



STARKSTROM

UNINTERRUPTIBLE POWER SUPPLIES



T3-SERIES

10kVA - 20kVA • 3/1 PHASE
ON-LINE DOUBLE CONVERSION

T3-SERIES

10kVA - 20kVA • 3/1 Phase

With ever greater demands being made on the facilities, a reliable and robust power supply is crucial in today's clinical world. Starkstrom are proud to introduce the T3, 3/1 On-Line UPS to facilitate this need.

In the past On-Line technology has struggled against low price Line-Interactive and Off-Line topologies offered by some of the world's biggest brands, however with the help of modern production techniques On-Line technology has come of age. The T3, 3/1 is a physically small On-Line double conversion UPS but retains all the features normally associated with On-Line technology.

But what is On Line Double Conversion technology?

Simply put, "double-conversion" means the mains supply is rectified to a DC voltage and rebuilt into a very clean and regulated AC voltage, at all times your critical load runs from this clean no break supply.

Line-Interactive and Off-Line UPS are single conversion, to put in its crudest form your computer will be running on semi regulated mains and will suffer a break in supply when the UPS transfers from mains to battery in a power fail situation. The T3 does not suffer from these drawbacks and comes as standard with an LCD screen, RS232 & USB port, battery extension options, battery monitoring, a no-break supply, static internal switch, manual internal by-pass switch, wide voltage input without using batteries, optional software, and comms slot for SNMP/ Relays or Optocoupler.

□ Parallel or N+1

A big advantage offered by the T3, 3/1 10kVA to 20kVA is that by means of a simple cable the machines can be linked together to form a parallel N+1 system.

The parallel feature offers the opportunity to either have a fail safe system or the option to expand the power as the network grows. Up to three machines can be connected in this way making the T3 a flexible and versatile solution.



□ Standard Properties

- True on-line double conversion technology for high level of protection
- DSP Technology
- Parallel redundancy capability
- Integrated smartcard slot providing a choice of communications interfaces
- Optional specialised UPS management software
- User friendly LCD display
- Failsafe internal bypass
- Switch with manual control
- Long runtime availability
- Advanced microprocessor control

□ UPS Software

The UPS management software is installed on a server or workstation connected to each UPS via the serial or USB port. Power failure, power restored, battery failure or eight events will be detected and the user informed. A shutdown will be initiated when the batteries are exhausted or a technical problem occurs with the UPS. The UPS management software disconnects network connections, logs out users and closes open applications (subject to app/os support) before shutting down the system itself.

- Extensive log files
- Scheduled battery and inverter testing
- Scheduled system shutdown/re-start
- User-customisable commands and messages
- Multiple UPS control from a single computer
- Remote Console Command module for remote multiple server shutdown
- Internal SNMP sub-agent for integration into existing NMS (e.g. HP OpenView, CA Unicenter)



Screenshots of UPSilon Software



Screenshot of Net Agent Mini Software



□ UPS Management

Our specialised optional UPS management software gives you the power to monitor and control your UPS from remote locations.

□ Simple Network Management Protocol (SNMP)

The T3-Series SNMP external agent can be located up to 5 metres away from the UPS. Initial configuration is carried out by serial comms using any suitable terminal application (e.g. Hyperterminal for Windows).

The embedded HTTP server presents an HTML interface to the network, which can be accessed from any web browser. All system parameters can be configured from here, including scheduled shutdown.

A sophisticated Java applet provides full monitoring in real time, along with comprehensive event and history logs.

□ Which areas within a hospital require IPS & UPS?

These areas are referred to as either “Group 2” or “Clinical Risk Category 5”. The current standards give “examples”, and their associated categories, of medical areas within a hospital based upon safety services and clinical risk. This should be considered as a guide only. The following list tries to summaries these areas.

- Anaesthetic Room
- Operating Theatre
- Operating Plaster Room
- Post Operative Recovery Beds (including stage 1 recovery for day surgery)
- Heart Catheterisation Room
- Intensive Care Rooms, including CCU, ITU
- High Dependency Room
- Angiographic Examination rooms
- Pacing rooms
- Special Care Baby Unit
- Neo-Natal Unit
- Resuscitation Bays (including A&E)
- PET Rooms
- CT Rooms
- MRI Rooms
- X-ray rooms
- Fluoroscopy Rooms
- Gamma Camera Rooms

T3-SERIES

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	10kVA	15kVA	20kVA
Topology	True On - Line, Double Conversion		
On- battery Output Waveform	Pure Sine Wave		
INPUT			
Maximum Capacity	10 kVA / 7kW	15kVA / 10.5 kW	20kVA / 14 kW
Nominal Input Voltage	380 VAC Three Phase		
Input Voltage Window	304 - 478 VAC		
Nominal Input Frequency	50/60 ± 4 Hz		
Input PFC	≥ 0.95 @ Full Load		
Input Short Protection	50 A Circuit Breaker	100A Circuit Breaker	
OUTPUT			
Nominal Output Voltage	220 / 230 / 240 VAC Single Phase		
Output Voltage Regulation	+ / - 1 %		
Output T.H.D	2% THD (Linear Load) 6% THD (Non-Linear Load)		
Efficiency - Nominal Mode	88 %		
Efficiency - Battery Mode	95 %		
Crest Factor	3:1		
Start on Battery	Yes		
Overload Capability (Normal Mode)	Sustaining 10 min @ 105%-130% load; 1 sec @ >130% load		
Overload Capability (Battery Mode)	Shut down UPS after 10 sec @ >150% load		
Output Frequency	50/60 + / - 0.05 Hz (Battery Mode)		
BATTERY			
Typical Backup Time (at full load)	20/40/70		
Battery Type	VRLA to BS6290-4		
Numbers of Batteries (Per String)	20		
Recharge Time to 90%	< 8 hours		
Charger Current (Max)	4.2A		
WARNING DIAGNOSTICS			
Front Panel Indication - LCD	UPS Status, I/P Voltage & Frequency, O/P Voltage & Frequency, Battery Voltage, Battery Capacity, Loading %, Temperature, History Alarm.		
Front Panel Indication - LED	Normal (Green), Warning (Yellow), Fault (Red)		
Audible Alarms	Battery Mode, Low Battery, Overload, Fault		
COMMUNICATION			
Communication port	RS232 (Standard) DB9 or USB or AS400 or SNMP / HTTP(Optional)		
SNMP Manageable	Yes		
ENVIRONMENTAL			
Operation Temperature	0-40°C		
Storage Temperature	- 15 to 50°C		
Relative Humidity	20% to 90 % Non-Condensing		
Audible Noise (at 1 meter from surface of unit)	< 55 dBA @ 1 meter		
MECHANICAL			
UPS Dimensions	260 x 570 x 720 (W x D x H mm)		
UPS Weight (Net with Battery) (kgs)	55	55	55
BATTERY CABINET			
10kVA - 20 Min	Battery Box	480 x 845 x 1670 (W x D x H mm)	(Weight) 270kg
10kVA - 40 Min	Battery Box	480 x 845 x 1670 (W x D x H mm)	(Weight) 370kg
10kVA - 70 Min	Battery Box	782 x 845 x 1670 (W x D x H mm)	(Weight) 605kg
15kVA - 25 Min	Battery Box	480 x 845 x 1670 (W x D x H mm)	(Weight) 370kg
15kVA - 45 Min	Battery Box	782 x 845 x 1670 (W x D x H mm)	(Weight) 605kg
15kVA - 80 Min	Battery Box	782 x 845 x 1670 (W x D x H mm)	(Weight) 775kg
20kVA - 18 Min	Battery Box	480 x 845 x 1670 (W x D x H mm)	(Weight) 370kg
20kVA - 35 Min	Battery Box	782 x 845 x 1670 (W x D x H mm)	(Weight) 605kg
20kVA - 60 Min	Battery Box	782 x 845 x 1670 (W x D x H mm)	(Weight) 775kg

The data and text contained within this brochure are for general information only and can not be deemed as definitive, specifications can change without notice.



STARKSTROM

256 Field End Road • Eastcote • Ruislip • Middlesex • HA4 9UW

T: +44 (0) 208 868 3732 • **F:** +44 (0) 208 868 3736

E: info@starkstrom.com • **W:** www.starkstrom.com