



# X3 Series HM 10-40kVA

THREE-PHASE IN / SINGLE-PHASE OUT  
DOUBLE CONVERSION ON-LINE



## QUALITY POWER SUPPLY

EPI X3 is an On-Line double conversion (VFI) UPS with filtered and stabilized sinusoidal output voltage. X3 is immune to the interferences on the electric power supply line as it has special input and output filters.

## MAXIMUM RELIABILITY AND POWER AVAILABILITY

The digital control of the appliance considerably improves reliability, since a reduction in electronic components lowers the likelihood of breakdowns. Digital control is provided by the microprocessor that, in the X3 series, controls all the internal parameters, thus increasing reliability and performance. In parallel connections, digital control ensures balance of the currents, which generally change over time due to phenomena such as vibrations and temperature, between the UPS units and the exchange of information with no need for manual tuning.

X3 has been designed so that it can be connected in parallel even after the installation of the first unit. The power availability can be increased thanks to various configurations available such as the parallel configuration, the Dual Bus function and the Dynamic Dual Bus system.

## HIGH EFFICIENCY

If required, the unit can work in ECO mode to increase efficiency up to 98% and consequently reduce energy dissipation and costs. In this operating mode the mains is the priority source and the load is switched over to the Inverter only when the mains characteristics exceed the preset limits.

## UPS FOR INDUSTRIAL LOADS

X3 with its strong overload capability, output galvanic isolation and low harmonic current distortion, is the ideal solution for industrial applications.

Thanks to the high battery current, X3 Series is suitable to work with large battery banks as it can guarantee recharging in 10 hours as recommended by the battery manufacturer.

## OPERATING FLEXIBILITY

X3 is an uninterruptible power supply with On-Line double conversion technology that can also operate in Line Interactive mode. All power ratings of the X3 series can also be used as Frequency Converters 50 to 60 Hz and vice versa.



## **MIMIC PANEL**

The mimic panel allows easy and intuitive operation of the UPS. It gives access to the most important parameters: status and alarms, control commands, input, output, battery measurements (power, current, voltage, frequency and temperature) and settings. The X3 diagnostics system includes up to 128 alarms or messages allowing precise and detailed identification of any event.

## **MAXIMUM BATTERY CARE**

Optimal battery management includes:

- Periodic battery test,
- Protection against deep discharge,
- Recharge temperature compensated.

## **MAXIMUM SAFETY FOR PERSONNEL**

The back feed protection device prevents any voltage back feed in the upstream distribution board, thus ensuring the safety of the maintenance personnel.

## **FRONT ACCESS**

X3 has frontal access for all power and electronic components, even in those configurations with internal batteries. This reduces the floor space required and consequently reduces the installation costs.

## **ADVANCED COMMUNICATION**

UPSMon software displays the most important information such as the input and output voltage, the load applied, the remaining back-up time, etc., in the form of bar graphs. The software is able to provide

information even in the event of a failure, in support of the fault diagnostics. The UPSMon software can be used to program the automatic shutdown of all open systems in the event of a prolonged black out. X3 can also operate with a network agent for applications on LAN or WAN networks.

The UPS contains the following hardware interfaces:

- RS232 serial port,
- Dry contacts,
- EPO (Emergency Power Off) contact for UPS shutdown using the remote emergency button.

## **EXPANDABILITY**

The units can be connected in parallel up to 8 units to increase power availability or redundancy. The single module or the system can be expanded any time to suit power requirements without influencing the initial investment.

## **DUAL BUS SYSTEM**

The Dual Bus System powers the priority loads from two independent sources. This configuration increases the redundancy and availability level of a multi-module configuration. Each bus may consist of a single module or up to 8 modules in parallel, kept in synchro by the UGS (UPS Group Synchroniser).

## **DYNAMIC DUAL BUS SYSTEM**

Two independent systems set in Dual Bus Configuration can be merged together at any time for system expansion or maintenance. This provides a lot of flexibility in your installation in case of maintenance or when it is necessary to change the redundancy level of both systems.

## Technical Specifications:

MODELS	HM 10	HM 15	HM 20	HM 30	HM 40
POWER (kVA)	10	15	20	30	40
<b>INPUT</b>					
Rated Voltage (V)	400 Vac three-phase + N				
Voltage Range	± 20%				
Frequency Range	45 ÷ 65 Hz				
Power Factor	> 0.92 in HM CLEAN version				
Distortion of The Current Absorbed	< 5% in HM CLEAN version				
Soft Start	0-100% in 10"				
<b>BY PASS</b>					
Rated voltage (V)	230 Vac single-phase				
Permitted Voltage Range	± 15% (selectable from ± 10% to ± 25% from front panel)				
Rated Frequency	50/60 Hz (autorange)				
Permitted Frequency Range	± 2% (selectable from ± 1% to ± 5% from front panel)				
Standard Features	BackFeed protection; separate bypass line				
<b>BATTERIES</b>					
Type	Maintenance-free lead-acid VRLA AGM / GEL; NiCd				
Maximum Recharge Current (A)	0.2 x C10				
<b>RECTIFIER OUTPUT</b>					
Maintenance Voltage	Variable acc. to temperature (-0.5 Vx°C)				
Ripple	< 1%				
<b>INVERTER OUTPUT</b>					
Rated Power (kVA)	10	15	20	30	40
Rated Voltage (kW)	8	12	16	24	32
Number of Phases	1				
Rated Voltage (V)	230 single-phase				
Rated Current (A)	43	65	87	130	174
Regulation of The Output Voltage	220 ÷ 244 V (configurable from control panel)				
Crest Factor (I <sub>peak</sub> /I <sub>rms</sub> )	3:1				
Waveform	Sinewave				
Static Stability	± 1%				
Dynamic Stability	± 5% in 5 ms				
Frequency	50/60 Hz configurable				
Overload	110% 125% 150% of the rated current for 5h/10'/1'				
Frequency Stability	± 0.05% on mains failure; ± 2% (selectable from ± 1% to ± 5%) with mains supply present				

## Technical Specifications:

MODELS	HM 10	HM 15	HM 20	HM 30	HM 40
POWER (kVA)	10	15	20	30	40
<b>ENVIRONMENTAL</b>					
Weight (kg)	200	220	230	290	340
Dimensions (hwd) (mm)	1200 x 555 x 720				
Remote Signalling	Volt free contacts				
Remote Controls	EPO and Bypass				
Communication	RS232 + remote contacts				
Operating Temperature	0°C - 40°C				
Relative Humidity	< 95% non condensing				
Colour	Light grey RAL 7035				
Noise (at 1 meter)	54 dBA	60 dBA		65 dBA	
Protection Rating	IP20				
Efficiency	> 92%				
Compliance	Safety EN 62040-1 EMC EN 62040-2 Directives 73/23 - 93/68 - 89/336 EC EN 62040-3				
Internal Batteries	yes	yes	yes	no	no
<b>OPTIONS</b>					
Empty Battery Cabinets	X	X	X	X	X
Parallel Kit	X	X	X	X	X
LCD-based Remote Control Panel	X	X	X	X	X
LED-based Remote Control Panel	X	X	X	X	X
MultiCom 351	X	X	X	X	X
MultiCom 301	X	X	X	X	X
Netman 101Plus	X	X	X	X	X
Multi I/O	X	X	X	X	X
IRMS Multi-Switch	X	X	X	X	X
AS/400 Interface	X	X	X	X	X
UPS Remote Contacts Expander	X	X	X	X	X
UGS- UPS Group Synchronizer	X	X	X	X	X
PSJ - Power System Joiner	X	X	X	X	X
MultiCom 401	X	X	X	X	X