

# UPS

## UNINTERRUPTIBLE POWER SUPPLY

CATALOGUE



## COMPANY PROFILE

Inform Electronic, one of the European leading power solution specialist, is established in 1980 with the aim of designing and building industrial electronic systems. Soon after, it diversified into the production, and marketing of standard professional electronic equipment, and special projects.

The company always combines its experience with its innovative identity and is recognized by its worldwide technology leading character. Right business understanding of Inform makes the company one of the most wanted brands in the world with its exceptional growth ratio. The Company has 31,000 m<sup>2</sup> closed production area, committed to the manufacturing of electrical products and electronic equipments.

Analysing infrastructural conditions, and customer needs, the company decided to provide complete solutions. Inform product range varies from Uninterruptible Power Supply (UPS) Systems, Voltage Regulators, to DC Power Supply, Telecom Equipments, Battery chargers, Inverters, 19" rack cabinets and other electrical products and electronic equipments.

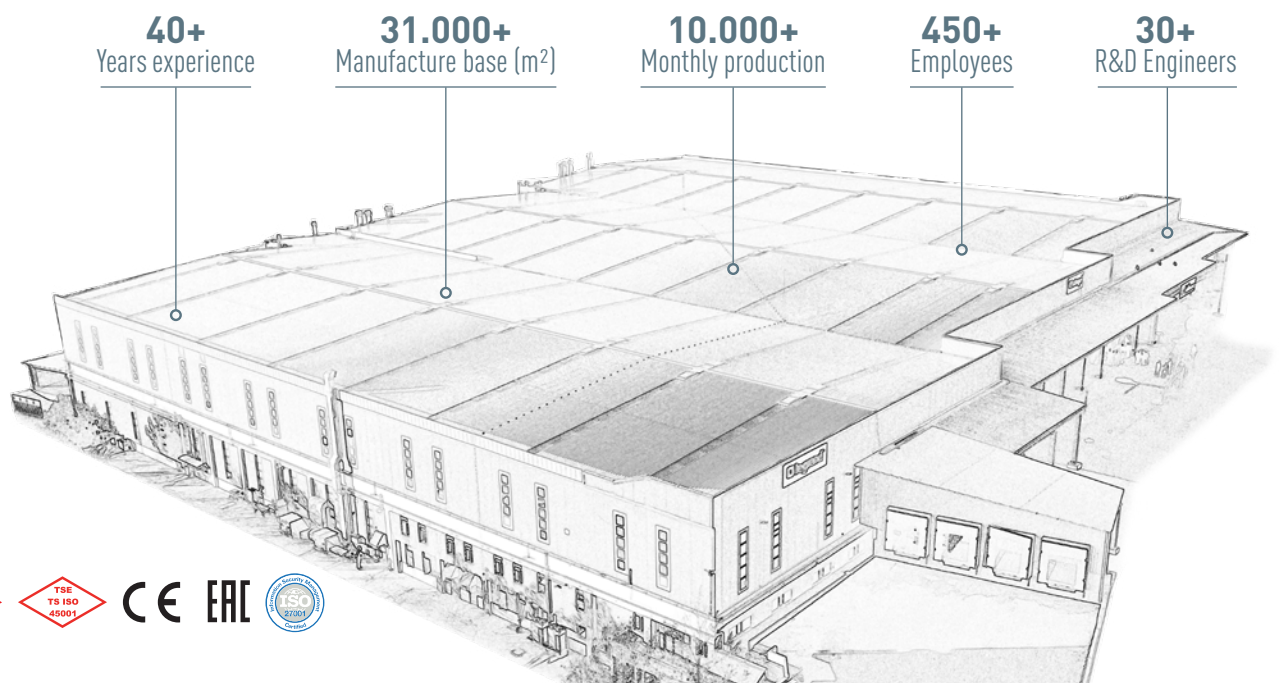
Since its foundation, INFORM ELECTRONIC has based its strategy on below main policies:

- Quality understanding for its products and services,
- Tailored solutions to specific customer needs,
- Customer satisfaction and happiness,
- After sales service and support
- Continuous improvement for operational excellence and advanced technology

Inform is an official ISO certified company. The company has also Gost, Soncap, and CE certifications. All the Inform products are designed and produced with the worldwide quality understanding, and ISO rules.

Inform was acquired by Legrand Group in 2010.

Legrand is global specialist in electrical and digital building infrastructures. The Group has direct presence in more than 70 countries and number of employee is more than 31.000 people.



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# INFORM UPS

## Distinguishing characteristics

### High performance

The innovative design and high quality of the components used enable our UPS to achieve up to 96,5% efficiency, leading to significant energy savings.

### Latest generation components

In-depth research on the best electronic components on the market combined with state-of-the-art manufacturing methods, make Inform UPS extremely reliable and abreast of the times.

### Environmentally sustainable products

Efficient UPS built with maximum attention to detail. Moreover, Inform has developed an innovative testing system which reduces the energy consumed for each device manufactured.

### Advanced technology

The On-line Double Conversion technology ensures a top quality power supply and maximum energy efficiency.

### Reliable electronics

The optimum sizing of the power stages and thorough testing of each unit ensure excellent reliability.

### High performance batteries

The batteries supplied with Inform UPS are the best on the market. The innovative charging system significantly extends the life of the battery by up to 50%.

### Services

Inform provides a complete range of services to meet the demands of all its customers







## Range of **application**

Each type of UPS is characterised by different design properties, which means that the range is ideally suitable and usable in different environments, from domestic to tertiary and industrial sectors, and applications in specific fields.

### **DOMESTIC APPLICATIONS**

Video surveillance, home alarms, smart TV, Home Entertainment systems

### **TRADE AND TERTIARY SECTORS**

Offices, shops, points of sale

### **HEALTH AND HOSPITALITY SECTORS**

Hospitals, medical centres, hotels

### **INDUSTRIAL AND LARGE TERTIARY STRUCTURE SECTORS**

Factories, warehouses, shopping centres

### **TRANSPORT**

Airports, rail and ship transport

### **DATA PROCESSING CENTRES**

Datacenter



# RANGE

**inform** offers a range of UPS products that are divided into 2 different types of products:  
**single-phase and three-phase.**

**The range is wide and complete,** with solutions that guarantee maximum performance in terms of power and backup time.



Sinus Evo



Sinus Evo RM



Sinus LCD



Dsp Evo

## Online

### Single-phase UPS



Modulera



Modulera

## Modular

### Three-phase UPS





Dsp Multipower  
Convertible



Dsp Flexipower



Saver Plus DSP



Dsp Multipower



Guardian  
Guardian LCD



Informer  
Compact

## Line Interactive



Stark



Estia UPS  
Estia Hybrid



Forte



Pyramid DSP  
Premium



Pyramid  
DSP



Pyramid  
DSP T



Solutio

## Conventional





# UPS PRODUCT RANGE

PRODUCT		POWER														
LINE INTERACTIVE		600 VA	800 VA	1000 VA	1500 VA	2000 VA	3000 VA									
Line Interactive	GUARDIAN & GUARDIAN LCD	✓	✓	✓	✓	✓										
	INFORMER COMPACT			✓		✓	✓									
ONLINE UPS		1 kVA	2 kVA	3 kVA	5 kVA	6 kVA	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA					
1 Ph in - 1 Ph out	SINUS EVO	✓	✓	✓												
	SINUS EVO RM	✓	✓	✓												
	SINUS LCD /convertible	✓	✓	✓												
	DSP EVO					✓	✓									
	DSP MULTIPOWER /convertible				✓	✓	✓									
	DSP FLEXIPOWER			✓	✓	✓	✓									
3 Ph in - 1 Ph out	DSP MULTIPOWER /convertible						✓	✓	✓							
	DSP FLEXIPOWER						✓									
	DSP MULTIPOWER / tower							✓	✓							
	SAVER PLUS DSP							✓	✓							
	PYRAMID DSP						✓	✓	✓	✓	✓					
	FORTE						✓	✓	✓	✓	✓					
ONLINE UPS		10 kVA	15 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA	250 kVA	300 kVA	400 kVA	
3 Ph in - 3 Ph out	STARK	✓	✓	✓												
	ESTIA	✓	✓	✓												
	FORTE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
	PYRAMID DSP Premium										✓	✓	✓	✓	✓	
	PYRAMID DSP Premium T										✓	✓	✓	✓		
	PYRAMID DSP	✓	✓	✓	✓	✓	✓	✓	✓	✓						
	PYRAMID DSP T	✓	✓	✓	✓	✓	✓	✓	✓	✓						
	SOLUTION														✓	✓
	MODULERA			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ UP TO 800 kVA



## Guardian & Guardian LCD

1 Phase In – 1 Phase Out / 600VA – 2000VA

- Microprocessor controlled Line Interactive Technology
- Boost and Buck Automatic Voltage Regulation (AVR)
- LCD or LED Display Panel
- Advanced Battery Management (ABM)
- Input Frequency auto sensing ( 50/60 Hz )
- Auto restart after mains recovery
- Charging during switched off mode
- Short circuit and overload protection
- Cold Start Function
- RJ45 or RJ11 tel-modem surge protection
- USB Communication Interface and Remote Monitoring Software\*
- Compact size and user friendly operation



(\*) Available at AP models only



### TECHNICAL SPECIFICATIONS

MODEL	GUARDIAN LED - LCD A/AP				
Nominal Power (VA)	600VA	800VA	1000VA	1500VA	2000VA
<b>INPUT</b>					
Input Voltage	220V / 230V				
Input Voltage Range	162-290VAC				
Frequency	50 or 60 Hz (Auto-sensing)				
<b>OUTPUT</b>					
Output Power Factor	0.6				
Output Voltage (Battery)	220V or 230V ± 10%				
Output Waveform (Battery)	Simulated Sinewave				
Output Frequency (Battery)	50 or 60 Hz ± 1Hz				
Output Voltage Regulation (AVR)	AVR automatically increases output voltage by 15% above of input voltage if input is -10% to -26% of nominal AVR automatically decreases output voltage by 15% below of input voltage if input is +10% to +22% of nominal				
Transfer Time	2 - 6 ms				
Outputs	1xSchuko + 1xIEC C13		2xSchuko + 2xIEC C13		
<b>BATTERY</b>					
Battery Type	Maintenance Free Lead Acid Batteries				
Battery Charge Duration	6 hours (90% capacity)				
Nominal DC Voltage	12VDC		24VDC		
Battery Quantity	1 x 12V 7Ah	1 x 12V 9Ah	2 x 12V 7Ah	2 x 12V 9Ah	
Backup Time	7 - 20 min. (Depending on Computer Load)				
<b>DISPLAY</b>					
LED Display	Online Mod, Battery Mod, Fault				
LCD Display (Optional)	Input & Output Voltage values, AC mode, Load Level, Battery Capacity Indicators				
<b>ALARMS</b>					
	Battery Mode (Every 10 seconds), Low Battery (Every second), Overload (Every 0.5 seconds), Fault (Continuous)				
<b>PROTECTION</b>					
	Short-circuit, Overload, Battery overcharge-discharge, Tel/Modem				
<b>COMMUNICATION</b>					
Interface	RJ11 (@600-800VA), RJ45 (@1000-2000VA) , USB Port (Only AP Models)				
<b>ENVIRONMENT</b>					
Operational Temperature	0-40 °C (20 to 25 recommended for longer battery life time)				
Humidity	0 - 95% (non-condensing)				
Noise Level (1m distance)	<40dBA				
Protection Level	IP20				
<b>PHYSICAL</b>					
Net Weight (kg)	4.35	4.7	7.8	10.1	10.5
Dimensions (WxDxH) mm	101x298x142		149.3x353x162		158x380x198
<b>STANDARDS</b>					
Safety	EN 62040-1				
EMC	EN 62040-2				



## Informer Compact

1 Phase In - 1 Phase Out / 1000VA/2000VA/3000VA

- Pure Sinewave Output for any critical load
- User Friendly LCD Display
- Boost and buck Automatic Voltage Regulation
- 97% High Efficiency in Normal Mode
- Communication Port and Remote Monitoring Software
- Overload and Short Circuit Protection
- Advanced Battery Management
- Discharge Protection
- Fault Alarms and State Warnings
- Cold Start Function
- Compact size, light weight and low noise



## TECHNICAL SPECIFICATIONS

MODEL	INF-C1000	INF-C2000	INF-C3000
Capacity (VA)	1000	2000	3000
<b>INPUT</b>			
Voltage	220/230/240VAC ± 25% (adjustable from DIP switches on ups)		
Frequency	50 or 60Hz ± 5%		
<b>OUTPUT</b>			
Power Factor	0.6		
Voltage(on mains)	220/230/240VAC ± 12%		
Voltage(on battery)	220/230/240VAC +3% -10%		
Wave Form	Sine Wave		
Output Voltage Harmonic (THDv)	THD < 3 %		
Frequency(on battery)	50 or 60 Hz ± 0.5%		
Voltage Regulation (AVR)	AVR automatically increase output voltage 15% above input voltage if -9% to 25% of nominal. AVR decrease output voltage 15% below input voltage if +9% to +25% of nominal		
Transfer Time	4 ms.		
Overload	UPS automatically shuts down if overload exceeds 110% of nominal at 10min. (AC Mode) and if overload exceeds 100% of nominal at 10sec. (Battery model)		
Outlets	1 pc Schuko + 2 pcs IEC C13	1 pc Schuko + 3 pcs IEC C13	1 pc Schuko + 3 pcs IEC C13
<b>BATTERY</b>			
Type	Maintenance-free lead acid batteries		
Recharge Time	2 to 4 hours to 90%		
Voltage	24VDC	48VDC	
Quantity	2x12V 7Ah	4x12V 7Ah	4x12V 9Ah
Protection	Automatic self-test & discharge protection, replace battery indicator		
<b>DISPLAY</b>			
LED Display	Utility Normal, Backup, UPS Fault and Battery condition		
LCD Display	Load Level, Battery Level, Bypass, AVR, Battery Low-Replace-Fault, UPS Fault, Overload		
<b>ALARMS</b>			
Alarms	Line Failure, Battery Low, Overload and Fault		
<b>PROTECTION</b>			
	Spike Protection (320 joule, 2 ms), overload protection, short circuit protection		
<b>COMMUNICATION</b>			
Interface (Communication Ports)	USB Standard		
Software	Standard		
<b>ENVIRONMENT</b>			
Operating Temperature	0-40 °C		
Humidity	0 - 95% (non-condensing)		
Audible Noise at 1m	< 40 dBA	< 45 dBA	
Protection Class	IP20		
<b>PHYSICAL SPECIFICATIONS</b>			
Net Weight (kg)	15.5	23	27
Dimensions (mm) WxDxH	175x370x247	175x427x247	
<b>STANDARDS</b>			
Standards	EN 62040-1-1 (safety), EN 62040-2(EMC)		





## Sinus EVO

1 Phase In – 1 Phase Out / 1kVA – 3kVA

- On-Line Double Conversion Technology
- Real Digital Signal Processor (DSP) Controller
- User friendly LCD display
- High Efficiency
- Input Power Factor correction PFC (PF: ≥0.98)
- Wide Input Voltage & Frequency Range
- Cold Start Function
- Wide communication option  
Standard: USB, RS-232, EPO  
Optional: SNMP, Relay card
- Frequency Converter Operation Mode (50-60Hz)
- Generator compatible
- ECO Mode operation feature
- Environment friendly



### TECHNICAL SPECIFICATIONS

MODEL	Sinus EVO 1K	Sinus EVO 2K	Sinus EVO 3K
Nominal Power (VA)	1000	2000	3000
<b>INPUT</b>			
Input Voltage Range*	110VAC - 300VAC		
Nominal Voltage	200*/208*/220/230/240VAC		
Frequency	50/60 Hz ±5% (Auto-sensing)		
Phase	1Ph - N - PE		
Power Factor	≥0.98		
<b>OUTPUT</b>			
Power Factor	0.9		
Output Voltage	200*/208*/220/230/240VAC		
Voltage Regulation	±2%		
Frequency	50/60 Hz		
Frequency Regulation	±0.1%		
Output Voltage Harmonic (THDv)	≤3% (linear load); ≤5% (non-linear load)		
Transfer Time	Online Mode - Battery Mode: 0ms, Inverter - Bypass: 4ms (typical)		
Crest Factor	3:1		
Overload	120% 60s, 150% 200ms		
Efficiency**	> 88%		> 90%
Outputs***	2xIEC + 1xSchuko		3xIEC + 2xSchuko
ECO mode		Present	
Frequency Converter		Present	
<b>BATTERY</b>			
Battery Type	12 V / Maintenance-free lead acid batteries		
Charge Time	4 hour 90% capacity (typical)		
Charge Current	1A (max.)		
Voltage	24VDC	48VDC	72VDC
QTY	2 x 12V / 7Ah	4 x 12V / 9Ah	6 x 12V / 9Ah
Cold Start		Present	
<b>DISPLAY</b>			
LED Display	Utility or Bypass, Battery Low, Battery Abnormal, Overload, UPS Off, UPS Abnormal		
LCD Display	Input / Output Voltage and Frequency, Load %, Battery Voltage, Internal Temperature		
<b>ALARMS</b>			
	Mains fault, Low Battery, Overload, UPS Failure		
<b>PROTECTION</b>			
	Short circuit, Over temperature, Overload, High voltage, Low battery, EPO		
<b>COMMUNICATION****</b>			
Standard	RS232, USB, RJ45 (power surge-lightning protection)		
Optional	SNMP and Relay Card		
<b>ENVIRONMENT</b>			
Operating Temperature / Storage Temperature	0°C ~ +40°C / -25°C ~ +55°C		
Humidity	0 - 95% (non-condensing)		
Altitude	0 - 1500 m		
Noise Level (1m distance)	< 50 dBA		
Protection Level	IP20		
<b>PHYSICAL</b>			
Net Weight - Gross (kg)	9.3 - 10.3	18.8 - 20.8	23.3 - 25.8
Dimensions WxHxD (mm)	144x209x293		191x336x470
<b>STANDARDS</b>			
	EN 62040-1-1 (safety), EN 62040-2 (EMC), EN 62040-3 (performance)		

\* Depends on the power rating and the amount of load at the output of UPS.  
 \*\* It depends on UPS power and environmental conditions.  
 \*\*\* Device outputs are optional, please contact your sales representative.  
 \*\*\*\* Please contact to your sales representative for communication options.

## Sinus EVO RM

1 Phase In – 1 Phase Out / 1kVA – 3kVA

- On-Line Double Conversion Technology
- Real Digital Signal Processor (DSP) Controller
- User friendly LCD display
- High Efficiency
- Input Power Factor correction PFC (PF:  $\geq 0.99$ )
- Wide Input Voltage & Frequency Range
- Cold Start Function
- Wide communication option  
Standard: USB, RS-232, EPO  
Optional: SNMP, Relay card
- Frequency Converter Operation Mode (50-60Hz)
- Generator compatible
- ECO Mode operation feature
- Environment friendly



### TECHNICAL SPECIFICATIONS

MODEL	Sinus EVO 1K RM	Sinus EVO 2K RM	Sinus EVO 3K RM
Nominal Power (VA)	1000	2000	3000
<b>INPUT</b>			
Input Voltage Range*	110VAC - 300VAC		
Nominal Voltage	208/220/230/240VAC		
Frequency	50/60 Hz $\pm 5\%$ (Auto-sensing)		
Phase	1Ph - N - PE		
Power Factor	$\geq 0.99$		
<b>OUTPUT</b>			
Power Factor	0.9		
Output Voltage	208/220/230/240VAC		
Voltage Regulation	$\pm 1\%$		
Frequency	50/60 Hz		
Frequency Regulation	$\pm 0.1\%$		
Output Voltage Harmonic (THDv)	$\leq 3\%$ (linear load); $\leq 5\%$ (non-linear load)		
Transfer Time	Online Mode - Battery Mode: 0ms, Inverter - Bypass: 4ms (typical)		
Crest Factor	3:1		
Overload	105%~110%: 10 minute, 110%~130%: 1 minute, >130%: 5 seconds		
Efficiency**	> 88%		> 90%
Outputs	2xIEC + 1xSchuko		
ECO mode	Present		
Frequency Converter	Present		
<b>BATTERY</b>			
Battery Type	12 V / Maintenance-free lead acid batteries		
Charge Time	4 hour 90% capacity (typical)		
Charge Current	1A (max.)		
Voltage	24VDC	48VDC	72VDC
QTY	2 x 12V / 9Ah	4 x 12V / 9Ah	6 x 12V / 9Ah
Cold Start	Present		
<b>DISPLAY</b>			
LED Display	Utility or Bypass, Battery Low, Battery Abnormal, Overload, UPS Off, UPS Abnormal		
LCD Display	Input / Output Voltage and Frequency, Load %, Battery Voltage, Internal Temperature		
<b>ALARMS</b>			
	Mains fault, Low Battery, Overload, UPS Failure		
<b>PROTECTION</b>			
	Short circuit, Over temperature, Overload, High voltage, Low battery, EPO		
<b>COMMUNICATION</b>			
Standard	RS232, USB, RJ45 (power surge-lightning protection)		
Optional	SNMP and Relay Card		
<b>ENVIRONMENT</b>			
Operating Temperature / Storage Temperature	0°C ~ +40°C / -25°C ~ +55°C		
Humidity	0 - 95% (non-condensing)		
Altitude	0 - 1500 m		
Noise Level (1m distance)	< 50 dBA		
Protection Level	IP20		
<b>PHYSICAL</b>			
Net Weight (kg)	11.3	19.5	26.2
Dimensions (mm) WxDxH (Rack)	440x325x86.5 (2U)	440x460x86.5 (2U)	440x600x86.5 (2U)
<b>STANDARDS</b>			
	EN 62040-1-1 (safety), EN 62040-2 (EMC)		

\* Depends on the power rating and the amount of load at the output of UPS.

\*\* It depends on UPS power and environmental conditions..

## Sinus LCD

1 Phase In - 1 Phase Out / 1kVA – 3kVA

- On-line 'double conversion' technology
- Real Digital Signal Processor (DSP) Controller
- Power factor correction PFC (PF: >0.99)
- User friendly LCD display
- Programmable Receptacles
- Wide input voltage range and frequency
- Availability to configure as 50/60Hz Frequency Converter from LCD Panel
- Smart communication port and SNMP management capability
- Hot Swappable Battery
- Emergency shutdown control through EPO
- Overload & short circuit protection
- Cold start (DC power on)
- Genius battery management (GBM)
- RS232, USB and SNMP can be activated simultaneously
- Compact size, light weight & low noise



### TECHNICAL SPECIFICATIONS

MODEL	SS LCD 210		SS LCD 220		SS LCD 230	
Power(kVA)	1		2		3	
<b>INPUT</b>						
Voltage	160VAC - 288VAC					
Frequency	50/60 Hz ± 5% (Auto-sensing)					
Power Factor	>0.99					
<b>OUTPUT</b>						
Power Factor	0.8					
Voltage	220VAC / 230 / 240VAC					
Voltage Regulation	±1%					
Frequency	50/60 Hz					
Frequency Regulation	± 0.1%					
Output Voltage Harmonic (THDv)	<3%					
Crest Factor	3:1					
Output Waveform	Sinusoidal					
Overload Capacity	100%-120% for 30 seconds 120%-150% for 10seconds					
Whole efficiency	>85%				>88%	
Transfer Time	0ms					
Outlets	6 pcs IEC C13 or 2pc Schuko		6 pcs IEC C13 or 2pcs Schuko		4pcs IEC C13 or 2pcs Schuko	
<b>BATTERY</b>						
Type	Maintenance-free lead acid batteries					
Recharge Time	3 hours (to 90% of full capacity)					
Voltage	36VDC			72VDC		
Internal Battery	3pcs 12V 7Ah		6pcs 12V 7Ah		6pcs 12V 9Ah	
Back Up Time	Full Load	5 min		4 min		
	Half Load	12 min		10 min		
Cold Start	YES					
<b>DISPLAY</b>						
LED Display	Utility or Bypass, Battery Low, Battery Abnormal, Overload, Site Wiring Fault, Service Mode, UPS Off, UPS Abnormal					
LCD Display	Input /Output Voltage and Frequency Values, Load%, Battery Voltage, Internal Temperature					
<b>ALARMS</b>						
Line Failure, Battery Low, Over Load, Failure Events						
<b>PROTECTIONS</b>						
Short Circuit, Over Temperature, Overload, High Voltage, Battery Low, EPO						
<b>COMMUNICATION</b>						
Interface	RS232 and USB					
<b>ENVIRONMENT</b>						
Temperature	0°C - 40°C					
Humidity	0 - 95% (non-condensing)					
Noise Level(1m distance)	<50dBA (at 1 meter)					
Protection Class	IP 20					
<b>PHYSICAL</b>						
Net Weight (kg)	16		29.5		30	
Dimensions (mm) WxDxH (Rack)	440x450x88 (2U)		440x650x88 (2U)		440x650x88 (2U)	
<b>STANDARDS</b>						
EN 62040-1-1 (safety), EN 62040-2(EMC)						
<b>ACCESSORIES</b>						
Internal&External SNMP, Dry Contact Board, External Manual Bypass, Rail Kit, Software						





## DSP EVO

1 Phase In - 1 Phase Out / 6kVA – 10kVA

- On-Line Double Conversion Technology
- Microprocessor controlled
- High Output Power Factor (PF:0.9)
- Extended back up time with battery cabinet
- User friendly LCD display
- High Efficiency
- Wide Input Voltage & Frequency Range
- 3-stage smart battery charging method, automatic Battery Test mode
- Adjustable Battery voltage and charging current
- Cold Start Function
- Wide communication option  
Standard: USB, RS-232, EPO  
Optional: SNMP &, Relay card
- Load-controlled fan feature
- Frequency Converter Operation Mode (50-60Hz)
- ECO Mode operation feature
- Environment friendly



## TECHNICAL SPECIFICATIONS

MODEL	DSP EVO 6K	DSP EVO 10K
Capacity [kVA/kW]	6kVA/5.4kW	10kVA/9kW
<b>INPUT</b>		
Phase	1Ph+N+PE	
Nominal Voltage	220/230/240VAC	
Input Voltage Range*	120VAC-276VAC	
Nominal Frequency	50/60 Hz [Auto-sensing]	
Frequency Range	45Hz-65Hz	
Power Factor	≥0.99	
Input Current Harmonics (THDi)	≤5% (100% linear load, input THDv≤1%)	
Bypass Voltage Range	220Vac max:+25% (+10% ,+15%, 20% , 25%), 230Vac max: +20% (+10% ,+15%, 20% ) 240Vac max: +15% (+10% ,+15%), min: default -45% (-20%, -30%, -45%, )	
Generator Input	Present	
<b>OUTPUT</b>		
Phase	1Ph+N+PE	
Nominal Voltage	220/230/240VAC	
Power Factor	0.9	
Voltage Regulation	±1%	
Frequency	50/60Hz / (±0.1%)	
Crest Factor	3:1	
Output Voltage Harmonic (THDv)	≤3% @ linear load, ≤5% @ non linear load	
Waveform	Pure Sinewave	
Efficiency**	≥90%	
<b>BATTERY</b>		
Battery Number	16/18/20 pcs [Adjustable]	
Internal Battery	20 x 12V 7Ah [Built-in as standard]	
Battery Type	VRLA	
Standard Charge Current	1A	
Charge Current (Max.)	6A [Adjustable]	
Charge Time (90%)	8-10 Hr. [Adjustable]	
Transfer Time	Online Mode-Battery Mode: 0ms; Online Mode-Bypass: 0ms	
<b>PROTECTION</b>		
Overload	105% ~ 110% 10 min. 110% ~ 130% 1 min. >130% switch to bypass immediately	
Short Circuit	System stops	
Over Temperature	Online Mode: switches to Bypass; Battery Mode: UPS shuts down immediately	
Battery Low	Alarm and Shutdown	
Self-Test	Software testing at startup	
EPO	UPS shuts down immediately	
Battery	Advanced Battery Management	
<b>ALARMS</b>		
Audible and Visual Alarms	Input fault, Low Battery, Overload, System fault	
<b>DISPLAY</b>		
Status LED & LCD	Online Mode, Battery Mode, Eco Mode, Bypass Mode, Battery Low, Battery Bad, Overload & UPS Failure	
LCD	Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load %, Battery Voltage, Internal Temperature and Ambient Temperature	
<b>PHYSICAL</b>		
Dimensions - WxHxD (mm)	191x720x460	
Net Weight (kg)	60	61
<b>COMMUNICATION***</b>		
	Standard:USB, RS232, EPO, Optional: SNMP and Relay card	
<b>ENVIRONMENT</b>		
Operating / Storage Temperature	0°C ~ +40°C / -25°C ~ +55°C	
Humidity	0 - 95% (non-condensing)	
Altitude	< 1500m	
Noise Level (1m distance)	<55dB (@1 mt)	
<b>STANDARDS</b>		
	CE, EN/IEC 62040-1-1, EN/IEC 62040-2	

\* Depends on the power rating and the amount of load at the output of UPS.

\*\* It depends on UPS power and environmental conditions.

\*\*\*Please contact to your sales representative for communication options.

## DSP Multipower Convertible

1 Phase In - 1 Phase Out / 5kVA – 10kVA  
 3 Phase In - 1 Phase Out / 10kVA – 20kVA

- On-line 'double conversion' technology
- Real Digital Signal Processor (DSP) Controller
- Parallel redundant operation up to 4 units
- Input Power Factor Correction PFC
- High output power factor (PF: 0.9)
- Low total harmonic distortion (THD) level
- Convertible display helps to use both for tower and rack applications
- Transformerless Design
- Availability to configure as 50/60Hz Frequency Converter from LCD Panel
- High Performance with the PWM Sinewave Topology
- Cold Start Function
- Intelligent Battery Management System extends the life time of batteries
- Overload, Overheat & Short Circuit Protections
- User Friendly Multi-Functional LED/LCD Display Panel
- Energy Saving Mode (ECOMODE)
- Smart Fan Speed Regulation with temperature controlled
- RS232 Communication Port & Management Software
- Internal SNMP, DRY contact, RS485 card options



### TECHNICAL SPECIFICATIONS

MODEL	DSPMP-1105	DSPMP-1106	DSPMP-1110	DSPMP-3110	DSPMP-3115	DSPMP-3120
Power [kVA]	5	6	10	10	15	20
Power [kW]	4.5	5.4	9	9	13.5	18
<b>INPUT</b>						
Phase Configuration	1Ph + N + PE (Hardwire)			3Ph + N + PE (Hardwire)		
Nominal Voltage	220VAC/230VAC/240VAC			380VAC/400VAC/415VAC		
Minimum Voltage [at Half load]	160VAC			277VAC		
Minimum Voltage [at Full load]	180VAC			312VAC		
Maximum Voltage	280VAC			485VAC		
Frequency	45-65 Hz					
Power Factor	0.99			0.95		
<b>OUTPUT</b>						
Power Factor	0.9			0.9		
Phase Configuration	1Ph + N + PE (Hardwire)			1Ph + N + PE (Hardwire)		
Nominal Voltage	220VAC / 230VAC / 240VAC			220VAC / 230VAC / 240VAC		
Wave Form	Pure Sine Wave			Pure Sine Wave		
Total Harmonic Distortion at 100% linear load	<3%			<3%		
at 100% non-linear load	<5%			<5%		
Frequency	50Hz or 60Hz [adjustable]			50Hz or 60Hz [adjustable]		
Frequency Tolerance[free running]	±0.1 %			±0.1 %		
Frequency Synchronized Range	±1Hz; ±3Hz [selectable]			±1Hz; ±3Hz [selectable]		
Static Voltage Regulation [0%-100% load]	<1%			<1%		
Crest Factor	3			3		
Transfer Time	0sec			0sec		
Overload	Up to 10min. @100%-120%			Up to 10min. @100%-120%		
	Up to 1min. @120%-150%			Up to 1min. @120%-150%		
	Transfer to bypass @ >150%			Transfer to bypass @ >150%		
Total Efficiency	up to 90%			up to 91%		
Greenmode efficiency	>97%			>97%		
Outlets	External Socket Box (2 pcs SCHUKO, 4 pcs IEC C13 Outlets) Optional			External Socket Box (2 pcs SCHUKO, 4 pcs IEC C13 Outlets) Optional		
<b>BATTERY</b>						
Type	Maintenance-free lead acid batteries			Maintenance-free lead acid batteries		
Recharge Time	4-6h up to 90%			4-6h up to 90%		
Voltage	240VDC			240VDC		
Quantity per string	20 pcs 12V Batteries			192VDC for 16 pcs 240VDC for 20 pcs (20 pcs 12V Batteries) or (16 pcs 12V Batteries)**		
Internal batteries	20 pcs 12V 4.5Ah (internal battery version only)			N/A		
Built in max. Charge Current	1.6A			4A		
Cold Start	Present			Present		
<b>DISPLAY</b>						
LED + LCD Display	Line Mode, Backup Mode, ECO Mode, Bypass Supply, Battery Low, Battery Bad/Disconnect, Overload and Transferring with Interruption & UPS Fault			Line Mode, Backup Mode, ECO Mode, Bypass Supply, Battery Low, Battery Bad/Disconnect, Overload and Transferring with Interruption & UPS Fault		
LCD display	Input Voltage, Input Frequency, Output Voltage, Output Current, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature.			Input Voltage, Input Frequency, Output Voltage, Output Current, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature.		
Self Diagnostics	Upon Power-on, Front Panel Setting & Software Control, 24-hour routine checking			Upon Power-on, Front Panel Setting & Software Control, 24-hour routine checking		
Audible and Visual Alarms	Line Failure, Battery Low, Transfer to Bypass, System Fault Conditions			Line Failure, Battery Low, Transfer to Bypass, System Fault Conditions		
<b>PROTECTION</b>						
Overload Protection	Bypass transfer time is calculated by simulating a temperature related model of a fuse			Bypass transfer time is calculated by simulating a temperature related model of a fuse		
Short Circuit Protection	Acts as the ideal current source during the short circuit time			Acts as the ideal current source during the short circuit time		
Other Protection	Against excessive [heat,voltage,current] intense battery discharge			Against excessive [heat,voltage,current] intense battery discharge		
<b>COMMUNICATION</b>						
Interface (Communication ports)	Standard RS232 port and optional RS485, Internal SNMP, Dry Contact Cards			Standard RS232 port and optional RS485, Internal SNMP, Dry Contact Cards		
<b>ENVIRONMENT</b>						
Operating Temperature	0 °C... + 40 °C			0 °C... + 40 °C		
Proposed Temp. to extend battery life	20 - 25 °C			20 - 25 °C		
Humidity	0 - 95% [non-condensing]			0 - 95% [non-condensing]		
Audible Noise at 1 m	<50 dB			<60 dB		
Protection Class	IP 20			IP 20		
<b>PHYSICAL SPECIFICATIONS (tower position)</b>						
Net Weight [power module]	25kg	26kg	26kg	28kg	28kg	36 kg
Net Weight [with internal batteries]	55kg	85kg with 9Ah battery	-	-	-	-
Dimensions [mm] [WxDxH]-power module [Rack]	440x680x88 [2U]			440x680x132 [3U]		
Dimensions[mm] [WxDxH] - w/battery vers. [Rack]	440x680x176 [4U]			440x720x220 [5U]		
<b>STANDARDS</b>						
Standards	EN62040-1-1 (safety); EN62040-2 (EMC);EN62040-3(performance); EN60950-1			EN62040-1-1 (safety); EN62040-2 (EMC);EN62040-3(performance); EN60950-1		
<b>ACCESSORIES</b>						
	Internal&External SNMP, Dry Contact Board, External Manual Bypass, Rail Kit, External Battery Connection Cable, External Socket Box, External Additional Charging Board Software			Internal&External SNMP, Dry Contact Board, External Manual Bypass, Rail Kit, External Battery Connection Cable, External Socket Box, External Additional Charging Board Software		

\*\* Availability to use 16pcs 12V batteries per string if load is less than 85%



## DSP Flexipower

1 Phase In - 1 Phase Out / 3kVA - 10kVA

3 Phase In - 1 Phase Out / 10 kVA

- On-Line Double Conversion Technology
- Real Digital Signal Processor (DSP) Controller
- Power Factor Correction
- High output power factor
- Parallel redundant operation up to 4 units (excluding 3kVA)
- Integrated Manual Bypass (excluding 3kVA)
- Low total harmonic distortion (THD) level
- Transformerless Design
- High Performance with the PWM Sinewave Topology
- Cold Start Function
- Intelligent Battery Management System extends the life time of batteries
- Overload, Overheat & Short Circuit Protections
- Emergency Shutdown Control through EPO
- User Friendly Multi-Functional LED/LCD Display Panel
- Energy Saving Mode (ECOMODE)
- RS232 Communication Port & Management Software
- Internal SNMP, Dry contact and RS485 card options
- Possible to operate as 50Hz/60Hz Frequency Converter
- Extended Back up time with External Battery Cabinet



## TECHNICAL SPECIFICATIONS

MODEL	FP1103	FP1105	FP1106	FP1108	FP1110	FP3110
Power (kVA)	3	5	6	8	10	10
Power (kW)	2.4	4.5	5.4	7.2	9	9
<b>INPUT</b>						
Phase Configuration	1Ph + N + PE					3Ph + N + PE
Nominal Voltage	220V/230/240V					380V/400V/415V
Minimum Voltage	160 V					180 V
Maximum Voltage	288 V					280 V
Frequency	± 5 Hz					45 - 65 Hz
Power Factor	0.99					
<b>OUTPUT</b>						
Power Factor	0.8					0.9
Phase Configuration	1Ph + N + PE					
Nominal Voltage	220V / 230 / 240V (adjustable)					
Wave Form	Pure Sine Wave					
Total Harmonic Distortion at 100% linear load	<3%					
Frequency	50Hz or 60Hz (adjustable)					
Frequency Tolerance (free running)	±0.2 %					
Static Voltage Regulation (0%-100% load)	<1%					
Crest Factor	3:1					
Transfer Time	0 sec					
Overload	30 sec @ (106%-120%) 10 sec @ (120%-150%)	2min @ (100%-120%) 30sec @ (120%-150%)				Transfers to Bypass @150%
Total Efficiency	≥90%					≥92%
<b>BATTERY</b>						
Type	Maintenance-free lead acid batteries					
Recharge Time (for Internal Battery)	4-6h up to 90%					
Quantity per String	6pcs 12V Batteries	20 pcs 12V Batteries				
Voltage	72 VDC	240VDC				
Internal Batteries (Optional)	7Ah, 9Ah					
Cold Start	Present					
<b>DISPLAY</b>						
LED + LCD Display	Line Mode, Back up Mode, Eco Mode, Bypass Supply, Battery Low, Battery Bad/Disconnect, Overload, UPS Fault, Interruption during transfer					
LCD Display	Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load%, Battery Voltage, Internal Temperature					
Self Diagnostics	Upon Power On, Front Panel Setting and Through Software Control, 24h routine Check					
<b>PROTECTION</b>						
Overload Protection	Bypass transfer time is calculated by simulating a temperature related model of a fuse					
Short Circuit Protection	Acts as the ideal current source during the short circuit time					
Other Protection	Against excessive (heat, voltage, current) intense battery discharge					
<b>COMMUNICATION</b>						
Interface (Communication ports)	Standard RS232 port and optional RS485, Internal SNMP, Dry Contact Cards					
<b>ENVIRONMENT</b>						
Operating Temperature	0 °C... + 40 °C					
Proposed Temp. to extend battery life	20 - 25 °C					
Humidity	0 - 95% (non-condensing)					
Audible Noise at 1 m	<50 dB				<52 dB	
Protection Class	IP 20					
<b>PHYSICAL SPECIFICATIONS</b>						
Dimensions(mm) (HxWxD)	449x226x454	585x254x710				
Weight - without battery (kg)	19	30	38	45		
<b>STANDARDS</b>						
Standards	EN62040-1-1 (Safety); EN62040-2 (EMC)					
<b>ACCESSORIES</b>						
Optional	Internal&External SNMP, Dry Contact Board, Monitoring and Management Software, Internal Battery Holder Apparatus, Additional Charging Set					

## DSP Multipower

3 Phase In - 1 Phase Out / 15kVA – 20kVA

- On-Line Double Conversion Technology
- Real Digital Signal Processor (DSP) Controller
- Paralel redundant operation up to 4 units (Optional)
- Increased Input Power Factor (PF:0.95)
- Transformerless Design
- Cold Start Function
- Overload, Overheat & Short Circuit Protections
- User Friendly Multi-Functional LED/LCD Display Panel
- Energy Saving Mode (GREEN MODE)
- Intelligent Battery Management System
- RS232 Communication Port & Management Software
- SNMP, Dry Contact, RS485, USB Card options



### TECHNICAL SPECIFICATIONS

MODEL	DSPMP-3115T	DSPMP-3120T
Power (kVA)	15	20
Power (kW)	13.5	18
<b>INPUT</b>		
Phase Configuration	3Ph + N + PE (Hardwire)	
Nominal Voltage	380VAC/400VAC /415VAC	
Minimum Voltage (at 75% Load)	277VAC	
Maximum Voltage	485VAC	
Frequency	45-65 Hz	
Power Factor (@linear load)	0.95	
<b>OUTPUT</b>		
Power Factor	0.9	
Phase Configuration	1Ph + N + PE (Hardwire)	
Nominal Voltage	220VAC/230VAC/240VAC	
Wave Form	Pure Sine Wave	
Total Harmonic Distortion at 0 to 100% linear load	<3%	
Frequency	50Hz or 60Hz (adjustable)	
Frequency Tolerance (free running)	±0.2%	
Frequency Synchronized Range	±1Hz or ±3Hz (selectable)	
Voltage Regulation	±2%	
Crest Factor	3	
Transfer Time	0sec	
Total Efficiency	> 91%	
Greenmode Efficiency	> 95%	
<b>BATTERY</b>		
Type	Maintenance-free lead acid batteries	
Voltage	240VDC	
Quantity per string	20pcs 12V Batteries	
Built in max. Charge Current	4A	
<b>DISPLAY</b>		
LED + LCD Display	Line Mode, Backup Mode, ECO Mode, Bypass Supply, Battery Low, Battery Bad/Disconnect, Overload and Transferring with Interruption & UPS Fault	
LCD display	Input Voltage, Input Frequency, Output Voltage, Output Current, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature.	
Self Diagnostics	Upon Power-on, Front Panel Setting & Software Control, 24-hour routine checking	
Audible and Visual Alarms	Line Failure, Battery Low, Transfer to Bypass, System Fault Conditions	
<b>COMMUNICATION</b>		
Interface (Communication ports)	Standard RS232 port and optional RS485, Internal SNMP, Dry Contact Cards	
<b>ENVIRONMENT</b>		
Operating Temperature	0 °C - 40 °C	
Proposed Temp. to extend battery life	20 - 25 °C	
Humidity	0 - 95% (non-condensing)	
Audible Noise at 1 m	<60 dB	
Protection Class	IP 20	
<b>PHYSICAL SPECIFICATIONS</b>		
Net Weight	60kg	62kg
Dimensions (mm) (WxDxH)	290x650x770	
<b>STANDARDS</b>		
Standards	EN62040-1-1 (Safety); EN62040-2 (EMC); EN62040-3 (Performance); EN60950-1	
<b>ACCESSORIES</b>		
Optional	Internal&External SNMP, Dry Contact Board, External Manual Bypass, External Battery Connection Cable, External Additional Charging Board Software	



## Saver Plus DSP

3 Phase In - 1 Phase Out / 15kVA - 20kVA

- On-line 'double conversion' technology
- Real Digital Signal Processor (DSP) controlled, IGBT technology
- Wide input voltage range (140V-480V)
- Input Power Factor Correction PFC (PF: >0.97)
- Intelligent Battery Management System extends the life time of batteries
- Transformerless Design
- Small Dimensions
- Manual Bypass
- LCD display
- RS 232 and relay interface
- Management and monitoring software available for all operating systems and SNMP support



### TECHNICAL SPECIFICATIONS

MODEL	SD3115	SD3120
Power	15kVA	20kVA
<b>INPUT</b>		
Nominal Voltage	380 V / 400V / 415V 3Phase, N	
Minimum Voltage	140V 3Phase, N	
Minimum Voltage (at full load)	260V 3Phase, N	
Maximum Voltage	480V 3Phase, N	
Frequency	50 - 60Hz (45 to 65 Hz)	
Nominal Current	17.4 A / phase	23.3 A / phase
Maximum Current	53 A peak / phase	71 A peak / phase
Power Factor	>0.97	
<b>OUTPUT</b>		
Power Factor	0.7	
Nominal Voltage	220V / 230V (adjustable)	
Wave Form	Sinus	
Total Harmonic Distortion	< 3%	
Frequency	50Hz or 60Hz (adjustable)	
Voltage Regulation (Static)	1%	
Crest Factor	3	
Overload	> 30s (at 150 % load)	
Total Efficiency	> 91%	
<b>BATTERY</b>		
Type	Maintenance-free lead acid batteries	
Quantity per string	32pcs 12V Batteries	
Voltage	384VDC	
Recharge Time for Internal Batteries	< 4 h	
Discharge Current	< 10%	
Internal Batteries (Optional)	12Ah	
Warning	Audible Buzzer through the end of Battery Discharge	
<b>DISPLAY</b>		
LED Panel	Line, Bypass, Battery, Inverter, Overload, Fault Indicators	
LCD Panel	Load%, Battery Temperature, Input&Output&Battery Voltages, Output Frequency	
<b>STATIC BY-PASS</b>		
Voltage Tolerance	10% (adjustable)	
Frequency Tolerance	3Hz (adjustable)	
Transfer Time	0 ms	
<b>PROTECTION</b>		
Protections	Overload Protection, Short Circuit Protection, High Temperature, Over Voltage, Over Current	
<b>COMMUNICATION INTERFACE</b>		
Interface (Communication Ports)	RS 232	
Dry Contact Signals	Ups shutdown, mains failure, low battery, by-pass active, summary alarm	
<b>ENVIRONMENT</b>		
Temperature	0 - 40 °C	
Suggested Temp. to extend battery life	20 - 25 °C	
Humidity	0 - 95% (non-condensing)	
Audible Noise (from 1m distance)	< 55 dB	
Protection Class	IP 20	
<b>PHYSICAL SPECIFICATIONS</b>		
Net Weight - without battery (kg)	103.5	108
Dimensions (mm) (WxDxH)	430x870x970	
<b>STANDARDS</b>		
Standards	EN 62040-1-1 (Safety), EN 62040-2 (EMC)	
<b>ACCESSORIES</b>		
Optional	External SNMP, Monitoring and Management Software, Remote Monitoring Panel, Additional Charging Set, Internal Galvanic Isolation Transformer	



## Stark

3 Phase In - 3 Phase Out / 10 – 20kVA

- IGBT Rectifier & Inverter
- Real Digital Signal Processor (DSP) controlled
- Input Power Factor Correction PFC (PF:  $\geq 0.99$ )
- Low Input Total Harmonic Distortion Level (THDi  $\leq 3\%$ )
- Wide Input Voltage Range
- High Output Power Factor (PF: 0.9)
- Cold Start Availability
- Increased Efficiency with Eco Mode Operation
- Transformerless design
- High Efficiency
- User Friendly LCD/LED Display Panel with functional keypads
- Static and Manual Bypass Built-in
- High charging current
- Fan Speed Control depending on internal temperature and load %
- Wide Communication Option  
Standard: RS232, RS485 (ModBus) and EPO  
Optional: SNMP, Relay card
- Increased battery supply time (optional)
- Low cost of installation and operating
- Compact dimension with internal battery placement availability



## TECHNICAL SPECIFICATIONS

MODEL	STK 3310	STK 3315	STK 3320
Capacity (kVA/kW)	10kVA/9kW	15kVA/13.5kW	20kVA/18kW
<b>INPUT</b>			
Phase	3Ph + N + PE		
Nominal Voltage	380 / 400 / 415 VAC		
Input Voltage Range*	208-478 VAC		
Frequency	50/60 Hz $\pm 10\%$ (Auto-sensing)		
Input Power Factor	$\geq 0.99$		
Input Current Harmonics (THDi)	$\leq 3\%$		
<b>OUTPUT</b>			
Output Power Factor	0.9		
Phase	3Ph + N + PE		
Nominal Voltage	380 / 400 / 415 VAC (Adjustable from the front panel)		
Output Voltage Harmonic (THDv)	$\leq 2\%$ Linear Load $\leq 5\%$ Nonlinear Load		
Frequency	50Hz or 60Hz (Adjustable from the front panel)		
Frequency Range	Utility Mode: $\pm 1\% \pm 2\% \pm 4\% \pm 5\% \pm 10\%$ of the rated frequency (optional) Battery Mode: (50/60 $\pm 0.2\%$ )Hz		
Voltage Regulation	$\pm 1\%$		
Crest Factor	3:1		
Transfer Time	Online Mode-Battery Mode: 0ms; Online Mode-Bypass: 0ms		
Overload	AC Mode: Load $\leq 110\%$ : last 60min, $\leq 125\%$ : last 10min, $\leq 150\%$ : last 1min, $> 150\%$ change to bypass immediately Battery Mode: Load $\leq 110\%$ : last 10min, $\leq 125\%$ : last 1min, $\leq 150\%$ : last 5s, $> 150\%$ shut down UPS immediately up to 94%		
Efficiency**	up to 94%		
<b>BATTERY</b>			
Type	Maintenance-free lead acid batteries		
Recharge Time (for Internal Battery)	4-6h up to 90%		
Internal Battery Quantity/Type (Standard)	16x12V 9 Ah	32x12V 9 Ah	
Battery Quantity (optional)	16/18/20 pcs (optional)	32/34/36/38/40 pcs (optional)	
Standard Charging Current	1.35A	2.7A	
Max Charging Current	6A (Adjustable)		
Cold Start	Present		
<b>ALARMS</b>			
Audible & Visual	Online Failure, Battery Low, Overload, System Fault		
<b>DISPLAY</b>			
Status LED & LCD	Line Mode, Bypass Mode, Battery Low, Battery Bad, Overload & UPS Fault		
LCD Display	Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature		
<b>PROTECTION</b>			
	Overload, Short Circuit, Overheat, Battery Low,		
<b>COMMUNICATION***</b>			
	Standard:RS232, RS485, EPO Optional: SNMP card and Relay card		
<b>ENVIRONMENT</b>			
Operating Temperature	0°C - 40°C (20°C - 25°C recommended range for long battery life)		
Storage Temperature	-25°C - +55°C		
Humidity	0 - 95% (non-condensing)		
Altitude	1500 m		
Noise Level (1m distance)	$< 55$ dB		
Protection Class	IP20		
<b>PHYSICAL</b>			
Dimensions (mm) (WxDxH)	250x645x715	250x645x868	
Net Weigh (without batteries) ( kg )	42	53	54
Net Weigh (with batteries) ( kg )	80	120	121
<b>STANDARDS</b>			
	EN62040-1-1 (Safety); EN62040-2 (EMC)		

\* Depends on the power rating and the amount of load at the output of UPS.

\*\* It depends on UPS power and environmental conditions.

\*\*\*Please contact to your sales representative for communication options.



HOME/OFFICE

DATA CENTER

MEDICAL

INDUSTRY

TRANSPORTATION

EMERGENCY

## ESTIA UPS

3 Phase In - 3 Phase Out / 10 - 20 kVA

- On-Line "Double Conversion" technology
- Real DSP (Digital Signal Processor) Controlled Processor
- High Input Power Factor (PFC > 0.99)
- High Efficiency
- Low Input Current Harmonics (THDi < 3%)
- Low Output Voltage Harmonics (THDv < 1.5%)
- Easy-use LCD Display
- Energy Saving Mode (ECO Mode)
- Cold Start
- Redundancy and Power increase thanks to Paralleling feature (Optional)
- Wide Frequency and Voltage Range
- Smart Battery Management Software & Deep Discharge Protection
- Automatic Battery Test Feature
- Adjustable Battery Quantity
- External Battery Support for Long Backup time (Optional)
- Battery Recharge Support with High Current (up to 9A)
- Standard built-in Static and Manual Bypass
- Short circuit and Overload Protection
- Built-in Back Feed Protection
- Temperature Controlled Smart Fan Speed Regulation
- Frequency Converter Operation Mode Selection
- Generator Compatible Operation
- Advanced Event Records
- Statistical Daily Data Records
- Broad Communication Option  
Standard: RS-232, USB, EPO, GENSET, STS Sync  
Optional: SNMP, Relay Card, Modbus
- Two Years Full Warranty in accordance with ISO 9001, ISO 14001, CE standards
- INFORM 7/24 Technical Support and Customer Services

**NEW  
PRODUCT**



UPS ONLINE



TOWER



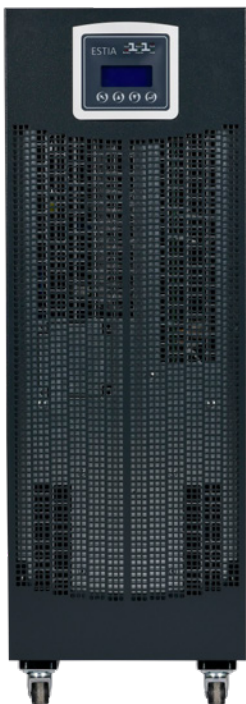
USB



LCD DISPLAY  
(10-20kVA)



SERVICE



# Estia

## TECHNICAL SPECIFICATIONS

MODEL	ESTIA 10KVA	ESTIA 15KVA	ESTIA 20KVA
Capacity (kVA/kW)	10kVA/8kW	15kVA/12kW	20kVA/16kW
<b>INPUT</b>			
Phase Number	3Ph + N + PE		
Nominal Voltage	380 / 400 / 415 VAC		
Voltage Range (VAC) (100% Load)*	[-15%] [+20%]		
Voltage Range (VAC) (50% Load)*	[-45%] [+20%]		
Frequency	50/60 Hz $\pm$ 10% (Auto Sensing)		
Input Power Factor	>0.99		
Input Current Harmonics (THDi) **	<3%		
<b>OUTPUT</b>			
Output Power Factor	0.8		
Phase Number	3Ph + N + PE		
Nominal Voltage	380 / 400 / 415 VAC (Adjustable from LCD menu)		
Voltage Harmonics (THDv) **	< 1.5% (Linear Load), <3% (Nonlinear Load)		
Frequency	50Hz or 60Hz (Adjustable from LCD menu)		
Frequency Tolerance	Utility Mode: Rated frequencies $\pm$ 1% $\pm$ 2% $\pm$ 4% $\pm$ 5% $\pm$ 10% Battery Mode: {50/60 $\pm$ 0.2%}Hz		
Voltage Regulation	$\pm$ 1%		
Crest Factor	3:1		
Transfer Time	Online-Battery : 0ms; Online-Bypass: 0ms		
Overload	10 minutes at 110% load; 1 minute at 125% load; 10 seconds at 150% load		
Efficiency*	Up to 93%		
<b>STATIC BYPASS</b>			
Static Bypass Voltage Tolerance	380/400/415 VAC (Adjustable from LCD menu -15% +12%)		
Static Bypass Frequency Tolerance	47 Hz - 53 Hz (Adjustable)		
<b>BATTERY</b>			
Type	Maintenance-Free Dry Type		
Recharge Time (For Internal Battery)	4-6 hours up to 90%		
Battery Quantity (with Battery)	16x12V 9 Ah	24x12V 9 Ah	32x12V 9 Ah
Battery Quantity (without Battery)	16-32 pcs (on request)	24-32 pcs (on request)	32 pcs
Recharge Current (Max.)	max. up to 9A (Adjustable)		
Cold Start (Start-up in no mains)	Present		
<b>ALARMS</b>			
Audible & Visual	Mains Failure, Battery Low, Overload, System Fault		
<b>DISPLAY</b>			
Indicator LED & LCD	Online mode, Bypass mode, Battery Low, Overload & UPS Failure		
LCD Display	Input Voltage, Current & Frequency, Output Voltage, Current & Frequency, Output power values (KVA, KW), Load Power Factor (PF), Load Rate, Battery Voltage & Current, Battery backup time, Bypass Voltage & Frequency, Output Current, Crest Factor, Internal Temperature		
<b>PROTECTION</b>			
	Overload, Short circuit, High Temperature, Battery Deep Discharge		
<b>COMMUNICATION ***</b>			
	Standard:RS232, USB, EPO, GENSET, STS SYNC Optional: SNMP, Dry Contact, Modbus (RS485)		
<b>ENVIRONMENT CONDITIONS</b>			
Operation Temperature Range	0°C - 40°C (20°C - 25°C recommended temperature for long battery life)		
Storage Temperature	-25°C - +55°C (15 - 40°C recommended temperature for long battery life)		
Humidity	0 - 95% (non-condensing)		
Operational Altitude	1500 meter		
Noise Level (from 1m distance)	<60 dB		
Protection Class	IP20		
<b>PHYSICAL SPECIFICATIONS</b>			
Dimensions (mm) (WxDxH)	295x620x700	295x620x875	
Weight (w/o battery) ( kg )	48.5	61.8	
Weight (with 12V 9Ah) ( kg )	90	128	145
Installation Type	Floor, Wheeled (Tower)		
<b>STANDARDS</b>			
	EN 62040-1(Safety), EN 62040-2 (EMC), EN 62040-3 (VFI-SS-111)		

\* Depending on rated power and load rate at the output

\*\* Depending on UPS power and environmental conditions

\*\*\* Please contact with your sales representative for communication options

## Estia Hybrid Solar UPS

3 Phase In - 3 Phase Out / 10-20 kVA

Get your energy from the sun with Inform's new generation HYBRID UPS.

### UPS Operation Mode

The energy needed by the load is primarily provided from the grid. In case of failure or failure of the grid, the energy needed is supplied from the battery group inside the Estia Hybrid.

### Off-Grid Inverter Operation Mode

The energy needed by the load is primarily provided from the sun. After sunset or when the panels fail to produce, the energy needed continues to be provided from the battery pack.

### On-Grid Inverter Operation Mode

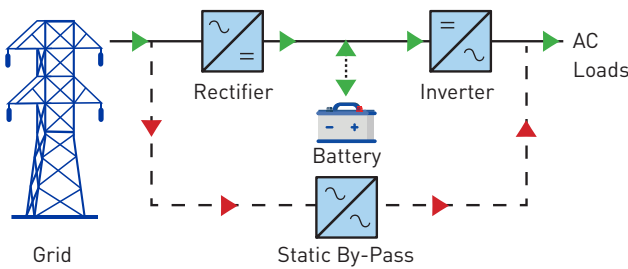
The energy needed by the load is provided primarily from the sun and is supplied from the grid where the solar energy is not sufficient. If the load is low, the energy generated from the solar panels is transferred to the grid.

### Hybrid Inverter Operation Mode

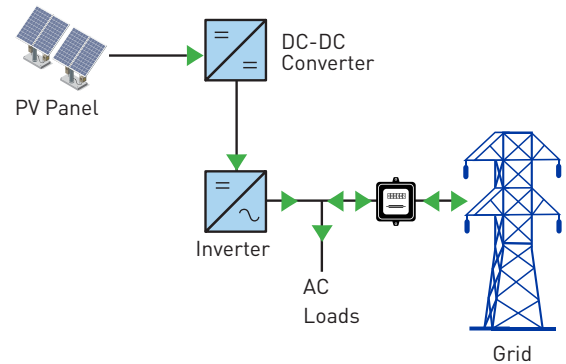
The energy needed by the load is provided primarily from the sun and is supplied from the grid where the solar energy is not sufficient. In case of failure or failure of the grid, the energy needed is supplied from the battery group in the Estia Hybrid.



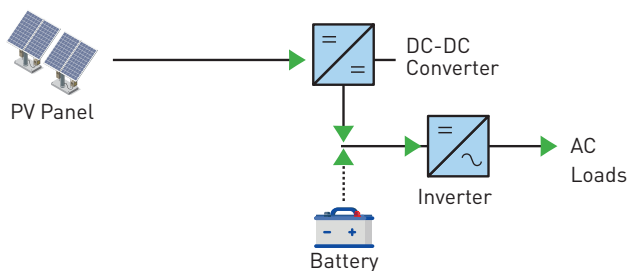
### UPS Operation Mode



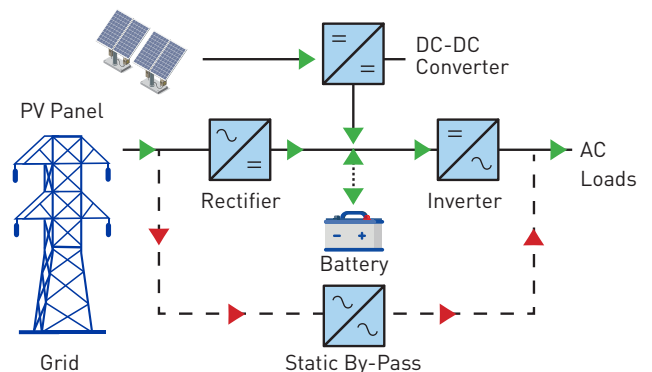
### On-Grid Inverter Operation Mode



### Off-Grid Inverter Operation Mode



### Hybrid Inverter Operation Mode



# Estia Hybrid Solar UPS

## TECHNICAL FEATURES

MODEL		Estia Hybrid 33010	Estia Hybrid 33015	Estia Hybrid 33020
POWER	Output Power	10 KVA	15 KVA	20 KVA
<b>UPS OPERATION (Grid- Battery)</b>				
GRID INPUT (AC)	Input Voltage - Phase number	380/400/415 VAC / 3Ph+N+PE		
	Input Voltage Range	100% load 195V-260V, 50% load 145V-260V		
	Input Frequency Tolerance	45-65 Hz		
LOAD OUTPUT (AC)	Output Voltage - Phase number	380/400/415 VAC / 3Ph+N+PE		
	Output Frequency	50 / 60 Hz		
	Overload	10min 100% load, 1min 125% load, 10sec 150% load		
STATIC BY-PASS	Static Bypass Voltage Tolerance	380/400/415 VAC (Adjustable from LCD front panel -15% +12%)		
	Static Bypass Frequency Tolerance	47 Hz - 53 Hz (Adjustable)		
BATTERY & CHARGE CONTROL	Battery Type	Maintenance free type (VRLA), Lithium Iron Phosphate / Gel / Lead Acid		
	Nominal Battery Voltage	192-384 VDC (16-32 Pcs 12V)	288-384 VDC (24-32 Pcs 12V)	384 VDC (32 Pcs 12V)
	Max. Battery Charge Current	5A		
<b>HYBRID OPERATION (Grid-Battery-PV)</b>				
PV INPUT (DC)	Max. PV Input Power	8000 W		
	Max. PV Voltage/MPPT Voltage range	600 VDC / 350-600 VDC		
	Min. PV Operation Voltage	200 VDC		
	MPPT Number / Max. MPPT Inp. Current	1 / 24A		
GRID OUTPUT (AC)	Grid Output Voltage – Phase number	380/400/415 VAC / 3Ph+N+PE		
	Grid Output Current (per phase)	12.1 A	18.2A	24.2 A
GRID INPUT (AC)	Grid Input Voltage Range	100% load 195V-260V, 50% load 145V-260V		
	Grid Input Current (per phase)	14.8 A	22.3 A	29.7 A
	Automatic Operation Voltage	195-260 VAC		
BATTERY & CHARGE CONTROL	Nominal Battery Voltage	192-384 VDC (16-32 Pcs 12V)	288-384 VDC (24-32 Pcs 12V)	384 VDC (32 Pcs 12V)
	Max. Battery Charge Current	5A		
<b>OFF-GRID OPERATION (Battery-PV)</b>				
PV INPUT (DC)	Max. PV Input Power	8000 W	8000 W	8000 W
	Automatic Operation Voltage (Cold Start)	166 VDC	250 VDC	333 VDC
	Max. PV Voltage/MPPT Volt. Range	600 VDC / 350-600 VDC		
	Min. PV Operation Voltage	200 VDC		
	MPPT Number / Max. MPPT Inp. Current	1 / 24A	1 / 24A	1 / 24A
BATTERY & CHARGE CONTROL	Nominal Battery Voltage	192-384 VDC (16-32 Pcs 12V)	288-384 VDC (24-32 Pcs 12V)	384 VDC (32 Pcs 12V)
	Max. Battery Charge Current	5A		
LOAD OUTPUT (AC)	Output Voltage - Phase Number	380/400/415 VAC / 3Ph+N+PE		
	Output Frequency	50 / 60 Hz		
<b>ON-GRID OPERATION (Grid-PV)</b>				
PV INPUT (DC)	Max. PV Input Power	8000 W		
	Max. PV Voltage/MPPT Volt. Range	600 VDC / 350-600 VDC		
	Min. PV Operating Voltage	200 VDC		
	MPPT Number / Max. MPPT Inp. Current	1 / 24A		
GRID OUTPUT (AC)	Grid Output Voltage - Phase Number	380/400/415 VAC / 3Ph+N+PE		
	Grid Output Current (per phase)	12.1 A	18.2A	24.2 A
<b>GENERAL DATA</b>				
EFFICIENCY	Euro Efficiency / Output Power Factor	92% / 0.8-1	92% / 0.8-1	92% / 0.8-1
DISPLAY	Screen	4x16 LCD, LED Display		
COMMUNICATION	Interface / Other	RS-232, USB, Emergency Power Off button (EPO), GENSET, STS SYNC		
	Optional	RS485, DryContact, SNMP		
ENVIRONMENT	Storage / Operating Temperature Range	-25°C + 55°C / 0°C + 40°C		
	Humidity / Protection Class	0-95% (non-condensing) / IP20		
	Operating Altitude / Noise	0-1000 m / > 60dB		
	Cooling / Topology	Forced Convection / Transformer-less		
PHYSICAL FEATURES	Dimensions (WxDxY)(mm)	295x620x700	295x620x870	
	Weight (w/o Battery)	48.5 kg	61.8 kg	61.8 kg
	Weight (12V 9Ah Internal Battery)	92 kg	130 kg	147 kg
	Mounting Type	Floor, with wheels (Tower)		
STANDARDS	Safety / EMC / Certification	IEC/EN 62040-1, IEC/EN 62040-2, IEC/EN 62040-3		



## FORTE

3 Phase In – 3 Phase Out / 10kVA – 250kVA  
 3 Phase In – 1 Phase Out / 10kVA – 40kVA

- 3 Level IGBT Rectifier & Inverter Technology
- Real Digital Signal Processor (DSP) controlled transformerless design
- High Output Power Factor (PF:1, kVA=kW)
- Increased AC-AC Efficiency (up to 96.5%)
- Unity Input Power Factor (PF: > 0.99)
- Low Input Current THD (<3%)
- Low Output Voltage THD (<2%)
- Wide input voltage range
- Built-in Static & Manual Bypass
- Soft Start Feature
- Parallel connection availability up to 8 units
- Adjustable Battery Qty with optional DC-DC Charger/Booster at 10-15-20kVA Compact version
- Intelligent battery management system extends the life time of batteries
- Colorful Graphical Multi-Functional TouchScreen LCD Panel
- Event Log Display up to 500 Events
- Advanced communication possibility via RS232
- MODBUS connection through RS 485
- Generator Port for Generator Friendly Operation
- EPO Port for Emergency Power Off
- 50/60Hz Frequency Converter Operation Mode (Adjustable from LCD Panel)
- Management and monitoring software available for all operating systems
- Communication with computers and network systems through Optional SNMP
- Optional Programmable 4pcs Relays for dry contact signals
- Compact dimension



### High Efficiency, Real Economy

- High efficiency of up to 96.5%, reduces the operational cost and provides significant energy saving.
- Continuous Operation, Unique Operational Efficiency, Minimized occupied Installation Area, Maximum Power Delivery, Reduced Infrastructure Material Cost (cable, transformer, generator), Low Cooling Expenses, Optimized TCO (Total Cost of Ownership) features of FORTE guarantees fast return of your investment.



# FORTE

## TECHNICAL SPECIFICATIONS

MODEL (380-400-415V 3ph version)	FORTE 33010	FORTE 33015	FORTE 33020	FORTE 33030	FORTE 33040	FORTE 33060	FORTE 33080	FORTE 33100	FORTE 33120	FORTE 33160	FORTE 33200	FORTE 33250
Power (kVA)	10	15	20	30	40	60	80	100	120	160	200	250
Active Power (kW)	10	15	20	30	40	60	80	100	120	160	200	250
MODEL (200-208-220V 3Ph version)	FORTE U33005	FORTE U33007	FORTE U33010	FORTE U33015	FORTE U33020	FORTE U33030	FORTE U33040	FORTE U33050	FORTE U33060	FORTE U33080	FORTE U33100	FORTE U33125
Power (kVA)	5	7.5	10	15	20	30	40	50	60	80	100	125
Active Power (kW)	5	7.5	10	15	20	30	40	50	60	80	100	125
INPUT												
Phase	3Ph+N+PE											
Nominal Voltage	380V / 400V / 415V											
Voltage Range (100% Load)	(-15%) (+20%)											
Voltage Range (50% Load)	(-45%) (+20%)											
Nominal Frequency (Hz)	50 or 60											
Frequency Range (Online Mode)	45-65Hz											
Input Current Harmonics (THDi) *	<3%											
Input Power Factor	> 0.99											
OUTPUT												
Output Power Factor	1											
Phase	3Ph+N+PE											
Nominal Voltage	380V / 400V / 415V (adjustable via display)											
Static Voltage Regulation @100% Linear Load	<1%											
Output Voltage Harmonics (THDv) *	< 2% (Linear Load)											
Crest Factor	3:1											
Frequency (Hz)	50 Hz / 60 Hz											
Frequency Range	± 0.01% (Battery Mode)											
Overload	Online – Battery Mode: <125% Load 10 min, <150% Load 1 min BypassMode: <200% continuous											
Efficiency*	up to 96.5% (Online) , 98.5% (ECO MODE)											
STATIC BYPASS LINE												
Phase	3Ph+N+PE											
Bypass Voltage Range	380V / 400V / 415V (adjustable via display: -15% +12%)											
Bypass Frequency Range	47 Hz - 53 Hz (adjustable)											
BATTERY												
Type	Maintenance-Free Lead Acid Batteries											
Charge Current (A)	Nominal Charge Current x 0.1 (adjustable via display)											
Battery QTY STANDARD	60											
Battery QTY for FORTE-U version	34											
Internal Battery QTY STANDARD	60pcs 12V 7-9Ah											
Battery QTY COMPACT	20 - 52	30 - 52	36 - 52									
Battery Protection	Deep Discharge Protection, Temperature-compensated Battery Charging											
Battery Test	Standard (Automatic & Manual)											
FRONT DISPLAY PANEL												
Display	3.5" TFT Touch Screen with UPS Operation Modes & Energy Flow Diagram											
Color Graphic Touch Screen TFT	Load %, Input / Output / Bypass Voltage, Output Power (W & VA), Output Current, Output Power Factor, Battery ± Voltage, Input / Output Frequency, DC Bus ± Voltage, Back-up Time, Internal Temperature											
Event Log	500pcs (details can be checked via display)											
COMMUNICATION												
Interface (Communication Port)	RS232 & RS485 MODBUS & SNMP (optional)											
Dry Contact Signals (Optional)	4pcs Relays configurable to ; " General Alarm", "Input Failure", "Battery Failure", "Output Failure", "Bypass Active", "Output Overload",											
Others as standard	High Temperature" Dry contact signals											
ENVIRONMENT												
Storage Temperature (°C)	-25°C - +70°C (15 - 40°C recommended for longer battery life time)											
Operating Temperature (°C)	0 - 40°C (20 - 25 °C recommended for longer battery life time)											
Relative Humidity	0 - 95% ( non-condensing )											
Operating Altitude (maximum m.)	1000 m											
Protection Class	IP20											
Standards	EN 62040-1 (Safety), EN 62040-2 (EMC), EN 62040-3 (Performance), EN 60950											
PHYSICAL SPECIFICATIONS	FORTE 33010 U33005	FORTE 33015 U33007	FORTE 33020 U33010	FORTE 33030 U33015	FORTE 33040 U33020	FORTE 33060 U33030	FORTE 33080 U33040	FORTE 33100 U33050	FORTE 33120 U33060	FORTE 33160 U33080	FORTE 33200 U33100	FORTE 33250 U33125
Dimensions (WxDxH) (cm) - STANDARD	40 x 75 x 110				52 x 89 x 131			67x77x165			85 x 80 x 185	
Weight (w/o battery) kg - STANDARD	100	114	116	122	180	202	253	285	405	522	570	600
Dimensions (WxDxH) (cm) - COMPACT	27 x 80 x 103											
Weight (w/o battery) kg - COMPACT	75	79	81									
OPTIONS												
Parallel Kit, Internal/External SNMP, Split Bypass, Remote Monitoring Panel, Isolation Transformer, Battery Cabinet, Backfeed Protection												

\* May vary depending on UPS power & Load & Environmental Conditions.



HOME/OFFICE

DATA CENTER

MEDICAL

INDUSTRY

TRANSPORTATION

EMERGENCY

## Pyramid DSP Premium

3 Phase In – 3 Phase Out / 160 – 400kVA

- High Output Power Factor (PF: 0.9)
- Graphical Touch Screen Front Display Panel
- IGBT Rectifier
- Real Digital Signal Processor (DSP) controlled transformerless design
- Input Power Factor Correction PFC (PF: >0.99)
- Low Total Harmonic Distortion Level (THDi ≤ 4%)
- High Efficiency (up to 95%)
- Wide Input Voltage Range
- Generator Compatible Operation
- Evolution and redundancy guaranteed by on site Modular Parallel Systems
- Intelligent battery management system extends the lifetime of batteries
- Static and Manual Bypass
- EPO (Emergency Power Off)
- Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs
- Different voltage applications with refer to country mains characteristic



UPS ONLINE



TOWER



LCD DISPLAY  
(160-400kVA)



SERVICE

### ACCESSORIES

#### Communication

- Remote Monitoring Panel & 25m Cable For Remote Panel
- UPSMAN (Management Software)
- Multiserver Shutdown Licence
- Internal SNMP kit :  
Internal Slot Card SNMP CS141BSC or CY504,  
slot box, cable
- External Adapter  
SNMP Adapter Net Agent Mini DY 522  
SNMP Adapter CS141BL

#### Other

- Split By-pass
- Parallel Kit
- Drawer Type Internal Battery Shelves 10 - 30kVA
- Special Battery Connection Cable for Drawer Type Shelves

#### Battery Cabinets

- UPS looking battery Cabinets (different battery configuration available)  
V14, V15, V24, V33, V34
- Eco Cabinets (different battery configurations available)  
BC00, BC10, BC20, BC30, BC40, BC50, BC60



# Pyramid DSP Premium

## TECHNICAL SPECIFICATIONS

MODEL	PDSP-P 33160	PDSP-P 33200	PDSP-P 33250	PDSP-P 33300	PDSP-P 33400
Output power ( kVA)	160	200	250	300	400
Nominal Active Power ( kW )	144	180	225	270	360
<b>INPUT</b>					
Number of phases	3Ph+N+PE				
Nominal Voltage ( 3ph Phase to Phase )	380V/400V/415V				
Voltage range	[-15%] [+27%]				
Voltage range (64% load)	[-45%] [+27%]				
Voltage range (42% load)	[-64%] [+27%]				
Nominal Frequency ( Hz )	50 or 60				
Frequency range for online operation	±10%				
Input Current Harmonics (THDi)[*] ( **)	≤4%				
Input Power Factor	>0.99				
<b>OUTPUT</b>					
Power factor	0.9				
Number of phases	3Ph+N+PE				
Voltage ( 3ph Phase to Phase )	380V/400V/415V				
Static Voltage Regulation at 100% Linear Load ( online&battery mode )	<1%				
Output Voltage Harmonics (THDv)	<3% (linear load)				
Crest factor	3:1				
Frequency (Hz)	50 or 60				
Free Running Frequency (Hz)	± 0.01%				
Overload	125% for 10 minutes, 150% for 1 minute				
Efficiency (**)	up to 95%				
<b>BATTERY</b>					
Type	Maintenance-free Lead Acid Batteries				
Quantity (pcs )	60 (2*30)				
Battery Protection	Deep Discharge Protection with Auto Cut off, Temperature Voltage Compensated Charge				
Battery Test	Standard ( Automatic and Manual )				
<b>DISPLAY</b>					
3.5" Graphical Touch Screen	Graphical Flow Diagram for Line, Rectifier, Bypass, Battery, Inverter and Load Input & Output Frequency, Voltage & Current, Load Power Factor, Load%, Load Active & Apparent Power, Bypass Voltage & Frequency, Battery Voltage, Current & Temperature, Autonomy Time (min).				
<b>STATIC BYPASS</b>					
Number of phases	3Ph+N+PE				
Voltage Range for bypass operation	± 10%				
Frequency Range for bypass operation (Hz)	± 6% ( Configurable )				
<b>COMMUNICATION</b>					
Interface (Communication Ports )	RS232, RS485 (ModBus)				
Relay Contact Signals (Adjustable)	Programmable 4 Relay Contacts to any of following signals : General Alarm, Input Failure, Battery Failure, Output Failure, Bypass Acvite, Output Overload, High Temperature				
Others	EPO, Generator Interface				
<b>ENVIRONMENT</b>					
Storage Temperature Range (°C )	-25 to +55 ( 15 to 40 recommended for longer battery life time )				
Operating Temperature Range (°C )	0 to 40 ( 20 to 25 recommended for longer battery life time )				
Relative Humidity Range	0-95% ( non-condensing )				
Maximum Altitude without derating (m)	1000				
Protection Level	IP20				
Audible Noise Level from 1m (dBA)	62				67
<b>PHYSICAL SPECIFICATIONS</b>					
Output power ( kVA)	160	200	250	300	400
Dimensions WxDxH (mm)	980x870x1950		1340x1080x2050		
Weight (kg)	570	830	865	900	1070
<b>STANDARDS</b>					
Standards	EN 62040-1-1 (Safety), EN 62040-2 (EMC), EN 62040-3 (VFI-SS-111)				

[\*] for source having THDv < 2 % @ nominal load  
 (\*\*) varies depending on ups power





HOME/OFFICE

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MEDICAL

INDUSTRY

TRANSPORTATION

EMERGENCY

## Pyramid DSP Premium T

3 Phase In – 3 Phase Out / 160 - 300kVA

- High Output Power Factor (PF: 0.9)
- Graphical Touch Screen Front Display Panel
- IGBT Rectifier
- Real Digital Signal Processor (DSP) controlled technology with built-in output isolation transformer
- Input Power Factor Correction PFC (PF: >0.99)
- Low Total Harmonic Distortion Level (THDi ≤ 4% )
- High Efficiency ( up to 93% )
- Wide Input Voltage Range
- Generator Compatible Operation
- Evolution and redundancy guaranteed by on site Modular Parallel Systems
- Intelligent battery management system extends the lifetime of batteries
- Static and Manual Bypass
- EPO (Emergency Power Off)
- Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs
- Different voltage applications with refer to country mains characteristic



UPS ONLINE



TOWER



LCD DISPLAY  
160-300KVA



SERVICE

### ACCESSORIES

#### Communication

- Remote Monitoring Panel & 25m Cable For Remote Panel
- UPSMAN (Management Software)
- Multiserver Shutdown Licence
- Internal SNMP kit :  
Internal Slot Card SNMP CS141BSC or CY504,  
slot box, cable
- External Adapter  
SNMP Adapter Net Agent Mini DY 522  
SNMP Adapter CS141BL

#### Other

- Split By-pass
- Parallel Kit

#### Battery Cabinets

- UPS looking battery Cabinets (different battery configuration available)  
V14, V15, V24, V33, V34
- Eco Cabinets (different battery configurations available)  
BC00, BC10, BC20, BC30, BC40, BC50, BC60



# Pyramid DSP Premium T

## TECHNICAL SPECIFICATIONS

MODEL	PDSP-PT 33160	PDSP-PT 33200	PDSP-PT 33250	PDSP-PT 33300
Output power [ kVA]	160	200	250	300
Nominal Active Power [ kW]	144	180	225	270
<b>INPUT</b>				
Number of phases	3Ph+N+PE			
Nominal Voltage ( 3ph Phase to Phase )	380V/400V/415V			
Voltage range	[-15%] [+27%]			
Voltage range (64% load)	[-45%] [+27%]			
Voltage range (42% load)	[-64%] [+27%]			
Nominal Frequency ( Hz )	50 or 60			
Frequency range for online operation	±10%			
Input Current Harmonics (THDi) (*) ( **)	≤4%			
Input Power Factor	>0.99			
<b>OUTPUT</b>				
Power factor	0.9			
Number of phases	3Ph+N+PE			
Voltage ( 3ph Phase to Phase )	380V/400V/415V			
Static Voltage Regulation at 100% Linear Load ( online&battery mode )	<1%			
Output Voltage Harmonics (THDv)	<3% (linear load)			
Crest factor	3:1			
Frequency (Hz)	50 or 60			
Free Running Frequency (Hz)	± 0.01%			
Overload	125% for 10 minutes, 150% for 1 minute			
Efficiency (**)	up to 93%			
<b>BATTERY</b>				
Type	Maintenance-free Lead Acid Batteries			
Quantity ( pcs )	54 (2*27)			
Battery Protection	Deep Discharge Protection with Auto Cut off, Temperature Voltage Compensated Charge			
Battery Test	Standard ( Automatic and Manual )			
<b>DISPLAY</b>				
3.5" Graphical Touch Screen	Graphical Flow Diagram for Line, Rectifier, Bypass, Battery, Inverter and Load Input & Output Frequency, Voltage & Current, Load Power Factor, Load%, Load Active & Apparent Power, Bypass Voltage & Frequency, Battery Voltage, Current & Temperature, Autonomy Time (min).			
<b>STATIC BYPASS</b>				
Number of phases	3Ph+N+PE			
Voltage Range for bypass operation	± 10%			
Frequency Range for bypass operation (Hz)	± 6% ( Configurable )			
<b>COMMUNICATION</b>				
Interface (Communication Ports )	RS232, RS485 (ModBus)			
Relay Contact Signals (Adjustable)	Programmable 4 Relay Contacts to any of following signals ; General Alarm, Input Failure, Battery Failure, Output Failure, Bypass Acvite, Output Overload, High Temperature			
Others	EPO, Generator Interface			
<b>ENVIRONMENT</b>				
Storage Temperature Range (°C )	-25 to +55 ( 15 to 40 recomended for longer battery life time )			
Operating Temperature Range (°C )	0 to 40 ( 20 to 25 recomended for longer battery life time )			
Relative Humidity Range	0 - 95% ( non-condensing )			
Maximum Altitude without derating (m)	1000			
Protection Level	IP20			
Audible Noise Level from 1m (dBA)	62		67	
<b>PHYSICAL SPECIFICATIONS</b>				
Output power [ kVA]	160	200	250	300
Dimensions WxDxH (mm)	960x1080x1820		1620x1080x1950	
Weight (kg)	1290	1675	1775	
<b>STANDARDS</b>				
Standards	EN 62040-1-1 (Safety), EN 62040-2 (EMC), EN 62040-3 (VFI-SS-111)			

(\*) for source having THDv < 2 % @ nominal load  
(\*\*) varies depending on ups power



HOME/OFFICE

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MEDICAL

INDUSTRY

TRANSPORTATION

EMERGENCY

## Pyramid DSP

3 Phase In - 3 Phase Out / 10 - 120kVA

3 Phase In - 1 Phase Out / 10 - 40kVA

- IGBT Rectifier
- Real Digital Signal Processor (DSP) controlled transformerless design
- Input Power Factor Correction PFC (PF: >0.99)
- Low Total Harmonic Distortion Level (THDi ≤ 4%)
- High Efficiency (up to 94%)
- Wide Input Voltage Range
- Generator Compatible Operation
- Evolution and redundancy guaranteed by on site Modular Parallel Systems
- Intelligent battery management system extends the lifetime of batteries
- Static and Manual Bypass
- Optional Galvanic isolation transformer
- Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs
- Different voltage applications with refer to country mains characteristic;
  - PDSP version for 380/400/415V(Ph\_Ph) applications
  - PDSP-U version for 200/208/220V(Ph\_Ph) applications
  - Special voltage applications other than stated values
- EPO (Emergency Power Off)

\* 3 phase in 1 phase out version is available  
(10 to 40 kVA) (380-400-415V version)

\* 50/60 Hz Frequency Converter version is available



UPS ONLINE



TOWER



LCD DISPLAY  
(10-120kVA)



SERVICE

### ACCESSORIES

#### Communication

- Remote Monitoring Panel & 25m Cable For Remote Panel
- UPSMAN (Management Software)
- Multiserver Shutdown Licence
- Internal SNMP kit :
  - Internal Slot Card SNMP CS141BSC or CY504, slot box, cable
- External Adapter
  - SNMP Adapter Net Agent Mini DY522
  - SNMP Adapter CS141BL
  - SNMP Adapter with Modbus CS141LM

#### Other

- Split By-pass
- Parallel Kit
- Drawer Type Internal Battery Shelves 10 - 30kVA
- Special Battery Connection Cable for Drawer Type Shelves

#### Battery Cabinets

UPS looking battery Cabinets (different battery configuration available)

- V14, V15, V24, V33, V34

Eco Cabinets (different battery configurations available)

- BC00, BC10, BC20, BC30, BC40, BC50, BC60



# Pyramid DSP

## TECHNICAL SPECIFICATIONS

MODEL (380-400-415V 3ph version)	PDSP 33010	PDSP 33015	PDSP 33020	PDSP 33030	PDSP 33040	PDSP 33060	PDSP 33080	PDSP 33100	PDSP 33120
Output power (kVA)	10	15	20	30	40	60	80	100	120
Nominal Active Power (kW)	8	12	16	24	32	48	64	80	96
MODEL (200-208-220V 3Ph version)	PDSP-U33005	PDSP-U33007	PDSP-U33010	PDSP-U33015	PDSP-U33020	PDSP-U33030	PDSP-U33040	PDSP- U33050	PDSP-U33060
Output power (kVA)	5	7.5	10	15	20	30	40	50	60
Nominal Active Power (kW)	4	6	8	12	16	24	32	40	48
INPUT									
Number of phases	3Ph+N+PE								
Nominal Voltage (Ph-Ph)	380V / 400V / 415V (PDSP) & 200V / 208V / 220V (PDSP-U)								
Voltage range (100% load)	[-15] % [+27] % @PYRAMID DSP / ±15% @PYRAMID DSP-U								
Voltage range (64% load)	[-45] % [+27] % @PYRAMID DSP								
Voltage range (42% load)	[-64] % [+27] % @PYRAMID DSP								
Nominal Frequency (Hz)	50 or 60								
Frequency range for online operation	±10%								
Input Current THD (*) (**)	≤4%								
Input Power Factor	>0.99								
OUTPUT									
Power factor	0.8								
Number of phases	3Ph+N+PE (PDSP & PDSP-U) / 1Ph+N+PE (1Ph ver.)								
Voltage (3Ph Phase to Phase)	380V/400V/415V (PDSP) & 200V / 208V / 220V (PDSP-U) / 220 / 230 /240V (1 ph ver.)								
Static Voltage Regulation at %100 Linear Load (online&battery mode)	<1%								
Voltage THD at rated linear load	<3%								
Crest Factor	3:1								
Frequency (Hz)	50 or 60								
Free Running Frequency (Hz)	± 0.01%								
Overload	125% for 10 minutes, 150% for 1 minute								
Efficiency (**)	up to 94%								
BATTERY									
Type	Maintenance-free lead acid batteries								
Quantity (pcs) PDSP version	62 [2*31]								
Quantity (pcs) PDSP-U version	34 [2*17]								
Battery Protection	Deep Discharge Protection with Auto Cut off								
Battery Test	Standard (Automatic and Manual)								
DISPLAY									
LED Display	Line, Bypass, Battery, Inverter, Load, Fault Indications								
LCD Display	Load%, Input & Output Frequency, Voltage & Current, Bypass voltage, Battery Voltage & Current, Temperature, Alarms								
STATIC BYPASS									
Number of phases	3Ph+N+PE								
Voltage Range for bypass operation	± 10%								
Frequency Range for bypass operation (Hz)	± 6% (Configurable)								
COMMUNICATION									
Interface (Communication Ports)	RS232 or RS485 & Modbus (optional)								
Dry Contact Signals (optional)	AC failure, Battery under voltage, bypass operation, output failure								
Others	EPO, Generator interface								
ENVIRONMENT									
Storage Temperature Range (°C)	-25 to +55 (15 to 40 recommended for longer battery life time)								
Operating Temperature Range (°C)	0 to 40 (20 to 25 recommended for longer battery life time)								
Relative Humidity Range	0 - 95% ( non-condensing )								
Maximum Altitude without derating (m)	1000								
Protection Level	IP20								
PHYSICAL SPECIFICATIONS	PDSP 33010 U33005	PDSP 33015 U33007	PDSP 33020 U33010	PDSP 33030 U33015	PDSP 33040 U33020	PDSP 33060 U33030	PDSP 33080 U33040	PDSP 33100 U33050	PDSP 33120 U33060
Dimensions wxdxh (mm)	400 x 780 x 1070			520 x 900 x 1300		670x730x1630		850x780x1820	
Weight (kg)	100	114	116	122	180	202	253	285	405
STANDARDS									
Standards	EN 62040-1-1 (safety), EN 62040-2(EMC), EN 62040-3 (VFI-SS-111)								

(\*) for source having THDv < 2 % @ nominal load (\*\*) varies depending on ups power



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## Pyramid DSP T

3 Phase In - 3 Phase Out / 10 – 120kVA

- IGBT Rectifier
- Real Digital Signal Processor (DSP) controlled
- Built in Inverter Output Isolation Transformer
- Input Power Factor Correction PFC (PF: >0.99)
- Low Total Harmonic Distortion Level (THDi ≤ 4%) and (THDv < 1.5%)
- Wide Input Voltage Range
- Generator Compatible Operation
- Evolution and redundancy guaranteed by on site Modular Parallel Systems
- Intelligent battery management system extends the lifetime of batteries
- Synchronization Capability with external sources
- Static and Manual Bypass
- Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs
- EPO (Emergency Power Off)



UPS ONLINE



TOWER



LCD DISPLAY (1-120kVA)



SERVICE

### ACCESSORIES

#### Communication

- Remote Monitoring Panel & 25m Cable For Remote Panel
- UPSMAN (Management Software)
- Multiserver Shutdown Licence
- Internal SNMP kit :  
Internal Slot Card SNMP CS141BSC or CY504, slot box, cable
- External Adapter  
SNMP Adapter Net Agent Mini DY 522  
SNMP Adapter CS141BL  
SNMP Adapter with Modbus CS141LM

#### Other

- Split By-pass
- Parallel Kit

#### Battery Cabinets

UPS looking battery Cabinets (different battery configuration available)

- V14, V15, V24, V33, V34

Eco Cabinets (different battery configurations available)

- BC00, BC10, BC20, BC30, BC40, BC50, BC60





# Pyramid DSP T

## TECHNICAL SPECIFICATIONS

MODEL	PDSP-T 33010	PDSP-T 33015	PDSP-T 33020	PDSP-T 33030	PDSP-T 33040	PDSP-T 33060	PDSP-T 33080	PDSP-T 33100	PDSP-T 33120
Output Power (kVA)	10	15	20	30	40	60	80	100	120
Active Power (kW)	8	12	16	24	32	48	64	80	96
<b>INPUT</b>									
Number of Phases	3Ph + N + PE								
Nominal Voltage (Ph-Ph)	380V/400V/415V								
Voltage range (100% load)	[-15%] [+27%]								
Voltage range (64% load)	[-45%] [+27%]								
Voltage range (42% load)	[-64%] [+27%]								
Nominal Frequency (Hz)	50 or 60 (±10%)								
Input Current Harmonics (THDi) (*) ( **)	< 4%								
Input Power Factor	>0.99								
<b>OUTPUT</b>									
Output Power factor	0.8								
Number of Phases	3Ph + N + PE								
Voltage	380V/400V/415V								
Static Voltage Regulation at 100% Linear Load (online&battery mode)	<1%								
Output Voltage Harmonics (THDv)	<1.5% (linear load)								
Crest factor	3:1								
Free Running Frequency (Hz)	50 or 60 (± 0.01%)								
Overload	125% for 10 minutes; 150% for 1 minute								
Efficiency (**)	> 90%								
<b>STATIC BYPASS</b>									
Voltage Range	380V / 400V (Ph-Ph) ± 10%								
Frequency Range for bypass operation (Hz)	±6% (Adjustable)								
<b>BATTERY</b>									
Type	Maintenance-free lead acid batteries								
Battery Quantity (pcs)	54 (2 x 27)								
Battery Protection	Deep discharge Protection with Auto Cut off								
Battery Test	Standard (Automatic and Manual)								
<b>COMMUNICATION</b>									
Interface (Communication Ports)	RS232&485@ 10 to 120kVA								
Dry Contact Signals (optional)	AC Failure, Battery Under Voltage, Bypass Operation, Output Failure								
Others	EPO, Generator Interface								
<b>ENVIRONMENT</b>									
Storage Temperature Range (°C)	-25 to +55 (15 to 40 recommended for longer battery life)								
Operating Temperature Range (°C)	0 to 40 (20 to 25 recommended for longer battery life)								
Relative Humidity Range	0 - 95% ( non-condensing )								
Maximum Altitude without derating (m)	< 1000								
Protection Class	IP20								
<b>PHYSICAL SPECIFICATIONS</b>									
Dimensions (WxDxH) (mm)	400 x 780 x 1070			520 x 900 x 1300			640x1000x1400		760 x 1250x 1685
Weight (kg)	235	238	273	450	502	625	680	790	
<b>STANDARDS</b>									
EN 62040-1-1 (safety), EN 62040-2(EMC), EN 62040-3 (VFI-SS-111)									
(*) for source having THDv < 2 % @ nominal load (**) varies depending on ups power									



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EMERGENCY

## Solutio

3 Phase In – 3 Phase Out / 300kVA – 400kVA

- Interleaved 3 Level IGBT Technology
- Real Digital Signal Processor (DSP) controlled transformerless design
- High output power factor (PF:1, kVA=kW)
- Increased AC-AC Efficiency (up to 96.5%)
- High input power factor (PF: ≥ 0.99)
- Low input current (THDi <3%)
- Low output voltage (THDv <2%)
- Wide input voltage range
- Graphical Multi-Functional touch screen display ( 7" TFT )
- Built-in static & manual Bypass
- On-site parallel connection availability up to 6 units
- Intelligent battery management system & expandable battery autonomy time
- Event log display up to 1024 events
- Advanced communication features; RS232, RS485, ESD (EPO, NO or NC selectable), Genset and USB ports as standard. Modbus & SNMP as optional
- Generator compatible operation mode (Selectable from HMI)
- 50/60Hz Frequency converter operation mode (Selectable from HMI)
- Backfeed protection (Optional)
- Cold start (Optional)
- User friendly input & output connection terminals
- High reliability & performance, thanks to artificial intelligence algorithms

NEW  
PRODUCT



UPS ONLINE

TOWER

USB

LCD DISPLAY  
(300-400kVA)

SERVICE

"Interleaved  
3 Level"  
Technology

### Other Features

- Dual Input (Split Bypass) (Optional)
- Temperature controlled battery charging
- Selectable output voltage (220/380V, 230/400V or 240/415V) from HMI
- Selectable output frequency (50/60 Hz) from HMI
- Programmable dry contact board (Optional)
- Easy service with modular architecture
- Temperature controlled fan speed
- Special voltage application & galvanic isolation options
- Ability to operate without batteries
- Frequency converter (50/60 Hz) option
- Availability to disable bypass and inverter from HMI
- Availability to run battery test from HMI or SNMP
- Compatibility with dynamic loads
- Low audible noise, thanks to interleaved 3 Level IGBT Topology
- Advanced on-system diagnosis
- Bypass line temperature protection with temperature control on Bypass thyristor
- High Reliability, Rigid structure
- Advanced statistical data recording



# Solutio

## TECHNICAL SPECIFICATIONS

MODEL	SOLUTIO 300	SOLUTIO 400
Power (kVA)	300	400
Active Power (kW)	300	400
<b>INPUT</b>		
Phase	3Ph+N+PE	
Nominal Voltage	380V / 400V / 415V	
Voltage Range (VAC) (100% Load)	[-15%] [+20%]	
Voltage Range (VAC) (50% Load)	[-45%] [+20%]	
Nominal Frequency	50 / 60 Hz	
Frequency Range (Online Mode)	45 - 65 Hz	
Input Current Harmonics (THDi)*	<3%	
Input Power Factor	> 0.99	
<b>OUTPUT</b>		
Phase	3Ph+N+PE	
Nominal Voltage	380V / 400V / 415V (Selectable from HMI)	
Output Power Factor	1.0	
Static Voltage Regulation @ 100% Linear Load	±1%	
Output Voltage Harmonics (THDv)*	< 2% (Linear Load), < 4% (Non-Linear Load)	
Crest Factor	3:1	
Frequency	50/60 Hz (Selectable from HMI)	
Frequency Range [ Battery Operation Mode ]	50/60 Hz ±0.01%	
Overload	Online – Battery Mode: <125% Load 10 mins, <150% Load 1 min; Bypass Mode: Up to 175%	
Efficiency*	up to 96.5% (Online), >98.5% (Ecomode)	
<b>STATIC BYPASS LINE</b>		
Phase	3Ph+N+PE	
Bypass Voltage Range	380V / 400V / 415V [ -15% +10% selectable from HMI]	
Bypass Frequency Range	± 3 Hz (Selectable from HMI)	
Transfer Time	0 msec	
<b>BATTERY</b>		
Battery Type	Maintenance-Free Lead Acid Batteries	
Charge Current (A)**	C/10 (Selectable from HMI)	
Battery Qty (pcs)	60	
Battery Protection	Deep Discharge Protection, Temperature-compensated Battery Charging	
Battery Test	Standard (Automatic & Manual)	
<b>FRONT PANEL DISPLAY (HMI)</b>		
Display	7" TFT Colorful Graphical Touch Screen Display	
Display Measurements	Load Percent, Input/Output/Bypass Voltage, Input/Output Current, Input/Output/Bypass Frequency, Output Power (kW & kVA), Output Power Factor, Battery ± Voltage, DC Bus ± Voltage, Back-up Time, Internal Temperature, Charge-Discharge Current	
Event Log Quantity	1024	
<b>COMMUNICATION</b>		
Interface (Communication Port)	RS232, RS485, ESD (EPO, NO or NC selectable), Genset and USB ports as standard. Modbus & SNMP as optional	
Dry Contact Signals	4pcs Programmable dry contacts (Optional)	
<b>PROTECTION</b>		
	Overload, High Temperature, High Voltage & High Current Protections, Backfeed Protection(Optional), Deep Discharge Protection, Short Circuit Protection	
<b>ENVIRONMENT</b>		
Operating Temperature	0 - 40 °C (20 - 25°C recommended for longer battery life time)	
Storage Temperature	-25 ~ +55 °C	
Max. Operating Altitude	1000m	
Relative Humidity	0 - 95% ( non-condensing )	
Audible Noise Level ( from 1m distance )	< 70 dBA	
<b>PHYSICAL SPECIFICATIONS</b>		
Dimension (WxDxH) (mm)	1660 x 750 x 1910	
Weight (kg) (W/O Battery)	715	825
<b>STANDARDS</b>		
Safety	IEC/EN 60950,62040-1	
EMC	IEC/EN 62040-2	
Performance	IEC/EN 62040-3	
Protection Class	IP 20	

\*May vary depending on UPS power & Load & Environmental Conditions

\*\*It is limited by 10% of UPS power

\*\*\*INFORM keeps the right to change the specifications without any notice



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MEDICAL

INDUSTRY

TRANSPORTATION

EMERGENCY

## Modulera

Modular UPS 3 Phase In - 3 Phase Out / 20 - 200 kVA

- Hot Swappable Decentralized Parallel Architecture
- DSP (Digital Signal Processor) Controlled Technology
- Modular N+X Parallel Redundancy
- Plug & Play Type Hot Swappable Power Modules
- Cold Start Function
- Parallel connection availability of UPS Frames up to 4pcs
- Wide Input Voltage Window (208Vac ~ 478Vac)
- Wide input frequency range (40Hz - 70Hz)
- High Overall Efficiency (up to 94%)
- Increased Output Power Factor (PF: 0.9)
- Unity Input Power Factor (PF:  $\geq 0.99$ )
- Low Input Total Harmonic Distortion Level (THDi down to 3 %)
- Fit into standard 19" Rack Cabinet
- Touch-screen LCD display for user's friendly operation
- EPO (Emergency Power Off)
- Smart Fan Speed Control
- Programmable Battery Voltage (32/ 34 / 36 / 38 / 40 blocks of 12V Batteries)
- Three Level Battery Charge system with smart charge current adjustment
- Powerful charger built in each Modular UPS Power Module
- Equip with Maintenance Bypass Switch for easy maintenance
- RS232 & 485 Ports as standard communication
- Megatec/Mod Bus protocol supported
- Optional Communication Interfaces (SNMP Card or DRY contact board)



UPS ONLINE



MODULAR SYSTEM



LCD DISPLAY (20-200kVA)



SERVICE



# Modulera

## TECHNICAL SPECIFICATIONS

MODEL		MDL 3300-60K	MDL 3300-100K	MDL 3300-200K
Frame Capacity		20kVA (18kW) to 60kVA (54kW)	20kVA (18kW) to 100kVA (90kW)	20kVA (18kW) to 200kVA (180kW)
MDL Module Capacity		20KVA/18KW		
<b>INPUT</b>				
Phase		3Ph+N+PE		
Rated Voltage		380 / 400 / 415Vac		
Voltage Range		208 - 478Vac at 50% load, 305 - 478Vac at 100% load		
Frequency range		40Hz - 70Hz		
Power Factor		≥ 0.99		
Current THDi		down to 3%		
Generator Input		Present		
<b>OUTPUT</b>				
Phase		3Ph+N+PE		
Rated Voltage		380/400/415Vac		
Power Factor		0.9		
Voltage Regulation		±1%		
Frequency	Utility Mode	±1%, ±2%, ±4%, ±5%, ±10% of the rated frequency(optional)		
	Battery Mode	(50/60 ±0.2)Hz		
Crest Factor		3:1		
THDv		≤2% with linear load		
Waveform		Pure Sinewave		
Over Load	AC Mode	100% - 110%: 60min, 110% - 125%: 10min, 125% - 150%: 1min, ≥150%: immediately transfers to bypass		
	Bat. Mode	100% - 110%: 60min, 110% - 125%: 10min, 125% - 150%: 1min, ≥150%: immediately shutdown		
	Bypass Mode	Breaker (40Amp)		
AC-AC Efficiency		Up to 94%		
Eco-Mode Efficiency		97%		
<b>BATTERY</b>				
Type		Maintenance-free lead acid batteries		
Quantity (12V VRLA batteries)		Configurable to 32/34/36/38/40 pcs per string		
Voltage (12V VRLA batteries)		384/408/432V/456V/480V DC		
Charging Current	Frame	18A Max. (charge current can be set according to battery capacity installed)	30A Max. (charge current can be set according to battery capacity installed)	60A Max. (charge current can be set according to battery capacity installed)
	MDL Module	6A Max. (charge current can be set according to battery capacity installed)		
<b>DISPLAY</b>				
Status LED & LCD		Line Mode, Eco Mode, Bypass Mode, Battery Low, Battery Bad, Overload & UPS Fault		
Reading On the LCD		Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature		
<b>PROTECTION</b>				
Short Circuit		Hold Whole System		
Overheat		Line Mode: Switch to Bypass; Backup Mode: Shut down UPS immediately		
Battery Low		Alarm and Switch off		
Self-diagnostics		Upon Power On and Software Control		
EPO (optional)		Shut down UPS immediately		
Battery		Advanced Battery Management		
Noise Suppression		Complies with EN62040-2		
Alarms		Line Failure, Battery Low, Overload, System Fault		
<b>COMMUNICATION</b>				
Standard		1xRS232 Communication port, 2xRS485 Communication ports, 1xModBus port, 2xCommunication Slot		
Optional		SNMP (MegaTec Protocol), Dry Contact Board, EPO		
<b>ENVIRONMENT</b>				
Operating Temperature		0°C - 40°C		
Storage Temperature		-25°C - 55°C		
Humidity		0 - 95% non condensing		
Altitude		< 1500m		
Noise		<60dBA (at 1 meter)		
<b>PHYSICAL SPECIFICATIONS</b>				
Dimensions (WxDxH)	MDL Module	443 x 580 x 131- 3U (for all frames)		
	Frame	600x840x1400		600x1100x2000
Weight - Without Batteries (kg)	MDL Module	31		
	Frame	150	152	290
<b>STANDARDS</b>				
CE, EN/IEC 62040-2, EN/IEC 62040-1-1, EN/IEC 62040-3 (VFI SS 111)				





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EMERGENCY

## Modulera

Modular UPS 3 Phase In - 3 Phase Out / 30 - 800 kVA

- True Online Double Conversion Technology with 3-Level Inverter Topology
- Hot Swappable Decentralized Parallel Architecture
- DSP (Digital Signal Processor) Controlled Technology
- Modular N+X Parallel Redundancy
- Plug & Play Type Hot Swappable easy replaceable Power Modules
- Independent control of each individual power module
- Common Battery use between parallel Frames
- Parallel connection availability of UPS Frames up to 4pcs
- Wide Input Voltage Window (305Vac ~ 485Vac)
- Wide input frequency range (40Hz - 70Hz)
- Transformerless Design with High Overall Efficiency
- Increased Output Power Factor (PF: 1.0)
- Unity Input Power Factor (PF: ≥0.99)
- Low Input Total Harmonic Distortion Level (THDi down to 3%)
- Increased Output Energy Quality with low harmonics ( THDv <2% )
- Touch-screen LCD display for user's friendly operation
- EPO (Emergency Power Off)
- Programmable Battery Voltage (32/ 34 / 36 / 38 / 40 blocks of 12V Batteries)
- Three Level Battery Charge system with smart charge current adjustment
- Powerful charger built in each Modular UPS Power Module
- RS232 & 485 Ports as standard communication
- Megatec/Mod Bus protocol supported
- Optional Communication Interfaces (SNMP Card or DRY contact board)
- Small footprint up to 800kVA built-in one 19" Frame



UPS ONLINE

MODÜLER SİSTEM

LCD DISPLAY (26-800KVA)

SERVIS



POWER MODULE SPECIFICATIONS		
MDL Module Capacity (KVA/KW)	30kVA - 30kW	
"MDL Module Dimension (WxDxH) (mm) "	442x620x86x(2U)	
Weight (kg )	32	
INPUT		
Phase	3Ph+N+PE	
Nominal Voltage	380/400/415Vac	
Operating Voltage Range	305-485Vac	
Operating Frequency Range	40Hz-70Hz	
Power Factor	≥0.99	
Harmonic Distortion (THDi)	3% (100% non-linear load)	
Bypass Voltage Range	Maximum Voltage: 220V: +25% (adjustable to +10%, +15%, +25% ); 230V: +20% (adjustable to +10%, +15%), 240V:+15% (adjustable to +10%) Minimum Voltage: -45% (adjustable to-10%, -20%, -30%)	
Bypass Frequency Range	±10%	
Generator Input	Support	
OUTPUT		
Phase	3Ph+N+PE	
Nominal Voltage	380/400/415Vac (adjustable from front panel)	
Power Factor	1	
Voltage Regulation	±1%	
Frequency	50/60Hz (adjustable from front panel)	
Output Frequency	Utility Mode	±1% ±2% ±4% ±5% ±10% of the rated frequency (adjustable)
	Battery Mode	(50/60±0.1%)Hz
Crest Factor	3:1	
Harmonic Distortion (THDv)	≤1% Linear Load, ≤4% Non-linear Load	
Output Waveform	Pure Sinewave	
Efficiency	≥95	96.5%
BATTERY		
Battery Voltage	±180V/ ±192V\±204V\±216V\±228V\±240V\±252V\±264V\±276V\±288V\±300V DC; (30/32/34/36/38/40/42/44/46/48/50 pcs) adjustable battery quantity	
Charge Current (A)	UPS Cabinet	Charge current can be set according to battery capacity installed
	MDL Module	10A Max. 20A Max.
Transfer Time	Utility to Battery : 0ms; Utility to by-pass: 0ms	
PROTECTION		
Overload	Load 110 % last 60min; Load 125 % last 10min; Load 150 % last 1min	
Short Circuit	Hold Whole System	
Overheat	Line Mode: Switch to By-pass, Backup Mode: Shut down UPS Immediately	
Low Battery Voltage	Alarm and Switch off	
Self Diagnostics	Upon Power On and Software Control	
EPO (optional)	Shut Down UPS Immediately	
Battery	Advanced Battery Management	
COMMUNICATION		
UPS Frame	CAN, RS232, RS485, Intelligent Slot	
Optional	Dry Contact / Relay Card, SNMP Card, Battery Temperature Sensor	
Parallel	Maximum 4 cabinets can be connected in parallel	
STANDARDS		
	EN/IEC 62040-2 (EMC); EN/IEC62040-1 & EN/IEC60950-1(SAFETY), EN/IEC62040-3(PERFORMANCE)	

MODULERA FRAME SPECIFICATIONS							
Model Name	MDL3330-150K MDL3350-150K	MDL3350-200K	MDL3330-300K MDL3350-300K	MDL3350-400K	MDL3350-500K	MDL3350-600K	MDL3350-800K
Frame Power ( kVA - kW )	150kVA/150kW	200kVA/200kW	300kVA/300kW	400kVA/400kW	500kVA/500kW	600kVA/600kW	800kVA/800kW
Max Module Capacity (pcs)	5pcs 30kVA 3pcs 50kVA	4pcs 50kVA	10pcs 30kVA 6pcs 50kVA	8pcs 50kVA	10pcs 50kVA	12pcs 50kVA	16pcs 50kVA
Frame Dimensions ( W*D*H) (mm)	600x850x1200	600x850x1600	600x850x2000	1200x850x2000	1200x850x2000	1400x850x2000	2000x850x2000
Frame weight (kg)	170	230	260	470	650	720	1080
DISPLAY							
LCD Display	Touchscreen LCD Panel on the main Frame						
Status LED & LCD	Line Mode, Bypass Mode, Battery Low, Battery Bad, Overload & UPS Fault						
Displays on LCD Panel	Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load Percentage, Battery Voltage & Internal Temperature						
ENVIRONMENT							
Operating Temperature (°C)	0°C - 40°C						
Storage Temperature (°C)	-25°C - 55°C						
Relative Humidity	0 - 95% ( non-condensing )						
Operating Altitude (max.)	< 1500m						
Audible Noise Level from 1m	<63dBA	<65dBA	<68dBA		<70dBA		<73dBA
Protection Class	IP21						



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MEDICAL



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TRANSPORTATION



EMERGENCY

## Frequency Converter

3 Phase In - 3 Phase Out / 10 - 120kVA

- Double conversion and PWM technology with pure sinewave output,
- Microprocessor controller,
- Galvanic isolation,
- Efficiency up to 91%,
- Emergency close switch connection,
- User friendly front panel (5 buttons and LCD indicator), detailed information
- availability to do the adjustment of parameters through front panel,
- History log of 128 events, calendar and time indicators,
- High performance at non-linear loads,
- Remote monitoring via network,
- SNMP compatibility,
- 10 Years spare parts supply warranty,
- Low installation and operating cost



## TECHNICAL SPECIFICATIONS

MODEL	FC 3310	FC 3315	FC 3320	FC 3330	FC 3340	FC 3360	FC 3380	FC 33100	FC 33120
Output Power kVA	10	15	20	30	40	60	80	100	120
Output Power Kw	8	12	16	24	32	48	64	80	96
Power factor	0.8								
<b>INPUT</b>									
Voltage	400 VAC or 380VAC, 3Ph+N+PE								
Tolerance	±10%								
Frequency	50 / 60Hz								
Tolerance	±5%								
Power factor	0.8								
max RFI	EN 50091-2 Class A								
<b>OUTPUT</b>									
Voltage	208VAC, 3Ph+N+PE								
Voltage Stability	static (balanced load) : +/-2%								
	static (unbalanced load) : +/-4%								
	Dynamic (0% - 100%step load) : +/-6%								
Uptum Time	after 0%-100% step load: max 25m sec								
Crest factor	3:1								
Frequency	400 Hz								
Frequency Tolerance	±0.2%								
Overload 101% - 110% load	1h								
Overload 130% load	10min.								
Overload 150% load	1min.								
Overall Efficiency	up to 91%								
Total Harmonic Distortion	<3% at linear load								
	<5% at non-linear load								
<b>COMMUNICATION</b>									
Interface	RS232 and Dry Contact,								
<b>PHYSICAL</b>									
Weight without battery (kg)	240	255	270	285	490	570	600	750	810
Dimensions (mm) WxDxH	490x650x1190			565x820x1400			720x800x1450	1192x874x1720	
<b>ENVIRONMENT</b>									
Audible Noise	<55dBA				<60dBA			63 to 66dBA	
Operating Temperature	0-40°C								
Relative Humidity (non condensing)	0-95%								
Max. Altitude	<1000m								
Standards	EN 50091-1 (safety), EN 50091-2 (EMC), IEC 62040-3 (class VFI), IP20								

# AVR Series

One Phase 1 - 200 kVA / Three Phase 6 - 3200 kVA

- Servo Motor Controlled Technology
- Reliable Stabilization for Secure Energy
- 1 pc (digital) voltmeter (@ One phase version )
- 3 pcs (digital) voltmeter (@ Three phase version)
- Phase Independent Voltage Regulation (@ Three phase version)
- High efficiency at all Powers
- Short circuit protection
- Manual by-pass switch
- Overload, short circuit, over-temperature and over-voltage protections
- Fast response for fluctuations
- Adjustable precise tolerance limits from front panel
- Fan cooling with timer
- Fault signal (Light & Buzzer)
- High - low voltage protection (breaker module option)
- Comply with CE, ISO9001, ISO14001 standards
- Wide Voltage Range version ( optional )



## TECHNICAL SPECIFICATIONS

MODEL	Single phase	Three phase
Power (kVA)	1-200 kVA	6-3200 kVA
<b>INPUT</b>		
Nominal Voltage	220 VAC 1Ph+N	380 VAC 3Ph+N
Voltage Range (Normal Range)	160-240 VAC (Ph+N)	
Voltage Range (Wide Range-optional)	135-245 VAC (Ph+N)	
Frequency	50 / 60 Hz	
<b>OUTPUT</b>		
Phase Number	1Ph + N + PE	3Ph + N + PE
Nominal Voltage	200 V AC / 220 V AC / 240 V AC (Ph+N) (Adjustable from front panel)	
Output Voltage Tolerance	2% (Adjustable from Menu)	
Response Time	200 Vac / sec	
Frequency Speed	Frequency @ 50Hz: 20ms - / Frequency @60Hz: 50 ms	
Output delay time adjustment	1 sec to 10 sec (Adjustable from Menu)	
Overload	Running 3 sec at 150% load	
Efficiency	Up to 97% at full load	
<b>GENERAL PARAMETERS</b>		
Mechanic By-Pass	With Manual Switch	
Automatic By-Pass	Optional	
Cooling System	Smart Fan	
Harmonic Distortion	No effect	
Input voltage / Output voltage Display	TRUE RMS (Adjustable from Menu)	
Display Panel	2x3 Digit red led display	
<b>ENVIRONMENT</b>		
Operating Temperature	- 10°C + 50°C (20°C - 25°C recommended range for Long Battery Life)	
Storage Temperature	-25°C - +55°C (15°C - 40°C recommended range for Long Battery Life)	
Humidity	0 - 95% ( non-condensing )	
Altitude	<3000 Metre	
Noise Level (from 1m distance)	<50 dB	
Protection Class	IP20	

\*Breaker module maintains low/high voltage protection & Phase missing protection and it is optional.

\*Physical size and weight information of the product varies according to the voltage range version and options equipped.

## Infocharger

25-200 A

- Microprocessor Controller
- IGBT Technology (ICH Series)
- PFC Technology (ICC Series)
- Transformerless Design
- Wide Input Voltage Range
- Operation according to constant voltage and current principle
- Adjustable Boost and Nominal Charge Voltage
- Adjustable Output Current
- High Voltage, Over Current, Short Circuit Protections
- Over Temperature Protection
- Alphanumerical LCD Display and Control Panel
- Low DC Voltage Protection (LVD) - Optional
- Dry Contact Alarms- Optional
- Parallel Connection Availability at ICH Series - Optional
- Small Footprints, Compact Size



ICC Series



ICH Series

## TECHNICAL SPECIFICATIONS

TYPE	ICC2460	ICC4830	ICC11015	ICH2450	ICH24100	ICH24200	ICH4850	ICH48100	ICH11025	ICH11050
Power	60Amp	30Amp	15Amp	50Amp	100Amp	200Amp	50Amp	100Amp	25Amp	50Amp
DC Voltage	24VDC	48VDC	110VDC	24VDC			48VDC		110VDC	
<b>INPUT</b>										
Input Phase	1Phase			1Phase / 3Phase						
Nominal Voltage Range	90-265VAC			176-280VAC (Ph - N)						
Frequency Range	50/60Hz ± 10%									
Power Factor	>0.98			>0.8						
<b>OUTPUT</b>										
Nominal Voltage	24VDC	48VDC	110VDC	24VDC			48VDC		110VDC	
Nominal current	60Amp	30Amp	15Amp	50Amp	100Amp	200Amp	50Amp	100Amp	25Amp	50Amp
Output Current Adjustment value	0 to 60A	0 to 30A	0 to 15A	0 to 50A	0 to 100A	0 to 200A	0 to 50A	0 to 100A	0 to 25A	0 to 50A
Max Output Current	110% of Nominal									
Boost Charge Voltage	100% - 120% of the nominal output voltage									
Output Fluctuation	<1% rms AC Output Voltage									
Dynamic Response	less than 2% of output voltage									
Output protection	electronic short circuit / over voltage									
<b>DISPLAY</b>										
LCD Display Panel	Voltage, Current, Temperature, Charge and Status Informations									
LED Display Panel	Overload, Line, Battery, Load, LVD, Fault Indications									
<b>GENERAL</b>										
Cooling	Forced (FAN Cooling)									
Isolation Voltage	2000VAC between output and chassis									
Efficiency	90%									
Operating Temperature	0 - 40 °C									
Relative Humidity	0% - 95%									
Input/Output Connections	Terminals									
Fuses	input, load and Battery									
<b>PHYSICAL SPECIFICATIONS</b>										
Net Weight (kg)	11.6			35						
Dimensions (mm) (WxDxH)	250x420x280			265x556x560						
<b>STANDARDS</b>										
Safety	EN62040-1-1									
EMC	EN62040-2									
Performance	EN62040-3									
Protection Class	IP 20									
<b>OPTIONS</b>										
Dry Contact Card	9pcs contact alarms (NO/NC)			8pcs contact alarms (NO/NC)						
LVD	Low Voltage Disconnect (Contactor)									
Parallel Connection	Not Available			up to 7 units						



## Battery Charger

5-700 A

- Microprocessor controlled Thyristor Technology
- Built in input transformer topology
- Fully Adjustable float, boost and equalizing charge modes with V/I characteristics
- Advanced technology for phase control
- Very low voltage ripple and extended battery life
- High efficiency and low operation cost
- Ability to operate as voltage or current source
- Wide range of options for monitoring
- Improved environmental operation characteristics
- Remote monitoring via RS232 communication port
- Potential free alarm contacts on extended alarm board
- Internal Over Temperature protection
- User Friendly Control Panel



### TECHNICAL SPECIFICATIONS

DC Voltage	24VDC	48VDC	110VDC	220VDC
<b>INPUT</b>				
Input Phase	1Phase/3Phase			
Nominal Voltage Range	1x220V or 1x230V / 3x380V or 3x400V ± 15 % - 2 / 4 wire			
Frequency Range	47-63Hz			
<b>OUTPUT</b>				
Nominal Voltage	24VDC	48VDC	110VDC	220VDC
1Ph Nominal current	60A	15A/30A/40A/60A	5A/20A/30A/40A/60A/80A/100A/120A/150A	15A/30A/40A/60A
3Ph Nominal current	30A/60A/100A/150A/200A/250A/400A	10A/30A/60A/100A/150A/200A/250A	30A/60A/100A/150A/ 200A/250A/300A/400A/500A/700A	30A/60A/100A/150A/200A/250A/300A/400A/500A/700A
Max Output Current	110% of nominal			
Float Charge Adjustment Range	80% - 115% of the nominal output voltage			
Boost Charge Voltage	80% - 125% of the nominal output voltage			
Equalizing Charge Adjustment Range	80% - 125% of the nominal output voltage			
Current Limit Adjustment Range	25% - 100% of the nominal output voltage			
Voltage Ripple	< 1% (with or without battery)			
Voltage Regulation	< 1% (10% to 100% load)			
Efficiency	87%	89%	91%	93%
<b>DISPLAY</b>				
LCD Display Panel	Voltage, Current, Charge and Status Information			
LED Display Panel	Line, Operation, Fault Indications			
<b>GENERAL</b>				
Charger Mode	Automatic / Manual U-I Characteristic			
Charger Type	Float / Boost / Equalizing Charge			
Cooling	Forced Cooling with Thermic Controlled Fan			
Input/Output Connections	Terminals			
Fuses	Semiconductor Type			
<b>ENVIRONMENT</b>				
Operating Temperature	-5 - +50 °C			
Relative Humidity	0 - 95% [ non-condensing ]			
Protection Class	IP 20 (Higher IP Class is optional)			
<b>STANDARDS</b>				
Standards	89/336/EEC (EMC); 62040-1, 62040-2, 62040-3, IEC 950, IEC 439, IEC 146			
<b>OPTIONS</b>				
Dry Contact Card	4pcs contact alarms / normally(closed/open /Modbus)			
Parallel Connection	Available			
Others	Earth Leakage Monitoring, DC Supply & Battery Monitoring, Gauges, Load Voltage Limitation Module / Voltage Drop, Battery Charge Temperature Compensation, IP Protection, Touch panel, LVD, Fan failure monitoring, AC Input Power measurement, Active parallel current sharing			



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## Info-STS (1 Phase)

1 Phase In - 1 Phase Out / 50 - 100 A

- Uninterruptible transfer between the independent sources
- Synchronous/Asynchronous transfer feature
- "In flight" transfer mode
- RS232/RS485 communication facilities
- Source priority selection
- Automatic and Manual transfer in case of failure on both sources
- Module replacement without interruption under load
- Fast Diagnostic Response with microprocessor controller
- Internal (2 pcs) manual bypass
- Easy Maintenance availability
- Current Distortion level less than 1%
- High Efficiency
- Transfer to the second source in less than 5 ms in case of over low/high voltage values



## TECHNICAL SPECIFICATIONS

MODEL	STS1050	STS1100
<b>GENERAL SPECIFICATIONS</b>		
Nominal Voltage	220V / 230VAC (Monophase)	
Nominal Operation Current	50A	100A
Transfer Time (Synchronized)	5ms	
<b>PHYSICAL SPECIFICATIONS</b>		
Cable Entry	Rear	
Air Entry/ Exit	Bottom/Top	
Advised Cable Cross Section	10mm <sup>2</sup>	35mm <sup>2</sup>
Dimensions WxDxH	[19"x360mmx2U]	[19"x360mmx4U]
Weight (kg)	9kg	17kg
<b>ENVIRONMENT</b>		
Max Altitude	2000m above sea level	
Humidity	0 - 95% ( non-condensing )	
Operating Temperature	0-40°C	
Audible Noise (from 1m)	<45dBA	
Protection Class	IP20	
<b>STANDARDS</b>		
Standards	EN 62310-2, EN 62310-1, EN 60950-1	



## Info-STS (3 Phase)

3 Phase + Neutral In - 3 Phase + Neutral Out / 50 - 600A

- Increased power quality
- Easy monitoring all parameters on LCD display
- Fast microcontroller (32 mips)
- Power blackout protection
- Automatic static switching
- Remote monitoring of input power sources
- Easy static and mechanical transfer between separate input sources
- Remote management of power events
- Power event logging
- Advanced RS232 communication features
- DRY contact alarm interface
- Password protected login system from remote site (time Access)
- Easy front access to all components inside of the STS
- Second protection cover on live circuits which prevents electrical shock
- Input sources protected by fuses
- 3 positioned Maintenance bypass switch which prevents cross currents between input sources
- User adjustable parameters by entering a password.
- Built in real time clock.
- Alarm history (with date and time)
- Automatic transfer test from a remote site or using front panel
- Front panel Lamp test
- External emergency shutdown (EPO) input
- Hot plug construction during maintenance bypass
- High current output tolerance up to 1000%
- Temperature sensor inside the Cabinet
- Fast voltage black-out circuit
- Input phase balance and phase sequence fault detect circuit
- Adjustable Input source frequency lower/upper limits



## TECHNICAL SPECIFICATIONS

MODEL - 3pole	STS3050	STS3100	STS3150	STS3200	STS3250	STS3300	STS3400	STS3600		
MODEL - 4pole	STS4050	STS4100	STS4150	STS4200	STS4250	STS4300	STS4400	STS4600		
<b>INPUT</b>										
Voltage	380,400VAC, (3 wires for 3pole version And 4 wires for 4pole version)									
Voltage Range	310-430VAC									
Frequency	50 or 60Hz +/-5%									
Voltage Distortion	<10%									
Input voltage error window	adjustable									
Input frequency error window	adjustable									
<b>OUTPUT</b>										
Current	50A	100A	150A	200A	250A	300A	400A	600A		
Voltage	380,400VAC, (3 wires for 3pole version And 4 wires for 4pole version)									
Crest factor	up to 3.5									
Synchronized transfer time	max 1.8 msec (on 0 current mode)									
Non-synchronized transfer time	max 10 msec in 0 current mode, 0-25 sec adjustable in delay mode and in 0 current mode									
load power factor range	0.6 lagging to 0.9 leading									
Efficiency	>98%									
Overload	100% to 150% = 1 minute									
	150% to 200% = 10 seconds									
	>200% = 0.5 seconds									
	1000% = 20 msec									
Type of transfer	break before make									
As standard	Overcurrent inhibit LCD front panel, MBP									
<b>DISPLAY</b>										
LCD Display	2 lines 16 character LCD Display									
Monitored Parameters	Source 1 Voltages, Source 2 Voltages, Output Load, Phase Balance, Synchronization Source 1 Frequency, Source 2 Frequency, Phase Angel Degree, Temperature									
Indications	8 LEDs arranged as mimic diagram									
Control buttons	5 push button interactive with LCD panel									
Event log	64 recorded alarm logs from panel or RS232									
<b>COMMUNICATION</b>										
Interface (Communication Ports)	RS 232 Standard									
Dry contact signals	Output Inhibit Relay, Summary Alarm Relay, Static Or Manual Transfer Relay, S1 /S2 Backfeed Trip Relay, Preferred Source Indicator Relay, Load Is Connected To Alternate Input Source Relay									
<b>GENERAL</b>										
Neutral connection	available at 4pole version									
Transfer time	<5msec : within CBEMA & IEEE for synchronized sources <11msec: for unsynchronized sources.									
Manual transfer switch	available									
<b>ENVIRONMENT</b>										
Operating Temperature	0-40°C									
Relative Humidity	0 - 95% (non-condensing)									
<b>PHYSICAL SPECIFICATIONS</b>										
Dimensions [mm] WxDxH	685x530x1500			685x570x1770			915x735x1935			
Weight [kg]	175			205		215		220	240	340
<b>STANDARDS</b>										
Standards	EN 62310-2, EN 62310-1, EN 60950-1									



## Infomips

### Isolation Power Systems With Transfer Unit And Isolation Error Detection System

Isolation power panels with transfer units are designed with double source inputs. The transfer unit monitors the priority selected source continuously and directs the output to the 2nd source in cases such as power cuts and voltage out of the set values. In case the priority source returns to nominal values, the output continues to be operated from the 1st source again.

In addition to isolation power panels with transfer units, a line monitoring system is included. All output lines are monitored separately via toroidal current transformers. Isolation leakage is detected on a line basis. Due to the 6 toroidal current transformers, the panels are produced with 12, 18 and 24 lines.

#### TECHNICAL SPECIFICATIONS

- Patient and doctor life safety
- Automatic transfer changeover system
- Transfer time under 100ms
- 10 kVA isolation power transformer
- Isolation monitoring device
- Error detection system
- Line-based isolation leakage monitoring
- LCD screen
- 12/18/24 pcs 2x16A B type line output
- 0-43A load current
- Transformer temperature value tracking
- Load current monitoring
- Remote monitoring with local and central alarm panels
- Multi-device communication possibility
- RS485 Mod-Bus / TCP-IP Mod-Bus communication



### GTFD Series Isolation Transformer

Transformer providing the necessary isolation for Group – 2 fields in the hospital.

Standards:

- IEC 61558-2-15
- IEC 60364-7-710



### Isolation Monitoring Module

It continuously monitors the isolation resistance level and gives an alarm if there is a leakage between the system and the ground. Apart from the isolation level, it constantly monitors the current drawn from the system and the transformer temperature. It can transmit all data as instant value and alarm to local and central alarm panels.

Standards:

- IEC 60364-7-710
- IEC 61557-8
- IEC 61557-9



### Transfer Module

Transfer Modules are devices that control two contactors and simultaneously monitor Input-Output Voltages and Current Drawn in order to transfer the double line supply to the output without interruption. It can transmit all data as instant value and alarm to local and central alarm panels.

Standards:

- IEC 60364-7-710
- IEC 60364-5-53
- IEC 60947-6-1



## Local And Central Alarm Panels

Local Alarm Panels are units that display all the data and alarms of the panel by installing them in the area fed by the isolation panel. From local alarm panels; You can monitor Isolation resistance level and its alarm, Current drawn value and its alarm, Transformer temperature and its alarm, Line-based alarm information from error detection system, Line feeding information, Line1, Line2 and Output voltage information. The whole system communicates with each other via Mod-Bus. The central monitoring panel is used to display the information of all panels in the same group from a single point. It is generally located in the technical staff room.

Standards:  
IEC 60364-7-710

### TECHNICAL SPECIFICATIONS

- Ability to operate as a local or central alarm panel
- Monitoring up to 16 boards
- Isolation level monitoring
- Current level monitoring
- Temperature monitoring
- Source monitoring
- Line-based error monitoring
- LCD graphic display
- Audible and visual alarm
- Data export with MODBUS and IPTly.

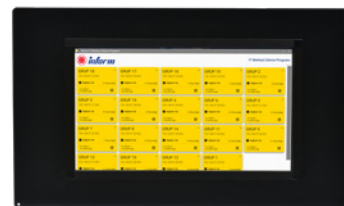


## 21" Central Monitoring Panel

The 21" Central Monitoring Panel provides the opportunity to monitor up to 300 panels over the Network. IT panels can be grouped and named as desired. It provides the opportunity to name up to the line outputs. It can transfer all data to the scada system over the network.

### TECHNICAL SPECIFICATIONS

- Windows operating System
- 21" infrared touch screen
- Built-in speaker
- Possibility to communicate up to 300 panels
- Possibility to define IP address
- TCP-IP communication protocol







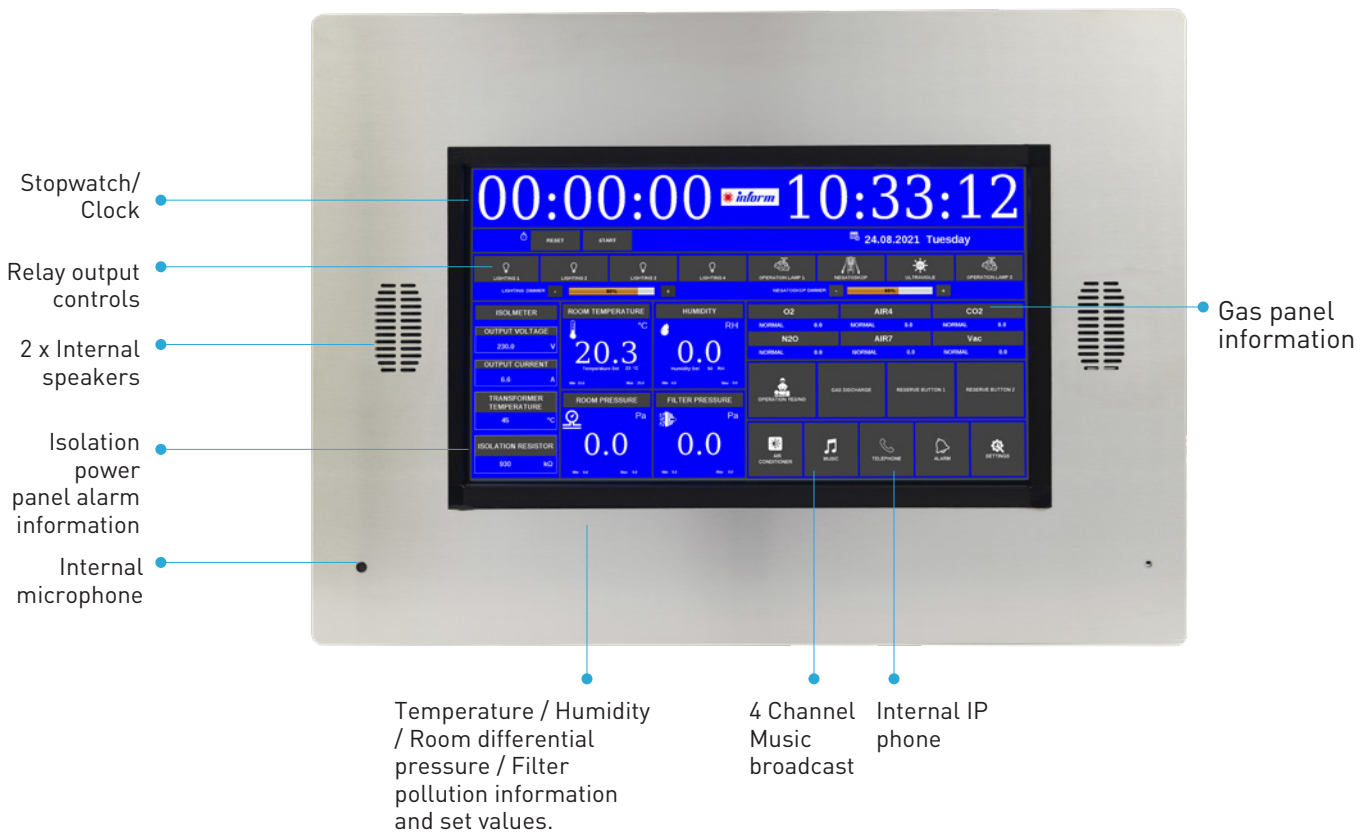
## Operating Room Control Panels

### Wildtouch 21" Operating Room Control Panel

Operating room control panels are used to control the lighting, operation lamps, negatoscope, etc. units in the room, and to display environmental information such as temperature, humidity, filter pressure, room differential pressure with external sensors to be connected. It has many additional features such as communicating with gas panel and automation system, handsfree phone, music system.

#### TECHNICAL SPECIFICATIONS

- 21" widescreen display
- 4 x Music channels, 2 x internal speakers
- Handsfree internal phone.
- RS485 / TCP-IP communication protocols.
- Clock, Stopwatch and Gas information on one screen.
- DIN4301 stainless steel front panel.
- Communication with IT panel and Gas panel directly.



## TECHNICAL SPECIFICATIONS

<b>SCREEN</b>	
Screen type	21.5" Infrared touchscreen
Clock	On the main menu
User data input	Touch screen
<b>INPUTS</b>	
0-10V analog sensor input	8 Reserved analog inputs
Music input	4 Channels
Temperature / Humidity / Filter pressure / Room pressure	4 Channel analog input
<b>OUTPUTS</b>	
Lighting	4 Channels / (On-Off) - (L1/L2/L3/L3) + Dimmer
Operation lamp	2 Channel / (On-Off)
Negatoscope	1 Channel / (On-Off) + DIMMER
Operating room busy luminaire	1 Channel / (On-Off)
Ultraviolet lamp	1 Channel / (On-Off)
Heater	1 Channel / (On-Off)
Air conditioner (half flow / full flow)	2 Channel / (On-Off)
Gas information	8 Channels
Reserved	8 Reserved analog output
Temperature / Humidity set	2 Analog output
Music	4 Channels
Alarm	(On-Off)
Alarm mute	(On-Off)
<b>SPECIFICATIONS</b>	
Operating system	Linux
Temperature / Humidity / Pressure sensor limit setting	Lower limit / Upper limit setting, buzzer available
Gas discharge outlet	1 Channel / (On-Off)
Internal speaker	Available
Internal microphone	Available
Phone	Internal IP Phone
<b>MEASUREMENTS</b>	
Temperature	0°C-50° C / 0-10V Analog
Humidity	0%-100% / 0-10V Analog
Room pressure	Pascal / 0 Pa- 100 Pa / 0-10V Analog
Filter pollution level	Pascal / 0 Pa- 100 Pa / 0-10V Analog
Audible alarm	Adjustable
Communication	Mod-Bus(RS485) / TCP-IP
Front panel	DIN4301 (2mm Stainless Steel)
<b>DIMENSIONS</b>	
Dimensions (WxDxH)(mm)	703x135x498



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## Battery Cabinets

	Battery cabinet type	Cabinet model	Capacity										Cabinet dimensions					
			7-9 AH.	12AH.	18 AH.	25 AH.	40 AH.	65 AH.	80 AH.	100 AH.	120 AH.	150 AH.	200 AH.	Length	Width	Height	Weight	
	BC Cabinets (multi-purpose)	BC 00	32	22	14	6	6								655	230	530	15
		BC 10	64	42	24	12	12								835	246	700	25
		BC 20	76	48	32	15	15	6	6						957	246	760	30
		BC 30	144	96	40	38	32	16	16						926	386	1073	50
		BC 40	120	72		32									828	386	846	35
		BC 45	109	72	64	28	24								957	422	800	55
		BC 50	240	144		64	48	32	32	32	8				1566	386	1166	80
		BC 55				78	78	38	38	38	30				1497	749	1800	139
		BC 60			124	100	80	64	64	64	45	45	32		1774	565	1785	230
		BC 65				180	150	90	90	90	60	60	40		2540	565	1785	204
	V type PDSP Cabinets	V 14			62	31								400	765	1070	51	
		V 15		62										400	765	1070	51	
		V 24				32	31							525	880	1310	64	
		V 33						35	35	35				835	1160	1310	143	
		V 34				94	78							835	1160	1310	143	
	V type Informer Cabinets	BC 1000		6										135	430	390	10	
		BC 2000	8											135	470	390	10	
		BC 3000	12											135	470	390	10	
	Informer Rack Cabinets	RMBC 1000		6										483	470	132	10	
		RMBC 2000	8											483	450	132	10	
		RMBC 3000	12											483	512	132	10	
	V type Saver (plus) DSP Cabinets	BC 1714			14									270	512	685	28	
		BC 1426				14								270	655	685	30	
		BC 0740	40											270	655	685	28	
		BC 1720			20									270	655	685	30	
		BC 2620				20								390	755	700	46	
		BC 1232		32										270	655	685	30	
	Saver DSP Rack Cabinets	RMBC 0714	14											483	535	134	11	
		RMBC 1214		14										483	535	222	12	
		RMBC 0720	20											483	535	222	11	
		RMBC 1220		20										483	535	222	17	
	BC Cabinets (DSP Multipower)	MPBC	20	20									425	563	222	16		
	V type DSP Multipower Cabinets	MPBC-V	20										445	677	132.9	15		
Battery connection cables depend on UPS models. Battery cable price is not included in cabinet price.																		



# UPS

## High performance, uninterruptible service and energy efficiency.

The wide diffusion of UPS systems generally stems from an increasing dependence on electricity and the need to protect a range of equipment, data and processes that are crucial to companies. Power electronics is focused on the design and development of static UPS with increasing performance, which provide adequate energy saving along with lower environmental impact.

### Safety and uninterruptible service

Any electronic device that is not properly protected by UPS systems may be subject to disturbances from the mains supply. Electrical events such as voltage dips, black-outs, voltage surges, or other voltage or frequency anomalies, can generate serious consequences including:

- interruption of services
- loss of data and information
- faults or damage to the actual electronic devices.

The solution to these problems is provided by Uninterruptible Power Supplies (UPS) which, when installed between the power supply network and the equipment, **improve the quality of the power** by ensuring **uninterruptible service** and **protection** of all devices that perform functions that are critical to the business life of companies.



### Energy efficiency

Thanks to the use of the latest technologies, the new concept UPS boast high efficiency and an intelligent battery charging system that extends its useful life. In addition to significantly reducing UPS consumptions and operating costs, these features contribute to reducing the environmental impact of battery disposal.

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- CASINO DE SAINT PAIR – FRANCE
- CEGELEC - GERMANY
- CENTRE HOSPITALIER D'ARGENTAN FRANCE
- CENTRAL HOSPITAL - RUSSIA
- CENTRO HOSPITALAR COVA DA BEIRA – PORTUGAL
- CHAMBRE D'AGRICULTURE DES DEUX SEVRES – FRANCE
- CHANTIER CEGELEC BATIMENT GRAND TOULOUSE –FRANCE
- CHINABANK -KAZAKHSTAN
- CLINIQUE LA SOLANE - FRANCE
- COIMBRA CENTRO- PORTUGAL
- COLGATE PALMOLIVE -PAKISTAN
- COLOPLAST- HUNGARY
- COMMERCIAL & INDUSTRIAL CHAMBER OF SALONIKA-GREECE
- CONSOL SPECIALITY GLASS SOUTH AFRICA
- COSCOM-UZBEKISTAN
- CUSTOMS POLICE- ROMANIA
- CREDIT EUROPE BANK - RUSSIA
- CSKA STADIUM- RUSSIA
- DAIMLER CHRYSLER-GERMANY
- DANONE - FRANCE
- DELTA STATE GOVERNMENT NIGERIA
- DENEL AEROSPACE – SOUTH AFRICA
- DHL MALAYSIA- MALAYSIA
- EKO FM - NIGERIA
- ERICSSON - TURKEY
- ERICSSON-GERMANY
- ERCAN AIRPORT - CYPRUS
- EXPRESS HIGHWAY - S.KOREA
- ESIA BAKRIE TELECOM INDONESIA
- ESSILOR – SOUTH AFRICA
- EFG EUROBANK –GREECE
- FAISALABAD AIRPORT - PAKISTAN
- FARO AIRPORT - PORTUGAL
- FNB BANK - S.AFRICA
- FIDELITY BANK PLC - NIGERIA
- GAZPROM - RUSSIA
- GEOCELL-GEORGIA
- GE MONEY BANK -RUSSIA
- GILGIT AIRPORT - PAKISTAN
- GLAXO KLINE-AUSTRALIA
- GLOBE TELECOM-PHILIPPINES
- GREAT ORMOND ST HOSPITAL-UK
- H&K-TAIWAN
- HANKOOK TIRE - HUNGARY
- HIRSCHMANN ELEK - HUNGARY
- HOME CREDIT&FINANCE BANK RUSSIA
- HOSPITAL LOCAL DE BAUME-LES-DAMES -FRANCE
- HOSPITAL DE AVEIRO – PORTUGAL
- HOSPITAL DE BELLVITGE-SPAIN
- HOSPITAL DE BENIDORM-SPAIN
- HOTEL ST. JOSEPH, KARLOVY VARY CZECH REPUBLIC
- IKEA-UK
- IKEA - RUSSIA
- IMMIGRATION DEPT-HONG KONG
- INCREDIBANK -RUSSIA
- INDOSAT-INDONESIA
- INOX - INDIA
- INTERTEK -HONG KONG
- INTERCONTINENTAL BANK PLC NIGERIA
- IRIT UNIVERSITY - FRANCE
- IS BANK - TURKEY
- ISTANBUL LRT-BOMBARDIER TURKEY
- ISP TAIWAN
- ISLAMABAD AIRPORT - PAKISTAN
- JSC-RUSSIA
- KARACHI AIRPORT - PAKISTAN
- K MOBILE GSM-KAZAKHSTAN
- KAUFLAND - POLAND
- KAZAK TELECOM – KAZAKHSTAN
- KCEL -KAZAKHSTAN
- KIA MOTORS - S.KOREA
- KING SHAKA INT AIRPORT – SOUTH AFRICA
- KNAUF GIBS – RUSSIA
- KOREAN TELECOM - S.KOREA
- KWAIT PETROLEUM-ITALY
- LAGOS TELEVISION - NIGERIA
- LAUSANNE METRO- SWITZERLAND
- LEICESTER MERCURY NEWSP-UK
- LG - S.KOREA
- MARZ - GERMANY



- MEGA CENTER- RUSSIA
- MELO MEDICAL – SOUTH AFRICA
- MEMORIAL HOSPITAL - PAKISTAN
- MEWAH OILS SDN BHD - MALAYSIA
- MICROSOFT - TURKEY
- MIDDLESEX UNIVERSITY-UK
- MINISTRY OF AGRICULTURE ROMANIA
- MINISTRY OF COMMUNICAT. ROMANIA
- MINISTRY OF EDUCATION KAZAKHSTAN
- MINISTRY OF JUSTICE- ROMANIA
- MINISTRY OF HEALTH- RUSSIA
- MINISTRY OF FINANCE –INDONESIA
- MINITARY HOSPITAL - SAUDI ARABIA
- MGU UNIVERSITY - RUSSIA
- MOLDCELL- MOLDOVIA
- MOLODAYA GVARDIYA RUSSIA
- MOTOROLA-HONG KONG
- MTN GSM - S.AFRICA
- MULTIRAMA- BULGARIA
- NATIONAL BANK OF KIRGIZYSTAN
- NATIONAL BANK OF PAKISTAN
- NATIONAL SEMICON.- HONG KONG
- NATIONAL BANK OF GREECE GREECE
- NATIONAL ELECTRIC CO.- BULGARIA
- NATIONAL ORTOPAEDIC HOSPITAL, IGBOBI - NIGERIA
- NATIONAL HIGHWAY –EUROIONIA CONSORTIUM – GREECE
- NUMERICABLE - FRANCE
- NESTLE- PAKISTAN
- NIKONA- MACEDONIA
- NORTHUMBRIA POLICE - UK
- OBI MARKET - HUNGARY
- ORASCOM TELECOM-BANGLADESH
- OR TAMBO INT AIRPORT – SOUTH AFRICA
- OSMO- GERMANY
- PARQUE NASCENTE - PORTUGAL
- PETROKAZAKISTAN - KAZAKHSTAN
- PETRONAS MITCO (JAPAN) SDN BHD MALAYSIA
- PHILIPS - TURKEY
- PHILIPS ELECTRONICS-HONG KONG
- PHILIPS MEDICAL - S.AFRICA
- PHILIPS-HOLLAND
- PHILIPS PROJECT CENTRE -NIGERIA
- PLANET PRESS - NIGERIA
- PKP (NATIOANL POLISH RAILWAY) POLAND
- POLICE STATIONS - POLAND
- POLISH ARMY - POLAND
- POST OFFICES - POLAND
- POST & TELECOM-INDONESIA
- PORTUGAL TELECOM - PORTUGAL
- PRINCE SULTAN CARDIAC HOSPITAL-SAUDI ARABIA
- PT TELECOM-INDONESIA
- PWC-BULGARIA
- QUALITY CINE LABS - INDIA
- RADIOTELEOPTIKI NEAPOLIS-GREECE
- RED CROSS - PROTUGAL
- RENAULT - FRANCE
- RESERVE BANK OF INDIA
- REUTERS - GERMANY
- RIKSBYGGGEN-SWEDEN
- ROCA SANITARIOS-SPAIN
- ROYAL HOSPITAL-AUSTRALIA
- RODAX S.A. - GREECE
- SAFT - FRANCE
- SAMSUNG - S.KOREA
- SAUDI ARAMCO-SAUDI ARABIA
- SAUDI ERICSSON-SAUDI ARABIA
- SEISSENSCHMIDT - HUNGARY
- SEL BIO PARIS OUEST - FRANCE
- SHANGRI-LA HOTEL-HONG KONG
- SHINBUNDANG RAILWAY – SOUTH KOREA
- SHELL - GERMANY
- SIEMENS - TURKEY
- SIEMENS -GERMANY
- SIEMENS - S.AFRICA
- SIEMENS-KAZAKHSTAN
- SOCIAL INSURANCE - POLAND
- SOMERSET AND AVON POLICE-UK
- SOUTHPORT HOSPITAL-UK
- SPACE CO- AZERBAIJAN
- SPORT STADIUM, PLZEN-CZECH REPUBLIC
- ST JAMES HOSPITAL-UK
- STATE BANK OF INDIA
- SYARIKAT PRASARANA NEGARA BERHAD – MALAYSIA
- SWISS INS - SWITZERLAND
- TECHNICAL CHAMBER OF GREECE GREECE
- TECHNICAL UNIVERSITY OF IONIAN ISLANDS-GREECE
- TECHNOLOGY-HONG KONG
- TECHNOPOLIS-BULGARIA
- THALES RECHEARCH AND TECHNOLOGY FRANCE
- THYSSENKRUPP AIRPORT SYSTEMS, S.A.- SPAIN
- TRANSTEL - S.AFRICA
- TRANSWORLD PUBLISHING-UK
- TYGERBERG HOSPITAL - S.AFRICA
- UNIVERSIDAD DE ZARAGOZA-SPAIN
- UNIVERSITY OF SCIENCE & UNIVERSTY OF SINGD-PAKISTAN
- UNIVERSITY HOSPITAL PRAGUE 2 CZECH REPUBLIC
- VÄXJÖ MUNICIPALITY-SWEDEN
- WAGON AUTOMOTIVE (FARNIER PENIN) FRANCE
- WOLMIDO MONORAIL – SOUTH KOREA
- ZANTE HOSPITAL -GREECE
- ZARA SHOP -RUSSIA
- RIYADH POISON CONTROL CENTER – S. ARABIA
- NATIONAL HAYAT HOSPITAL – S. ARABIA
- PRINCE MOHAMMAD BIN ABDULAZIZ HOSPITAL – S. ARABIA
- ALMAJMAAH UNIVERSITY – S. ARABIA
- ABOUARISH HOSPITAL – S. ARABIA
- SAMTA HOSPITAL – S. ARABIA
- SABYA HOSPITAL – S. ARABIA
- ALMOSAM HOSPITAL – S. ARABIA
- AL RAYTH HOSPITAL – S. ARABIA



# CUSTOMER SERVICES

## Reliable

Directly present in more than 70 countries and servicing its products worldwide, a team of qualified engineers is available 24/7/365 to support your UPS system to ensure power quality and availability to the most critical loads.

## Excellent

Inform's competitive edge lies in its ability to provide high value-added UPS systems and services for both end users and business partners. For Inform, creating value means coming up with solutions for lower energy consumption, but also integrating product design into the overall development process.

## Tailor-made

Inform offers a complete range of specific solutions and services to meet customer requirements:

- Technical pre-sales support at the project design stage
- Factory acceptance test
- Supervision of installation, testing and commissioning, site acceptance test
- Operator training
- Site audit
- Warranty extension
- Annual maintenance contract
- Fast intervention on emergency call

## SUPPORT



### **SITE INSPECTION, INSTALLATION SUPERVISION.**

We perform a comprehensive check of the UPS environment to ensure safety and fault-free operation.

Our technical experts give manufacturer's recommendations to the site engineer or electrical contractors, and supervise the UPS installation before load power-up.

### **SITE TEST, COMMISSIONING.**

Our Service Engineers conduct rigorous site tests and full setting-up of the UPS system before going live. They also perform site acceptance tests according to your requirements.

Commissioning operations for all UPS are carried out by qualified engineers to guarantee seamless start-up. After the final handing over of the UPS system, a Test and Commissioning report is delivered to you.

## TRAINING



We offer on-site training to ensure your equipment's safe and efficient operation.

Troubleshooting courses are also available in our plants for intensive hands-on practice on UPS training equipment.

## MAINTENANCE



### **PREVENTIVE MAINTENANCE**

Electronic equipment and power systems, such as UPS, contain life-limited components and parts that must be replaced according to the manufacturer's specifications.

To ensure optimal performance and to protect your critical application from potential downtime, it is crucial to perform

preventive maintenance operations on a regular basis and replace parts when needed. Our Service Contracts include cleaning, IR thermography, measurements, functional tests, event log and power quality analysis, battery health check, hardware and software upgrades, and technical reports.

A Preventive Maintenance Plan is one of the most cost-effective actions that can preserve your initial investment and ensure your business continuity.

### **CORRECTIVE MAINTENANCE, EMERGENCY CALL**

In the event of an Emergency Call, our worldwide service network, with engineers and spare-parts stocks strategically located as close as possible to your site, guarantees a fast intervention time with 24/7/365 assistance.

After connecting his laptop to your UPS, very powerful diagnostic software helps our engineer to identify the fault, thus ensuring short MTTR (Mean Time To Repair).

Corrective actions are performed such as part replacement, adjustments and upgrades to return the UPS system back to normal operation.

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