

EDERLUX

PERFORMANCE AND ADVANTAGES

AC/AC EDERLUX Static Converter with linear variation of 5th generation

NOT ALL CONVERTERS ARE THE SAME

The EDERLUX family of converters uses a simple AC / AC pulse conversion system with width modulation technology. This system, programmed by a microcontroller generates a sine wave in phase with the input wave of the network regardless of wave shape and magnitude. The magnitude of the output sine wave can be linearly pre-established from 100V Up to 220V thanks to modulation techniques, with a harmonic distortion in voltage lower than 2%.. The new EDERLUX converters integrate a High Frequency PWM technology supported in IGBT transistors, last generation MOSFET. This technology, developed for the power supply of modern computers and speed variations, ensures a faster response to network and load voltage variations, opening a new field in the application for the stabilization of electrical networks and energy saving.

SOFT START

At the time of connection of the equipment to the load, the EDERLUX modulates the grid input voltage and initiates the output voltage from IV increasing it to 230V on a linear ramp with a time programmed from zero to 200 milliseconds. This prevents overcurrent in start-up due to magnetizing loads, transformers (8-10 IN starting current), capacitive loads (condensers, lamps), increasing the average life of the installations

POWER FACTOR IMPROVEMENT

The EDERLUX - due to its PWM modulation technology and its active filters - manages to improve the power factor of the installations from $\cos. p$ 0.85 to 0.9, having in its own system an option to improve the $\cos <up$ from 0, 7 to 1.

STATIC STABILITY

Static stability defines the precision to obtain a preset output voltage level against slow variations of input voltage and loads. In EDERLUX, this precision - unattainable in the equipment operating with outlets - is 0.3%, avoiding flickering.

DYNAMIC STABILITY

Dynamic stability defines how the output voltage varies against sudden changes in the input network or load variations. In EDERLUX, this stability - unattainable in the equipment operating with outlets, is 0.3% with a recovery time of 0.1 milliseconds.

NETWORK SWITCH

In the event of overloads, equipment malfunction or voltage fluctuations outside the range, the stabilizing equipment transfers its load to the mains. This transfer must take less than 10 milliseconds, time at which a lamp or computer may be turned off. For devices operating with outlets the typical transfer time is greater than 20 milliseconds, EDERLUX transfers its load in less than 0.1 milliseconds.

DESCRIPTION AND OPERATION

EDERLUX are electronic, linear, and static equipment. They are equipped with an AC / AC converter and a control card in each phase. Regulation at the output is linear (infinite steps), there is no voltage difference in the regulation, and it is very static. The power stage has a regulation margin at the input of + 15% / -5% and an accuracy at the output of $\pm 0, 32\%$.

PROTECTIONS

- Input magneto-thermal switch for power up to 30 KVA.
 - Input fuses for capacities greater than 30 KVA.
 - Overload protection, 110% in 10 minutes
 - Overcurrent protection, 200% in 1 ms.
 - Short circuit protection in 3 μ s.
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- Automatic system of passage to network, allowing direct load supply, with a transfer time lower than 0.1 ms. in the following cases:
 - Output voltage per phase > 230V
 - Output voltage per phase < 165V
 - Overload per phase
 - Overcurrent per phase
 - Short Circuit per phase
 - No input phase
 - Power failure

ON DEMAND

- Other input and output voltages and other control ranges (Stabilizers)
- Improvement of power factor at $\cos \phi = 1$
- Protection against overvoltage due to atmospheric phenomena.
- Cabinets of stainless steel or polyester.
- Communication network via data modem of lighting network as consumptions, voltages, powers, etc.
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GENERAL TECHNICAL CHARACTERISTICS

(According to Certification of the Laboratory of Electronic Tests of the National Institute of Aerospace Technique INTA.

- Energy saving 43% ($\pm 0, 5\%$)
 - Input voltage Single-phase 230V, Three-phase 3 x 230V, Three phase 3x 400V
 - Input voltage range -5% / + 15%
 - Frequency 50/60 Hz ($\pm 10\%$)
 - Rated output voltage 215V (f-n)
 - Reduced Output Voltage 195V. Programmable (mercury) volt-to-volt
 - Reduced output voltage 175V. Programmable (sodium) volt-to-volt
 - Precision
 - (50% to 100% load) Rated 215V
 - 0.93% / +0.32%
 - Reduced 195V
 - 1, 08% / +0, 20%
 - Reduced 175V
 - 0.99% / +0.22%
 - Regulation and linear stabilization (infinite steps)
 - Very static (IGBT transistors, MOSFET) Independent per phase.
 - Dynamic Stability 0.3% with recovery time of 1 ms.
 - Harmonic distortion in voltage %
 - Performance 97% $\pm 0.5\%$
 - Output power factor $\cos \phi$ 0.998 (equipment with power factor improvement option).
- SOFT START 0-215V (0-200 ms)

WORKING CYCLE

As Stabilizer-Reducer

POWER MODEL	(KVA) INTENSITY	MAX.(Amp)	BEHIND BOARD				OUTDOOR			
			HIGH (mm)	LONG (mm)	DEPTH WEIGHT	HIGH (mm)	LONG (mm)	DEPTH (mm)		
< SINGLE-PHASE										
EL-35/I	3.3	15.2	870	260	250	20	900	480	450	47
EL-5/I	5	21.7	870	260	250	23	900	480	450	50
EL-7/I	6.6	30.4	870	260	250	26	900	480	450	53
EL-10/1	10	43.5	870	260	250	31	900	480	450	58
EL-15/1	15	65.2	870	260	250	38	900	480	450	65
EL-20/1	20	87	870	420	280	40	940	600	450	80
THREE-PHASE 3x 230V										
EL-6/3	5, 6	15	870	800	250	78	940	940	450	120
EL-9/3	8.6	22.6	870	800	250	83	940	940	450	125
EL-12/3	11.5	30,1	870	800	250	93	940	940	450	135
EL-18/3	17.3	45.2	870	800	250	100	940	940	450	143
EL-26/3	2.6	65.26	870	800	250	117	940	940	450	160
EL-35/3	34.6	87.8	1000	900	350	157	<i>u00</i>	1100	600	200
THREE-PHASE 3x 400V										
EL-10/3N	10	14.4	870	800	250	79	940	940	450	121
EL-15/3N	15	21.6	870	800	250	83	940	940	450	125
EL-20/3N	20	28.9	870	800	250	88	940	940	450	130
EL-	30	43.3	870	800	250	100	940	940	450	143
EL-45/3N	45	65	870	800	250	117	940	940	450	160
EL-60/3N	60	86.6	1000	900	350	135	1200	1100	600	200

Other voltages, powers or dimensions, on request.

OTHER PRODUCTS:

- U.P.S. (Uninterrupted power supplies)
- Battery rectifiers-chargers.
- Voltage stabilizers
- Voltage and frequency converters.
- Converters for alternative energy: wind, solar, etc.
- Power supplies.
- Engineering and design of electronic power equipment

EXECUTIONS

Internal transverse frame model, with mounting plate, IP 00 protection

Outdoor model installed in cupboard made of Galvanized treated sheet or - on demand, Stainless steel and protection degree IP 54

We carry out any type of execution on demand.

ENERGY CONTROL AND SAVING

THE OPTIMAL SYSTEM FOR ENERGY SAVING

FIELDS OF APPLICATION AS VOLTAGE STABILIZER

- Public Building.
- Hospitals.
- Industries.
- Testing laboratories.
- Computing.

AS VOLTAGE STABILIZER - LUMINOUS FLOW REDUCER

- Public lighting.
- Housing developments.
- Highways.
- Industrial estates

BENEFITS

- Energy saving of 43%.
 - Reduction of the output voltage at preset voltages with an accuracy of $\pm 0.32\%$.
 - Stable maintenance of the preset output voltage versus variations of $+ 15\% / - 5\%$ in J at input voltage (check other margins).
- Power factor improvement at $\cos\phi = 1$

Soft start

Excellent dynamic response ($\pm 0, 1$ ms.).

Supsonik, s.l.