

EMi3

Servomotor voltage stabiliser 5 kVA - 375 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.

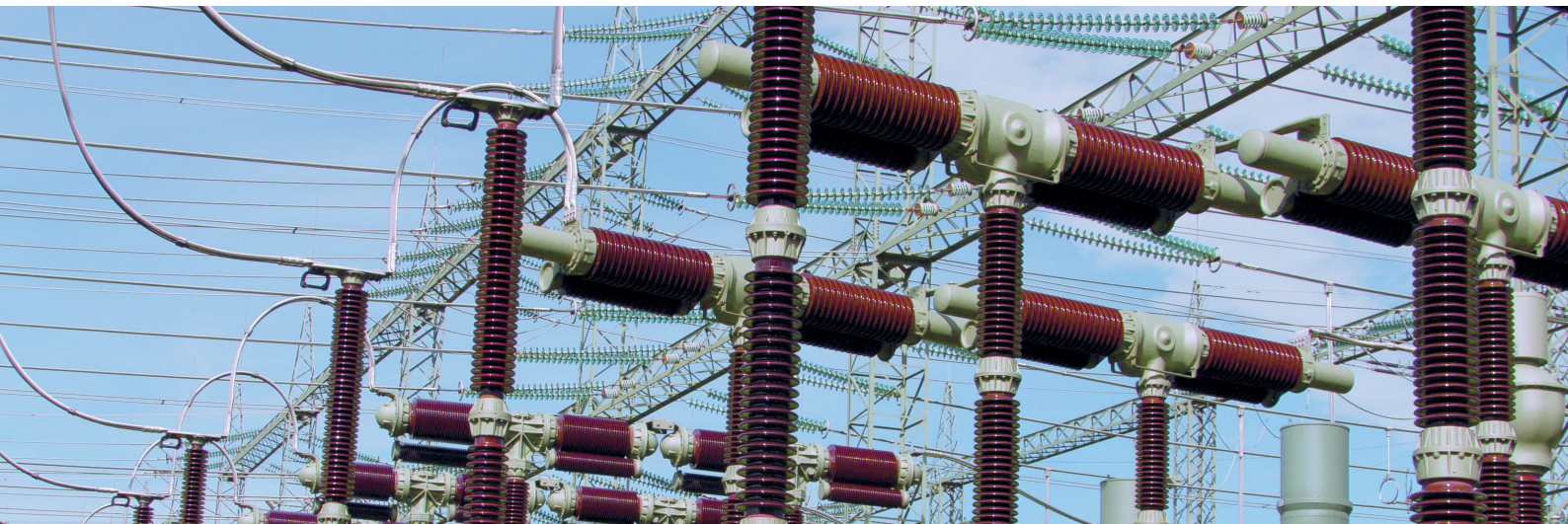
Moreover, in the event of drops in the total consumption of a power line, voltage tends to rise, causing overconsumption in the equipment that remains connected. By using a stabiliser, overconsumption can be eliminated, thereby producing significant cost savings and ensuring that connected loads function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

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.



SALICRU

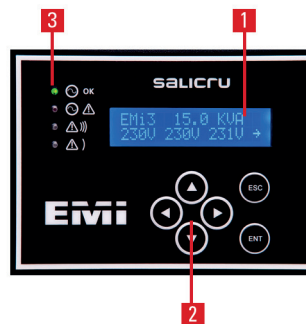
Performances

- Power range, single and three-phase, up to 2500 kVA.
- Fast and efficient toroidal 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 $+55^{\circ}\text{C}$).
- 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.
- Overvoltage surge suppression protection.
- Suitable for regenerative loads.



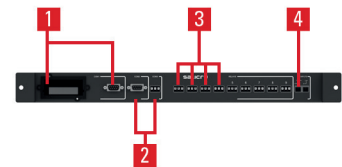
Display

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 (x5).
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

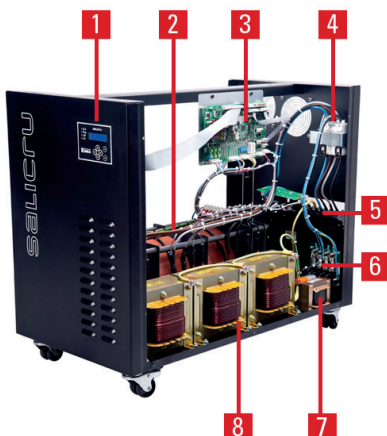
| MODEL | CODE | POWER (VA / W) | DIMENSIONS (D × W × H mm) | WEIGHT (Kg) |
|--------------|-------------|-------------------|------------------------------|----------------|
| EMi3 M 5-2 | 6A5DA000001 | 5000 | 580 × 340 × 580 | 40 |
| EMi3 M 7,5-2 | 6A5DA000002 | 7500 | 580 × 340 × 580 | 45 |
| EMi3 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.

