

TECHNOLOGY:	<b>TRUE ON LINE Double Conversion</b>
CLASSIFICATION:	<b>VFI-SS-111 (EN 62040-3)</b>
POWER RANGE:	<b>30 ÷ 120 kVA</b>
No. OF PHASES:	<b>3:3</b>



### ■ APPLICATIONS

- Large computer networks
- Data processing centres
- Clusters
- Medical and industrial equipment
- Tele-information systems
- Automation and control systems

### ■ SPECIFICATION

#### Three-level IGBT Inverter. Up to 6 units parallel work, for capacity or redundancy

**True On-Line** Double Conversion Technology provides perfect output voltage parameters, regardless of the input voltage and the load.

**Modular design** provides the ability to easily expand capacity and exchange power modules in "HotSwap". Scalable power in steps of 30kVA / 27kW in the range of 30 - 120KVA. N+X redundancy.

**Three-Level IGBT Inverter** ensures excellent parameters and higher efficiency in wide range of load.

**Automatic Bypass** (Static Switch) provides continuous load supply in critical conditions, such as overheating or inverter failure.

**Maintenance Bypass** (uninterruptible) enables service handling without necessity of shutting off the load.

**Separate supplying of Bypass line** provides reserve power source for load even when the UPS is damaged or main line protection is affected.

**Communication:**  
**RS-485,RS-232, MODBUS** for UPS and load supervision and control,  
**DryContact** for communication with BMS systems  
**Ethernet interface** for computer-network communication with SNMP protocol support

**High efficiency in Online mode**(>96%) reduces heat dissipation and limits power consumption costs.

**ECO-Mode** gives possibility of significant cost reduction and in practice stops heat emission.

**Configurable number of batteries and charging current** allows user to set required autonomy time.

**Automatic diagnostics and fully digital control (2x 32bit DSP)** ensure that components and parameters are controlled without user interference.

**High input power factor 0.99** reduces the value of current drawn from the mains.

**High output power factor 0.9** allows load of versatile characteristics to be powered.

**Wide input voltage range** for normal mode ensures that the batteries are used only if necessary - in fact, only when the input voltage is completely lost.

**Wide input frequency range** for normal mode gives possibility for seamless operation with different power sources - as mains or the generating set.

**Simple maintenance** microprocessor control and 24h/7 operation mode means that the unit doesn't require any user handling.

**Advanced Battery Management** gives reliability of optimal charging and using batteries, elongates its lifetime and reduces operating costs.

**Excellent voltage quality** is provided by 3-level IGBT inverter and high-frequency PWM technology; the output voltage has always stable parameters, independent of input disturbances and the load characteristics.

**High overload capacity** indicates power reliability during transient conditions and high resistance on handling faults.

**User configurable settings** enable user to set nominal voltages, frequency, preferred operating modes.

**Remote Emergency Power Off port (REPO)** provides remote shut off of the load and UPS in case of emergency.

**Redundancy configurations:**  
 Parallel for capacity or redundancy,  
 Hot Standby

## NHS

Model	NHS 120
<b>Capacity kVA / kW</b>	<b>30 / 27 - 120 / 108</b>
Number of phases in:out	3:3
Topology	True On Line Double Conversion, rectifier and inverter with IGBT technology, SPWM Controlled without transformer
<b>Input</b>	
Voltage	380 / 400 / 415 VAC
Voltage range	-40% ÷ +25 %
Frequency	50/60 Hz
Frequency range	-20% ÷ +20 %
THDi	<2.5%
Input power factor	≥ 0.99
<b>Output</b>	
Voltage	380 / 400 / 415 VAC
Voltage regulation static/dynamic	±0.5% / ±2%
Frequency	50/60 ± 0.01 Hz
Overload capacity (Inverter, pf=0.9)	110% - 60 min., 125% - 10 min., 150% - 60 sec., >150% - 200msec.
Short-circuit resistance	340% of nominal voltage for 200 msec.
Efficiency	>96%
THDu linear	<0.5%
THDu nonlinear	<1%
Eco mode efficiency	99%
Crest factor	3:1
<b>Batteries</b>	
Type	Maintenance free, sealed VRLA AGM
Battery start up	yes
Configurable batteries	36 / 38 / 40 / 42 / 44 pcs.
Charging	3 – 8 hours up to 90% of capacity, in accordance with DIN 41773
<b>Weight and dimensions without batteries</b>	
Dimensions of UPS (WxHxD)	600 x 1400 x 980 mm
Weight of UPS 120kVA	250 kg
<b>Communications</b>	
Operation mode indicators	LCD touch display, LED indicators, sound alarm
Communication	RS-232, RS-485, Dry Contact, SNMP slot, MODBUS RTU/ASCII, REPO, parallel work connector, genset interface
<b>Environmental</b>	
Noise Level depending the load and temp.	< 55 dB (A)
Operating temperature for UPS	0 °C ÷ 40 °C
Recom. operating temperature for UPS	15 °C ÷ 25 °C
Storage temperature	- 20 °C ÷ 40 °C
Humidity	0 ÷ 95 % (non condensing)
<b>Certifications</b>	
Standards	CE, EN 62040-2:2006 (EMC), EN 62040-1:2008 (LVD)
<b>Options</b>	
- SNMP Web	- REPO
- Environmental sensor (EMD)	- External Maintenance Bypass
- Battery Compensation Kit	- External Battery Cabinets

