

UPS FRAME Series

TECHNOLOGY: **TRUE ON LINE Double Conversion**

CLASSIFICATION CODE: **True Sinewave, VFI-SS-111** (EN 62040-3)

POWER RANGE: **100 kVA**

PHASE CONFIGURATION: **3:3**



TYPICAL APPLICATIONS

- Computer networks
- Servers
- Industrial equipment
- Laboratory apparatus
- Telecommunications
- Automation and control systems

CHARACTERISTICS

True On-Line Double Conversion technology ensures excellent output voltage performance regardless of energy interference and the type of loads being powered.

The hotswap modular design ensures that power is matched to the load, enables redundancy, reduces heat loss and facilitates service.

IGBT rectifier the most advanced technology providing very low THDi and high power factor.

The automatic bypass - uninterruptible - ensures uninterrupted power supply to consumers in critical situations such as overheating or failure.

Service bypass - allows equipment to be serviced without switching off the powered consumers. A separate power supply for the bypass circuit provides a back-up power source for the consumers even in the event of equipment failure or UPS protection tripping in the main circuit.

Communication interfaces:

USB, RS232, RS485 for reading and monitoring parameters, managing operation and configuring the UPS,

DryContact relay contacts for interaction with BMS systems

SNMP integration into network management systems such as NMS

Remote Fire Switch connector (EPO) to provide remote disconnection of power to consumers in the event of fire,

The 5.0" LCD colour touchscreen control and monitoring panel simplifies UPS operation, allows diagnosis of the parameters and operating mode of the power supply and enables event logging.

The highly efficient charging system means that the UPS has the ability to rapidly charge battery banks with very large capacities, for long autonomous operating times.

The high efficiency of the unit (>96%) limits the heat emitted, making possible room cooling simpler and the UPS much cheaper to operate.

ECO-Mode significantly reduces the operating costs of the unit and virtually eliminates heat emission thanks to an efficiency of >99%.

The hibernation mode for parallel operation allows (depending on the configuration) the number of running power modules and UPS of the parallel system to be adapted to the load value. Hibernation of the power modules or UPS reduces heat emission and lowers the noise generated by the system.

Conformal coating - protecting the UPS boards insulates the electronic components from adverse environmental conditions such as moisture, dust and surges.

Simplicity of operation - the ease of connection to the network and the simple operation of the unit do not require any special skills on the part of the user.

Automatic diagnostics and digital control (32 bit DSP x2) guarantee full device performance, component control and operating parameters without user intervention.

Redundant fans ensures UPS operation even if 1 or 2 fans fail, with limited output power.

The high input power factor value of 0.99 limits the value of the current drawn by the unit from the mains.

The highest output power factor value of 1.0 allows the power supply to be loaded with full active power.

The wide input voltage range in normal operation ensures stable operation of the unit without the need for batteries, significantly extending battery life.

The wide input frequency range in normal operation allows the power supply to be used freely in mains with unstable parameters and when powered by a generator set.

Advanced battery management guarantees optimum charging and utilisation of the battery bank, increases battery life and reduces operating costs. Temperature-compensated charging voltage function.

The excellent quality of the output voltage achieved through the use of a 3-level IGBT inverter, using advanced PWM control technology means that a voltage with stable parameters is delivered, regardless of energy disturbances and the type of equipment being powered.

The high overload capacity ensures protection of the device and continuity of the power supply in the event of transient transients.

Advanced software enabling the user to have full control over the unit and the powered loads.

The configurability of the operating parameters - nominal voltages, frequencies, preferred operating modes, method of communication - greatly expands the range of possible applications.

Redundant configurations:

- Redundant parallel operation for increased reliability
- Capacitive parallel operation for increased power
- HotStandby operation

FRAME Series

Model	FRAME 100K
Power	100 kVA/kW
No. of phases	3:3
Number and power of power modules	2 x 50 kW
Input	
Nominal voltage	380 / 400 / 415 VAC
Voltage range	304 VAC - 485 VAC for 100% load Min. 138 VAC - 304 VAC linear for 40% - 100% load
Frequency	50 / 60 Hz
Frequency range	40 - 70 Hz
THDi	<3%
Input power factor	≥0,99
Output	
Nominal voltage	380 / 400 / 415 VAC
Power factor	1,0
Static/dynamic voltage regulation	±1% / ±2%
Nominal frequency	50 / 60 ± 0,05 Hz
Inverter overload	105% - 110% - 60 min., 110% - 125% - 10 min., 125% - 150% - 1 min., >150% - 0.2 sec.
Efficiency in On-line mode	>96%
Efficiency in ECO mode	99%
Creast factor	3:1
Battery	
Cold start	Yes
Battery type	Sealed maintenance-free batteries VRLA, AGM
Number of batteries in one string	32 - 44 szt. x 12V
Maximum capacity of the charging system	24 A
Charging time	3 - 8 hours up to 90% capacity (configurable)
Charging cycle	According to DIN 41773 with automatic charge deactivation according to current and voltage criteria, with time control, temperature compensation option for charging voltage
Dimensions and weight	
Dimensions S x G x W	440 x 850 x 1200 mm
UPS weight without battery	162 kg
Battery cabinet C40 (40 x 65Ah)	950 x 880 x 1190 mm (945 kg)
Signalling and communication ports	
Operating status indicator	LCD, audible alarm
Available alarms	EPO active, Mains/Bypass parameters over or under voltage/frequency, bypass overload, inverter overload, Inverter voltage low/high, maintenance bypass ON, battery circuit abnormal, battery low, battery under voltage, phase rotation error, overtemperature, short circuit, communication problem, redundancy lost etc.
Communication	USB, RS232, RS485, NET, EPO, LBS, Parallel operation connector, DryContact Optional: SNMP card, GPRS card, Wi-Fi card, battery probe
Environmental conditions	
Noise level	<65 dB
Permissible operating temperature	0°C ÷ 40°C
Recommended operating temperature	15°C ÷ 25°C
Storage temperature	-25°C ÷ 55°C
Ingress protection	IP 20
Humidity	0 ÷ 95% (non-condensing)
Standards	
Resistance to interference	EN62040-2:2018
Safety	EN62040-1:2019, EN62040-3:2011, CE, UKCA
Optional equipment	
- SNMP card	- Uninterruptible External Bypass, Service
- Environmental conditions sensor	- BackFeed Protection,
- GPRS card	- Battery rack or battery modules
- Wi-Fi card	- UPS parallel operation card

The publication contains specifications for standard models. Due to continuous product improvement, the parameters are subject to change without prior notice.