

EMi3

Servomotor voltage stabiliser 5 kVA - 5 MVA

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.

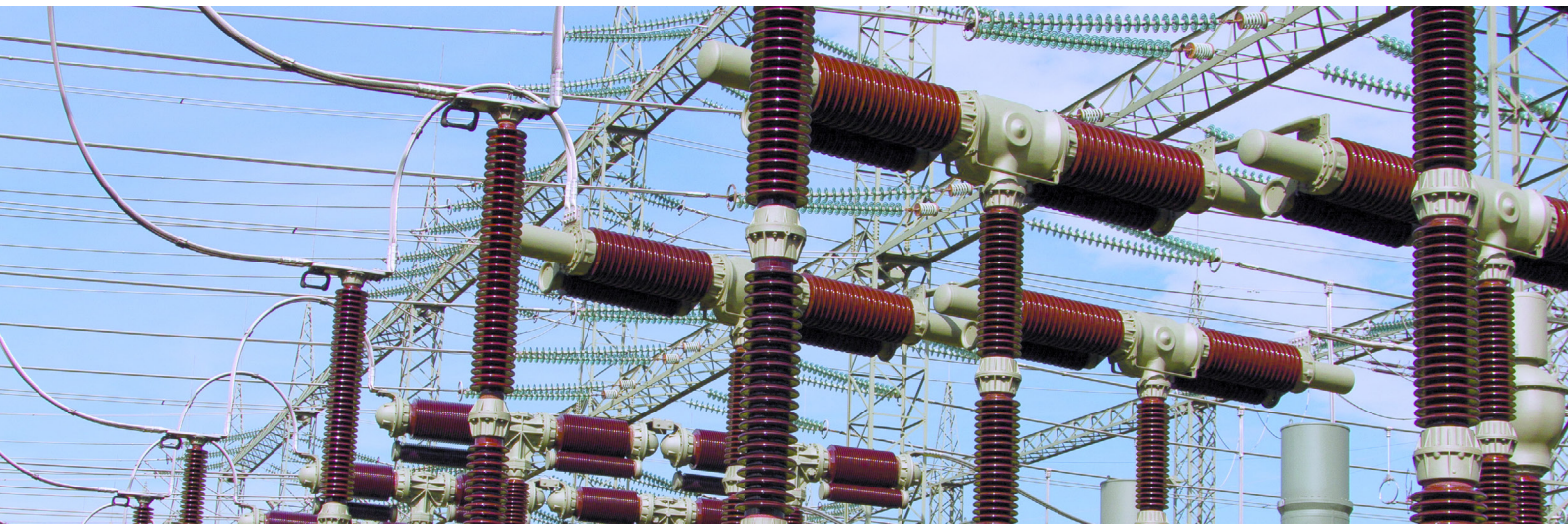
Moreover, in the event of drops in the total consumption of a power line, voltage tends to rise, causing overconsumption in the equipment that remains connected. By using a stabiliser, overconsumption can be eliminated, thereby producing significant cost savings and ensuring that connected loads function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

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.



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.



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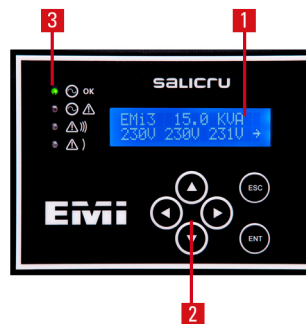
Performances

- Power range, single and three-phase, up to 5000 kVA.
- Fast and efficient toroidal or column-type autotransformers for the entire power range.
- Output accuracy better than 1% (adjustable).
- In three-phase units, 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°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.
- Overvoltage surge suppression protection.
- Suitable for regenerative loads.



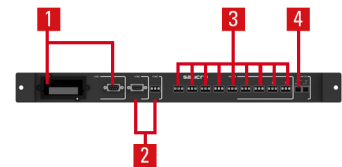
Display

1. LCD 2x16 characters.
2. Navigation keys.
3. LEDs (alarm, bypass, normal operation and communications).



Communications

1. Slot for remote management or RS-232 interface.
2. RS-485 serial ports. MODBUS communications protocol.
3. Programmable dry contact interface (x9).
4. Digital input.



Options

- Output current, power and overload measurement.
- Maximum and minimum output voltage protection.
- Manual and automatic bypass.
- Overload contactor.
- Communications and relay module.
- Other regulation ranges.
- Galvanic isolation transformer.
- Output circuit breaker.
- Extended ambient operating temperature from -20°C.

Range

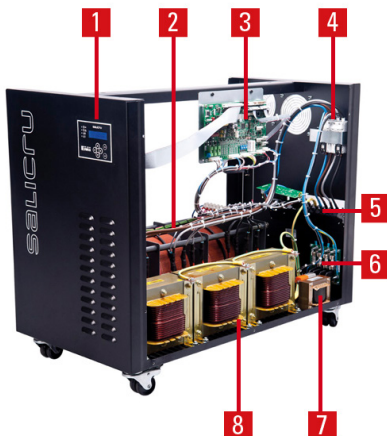
MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
EMi3 M 5-2	6A5DA000001	5000	580 × 340 × 580	40
EMi3 M 7,5-2	6A5DA000002	7500	580 × 340 × 580	45
EMi3 M 10-2	6A5DA000003	10000	580 × 340 × 580	56
EMi3 M 15-2	6A5DA000004	15000	895 × 460 × 705	111
EMi3 M 20-2	6A5DA000005	20000	895 × 460 × 705	115
EMi3 M 25-2	6A5DA000006	25000	895 × 460 × 705	119
EMi3 M 30-2	6A5DA000007	30000	895 × 460 × 705	128
EMi3 M 40-2	6A5DA000008	40000	895 × 460 × 705	159
EMi3 M 50-2	6A5DA000009	50000	640 × 604 × 1315	292

Nomenclature, dimensions and weights for models: Input 230 V 50 Hz / Output 230 V 50 Hz and input range +/-15%.
Others powers and/or other input ranges on request.

MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
EMi3 T 15-4F	6A5FA000002	15000	895 × 460 × 705	116
EMi3 T 20-4F	6A5FA000003	20000	895 × 460 × 705	144
EMi3 T 35-4F	6A5FA000004	35000	895 × 460 × 705	161
EMi3 T 55-4F	6A5FA000005	55000	640 × 604 × 1315	313
EMi3 T 70-4F	6A5FA000006	70000	640 × 604 × 1315	362
EMi3 T 90-4F	6A5FA000007	90000	840 × 604 × 2115	521
EMi3 T 110-4F	6A5FA000008	110000	840 × 604 × 2115	435
EMi3 T 140-4F	6A5FA000009	140000	840 × 604 × 2115	463
EMi3 T 175-4F	6A5FA000010	175000	840 × 804 × 2115	496
EMi3 T 220-4F	6A5FA000011	220000	840 × 1204 × 2115	730
EMi3 T 275-4F	6A5FA000012	275000	840 × 1204 × 2115	830
EMi3 T 330-4F	6A5FA000013	330000	840 × 1204 × 2115	887
EMi3 T 375-4F	6A5FA000016	375000	840 × 1204 × 2115	891

Nomenclature, dimensions and weights for models: Input 3x400 V 50 Hz / Output 3x400 V 50 Hz, input range +/-15% and independent regulation per phase.
Others powers and/or other input ranges on request.

Connections



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

Technical specifications

MODEL		EMi3
INPUT	Single phase voltage	120 / 220 / 230 / 240 V
	Three-phase voltage	3x208 / 3x220 / 3x380 / 3x400 / 3x415 V (3F+N) ⁽¹⁾
	Regulation range	±15% ⁽²⁾
	Frequency range	47.5 ÷ 63 Hz
OUTPUT	Single phase rated voltage	120 / 220 / 230 / 240 V
	Three-phase rated voltage	3x208 / 3x220 / 3x380 / 3x400 / 3x415 V (3F+N) ⁽¹⁾
	Accuracy	± 3% (adjustable between 1% ÷ 5%)
	Output voltage setting	± 10%
	Total harmonic distortion (THDv)	<0.2%
	Frequency	48 ÷ 63 Hz
	Regulation speed	Up to 70 V/s
	Performance	Between 96.5% and 97.5%
	Voltage disconnection value	Adjustable ⁽³⁾
	Admissible overloads	Up to 200% for 20 s
	Possible load variation	0 ÷ 100%
	Power factor influence	Independent
	COMMUNICATION	Ports
Intelligent slot		One ⁽⁴⁾
INDICATIONS	Type	LCD display (2x16 characters) + 4 status LEDs
GENERAL	Ambient temperature	-10° C ÷ +55° C ⁽²⁾
	Storage temperature	-20° C ÷ +85° C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 m.a.s.l.
	Cooling	Natural or forced depending on power rate ⁽⁵⁾
	Acoustic noise at 1 metre	<45 dB(A) ⁽⁶⁾
	Mean time between failures (MTBF)	60,000 hours
	Mean time to repair (MTTR)	30 minutes
STANDARDS	Safety	IEC/EN 61558-2-14
	Electromagnetic compatibility (EMC)	IEC/EN 62041
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Ask for other settings

(2) Other ranges available on request

(3) With optional voltage maximum-minimum

(4) Mutually exclusive ports

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

(6) <65 dB(A) for models with forced ventilation

Information subject to change without notice.

