



Uninterruptible Power Supply 10-160kVA

Cold Start **High Input Power Factor** High efficiency up to 94% **External REPO switch input**
IGBT Transformerless Technology DSP Control.

Technical Specifications

- Low input current total harmonic distortion (THD)
- Static and maintenance bypass switch
- Output and by-pass short circuit and overload protection
- 192 events memory (192 events 4500 alarms)
- Clock and calendar (battery supported)
- Automatic battery test, remaining battery time indicator
- Temperature compensated charge system
- Regenerative backfeed function
- 2 RS232 serial port and 12 dry contact outputs
- 3 DSP controlled modular structure
- Optional Graphical and touch panel
- CE, ISO9001, ISO14001 certification
- 2 years warranty
- 10 years spare parts support

Pf: 0,9
True On-line
3:3 Phase UPS
10-160 kVA

Specifications

Power(kVA)	10	15	20	30	40	60	80	100	120	160
INPUT										
Power factor	> 0.98									
Voltage	380-400 VAC 3F, 4N+Earth, +/-%20 (240/415 VAC + %15 -%25 optional)									
Input THD	< 5%									
Input frequency	50Hz / 60Hz +/- 5% selectable									
Input frequency protection	2 levels protection (minimum and maximum)									
Regenerative backfeed	Standard									
Input power limiting	Standard									
EMI	EN62040-2									
Input voltage protection	2 levels protection									
Power walk in	Standard Adjustable									
Startup delay	Standard Adjustable									
Control system	seperate DSP controller for PFC rectifier module									
Rectifier input fuses	Standard									
Rectifier input switch	Standard									
Rectifier input CB	Standard									
OUTPUT										
Power (kW)	9	13,5	18	27	36	54	72	90	108	144
Power factor	0,9									
Voltage	380-400 VAC 3F, 4N+Earth, +/-%1 (240/415 optional)									
Frequency	50Hz / 60Hz selectable									
Frequency tolerant	+/- 2% (synchron) +/- 0.2% (free running)									
Frequency stability (free running)	0,005%									
Efficiency	up to 94%									
Crest factor	3:1									
Overload protection	100% - 125% load: 10 min.125% - 150% load: 1 min..> 150% load: by-pass									
Output current limiting	Standard									
Short circuit protection	Direct IGBT saturation protection and advanced short circuit protection									
Output voltage protection	2 levels electronic protection									
THD (%100 linear load)	< 3%									
Control system	seperate DSP controller for Inverter module									
BATTERY										
Type	Maintenance free ,sealed lead acid									
Batteries	2X30=60 batteries									
Charge voltage	2x405 Vdc									
Discharge end voltage	2x300 Vdc									
Battery cabinet	Internal					External				
Ambient temperature	25 °C									
Battery protection	Fuses ,charging current limiting									
Battery voltage protection	electronic 3 level alarms									
Battery test system	automatic every 72 hours									
Temperature compansiation	Standard									
Battery remaining time indicator	Standard									
Battery fuses	Standard									
Deep discharge protection	Standard									
FRONT PANEL										
Front panel control	Seperate DSP controller for panel and communication functions									
Human interface	Alphanumeric LCD panel, mimic lamps and control buttons standard									
Alarm log memory	192 events (4500 alarms)									
Communication	Dry contact and 2 RS232 serial ports									
Phase to phase measurements	Rectifier input ,By-pass input ,Inverter output and UPS output voltages									
Phase to neutral measurements	Rectifier input ,By-pass input ,Inverter output and UPS output voltages									
Power measurements	Output Watts ,output VA ,Load crest factor ,output power factor ,load percentage									
Current measurements	Rectifier input currents ,battery charge and discharge currents ,output load currents									
Frequency measurements	Rectifier input frequency ,by-pass input frequency ,output frequency									
Temperature measurements	Cabinet inside ,battery ambient temperature and optional sensors									
Maintenance indicators	Seperate Operating ,General ,battery ,Fan maintenance and optional hourmeters and warnings									
Overtemperature protection	2 electronic temperature sensors and thermal contacts									
Failure memory	Standard (records all measured parametres during failures)									
Factory settings memory	Standard (settings backup memory)									
Module communication	CAN interface									
Free software	T-Mon UPS Software (3 clients)									
Operating temperature	0 C - 40° C									
Protection	IP20									
Humidity (non condensed)	90% max									
Operating height	< 1000 m below sea level									
Noise level	<50 dBA									
Calibration over RS232	Available (Device calibrator software)									
Log download over RS232	Available (DLOG software)									
Weight (kgs) (without batteries)	87	87	91	100	173	197	209	220	232	265
Dimensions (HxWxD)	1040x400x810					1440x515x850				