FLEXUS 10KVA-20KVA Three Phase Uninterruptable Power Supply

Absolute Protection
The Flexus series is suitable for protecting all IT and telecommunications systems, information networks and critical systems in general. The Flexus series is available in 10, 12, 15 and 20 kVA three-phase input and output models, with double conversion on-line technology according to the VFI-SS-111 classification as defined by IEC EN 62040-3. Flexus has been designed and produced with state-of-art technologies and components in order to guarantee maximum protection, no impact on the supply mains and energy savings.

Zero Impact Source
Thanks to the technology used, Flexus can solve issues that often arise with installations where the supply mains has a limited installed power, where the UPS is powered by a generator set or where there are problems of compatibility with loads that generate current harmonics. The following features enable the Flexus range to have zero impact on the power supply source, be it utility mains or a generator set:

• low input current distortion, less than 3%
• Input power factor 0.99
• Power walk-in function that guarantees progressive start-up of the rectifier
• Delayed switch-on function to restart the rectifier when the mains returns, in case of configurations with various UPS.

Flexus also acts a filter and phase-shift mechanism in respect of the utility supply mains ahead by removing harmonic components and reactive power generated by the load.

Battery Care System
Management of the batteries is fundamental to guaranteeing operation of the power supply unit under emergency conditions. The Battery Care System manages the batteries to obtain the best performance and to extend battery life.

Battery Recharge
Flexus is suitable for working with hermetically sealed (VRLA), AGM and GEL lead batteries, and Nickel-Cadmium batteries. Depending on the battery type, various recharge methods are available:

• One-level recharge, typical for the most commonly used VRLA AGM batteries
• Two voltage levels recharge according the IU characteristic
• Charge block system to reduce consumption of the electrolyte and further extend the life of VRLA batteries.

Recharge Voltage Temperature Compensation in order to avoid excessive charging and battery overheating.
Battery Test in order to detect performance falloff or battery failure in good time.
Deep Discharge **Protection**: in the case of long low-load discharges, the end-of-discharge voltage is increased as recommended by the battery manufacturers in order to avoid damage to or a performance drop of the batteries.
Ripple Current: the recharge ripple current (residual AC component) is one of the most important causes that reduce battery reliability and life. Flexus, thanks to the high-frequency battery charger, reduces this value to negligible levels, extending battery life and maintaining high performance for a long time.
Wide voltage range: the rectifier is designed to be operated with a wide range input voltage range (up to -40% with half load), reducing the need to discharge the batteries and, as a result, extending battery life.

Low Management Cost
Flexus technology along with the use of high performance components allow Flexus to obtain exceptional performance and efficiency levels from a very low footprint and dimensions:
• The lowest footprint in this category, only 0.26 sq. m. for the 20kVA Flexus, batteries included
• High efficiency of up to 94% permits 33% savings in dissipated energy compared to similar products present on the market (with an average performance of 91%).
• Output power factor of 0.9 provides up to 15% more active power compared to a normal commercial UPS, guaranteeing the greatest margin in sizing of the UPS for further load increases.

Flexibility
Flexus can be used for a wide range of applications:
• Suitable for powering capacitive loads such as blade servers, without any reduction of the active power, from 0.9 leading to 0.9 lagging
• Modes of operation: On Line, Eco, Smart Active and Stand By Off
• Frequency converter mode
• Power Share sockets that can be configured in order to maintain back-up time for the most critical loads or to be activated only when the mains fails
• Cold Start allows the UPS to switch on without utility mains being present
• Battery cabinets of various dimensions and capacity, for longer back-up times
• Optional temperature sensor for external battery cabinets, for recharge voltage compensation
• Additional battery chargers to optimize recharge times
• Optional dual utility mains input
• Isolation transformers to modify the neutral arrangements, for separate sources or galvanic isolation between input and output.

Advanced Communication
Flexus is equipped with a graphic display that provides management and status information that is available in five languages.
• Advanced multiplatform communication, for most operating systems and network environments.
• Compatible with PowerNetGuard for the remote assistance service
• 3 communication slots for optional accessories such as network adapters, volt-free contacts, etc.
• REPO (Remote Emergency Power Off) emergency power down by a remote pushbutton
• Input connection for auxiliary contact of an external manual bypass
• Input for synchronization from an external source
• Graphic mimic panel display for remote operator panel support

Applications
Cash Registers, Data centers, e.Business (Server Farms, ISP/ASP/POP), Electro-medical devices, Emergency Engines, Industrial PLCs, Local Area Networks (LAN), Personal computers, Poin Of Sales Systems (POS), Servers, Small computer networks, Telecommunication Engines, Workstations

Model Range

Power VA	Model	Output phases	Dimensions WxDxH (mm)	Weight (kg)
10000	FT 10	3+N	320x840x930	From 85 to 190
12000	FT 12	3+N	320x840x930	From 85 to 190
15000	FT 15	3+N	320x840x930	From 90 to 195
20000	FT 20	3+N	320x840x930	From 90 to 195

Specifications

INPUT	FT 10	FT 12	FT 15	FT 20
Rated power	380-400-415V Three-phase with Neutral VA			
Voltage tolerance	400V ±20%			
Frequency	50-60Hz			
Accepted frequency	± 20%			
Current distortion	THDi ≤3%			
Power factor	≥ 0,99			
Input phases	3			
Soft start (Power Walk In)	Programmable from 5 to 30 sec. in steps of 1 sec.			
BY PASS	FT 10	FT 12	FT 15	FT 20
Rated voltage	380-400-415V Three-phase with Neutral			
Voltage tolerance	-20%; -15% (selectable in step of 1V)			
Rated frequency	50-60Hz			
Frequency tolerance	± 5% (selectable)			
BATTERIES	FT 10	FT 12	FT 15	FT 20
Type	Maintenance-free sealed lead acid			
Batteries number	40/12V/7Ah-9Ah			40/12V/9Ah
Recharge time	8 hours			
OUTPUT	FT 10	FT 12	FT 15	FT 20
Rated power	10000 VA	12000 VA	15000 VA	20000 VA
Active power	9kW	10,8kW	13,5kW	18kW
Phases number	3+N			
Waveform	Sinewave			
Rated voltage	380-400-415V Three-phase with Neutral			
Voltage distortion with distorting load	≤ 3%			
Voltage distortion with linear load	≤ 1%			
Frequency	50-60Hz (also frequency converter with batteries)			
Dynamic stability	± 3% in 20msec.			
Static stability	± 1%			
Crest factor (Ipeak/Irms)	3:1			
Output phases	3			
Overload	110% continuously; 125% for 10 minutes; 150% for 5 sec			
Load power factor	0,9			
SYSTEM	FT 10	FT 12	FT 15	FT 20
AC/AC efficiency	≥ 94% On-line; ≥ 98% Eco-Mode			
Operating altitude	1000 m a.s.l.			
Noise	≤ 50dbA			
Operating temperature	0 ÷ 40°C			
Relative humidity	< 95% non condensing			
Remote controls	Remote Emergency Power Off (REPO), input battery, temperature probe, input external synchronism			
Remote signals	1 slot for rely card			
Safety compliance	EN 62040-1-1 and Directives 73/23/EC, 93/68/EC			
EMC conformance	EN 62040-2 and Directives 2004/108/EC			
Protection degree	IP20			
Communication	1 RS232 or 1 USB, 1 input AS400, 2 slots for optional communication cards			
Cooling	forced ventilation			

Colour	RAL 7024 (Dark Grey)			
Technology	On-line double conversion			
Weight (kg)	From 85 to 190 Kg		From 90 to 195 Kg	
Dimensions (WxDxH) mm	320x840x930 mm			
DATA	FT 10	FT 12	FT 15	FT 20
Back up time at full load (min)	From 0 to 15 Min.	From 0 to 10 Min.	From 0 to 8 Min.	From 0 to 6 Min.
Installation	Tower			
Configuration	Parallel Unit			
OPTIONS	FT 10	FT 12	FT 15	FT 20
Battery cabinets for longer runtimes	Yes			
Empty battery cabinets for longer runtimes	Yes			
Parallel kit	Yes			
Isolation transformer module (WxDxH)	Yes			
Auxiliary serial connection	Yes			
LCD-based remote control panel	Yes			
OPTIONS	FT 10	FT 12	FT 15	FT 20
MultiCom 351	x	x	x	x
MultiCom 352	x	x	x	x
MultiCom 301	x	x	x	x
MultiCom 302	x	x	x	x
NetMan 101 Plus	x	x	x	x
NetMan 102 Plus	x	x	x	x
MultiCom 362	x	x	x	x
MultiCom 372	x	x	x	x
MultiCom 382	x	x	x	x
Multi I/O	x	x	x	x
IRMS Multi-Switch	x	x	x	x
AS/400 interface kit	x	x	x	x
Multifunction I/O	x	x	x	x
Profibus DP Gateway	x	x	x	x