

**STR31**

10-100kVA 3/1

**STR33**

10-200kVA 3/3

SCR Rectifier  
With transformer isolated inverter



FINANCE



TELECOMMUNICATION



ENERGY



MEDICAL



GOVERNMENT

**VFI**  
type

UPS ONLINE



TOWER

PF=  
**0,9**

POWER FACTOR



SERVICE

## TOTAL PROTECTION

STR series UPS provide maximum protection and power quality for mission critical loads, including data centres, industrial processes, telecommunications, and security and electro-medical systems.

STR is an ON LINE double conversion UPS (VFI SS 111 - IEC EN62040-3) with a transformer isolated inverter.

The Master MPS range includes three-phase input and single-phase output versions from 10 to 100 kVA, and three-phase input and output versions from 10 to 200 kVA.

All versions are provided with a 6-pulse thyristor-based rectifier, with or without optional harmonic filters. A 12-pulse thyristor-based rectifier is available on request for the 60 and 80 kVA versions with or without optional harmonic filters.

## EASY SOURCE

STR makes supplying the UPS from generator sets and MT/BT transformers simpler and more efficient, reducing power loss in the system and coils, correcting the power factor and eliminating current harmonics created by the loads supplied by the UPS.

In addition to this, the progressive rectifier start up (power walk-in) and the option to reduce battery charging currents, allow for a reduction in the input current uptake.

This means less demand on the source, which is particularly useful when the source is a generator set.

## FLEXIBILITY

STR is suitable for a wide range of applications including IT and the most demanding industrial environments.

The UPS is suitable for power capacitive loads such as blade servers, from 0.9 leading to 0.8 lagging. With a broad range of accessories and options, complex configurations and system architectures can be achieved to guarantee maximum power availability and the option to add new UPS without interruption to existing installation

## BATTERY CARE SYSTEM: MAXIMUM BATTERY CARE

Normally the batteries are kept charged by the rectifier; when mains power fails, the UPS uses this energy source to power the consumers. Proper battery care is therefore critical to ensuring correct UPS operation under emergency conditions. The SATRON UPS battery care system consists of a series of functions designed to optimise battery management and achieve the best performance and operating life possible.

**STR** is also compatible with different battery technologies: vented open lead acid, VRLA AGM, Gel, NiCd, Flywheels, Supercaps and Lithium

## SPECIFIC SOLUTIONS

The UPS can be adapted to meet the most specific requirements. Contact our sales team to discuss specific solutions and options not listed in this catalogue

## ADVANCED COMMUNICATIONS

- Compatible with SATRON Connect for remote monitoring;
- Advanced multi-platform communications for all operating systems and network environments: PowerShield3 monitoring and shutdown software included for Windows operating systems 10, 8, 7, Hyper-V, 2019, 2016, 2012, and previous versions, Mac OS X, Linux, VMWare ESXi, Citrix XenServer and other Unix operating systems;
- Double RS232 serial;
- 2 slots for the installation of optional communications accessories such as network adapters, potential free contacts, etc.;
- REPO Remote Emergency Power Off for switching off the UPS via a remote emergency button;
- Input for the connection of the auxiliary contact of an external manual bypass;
- Input for synchronisation from an external source;
- Graphic display panel for remote connection

## MAXIMUM RELIABILITY AND AVAILABILITY

- Distributed or centralised parallel configuration of up to 8 units redundant (N+1) or power parallel system. Parallel configurations using models with different power ratings are also possible;
- Hot System Expansion (HSE): allows the addition of a further UPS into an existing system, without the need to switch off the existing UPS or transfer them to bypass mode. This guarantees maximum load protection, even during maintenance and system expansion;
- Maximum levels of availability, even in the event of an interruption to the parallel bus cable: the system is "FAULT TOLERANT".
- It is not affected by connection cable faults and continues powering the load without disruption, signalling an alarm condition;
- Efficiency Control System (ECS): a system to optimise the operating efficiency of parallel systems, according to the power required by the load. N+1 redundancy is guaranteed, with every UPS working in parallel at the best load level possible to achieve higher overall efficiency

## OPTIONS

### UPS Group Synchroniser (UGS)

Allows two or more non-parallel UPS devices to remain synchronised even during mains power failure. The UGS also enables a SATRON UPS to be synchronised with another power source that is independent and of a different power rating.

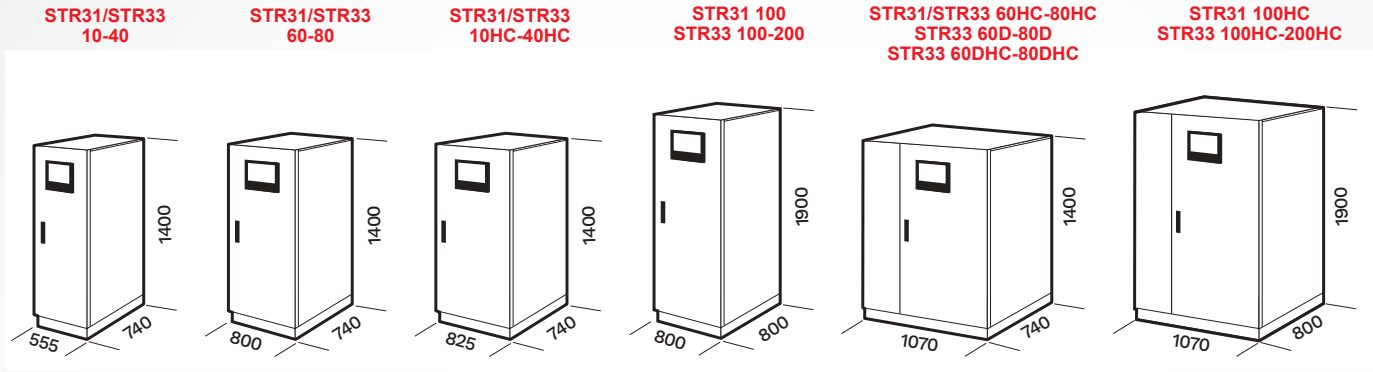
#### • Parallel Systems Joiner (PSJ)

Allows two groups of UPS to be connected in parallel whilst operating, in the event of maintenance (with no interruption to the output), using a power coupling switch.

Should one of the UPS in one of the parallel groups fail, it is automatically excluded.

The PSJ connects the remaining UPS, to the other parallel group via an external bypass, in order to continue to guarantee load redundancy.

# DIMENSIONS



D= Twelve-pulse rectifier version

HC= Version with 5<sup>th</sup> or 11<sup>th</sup> harmonic filter.

## DUAL BUS CONFIGURATION

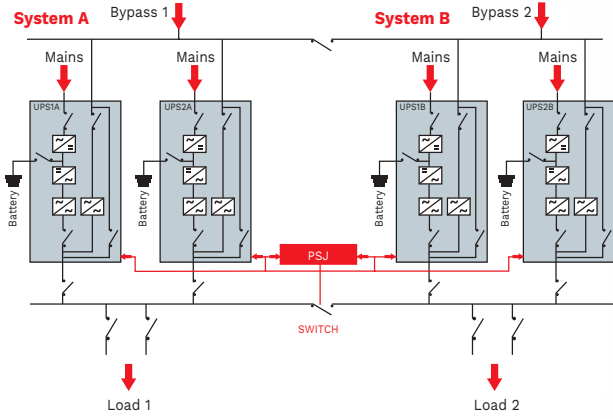
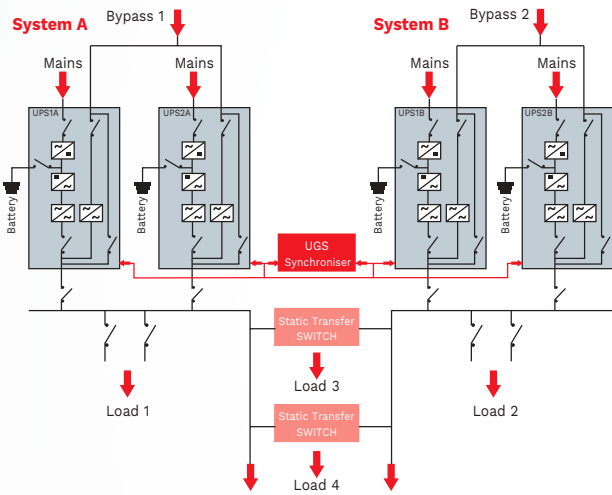
Solution to ensure redundancy through synchronization of two power buses and improving STS operation.

**+ Downstream fault discrimination**

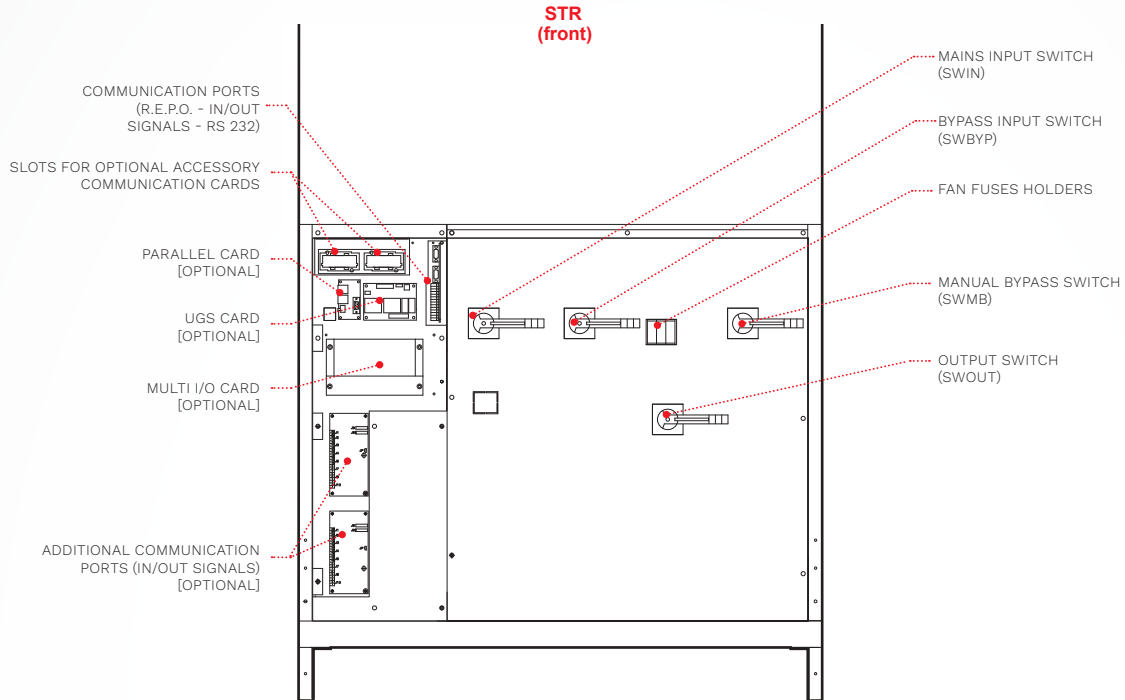
## DYNAMIC BUS CONFIGURATION

Solution to ensure redundancy of the power supply even during maintenance.

**+ High availability and redundancy**



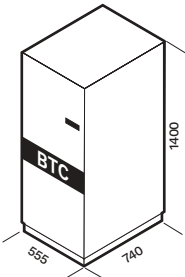
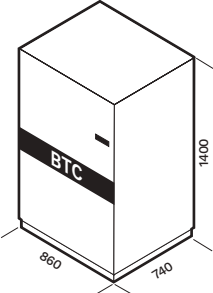
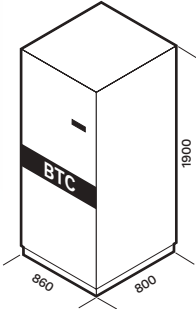
## DETAILS



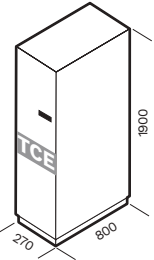
## OPTIONS

SOFTWARE		
PowerShield <sup>3</sup>	MULTI I/O	Synchronisation device (UGS)
PowerNetGuard	MULTIPANEL	Hot connection device (PSJ)
	MBB 100 A 2P	Cold Start
	MBB 125 A 4P	Parallel Kit
<b>ACCESSORIES</b>	MBB 400 A 4P	Battery temperature sensor
NETMAN 208		Top Cable Entry cabinet
MULTICOM 302	<b>PRODUCT ACCESSORIES</b>	IP rating IP21, IP31/IP42 on request
MULTICOM 352	Battery temperature sensor	ENERGYMANAGER
MULTICOM 411	5 <sup>th</sup> or 11 <sup>th</sup> harmonic filter (HC)	Power Absorber (PWA)
MULTICOM 421	Bypass isolation transformer	

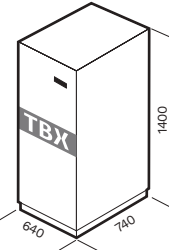
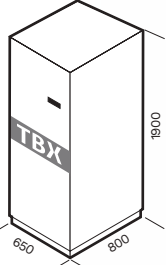
## BATTERY CABINET

MODELS	BTC 1400 384V BB B1 2F BTC 1400 384V AB B1 2F	BTC 1400 384V BB B2 5F BTC 1400 384V BB B3 5F BTC 1400 384V BB B4 5F BTC 1400 384V AB B4 5F	BTC 1900 396V BB L6 3T BTC 1900 396V BB L7 3T BTC 1900 396V BB L8 3T BTC 1900 396V BB L9 3T BTC 1900 396V AB L9 3T
UPS MODELS	STR33 10-60 / STR31 10-60	STR33 10-80 / STR31 10-80	STR33 100-200 / STR31 100
Dimensions [mm]			

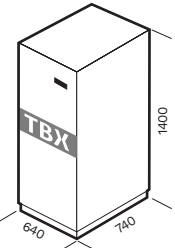
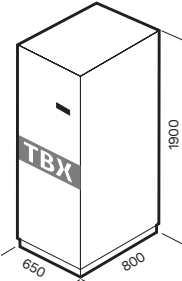
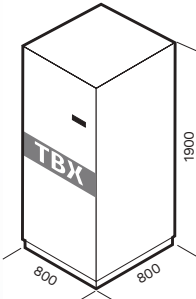
## CABINETS WITH TOP ACCESS FOR CABLES

MODELS	MPT TCE 100-200
UPS MODELS	STR33 100-200 / STR31 100
Dimensions [mm]	

## SINGLE-PHASE ISOLATION TRANSFORMERS

MODELS	TBX ISO 10 M TBX ISO 80 M	TBX ISO 100 M
UPS MODELS	STR31 10-80	STR31 100
Dimensions [mm]		

## THREE-PHASE ISOLATION TRANSFORMERS

MODELS	TBX ISO 10 T Dyn11 TBX ISO 80 T Dyn11	TBX ISO 100 T Dzn0 TBX ISO 160 T Dzn0	TBX ISO 200 T Dzn0
UPS MODELS	STR33 10-80 / STR31 10-80	STR33 100-160 / STR31 100	STR33 200
Dimensions [mm]			

## STR31-TECHNICAL SPECIFICATIONS

Model	STR31								
Capacity (KVA)	10	15	20	30	40	60	80	100	
<b>Input</b>									
Rated voltage [V]	380 / 400 / 415 three-phase								
Rated frequency [Hz]	45-65								
Voltage tolerance [V]	400 +20% -25% @ full load								
Soft start	0 - 100% in 120 sec. (selectable)								
Permitted frequency tolerance	±2% (selectable from ±1% to ±5% from front panel)								
Standard equipment provided	Back Feed protection; separable bypass line								
<b>Bypass</b>									
Rated voltage [V]	220 / 230 / 240 single-phase + N								
Rated frequency [Hz]	50 or 60 (selectable)								
<b>Output</b>									
Nominal power [kVA]	10	15	20	30	40	60	80	100	
Active power [kW]	9	13.6	18	27	36	54	72	90	
Number of phases	1								
Rated voltage [V]	220 / 230 / 240 single-phase + N (selectable)								
Rated frequency [Hz]	50 or 60								
Frequency stability on battery operation	0.05%								
Voltage distortion	<1% with resistive linear load / ≤3% with non-linear load								
Crest factor [I <sub>peak</sub> /I <sub>rms</sub> ]	3:1								
Static stability	±1%								
Dynamic stability	±5% in 10 msec								
<b>Batteries</b>									
Type	VRLA AGM/GEL/NiCd/Li-ion/SuperCaps								
Residual ripple voltage	<1%								
Recharge voltage compensation	-0.11% x V x °C								
Typical charge current	0.2 x C10								
Number of battery cells @ 2V	192							198	
Battery arrangement	32 blocks (@ 12V)							33	
Recharge time	5h								
<b>Overall Specifications</b>									
Weight without batteries [kg]	200	220	230	255	302	416	616	665	
Dimensions (WxDxH) [mm]	555x740x1400					800x740x1400		800x800x1900	
Remote signals	Dry contacts								
Remote controls	ESD and bypass								
Communications	Double RS232 + dry contacts + 2 slots for communications interface								
Ambient temperature	0 °C - +40 °C								
Battery Temperature	+20 °C - +25 °C								
Range of relative humidity	5-95% non-condensing								
Colour	RAL 7016 Anthracite grey								
Protection Degree	P20								
Noise level at 1 m [dBA ±2]	<60				<62				
ECO Mode efficiency	up to 98%								
Standards	European directives: L V 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111								
Moving the UPS	Pallet jack								

## STR33-TECHNICAL SPECIFICATIONS 10 TO 80KVA

Model	STR33						
Capacity (KVA)	10	15	20	30	40	60	80
<b>Input</b>							
Rated voltage [V]	380 / 400 / 415 three-phase						
Rated frequency [Hz]	45-65						
Voltage tolerance [V]	400 +20% -25% @ full load						
Soft start	0 - 100% in 120 sec. (selectable)						
Permitted frequency tolerance	±2% (selectable from ±1% to ±5% from front panel)						
Standard equipment provided	Back Feed protection; separable bypass line						
<b>Bypass</b>							
Rated voltage [V]	380 / 400 / 415 three-phase + N						
Rated frequency [Hz]	50 or 60 (selectable)						
<b>Output</b>							
Nominal power [kVA]	10	15	20	30	40	60	80
Active power [kW]	9	13.6	18	27	36	54	72
Number of phases	1						
Rated voltage [V]	380 / 400 / 415 three-phase + N (selectable)						
Rated frequency [Hz]	50 or 60						
Frequency stability on battery operation	0.05%						
Voltage distortion	<1% with resistive linear load / ≤3% with non-linear load						
Crest factor [I <sub>peak</sub> /I <sub>rms</sub> ]	3:1						
Static stability	±1%						
Dynamic stability	±5% in 10 msec						
<b>Batteries</b>							
Type	VRLA AGM/GEL/NiCd/Li-ion/SuperCaps						
Residual ripple voltage	<1%						
Recharge voltage compensation	-0.11% x V x °C						
Typical charge current	0.2 x C10						
Number of battery cells @ 2V	192						
Battery arrangement	32 blocks (@ 12V)						
Recharge time	5h						
<b>Overall Specifications</b>							
Weight without batteries [kg]	228	241	256	315	335	460	520
Dimensions (WxDxH) [mm]	555x740x1400					800x740x1400	
Remote signals	Dry contacts						
Remote controls	ESD and bypass						
Communications	Double RS232 + dry contacts + 2 slots for communications interface						
Ambient temperature	0 °C - +40 °C						
Battery Temperature	+20 °C - +25 °C						
Range of relative humidity	5-95% non-condensing						
Colour	RAL 7016 Anthracite grey						
Protection Degree	P20						
Noise level at 1 m [dBA ±2]	<60			<62			
ECO Mode efficiency	up to 98%						
Standards	European directives: L V 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111						
Moving the UPS	Pallet jack						

## STR33-TECHNICAL SPECIFICATIONS 100 TO 200KVA

Model	STR33			
Capacity (kVA)	100	120	160	200
<b>Input</b>				
Rated voltage [V]	380 / 400 / 415 three-phase			
Rated frequency [Hz]	45-65			
Voltage tolerance [V]	400 +20% -25% @ full load			
Soft start	0 - 100% in 120 sec. (selectable)			
Permitted frequency tolerance	±2% (selectable from ±1% to ±5% from front panel)			
Standard equipment provided	Back Feed protection; separable bypass line			
<b>Bypass</b>				
Rated voltage [V]	380 / 400 / 415 three-phase + N			
Rated frequency [Hz]	50 or 60 (selectable)			
<b>Output</b>				
Nominal power [kVA]	100	120	160	200
Active power [kW]	90	108	144	180
Number of phases	1			
Rated voltage [V]	380 / 400 / 415 three-phase + N (selectable)			
Rated frequency [Hz]	50 or 60			
Frequency stability on battery operation	0.05%			
Voltage distortion	<1% with resistive linear load / ≤3% with non-linear load			
Crest factor [Ipeak/Irms]	3:1			
Static stability	±1%			
Dynamic stability	±5% in 10 msec			
<b>Batteries</b>				
Type	VRLA AGM/GEL/NiCd/Li-ion/SuperCaps			
Residual ripple voltage	<1%			
Recharge voltage compensation	-0.11% x V x °C			
Typical charge current	0.2 x C10			
Number of battery cells @ 2V	192			
Battery arrangement	32 blocks (@ 12V)			
Recharge time	5h			
<b>Overall Specifications</b>				
Weight without batteries [kg]	620	640	700	800
Dimensions (WxDxH) [mm]	800x800x1900			
Remote signals	Dry contacts			
Remote controls	ESD and bypass			
Communications	Double RS232 + dry contacts + 2 slots for communications interface			
Ambient temperature	0 °C - +40 °C			
Battery Temperature	+20 °C - +25 °C			
Range of relative humidity	5-95% non-condensing			
Colour	RAL 7016 Anthracite grey			
Protection Degree	P20			
Noise level at 1 m [dBA ±2]	65		68	
ECO Mode efficiency	up to 98%			
Standards	European directives: L V 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111			
Moving the UPS	Pallet jack			



SATRON Power Solutions  
Approach your local SATRON Power Solutions representative for further support.  
Contact details can be found on:  
[www.satronpower.com](http://www.satronpower.com)