

# ELECTA

10-20kVA 3/1  
 10-120kVA 3/3

## Static uninterruptible power supplies for IT

The ELECTA series is ideal for the protection of IT systems, telecommunication systems, IT networks and critical systems in general, where the risks associated with poor power supply may affect the business and service continuity, at a very high costs for the concerned operators. The ELECTA series includes 10-12-15-20 kVA models with three- and one-phase input and one-phase output, as well as 10-12-15- 20-30-40-60-80-100-120 kVA models with three-phase input and output, with double conversion Line technology according to the VFI-SS-111 classification, as defined by the IEC EN 62040-3 standard.

ELECTA: designed and manufactured with state-of-the-art-technologies and components, controlled by the DSP (Digital Signal Processor) microprocessor, ensures maximum protection for the powered equipment, no impact on the power supply line and energy savings.

The great design flexibility allows to achieve full compatibility with both three- and one-phase power supply, thus getting rid of any issues associated with the connection of the UPS to the system.

They may operate in emergency power supply mode.

### Zero impact source

Thanks to the technology it uses, ELECTA solves any problem associated with the inclusion of the UPS into systems where the power supply network has limited installed power, where the UPS is also powered by a generating set or anyway where there are any compatibility issues with loads generating harmonic currents; ELECTA, in fact, has no impact whatsoever on the power supply source, no matter whether it is a network or a generating set:

- input current distortion less than 3%
- input power factor 0.99
- power walk-in function, ensuring a progressive start-up of the rectifier
- switch-on delay function, allowing to split the rectifier start-ups when the mains power supply is restored, if the system is equipped with multiple UPS.

ELECTA also performs a filtering and re-phasing function on the power supply network upstream of the UPS, as it eliminates the harmonic components and the reactive power generated by the powered equipment.



### High efficiency

With the help of cutting-edge technologies we have designed three-level inverters ensuring a high efficiency, up to 96.5%.

These technology solutions allow to save over 50% of the energy dissipated every year, compared with a similar marketed product having a 92% efficiency.

The exceptional efficiency value allows you to recover your initial investment in less than 3 years of operation.

# Main features

Battery charging: with seal lead (VRLA), AGM and GEL, open cup and nickel-cadmium batteries. The available charging methods vary according to the battery type.

- One-level charging, typically used for the most common VRLA AGM batteries
- Dual voltage level charging according to the IU characteristic
- Charge stopping system, allowing to reduce the electrolyte consumption and to further prolong the VRLA battery life.

**Compensation of the charging voltage according to the temperature,** to prevent battery overcharging and overheating

**Battery testing,** allowing to promptly identify any performance reductions or battery failures

**Protection against deep discharges:** in case of prolonged, low-load discharges, the end-of-discharge voltage is increased, as prescribed by the battery manufacturers, to avoid damaging the accumulators or reducing their performance

**Current ripple:** the recharge current ripple (residual alternate component) is one of the main factors affecting reliability and battery life. Thanks to the high-frequency battery charger, ELECTA reduces this value to negligible levels, prolonging the battery life and ensuring high performance for a long time

**Wide voltage range:** the rectifier is designed to operate with a wide range of input voltage values (up to - 40% under half load), reducing the need of battery discharging and thus prolonging their life.

Distributed parallel system up to 6 units for redundant (N+1) or power parallel system.

The UPS keep working in parallel if in case of connection cable interruption.

## Menù

1. System ON
2. Stand-By system
3. Temperature
4. Control
5. History
6. Waveform
7. Diagnostics
8. Configuration

## Display LCD



- the input stage features ensure a power factor close to 1 and a low current distortion without having to add cumbersome and expensive filters
- output power having a power factor of 0.9, providing an amount of active power up to 15% greater than a normal commercial UPS, ensuring wider margins for UPS sizing in view of possible subsequent load increases.
- suitable to supply power to capacitive loads, like blade servers, without active power reductions, from 0.9 leading to 0.9 lagging
- On Line, EMERGENCY POWER SUPPLY, Smart Active and Stand By Off operating modes compatible with the applications for centralised supply systems (CSS)
- frequency converter mode
- configurable Power Share sockets, preserving the operating time for the most critical loads or only tripping in case of power failure
- Cold Start, allowing to switch on the UPS even when power supply is not available
- possibility to connect a temperature sensor for external battery cabinets, for recharge voltage compensation
- additional battery chargers, to optimise the charging time
- optional double supply network input
- Advanced multi-platform communication, for all the operating systems and network environments: supervision and shut-down software Powershield3 included, for Windows 2008, Vista, 2003, XP, Linux, Mac OS X, Sun Solaris, Linux, Novell and other Unix operating systems
- Compatible with TeleNetGuard for remote support service
- Serial RS232 or USB port
- 3 slots for the installation of the optional communication accessories, like network adaptor, no-voltage contacts etc.
- REPO Remote Emergency Power Off, allowing to switch off the UPS through a remote emergency button
- Input for the connection of an external manual by-pass auxiliary contact
- Input for synchronisation from an external source
- Graphic display board for remote connection.

## EM10 - EM12 - EM15 - EM20 Technical Guide

MODELS	EM10	EM12	EM15	EM20
	INPUT			
Rated voltage	380-400-415 Vac three-phase with neutral / 220-230-240 one-phase			
Rated frequency	50/60 Hz			
Frequency tolerance	40 ÷ 72 Hz			
Power factor at full load	0.99			
Current distortion	THDI ≤ 3%			
	BY PASS			
Rated voltage	220-230-240 Vac			
Number of phases	1			
Voltage tolerance	180 ÷ 264 V (selectable)			
Rated frequency	50 or 60 Hz (selectable)			
Frequency tolerance	±5 (selectable)			
	OUTPUT			
Rated power (kVA)	10	12	15	20
Active power (kW)	8	9.6	12	16
Power factor	0.8			
Number of phases	1			
rated voltage (V)	220-230-240 Vac (selectable)			
Static variation	± 1%			
Dynamic variation	± 3%			
Peak factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1			
Voltage distortion	≤ 1% with linear load / ≤ 3% with distorting load			
Frequency	50/60 Hz			
Frequency stability in battery	0.01%			
Overload at Pf 0.8	110% for 10 minutes, 133% for 1 minute, 150% for 5 seconds			
	BATTERIES			
Type	VRLA AGM/GEL			
Charging time	6 hours			
	INFO FOR INSTALLATION			
Weight without batteries (kg)	105	110	115	120
Dimensions (LxDxH) (mm)	1320 x 440 x 850			
Communication	3 slots for /RS232/USB communication interface			
Environment temperature	0°C / +40°C			
Relative humidity	90% without condensation			
Colour	Dark grey RAL 7016			
Noise level	< 52 dBA at 1 m			
Protection degree	IP20			
Yield as emergency power supply	up to 98%			
Standards	European directives: L V 2006/95/EC low voltage directive			
	EMC 2004/108/EC electromagnetic compatibility directive			
	Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2 C2			
	Classification according to IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111			

# ET10 - ET12 - ET15 - ET20 - ET30 - ET40 - ET60 - ET80 - ET100 - ET120 Technical Guide

MODELS	ET10	ET12	ET15	ET20	ET30	ET40	ET60	ET80	ET100	ET120
	INPUT									
Rated voltage	380-400-415 Vac three-phase with neutral									
Rated frequency	50/60 Hz									
Frequency tolerance	40 ÷ 72 Hz									
Power factor at full load	0.99									
Current distortion	THDI ≤ 3%									
	BY PASS									
Rated voltage	380-400-415 Vac three-phase with neutral									
Number of phases	3 + N									
Voltage tolerance	180 ÷ 264 V (selectable)									
Rated frequency	50 or 60 Hz (selectable)									
Frequency tolerance	±5 (selectable)									
	OUTPUT									
Rated power (kVA)	10	12	15	20	30	40	60	80	100	120
Active power (kW)	9	10.8	13.5	18	27	36	54	72	90	108
Power factor	0.9									
Number of phases	3 + N									
rated voltage (V)	380-400-415 Vac (selectable)									
Static variation	± 1%									
Dynamic variation	± 3%									
Peak factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1									
Voltage distortion	≤ 1% with linear load / ≤ 3% with distorting load									
Frequency	50/60 Hz									
Frequency stability in battery	0.01%									
Overload at Pf 0.8	115% unlimited, 125% for 10 minutes, 150% for 1 minute, 168% for 5 seconds									
	BATTERES									
Type	VRLA AGM/GEL									
Charging time	6 hours									
	INFO FOR INSTALLATION									
Weight without batteries (kg)	105	110	115	115	135	145	190	200	370	380
Dimensions (LxDxH) (mm)	1320 x 440 x 850				1320 x 440 x 850		1600 x 500 x 850		1900 x 750 x 855	
Communication	3 slots for /RS232/USB communication interface									
Environment temperature	0°C / +40°C									
Relative humidity	90% without condensation									
Colour	Dark grey RAL 7016									
Noise level	< 52 dBA a 1 m				< 48 dBA a 1 m		< 52 dBA a 1 m		< 65 dBA a 1 m	
Protection degree	IP20									
Yield as emergency power supply	up to 99%									
Standards	European directives: L V 2006/95/EC low voltage directive									
	EMC 2004/108/EC electromagnetic compatibility directive									
	Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2 C2									
	Classification according to IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111									