

Feature and benefit analysis Digital Energy™ VH Series

Model: 700-1000-1500-2000-3000 VA

2.1 Technology

Feature	Benefit
On-line double conversion technology VFI (Voltage Frequency Independent)	<ul style="list-style-type: none"> ✓ Continuous generation of clean sinewave to the load. ✓ Independence of the input and output voltages and frequency (VFI). ✓ No-break transfer to battery power.
Through-going neutral	<ul style="list-style-type: none"> ✓ Eliminates the need for galvanic isolation transformer to control the neutral behaviour from input to output
High voltage protection	<ul style="list-style-type: none"> ✓ The UPS will switch to battery to protect itself and the load at 275V; above 300V the UPS will switch itself off to prevent long-term damage
Remote monitoring	<ul style="list-style-type: none"> ✓ UPS remembers switched state ✓ Full monitoring and control in unmanned or isolated locations
Cold start	<ul style="list-style-type: none"> ✓ The VH Series can be started even when the mains is absent
Frequency converter	<ul style="list-style-type: none"> ✓ UPS can operate as 50/60Hz frequency converter
UPS start without batteries	<ul style="list-style-type: none"> ✓ The battery start circuit is placed before the backfeed protection; the UPS can start up with empty or no batteries
Laser printer mode	<ul style="list-style-type: none"> ✓ Unique operation for step loads eg printers, copiers ✓ Fast transfer to bypass with high peak loads; all other UPS revert to battery, discharging the battery and reducing battery life
Design for Six Sigma	<ul style="list-style-type: none"> ✓ Excellent reliability through warranty duration ✓ MTBF >730,000 hours



2.2 UPS layout and configuration

Feature	Benefit
Shared tower/rack cabinet	<ul style="list-style-type: none"> ✓ Flexibility of application ✓ Dimensions (mm): 700-1500VA: 440 (19inch) x 87 (2U) x 472 ✓ 2000-3000VA: 440 (19inch) x 87 (2U) x 547 ✓ All components for tower or rack installation included in the packing box
Light weight	<ul style="list-style-type: none"> ✓ Maximum weight 33kg with battery (3kVA) ✓ Easy to manoeuvre into a rack; can be placed anywhere in the rack
2U up to and including 3kVA	<ul style="list-style-type: none"> ✓ Space saving even at higher rating
USB and contact interface	<ul style="list-style-type: none"> ✓ Card delivered as standard in rear option slot of UPS
Colour RAL 9005 (black)	<ul style="list-style-type: none"> ✓ Modern design to suit IT and industrial environment

2.3 Input performance

Feature	Benefit
Less than 5% THDi	<ul style="list-style-type: none"> ✓ Low input distortion
Power Factor 0.99	<ul style="list-style-type: none"> ✓ Avoids disturbances being fed back to the mains
Wide input voltage range	<ul style="list-style-type: none"> ✓ Minimises battery use ✓ Maximises battery life

2.4 Output performance

Feature	Benefit
Output Power Factor	<ul style="list-style-type: none"> ✓ More active power available at the UPS output ✓ PF1 at standard (70%) load
Low output THD	<ul style="list-style-type: none"> ✓ <1% for linear loads; <5% for non-linear loads ✓ Maximises lifetime of protected equipment
High overload capability	<ul style="list-style-type: none"> ✓ 110% for 5 minutes ✓ 150% overload for 2 seconds

2.5 Battery

Feature	Benefit
DC connector for all models excluding 700VA	<ul style="list-style-type: none"> ✓ Additional battery packs can be added for extended runtime ✓ Typical autonomy >10 mins at standard load
SBM Superior Battery Management	<ul style="list-style-type: none"> ✓ Prediction of the true backup time with deep battery discharge calibration. ✓ Temperature voltage compensation. ✓ Load dependent end of discharge voltage ✓ Programmable battery tests ✓ Low DC ripple ✓ Boost as well as float charging ✓ Optimised for use in cycle as well as standby operation ✓ Increased battery service life. ✓ Quick battery test; load protected during test. ✓ Selectable no load shutdown

2.6 Bypass

Feature	Benefit
Failsafe bypass	<ul style="list-style-type: none"> ✓ Completely separated power supply and control for bypass circuit; in the event of UPS failure, the load is supported via bypass
Static bypass	<ul style="list-style-type: none"> ✓ Very fast switchover time, low risk to drop the protected load ✓ Advantage over relays with a slower switching time; relays used by majority of competitors
User-selectable frequency window	<ul style="list-style-type: none"> ✓ User can select between 2% and 10% ✓ For more sensitive loads, the frequency window can be narrowed ✓ Tracking speed selectable for use with gensets
Bypass enable/disable	<ul style="list-style-type: none"> ✓ Front-selectable; if used as frequency converter, bypass can be disabled

2.7 Options

Feature	Benefit
Battery cabinets	<ul style="list-style-type: none">✓ Two matching cabinets to support full UPS range✓ Design common to UPS✓ Tower format supported by UPS stand
RS232, USB and relay option card	<ul style="list-style-type: none">✓ Flexible communication possibilities✓ Standard card slot to rear of UPS for all option cards
SNMP card	<ul style="list-style-type: none">✓ Web-enabled SNMP card for communication across a network✓ Standard card slot to rear of the UPS for all option cards