switching principle in order to keep the load reference and reduce the transfer time.

A Neutral Switching function enables the neutral conductor on the non-conducting source to be opened. This prevents spurious neutral current circulating in throughout the distribution trough, earth and neutral wires. This neutral management avoids disturbance of upstream devices (Leakage/Residual Current Devices or Insulation Measurement Devices).

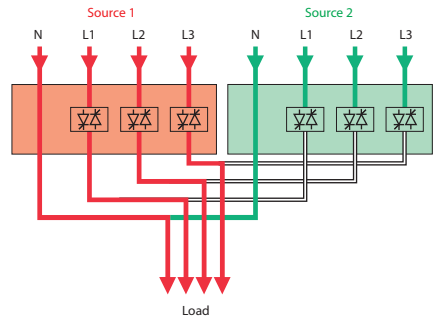
This Neutral Switching uses SCR technology with adapted management for fast switching management.

During a transfer, a fast neutral overlapping is voluntary forced to keep a reference to the load and avoid high voltage transients; this transition is limited to the transfer sequence avoiding any disturbance of upstream devices.

4-poles switching (4Wires)



3-poles switching (4Wires)

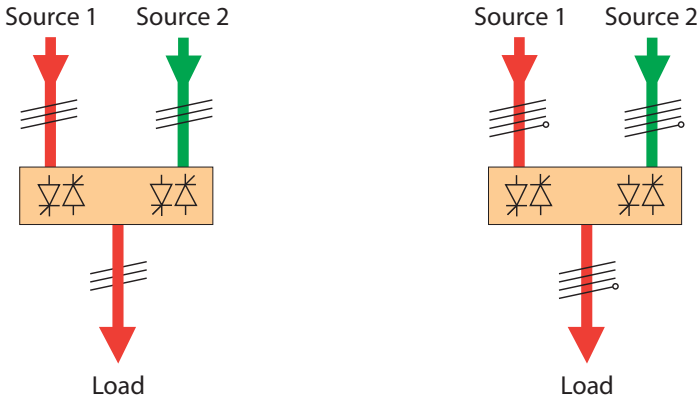


3.7. Installation

STATYS can be installed with adjacent or back-to-back mounting. To facilitate the maintenance, only a front access is required.

To meet all conditions and field requirements, STATYS is available:

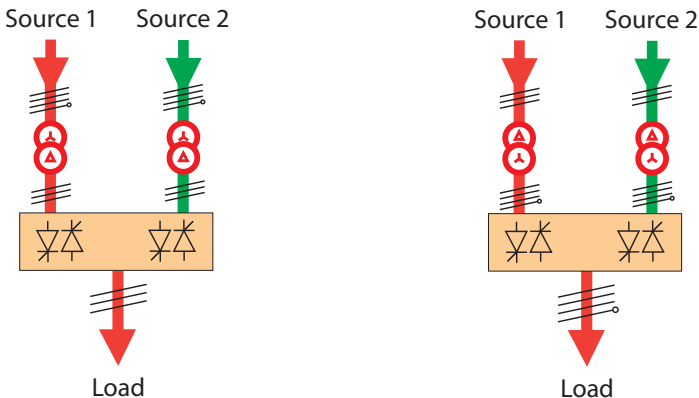
- In single-phase version 2 wires system with neutral,
- In three-phase version 3 wires system without neutral,
- In three-phase version 4 wires system with or without neutral switching.



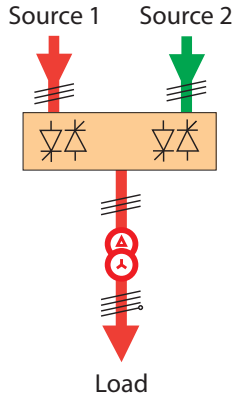
STATYS is designed to manage downstream transformers correctly.

If the upstream network has no distributed neutral cable, it is possible to add two upstream transformers or one downstream transformer to create or remove a neutral reference point at the output.

The upstream transformers solution avoids any single point of failure.



Transfer with a downstream transformer



Statys is available in two classes as defined by standard IEC 62310-3:

- CB class: STATYS with integrated input protection capable of breaking on specified short-circuit currents and containing integral over current protection;
- PC class: STATYS without internal input protection, capable of withstanding specified short-circuit currents but not intended for breaking short-circuit currents. Suitable protection shall be provided in the upstream distribution panel.

3.8. Optional features

To meet all environmental requirements, it is possible to adapt **STATYS** by adding:

- ADC interface with configurable dry contacts,
- MODBUS JBUS in RS485 Serial port,
- 2nd Ethernet connection (MODBUS TCP board),
- Profibus for Cabinet & Integrable OEM versions,
- Devicenet for Cabinet & Integrable OEM versions,
- Reinforced IP protection degree (IP3x / IP5x / IPx2),
- Additional TVSS surge protection for cabinet and Integrable chassis versions.

4. GENERAL SPECIFICATIONS

4.1. STATYS versions

STATYS is available in two grades of equipment: STATYS and STATYS Pack.

STATYS	STATYS pack
Single Micro-controller	Redundant micro-controller board
Redundant electronic power supply	Dual redundant electronic power supply
Independent SCR with individual local power supply	Independent SCR with redundant local power supply
LCD control Panel	Colour Graphic display*

*Note: cabinet and integrable chassis versions

5. Electrical characteristics

5.1. RACK version

Size [A]	32	63	63	100
Distribution	Single-Phase		Three-phase	
Integration	19 Inch Rack / Hot-swap electronics			
Rated Voltage [V]	120-127V / 220-240V / 254V		208-220V / 380-415V / 440V	
RMS Voltage range	±10% of Rated Voltage (Standard setting)			
Short Transients tolerance	±25% of Rated Voltage (Standard setting)			
Rated Frequency [Hz]	50 or 60 Hz			
Input Frequency range	±2Hz (configurable up to ±5Hz)			
Nb Phases	(Ph + N) or (Ph-Ph) +PE		(3ph + N) or (3ph) +PE	
Nb Poles switched	2-poles switching		3 or 4-poles switching	
Neutral systems	Compatible with all Earth Connection Systems			
Maintenance By pass	Integrated and secured			
Transfer time [ms]	3ms typical (break before make)			
Admissible power factor	No restriction (leading or lagging)			
Losses (W)*	94	161	330	540
Max neutral current	32A	63A	160A	160A
Crest Factor	≤3.5			

* @ 100% linear with 415V inputs

5.2. CABINET & OEM Chassis

Size [A]	200	300	400	600	800	1200	1500	1800
Distribution	Three-Phases							
Integration	Cabinet Integrated / PDU Integrable (OEM)							
Rated Voltage [V]	208-220V / 380-415V / 440V							
RMS Voltage range	±10% of RMS Rated Voltage (Standard setting)							
Short Transients tolerance	±25% of RMS Rated Voltage (Standard setting)							
Rated Frequency [Hz]	50 or 60 Hz							
Input Frequency range	±2Hz (configurable up to ±5Hz)							
Nb Phases	(3ph + N) or (3ph) +PE							
Nb Poles switched	3-poles or 4-poles switching							
Neutral systems	Compatible with all Earth Connection Systems (IT-TT-TNS-TNC)							
Maintenance By pass	Integrated and secured (Cabinet integrated Only)							
Transfer time [ms]	3ms typical (break before make)							
Admissible p.f.	No restriction							
Losses (W)*	850	1130	1530	2230				
Max neutral current (A)	315	630	630	1000				
Crest Factor	< 3.5							

* @ 100% linear with 415V inputs on PDU Integrable version (as per 62310-3 Standard)

5.3. Overloads

103%	Permanent
110%	1 hour
125%	10 minutes
150%	2 minutes
200%	20 seconds

6. Operating specifications

Size [A]	32	63	100	200	300	400	600	800	1200	1500	1800
Integration	19 Inch Rack			Cabinet Integrated Or Integrable Chassis (OEM)							
Maintenance By pass	Integrated and secured										
Environment											
Working temperatures	0 to 40 [°C]										
Storage temperatures	-25 to 70 [°C]										
50 [°C] degrading	-10% of Rated Current [A]										
Degree of protection	IP31			IP 20 (IP3x – IP5x and IPx2 optional)							
Humidity [%]	Up to 90 % condensation-free										
Altitude [m]	1000 m a.s.l. @ full load										
Cooling	Redundant forced cooling										
Acoustic noise @ 1m	45 [dB[A]]			60 [dB[A]]				Contact us			
Standard											
Performance and safety	IEC 62310, EN 50022, IEC 60364-4, IEC 60950, IEC 60529, IEC 60439-1										
Protection class	CB or PC class (on demand)										
EMC class	C2 category										

* Rack and Cabinet integrated only; For OEM Chassis: dedicated Inputs are available for the external switches management.

Dimensions and Weight

Size [A]	1ph	32	63									
	3ph			63	100	200	300	400	600	800	1200	1500
		Rack version				OEM						
Dimensions [mm]	H	86	400 ¹	765	765	765	Contact us					
	W	483	483	400	600	800						
	D	747 ²	648 ³	586	586	586						
Weight [kg]		26	38	70	105	130						
		CABINET										
Dimensions [mm]	H			1930	1930	1930						
	W			500	700	900						
	D			600 ⁴	600 ⁴	600 ⁴						
Weight [kg]				195	270	345						

¹: the total height includes the 3U fixed part and 6U extractable module.

²: handle not include (+40mm).

³: handle (+40mm) and added communication card (+33mm) not include.

⁴: handle not include (+40mm).

7. User Settings

STATYS offers a wide range of settings and adaptability. It is normally delivered with the SOCOMEC factory settings and these can be adapted on site by our technicians (through dedicated Software). The most useful parameters are accessible for the operator through the Display (password protection).

Parameters	Factory setting	Possibilities	Remark
Electrical environment			
Rated Voltage	Auto configuration	Auto configuration	Adjustable by operator
Rated Frequency	Auto configuration	Auto configuration	50Hz or 60hz
RMS Voltage tolerance	+/-10%	Settable	Settable (% per %)
Voltage transients sensitivity	+/-25%	CUSTOM sensitivity LOW sensitivity HIGH sensitivity	Easy adjustment by the operator CUSTOM sensitivity corresponds to the default setting but it can be adjusted by SOCOMEC technicians (% per %)
System			
Preferred source	Source 1	Source 1 / Source 2	Adjustable by operator
Automatic restart	Active	Active / Disabled	Adjustable by operator
Automatic restart delay	3 sec.	1 sec. to 18hours	Adjustable by operator
Automatic retransfer	Automatic	Automatic / Manual	Adjustable by operator
Automatic retransfer delay	3 sec.	1 sec. to 18hours	Adjustable by operator
Human interface			
Remote controls	Forbidden	Forbidden / Permitted	Adjustable by operator
Timer	Day / Hour / Minutes	Day / Hour / Minutes	Adjustable by operator
Modbus Slave Number	1	1 to 255	Adjustable by operator
Modbus Speed	19200	2400/4800/ 9600/19200	Adjustable by operator
Modbus Parity	None	Odd / Even/ None	Adjustable by operator
Password Protection			
Password 1 for Controls	Disabled	Disabled / Active	Adjustable by operator
Password 2 for Configuration	Active	Disabled / Active	Adjustable by operator

8. Standards and Directives

SOCOMECS UPS products are designed and manufactured according to European (EN) and international IEC standards.

IEC 62310-1	Static Transfer Systems : general and safety requirements
IEC 62310-2	Static Transfer Systems : electromagnetic compatibility (EMC) requirements
IEC 62310-3	Static Transfer Systems : Method of specifying the performance and test requirements
IEC 60364-4	Electrical installations of buildings
IEC 60950-1	Safety of I.T. equipment
IEC 60529	Index of protection provided by enclosures (IP)
IEC 60439-1	Low voltage switchgear and controlgear assemblies
EEC 73/23	Low Voltage Directive
EEC 89/336	EMC Directive

A total quality process certified by ISO 9001 ensures the quality production and associated services. Specifications are subject to change without prior notice. Contact your nearest SOCOMECS UPS sales office for further specifications. Copyright SOCOMECS UPS.

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