TECHNICAL GUIDE

EN

STATYS

32 to 1800 A

ULTIMATE

Fault tolerant power
without compromise

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1. OBECTIVES

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.

2. 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.

If an RCD is required a selective B-type should be used. It must be coordinate with residual current circuit breakers downstream of the STATYS connected to the STATYS output.

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.

3. ARCHITECTURE

3.1. 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)		3-phase (A)												
	32	63	63	100	200	300	400	600	630	800	1000	1250	1400	1600	1800
19" RACK	•	•	•	•	-	-	-	-	-	-	-	-	-	-	-
Integrable Chassis (OEM)	-	-	-	-	•	•	•	•	•	•	•	•	•	•	•
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.

4. FLEXIBILITY

4.1. Currents from 32 to 1800 A

DIMENSIONS					
Model		Range	Width (mm)	Depth (mm)	Height (mm)
1 phase	19" Rack	32/63 A	483 (19")	747(1)	89 (2U)
3 phases		63/100 A		648(1)	400 (9U)
	Integrable Chassis (OEM)	200 A	400	586	765
		300/400 A	600		
		600/630 A			
		800/1000 A	1000	950(1)	1930
		1250/1800 A	910	815	1955
	Cabinet	200 A	500	600(1)	1930
		300/400 A	700		
		600/630 A			
		800/1000 A	1400	950(1)	1930
		1250/1600 A	2010	815	1955

(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).

Please contact us for any other requirement.

4.2. 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.

4.3. Transformer Management

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

5. STANDARD AND OPTIONS

5.1. Standard Internal redundant design

- Individual driver per SCR paths, with dedicated local 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.

5.2. Optional redundancy (in standard for Statys above 800A)

- Redundant control system, using two microprocessor control boards.
- Redundant power supplies of the control boards.
- Dedicated Redundant power supplies for SCR driver boards.

5.3. 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.

5.4. 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.

5.5. Standard communication features

- Ethernet network connection (WEB interface, SNMP and e-mail).
- I/O dry contacts interfaces.
- Flexible Com Slots.
- 7” Color Touchscreen.
- Full digital configuration and setting.

5.6. ADDITIONAL Options

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

5.7. Remote monitoring service

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

6. SPECIFICATIONS

6.1. Installation parameters

1 phase:

INSTALLATION PARAMETERS			
Model		32	63
Phase in/out		1/1	1/1
Rated power	A	32	63
Maximum current on neutral(2)		32	63
Crest factor		< 3.5	
Minimum air flow	m^3/h	26	
Sound level	dBA	< 45	
Dissipation at rated load(1)	W	80	184
	kcal/h	69	160
	BTU/h	272	628
Dimensions Rack	W (mm)	483	
	D (mm)	747	
	H (mm)	89	
Weight	kg	26	

(1) Worst case:
- 4 pole switching
- cabinet version with internal input protection
- 4 wires
- no linear load

(2) Contact us for higher neutral sizing

3 phases:

INSTALLATION PARAMETERS														
Model		63	100	200	300	400	600	630	800	1000	1250	1400	1600	1800
Phase in/out		3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
Rated power	A	63	100	200	300	400	600	630	800	1000	1250	1400	1600	1800
Maximum current on neutral(2)		126	173	200	400		600	630	800	1000	1600			1800
Crest factor		< 3.5		< 1.7					< 2.1	< 1.7	< 1.7			
Minimum air flow	m^3/h	60		800	1600				1950		3000			
Sound level	dBA	< 45		70					61		84			
Dissipation at rated load(1) CABINET or Rack	(W)	340	540	1180	2080	2770	3750	3940	4272	5597	6705	7238	7905	-
	kcal/h	293	464	1456	1787	2382	3224	3387	3674	4813	5765	6224	6797	
	BTU/h	1160	1843	4968	6097	8128	11001	11557	14536	19042	22829	24647	26916	
Dissipation at rated load(1) OEM	(W)	-		967	1760	2179	3036	3190	4133	5380	6705	7238	7905	8971
	kcal/h			1193	1512	1874	2609	2742	3554	4626	5765	6224	6797	7714
	BTU/h			4075	5164	6398	8910	9360	14074	18319	22829	24647	26916	30547
Dimensions Rack	W (mm)	483		-										
	D (mm)	648												
	H (mm)	400												
Dimensions OEM	W (mm)	-		400	600				1000		910			
	D (mm)			586					995		815			
	H (mm)			765					1930		1955			
Dimensions CABINET	W (mm)	-		500	700				1400		2010			-
	D (mm)			600					995		815			
	H (mm)			1930							1955			
Weight (kg) Rack		58		-							-			
Weight (kg) OEM		-		70	105		130		495		570			
Weight (kg) Cabinet		-		195	270		345		685		1200			-

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6.2. Electrical characteristics

ELECTRICAL CHARACTERISTICS - OPERATING RANGE			
Model	RACK 32 / 63 A	RACK 63 / 100 A	CABINET / OEM
Rated mains supply voltage(1)	220 to 240 V / 254 V (ph+N or ph+ph)	380 to 415 V (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(2)		

(1) Consult us for other voltage requirements.
(2) Specific per model

ELECTRICAL CHARACTERISTICS - ENVIRONMENT			
Model	RACK 32 / 63 A	RACK 63 / 100 A	CABINET / OEM
Storage temperature	-25 to +70 °C (-13 to +158 °F)		
Working temperature	from 0 °C up to 40 °C (32 °F up 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, RAL 7016		
Performance	up to 99%		
Leakage current	<10 mA	<10 mA	<30 mA

7. REFERENCE STANDARDS AND DIRECTIVES

7.1. Overview

The equipment, installed, used and serviced in accordance with its intended use, its regulations and standards, its manufacturer instructions and rules, is in compliance with the relevant Union harmonisation legislation:

LVD 2014 / 35 / EU

DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014, on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

EMC 2014 / 30 / EU

DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014, on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.

RoHS 2011/65/EU

Directive 2011/65 of the European parliament and of the council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

7.2. Standards

7.2.1. Safety

EN 62310-1 Static transfer systems (STS) – General and safety requirements.

IEC 62310-1 Static transfer systems (STS) – General and safety requirements.

7.2.2. Electromagnetic compatibility

EN 62310-2 Static transfer systems (STS) – Electromagnetic compatibility (EMC) requirements.

IEC 62310-2 Static transfer systems (STS) – Electromagnetic compatibility (EMC) requirements.

7.3. SYSTEM AND INSTALLATION GUIDELINES

When carrying out electrical installation, all the above standards must be observed. All national and international standards (e.g IEC60364)applicable to the specific electrical installation must be observed. For further information refer to ‘Technical specifications’ chapter in the user manual.