LAYER ELECTRONICS®

Since 1967
Quality and Reliability
made in Italy

Member of CISQ Federation
CERTIFIED MANAGEMENT SYSTEM
ISO 9001

Futura: the "Ferrari®" of UPS

- *ON-LINE double conversion technology*
- *IGBT Technology with a high commutation frequency*
- *Insulation transformer in output (on request transformer in input)*
- *Very high crest factor (3 : 1 and more on request)*
- *High overload capability and short-circuit proof*
- *Peak current control adjustable from 200% to 300% of the rated current from 3 to 5 sec.*
- *Well able to supply power to devices which produce significant distortion*
- *Maintenance and static by-pass (on request transformer and stabilizer on by-pass)*
- *Small amount of harmonic distortion for mains (12-pulse or PFC rectifier upon request)*
- *Very low harmonic distortion (THD < 2%)*
- *Automatic and manual battery test*
- *Mimic flow diagram and Event history with time stamp up to 4000 events*
- *Up to 4 units may be connected in multimaster parallel (either distributed or centralized) managed by CAN-bus*
- *Provision of optional computer interfaces (RS232-RS485-SNMP-CAN) and voltage-free contacts*
- *High MTBF (> 150000 h) and Low MTTR (< 0.5 h)*
- *High efficiency starting from 25% of the load with consequent reduction of the operating cost*
- *Easy installation and maintenance with full front accessibility*
- *Compact size (Industrial assembled enclosures on request)*
- *Higher protection degrees on request*
- *RAL7032 (other colours available on request)*
- *Backfeed protection on request*
- *Backup time on request and always indicated at full load*

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The highly advanced **industrial UPS of the Futura series** by LAYER ELECTRONICS are developed in way to ensure **total security** from problems related to mains.

Layer's most recent development in industrial UPS, the Futura series represents the **state-of-the-art in quality and technology**, accumulated by LAYER ELECTRONICS in more than **50 years of experience** in the field of the stabilization and static conversion of the energy.

Since its introduction on the market on 2005, the Futura series of industrial UPS has shown great **reliability** and robustness, becoming the top product and finding application in the most different situations, both **civil and military** (CAGE/NCAGE/NATO code: AD484). In fact, for example, UPS of the Futura series are installed **on board** of the aircraft carriers of the Italian Military Navy.

The **high reliability** is due to the high professional level of components used and to its simplicity.

The management through Digital Signal Processor (DSP) allows so many controls to also **protect** the UPS and the connected load **under the harshest electric conditions**, environmental and in overload. Particular attention is given in safeguarding the connected load through an **insulation transformer in output**. The FUTURA series of industrial UPS is a high technology product thanks to its operating system and, being the only one of its kind you can connect multiple units in adaptive parallel, it is ideal for very high loads.

If a generating set works, the FUTURA series of industrial UPS **limits battery charging current** not to overload the generating set.

The Futura series of industrial UPS is available in 1-Ph version from 5 kVA to 200 kVA (available also with 3-Ph input) and in 3-Ph version from 5 kVA to 1600 kVA.

Technical Data FUTURA series 1-Ph

MODEL	SRE-5/1	SRE-7/1	SRE-10/1	SRE-12/1	SRE-15/1	SRE-20/1	SRE-25/1	SRE-32/1	SRE-40/1	SRE-50/1
Power - kVA	5	7.5	10	12.5	15	20	25	32	40	50
Input										
Phases	1-Ph / 3-Ph + N									
Voltage	220 / 230 / 240 V // 380 / 400 / 415 V ± 20% (100 / 110 / 115 / 120 / 127 V // 200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 Hz ± 5%									
Output										
Wave-form	SINE WAVE									
Harmonic distortion	< 2%									
Crest factor (non-linear load 75%)	3 : 1									
Phases	1-Ph									
Voltage	220 / 230 / 240 V ± 1% (100 / 110 / 115 / 120 / 127 V on request)									
Frequency	50 / 60 Hz ± 0.2%									
Overload	125% for 10 min, 150% for 1 min, 200% for 0.1 sec.									
Efficiency	> 92%									
Static switch mains-UPS	Transfer time < 2 ms									
Batteries										
Type	Sealed lead-acid (NiCd / Li-Ion / $NaNiCl_2$ on request)									
Vdc Voltage	156 (216 with 3Ph input)				216 (384 with 3Ph input)	240 (384 with 3Ph input)			384	
Restored energy time	4 hours for 90% charge level									
Protections	Overload, overtemperature, min/max battery voltage, min/max input voltage, min/max inverter voltage, synchronism									
Short-circuit	With electronic protection									
EMI Suppression	EMI/RFI Filter									
Signals										
LED	Mains, bypass, rectifier, battery, inverter, static bypass, maintenance bypass, output									
Display	Standard									
Acoustic	Battery mode, low battery, overload, overtemperature, fault									
Computer interface	RS232 - RS485 - SNMP - CAN (optional)									
Environmental										
Temperature	0°C ÷ 50°C									

Non-condensing humidity	0% ÷ 95%									
Noise (at 1 m)	< 60 dBA									
Protection rating	IP20									
UPS Dimensions										
W x D x H - mm	800 x 500 x 1100		800 x 600 x 1300				800 x 800 x 1300			
UPS Weight - kg	110	130	150	170	200	250	270	320	400	450
UPS Classification according EN 62040-3	Class VFI									
CE Marking	2014/30/EU; 2014/35/EU									
Compliance with the standards	UPS: EN 60146-1-1, EN 62040-1-1, EN 62040-1-2, EN 62040-2, EN 62040-3, EN 60742; EMC: 2014/30/EU; Low voltage: 2014/35/EU									

Technical Data FUTURA series 3-Ph

MODEL	SRE-5	SRE-7	SRE-10	SRE-15	SRE-20	SRE-30	SRE-40	SRE-50	SRE-60	SRE-80
Power - kVA	5	7.5	10	15	20	30	40	50	60	80
Input										
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 20% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 Hz ± 5%									
Output										
Wave-form	SINE WAVE									
Harmonic distortion	< 2%									
Crest factor (non-linear load 75%)	3 : 1									
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 1% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 Hz ± 0.2%									
Overload	125% for 10 min, 150% for 1 min, 200% for 0.1 sec.									
Efficiency	> 92%									
Static switch mains-UPS	Transfer time < 2 ms									
Batteries										
Type	Sealed lead-acid (NiCd / Li-Ion / $NaNiCl_2$ on request)									
Vdc Voltage	216		384							
Restored energy time	4 hours for 90% charge level									
Protections	Overload, overtemperature, min/max battery voltage, min/max input voltage, min/max inverter voltage, synchronism									
Short-circuit	With electronic protection									
EMI Suppression	EMI/RFI Filter									
Signals										
LED	Mains, bypass, rectifier, battery, inverter, static bypass, maintenance bypass, output									
Display	Standard									
Acoustic	Battery mode, low battery, overload, overtemperature, fault									
Computer interface	RS232 - RS485 - SNMP - CAN (optional)									
Environmental										
Temperature	0°C ÷ 50°C									
Non-condensing humidity	0% ÷ 95%									

Noise (at 1 m)	< 60 dBA									
Protection rating	IP20									
UPS Dimensions										
W x D x H - mm	800 x 500 x 1100		800 x 600 x 1300			800 x 800 x 1300			800 x 800 x 1500	800 x 800 x 1700
UPS Weight - kg	150	160	170	200	250	270	290	310	580	650
UPS Classification according EN 62040-3	Class VFI									
CE Marking	2014/30/EU; 2014/35/EU									
Compliance with the standards	UPS: EN 60146-1-1, EN 62040-1-1, EN 62040-1-2, EN 62040-2, EN 62040-3, EN 60742; EMC: 2014/30/EU; Low voltage: 2014/35/EU									

MODEL	**SRE-100**	**SRE-120**	**SRE-150**	**SRE-200**	**SRE-250**	**SRE-300**	**SRE-400**	**SRE-500**	**SRE-600**	**SRE-800**
Power - kVA	100	120	150	200	250	300	400	500	600	800
Input										
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 20% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 Hz ± 5%									
Output										
Wave-form	SINE WAVE									
Harmonic distortion	< 2%									
Crest factor (non-linear load 75%)	3 : 1									
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 1% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 Hz ± 0.2%									
Overload	125% for 10 min, 150% for 1 min, 200% for 0.1 sec.									
Efficiency	> 92%									
Static switch mains-UPS	Transfer time < 2 ms									
Batteries										
Type	Sealed lead-acid (NiCd / Li-Ion / $NaNiCl_2$ on request)									
Vdc Voltage	384									
Restored energy time	4 hours for 90% charge level									

Protections	Overload, overtemperature, min/max battery voltage, min/max input voltage, min/max inverter voltage, synchronism									
Short-circuit	With electronic protection									
EMI Suppression	EMI/RFI Filter									
Signals										
LED	Mains, bypass, rectifier, battery, inverter, static bypass, maintenance bypass, output									
Display	Standard									
Acoustic	Battery mode, low battery, overload, overtemperature, fault									
Computer interface	RS232 - RS485 - SNMP - CAN (optional)									
Environmental										
Temperature	0°C ÷ 50°C									
Non-condensing humidity	0% ÷ 95%									
Noise (at 1 m)	< 60 dBA									
Protection rating	IP20									
UPS Dimensions										
W x D x H - mm	1200 x 1100 x 1900			1400 x 1100 x 1900	1700 x 1300 x 1900		2500 x 1500 x 2160		3400 x 1300 x 1900	5000 x 1500 x 2160
UPS Weight - kg	900	1000	1100	1800	2100	2500	3000	3500	5000	6000
UPS Classification according EN 62040-3	Class VFI									
CE Marking	2014/30/EU; 2014/35/EU									
Compliance with the standards	UPS: EN 60146-1-1, EN 62040-1-1, EN 62040-1-2, EN 62040-2, EN 62040-3, EN 60742; EMC: 2014/30/EU; Low voltage: 2014/35/EU									