

Uninterruptible Power Supply

Flexus is ideal for the protection of critical information and telecommunications networks which cannot run the risk of being powered from a poor quality electrical supply. The Flexus series is available in 10-12-15-20-30-40kVA three-phase input and output models, with double conversion on-line technology according to the VFI-SS-111 classification, as defined by the IEC EN 62040-3 standard. It has been designed and manufactured using state-of-the-art technologies in order to deliver maximum protection for critical users, a zero impact on the mains power supply and a high operating efficiency. The high level of flexibility at the design stage means that there is full compatibility both with three-phase power and with single-phase sources, thus eliminating any critical factors in the connection between UPS and system.

Extending the back-up time

The Flexus FT-H version offers longer autonomy than the FT version, thanks to the possibility to double the number of batteries inside the cabinet (1320X440X850 HxWxD).

Zero impact source

The superior technology of a Flexus allows it be used where the site mains power supply is limited in capacity, or has an on-site generator and/or loads that generate current harmonic problems. Flexus is designed to have a zero-impact on its upstream

power supply (mains or generator): - Input current distortion < 3%; - Input power factor 0.99; - Power walk-in function to guarantee a progressive rectifier start-up; - Delayed switch-on function, to sequentially restart the UPS when installed as part of a parallel system. Flexus also act as a filter and phase-shift protection device in respect to its upstream supply, providing protection from any harmonic components or reactive power generated by downstream loads.

High efficiency

High operating efficiency up to 96.5% providing a 50% saving in energy usage per annum compared to traditional UPS products (92%). This exceptional performance can lead to a full initial investment recovery within three years. The efficiency values quoted were tested independently by TÜV Rheinland.

Battery care system

Battery management is one of the fundamentals of UPS management in order to ensure the system can perform in emergencies. The Flexus Battery Care System consists of a number of functions that together guarantee optimum battery performance. Battery recharge: Flexus is suitable for use with sealed Valve Regulated (VRLA), AGM, GEL and open-vented lead acid batteries, in addition to Nickel-Cadmium. Depending on the



battery type used, the recharging functions can include: - One-level recharge, typical for the most commonly used VRLA AGM batteries; - Two voltage level recharge according to the IU characteristic; - Charge blocking system to reduce consumption of the electrolyte and further extend the life of VRLA batteries. Compensation of the recharge voltage according to temperature in order to avoid excessive battery charging currents and potential overheating problems. Battery Test in order to detect battery performance deterioration or failure. Protection against deep discharges: during extended low load discharges, the end-of-discharge voltage is increased as recommended by battery manufacturers, to prevent damage to the battery set. Current Ripple: recharge current ripple (residual AC component) is one of the most common causes of poor battery performance and reduced operating life. Flexus, with its high-frequency battery-charger, produces negligible current ripple levels and therefore helps to extend operating life. Wide

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voltage range: the rectifier can operate from a wide input range (up to 40% at half load), reducing battery usage and helping to extend their operational life.

Maximum reliability and availability

Connect up to 6 units in parallel or N+1 redundancy, even of different power ratings. The UPS continue to operate in parallel even if one of the interconnecting communication cables is disconnected (closed loop).

Flexibility

Flexus is suitable for use in a broad spectrum of applications, thanks to a variety of configurations, accessories and options providing flexibility and a choice of performance levels: - suitable for powering capacitive loads, such as blade servers, without any reduction in active power (0.9 lead to 0.9 lag); - multiple operating modes: On Line, Eco, Smart Mode and Stand By Off; - frequency converter mode; - configurable Power Share connections to ensure backup for the most critical loads or programmed to operate only when mains power fails; - Cold Start facility that starts the UPS even when it is not connected to the mains; - optional temperature sensor for external battery cabinets, to assist the recharge voltage compensation; - additional battery chargers to optimise recharge times; - optional dual input to mains power supply; -

isolation transformer options to vary neutral connectivity in the event of separate power sources or for galvanic isolation input and output; - battery cabinets of various sizes and capacities to ensure prolonged runtime.

Advanced communication

Flexus is equipped with a graphic display that provides information, measures, states and alarms regarding the UPS in 5 different languages: - Advanced, multi-platform communication for all operating systems and network environments: Watch&Save 3000 monitoring and shut-down software included, for Windows 2008, Vista, 2003, XP; Mac OS X, Linux, Novell and most popular Unix operating systems; - Compatible with the TeleNetGuard remote service monitoring system; - RS232 or USB serial port; - 3 slots for the installation of optional communication accessories such as network adapters and volt-free contacts; - REPO (Remote Emergency Power Off) with which to power down the UPS through a remote emergency pushbutton; - Input for connection of the auxiliary contact of an external manual bypass; - Input for synchronisation from an external source; - Graphic mimic panel display for remote connection.

Applications

Local Area Networks (LAN), Servers, Data Centers, Telecommunication devices, e-Business, Industrial

processes, Industrial Plcs, Electromedical devices, Emergency devices.

FLEXUS FT-H 10-40kVA

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INPUT	FT-H 10	FT-H 12	FT-H 15	FT-H 20
Voltage	380-400-415V Three-phase with Neutral			
Voltage tolerance	400V \pm 20%			
Frequency	50-60Hz			
Accepted frequency	\pm 20%			
Current distortion	THDi \leq 3%			
Power factor	\Rightarrow 0,99			
Input phases	3			
Soft start (Power Walk In)	Programmable from 5 to 30 sec. in steps of 1 sec.			
BY PASS	FT-H 10	FT-H 12	FT-H 15	FT-H 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	\pm 5% (selectable)			
BATTERIES	FT-H 10	FT-H 12	FT-H 15	FT-H 20
Type	VRLA AGM/GEL			
Batteries number	40/12V/7Ah	40/12V/7Ah-9Ah		40/12V/7Ah-9Ah
Recharge time	6 hours			
OUTPUT	FT-H 10	FT-H 12	FT-H 15	FT-H 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	\leq 3%			
Voltage distortion with linear load	\leq 1%			
Frequency	50-60Hz (also frequency converter with batteries)			
Dynamic stability	\pm 3% in 20msec.			
Static stability	\pm 1%			
Crest factor (I _{peak} /I _{rms})	3:1			
Output phases	3			
Overload	110% for 10 minutes; 133% for 1 minute; 150% for 5 seconds			
Load power factor	0,9			
SYSTEM	FT-H 10	FT-H 12	FT-H 15	FT-H 20
AC/AC efficiency	until 96,5% in On-line Mode; until 99% in Eco-Mode		until 96,5% in On-line Mode; until 99% in Eco-Mode	
Operating altitude	1000 m a.s.l.			
Noise	\leq 48dbA		\leq 52dbA	
Operating temperature	0 ÷ 40°C			
Relative humidity	90% non condensing			
Safety compliance	EN 62040-1-1 and directive 2006/95/EC			
EMC conformance	EN 62040-2 and directive 2004/108/EC	EN 62040-2 and directive 2004/108/EC	EN 62040-2 and directive 2004/108/EC	
Protection degree	IP20			

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Communication	1 RS232 or 1 USB, 1 input AS400, 2 slots for optional communication cards			
Remote signals	1 slot for rely card			
Remote controls	Remote Emergency Power Off (REPO), input battery, temperature probe, input external synchronism			
Cooling	forced ventilation			
Colour	RAL 7016 (Dark Grey)			
Technology	On-line double conversion			
Weight (kg)	105 (without batteries) Kg	110 (without batteries) Kg	115 (without batteries) Kg	120 (without batteries) Kg
Dimensions (WxDxH) mm	440x850x1320 mm			
Classification as per IEC 6240-3	(Voltage Frequency Independent) VFI-SS-111			

DATA	FT-H 10	FT-H 12	FT-H 15	FT-H 20
Installation	Tower			
Configuration	Parallel Unit			

OPTIONS	FT-H 10	FT-H 12	FT-H 15	FT-H 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			
Communication software 'professional' versio	Yes			

OPTIONS	FT-H 10	FT-H 12	FT-H 15	FT-H 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
MultiCom 401	X	X	X	X

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Voltage tolerance	400V \pm 20%	
Frequency	50-60Hz	
Accepted frequency	\pm 20%	
Current distortion	THDi \leq 3%	
Power factor	\Rightarrow 0,99	
Input phases	3	
Soft start (Power Walk In)	Programmable from 5 to 30 sec. in steps of 1 sec.	
BY PASS	FT-H 30	FT-H 40
Rated voltage	380-400-415V Three-phase with Neutral	
Voltage tolerance	-20%; -15% (selectable in step of 1V)	
Rated frequency	50-60Hz	
Frequency tolerance	\pm 5% (selectable)	
BATTERIES	FT-H 30	FT-H 40
Type	VRLA AGM/GEL	
Batteries number	40/12V/7Ah-9Ah	40/12V/9Ah
Recharge time	6 hours	
OUTPUT	FT-H 30	FT-H 40
Rated power	30000 VA	40000 VA
Active power	27kW	36kW
Phases number	3+N	
Waveform	Sinewave	
Rated voltage	380-400-415V Three-phase with Neutral	
Voltage distortion with distorting load	\leq 3%	
Voltage distortion with linear load	\leq 1%	
Frequency	50-60Hz (also frequency converter with batteries)	
Dynamic stability	\pm 3% in 20msec.	
Static stability	\pm 1%	
Crest factor (I _{peak} /I _{rms})	3:1	
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Technology	On-line double conversion	
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Dimensions (WxDxH) mm	440x850x1320 mm	
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MultiCom 301	X	X
MultiCom 302	X	X
NetMan 101 Plus	X	X
NetMan 102 Plus	X	X
MultiCom 362	X	X
MultiCom 372	X	X
MultiCom 382	X	X
Multi I/O	X	X
IRMS Multi-Switch	X	X
AS/400 interface kit	X	X
MultiCom 401	X	X