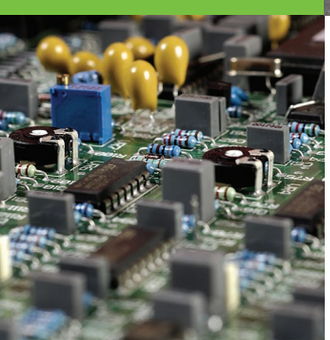
Tescom®

UNINTERRUPTIBLE POWER SUPPLIES


STATUS
MEASUREMENT
ALARM LOGS
INFORMATION
OPTIONS
13:57
L1 L2 L3
Tescom®

INDEX



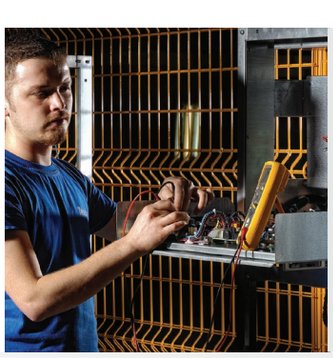
FACTORY

Tescom formerly known as Tümel Elektronik located in Izmir-Turkey is an independently owned corporation, offering a wide range of power protection products and services to a wide spectrum of industries and sectors.

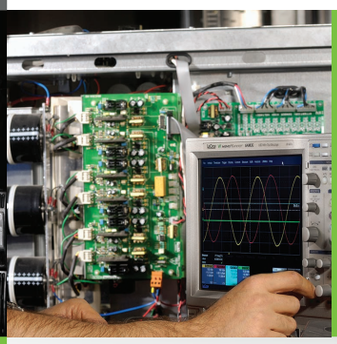
During the establishment years the company was manufacturing electronic control devices and inverters, then in 1986 when the IT sector started developing rapidly, Tescom sensed the great need for clean, uninterruptible power and started designing and manufacturing Uninterruptible Power Supplies.

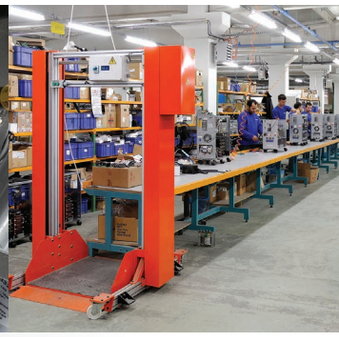
As well as an extensive standard UPS range Tescom also offers a variety of other products such as static transfer switch (STS), frequency and voltage converters, inverters and rectifiers under it's registered trademark "Tescom".

Today all Tescom branded power protection products are manufactured by a group of almost 30 greatly experienced engineers and staff of over 250 people.



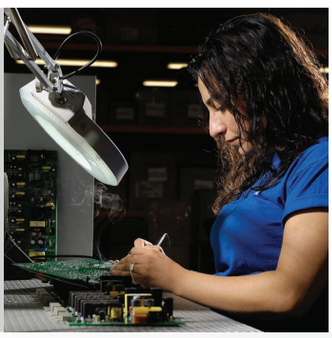
Tescom is a member of DMY Electronic Investments Group (www.dmyelektronik.com)





One of the greatest advantages of Tescom has always been, flexibility. Which means we do not only offer standard products. Thank's to our high experienced R&D team we also design and manufacture products according to customers requirements.

Tescom has always made widespread use of the latest developments and technologies in manufacturing, which complies with all the necessary international standards and norms. All these past years of experience, has lead to over 250,000 manufactured power protection products which have been delivered to customers in more than 40 countries in 4 continents.



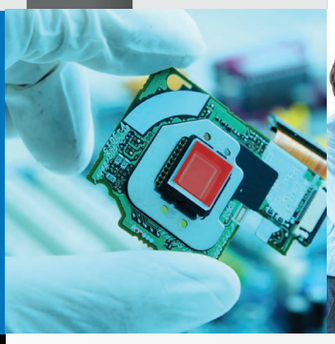
R&D

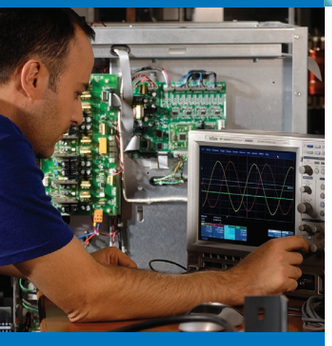
Tescom's R&D department is the most valuable asset to this company since the day it was founded. All engineers working here are the most experienced ones in the country in the field of po wer electronics. This team has the knowledge and skill to create and launch a new product into the market within a very short period of time. Besides, this R&D team has also ability to implement special request specifications to the standard manufactured products, faster and more efficiently than the competitors.

Thanks to the large budget allowance given every year a considerable amount of investment is being made to this department and as a result today Tescom is in a very pretentious position both in domestic and international markets.

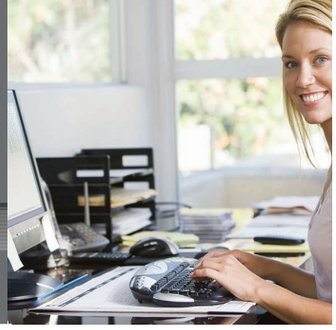
T.C. Ministry of Industry and Technology

As a result of ongoing investments in power electronics and energy, the "Ministry of Science, Industry & Technology" has certified Tescom to be Turkey's 455th R&D center.





Due to the close and strong relations with the international suppliers, Tescom has always been a company using and applying the latest technology materials and components in the products manufactured. Since day one the goal of the Tescom's R&D team has always been to follow up the latest technological developments in the market and detect the customer demands, then create and launch a product accordingly.



Line - interactive

650 - 2200 VA

LEO+

UNINTERRUPTIBLE POWER SUPPLIES

LEO+ Line Interactive UPS is an uninterruptible power supply with microprocessor control and smart battery management system that can offer solutions especially for your home and office applications. It is available for your use with its small volume and stylish design, LED/LCD screen options, USB and RJ11 connection. It provides a safe usage opportunity thanks to high current, short circuit, overload, high battery charge/discharge protections.

GENERAL SPECIFICATIONS

- Microprocessor-based digital control
- Boost and buck AVR for voltage stabilization
- Power-on self test
- Cold start
- Auto track mains phase to ensure that inverter output voltage has same phase with utility voltage, reducing transfer time and peak surge
- Short circuit, battery overcharge / overdischarge, overload, surge protections
- Auto restart when mains power is restored
- Intelligent battery management: battery temperature compensation to extend the battery life; three-stage charging to shorten recharge time
- Automatic charging in OFF mode
- Optional no-load shutdown
- Optional RS232 / USB communication port and RJ11 /RJ45 protection
- Unattended safety shutdown: system alarm and auto Power-On / Off by RS232 or USB interface communicating with PC

Tescom®

650 - 2200 VA

TECHNICAL SPECIFICATIONS

MODEL		Leo+ 650VA	Leo+ 850VA	Leo+ 1200VA	Leo+ 1500VA	Leo+ 2200VA
Capacity		650VA / 390W	850VA / 510W	1200VA / 720W	1500VA / 900W	2200VA / 1320W
INPUT						
Voltage		100 / 110 / 120 V: 80 ~ 150 Vac; 220 / 230 / 240 V: 162 ~ 295 Vac (145 ~ 295 Vac optional)				
Frequency		50 / 60 Hz ± 10% (auto-sensing)				
OUTPUT						
Voltage		100 / 110 / 120 Vac ± 10% or 220 / 230 / 240 Vac ± 10%				
Frequency		50 / 60 Hz ± 1% (auto-sensing)				
Waveform		Mains mode: pure sine wave; Battery mode: simulated sine wave				
Protection		Typical 8 ms, 10 ms max.				
BATTERIES						
DC Voltage		12V		24V		
Configuration		12V/7.0Ah x 1	12V/9.0Ah x 1	12V/7.0Ah x 2	12V/9.0Ah x 2	12V/9.0Ah x 2
Recharge time		6 ~ 8 h				
GENERAL						
Protections		Short circuit - battery overcharge - overdischarge - overload - surge				
Communication		USB / RJ45 Modem protect				
Humidity		20 ~ 90% RH @ 0 ~ 40°C (non-condensing)				
Acoustic noise		≤ 45 dB (1 m)				
Plastic case	Net / Gross weight (kg)	4.3 / 4.6	5.2 / 5.5	8.6 / 9.0	10.1 / 10.5	/
	Dimensions (HxWxD) (mm)	140x100x290		170x140x345		/
	Packaged dimensions (HxWxD) (mm)	210x139x335		210x139x335		/
Metal case	Net / Gross weight (kg)	/	/	/	/	12.9 / 13.3
	Dimensions (HxWxD) (mm)	/		/		225x125x380
	Packaged dimensions (HxWxD) (mm)	/		/		295x180x450

1 - 3 kVA

TEOS+ 100

UNINTERRUPTIBLE POWER SUPPLIES

1 phase in / 1 phase out

TEOS+ 100 Online UPS is an uninterruptible power supply designed with true double conversion technology and DSP (Digital signal processors) controlled processor. Thanks to its plug-and-play feature and silent operation, it is especially preferred for use in home and office applications. Efficiency with Active Power Factor Correction (APFC) feature, flexibility with wide voltage/frequency range is provided.

GENERAL SPECIFICATIONS

- High frequency on-line double conversion technology
- Active power factor correction (APFC), input power factor up to 0.99
- Output power factor 0.9
- Wide input voltage range (110 V ~ 300 Vac) and frequency range (40 ~ 70 Hz)
- 50/60Hz frequency conversion
- Cold start
- Rear ventilation design and variable speed fan
- Effective software and hardware protection
- Quick and stable charging, 90% capacity restored in 3 h (standard model UPS)
- Linear derating in low voltage input reducing battery discharging times
- Settable delayed start when power is restored
- Multiple functions settable via LCD: output voltage, EOD, auto-start bypass mode, ECO mode and frequency conversion mode
- Multi-platform communications: RS232 (standard), USB / RS485 SNMP / dry contacts (optional)

Available Options

- Optional USB, RS485 card, AS400 dry contacts, SNMP card, SMS alarms, EPO function, and 12 A charger (2/3 kVA only)

Tescom®

1 - 3 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 101		Teos+ 102			Teos+ 103	
Capacity	1 kVA/900 W		2 kVA/1800 W			3 kVA/2700 W	
INPUT							
Rated voltage	208 / 220 / 230 / 240 Vac						
Voltage range	110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 280 Vac (no derating); 280 ~ 300 Vac (derating 50%)						
Frequency	40 ~ 70 Hz (auto-sensing)						
Power factor	≥ 0.99						
Bypass voltage range	– 25% ~ +15% (settable)						
THDi	≤ 6%						
OUTPUT							
Voltage	208 / 220 / 230 / 240 Vac (settable via LCD)						
Voltage regulation	± 1%						
Frequency	45 ~ 55 Hz or 55 ~ 65 Hz (synchronized range); 50 / 60 Hz ± 0.1 Hz (battery mode)						
Waveform	Sinusoidal						
Power factor	0.9						
Voltage THD	≤ 2% (linear load), ≤ 5% (non-linear load)						
Crest factor	3:1						
Overload	105% ~ 125% for 1 min, 125% ~ 150% for 30 s, > 150% for 300 ms						
BATTERIES							
DC voltage	24V (S)		48V (S)			72V (S)	96V (S)
Inbuilt battery	2x7Ah	2x9Ah	4x9Ah			6x9Ah	8x9Ah
Charging current (max.)	1A						
Recharge time	Standard model: 90% capacity restored in 3 hours; Long time model: depend on the capacity of battery						
SYSTEM							
Efficiency	≥ 90% (Mains mode)		≥ 91% (Mains mode)			≥ 92% (Mains mode)	
	≥ 85% (Battery mode)		≥ 86% (Battery mode)			≥ 87% (Battery mode)	
	≥ 95% (ECO mode)		≥ 96% (ECO mode)			≥ 97% (ECO mode)	
Transfer time	Mains mode to battery mode: 0 ms Inverter mode to bypass mode: 4 ms (typical)						
Protections	Short-circuit, overload, overtemperature, battery discharge protection and fan testing protection						
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP (optional)						
Display	LCD + LED						
Standards	EN 62040-1, EN 62040-2, EN 61000-3-2, EN 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2, IEC 62040-2, IEC 62040-1, IEC 62040-3						
GENERAL							
Operating temperature	0°C ~ 40°C						
Storage temperature	– 25°C ~ 55°C (without batteries)						
Relative humidity	0 ~ 95% (non-condensing)						
Altitude	≤ 1000 m, derating 1% for each additional 100 m						
IP rating	IP 20						
Noise level at 1m	≤ 50 dB						
Dimensions (HxWxD) (mm)	214x144x414		335x191x418			335x191×418	335x191×464
Packaged dimensions (HxWxD) (mm)	320x230x417		471x318×533			471x318x533	472x320×573
Net weight (kg)	9	9.5	18	25.7	10.5	27.2	34
Gross weight (kg)	10	10.5	19.5	27.4	12	29	36

1 phase in / 1 phase out

6 - 10 kVA

TEOS+ 100

UNINTERRUPTIBLE POWER SUPPLIES

TEOS+ 100 Online UPS is an uninterruptible power supply designed with true double conversion technology and DSP (Digital signal processors) controlled processor. High efficiency is achieved with an output power factor of 1.0 and an input power factor of ≥ 0.99. Thanks to its silent operation, it is especially preferred for use in home and office applications. It offers flexibility of use with its prominent features such as frequency converter mode, wide voltage/ frequency range and multiple communication options.

GENERAL SPECIFICATIONS

- Active power factor correction (APFC), input power factor up to 0.99
- High efficiency 95% (up to 98% in ECO mode)
- Advanced digital parallel technology
- Wide input voltage range (110 ~ 288 Vac) and frequency range (40 ~ 70 Hz)
- 50 / 60 Hz frequency auto sensing
- Two modes of frequency conversion: 50 Hz input / 60 Hz output or 60 Hz input / 50 Hz output
- Dual-input design, supporting independent bypass
- Flexible battery configuration (settable 16 - 20 pcs batteries)
- Digitally controlled charger
- Charging voltage and current configured by demands
- Intelligent battery management, automatic floating / equalizing charge control, charger dormancy control, increasing battery life by 50%
- Settable delayed start time when mains power is restored, reducing the impact on power grid or generator
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Compact internal layout, miniaturized the complete unit for small footprint
- LCD+LED display, multi-functional keys operation, friendly human-machine interface
- Powerful background software for parameters configuration
- Advanced multi-platform communications: RS232, USB, RS485, SNMP and dry contacts communication interfaces
- Effective software and hardware protection function, robust self-diagnostic function, and abundant event log for check

Tescom®

6 - 10 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 106	Teos+ 110
Capacity	6 kVA / 6000 W	10 kVA / 10000 W
INPUT		
Input wiring	Single-phase three-wire (1Φ + N + PE)	
Rated voltage	208 / 220 / 230 / 240 Vac	
Voltage range	110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 288 Vac (no derating)	
Rated frequency	50 / 60 Hz (auto-sensing)	
Frequency range	40 ~ 70 Hz	
Power factor	≥ 0.99	
Bypass voltage range	- 40% ~ +15% (settable)	
THDi	≤ 5%	
OUTPUT		
Output wiring	Single-phase three-wire (1Φ + N + PE)	
Rated voltage	208 (PF=0.9) / 220 / 230 / 240 Vac	
Voltage regulation	± 1%	
Frequency	Synchronized to bypass in mains mode; 50 / 60 Hz ± 0.1% Hz in battery mode	
Waveform	Sinusoidal	
Power factor	1.0	
Voltage THD	≤ 1% (linear load); ≤ 4% (non-linear load)	
Crest factor	3:1	
Overload	105% ~ 110% for 10 min, 110% ~ 125% for 1 min,126% ~ 150% for 30s	
BATTERIES		
DC voltage	192 Vdc (192 ~ 240 Vdc settable)	
Number of battery	16 pcs (16 ~ 20 settable)	
Inbuilt batt. (standard model)	12V / 7Ah×16	12V / 9Ah×16
Charging current	Standard model: 1 A; Long time model: 5 A (default),1 ~ 5 A settable; 12 A (optional; PF 0.9)	
Recharge time	Standard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of battery	
SYSTEM		
Efficiency	≥ 94% at 100% load, max. 95% at 60% load, ≥ 98% in ECO mode	
Transfer time	0 ms	
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure	
Max. number of parallel connections	4	
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP / battery temperature compensation (optional)	
Display	LCD + LED	
GENERAL		
Operating temperature	0°C ~ 40°C	
Storage temperature	– 25°C ~ 55°C (without battery)	
Relative humidity	0 ~ 95% (non-condensing)	
Altitude	≤ 1000 m, derating 1% for each additional 100 m	
IP rating	IP 20	
Noise level at 1m	≤ 55 dB	≤ 58 dB
Dimensions (HxWxD) (mm)	711x191x465 (S), 350x191x465 (H)	711x191x495 (S), 350x191x495 (H)
Packaged dimensions (HxWxD) (mm)	941x310x654 (S), 475x 318x595 (H)	941x310x685 (S), 475x318x617 (H)
Net weight (kg)	53 (S), 14.5 (H)	62 (S), 16.5 (H)
Gross weight (kg)	61 (S), 16 (H)	70 (S), 18 (H)

* S means standard model; H means long time model.

1 - 3 kVA

TEOS+ 100RT

UNINTERRUPTIBLE POWER SUPPLIES

1 phase in / 1 phase out

TEOS+ 100RT Online UPS is a DSP controlled uninterruptible power supply designed with true double conversion technology. It is efficient with output power factor (PF:0.9) and input power factor correction. It is especially suitable for use in home-office applications and data centers. It offers flexibility of use with its prominent features such as frequency converter mode, wide voltage/frequency range, rack and tower usage option and multiple communication options.

GENERAL SPECIFICATIONS

- High frequency on-line double conversion technology
- DSP (Digital signal processors) control technology
- Active power factor correction (APFC), input power factor up to 0.99
- Output power factor 0.9
- Wide input voltage range (110 V ~ 300 Vac) and frequency range (40 ~ 70 Hz)
- Auto sensing frequency
- 50/60Hz frequency conversion
- Cold start
- Rear ventilation design and variable speed fan
- Effective software and hardware protection
- Quick and stable charging, 90% capacity restored in 3h (standard model UPS)
- Linear derating in low voltage input reducing battery discharging times
- Settable delayed start when power is restored
- Hot-swappable battery
- Advanced battery management (ABM)
- Multiple functions settable via LCD: output voltage, EOD, autostar bypass mode, ECO mode and frequency conversion mode
- Multi-platform communications: RS232 (standard), USB / RS485 SNMP / dry contacts (optional)

AVAILABLE OPTIONS

- Optional USB, RS485 card, AS400 dry contacts, SNMP card, SMS alarms, EPO function, MBS (External maintenance bypass switch)

Tescom®

1 - 3 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 101RT	Teos+ 102RT	Teos+ 103RT
Power	1 kVA / 900 W	2 kVA / 1800 W	3 kVA / 2700 W
INPUT			
Rated voltage	208 / 220 / 230 / 240 Vac (settable via LCD)		
Voltage range	110 ~ 176 Vac (linear derating between 50% and 100% load); 176 ~ 280 Vac (no derating); 280 ~ 300 Vac (derating 50%)		
Frequency	40 ~ 70 Hz (auto-sensing)		
Power factor	≥ 0.99		
Bypass voltage range	-25% ~ +15% (settable)		
THDi	≤ 6%		
OUTPUT			
Voltage	208 / 220 / 230 / 240 Vac (settable via LCD)		
Voltage regulation	± 1%		
Frequency	45 ~ 55 Hz or 55 ~ 65 Hz (synchronized range); 50 / 60 Hz ± 0.1 Hz (battery mode)		
Waveform	Sinusoidal		
Power factor	0.9		
Voltage THD	≤ 2% (linear load); ≤ 5% (non-linear load)		
Crest factor	3:1		
Overload	105% ~ 125% for 1 min, 125% ~ 150% for 30 s, > 150% for 300 ms		
BATTERIES			
DC voltage	24V	48V	72V
Inbuilt battery	2x12V/9Ah	4x12V/9Ah	6x12V/9Ah
Charging current (max.)	1A		
Recharge time	90% capacity restored in 3 hours		
SYSTEM			
Efficiency	≥ 90% (Mains mode)	≥ 91% (Mains mode)	≥ 92% (Mains mode)
	≥ 85% (Battery mode)	≥ 86% (Battery mode)	≥ 87% (Battery mode)
	≥ 95% (ECO mode)	≥ 96% (ECO mode)	≥ 97% (ECO mode)
Transfer time	Mains mode to battery mode: 0 ms, Inverter mode to bypass mode: 4 ms (typical)		
Protections	Short-circuit, overload, overtemperature, battery discharge protection and fan testing protection		
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP (optional)		
Display	LCD + LED		
Standards	EN 62040-1, EN 62040-2, EN 61000-3-2, EN 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2, IEC 62040-2, IEC 62040-1		
GENERAL			
Operating temperature	0°C ~ 40°C		
Storage temperature	- 25°C ~ 55°C (without battery)		
Relative humidity	0 ~ 95% (non-condensing)		
Altitude	≤ 1000 m, derating 1% for each additional 100 m		
IP rating	IP 20		
Noise level at 1m	≤ 50 dB		
Dimensions (HxWxD) (mm)	88x440x338	88x440x728	
Packaged dimensions (HxWxD) (mm)	201x545x485	201x545x852	
Net weight (kg)	12.3	27.2	30.6
Gross weight (kg)	14.3	31.3	34.0

6 - 10 kVA

TEOS+ 100RT

UNINTERRUPTIBLE POWER SUPPLIES

1 phase in / 1 phase out

TEOS+ 100RT Online UPS is a DSP controlled uninterruptible power supply designed as 3-level with true double conversion technology. It stands out with its high output power factor (PF:1) and input power factor correction, high charging current power and maximum efficiency design. It is especially suitable for use in home-office applications and data centers. It offers flexibility of use with its prominent features such as frequency converter mode, wide voltage/ frequency range, rack and tower usage option and multiple communication options.

GENERAL SPECIFICATIONS

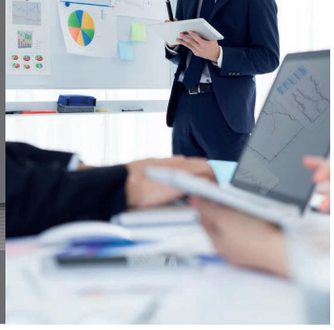
- Advanced DSP and 3-Level technology
- Output power factor 1.0
- Active power factor correction (APFC), input power factor up to 0.99
- High efficiency 95% (up to 98% in ECO mode)
- Advanced digital parallel technology
- Wide input voltage range (110 - 288 Vac) and frequency range (40 - 70Hz)
- 50 / 60 Hz frequency auto sensing
- Two modes of frequency conversion: 50Hz input / 60Hz output or 60Hz input / 50Hz output
- Hot-swappable battery
- Flexible battery configuration (settable 16 - 20 pcs batteries)
- Digitally controlled charger
- High charging current available (Maximum 5A for long run model)
- Charging voltage and current configured by demands
- Linear debating in low voltage input reducing battery dischargin times, extending the service life of battery
- Intelligent battery management, automatic floating / equalizin charge control, charger dormancy control, increasing battery life by 50%
- Ability to switch on the UPS with batteries
- Settable delayed start time when mains power is restored, reducing the impact on power grid or generator
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Equipped with self-aging function
- Compact internal layout, miniaturized the complete unit for small footprint
- LCD+LED display, multi-functional keys operation, friendly human-machine interface
- Powerful background software for parameters configuration
- Advanced multi-platform communications: RS232, USB, RS485, SNMP and dry contacts communication interfaces
- Effective software and hardware protection function, robust and self-diagnostic function, and abundant event log for check
- Available Options
- RS232 and smart card slot included
- Optional parallel function, battery temperature compensation, SNMP card, USB, RS485 card, dry contacts, EMD, and SMS alarms

Tescom®

6 - 10 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 106RT	Teos+ 110RT
Capacity	6 kVA / 6 kW	10 kVA / 10 kW
INPUT		
Input wiring	Single-phase three-wire (16 + N + PE)	
Rated voltage	208 / 220 / 230 / 240 Vac	
Voltage range	110 - 176 Vac (linear derating between 50% and 100% load); 176 - 288 Vac (no derating)	
Rated frequency	50/60Hz (auto-sensing)	
Frequency range	40 - 70 Hz	
Power factor	0.99	
Bypas s voltage range	- 40% ~ +15% (settable)	
THDi	≤ 5%	
OUTPUT		
Output wiring	Single-phase (L- N)	
Rated voltage	208 (PF= 0.9) / 220 / 230 / 240 Vac	
Voltage regulation	± 1%	
Frequency	Synchronized to bypas s in mains mode; 50/60 Hz + 0.1% Hz in battery mode	
Waveform	Sinusoidal	
Power factor	1.0	
Voltage THD	≤ 1% (linear load); ≤ 4% (non-linear load);	
Crest factor	3:1	
Overload	105% - 110% for 10 min, 110% - 125% for 1 min, 126% - 150% for 30 s	
BATTERIES		
DC voltage	192 Vdc (192-240 Vdc settable)	
Number of battery	16 pcs (16 - 20 settable)	
Inbuilt batt. (standard model)	12 V/7Ahx16	12 V/9Ahx16
Charging current	Standard model: 1 A; Long time model: 5 A (default), 1 - 5 A settable, 12 A (optional; PF 0.9)	
Recharge time	Standard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of battery	
SYSTEM		
Efficiency	94% at 100% load, max. 94.5% at 60% load, a 98% in ECO mode	
Transfer time	0 ms	
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure	
Max. number of parallel connections	4	
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP/ battery temperature compensation (optional)	
Display	LCD + LED	
GENERAL		
Operating temperature	0°C ~ 40°C	
Storage temperature	-25°C ~ 55°C (without battery)	
Relative humidity	0 - 95% (non-condensing)	
Altitude	≤ 1000 m, debating 1% for each additional 100 m	
IP rating	IP 20	
Noise level at 1 m	≤ 55 dB	≤ 58 dB
Dimensions (HxWxD) (mm) (*)	88x440x580 (H) 176x440x660 (S)	
Packaged dimensions (HxWxD) (mm) (*)	168x514x696 (H) 418x554x792 (S)	
Net weight (kg) (*)	12 (H), 58 (S)	14 (H), 63 (S)
Gross weight (kg) (*)	14 (H), 68 (S)	16 (H), 73 (S)
	(*) S means standard model; H means long time model	



3 phase in / 1 phase out

10 - 20 kVA

TEOS+ 200

UNINTERRUPTIBLE POWER SUPPLIES

TEOS+ 200 Online UPS is a DSP controlled uninterruptible power supply designed as 3-level with true double conversion technology. It stands out with its high output power factor (PF:1) and input power factor correction, high charging current power and maximum efficiency design. It is especially suitable for use in home-office applications and data centers. It offers flexibility of use with its prominent features such as frequency converter mode, wide voltage/frequency range and multiple communication options.

GENERAL SPECIFICATIONS

- Advanced DSP and 3-Level technology
- Output power factor 1.0
- Active power factor correction (APFC), input power factor up to 0.99
- High efficiency 95% (up to 98% in ECO mode)
- Advanced digital parallel technology
- 3:1 to 1:1 model settable
- Wide input voltage range (190 - 499 Vac) and frequency range (40 - 70Hz)
- 50 / 60 Hz frequency auto sensing
- Two modes of frequency conversion: 50Hz input / 60Hz output or 60Hz input / 50Hz output
- Dual-input design, supporting independent bypass
- Flexible battery configuration (settable 16 - 20 pcs batteries)
- Digitally controlled charger
- High charging current available (Max. 10 A)
- Charging voltage and current configured by demands
- Linear debating in low voltage input reducing battery discharging times, extending the service life of battery
- Intelligent battery management, automatic floating / equalizing charge control, charger dormancy control, increasing battery life by 50%
- Ability to switch on the UPS with batteries
- Settable delayed start time when mains power is restored, reducing the impact on power grid or generator
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Equipped with self-aging function
- Compact internal layout, miniaturized the complete unit for small footprint
- LCD+LED display, multi-functional keys operation, friendly human-machine interface
- Powerful background software for parameters configuration
- Advanced multi-platform communications: RS232, USB, RS485, SNMP and dry contacts communication interfaces
- Effective software and hardware protection function, robust an self-diagnostic function, and abundant event log for check

AVAILABLE OPTIONS

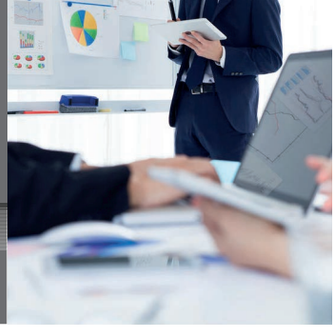
- RS232 and smart card slot included
- Optional parallel function, battery temperature compensation, SNMP card, USB, RS485 card, dry contacts, EMD, and SMS alarms

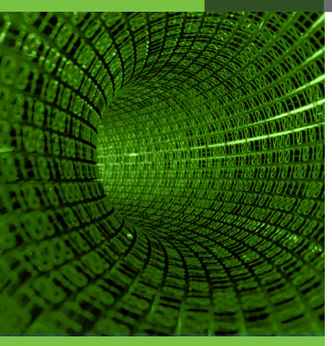
Tescom®

10 - 20 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 210	Teos+ 215	Teos+ 220
Capacity	10 kVA / 10 kW	15 kVA / 15 kW	20 kVA / 20 kW
INPUT			
Input wiring	Three-phase five-wire (3Φ + N + PE)		
Rated voltage	380 / 400 / 415 Vac		
Voltage range	190 - 305 Vac (linear derating between 50% and 100% load); 305 - 499 Vac (no derating)		
Rated frequency	50/60 Hz (auto-sensing)		
Frequency range	40 ~ 70 Hz		
Power factor	≥ 0.99		
Bypass voltage range	- 40% ~ +15% (settable)		
THDi	≤ 5%		
OUTPUT			
Output wiring	Single-phase three-wire (1Φ + N + PE)		
Rated voltage	208 (PF=0.9) / 220 / 230 / 240 Vac		
Voltage regulation	± 1%		
Frequency	Synchronized to bypass in mains mode; 50/60 Hz + 0.1% Hz in battery mode		
Waveform	Sinusoidal		
Power factor	1.0		
Voltage THD	≤ 1% (linear load); ≤ 3% (non-linear load)		
Crest factor	3:1		
Overload	105% - 110% for 10 min, 110% - 125% for 1 min, 126% - 150% for 30s		
BATTERIES			
DC voltage	192 Vdc (192 - 240 Vdc settable)		
Number of battery	16 pcs (16 - 20 settable)		
Inbuilt batt. (standard model)	12 V / 9Ah x 16	/	
Charging current	Standard model: 1A; Long time model: 5A (default), 1 - 5A settable; 10A (optional)		
Recharge time	Standard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of battery		
SYSTEM			
Efficiency	≥ 94% at 100% load, max. 95% at 60% load, ≥ 98% in ECO mode		
Transfer time	0 ms		
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure		
Max. number of parallel connections	4		
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP/ battery temperature compensation (optional)		
Display	LCD + LED		
GENERAL			
Operating temperature	0°C ~ 40°C		
Storage temperature	-25°C ~ 55°C (without battery)		
Relative humidity	0 - 95% (non-condensing)		
Altitude	≤ 1000 m, derating 1% for each additional 100 m		
IP rating	IP 20		
Noise level at 1m	≤ 58 dB		
Dimensions (HxWxD) (mm) (*)	711x191x495 (S) 350x191x495 (H)	515x191x495 (H)	
Packaged dimensions (HxWxD) (mm) (*)	941X310X685 (S) 475x318x617 (H)	618x285x593 (H)	
Net weight (kg) (*)	18.5 (H), 64 (S)	26.5 (H)	
Gross weight (kg) (*)	20 (H), 72 (S)	28 (H)	
	(*) S means standard model; H means long time model		





10 - 20 kVA

TEOS+ 200RT

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 1 phase out

TEOS+ 200RT Online UPS is a DSP controlled uninterruptible power supply designed as 3-level with true double conversion technology. It stands out with its high output power factor (PF:1) and input power factor correction, high charging current power and maximum efficiency design. It is especially suitable for use in home-office applications and data centers. It offers flexibility of use with its prominent features such as frequency converter mode, wide voltage / frequency range, rack and tower usage option and multiple communication options.

GENERAL SPECIFICATIONS

- Advanced DSP and 3-Level technology
- Output power factor 1.0
- Active power factor correction (APFC), input power factor up to 0.99
- High efficiency 95% (up to 98% in ECO mode)
- Advanced digital parallel technology
- 3:1 to 1:1 model settable
- Wide input voltage range (190 - 478 Vac) and frequency range (40 - 70Hz)
- 50 / 60 Hz frequency auto sensing
- Two modes of frequency conversion: 50Hz input / 60Hz output or 60Hz input / 50Hz output
- Dual-input design, supporting independent bypass
- Hot-swappable battery (10kVA)
- Flexible battery configuration (settable 16 - 20 pcs batteries)
- Digitally controlled charger
- High charging current available (Max. 10 A)
- Charging voltage and current configured by demands
- Linear debating in low voltage input reducing battery discharging times, extending the service life of battery
- Intelligent battery management, automatic floating / equalizing charge control, charger dormancy control, increasing battery life by 50%
- Ability to switch on the UPS with batteries
- Settable delayed start time when mains power is restored, reducing the impact on power grid or generator
- Fan speed varies intelligently with temperature, reducing noise and extending its service life
- Equipped with self-aging function
- Compact internal layout, miniaturized the complete unit for small footprint
- LCD+LED display, multi-functional keys operation, friendly human-machine interface
- Powerful background software for parameters configuration
- Advanced multi-platform communications: RS232, USB, RS485, SNMP and dry contacts communication interfaces
- Effective software and hardware protection function, robust and self-diagnostic function, and abundant event log for check

AVAILABLE OPTIONS

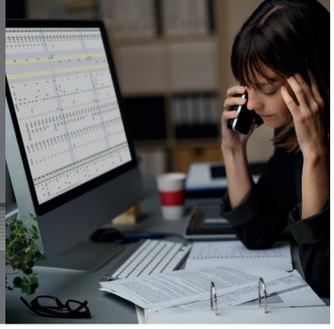
- RS232 and smart card slot included
- Optional parallel function, battery temperature compensation, SNMP card, USB, RS485 card, dry contacts, EMD, and SMS alarms

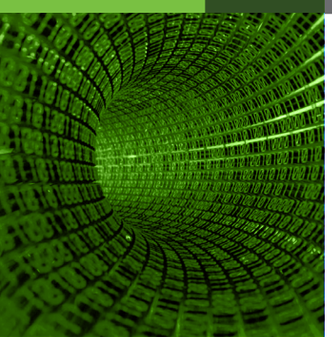
Tescom®

10 - 20 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 210RT	Teos+ 215RT	Teos+ 220RT
Capacity	10 kVA / 10 kW	15 kVA / 15 kW	20 kVA / 20 kW
INPUT			
Input wiring	Three-phase five-wire (3Φ + N + PE)		
Rated voltage	380 / 400 / 415 Vac		
Voltage range	190 - 304 Vac (linear derating between 50% and 100% load); 304 - 478 Vac (no derating)		
Rated frequency	50/60 Hz (auto-sensing)		
Frequency range	40 ~ 70 Hz		
Power factor	≥ 0.99		
Bypass voltage range	- 40% ~ +15% (settable)		
THDi	≤ 5%		
OUTPUT			
Output wiring	Single-phase (L-N)		
Rated voltage	208 (PF=0.9) / 220 / 230 / 240 Vac		
Voltage regulation	± 1%		
Frequency	Synchronized to bypass in mains mode; 50/60 Hz + 0.1% Hz in battery mode		
Waveform	Sinusoidal		
Power factor	1.0		
Voltage THD	≤ 1% (linear load); ≤ 3% (non-linear load)		
Crest factor	3:1		
Overload	105% - 110% for 10 min, 110% - 125% for 1 min, 126% - 150% for 30s		
BATTERIES			
DC voltage	192 Vdc (192 - 240 Vdc settable)		
Number of battery	16 pcs (16 - 20 settable)		
Inbuilt batt. (standard model)	12 V / 9Ah x 16	/	/
Charging current	Standard model: 1A; Long time model: 5A (default), 1 - 5A settable; 10A (optional)		
Recharge time	Standard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of battery		
SYSTEM			
Efficiency	≥ 94% at 100% load, max. 95% at 60% load, ≥ 98% in ECO mode		
Transfer time	0 ms		
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure		
Max. number of parallel connections	4		
Communications	RS232 (standard), USB / RS485 / dry contacts / SNMP/ battery temperature compensation (optional)		
Display	LCD + LED		
GENERAL			
Operating temperature	0°C ~ 40°C		
Storage temperature	-25°C ~ 55°C (without battery)		
Relative humidity	0 - 95% (non-condensing)		
Altitude	≤ 1000 m, derating 1% for each additional 100 m		
IP rating	IP 20		
Noise level at 1m	≤ 58 dB		
Dimensions (HxWxD) (mm) (*)	88x440x650 (H) 176x440x660 (S)	132x440x780	
Packaged dimensions (HxWxD) (mm) (*)	168x514x696 (H) 418x554x792 (S)	400x554x792	
Net weight (kg) (*)	17 (H), 67 (S)	25.5	
Gross weight (kg) (*)	19 (H), 77 (S)	28	
	(*) S means standard model; H means long time model.		





10 - 80 kVA

TEOS 300

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

TEOS 300 Online UPS is an uninterruptible power supply that guarantees high performance with its true double conversion technology and DSP controlled processor (Digital Signal Processor). Thanks to its silent operation, it is especially preferred for use in home-office applications. It offers flexibility of use with its prominent features such as frequency converter mode, wide voltage/frequency range and multiple communication options. Long backup time with powerful charger option, touchscreen graphic panel application, splitt dual input, voice and speaking notifications are the features that differentiate the product.

GENERAL SPECIFICATIONS

- DSP technology guarantees high performance
- Output power factor 1.0
- Active power factor correction in all phases
- Dual Inputs
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving
- Emergency power off function (EPO)
- Adjustable charging current
- Very powerful charger
- Optional parallel operation with common battery
- High overload capability
- Adjustable battery design
- Optional 4.3"touch LCD

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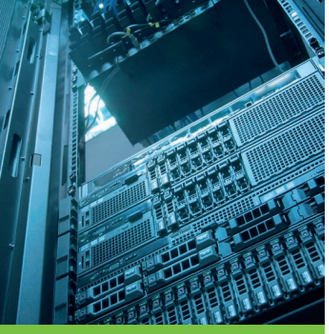
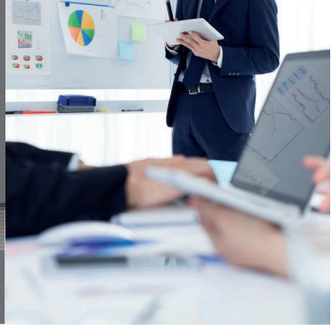


10 - 80 kVA

TECHNICAL SPECIFICATIONS

MODEL		Teos 310	Teos 320	Teos 330XL	Teos 340XL	Teos 360XL	Teos 380XL
Phase		3 phase in / 3 phase out					
Capacity		10kVA / 10kW	20kVA / 20kW	30kVA / 30kW	40kVA / 40kW	60kVA / 60kW	80kVA / 80kW
Parallel capability		up to 4 units in parallel					
INPUT							
Nominal voltage		3x400VAC (3P+N)					
Input voltage range		190-520VAC (3-Phase) @ 50% load 305-478 VAC (3-phase) @ 100% load					
Frequency range		46~54Hz or 56~64Hz					
Power factor		≥ 0.99 @ 100% load					
OUTPUT							
Voltage		3x360/380/400/415 VAC (3P+N)					
AC Voltage regulation		± 1% (batt.mode)					
Frequency range		46~54Hz or 56~64Hz (synchronized range)					
Frequency range		50Hz ± 0.1Hz or 60Hz ± 0.1Hz (batt. mode)					
Crest factor		3:1					
Voltage THD		≤ 2 % THD (Linear Load) ≤ 5 % THD (Non-linear load)					
Transfer time	AC mode - batt. mode	Zero					
	Inverter to bypass	Zero					
Waveform (batt. mode)		Pure sinewave					
Overload	AC mode	100-110% for 60 min, 110-125% for 10 min, >150% for immediately					
	Battery mode						
EFFICIENCY							
AC mode		95.5%					
Eco mode		98.5%					
Battery mode		94.5%					
BATTERIES							
Battery type		Depends on the application					
Number of batteries		20 pcs internal	32 pcs (can be extended with external cabinet)	32-40 pcs (adjustable)			
Charge current (max.)		1-12A (adjustable)				2-24A (adjustable)	
Charging voltage		± 136.5 VDC ±%10	± 218 VDC ± %10	±13.65VxN (N = 16~20)			
INDICATORS							
LCD panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions					
PHYSICAL							
Dimension HxWxD (mm)		630x250x826		1000x300x815		1010x360x790	
Net weight (kg)		124 (with internal batt.)	139 (with internal batt.)	60	61	108	113
ENVIRONMENT							
Operating temperature		0ºC - 40ºC					
Operating humidity		< 95% (non-condensing)					
Acoustic noise		< 60dBA @ 1 Meter	< 63dBA @ 1 Meter	< 65dBA @ 1 Meter	< 70dBA @ 1 Meter		< 75dBA @ 1 Meter
MANAGEMENT							
Smart RS-232/USB		Supports Windows® 2000/2003/XP/Vista/2008, 7/8, Linux and MAC					
Optional SNMP		Power management from SNMP manager and web browser					

(*) If the output voltage is set to 3x360 VAC, the output power of the unit will be reduced to 90%



3 phase in / 3 phase out

10 - 30 kVA

TEOS+ 300

UNINTERRUPTIBLE POWER SUPPLIES

TEOS+ 300 Online UPS is a DSP controlled uninterruptible power supply designed as 3-level with true double conversion technology. It stands out with its high output power factor (PF:1) and input power factor correction, high charging current power and maximum efficiency design. It is especially preferred for use in home-office applications and data centers. It offers flexibility of use with its prominent features such as color and touch screen, frequency converter mode, wide voltage/frequency range, high charging current capacity and multiple communication options.

GENERAL SPECIFICATIONS

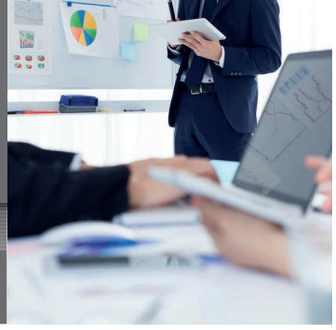
- Advanced dual-core DSP control technology and 3-level technology
- Active power factor correction (APFC), input power factor up to 0.99
- System efficiency is improved to 95%, energy saving rate is doubled
- Output power factor 1.0
- Dual input design, supporting independent bypass
- Advanced digital and parallel technology, providing higher reliability than single system
- Wide input voltage range
- 50 / 60 Hz auto-sensing frequency
- 50 / 60 Hz frequency conversion mode
- Work efficiency up to 98% in ECO mode
- Fan speed varies intelligently with load, reducing noise and extending its service life
- Conformal coating technology to make UPS operate in harsh environment for a long time
- Digitally controlled charger (Max.10 A & 20% output power)
- Flexible battery configuration setting, selectable battery numbers: 32~ 40 pcs
- Ability to switch on the UPS by battery in the absence of mains power (Cold start)
- Compact internal layout, small footprint
- Zero switching time for UPS power supply mode when the mains power is unstable, ensuring the output is uninterrupted
- 5 inches LCD colorful touch screen, friendly human & machine interface
- Advanced multi-platform communication for UPS monitoring: RS232,USB,RS485, dry contacts, SNMP card,Wi-Fi card and GPRS card
- Linear derating in low voltage input, reducing battery discharging times, extending the service life of battery
- Intelligent battery management, automatic equalized and float charging control, charger dormancy control, improving the reliability of charger and extending the battery life
- Effective hardware and software protection, robust self-diagnosis function, abundant event log for future check
- Standard RS232,USB,RS485,EPO,Dry contacts,Parallel port
- Optional SNMP card,WI-FI card,GPRS card, SMS alarms
- Powerful background software for parameters configuration and online upgrade

Tescom®

10 - 30 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 310	Teos+ 315	Teos+ 320	Teos+ 330
Capacity	10kVA / 10kW	15kVA / 15kW	20kVA / 20kW	30kVA / 30kW
INPUT				
Rated voltage	380/400/415 VAC (L-L)			
Input voltage range	304~478Vac (L-L),full load 228V~304Vac (L-L), load decrease linearly according to the minimum phase voltage			
Rated frequency	50~60Hz (auto-sensing)			
Frequency range	40~70Hz			
Power factor	≥ 0.99			
Bypass voltage range	Selectable, default -20%~+15% Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%			
Bypass frequency range	Selectable, ±1Hz, ±3Hz, ±5Hz			
THDi	<3% (full Linear Load)			
Bypass overload	125%: Long term operation; 125%~130%: 10min; 130%~150%: 1min; 150%~400%: 1s; >400%, less than 200ms			
OUTPUT				
Rated voltage	380/400/415 VAC (L-L)			
Voltage regulation	± 1% (full Linear Load)			
Frequency	Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode			
Waveform	Sinusoidal			
Power factor	1.0			
Voltage THD	< 1% (full Linear Load) < 3% (full non-linear load according to IEC/EN62040-3)			
Crest factor	3:1			
Overload	< 110%, 60min; 110%~125%,10min; 125%~150%,1min; >150%, 200ms			
BATTERIES				
DC voltage	±240 VDC (Selectable, 32 - 40pcs)			
Inbuilt batt. (standard model)	(10+10) x 9AH	(20+20) x 7AH	(20+20) x 9AH	(15+15) x 9AH x 2 strings
Charging current	10 A max.			
Charger voltage precision	1%			
Recharge time	Standard model: 90% capacity restored in 8 hours; Long time model: depend on the capacity of battery			
SYSTEM				
Efficiency	95% max.			
Transfer time	0ms			
Max. number of parallel connections	4			
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure			
Communications	RS232, USB, RS485, EPO, Dry contacts, Parallel port (Standard), SNMP card, WI-FI card, GPRS card, SMS alarms (Optional)			
Display	LED + 5 inches LCD touch screen			
GENERAL				
Operating temperature	0ºC - 40ºC			
Storage temperature	40ºC - 70ºC			
Relative humidity	0-95% max. (non-condensing)			
Altitude	<1000m, Load derated 1% per 100m from 1000 ~ 2000m			
IP rating	IP20			
Noise level @ 1m	55dB @ 100% load, 52dB @ 50% load		58dB @ 100% load, 55dB @ 50% load	
Dimensions (HxWxD) (mm)	560x250x720 (S) 560x250x720 (H)	700x250x800 (S) 560x250x720 (H)		930x250x840 (S) 650x250x840 (H)
Packaged dimensions (HxWxD) (mm)	722x350x800 (S) 718x350x800 (H)	862x350x800 (S) 718x350x800 (H)		1102x350x950 (S) 810x350x980 (H)
Net weight (kg)	82 (S) 31 (H)	131 (S) 33 (H)	145 (S) 33 (H)	215 (S) 42 (H)
Gross weight (kg)	93 (S) 40 (H)	142 (S) 42 (H)	156 (S) 42 (H)	227 (S) 52 (H)
	S means standard model, H means long time model			



10 - 30 kVA

TEOS+ 300RT

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

GENERAL SPECIFICATIONS

- Advanced dual-core DSP control technology and 3-level technology
- Active power factor correction (APFC), input power factorup to 0.99
- System efficiency is improved to 95%, energy saving rate is doubled
- Output power factor 1.0
- Dual input design, supporting independent bypass
- Advanced digital and parallel technology, providing higher reliability than single system
- Wide input voltage range
- 50 / 60 Hz auto-sensing frequency 50 / 60 Hz frequency conversion mode
- Work efficiency up to 98% in ECO mode
- Fan speed varies intelligently with load, reducing noise and extending its service life
- Conformal coating technology to make UPS operate in harsh environment for a long time
- Flexible battery configuration setting, selectable battery numbers: 32~ 40 pcs
- Digitally controlled charger (Max.10 A)
- Ability to switch on the UPS by battery in the absence of mains power (Cold start)
- Zero switching time for UPS power supply mode when the mains power is unstable, mensuring the output is uninterrupted
- Compact internal layout, small footprint
- 5 inches LCD colorful touch screen, friendly human & machine interface
- Powerful background software for parameters configuration and online upgrade
- Advanced multi-platform communication for UPS monitoring: RS232,USB,RS485, dry contacts, SNMP card,Wi-Fi card and GPRS card
- Linear derating in low voltage input, reducing battery discharging times, extending the service life of battery
- Intelligent battery management, automatic equalized and float charging control, charger dormancy control, improving the reliability of charger and extending the battery life
- Effective hardware and software protection, robust self-diagnosis function, abundant event log for future check
- Standard RS232, USB, RS485, EPO, Dry contacts, Parallel port
- Optional SNMP card,WI-FI card,GPRS card, SMS alarms

Tescom®

10 - 30 kVA

TECHNICAL SPECIFICATIONS

MODEL	Teos+ 310RT	Teos+ 315RT	Teos+ 320RT	Teos+ 330RT
Capacity	10 kVA / 10 kW	15 kVA / 15 kW	20 kVA / 20 kW	30 kVA / 30 kW
INPUT				
Rated voltage	380 / 400 / 415 Vac (L-L)			
Voltage range	304~478 Vac (L-L),full load 228V~304 Vac (L-L), load decrease linearly according to the min phase voltage			
Rated frequency	50/60Hz (auto-sensing)			
Frequency range	40 - 70 Hz			
Power factor	> 0.99			
Bypas s voltage range	Selectable default ~ 20% + 15% Up limited: + 10%, + 15%, + 20%, + 25%; Down limited: - 10%, - 15%, - 20%, - 25%			
Bypass frequency range	Selectable, ±1Hz, ±3Hz, ±5Hz			
THDi	<3% (full Linear Load)			
Bypass overload	125%: Long term operation; 125%~130%: 10min; 130%~150%: 1min; 150%~400%: 1s; >400%, less than 200ms			
OUTPUT				
Rated voltage	380 / 400 / 415 Vac (L-L)			
Voltage regulation	± 1% (full Linear Load)			
Frequency	Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode			
Waveform	Sinusoidal			
Power factor	1.0			
Voltage THD	<1% (full Linear Load), <3% (full non-linear load according to IEC / EN62040-3)			
Crest factor	3:1			
Overload	<110%, 60min; 110%~125%,10min; 125%~150%,1min; >150%, 200ms			
BATTERIES				
DC voltage	±240VDC (Selectable, 32 - 40pcs)			
Charging current	10A max			
Charger voltage precision	1%			
Recharge time	Long time model: depend on the capacity of battery			
SYSTEM				
Efficiency	95% Max			
Transfer time	0 ms			
Max. number of parallel connections	4			
Protections	Short-circuit, overload, overtemperature, battery low voltage, overvoltage, undervoltage and fan failure			
Communications	RS232, USB / RS485 / EPO / Dry contacts / Parallel port (standard) / SNMP Card / WI-FI Card / GPRS Card / SMS Alarms (optional)			
Display	LED + 5 inches LCD touch screen			
OTHERS				
Operating temperature	0°C ~ 40°C			
Storage temperature	-40°C ~ 70°C			
Relative humidity	0 - 95% (non-condensing)			
Altitude	<1000m, Load derated 1% per 100m from 1000 ~ 2000m			
IP rating	IP 20			
Noise level at 1 m	55dB @ 100% load, 52dB @ 50% load		58dB @ 100% load, 55dB @ 50% load	
Dimensions (HxWxD) (mm)	130 x 440 x 660			130 x 440 x 750
Packaged dimensions (HxWxD) (mm)	204 x 532 x 800			204 x 532 x 890
Net weight (kg)	22	24		29
Gross weight (kg)	24	26		31

10 - 20 kVA

DS POWER SH

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

IGBT RECTIFIER
DSP CONTROL

DS Power SH Online UPS has emerged as an affordable alternative to the DS Power H model with its compact and small-footprint design. It stands out with its ergonomic design that occupies less space with the same power as the battery cabinet that can be positioned one above the other with the UPS. It features the latest DSP technology, which is programmed to suit a wide variety of electrical environments without impending performance. With the 3-Level topology, efficiency, reliability and functionality are elevated to levels unattainable with legacy analog technology. This technology does not only create significant increase in MTBF, but the capability of DSP to accurately process signals at very high speed permits all the UPS subsystems to be controlled with greatly increased precision.

GENERAL SPECIFICATIONS

- Small footprint
- Transformerless UPS topology
- 3 DSP controlled modular structure
- Separate main control board advantage for rectifier and inverter
- 3-Level technology and fully digital structure
- Less electronic components and SMD technology
- Low input current total harmonic distortion (THDi)
- High input power factor

- High efficiency up to 94%
- Selectable input/output voltage/frequency range
- Static and maintenance by-pass switch
- Optional 0.8 and 1.0 output power factor (PF) option
- Cold start function
- Compliant with IEC EN62040 directive
- Conforms to CE, TSE and GOST standards
- ISO9001, ISO14001 compliant production
- Advanced control at the input
- 3 level battery protection
- Temperature compensated charge system
- Output current limitation
- Output DC leakage protection
- Output short circuit and overload protection
- External REPO switch input
- 512 events memory (46.000 alarm)
- Clock and calender (battery supported)
- Automatic battery test, remaining battery time indicator
- 1 RS232 serial port and 3 dry contact outputs
- Optional SNMP, MODBUS and Remote Monitoring Panel
- Viewing device operating parameters
- Advanced remote control features
- User and central service passwords protected security
- 2 years warranty

Tescom®

10 - 20 kVA

TECHNICAL SPECIFICATIONS

MODEL	DS310SH	DS315SH	DS320SH
Power (kVA)	10	15	20
INPUT			
Voltage	380/400 VAC 3P + N + G ± 20%		
Frequency	50Hz / 60Hz, ± 10%		
Power factor (@ 100% load)	≥ 0.99		
THDI (@ 100% load)	≤ 4% (depends on mains input conditions)		
By-pass voltage	380/400 VAC 3P + N, 4 Wires, ± 10%		
Voltage distortion	≤ 10%		
Protection	Fuses, Voltage & Frequency Tolerance		
OUTPUT			
Power (kW)	9	13.5	18
Power factor (*)	0.9		
Voltage	380/400 VAC 3P + N, ± 1%		
Frequency	50Hz / 60Hz		
Frequency tolerance	Line synchronized: ± 2% / Free running: ± 0.1%		
Efficiency (@ 100% load)	94%		
Crest factor	3:1		
Overload protection	100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass		
Protection	Fuses,Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting		
Voltage THD	≤ 2% (at 100% linear load)		
BATTERIES			
Type	VRLA AGM / GEL / NiCd		
Number of batteries	60 (± 30) batteries		
Float charging voltage	± 405 VDC (adjustable)		
End of discharge voltage	± 300 VDC (adjustable)		
Battery cabinet	External (attached cabinet at the bottom of UPS)		
Battery ambient temp.	25°C		
Battery protection	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)		
Automatic battery test	Standard: every 72 hours (adjustable)		
GENERAL			
Standards	EN62040-1, EN62040-2, EN62040-3		
User interface	4 lines LCD panel, Mimic leds, 5 vector buttons, buzzer		
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time		
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232,operating hour meter		
Communication	RS232 serial port, 3 programmable dry contact outputs		
Inputs	EPO input		
Genset kit	Standard (programmable)		
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)		
Alarm logging	Standard: with time & date 512 events		
Protection	Power module over temperature, Over current, Temperature high alarms		
Operating temperature	0°C - 40°C		
Protection degree	IP20		
Relative humidity	90% max. (non-condensing)		
Altitude	< 1000m. above sea level		
Acoustic noise	< 55 dBA	< 57 dBA	
Weight (kg)	47.5	49.5	51
Dimensions (mm) HxWxD	700x300x770 (without batt.) / 1170x300x800 (with 7-9ah batt.)		
OPTIONS			
Different input / output voltage	Please ask		
Adaptors	SNMP, MODBUS, RS485, Remote panel		
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients		
	(*) Ask for 0.8 and 1.0 power factor		

10 - 100 kVA

DS POWER H

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

3-LEVEL TECHNOLOGY
IGBT RECTIFIER
DSP CONTROL

DS Power H Online UPS uses the latest DSP technology to be programmed to suit a wide variety of electrical environments without impending its performance. With the 3-Level topology, efficiency, reliability and functionality have been raised to levels unattainable with legacy analog technology. This technology not only creates a significant increase in MTBF, but the DSP's ability to accurately process signals at very high speed allows all UPS subsystems to be controlled with greatly increased precision.

GENERAL SPECIFICATIONS

- Transformerless UPS topology
- 3 DSP controlled modular structure
- Separate main control board advantage for rectifier and inverter
- 3-Level technology and fully digital structure
- Less electronic components and SMD technology
- Low input current total harmonic distortion (THDi)
- High input power factor
- High efficiency up to 95%
- Selectable input/output voltage/frequency range
- Static and maintenance by-pass switch
- High charge current capacity
- Eco Mode operation (optional)
- Split by-pass input (dual input)
- Advanced TFT front panel (40-100kVA)
- Optional 0.8 and 1.0 output power factor (PF)
- Cold start function
- Compliant with IEC EN62040 directive
- Conforms to CE, TSE and GOST standards
- ISO9001, ISO14001 compliant production
- Advanced control at the input
- 3 level battery protection
- Output current limitation
- Output DC leakage protection
- External REPO input
- 512 events memory (46.000 alarm)
- Clock and calender (battery supported)
- Automatic battery test, remaining battery time indicator
- 2 RS232 serial ports and 4 programmable dry contact outputs
- Optional 12 dry contact outputs
- Optional SNMP, MODBUS and Remote Monitoring Panel
- Viewing device operating parameters
- Advanced remote control features
- User and central service password-protected security
- 2 years warranty

Tescom®

10 - 100 kVA

TECHNICAL SPECIFICATIONS

MODEL	DS310H	DS315H	DS320H	DS330H	DS340H	DS360H	DS380H	DS3100H
Power (kVA)	10	15	20	30	40	60	80	100
INPUT								
Voltage	380/400 VAC 3P + N + G ± 20% (at 100% load) / - 40% (at 70% load)							
Frequency	50Hz / 60Hz, ± 10%							
Power factor	≥ 0.99 (at 100% load)							
THDI (*)	≤ 3%							
By-pass voltage	380/400 VAC 3 Phase + N, ± 10%							
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator							
OUTPUT								
Power (kW)	9	13.5	18	27	36	54	72	90
Power factor (**)	0.9							
Voltage	380/400 VAC 3F + N, ± %1							
Frequency	50Hz / 60Hz							
Frequency tolerance	Line synchronized: ± 2% (adjustable) / Free running: ± 0.1%							
Efficiency	up to 95%							
Crest factor	3:1							
Overload protection	100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass							
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting							
Voltage THD	≤ 2% (at 100% linear load)							
BATTERIES								
Type	VRLA AGM / GEL / NiCd							
Number of batteries	2x30 (±30): 60 pieces							
Charge / End of discharge voltage	2x405 VDC / 2x300 VDC							
Battery cabinet	Internal						External	
Battery ambient temp.	25ºC							
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)							
Automatic testing	Standard every 72 hours (adjustable)							
GENERAL								
Standards	EN62040-1, EN62040-2, EN62040-3							
User interface	4 lines LCD panel, Mimic leds, 5 vector buttons, Buzzer				TFT panel, 5 vector buttons, Buzzer			
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time							
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232,operating hour meter							
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays							
Inputs	EPO input, Interactive battery panel input, Genset input							
Genset kit	Standard (programmable)							
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)							
Alarm logging	Standard:with time & date 512 events							
Protections	Power module over-temperature, Overcurrent, Temperature high alarm							
Temperature range	0ºC - 40ºC							
Protection degree	IP20							
Relative humidity	90% max. (non-condensing)							
Altitude	< 1000m above sea level							
Acoustic noise	< 57dBA				< 62dBA			< 65dBA
Weight (kg)	87	87	91	100	173	197	209	220
Dimensions (mm) HxWxD	1040x400x815				1440x515x855			
OPTIONS								
Different input / output voltage	Please ask							
Transformer	Galvanic isolation transformer at the input & output (internal)							
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients							
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer							
Parallel operation	Up to 8 units							
	(*) Depending on power and input/output conditions / (**) Please ask for PF 0.8 and 1.0							

300 - 500 kVA

DS POWER H

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

3-LEVEL TECHNOLOGY
IGBT RECTIFIER
DSP CONTROL

DS Power H Online UPS uses the latest DSP technology to be programmed to suit a wide variety of electrical environments without impending its performance. With the 3-Level topology, efficiency, reliability and functionality have been raised to levels unattainable with legacy analog technology. This technology not only creates a significant increase in MTBF, but the DSP's ability to accurately process signals at very high speed allows all UPS subsystems to be controlled with greatly increased precision.

GENERAL SPECIFICATIONS

- Transformerless UPS topology
- 3 DSP controlled modular structure
- Separate main control board advantage for rectifier and inverter
- 3-Level technology and fully digital structure
- Less electronic components and SMD technology
- Low input current total harmonic distortion (THDi)
- High input power factor
- High efficiency up to 95%

- Selectable input/output voltage/frequency range
- Static and maintenance by-pass switch
- High charge current capacity
- Eco Mode operation (optional)
- Split by-pass input (dual input)
- Advanced TFT front panel
- Optional 0.8 and 1.0 output power factor (PF)
- Cold start function
- Compliant with IEC EN62040 directive
- Conforms to CE, TSE and GOST standards
- ISO9001, ISO14001 compliant production
- Advanced control at the input
- 3 level battery protection
- Output current limitation
- Output DC leakage protection
- External REPO input
- 512 events memory (46.000 alarm)
- Clock and calender (battery supported)
- Automatic battery test, remaining battery time indicator
- 2 RS232 serial ports and 4 programmable dry contact outputs
- Optional 12 dry contact outputs
- Optional SNMP, MODBUS and Remote Monitoring Panel
- Viewing device operating parameters
- Advanced remote control features
- User and central service password-protected security
- 2 years warranty

Tescom®

300 - 500 kVA

TECHNICAL SPECIFICATIONS

MODEL	DS3300H	DS3400H	DS3500H
Power (kVA)	300	400	500
INPUT			
Voltage	380/400 VAC 3P + N + G ± 20% (at 100% load) / - 40% (at 70% load)		
Frequency	50Hz / 60Hz, ± 10%		
Power factor	≥ 0.99 (at 100% load)		
THDI (*)	≤ 3%		
By-pass voltage	380/400 VAC 3 Phase + N, ± 10%		
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator		
OUTPUT			
Power (kW)	270	360	450
Power factor (**)	0.9		
Voltage	380/400 VAC 3F + N, ± %1		
Frequency	50Hz / 60Hz		
Frequency tolerance	Line synchronized: ± 2% (adjustable) / Free running: ± 0.1%		
Efficiency	up to 95%		
Crest factor	3:1		
Overload protection	100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass		
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting		
Voltage THD	≤ 2% (at 100% linear load)		
BATTERIES			
Type	VRLA AGM / GEL / NiCd		
Number of batteries	2x30 (±30): 60 pieces		
Charge / End of discharge voltage	2x405 VDC / 2x300 VDC		
Battery cabinet	External		
Battery ambient temperature	25ºC		
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)		
Automatic testing	Standard every 72 hours (adjustable)		
GENERAL			
Standards	EN62040-1, EN62040-2, EN62040-3		
User interface	TFT panel, 5 vector buttons, Buzzer		
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time		
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232,operating hour meter		
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays		
Inputs	EPO input, Interactive battery panel input, Genset input		
Genset kit	Standard (programmable)		
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)		
Alarm logging	Standard:with time & date 512 events		
Protections	Power module over-temperature, Overcurrent, Temperature high alarm		
Temperature range	0ºC - 40ºC		
Protection degree	IP20		
Relative humidity	90% max. (non-condensing)		
Altitude	< 1000m above sea level		
Acoustic noise	< 68dBA		
Weight (kg)	635	680	890
Dimensions (mm) HxWxD	1900x1250x775		
OPTIONS			
Different input / output voltage	Please ask		
Transformer	Galvanic isolation transformer at the input & output		
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients		
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer		
Parallel operation	Up to 8 units		
	(*) Depending on power and input/output conditions / (**) Please ask for PF 0.8 and 1.0		

100 - 400 kVA

DS POWER X

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

3-LEVEL TECHNOLOGY
IGBT RECTIFIER
DSP CONTROL

DS Power X Online UPS uses the latest DSP technology, which can be programmed to suit a wide variety of electrical environments without impending its performance. It stands out with its stylish design, high power density (250KVA in less than 0.5m2 area) and less noisy operation than its counterparts.As a state-of-the-art product, the input and output side have been designed as 3-Level to maximize efficiency, reliability and functionality. This technology not only creates a significant increase in MTBF, but the DSP's ability to accurately process signals at very high speed allows all UPS subsystems to be controlled with greatly increased precision.

GENERAL SPECIFICATIONS

- kVA = kW (Output PF = 1.0)
- Transformerless ups technology
- 3 DSP controlled modular structure
- High power density
- Separate main control board program for rectifier and inverter
- 3-Level rectifier, inverter technology and fully digital structure
- Less electronic components and SMD technology
- Low input current total harmonic distortion (THDi)
- High input power factor

- High efficiency up to 96.0%
- Selectable input/output voltage/frequency/range
- Static and maintenance by-pass switch
- High charge current capacity
- Ecomode operation (optional)
- Split by-pass input (dual input)
- Advanced TFT front panel
- Optional 0.8 and 0.9 output power factor (PF) option
- Cold start function
- ISO9001, ISO14001 compliant production
- Advanced diagnostics for the input
- 3 level battery protection
- Temperature compensated charge system
- Output current limitation
- Output DC leakage protection
- Output short circuit and overload protection
- External REPO input
- 512 events memory (46.000 alarm)
- Clock and calender (battery supported)
- Automatic battery test, remaining battery time indicator
- Static and maintenance by-pass switch
- 2 RS232 serial ports and 4 programmable dry contact outputs
- Optional 12 dry contact outputs
- Optional SNMP, MODBUS and Remote Monitoring Panel
- View device operating parameters
- Advanced remote control features
- 2 years warranty

Tescom®

100 - 400 kVA

TECHNICAL SPECIFICATIONS

MODEL	DX3100	DX3120	DX3160	DX3200	DX3250	DX3300 (soon)	DX3400 (soon)
Power (kVA)	100	120	160	200	250	300	400
INPUT							
Voltage	380/400 VAC 3P + N + G ± 20% (at 100% load) / - 40% (at 70% load)						
Frequency	50Hz / 60Hz, ± 10%						
Power factor	≥ 0.99						
THDI (*)	≤ 3%						
By-pass voltage	380/400 VAC 3 Phase + N, ± 10 (adjustable)						
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator						
OUTPUT							
Power (kW)	100	120	160	200	225	300	400
Power factor (**)	1.0				0.9	1.0	
Voltage	380/400 VAC 3F + N, ± %1						
Frequency	50Hz / 60Hz						
Frequency tolerance	Line synchronized: ± 2% (adjustable) / Free running: ± 0.1%						
Efficiency	up to 95.5%		up to 96.0%				
Crest factor	3:1						
Overload protection	100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass						
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting						
Voltage THD	≤ 2% (at 100% linear load)						
BATTERIES							
Type	VRLA AGM / GEL / NiCd						
Nominal voltage	± 360 VDC						
Float / End of discharge voltage	± 405 VDC / ± 300 VDC						
Battery cabinet	External						
Battery ambient temp.	25ºC						
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)						
Automatic testing	Standard every 72 hours (adjustable)						
GENERAL							
Standards	EN62040-1, EN62040-2, EN62040-3						
User interface	TFT touch panel, 5 vector buttons, Buzzer						
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time						
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232, Operating hour meter						
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays						
Inputs	EPO input, Interactive battery panel input, Genset input						
Genset kit	Standard (programmable)						
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)						
Alarm logging	Standard: with time & date 512 events						
Protections	Power module over-temperature, Overcurrent, Temperature high alarm						
Temperature range	0ºC - 40ºC						
Protection degree	IP20						
Relative humidity	90% max. (non-condensing)						
Altitude	< 1000m above sea level						
Acoustic noise	< 62dBA		< 65 dBA			< 67 dBA	
Weight (kg)	210	220	262	270	295	655	
Dimensions (mm) HxWxD	1440x475x890					1900x1250x775	
OPSİYONLAR							
Different input / output voltage	Please ask						
Transformer	Galvanic isolation transformer at the input & output (external)						
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients						
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer						
Parallel operation	up to 8						

(*) Depending on power and input/output conditions (**) Please ask for PF 0.8 and 0.9

500 - 800 kVA

DS POWER

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

IGBT RECTIFIER
DSP CONTROL

DS Power range UPS uses the latest DSP technology to be programmed to suit a wide variety of electrical environments without impending its performance. With the DS Power range, efficiency, reliability and functionality are enhanced to levels unattainable with the old analogue technology. This technology does not only create significant increase in MTBF, but the capability of DSP to accurately manipulate signals at very high speed permits all the UPS subsystems to be controlled with greatly increased precision.

GENERAL SPECIFICATIONS

- Low input current total harmonic distortion (THD)
- Output power factor 1.0 for 500-600kVA
- Transformerless UPS topology
- High input power factor
- High efficiency up to 95%
- Cold start function
- Static and maintenance by-pass switch
- Output short circuit and overload protection
- External REPO switch input

- 512 events memory (512 events 45000 alarms)
- Clock and calender (battery supported)
- Automatic battery test,remaining battery time indicator
- Temperature compansated charge system (optional)
- 2 RS232 serial ports and 12 dry contact outputs
- 3 DSP controlled modular structure
- Optional SNMP and MODBUS adaptors
- Optional graphical panel
- Full digital structure
- Small footprint
- Ecomode operation (optional)
- Fewer electronic components
- Output current limiting
- Advanced diagnostics for the input
- Selectable input/output voltage/frequency/range
- Split by-pass input (second input)
- Output DC leakage protection
- Seperate DSP for inverter control
- Seperate DSP for the PFC
- 3 level battery protection
- High charge current capacity
- Charge/discharge current indicator
- Advanced remote control features
- Manufactured according to EC Directive; EN62040
- 2 years warranty

Tescom®

500 - 800 kVA

TECHNICAL SPECIFICATIONS

MODEL	DS3500	DS3600	DS3800
Power (kVA)	500	600	800
INPUT			
Voltage	380/400 VAC 3P + N + G ± 20% (415 VAC +15%, - 25% optional)		
Frequency	50Hz / 60Hz, ± 10%		
Power factor (@100% load)	≥ 0.99		
THDI (*)	≤ 3%		
By-pass voltage	380/400 VAC 3P + N, ± 10%		
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator		
OUTPUT			
Power (kW)	500	600	720
Power factor (**)	1.0		0.9
Voltage	380/400 VAC 3 Phase + N, ± 1% (415 VAC optional)		
Frequency	50Hz / 60Hz		
Frequency tolerance	Line synchronized: ± 2% / Free running: ± 0.1%		
Efficiency (@100% load)	up to 95%		
Crest factor	3:1		
Overload capacity	100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass		
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting		
Voltage THD	≤ 2% (at 100% linear load)		
BATTERIES			
Type	VRLA AGM / GEL / NiCd		
Nominal voltage	2x30 (±30): 60 pieces		
Float / End of discharge voltage	± 405 VDC / ± 300 VDC		
Battery cabinet	External		
Battery ambient temperature	25ºC		
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)		
Automatic testing	Standard every 72 hours (adjustable)		
GENERAL			
Standards	EN62040-1, EN62040-2, EN62040-3		
User interface	TFT panel, 5 vector buttons, Buzzer		
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time		
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232,operating hour meter		
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays		
Inputs	EPO input, Interactive battery panel input, Genset input		
Genset kit	Standard (programmable)		
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)		
Alarm logging	Standard: with time & date 512 events		
Protections	Power module over-temperature, Over current, Temperature high alarm		
Temperature range	0ºC - 40ºC		
Protection class	IP20		
Relative humidity	90% max. (non-condensing)		
Altitude	< 1000m. above sea level		
Acoustic noise	< 72 dBA		
Net weight (kg)	1452		1630
Dimensions (mm) HxWxD	1940x1610x1050		
OPTIONS			
Different input / output voltage	Please ask		
Transformer	Galvanic isolation transformer at the input & output		
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients		
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer		
Parallel operation	up to 8 units		

(*) Depending on power and input/output conditions (**) Please ask for different output power factors

10 - 500 kVA

DS POWER 300HT

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

IGBT RECTIFIER
DSP CONTROL

DS Power 300HT Online UPS uses the latest DSP technology, which can be programmed to suit a wide variety of electrical environments without impending its performance. With the 3-Level topology, efficiency, reliability and functionality have been raised to levels unattainable with old analog technology. This technology not only creates a significant increase in MTBF, but the DSP's ability to accurately process signals at very high speed allows all UPS subsystems to be controlled with greatly increased precision. Thanks to its built-in inverter isolation transformer, it guarantees safe operation and provides uninterrupted energy for local networks, communication systems, sensitive medical devices, smart engineering measurement devices and industrial automation systems.

GENERAL SPECIFICATIONS

- Inverter isolation transformer
- 3 DSP controlled modular structure
- Separate main control board advantage for rectifier and inverter
- 3-Level technology and fully digital structure
- Less electronic components and SMD technology
- Low input current total harmonic distortion (THD)
- High input power factor
- High efficiency up to 94%
- Selectable input/output voltage/frequency range
- Static and maintenance by-pass switch

- High charge current capacity
- Eco Mode operation (optional)
- Split by-pass input (dual input)
- Advanced TFT front panel (40-500kVA)
- Cold start function
- Compliant with IEC EN62040 directive
- Conforms to CE, TSE and GOST standards
- ISO9001, ISO14001 compliant production
- Advanced control at the input
- 3 level battery protection
- Temperature compensated charge system
- Output current limitation
- Output DC leakage protection
- Output short circuit and overload protection
- External REPO input
- 512 events memory (46.000 alarm)
- Clock and calender (battery supported)
- Automatic battery test, remaining battery time indicator
- 2 RS232 serial ports and 4 programmable dry contact outputs
- Optional 12 dry contact outputs
- Optional SNMP, MODBUS and Remote Monitoring Panel
- Viewing device operating parameters
- Advanced remote control features
- User and central service password-protected security
- 2 years warranty

Tescom®

10 - 500 kVA

TECHNICAL SPECIFICATIONS

MODEL	DS 310HT	DS 315HT	DS 320HT	DS 330HT	DS 340HT	DS 360HT	DS 380HT	DS 3100HT	DS 3120HT	DS 3160HT	DS 3200HT	DS 3250HT	DS 3300HT	DS 3400HT	DS 3500HT
Power (kVA)	10	15	20	30	40	60	80	100	120	160	200	250	300	400	500
INPUT															
Voltage	380/400 VAC 3F + N + Toprak, ± %20														
Frequency	50Hz / 60Hz, ± 10%														
Power factor	≥ 0.99														
(THDI) (*)	≤ 3%														
By-pass voltage	380/400 VAC 3 Phase + N, 4 Wires, ± 10%														
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator														
OUTPUT															
Power (kW)	9	13.5	18	27	36	54	72	90	108	144	180	225	270	360	400
Power factor	0.9														0.8
Voltage	380/400 VAC 3F + N, ± %1														
Frequency	50Hz / 60Hz														
Frequency tolerance	Line synchronized: ± 2% / Free running: ± 0.1%														
Efficiency	up to 94%														
Crest factor	3:1														
Overload protection	100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass														
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting														
Voltage THD	≤ 2% (at 100% linear load)														
BATTERIES															
Type / Number of batteries	VRLA AGM / GEL / NiCd / ± 336 VDC (2x28 batteries)														
Charge / End of discharge voltage	± 378 VDC / ± 280 VDC														
Battery cabinet	External														
Battery ambient temp.	25ºC														
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)														
Automatic testing	Standard every 72 hours (adjustable)														
GENERAL															
Standards	EN62040-1, EN62040-2, EN62040-3														
User interface	4 lines LCD panel, Mimic leds, 5 vector buttons, Buzzer					TFT panel, 5 vector buttons, Buzzer									
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time														
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232, operating hour meter														
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays														
Inputs	EPO input, Interactive battery panel input, Genset input														
Genset kit	Standard (programmable)														
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)														
Alarm logging	Standard: with time & date 512 events														
Protections	Power module over-temperature, Over current, Temperature high alarm														
Temperature range	0ºC - 40ºC														
Protection degree	IP20														
Relative humidity	90% max. (non-condensing)														
Altitude	< 1000m above sea level														
Acoustic noise	< 57dBA		< 62 dBA			< 64 dBA		< 68 dBA				72 dBA			
Net weight (kg)	187	198,5	244	270	393	457	536	539	595	647	910,5	1150	1283	1497	2402
Dimensions (mm) HxWxD	1040x400x815				1440x515x855			1770x825x855				1900x1250x1055			2020x2250x770
OPTIONS															
Different input/ output voltage	Please ask														
Transformer	Galvanic isolation transformer at input (optional)														
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients														
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer														
Parallel operation	Up to 8 units														
	(*) Depending on power and input/output conditions														

10 - 90 kVA

MTR MODULAR UPS

UNINTERRUPTIBLE POWER SUPPLIES

1-1, 3-1, 3-3 Phase Input - Output

MTR Modular UPS are online devices produced with 3-level and DSP technology that provide low THD with high input power factor designed for sensitive loads. Thanks to its hot-swappable modular structure, it has the flexibility to operate at powers between 10 and 90kVA with a single cabinet. With its rack type design, flexible phase configuration option, high power density, user-friendly interface, smart sleep function, self-agigng and smart charge management, it offers a perfect solution especially for data centers.

GENERAL SPECIFICATIONS

Rack modular design

Modular design, compatible with 19" standard rack cabinet, convenient to be integrated with servers

High power density

10/15kVA (10/15kW) power module in 2U height, saving great amount of space, easy for capacity expansion

Integrated solution for data center

UPS can be integrated with battery cabinet, PDU and external maintenance bypass, offering excellent choice for data center

Intelligent charging management

The system intelligently control the whole process of the charging and discharging, effectively improving the life time of the battery

Flexible configuration

The system can be configured to 3/3, 3/1 and 1/1 without derating

Friendly interface

7" touch color LCD with graphic display, more information displayed and easier for customer to operate

Smart sleep function

System can intelligently shutdown some power modules to increase total load rate, achieving higher efficiency

Self-aging mode

Energy internal circle technology, system can run with full load, saving more than 90% energy

Tescom®

10 - 90 kVA

TECHNICAL SPECIFICATIONS

MODEL		MTR-020/10X	*MTR-030/10X	MTR-040/10X	MTR-060/10X	MTR-030/15X	*MTR-045/15X	MTR-090/15X
Power (kVA)		20kVA/20kW	*30kVA/30kW	40kVA/40kW	60kVA/60kW	30kVA/30kW	*45kVA/45kW	90kVA/90kW
Power module type		TPM10X (10kVA/10kW)				TPM15X (15kVA/15kW)		
INPUT								
Phase		(1/1P - 3/1P - 3/3P) 3P+ N + G (380/400/415V) ~ 1P + N + G (220/230/240V)				3P+ N +G (380/400/415V)		
Voltage range		304-478Vac (line-line),100% load;						
		228-304Vac load derated from 100% - %75 linearly						
Frequency range		40Hz-70Hz						
Power factor		> 0.99						
THDi		** THDi < 4% @ 100% linear load						
OUTPUT								
Voltage		(1/1P - 3/1P - 3/3P) 3P+ N + G (380/400/415V) ~ 1P + N + G (220/230/240V)				3P+ N +G (380/400/415V)		
Voltage regulation		1.5%						
Power factor		1						
THDu		THD < 1% (linear load),THD < 5.5% (non-linear load)						
Crest factor		3:1						
Overload capacity		110% for 1 hour; 125% for 10 min; 150% for 1 min ; 150% for 200 ms						
BATTERIES								
Voltage		± 240 VDC for 40 batteries (selectable battery number 36-44)						
Charge power		20%* System power						
Charge voltage precision		±1%						
SYSTEM								
System efficiency		Normal mode: 95%; ECO mode: 98%; Battery mode: 94.5%						
Display		7.0" Color touch screen LCD + LED + Keyboard						
IP Class		IP20						
Interface		Standart: RS232, RS485, dry contacts						
		Optional: Expansion dry contact card						
Operation / Storage temp.		0-40°C/-25-70°C						
Relative humidity		0-95% (non-condensing)						
Noise level		56dB (1 meter away)				58dBA (1 meter away)		
Options		Parallel operation, Battery compansated battery charging, Movable cabinet with castors						
PHYSICAL								
Weight (kg)	Cabinet	42	55	51	85	42	55	85
	Power module	15.3				15.5		
Dimension (HxWxD)	Cabinet	398x485x697	575x485x751	575x485x697	1033x485x751	398x485x697	575x485x751	1033x485x751
	Height	7U	11U	11U	21U	7U	11U	21U
	Power module	(2U) 85x436x590						

(*) Parallel operation (**) Only for 3/3 phase

3 phase in / 3 phase out

20 - 200 kVA

MTI200 MODULAR UPS

UNINTERRUPTIBLE POWER SUPPLIES

MTI200 Modular UPS are online devices produced with 3-level and DSP technology that provide low THD with high input power factor designed for sensitive loads. Thanks to its hot-swappable modular structure, it has the flexibility to operate at powers between 20 and 200kVA with a single cabinet. Cold start, self-agigg mode using only 10% of its capacity, independent battery charging and smart battery management and advanced graphic touch screen are its outstanding features.

GENERAL SPECIFICATIONS

Modular design

Up to 20 power modules in parallel online hot-swappable N+X redundancy

Independent charger

Independent charger for each module and intelligently control the whole charging process, prolong the life time of the battery

Easy connection access

Top and bottom cable entry connection are supported, more convenient for site installation

Modular design with transformer

Modular UPS up to 60kVA with in-built isolation transformer, meeting different requirement for customers

Battery cold start

UPS can be powered on from the battery without utility

High power density

200kVA with footprints of about 0.5m^2, saving valuable data center space

Integrated IGBT design

Integrated IGBT in one module, less failure points with higher performance and reliability

Friendly interface

Touch LCD display with abundant information

Independent air channel

Cooling air runs in isolated channel, keeping PCB free of dust

Tescom®

20 - 200 kVA

TECHNICAL SPECIFICATIONS

MODEL		MTI-2060/20	MTI-2120/20	MTI-2200/20	*MTI-2060/20B
Capacity		60kVA	120kVA	200kVA	60kVA
Power module type		TPM20 (20kVA/18kW)			
INPUT					
Dual input		Optional			
Phase		3P + N + G, 380V/400V/415V (line-line)			
Voltage range		304~478 Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min phase voltage			
Frequency		50Hz / 60Hz			
Frequency range		40Hz~70Hz			
Power factor		> 0.99			
THDI		< 3% @100% linear load			
BYPASS					
Voltage		380/400/415Vac (line-line)			
Frequency		50Hz / 60Hz			
Voltage range		Settable, -40%~+25%			
Frequency range		Settable, ±1Hz, ±3Hz, ±5Hz			
Overload		125% long term operation; 130% for 1 hour ;150% for 6 mins; 1000% for 100ms			
OUTPUT					
Voltage		380V/400V/415V (line-line)			
Voltage regulation		±1% (Balance load); ± 1.5% (unbalance load)			
Frequency		50Hz / 60Hz			
Frequency precision		0.1%			
Power factor		0.9			
Voltage THD		< 1.0% (linear load), < 5.5% (none linear load)			
Crest factor		3:1			
Inverter overload		110% for 1 hour; 125% for 10 mins ;150% for 1 min; >150% for 200 ms			
BATTERIES					
Voltage		± 240 VDC			
Battery number		40pcs (Settable: even number from 32 to 44)			
Voltage precision		±1%			
Charge power		up to 20% * Output active power			
Battery cold start		Standard			
SYSTEM					
System efficiency	AC mode	95%			
	ECO mode	99%			
	Battery mode	95%			
Display		5.7" touch screen LCD + LED + keyboard			
IP class		IP20			
Interface		RS232,RS485, Programmable Dry Contact			
Option		SNMP Card, Parallel kit, SPD, LBS, Dust filter			
Temperature		Operation: 0~40°C Storage: -40~70°C			
Relative humidity		0~95% Non-condensing			
Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise			
Acoustic noise		55dB @ 50% load			
Applicable standards		Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3			
PHYSICAL					
Weight (kg)	Cabinet	105	150	180	205
	Power module	TPM20: 22			
	Battery pack	–			10 (without battery)
Dimension (HxWxD)	Cabinet	1100x600x900	1600x600x900	2000x600x900	2000x600x1020
	Power module	TPM20:134x440x590			
	Battery pack	–			177x120x824

(*) Single cabinet with internal batteries

25 - 200 kVA

MTI250 MODULAR UPS

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

The MTI250 Modular Ups Series Rack Mounted Modular UPS is scalable, hot-swappable, online double conversion. The power capacity is from 25 to 200kVA/kW, it's the ideal choice for modern data center. With the latest IGBT three-level and full DSP control technology, the new MTI250 series delivers the best combination of reliability and flexibility.

GENERAL SPECIFICATIONS

High Power Density

25kVA power module in 2U height, saving great amount of space, easy for capacity expansion

Rack Modular Design

Module design, compatible with 19" standard rack cabinet, convenient to be integrated with servers

Battery Cold Start

UPS can be powered on from the battery without utility

Friendly Interface

Touch LCD display with abundant information

APPLICATION

IDC (Internet Data Center), network servers and workstation, control system, communication system, office, PC etc

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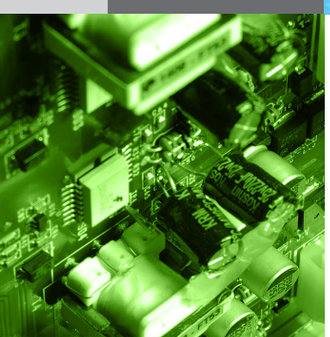
25 - 200 kVA

TECHNICAL SPECIFICATIONS

MODEL		MTI150/25C	MTI200/25C
Capacity		150kVA/150kW	200kVA/200kW
Power module capacity		TPM25C (25kVA/25kW)	
INPUT			
Dual input		Optional	Standard
Phase		3 Phase+Neutral+Ground, 380V/400V/415V(line-line)	
Input voltage range		304~478Vac (line-line),full load; 228V~304Vac (line-line),load decreases linearly according to the min phase voltage	
Frequency		50Hz / 60Hz	
Frequency range		40Hz~70Hz	
Power factor		> 0.99	
THDI		< 3% @100% linear load	
BYPASS			
Voltage		380/400/415Vac (line-line)	
Frequency		50Hz / 60Hz	
Voltage range		Settable, -40%~+25%	
Frequency range		Settable, ±1Hz, ±3Hz, ±5Hz	
Overload		110% long term operation; 125% for 5 mins ;150% for 1 min; >150% for 1s	
OUTPUT			
Voltage		380V/400V/415V (line-line)	
Voltage regulation		±1(0~100% linear load)	
Frequency		50Hz / 60Hz	
Frequency precision		0.1%	
Power factor		1.0	
Voltage THD		< 1.0% (linear load), < 5.5% (none linear load)	
Crest factor		3:1	
Inverter overload		110% for 1 hour; 125% for 10 mins ;150% for 1 min; >150% for 200 ms	
BATTERY			
Voltage		± 240 VDC	
Battery number		40pcs (Settable: even number from 32 to 44)	
Voltage precision		±1%	
Charge power		up to 20% * Output active power	
Battery cold start		Standard	
Efficiency	AC mode	96%	
	ECO mode	98%	
	Battery mode	95.5%	
SYSTEM			
Display		7.0" color touch screen LCD + LED + keyboard	
IP Class		IP20	
Interface		RS232, RS485, Programmable Dry Contact	
Option		PDU for RM150/25C,SNMP Card, Parallel kit,SPD, LBS	
Temperature		Operation: 0~40°C Storge: -40~70°C	
Relative humidity		0~95% Non-condensing	
Altitude		<1000m. Within 1000m to 2000m, power derate 1% for every 100m rise	
Acoustic noise		65dB @ 100% load, 62dB @ 45% load	
Applicable standards		Safety: IEC/EN 62040-1-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3	
PHYSICAL			
Weight (kg)	Cabinet	140	160
	Power module	18	
Dimension (HxWxD)	Cabinet	931x482x916	1550x482x916
	Power module	85x436x677	



30 - 900 kVA

MTI300 MODULAR UPS

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

MTI300 Modular UPS are online devices produced with 3-level and DSP technology that provide low THD with high input power factor designed for sensitive loads. Thanks to its hot-swappable modular structure, it has the flexibility to operate at powers between 20 and 600kVA with a single cabinet. It offers the most suitable power solutions for large data centers and sensitive electronic devices. Thanks to its parallelizable design, which takes up less space, it provides the opportunity to reach 900kVA in an area of less than 2 m2. It stands out with its rack type design, high power density, user-friendly interface, independent LCD for each power module in addition to 10.4 inch graphical touchscreen, smart sleep function, self-agigng, and smart charge management.

GENERAL SPECIFICATIONS

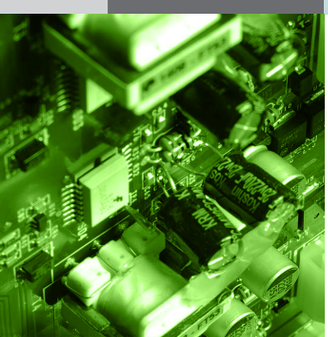
- 3 Level topology
- Modular design with N+X redundancy
- Online hot swapping, by-pass and power module feature
- Optional dual input
- High power density with footprints of less than $2m^2$ up to 900kVA in parallel, 30kVA power module with only 3U height
- Excellent input performances for complete compatibility with input PF of 99% and wide range of voltage
- Self-Aging mode for full load test with less than 10% of the total power capacity needed
- Optimized battery management, intelligently control the whole process of the charging and discharging, effectively improve the life time of the battery
- Battery cold start, UPS can be powered on from the battery without utility
- Automatically record the critical wave information when fault happens, easy for trouble shooting
- Independent LCD display for each power module with self - starting function
- Programmable dry contacts, the function of each port can be defined by users
- Friendly human machine interface with colorful touch screen of 10.4 inches

Tescom®

30 - 900 kVA

TECHNICAL SPECIFICATIONS

MODEL		MTI3180/30	MTI3300/30	MTI3600/30
Capacity		30 - 900kVA	30 - 600kVA	
Power module type		TPM30 (30kVA/27kW)		
INPUT				
Phase		3 Phases + Neutral + Ground		
Voltage		380V/400V/415V (line to line)		
Frequency		50Hz / 60Hz		
Power factor		> 0.99		
THDI		THDi < 3% @ 100% linear load		
Voltage Range		304~478Vac (Line-Line),full load 228V~304Vac (Line-Line),load decrease linearly according to the min phase voltage		
Frequency range		40Hz~70Hz		
OUTPUT				
Voltage		380V/400V/415V		
Voltage regulation		1.5%		
THDu		THD < 1% (linear load), THD < 6% (none linear load)		
Power factor		0.9		
Crest factor		3:1		
Overload capability		1 hour for 110% load; 10 minutes for 125% load; 1 minutes for 150% load; 200ms for > 150% load		
BATTERIES				
Voltage		± 240 VDC for 40 batteries (selectable battery number 36-44)		
Charge power		20%*System Power		
Charge voltage precision		± 1%		
SYSTEM				
Parallel (cabinet)		5	3	-
System efficiency		Normal mode: 95%; ECO mode: 99%; Battery mode: 95%		
Display		10.4" LCD + LED, Color touch screen + Keyboard		
IP class		IP20		
Interface (communication port)		Standard: RS232,RS485, Dry contacts, EPO / Optional: SNMP card		
Operation / storage temperature		0~40°C /-40~70°C		
Relative humidity		0~95% (non-condensing)		
Noise		65dB @100% load, 62dB @ 45% load (1 meter away)		72dB @100% load, 68dB @ 45% load (1 meter away)
PHYSICAL				
Net weight (kg)	Cabinet	6-Slot Cabinet: 165	10-Slot Cabinet: 220	10-Slot Cabinet: 660
	Power module	TPM30kVA: 34		
Dimension (mm) HxWxD	Cabinet	6-Slot Cabinet: 1600x600x1100	10-Slot Cabinet: 2000x600x1100	20-Slot cabinet: 2000x2000x1050
	Power module	TPM30kVA: (3U) 134x460x790		



50 - 500 kVA

MTI500 MODULAR UPS

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

MTI500 Modular UPS are online devices produced with 3-level and DSP technology that provide low THD with high input power factor designed for sensitive loads. Thanks to its hot-swappable modular structure, it has the flexibility to operate at powers between 40 and 500kVA with a single cabinet. It offers the most suitable power solutions for large data centers and sensitive electronic devices. Thanks to its parallelizable design, which takes up less space, it provides the opportunity to reach 1500kVA in an area of less than 4 m2. It stands out with its rack type design, high power density, user-friendly interface, independent LCD for each power module in addition to 10.4 inch graphical touchscreen, smart sleep function, self-agigng, and smart charge management.

GENERAL SPECIFICATIONS

Compact design

500kVA in one cabinet, footprint less than 1.5m^2, saving valuable room space

High power density

50kVA power module in 4U height, easy for capacity expansion

High efficiency

Advanced 3-level technology quarantees high efficiency operating in double conversion mode up to 96%

Intelligent charging management

The system intelligently control the whole process of the charging and discharging, effectively improve the life time of the battery.

High scalability

The system can be configured from 50kVA to 500kVA in one single cabinet, 3 units in parallel for a capacity up to 1500kVA

Friendly HMI

10.4" touch color LCD with graphic display, independent LCD for each power module

Smart sleep function

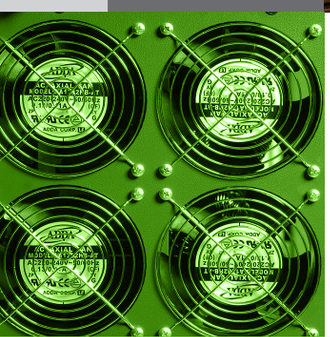
System can intelligently shutdown some power modules to increase total load rate, achieving higher efficiency

Tescom®

50 - 500 kVA

TECHNICAL SPECIFICATIONS

MODEL		MTI-5100/50	MTI-5200/50	MTI-5300/50	MTI-5500/50
System capacity		100kVA	200kVA	300kVA	500kVA
Power module capacity		TPM50 (50kVA/45kW)			
INPUT					
Dual input		Standard		Optional	Standard
Phase		3 Phases + Neutral + Ground, 380V/400V/415V (line-line)			
Voltage range		304~478VAC (line-line), full load; 228V~304VAC (line-line), load decreases linearly according to the min. phase voltage			
Rate frequency		50Hz/60Hz			
Frequency range		40Hz/70Hz			
Power factor		> 0.99			
THDi		< 3% @ 100% linear load			
BYPASS					
Rate voltage		380/400/415VAC (Line-Line)			
Rated frequency		50Hz/60Hz			
Input voltage range		Settable, -40% ~ +25%			
By-pass frequency range		Selectable, ±1Hz, ±3Hz, ±5Hz			
Bypass overload		%125, uzun süreli çalışma, < %130 10dk. için, < %150 1dk. için, > %150 300ms için		%110 uzun süreli çalışma, < %130 10dk. için, < %150 1dk. için, > %150 1ms için	
OUTPUT					
Rate voltage		380/400/415VAC (line-line)			
Voltage regulation		1% for balance load;1.5% for unbalance load			
Rated frequency		50Hz/60Hz			
Frequency precision		0.1%			
Output power factor		1.0			
Output THDu		< 1%, Linear load; <5.5% Non-linear load			
Crest factor		3:1			
Inverter overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms			
BATTERY					
Voltage		±240VDC			
Battery number		40pcs (Settable: even number from 32 to 44)			
Voltage precision		±1%			
Charge power		up to 20% Output active power			
Battery cold start		Optional		Standard	
SYSTEM					
System efficiency		AC Mode: 95.0% ECO Mode: 99.0% Battery Mode:95.0%			
Display		10.4" touch screen LCD+LED+keyboard			
IP class		IP20			
Interface		RS232, RS485, Programmable Dry Contact, USB			
Option		SNMP Card, Parallel kit, SPD, LBS, Dust filter			
Temperature		Operation: 0~40ºC Storage: -40~70ºC			
Relative humidity		0~95% (non-condensing)			
Altitude		< 1000. Within 1000m to 2000m, power derate 1% for every 100m rise			
Acoustic noise		72dB @ 100% load, 69dB @ 45% load			
Application standards		Safety: IEC/EN 62040-1, EMC:IEC/EN 62040-2, Performance: IEC/EN 62040-3			
PHYSICAL					
Net weight (kg)	Cabinet	120	170	220	450
	Power module	45			
Dimension (HxWxD)	Cabinet	1150x600x980	1600x650x960	2000x650x1095	2000x1300x1100
	Power module	178x510x700			



For Railway Applications

DS200TD (1-3 phase in / 1 phase out) 10 - 250 kVA

DS300TD (1-3 phase in / 3 phase out) 10 - 120 kVA

SPECIAL MANUFACTURING UNINTERRUPTED POWER SUPPLY

3-LEVEL IGBT RECTIFIER
DSP CONTROL

Tescom DS200TD and DS300TD Series are devices developed especially for railway applications, use the latest DSP technology to be programmed to suit a wide variety of electrical environments without impending its performance. With the DS Power range, efficiency, reliability and functionality are enhanced to levels unattainable with the old analogue technology. This technology does not only create significant increase in MTBF, but the capability of DSP to accurately manipulate signals at very high speed permits all the UPS subsystems to be controlled with greatly increased precision.

GENERAL SPECIFICATIONS

- **Output isolation transformer (integrated in inverter)**
- **Ability to work with 3 phase mains or 1 phase catenary voltage**
- **High charging current capacity**
- Low current harmonic distortion at the input
- High input power factor
- High efficiency up to 94%
- Cold start
- Static and maintenance by-pass switch

** Please ask for different powers and technical details*

- Output short circuit and overload protection
- External REPO switch input
- 512 events memory (512 events 45000 alarms)
- Clock and calender
- Automatic battery test,remaining battery time indicator
- Heat compensated charging system
- 2 RS232 serial ports and 12 dry contact outputs
- 3 DSP controlled modular structure
- Optional SNMP and MODBUS adaptors
- Optional graphical panel
- Optional usb memory
- Manufactured according to EC Directive; EN62040
- Full digital structure
- Small footprint
- Eco mode operation (optional)
- Fewer electronic components
- Output current limiting
- Advanced diagnostics for the input
- Selectable input/output voltage/frequency/range
- Split by-pass input (second input)
- Output DC leakage protection
- Seperate DSP for inverter control
- Seperate DSP for the PFC
- High charge current capacity
- Charge/discharge current indicator
- Advanced remote control features
- 2 years warranty

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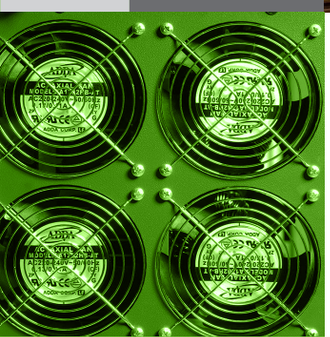


For Railway Applications (AC-DC input / 3 phase out)

10 - 20 kVA

DS300SD

SPECIAL MANUFACTURING UNINTERRUPTED POWER SUPPLY

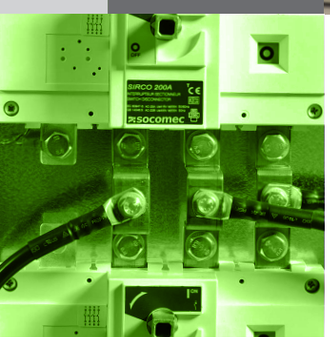
IGBT INVERTER
DSP CONTROL

Tescom DS300SD series inverters are 3-phase AC devices using 3-phase AC voltage (catenary) or DC voltage from batteries. The main target area of application in railway applications is to drive 3-phase shear motors. These inverters are manufactured with the latest IGBT and DSP control technology, ensuring safe, efficient and trouble-free operation under difficult operating conditions.

GENERAL SPECIFICATIONS

- Operation with AC or DC input voltage
- 1 phase or 3 phase AC input
- 3-phase bypass input independent of AC input
- Low input current total harmonic distortion (THD)
- High input power factor
- High efficiency (AC/AC up to 94..5%, DC/AC 96.5 %)
- Static and maintenance by-pass switch
- Output short circuit and overload protection
- Output current limiting
- 3 level topology
- 512 events memory (512 events 45.000 alarms)
- Clock and calender
- 1 RS232 serial port and 3 dry contact outputs
- 3 DSP controlled modular structure
- Optional SNMP and MODBUS adaptors
- Smaller footprint
- Fulldigital structure
- Advanced diagnostics for the input
- Selectable input/output voltage/frequency range
- Output DC leakage protection
- 2 years warranty

** Please ask for different powers and technical details*



FREQUENCY CONVERTERS

CUSTOM MADE CONVERTERS

TESCOM Frequency converters are an electrical supply system for devices powered by AC voltage from the mains and requiring a different frequency. Transportation, maritime, telecommunications and military systems are the main areas of use. Special production device with special input/output values can be made upon your request.

Tescom Frequency Converters are designed for continuous operation with PWM and IGBT technology and convert 50Hz, 60Hz or 400Hz utility line power to 50Hz, 60Hz or 400Hz power to operate your critical loads.

GENERAL SPECIFICATIONS

- Detailed monitoring by alphanumeric LCD panel
- Microprocessor control
- 128 detailed event recording with RTC
- Seperate battery supported clock and calender
- RS232 or DRY contact relays
- Customized input voltage and frequency ranges
- Three phase or single phase options
- Advance communication
- SNMP coptatible
- 2 years warranty

INPUT	
Voltage	220/230V single phase - 380/400V 3 phase ± 15% (other voltages; ask)
Frequency	50Hz./60Hz./400Hz. (± 5%)
OUTPUT	
Power (kW)	5kVA to 300kVA 50Hz /60Hz /400Hz
Voltage	120/208V 60/400Hz - 230/400V 50/60Hz. (other voltage ranges available)
Voltage regulation	+ 1% (balanced load) + 2% (unbalanced load)
Frequency	50/60/400Hz.
Frequency stability	+ 0,2 Hz (free running)
Efficiency	85% - 90%
Protections	Short circuit protection, overload protection, output voltage out of tolerance protection
Voltage protection	AC voltage low and high protection
Output waveform	Sinusoidal (THD < 3% for lineer load)
Output power factor	0.7 (single phase) - 0.8 (three phase)

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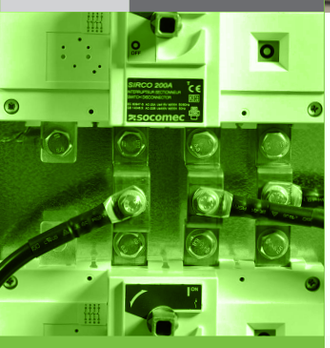


INVERTERS

CUSTOM MADE INVERTERS

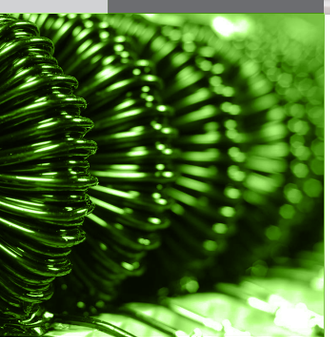
TESCOM DC/AC Inverters are devices with low distortion, sine wave output, high performance and superior protection. Today, they are used in many different fields, from computers, uninterruptible power supplies and large systems that power electrical distribution systems. Special production device with special input/output values can be made upon your request.

Tescom DC/AC Inverters with IGBT and IPM technology provide quality energy for your critical loads by converting the voltage in the wide input voltage range (192-400V DC) to the desired voltage and frequency values.

GENERAL SPECIFICATIONS

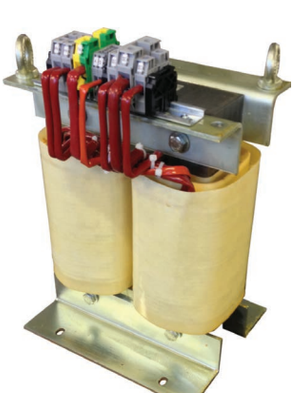
- Detailed monitoring by alphanumeric LCD panel
- Microprocessor control
- 128 detailed event recording with RTC
- Seperate battery supported clock and calender
- RS232 or DRY contact relays
- Customized input voltage and frequency ranges
- Three phase or single phase options
- Advance communication
- SNMP coptatible
- 2 years warranty

INPUT	
Voltage	48 VDC - 400 VDC
OUTPUT	
Power (kW)	10kVA - 300kVA
Voltage	120/208 V, 60/400 Hz - 230/400V, 50Hz / 60Hz (other voltage ranges available)
Voltage regulation	+ 1% (balanced load) +2% (unbalanced load)
Frequency	50Hz / 60Hz / 400Hz
Frequency stability	+ 0,2Hz (free running)
Efficiency	85% - 90%
Overcurrent protection	Electronic protection
Voltage protection	AC voltage low and high protection
Output waveform	Sinusoidal (THD < 3% for lineer load)
Load power factor	0.8
GENERAL	
Power module	IGBT or IPM module
Front panel	Alphanumeric LCD 2x16 characters
Control buttons	3 or 5 buttons
Bypass	Available as option
Bypass isolation	Available as option
Parallel operation	Available as option (up to 4 devices)
Alarm buzzer	Available
Remote REPO input	Available
RS232 interface	Available
Dry contact outputs	Available
DC input protection	3 level alarms



MEDICAL ISOLATED POWER SYSTEMS

Electrical power supply of the medical field, are selected according to the ambient electrical safety. TSE, IEC and IEE standards divide medical locations into 3 group as Group 0, Group 1, Group 2 according to patient safety. Group 2 including operation room, cardiac area, intensive care unit is most critical part for electricity sustainability and insulation. Electrical devices in group 2 save patients life. When there are any failure of the devices in this environment without harming the people in the medical location, devices are required to work without interruption. For this reason, IT isolated power system is used in the Group 2 area.



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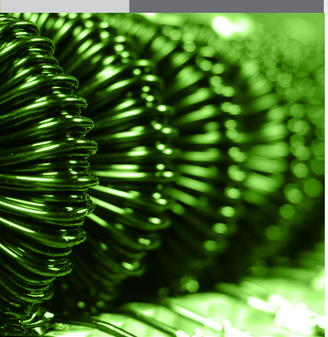


MEDICAL ISOLATED POWER PANELS

WITH TRANSFER UNIT AND FAULT DETECTION SYSTEM

Medical isolated power panels with transfer unit and insulation fault detection device have also test signal generator, insulation fault evaluators and toroidal transformer in apart from other isolated panels. When any fault exist, this fault is detected by insulation monitoring device and test signal generator produce a test signal, after that fault detected according to response of system to this signal. Insulation fault evaluator send signal to alarm monitoring devices.

TYPE	MITFPP / 1P-XX
Standards	TSE-IEC 60364-7-710
Output power	3,15 / 4 / 5 / 6,3 / 8 / 10kVA
Supply input	Double single phase line
Nominal voltage	230 VAC
Frequency	50Hz / 60Hz
Isolation level	3kV / 1 min.
Input protection	gL Fuse
Output voltage	230 VAC
Output protection	2 Pole Fuse
Watchdog	Isolation Resistance by LCD Screen
Alarm output	Insulation Fault, Overload, Overtemperature
Functional test	Advanced insulation fault and transfer test
Enclosure leakage current	< 0,5 mA
Isolation fault detection period	< 1 s
Operation temperature	0°C / 50°C
Storage temperature	-15°C / 70°C
Panel dimensions	1480x650x500 or 1700x400x400 mm*
Ventilation	with fan
Protection class	IP41
Color	RAL9003 or RAL7035
Transfer time	< 5ms
Response range	50-500 kΩ
Distribution output	6 - 12 - 18 - 24... Pcs
	*Transfer system with contactor

3 - 15 kVA

XT100

UNINTERRUPTIBLE POWER SUPPLIES

1 phase in / 1 phase out

XT 100 Online UPS are microprocessor controlled, full sine output uninterruptible power supplies produced with PWM (Pulse width modulation) and IGBT technologies.It provides uninterrupted energy for local networks, communication systems, sensitive medical devices, smart engineering measuring devices and industrial automation systems by guaranteeing safe operation thanks to its built-in inverter isolation transformer.

GENERAL SPECIFICATIONS

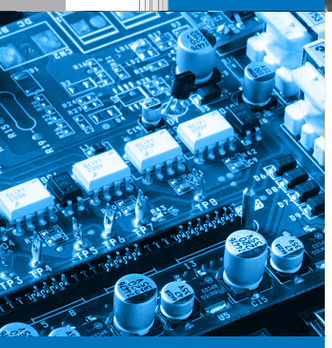
- Output isolation transformer
- Up to 91% efficiency
- Static by-pass
- LCD front panel
- 64 events memory
- RS232 and relay contacts
- Custom input and output voltage ranges
- SNMP compatible communication
- T-MON remote monitoring software
- Parallel operation
- Manufactured according to EC Directive; EN62040
- 2 years warranty

Tescom®

3 - 15 kVA

TECHNICAL SPECIFICATIONS

MODEL	XT103	XT105	XT107	XT110	XT115
Power (kVA)	3	5	7	10	15
INPUT					
Voltage	220/230 VAC P + N + G ± 15%				
By-pass voltage	220/230 VAC P + N ± 10%				
Frequency	50Hz / 60Hz ± 10%				
OUTPUT					
Power (kW)	2.1	3.25	4.55	7	10.5
Power factor	0.7	0.65		0.7	
Voltage	220/230 VAC P + N				
Voltage tolerance	± 1%				
Frequency	50Hz/60Hz				
Frequency tolerance	Line synchronized: ± 2% , free running: ± 0.1%				
Efficiency (at 100% load)	up to 90%			up to 91%	
Crest factor	3:1				
Overload protection	100%-125% load: 10 min., 125%-150% load: 1 min., > 150% load: by pass				
Short circuit protection	Electronic short circuit protection				
Voltage THD	< 2%				
BATTERIES					
Type	Sealed Lead Acid - Maintenance Free				
Number of batteries	14	16	18	20	
Float charging voltage	189 VDC	216 VDC	243 VDC	270 VDC	
End of discharge voltage	140 VDC	160 VDC	180 VDC	200 VDC	
Battery cabinet	Internal (standard time)			External	
Battery ambient temp.	25°C				
Battery protection	Automatic circuit breaker				
Battery test	Optional				
GENERAL					
Standards	EN 62040-1,EN62040-2				
Serial communication	Dry contacts & RS232				
Software	T-Mon UPS Management Software (3 clients, +1 server management std.)				
Temperature range	0°C - 40°C				
Ventilation	Forced air cooling				
Relative humidity	< 90% (non-condensing)				
Protection degree	IP20				
Altitude	< 2000m.				
Acoustic noise	< 45 dBA				
Weight without batteries (kg)	55	60	75	82	107
Dimensions (mm) HxWxD	585x265x505	595x265x600	645x265x670	720x265x740	775x300x800
OPTIONS					
Different input / output voltage	Please ask				
Input transformer	Galvanic isolation transformer at the input (in external cabinet)				
External maintenance by-pass switch	Optional				
Parallel operation	N+1 (up to 4 units) - optional please ask				
Communication	SNMP, MODBUS, Remote Mon. Panel, RS485				
Battery temperature compensation	Optional				



3 phase in / 1 phase out

6 - 40 kVA

XT200

UNINTERRUPTIBLE POWER SUPPLIES

XT200 Online UPS are microprocessor controlled, full sine output uninterruptible power supplies produced with PWM (Pulse width modulation) and IGBT technologies. It provides uninterrupted energy for local networks, communication systems, sensitive medical devices, smart engineering measuring devices and industrial automation systems by guaranteeing safe operation thanks to its built-in inverter isolation transformer.

GENERAL SPECIFICATIONS

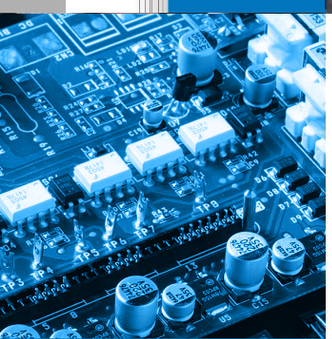
- Output isolation transformer
- Up to 90% efficiency
- Static by-pass
- LCD front panel
- 64 events memory
- RS232 and relay contacts
- Custom input and output voltage ranges
- SNMP compatible communication
- T-MON remote monitoring software
- Parallel operation up to 4 devices
- Manufactured according to EC Directive; EN62040
- 2 years warrantly

Tescom®

6 - 40 kVA

TECHNICAL SPECIFICATIONS

MODEL	XT206	XT207	XT210	XT215	XT220	XT230	XT240
Power (kVA)	6	7.5	10	15	20	30	40
INPUT							
Voltage	220/380 VAC (230/400 VAC) 3P + N + G ± 15%						
By-pass voltage	220/230 VAC + P + N ± 10%						
Frequency	50Hz / 60Hz ± 10%						
OUTPUT							
Power (kW)	4.2	5.25	7	10.5	14	21	28
Power factor	0.7						
Voltage	220/230 VAC + P + N						
Voltage tolerance	±1%						
Frequency	50Hz (60Hz on request)						
Frequency tolerance	Line synchronized: ± 2%, free running: ± 0.1%						
Efficiency (at 100% load)	up to 90%						
Voltage THD	Linear load: < 2%, Non linear load: < 5%						
Crest factor	3:1						
Overload protection	100%-125% load: 10 min., 125%-150% load: 1 min., > 150% load: by pass						
Short circuit protection	Electronic short circuit protection						
BATTERIES							
Type	Sealed Lead Acid - Maintenance Free						
Number of batteries	20			30			
Float charging voltage	270 VDC			405 VDC			
End of discharge voltage	200 VDC			300 VDC			
Battery ambient temperature	25°C						
Battery protection	Automatic circuit breaker						
Battery test	Optional			Standard			
GENERAL							
Standards	EN 62040-1,EN62040-2						
Maintenance bypass switch	Standard						
Serial communication	Dry contacts & RS232						
Software	T-Mon UPS Management Software						
Temperature range	0°C - 40°C						
Ventilation	Forced air cooling						
Relative humidity	< 90% (non-condensing)						
Protection degree	IP20						
Altitude	< 2000m						
Acoustic noise	< 50 dBA			< 55 dBA			
Weight without batteries (kg)	106	110	125	130	195	217	335
Dimensions (mm) HxWxD	950x265x740			1220x500x650			1390x575x820
OPTIONS							
Different input / output voltage	Please ask						
Input transformer	Galvanic isolation transformer at the input (in external cabinet)						
Input power factor	Input power factor corrector (> 0.97)						
Communication	SNMP, MODBUS, Remote Mon. Panel, RS485						
Parallel operation	N+1 (up to 4 units) - optional -please ask						
Battery temperature compensation	Optional						



10 - 80 kVA

XT300

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

XT 300 Online UPS are microprocessor controlled, full sine output uninterruptible power supplies produced with PWM (Pulse width modulation) and IGBT technologies. It provides uninterrupted energy for local networks, communication systems, sensitive medical devices, smart engineering measuring devices and industrial automation systems by guaranteeing safe operation thanks to its built-in inverter isolation transformer.

GENERAL SPECIFICATIONS

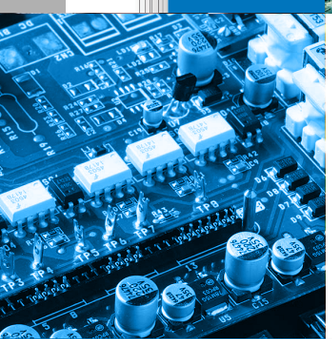
- Output isolation transformer
- Up to 92% efficiency
- Static by-pass
- LCD front panel
- 64 events memory
- RS232 and relay contacts
- Custom input and output voltage ranges
- SNMP compatible communication
- T-MON remote monitoring software
- Parallel operation up to 4 devices
- Manufactured according to EC Directive; EN62040
- 2 years warrantly

Tescom®

10 - 80 kVA

TECHNICAL SPECIFICATIONS

MODEL	XT310	XT315	XT320	XT330	XT340	XT360	XT380
Power	10	15	20	30	40	60	80
INPUT							
Voltage	220/380 (230/400 VAC) 3P + N + G ± 15%						
By-pass voltage	220/380 (230/400 VAC) 3P + N ± 10%						
Input frequency	50Hz (60Hz on request) ± 10%						
OUTPUT							
Power (kW)	8	12	16	24	32	48	64
Power factor	0,8						
Voltage	380/400 VAC 3P + N						
Voltage tolerance	Static: ± 1%, Dynamic: ± 5%						
Voltage recovery time	Max. 25ms						
Frequency	50Hz/60Hz						
Frequency tolerance	Line synchronized: ± 2%, free running: ± 0.1%						
Efficiency (at 100% load)	89-91%			90-92%			
Crest factor	3:1						
Overload protection	100%-125% load: 10 min., 125%-150% load: 1 min., >150% load: by pass						
Short circuit protection	Electronic short circuit protection						
Voltage THD	Linear load: < 2%, Non linear load: < 5%						
BATTERIES							
Type	Sealed Lead Acid - Maintenance Free						
Number of batteries	30						
Float charging voltage	405 VDC						
End of discharge voltage	300 VDC						
Battery ambient temp.	25ºC						
Battery protection	Automatic circuit breaker						
Battery test	Automatic/Manuel						
GENERAL							
Standards	EN 62040-1,EN62040-2						
Serial communication	Dry contacts & RS232						
Software	T-Mon UPS Management Software						
Temperature range	0°C - 40°C						
Ventilation	Forced air cooling						
Relative humidity	< 90% (non-condensing)						
Protection degree	IP20						
Altitude	< 2000m						
Acoustic noise	< 56 dBA					< 60 dBA	
Weight without batteries (kg)	220	260	284	305	404	496	580
Dimensions (mm) HxWxD	1150x505x655				1390x575x820		1450x720x820
OPTIONS							
Different input / output voltage	Please ask						
Input transformer	Galvanic isolation transformer at the input (in external cabinet)						
Input THD	10% (with 12 pulse or 18 pulse rectifier, according to UPS range), %5 (with 18 pulse rectifier, + filter), up to 100kVA						
Input power factor	0.95 - 0.98 (with 18 pulse rectifier)						
Communication	SNMP, MODBUS, Remote Mon. Panel, RS485						
Parallel operation	N+1 (up to 4 units) In 18Pulse applications, the standard chassis dimensions may change.						
Battery temperature compensation	Optional						



100 - 300 kVA

XT300

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 3 phase out

XT 300 Online UPS are microprocessor controlled, full sine output uninterruptible power supplies produced with PWM (Pulse width modulation) and IGBT technologies. It provides uninterrupted energy for local networks, communication systems, sensitive medical devices, smart engineering measuring devices and industrial automation systems by guaranteeing safe operation thanks to its built-in inverter isolation transformer.

GENERAL SPECIFICATIONS

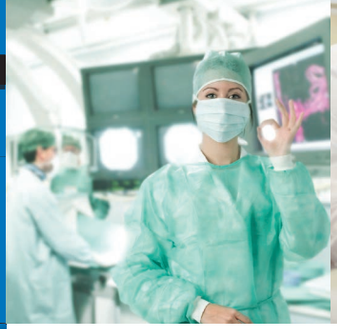
- Output isolation transformer
- Up to 92% efficiency
- Static by-pass
- LCD front panel
- 128 elevents alarm memory (4000 alarms)
- RS232 and relay contacts
- Custom input and output voltage ranges
- SNMP compatible communication
- T-MON remote monitoring software
- Parallel operation up to 4 devices
- High performance at nonlinear loads
- Custom input voltage and frequency ranges
- Manufactured according to EC Directive; EN62040
- 2 years warranty

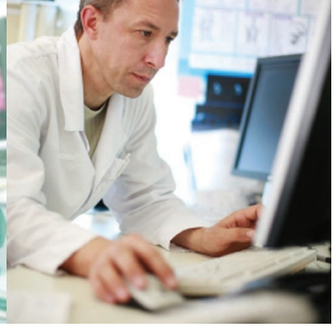
Tescom®

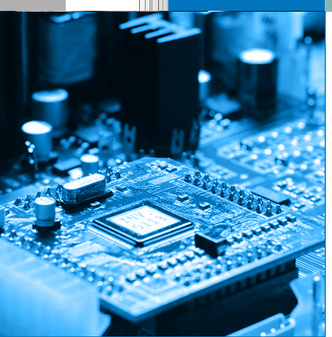
100 - 300 kVA

TECHNICAL SPECIFICATIONS

MODEL	XT3100	XT3120	XT3160	XT3200	XT3250	XT3300
Power	100	120	160	200	250	300
INPUT						
Voltage	220/380 VAC (230/400 VAC) 3P + N + G ± 15%					
By-pass voltage	220/380 VAC (230/400 VAC) 3P + N ± 10%					
Input frequency	50Hz/60Hz ± 10%					
OUTPUT						
Power (kW)	80	96	128	160	200	240
Power factor	0.8					
Voltage	380/400 VAC 3P + N					
Voltage stability	Static: ± 1%, Dynamic: ± 5%					
Voltage recovery time	Max. 25ms					
Frequency	50Hz/60Hz					
Frequency tolerance	Line synchronized: ± 2%, free running: ± 0.1%					
Efficiency (at 100% load)	90-92%					
Crest factor	3:1					
Overload protection	100%-125% load: 10 min., 125%-150% load: 1 min., >150% load: by pass					
Short circuit protection	Electronic short circuit protection					
Voltage THD	Linear load: < 2%, Non linear load: < 5%					
BATTERIES						
Type	Sealed Lead Acid - Maintenance Free					
Number of batteries	30				32	
Float charging voltage	405 VDC				432 VDC	
End of discharge voltage	300 VDC				320 VDC	
Battery ambient temperature	25ºC					
Battery protection	Automatic circuit breaker					
Battery test	Automatic/Manuel					
GENERAL						
Standards	EN 62040-1,EN62040-2					
Serial communication	Dry contacts & RS232					
Software	T-Mon UPS Management Software					
Over temperature protection	Electronic					
Temperature range	0ºC - 40ºC					
Ventilation	Forced air cooling					
Relative humidity	< %90 (non-condensing)					
Protection degree	IP20					
Altitude	< 2000m above sea level					
Acoustic noise	65 dBA		70 dBA			
Weight without batteries (kg)	750	765	802	970	1328	1370
Dimensions (mm) HxWxD	1650x1110x810		1730x1195x870		1880x1565x925	
OPTIONS						
Different input / output voltage	Please ask					
Input transformer	Galvanic isolation transformer at the input (in external cabinet)					
Input THD	10% (with 12 Pulse or 18 Pulse rectifier, according to UPS range), 5% (with 18 Pulse rectifier, + filter), up to 100kVA					
Input power factor	0.95 - 0.98 (with 18 Pulse rectifier), up to 100kVA					
Communication	SNMP, MODBUS, Remote Mon. Panel, RS485					
Parallel operation	N + 1 (up to 4 units)					
Battery temperature compensation	Optional					







STS2000

STATIC TRANSFER SWITCH

1 phase out, 2 poles static transfer switch

STS 2000 1 phase, 2 pole static transfer switch transfers uninterruptedly critical loads to either of two independent AC power lines. The system monitors two AC inputs. If any of them goes out of the specified tolerance, it transfers the critical load to the other. By increasing the energy quality of the systems used with STS 2000, while reducing the effects of interference and short interruptions, a backup power system is gained.

GENERAL SPECIFICATIONS

- Full digital control with microprocessor controlled structure
- 2 AC inputs with 1 phase and neutral switching
- Easy installation and maintanance
- Compact and rack type design
- Wide input voltage range
- "Break Before Make" type transfer
- Very fast uninterrupted transfer even in case of any failure (≤4ms- for sencronised sources)
- Selectable preffered source
- Fuse-free construction with a robust, high reliability SCR
- Digitally controlled system set points
- Programmable synchronized and unsynchronized transfers
- Isolation protection between sources with switched neutral
- Convenient and multifunctional front panel and diagnostic codes
- Transfer inhibit system over a certain current value
- Overload, over temperature and short circuit protections
- Convenience during maintenance and repair with Isolated Maintenance Bypass
- Remote monitoring of energy resources
- TCP / IP, SNMP, MODBUS and RS232 infrastructure for communication
- Dry-contact interface
- Internal cooling fans
- Hot-swap feature (Optional)
- Optional external AC power supply socket outlet
- Optional SNMP adaptor

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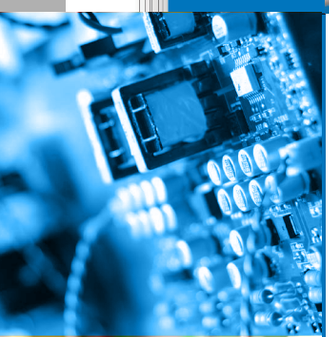
TECHNICAL SPECIFICATIONS

MODEL	STS2032	STS2063	STS2120
Nominal current	32A	63A	120A
ELECTRICAL DATA			
Input voltage	220/230/240 VAC 1P + N + G		
Input voltage range	180-264 VAC (Ph-N)		
Input frequency	50Hz. / 60Hz.		
Input frequency range (operation range adjustable)	46-54Hz (for 50Hz)		
	56-64Hz (for 60Hz)		
Transfer type	"Break before make"		
Transfer methods available	Automatic / Manual / Remote		
Transfer control	synchron		
	with adjustable delay (non synchron)		
	zero current (non synchron)		
Transfer time	≤ 4 msec for synchronous sources		
	≤ 10 msec for non-synchronous sources		
Switching type	1 phase + Neutral switching (2-Poles)		
Output current crest factor	3:1		
Admissible overload	0-100% continuous		
	101-150% 1 minute		
	151-200% 10 seconds		
	> 200% 250 msec		
Protections	Output overload and short circuit protection, Overtemperature protection, Backfeed protection		
LCD panel and mimic	Standard		
Communication	RS232 standard, RS485 optional, SNMP optional		
TCP/IP connection	Optional		
Dry contacts	3 programmable relay outputs		
ENVIRONMENTAL DATA			
Cooling	Forced cooling (redundant fans)		
Cooling air direction	From front to rear		
Operating temperature	0°C - 40°C		
Storage temperature	-10°C up to +50°C		
Relative humidity	90% max. (non-condensing)		
Protection degree	IP20		
Standards	EN62310-1, EN62310-2		
Max. operation height	1000m. at nominal current rating		
Acoustic noise	< 50 dBA		< 52 dBA
MECHANICAL DATA			
Weight (kg)	12	13	20
Dimensions	2U (19"rack),depth= 600mm		3U (19"rack),depth = 590mm
	(hot-swappable=610mm)		(hot-swappable = 685mm)
Power cables connection	Clip-on terminals (on the rear panel)		



STS3000-4000

STATIC TRANSFER SWITCH

3 phase out, 3&4 poles static transfer switch

STS 3000-4000 3 phase, 3&4 pole static transfer switch transfers uninterruptedly critical loads to either of two independent AC power lines. The system monitors two AC inputs. If any of them goes out of the specified tolerance, it transfers the critical load to the other. By increasing the energy quality of the systems used with STS 3000, while reducing the effects of interference and short interruptions, a backup power system is gained.

GENERAL SPECIFICATIONS

- Full digital control with microprocessor controlled structure
- 2 AC inputs with 3 phase switching
- Easy installation and maintanance
- Compact design
- Wide input voltage range
- "Break Before Make" type transfer

- Very fast uninterrupted transfer even in case of any failure (≤4ms- for sencronised sources)
- Selectable preffered source
- Fuse-free construction with a robust, high reliability SCR
- Digitally controlled system set points
- Programmable synchronized and unsynchronized transfers
- Convenient and multifunctional front panel and diagnostic codes
- Transfer inhibit system over a certain current value
- Overload, over temperature and short circuit protections
- Convenience during maintenance and repair with Isolated Maintenance Bypass
- Remote monitoring of energy resources
- TCP / IP, SNMP, MODBUS and RS232 infrastructure for communication
- Dry-contact interface
- Internal cooling fans
- Optional external AC power supply socket outlet
- Optional SNMP adaptor

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TECHNICAL SPECIFICATIONS

MODEL	STS3050 / STS4050	STS3100 / STS4100	STS3150 / STS4150	STS3200 / STS4200	STS3250 / STS4250	STS3300 / STS4300	STS3400 / STS4400	STS3600 / STS4600	STS3800 / STS4800
Nominal current	50 A	100 A	150 A	200 A	250 A	300 A	400 A	600 A	800 A
ELECTRICAL DATA									
Input voltage (Ph-Ph)	380/400/415 VAC 3P + N + G								
Input voltage tolerance	180-264 VAC (Ph-N)								
Input frequency	50Hz. / 60Hz.								
Input frequency range	45-65Hz. (upper and lower limits adjustable)								
Efficiency (@100% load)	> 99%								
Input voltage THD	< 10%								
Transfer type	"Break before make"								
Transfer	Automatic / Manual / Remote								
Transfer control	Synchron								
	With adjustable delay (non synchron)								
	Zero current (non synchron)								
Transfer time	< 4 msn for synchronous sources								
	< 10 msn for non synchronous sources								
Switching type	**3-Poles:** 3 Phase switching / **4-Poles**: 3 Phase + Neutral switching								
Crest factor	3:1								
Admissible overload	0-100% continuous								
	100%-150% 1 min.								
	151%-200% 10 sec.								
	> 200% 250 msec.								
Protections	Output overload and short circuit protection, Overtemperature protection, Backfeed protection, SCR fault protection								
LCD panel / mimic diyagram	Standard								
Communication	RS232 standard, SNMP optional, RS485 optional								
TCP/IP connection	Optional								
Dry contacts	4 programmable relay outputs								
Two serial ports	Optional								
Temperature sensor	Standard for internal cabinet temperature								
ENVIRONMENTAL DATA									
Cooling	Forced cooling (redundant fans)								
Operation temperature	0°C - 40°C								
Storage temperature	-10°C - +50°C								
Humidity	< 90% (non-condensing)								
Protection class	IP20								
Standards	EN 62310-1, EN 62310-2								
Acoustic noise	< 52 dBA			< 55 dBA				< 60 dBA	
MECHANICAL DATA									
Net weight (STS3000)	139	145	165	195	205	230	240	340	520
Net weight (STS4000)	160	175	190	205	235	240	255	375	560
Dimensions (mm) HxWxD	1500x680x540			1775x680x585				1905x915x725	19001250x850

Remote Monitoring and Management Softwares

T-MON SOFTWARES

Power failures and abnormal supply conditions can occur at any time, including when your network system is running unattended. When there is a power interruption, the UPS Software broadcasts a warning message to all Workstation users on the network urging them to finish their current tasks. In the event of a lengthy power failure, the software automatically saves files and gracefully shuts downthe operating system after a user-configured time period or when the UPS batteries are low on energy. The intelligent software can even notify an off-site systems administrator of the shutdown by paging them through a modem.

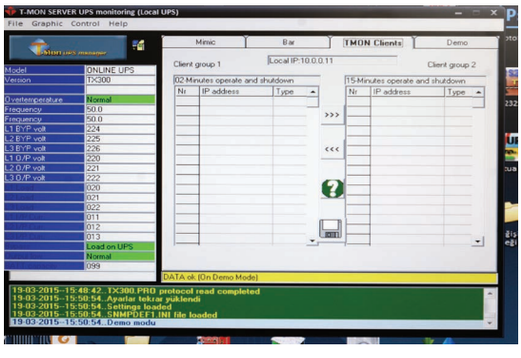
T-MON UPS Software provides other useful management functions too, such as scheduling automatic system boot up and shutdown, monitoring UPS battery condition and logging and analysing abnormal utility power conditions.

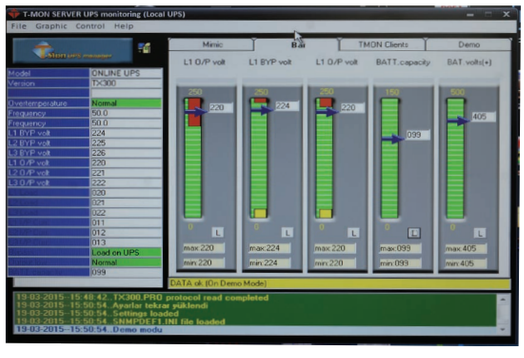
T-MON SERVER

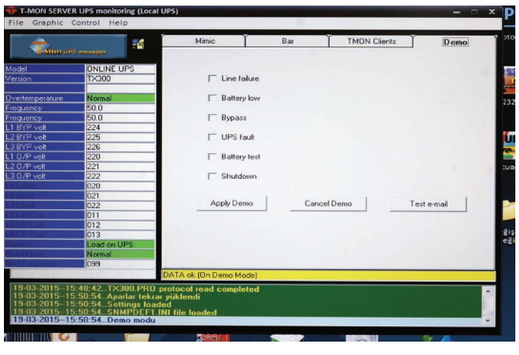
Supports all Windows operated systems plus Linux. T-MON Server connects a computer to the UPS and collects data when it communicates to the network.

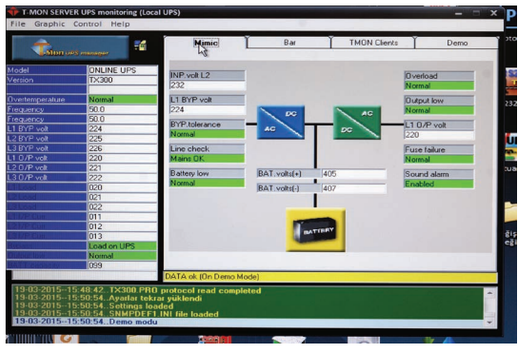
T-MON SERCON

SerCon receives data from T-MON Server and manages the shutdown event on the network clients computers. In addition to the norman “SerCon” automatic shutdown program T-MON also provides source codes so that a programmer can complie their own requirements.









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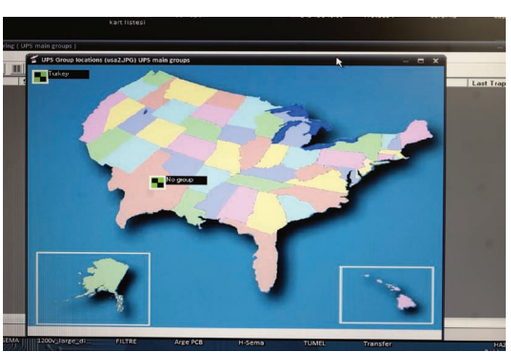
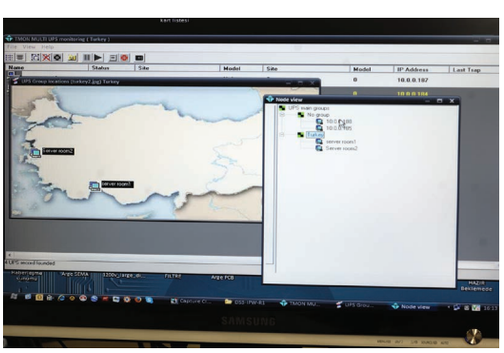
T-MON SOFTWARES

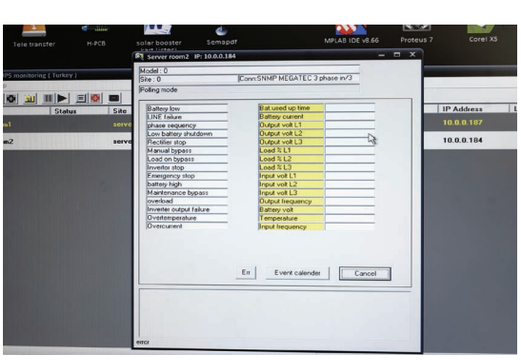
T-MON ADMIN

T-MON Admin is developed to provide UPS management and monitoring in a WAN system. It supports TCP/IP and SNMP protocols. T-MON Admin allows you to manage monitör and collect all the data logs from hundreds of UPS's which are connected to WAN system.

T-MON Admin supports multi SNMP agents such as Megatec SNMP, Netagent II and USHA. It's possible to implant OEM SNMP agents MIB's as a customer request.







i-com Series UPS Accessories

ACCESSORIES

i-com Series UPS Accessories

Model: RMP-X1

UPS remote monitoring panel

- Touchscreen TFT display
- RS485 input port (for long distance)
- RS232 input port
- RS232 output port + dry contact port
- Emergency stop input
- Functional desktop and wall-mount design

Model: US-4 & US-8

UPS multiserver shutdown unit
(Dry contact multiplexer)

- RS232 input port
- RS232 output
- 4 or 8 multiplexed dry contact output

Model: ML100

Serial port multiplexer for UPS and STS

- RS232 input port
- 2 x DB9 type socket RS232 outputs
- External or internal

Model: ML200

Internal Serial port multiplexer for UPS and STS

- RS232 input port
- DB9 type socket RS232 output
- RJ45 Ethernet output (TCP/IP)

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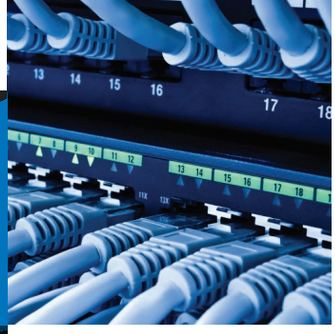
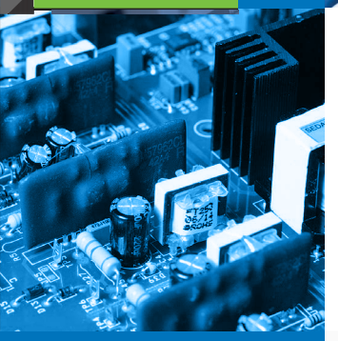




ACCESSORIES

i-com Series UPS Accessories

Model: SNMP

External SNMP adaptor for UPS

- WEB based monitoring & management
- SNMP management
- Multi server shutdown
- Multi UPS monitoring

Model: RSX24

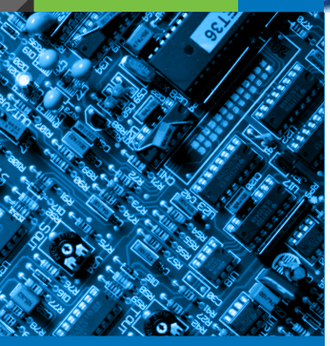
External RS232 to RS485 converter for UPS and STS

- For long distance communication
- Bi-directional operation
- 4 wire RS485 output (Half & full duplex)

Model: RS-NET

External RS232 to TCP/IP converter for UPS and STS

- Monitoring & management over TCP/IP



ACCESSORIES

i-com Series UPS Accessories

i-com Series UPS Accessories

Model: MDX2

External MODBUS over RS485 adaptor for UPS and STS

- For SCADA and BMS connection
- MODBUS RTU protocol
- 2 wire RS485 output
- 8 bit hardware addressable

Model: MDX-NET

External MODBUS over TCP/IP adaptor for UPS and STS

- For SCADA and BMS connection
- MODBUS TCP protocol
- RJ45 Ethernet output
- 8 bit hardware addressable

Model: GM-1

External GSM modem for UPS

- For SMS option
- SNMP compability
- Control via AT commands
- Configuration by the SNMP web interface
- Push-push SIM card installation

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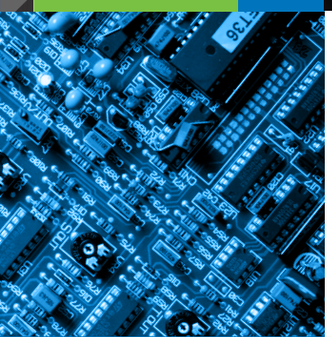

ACCESSORIES

i-com Series UPS Accessories

Model: GM-2

External GSM / GPRS modem for UPS

- SMS option
- Monitoring & management via GPRS and SMS
- Directly UPS connection
- Smart modem
- Push-push SIM card installation
- Easy configuration by the Utility PC software

Model: GM-3

External GSM / GPRS modem for UPS
with Internal battery unit

- SMS option
- Monitoring & management via GPRS and SMS
- Directly UPS connection
- Smart modem
- Push-push SIM card installation
- Easy configuration by the Utility PC software
- Uninterruptible communication with internal battery

Model: GMB1

External Battery Unit for GM-2 Modem

- This unit is the external battery bank for GM-2 modem

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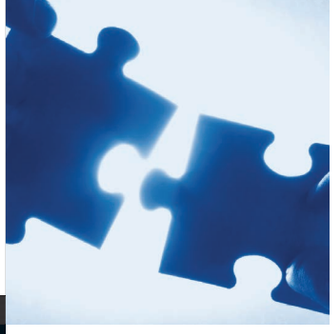

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UNINTERRUPTIBLE POWER SUPPLIES

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