



Uninterruptible Power Supply Systems

True On-Line Technology. 3 Phase in- 3 Phase out

- True on-line double conversion technology
- High efficiency > 94%
- Built-in maintenance and automatic by-pass
- State of the art IGBT based PWM technology
- Capacity enhancement and redundancy guaranteed by parallel systems
- Galvanic isolation and/or modification for special voltages
- Expandable and variable battery banks
- Communication with computer and network systems and SNMP solutions
- Continuous monitoring via Tele Service
- 12 pulse rectifier option



TECHNOLOGY

True on-line, double conversion technology of **EVEREST-EX** ensures trouble free, reliable operation and protects valuable and critical equipment load by maintaining precise and pure sinusoidal output. Rugged IGBT based PWM technology provides high current capability and protects the system against high instantaneous overload that improves the reliability even more. The IGBT power devices, combined with numeric command by micro-controllers, means we can meet our user's most demanding requirements such as:

- Supply continues power to non-linear loads
- Improve the reliability of both the UPS and its battery
- Facilitate smooth operation and serviceability
- Reduce size and sound level
- Highly efficient operation reducing running costs.

INVERTER

The inverter supplies the loads with high quality power. In order to provide optimum performance, the **EVEREST-EX** inverter employs IGBT technology (Insulated Gate Bipolar Transistor) with high frequency switching. The system is managed by micro-controllers that constantly monitor over 100 parameters.

The **EVEREST-EX** range is thus designed to:

- Supply non-linear loads without degrading the UPS performance and simultaneously ensure very low input voltage distortion.
- Provide high quality power even in extreme transient conditions.
- Increase the reliability by simplifying circuits.

BATTERY

The battery is an essential element of the UPS; it provides an independent reservoir of DC power supply. Battery reliability is enhanced by the intelligent control of its recharge; current and voltage (e.g. according to ambient temperature) and the low residual ripple ratio of the rectifier.

The battery's health and capacity are monitored by an automatic battery test function.

RECTIFIER

The rectifier transforms alternating current from the line supply to direct current, supplies the input power

to inverter, and keeps the battery charged. It has a soft start, thus avoiding inrush current from the commercial line.

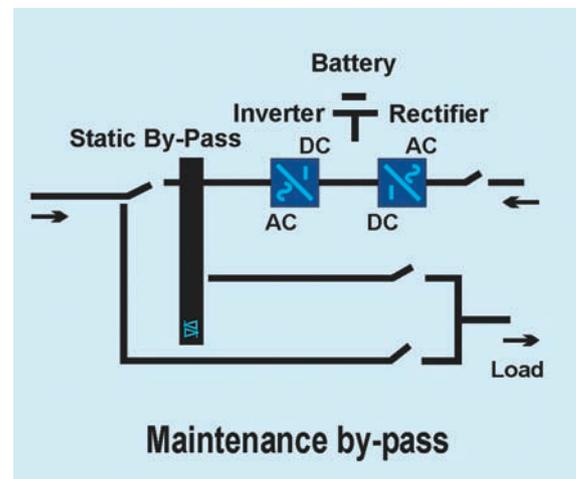
In order to reduce power consumption when running on generator sets, its logic enables it to delay battery recharge. The rectifier is especially designed to reduce harmonics feedback into the mains.

AUTOMATIC BY-PASS

In cases of high overload or some defect, the **EVEREST-EX** automatic by-pass transfers the loads to the commercial line without interruption.

MAINTENANCE BY-PASS

If the manual by-pass is activated, the line powers the load, and the **EVEREST-EX** UPS is effectively isolated from the power supply circuit and can be switched off.



It permits continuous power supply of the load while the necessary verifications or repairs are made on the machine without any risk for the user.

TELE-SERVICE

The state of your UPS system is continuously transferred through the telecom network to the after sales service center. Tele-service offers information/features such as:

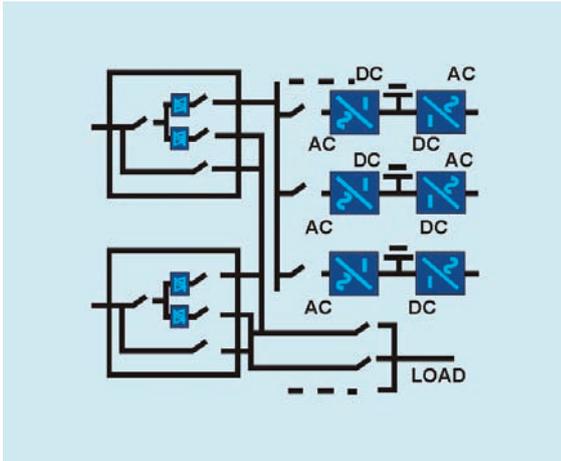
- Consultations from a PC screen
- Remote alarms,
- Remote diagnostics.
- Battery
- Static By-Pass
- Inverter (DC AC)
- Rectifier (AC DC)



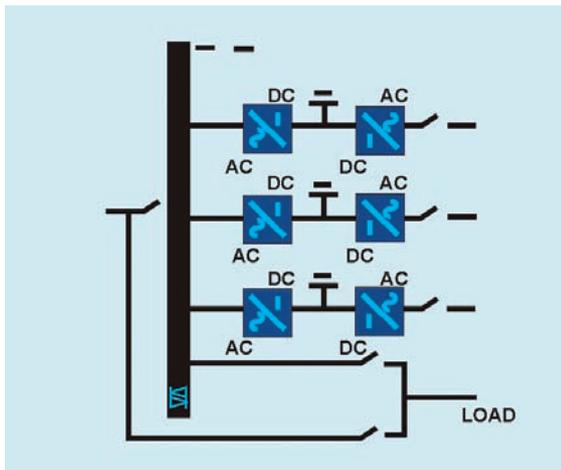
PARALLEL CONFIGURATION

Parallel configuration upto 6 units is based on a modular concept and offers true flexibility. The capacity of the system can be enhanced at any time, even after installation and commissioning.

- **Serial link** sets up a dialogue with BMS (Building Management Software System). All logic and is transmitted by RS-485 serial link.
- **Tele-maintenance:** All **EVEREST-EX** data can be network for:
 - Consultations
 - Remote alarms
 - Remote diagnostics



Multi by-pass



Centralised by-pass

REMOTE MONITORING & CONTROL

EVEREST-EX offers a wide choice of remote management systems:

- Dry contacts for remote signaling remote signaling and control cabinets fitted with a screen keyboard offering the same functions as those fitted on **EVEREST-EX**
- **Embedded Software** allows **EVEREST-EX** to be monitored and controlled through a personal computer

SCREEN KEYBOARD

Managed by micro-controllers, a screen keyboard offers the following features:

- Rapid display of operation-mode by mimic panel.
- Load rate displayed by bar graph.

Sub-unit control

LOAD ON MAINS	ON	INV.	
COMMAND			CANCEL
CONFIRM			

Measurements

MEASUREMENTS ON OUT.		SUPPLIED BY INV.		↑
U12=400V	V1=230V	I1=457A	S=315KVA	
U31=400V	V2=230V	I2=458A	F=50.0Hz	
U23=400V	V3=230V	I3=453A	RETURN	↓

Remaining back-up time

LOAD ON INVERTER	AUTONOMY	25mm
INVERTER ON BATTERY		
MEASURE	CONTROL	MONITOR

Battery testing

NEXT BATTERY TEST SETTINGS					↑
DATE	HOUR	MINUTE	Nb	WEEKS	
SATURDAY	18	0		4	
NEXT	VALID	DELETED		RETURN	↓

Event history log

001	INVERTER ON BATTERY	N	10:33:32	05/12
002	LOAD ON MAINS	Y	10:33:32	05/12
003	LOAD ON INVERTER	N	10:33:32	05/12
004	BATTERY DISCHARGED	Y	10:33:32	05/12

System configuration as per user requirement

LOAD ON INVERTER		████████████████████	
LOAD RATE (%)		0 50 100	
BUZZER	LINK	LANGUAGE	RETURN



MAINTENANCE

Given the vital importance of UPS, offering prompt quality service is just as important as the product quality. In order to increase reliability by reducing MTTR (Mean time to repair) by way of simple and rapid maintenance,

EVEREST-EX incorporates:

- A socket enabling maintenance engineers to connect a PC to carry out checks, diagnostics & configuration of sub-units.
- Modular design easily accessible components and subsystems.

SPECIFICATIONS

MODEL		EX400	EX500	EX600	EX800	
INPUT	Output KVA	400	500	600	800	
	Power Factor	0.85 lagging				
	Voltage	380V/400V/415V 3 phase				
	Tolerance	±15%				
	Frequency	50/60Hz				
OUTPUT	Tolerance	±10%				
	Voltage	380V/400V/415V 3 phase				
	Tolerance (steady condition)	<0.5%				
	Tolerance (dynamic condition)	±5%				
	Harmonic Distortion Rate on Linear Load	<1.5%				
	Total Harmonic Distortion	<5%				
	Crest Factor	3 : 1				
	Frequency	50 or 60Hz				
	Frequency Tolerance	±0.2%				
	Overload		125% load10 min			
			150% load1 min			
			200% load100 ms			
	Unbalanced Load	100%				
	Overall Efficiency	Upto 94%				
	BATTERY	Battery Voltage (nominal)	32 Battery (384V DC) typical			
GENERAL	Protection	Overload/short circuit, DC over/under voltage and over heat				
	Indication	Line on, battery on, mains abnormal, load on inv., load on aux. and inv trip				
	Metering	Input volt., batt. volt., output volt., bal. batt. autonomy output freq. and load power (%)				
PHYSICAL	Weight w/o Battery (Kg)	2000	4400	4500	5000	
	Dimensions WxDxH mm	1600 x 800 x 1920		4300 x 800 x 1920		
ENVIRONMENT	Audible Noise	68 to 75 dBA				
	Standards	EN 50091 – IEC 146 - 4				
OPTIONS	Battery cabinet, parallel redundancy, SNMP interface, remote signaling and control unit, communication software, remote signaling interface, common by-pass for parallel systems, galvanic isolation, 12 pulse rectifier, serial port interface, dry contact interface					

We pursue a policy of continuous development & product improvement. Specifications & front panel controls, may be subject to change, without notice



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