



DATACENTER



E-MEDICAL



INDUSTRY



TRANSPORT



EMERGENCY



ONLINE

# Master HE

**3:3** 100-800 kVA



99.4% EFFICIENCY



SmartGrid ready



Flywheel compatible



Supercaps UPS



Service 1st start

## HIGHLIGHTS

- **High efficiency** up to 95,5% in on-line mode
- **kW = kVA (pf 1)** 10-40 °C no downgrading
- **Input stage with IGBT technology**
- **Galvanic Separation**
- **High overload capacity**
- **LCD Display**

### HE - High Efficiency

Master HE series is available from 100 to 800 kVA. The UPS feature a new on-line double-conversion technology utilising IGBT and DSP (Digital Signal Processor) control to provide maximum protection, power quality and green energy for any type of application including primary datacenters, disaster recover sites, telecoms rooms, industrial processes and security applications. High efficiency stands for higher active power available if compared with legacy UPS thanks to output unitary p.f. Nominal power is granted with no downgrading independently from operating temperature.

### Zero impact source

Master HE has a zero impact on connected power sources - grid networks or generators:

- ≤ 3% input current distortion
- Input power factor 0,99
- power walk-in function - to ensure a progressive rectifier start-up
- start-up delay function - to restart the rectifier when the mains power supply is restored.

### Smart Grid Ready UPS

Master HE series UPS are 'Smart Grid Ready' and can be used within an energy storage solution, whilst simultaneously operating at the highest levels of efficiency and

automatically selecting the most efficient operating mode based on the state of the lower grid network or generator supply. The UPS are designed to electronically interface with energy management systems within an 'intelligent' Smart Grid application.

### Advanced supervision

Master HEP series UPS have a front panel graphic display providing UPS information, measurements, status updates and alarms in different languages, with wave form displays including voltage/current and provide a kWh reading that can be used to measure IT loads and calculate a datacenter PUE (power usage effectiveness) ratio.

### Battery care system

Master HE series UPS include a range of features designed to prolong battery life and reduce their usage.

### Output isolation transformer

- Better load protection from DC/Battery problems
- The UPS can be supplied from 2 independent lines
- Fault on DC bus will not affect the by-pass availability
- High Short circuit current
- Higher immunity to harmonics or energy backfeed generated by the load.

MODELS	MHE 100	MHE 120	MHE 160	MHE 200	MHE 250	MHE 300	MHE 400	MHE 500	MHE 600	MHE 800
<b>INPUT</b>										
Nominal voltage	380 - 400 - 415 Vac 3-phase									
Frequency	45 ÷ 65 Hz									
Power factor	> 0,99									
Harmonic current distortion	<3% THDi									
Soft start	0 ÷ 100% in 120" (selectable)									
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)									
Standard equipment	Back Feed protection; separable bypass line									
<b>BY PASS</b>										
Nominal voltage	360-400-420 Vac 3-phase + N									
Frequency	50 or 60 Hz selectable									
<b>OUTPUT</b>										
Nominal power (kVA)	100	120	160	200	250	300	400	500	600	800
Active power (kW)	100	120	160	200	250	300	400	500	600	800
Number of phases	3 + N									
Nominal voltage	380 - 400 - 415 Vac 3-phase + N (selectable)									
Static stability	± 1%									
Dynamic stability	± 5% in 10 ms									
Voltage distortion	< 1% with linear load / < 3% with non-linear load									
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3:1									
Frequency stability on battery	0,05%									
Frequency	50 or 60 Hz (selectable)									
Overload	110% for 60'; 125% for 10'; 150% for 1'									
<b>BATTERIES</b>										
Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels									
Ripple current	Zero									
Charge voltage compensation	-0,5 Vx°C									
<b>INFO FOR INSTALLATION</b>										
Weight (kg)	730	785	865	990	1090	1520	1670	2500	2830	3950
Dimensions (WxDxH) (mm)	800 x 850 x 1900		1000 x 850 x 1900			1500 x 1000 x 1900		2100 x 1000 x 1900		3200 x 1000 x 1900
Remote signals	volt-free contacts (configurable)									
Remote controls	ESD and bypass (configurable)									
Communication	Double RS232 + remote contacts + 2 slots for communications interface									
Ambient temperature	0 °C / +40 °C									
Relative humidity	< 95% non-condensing									
Colour	Dark grey RAL 7016									
Noise level (@ 1 m)	63 ÷ 68 dBA					70 ÷ 72 dBA				
Protection level	IP20 (others upon request)									
Smart Active Efficiency	> 99%									
Double Conversion Efficiency	up to 95,5%									
Regulations	Safety: EN 62040-1 (directive 2006/95/EC); EMC: EN 62040-2 (directive 2004/108/EC)									
Classification according to IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111									

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