

# *STATYS*

32 to 4000 A



# OBJECTIVES

The aim of these specifications is to provide:

- the information required to choose the right Static Transfer System (STS) for a specific application.
- the information required to prepare the system and installation site.

The specifications are intended for:

- installation engineers.
- design engineers.
- engineering consultants.

# INSTALLATION REQUIREMENTS AND PROTECTION

Connection to the mains power supply and to the load(s) must be made using cables of suitable size, in accordance with current standards. If not already present, an electrical control station which can isolate the network upstream of the STATYS must be installed. This electrical control station must be equipped with a circuit breaker of an appropriate rating for the power draw at full load.

Current flowing to earth varies depending on the size of the STATYS, therefore installation engineers must install a residential current circuit breaker of an appropriate rating upstream of the STATYS using a selective model (not sensitive to transitory currents).

Potential dispersion of current from utilities downstream of the STS should be added to that discharged from the STATYS, and it should also be noted that current peaks are also reached, albeit very briefly, during transitory phases.

If an external manual bypass is required, only the model supplied by the manufacturer must be installed. For the Integrable Chassis version, STATYS is able to manage the PDU's switches (input/output/maintenances bypasses) in order to protect against users miss-operation.

For detailed information, see the installation and operating manual.

# 1. ARCHITECTURE

## 1.1. Range

STATYS is a range of high performing STS designed to protect critical and sensitive appliances applications in the IT, telecom and industrial fields, such as enterprise servers, storage systems, networking equipment, telecommunications systems, diagnostic/medical devices and industrial applications.

Models													
		1-phase (A)	32	63	-	-	-	-	-	-	-	-	
		3-phase (A)	-	-	63	100	200	300	400	600	800	1000	up to 4000
STATYS	19" RACK		•	•	•	•	-	-	-	-	-	-	-
STATYS	Integrable Chassis (OEM)		-	-	-	-	•	•	•	•	•	•	•
STATYS	Cabinet		-	-	-	-	•	•	•	•	•	•	•

Matrix table for model and A current rating

Each range has been specifically designed to meet the demands of loads in specific application contexts, in order to optimise the features of the product and to facilitate its integration within the system.

## 2. FLEXIBILITY

### 2.1. Currents from 32 to 4000 A

Dimensions				
Model	Range	Width (mm)	Depth (mm)	Height (mm)
19" Rack	32/63 A	483 (19")	747 <sup>(1)</sup>	89 (2U)
	63/100 A	483 (19")	648 <sup>(1)</sup>	400 (9U)
Integrable Chassis (OEM)	200 A	400	586	765
	300/400 A	600	586	765
	600 A	800		
	800/1000 A	1000	950 <sup>(1)</sup>	1930
	up to 4000 A	Contact us	Contact us	Contact us
Cabinet	200 A	500	600 <sup>(1)</sup>	1930
	300/400 A	700	600 <sup>(1)</sup>	1930
	600 A	900	600 <sup>(1)</sup>	1930
	800/1000 A	1400	950 <sup>(1)</sup>	1930
	up to 4000 A	Contact us	Contact us	Contact us

(1) Depth does not include handles (+40 mm)

The equipment has been designed with a minimum direct and indirect footprint (the actual space occupied by the unit and the space required around it for maintenance, ventilation and access to the operating mechanisms and communication devices).

### 2.2. 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.

Built with fully rated thyristors, STATYS forces a short "make before break" neutral switching principle in order to keep the load reference and reduce the transfer time.

### 2.3. Transformer Management

In case of downstream transformer and asynchronous power, STATYS handles source switching which prevents untimely protection tripping, thanks to the ATSM system

## 3. STANDARD AND OPTIONS

### 3.1. Internal redundant design

- Redundant control system by using two microprocessor control boards,
- Redundant power supplies of the control boards,
- Individual driver per SCR paths, with dedicated redundant power supplies,
- Redundant cooling with fan failure monitoring,
- Real-time SCR fault sensing,
- Separation of main functions to prevent internal fault propagation,
- Robust internal field communication bus,
- Internal monitoring of sensors to ensure maximum system reliability,
- 24/7/365 real-time remote monitoring.

### 3.2. Compact design

- Small footprint and compact units,
- Adjacent or back to back mounting,
- Front access for easy maintenance procedures,
- Compact Hot Swap 19" rack system.

### 3.3. Standard features

- Smart commutation system configurable according to the load.
- Synchronised and non-synchronised sources management (fully settable transfer modes).
- Fuse-free or fuse-protected design.
- Output fault management.
- Double maintenance bypass (rack and cabinet versions).
- Neutral oversizing for non-linear loads compatibility.

### 3.4. Standard communication features

- Ethernet network connection (WEB/SNMP interface, including SNMP and MODBUS TCP protocols).
- I/O dry contacts interfaces.
- Flexible Com Slots.
- LCD and Graphic Mimic Panel.
- Full digital configuration and setting.

### 3.5. Options

- Additional dry contacts interface board.
- MODBUS RTU.
- Profibus interface.
- Automatic maintenance bypass interlock.
- Voltage adaptation.

### 3.6. Remote monitoring service

- LINK-UPS, remote monitoring service that connects your UPS to your Critical Power specialist 24/7.

# 4. SPECIFICATIONS

## 4.1. Installation parameters

Installation parameters												
Model	32	63	63	100	200	300	400	600	800	1000	up to 4000	
Phase in/out	1/1	1/1	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	
Rated power (A)	32	63		100	200	300	400	600	800	1000	up to 4000	
Maximum current on neutral <sup>(2)</sup>	32	63	160		315	630		600	800	1000	Contact us	
Crest factor	< 3.5								< 2.1	< 1.7		
Minimum air flow (m <sup>3</sup> /h)	26				553	642		627	1950			
Sound level (dBA)	< 45				60	56		54	61			
Dissipation at rated load <sup>(1)</sup>	(W)	80	184	340	540	1330	1690	2530	3730	4272		5597
	kcal/h	69	160	293	464	1147	1457	2181	3216	3674		4813
	BTU/h	272	628	1160	1843	4538	5766	8632	12727	14536		19042
Dimensions Rack	W (mm)	483				-	-		-	-		-
	D (mm)	747		648		-	-		-	-		-
	H (mm)	89		400		-	-		-	-		-
Dimensions OEM	W (mm)	-	-	-	-	400	600		800	1000		
	D (mm)	-	-	-	-	586				995		
	H (mm)	-	-	-	-	765				1930		
Dimensions CABINET	W (mm)	-	-	-	-	500	700		900	1400		
	D (mm)	-	-	-	-	600				995		
	H (mm)	-	-	-	-	1930						
Weight (kg)	Rack	26		58		-	-		-	-	-	
	OEM	-	-	-	-	70	105		130	495		
	Cabinet	-	-	-	-	195	270		345	685		

(1) Worst case:

- 4 pole switching
- cabinet version with internal input protection
- 4 wires
- no linear load

(2) Contact us for higher neutral sizing

## 4.2. Electrical characteristics

Electrical characteristics - <b>Operating range</b>			
Model	RACK 32/63 A	RACK 63/100 A	CABINET / OEM
Rated mains supply voltage <sup>(1)</sup>	120 to 127 V / 220 to 240 V / 254 V (ph+N or ph+ph)	208 to 220 V / 380 to 415 V / 440 V <sup>(1)</sup> (3ph+N or 3ph)	
RMS voltage tolerance	±10% (configurable)		
Tolerance to fast transients	±25% (configurable)		
Rated Frequency	50/60 Hz		
Frequency tolerance	±5% (configurable)		
Admitted Power Factor	no restriction		
Admitted overload	110% for 60 minutes, 150% for 2 minutes		

(1) Consult us for other voltage requirements or 440 V above 800 A.

Electrical characteristics - <b>Environment</b>			
Model	RACK 32-63	RACK 63-100	CABINET / OEM
Storage temperature	-25 to +70 °C (-13 to +158 °F)		
Working temperature	0 to +40 °C (32 to +104 °F) up to 50 °C with derating		
Maximum relative humidity (non-condensing)	95%		
Maximum altitude without derating	1000 m (3300 ft)		
Degree of protection	IP30		IP20 (cabinet), IP20 C (OEM)
Colour	Dark grey, door: light grey		
Performance	up to 99%		

# 5. REFERENCE STANDARDS AND DIRECTIVES

## 5.1. Overview

The construction of the equipment and choice of materials and components comply with all current laws, decrees, directives and standards currently in force.

In particular, the equipment is fully compliant with all European Directives concerning CE marking.

2006/95/EC

Council Directive 2006/95/EC, dated 16 February 2007, on the reconciliation of legislation within Member States regarding electrical material for use within specific voltage ranges.

2004/108/EC

On the approximation of the laws of the Member States relating to electromagnetic compatibility

## 5.2. Standards

### 5.2.1. Electromagnetic compatibility

“Electromagnetic Compatibility Provisions (EMC)”

EEC 89/336      EMC Directive

IEC 62310-2      Static transfer systems : Electromagnetic Compatibility Provisions (EMC)

### 5.2.2. Safety

“General and safety requirements for UPS used in operator access areas”

IEC 62310-1      Static transfer systems : general safety requirements

IEC 60364-4      Electrical installations of buildings

IEC 60950-1      General and safety requirements for equipment used in operator access areas

IEC 60529      Degrees of protection provided by enclosures

IEC 60439-1      Low-voltage switches

EEC 73/23      Low Voltage Directive

### 5.2.3. Type and performances

Performance requirements and methods of test

IEC 62310-3      Static transfer systems : Methods of specifying the performance and test requirements