



EMi3 Servomotor voltage stabiliser 5 kVA - 330 kVA

EMi3: Constant stabilisation and savings in overvoltages

Issues such as the constant variation of loads connected to the mains, interference generated by the loads themselves, possible failures in distribution lines, voltage drops due to the length of the lines and problems caused by lightning make it impossible to have an electricity supply with a stable voltage. Salicru's **EMi3** servomotor voltage stabilisers are the ideal solution to protect sensitive equipment from constant voltage fluctuations in the power supply.

Moreover, in the event of drops in the total consumption of a power line, voltage tends to rise, causing overconsumption in the equipment that remains connected. By using a stabiliser, overconsumption can be eliminated, thereby producing significant cost savings and ensuring that connected loads function within the voltage range for which they were designed.

Salicru's **EMi3** servomotor voltage stabilisers are the culmination of 45 years of experience and development, in which the company has manufactured and installed over 100,000 units worldwide.

The operating principle is based on regulation, by means of a control circuit, of the variable autotransformer that supplies the voltage for the booster transformer in series, either in phase or in phase opposition, to achieve the rated value of the output voltage.

Features

- Power range, single and three-phase, up to 330 kVA.
- Fast and efficient toroidal autotransformers for the entire power range.
- Output accuracy better than 1% (adjustable).
- In three-phase units, common or independent regulation per phase, unaffected by imbalances.
- Input regulation range $\pm 15\%$ standard.
- High efficiency, up to 97.5%.
- High speed regulation, up to 70 V/s.
- Full LCD display for stabiliser control and monitoring.
- Guaranteed output stability through a MosFET servo control.
- Unaffected by line voltage harmonics; stabilisation based on true RMS.
- Stable operation in the event of load and/or voltage variations.
- Wide operating temperature range (-10°C to $+55^{\circ}\text{C}$).
- Dry contact interface (2 standard and up to 11 optional).
- No harmonics injection.
- Mechanically-optimised design, easier maintenance.
- Transient overloads of up to 1000% of the rated admissible.
- Highly robust and reliable (high MTBF).
- Quiet operation.
- More than 80% recyclable materials.



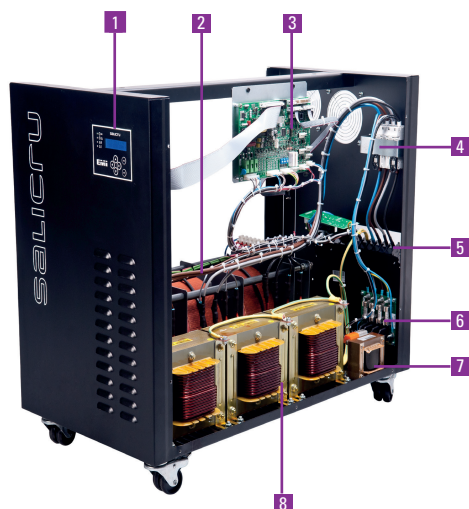
EMi3

Applications: Effective protection for all types of critical load

Actions and operations in electrical substations, electric ovens, numerical controls, lifts, graphic printing equipment, production lines, medical equipment, TV repeater stations, machine tools (milling machines, trimming machines, presses, lathes, polishing machines, electrical discharge machines, etc.) are some of the applications, because of their power, extremely reactive nature and high sensitivity to voltage variations.



Description

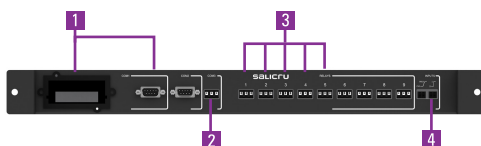


1. Display LCD
2. Variable autotransformer
3. Control PCB
4. Input protection
5. Input and output terminals
6. Surge protection
7. Motor supply transformer
8. Booster transformer

Options

- Output current, power and overload measurement.
- Maximum and minimum output voltage protection.
- Manual bypass.
- Overload contactor.
- Communications and relay module.
- Other regulation ranges.
- Galvanic isolation transformer.

Extended communications



1. Slot for SICRES remote management or RS-232 interface.
2. RS-485 serial ports. MODBUS communications protocol.
3. Programmable dry contact interface (x5).
4. Digital input.

Services

- Numerous maintenance and remote maintenance options (SICRES).

EMI3



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TECHNICAL SPECIFICATIONS

MODEL	EMI3	
INPUT	Voltage	Single-phase 220 / 230 / 240 V Three-phase 3x380 / 3x400 / 3x415 V (3Ph + N)
	Range	$\pm 15^{(1)}$
	Frequency	48 \div 63 Hz
OUTPUT	Voltage	Single-phase 220 / 230 / 240 V Three-phase 3x380 / 3x400 / 3x415 V (3Ph + N)
	Accuracy	$\pm 1\%$ (adjustable between 1% \div 5%)
	Output voltage setting	$\pm 5\%$
	Frequency	48 \div 63 Hz
	Regulation speed	Up to 70 V/s
	Performance	Between 96.5% and 97.5%
	Injection of voltage harmonic distortion	<0.2%
	Voltage disconnection value ⁽²⁾	Adjustable
	Admissible overload	Up to 200% for 20 s
	Possible load variation	0 \div 100%
	Power factor influence	Independent
INDICATORS	Front panel	LCD display (2x16 characters) + 4 status LEDs
COMMUNICATION	RS-232 ⁽³⁾	Standard
	2 Dry contacts	Standard
	Free slot ⁽³⁾	One
GENERAL	Operating temperature	-10° C \div +55° C
	Storage temperature	-20° C \div +85° C
	Ventilation	Natural convection ⁽⁴⁾
	Level of acoustic noise at 1 metre	<45 dB(A) ⁽⁵⁾
	Relative humidity	Up to 95%, non-condensing
	Maximum operating altitude	2,400 m.a.s.l.
	Mean time between failures (MTBF)	60,000 hours
	Mean time to repair (MTTR)	30 minutes
STANDARDS	Safety	IEC-62103
	Electromagnetic compatibility (EMC)	EN-61000-6-4; EN-61000-6-2
	Quality and environmental management	ISO 9001 and ISO 14001

(1) Other ranges available on request

(2) With optional voltage maximum-minimum

(3) Mutually exclusive ports

(4) Forced from 20 kVA for single phase and 55 kVA for three-phase

(5) <65 dB(A) for models with forced ventilation

Information subject to change without notice.

RANGE

MODEL	POWER (kVA / kW)	DIMENSION (D x W x H mm)	WEIGHT (Kg)
EMI3 M 5-2	5	580 x 330 x 578	45
EMI3 M 7.5-2	7.5	580 x 330 x 578	59
EMI3 M 10-2	10	580 x 330 x 578	60
EMI3 M 15-2	15	895 x 450 x 701	115
EMI3 M 20-2	20	895 x 450 x 701	119
EMI3 M 25-2	25	895 x 450 x 701	196
EMI3 M 30-2	30	895 x 450 x 701	209

Nomenclature, dimensions and weights for models: Input 230 V 50 Hz / Output 230 V 50 Hz and input range +/-15%.

MODEL	POWER (kVA / kW)	DIMENSION (D x W x H mm)	WEIGHT (Kg)
EMI3 T 15-4	15	895 x 450 x 701	126
EMI3 T 20-4	20	895 x 450 x 701	169
EMI3 T 35-4	35	895 x 450 x 701	224
EMI3 T 55-4	55	640 x 605 x 2110	374
EMI3 T 70-4	70	640 x 605 x 2110	495
EMI3 T 90-4	90	840 x 605 x 2110	533
EMI3 T 110-4	110	840 x 605 x 2110	577
EMI3 T 140-4F	140	840 x 1605 x 2110	857
EMI3 T 175-4F	175	840 x 1605 x 2110	1159
EMI3 T 220-4F	220	840 x 1605 x 2110	1227
EMI3 T 275-4F	275	840 x 1605 x 2110	1298
EMI3 T 330-4F	330	840 x 1605 x 2110	1450

Nomenclature, dimensions and weights for models:

- From 15 kVA to 110 kVA: Input 3x400 V 50 Hz / Output 3x400 V 50 Hz, input range +/-15% and common regulation. (Independent regulation per phase available on request).

- From 140 kVA to 330 kVA: Input 3x400 V 50 Hz / Output 3x400 V 50 Hz, input range +/-15% and independent regulation per phase.



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