

VR EQX

Bidirectional voltage regulator for self-consumption

VR EQX: Solution for mains voltage problems in photovoltaic installations

Salicru's **VR EQX** range of voltage regulators for mains-connected photovoltaic installations prevent outages due to over/under voltage in the power line.

Most regulations governing this type of system's connection to the grid require solar inverters to shut down if their voltage exceeds certain limits.

In unstable networks, this causes unwanted stoppages in the photovoltaic installation, with the consequent loss of power generation and a decrease in the useful life of solar inverters.

Since, in the vast majority of cases, the surplus energy generated is injected into the grid (in return for compensation), traditional unidirectional voltage stabilisers are unsuitable because they can't carry reverse current. Given that it constitutes a breach of regulations and exposes the loads to serious danger, manipulating the inverter is not a viable solution to the problem either.

These regulators record and manage the grid voltage at all times, responding with quick and precise voltage jumps during the short period of time it may be required for the vast majority of national grids.



Applications:

The **VR EQX** range is predominantly designed for grid-connected solar photovoltaic self-consumption installations when the main power line is liable to a certain amount of voltage instability. Regardless of the inverter brand, they ensure the viability of these systems, which are all subject to the same regulation.

Advance studies of the electrical network are generally difficult to carry out for various reasons, making these bidirectional voltage regulators indispensable for companies dedicated to offering these types of installations.



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Performances

- Bidirectional voltage regulator.
- Fast, electronically-controlled recording and processing of electrical data from the network, allowing for high-speed regulation.
- Simple connection via an external terminal block.
- Circuit-breaker protection included.
- Does not generate and is not affected by harmonics in the line.
- Suitable for regenerative loads.
- The lightweight and compact single-phase models are suitable for one-person handling.
- Interior wall installation and optional exterior wall installation.
- Suitable for all mains-connected solar inverters.
- Guarantees an input voltage within the minimum and maximum margins established.



Bidirectional

Ensures optimal voltage quality.

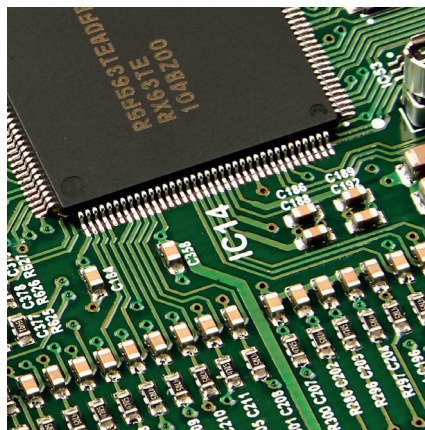
Compatibility

Compatible with all brands and models of inverters on the market.

(*) Check available powers and voltages.

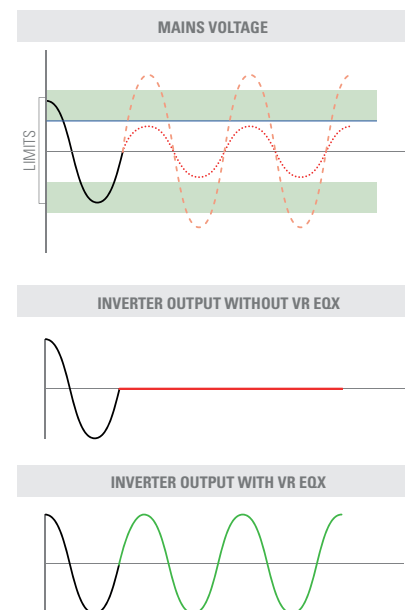
Quick-response

Electronic management ensures a quick response to undesirable mains voltage variations, establishing an immediate and quality energy supply.



Guaranteed generation

In both the single and three-phase models, our inverter will prevent disconnection in the event of mains voltage variations. Guaranteeing continual power generation.



Range

UNDervoltage REGULATORS	CODE	POWER (VA / W)	RATED VOLTAGE (V)	MINIMUM INPUT VOLTAGE (V)	MAXIMUM INPUT VOLTAGE (V)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
VR-5000-EQX-SL	6B2ST000004	5000	230	172.5	-	250 × 361 × 444	25
VR-6000-EQX-SL	6B2ST000005	6000	230	172.5	-	250 × 361 × 444	27
VR-10000-EQX-SL	6B2ST000044	10000	230	172.5	-	250 × 361 × 444	31

For higher power models and three-phase, please check EMI3 y RE3 products, compatible with regenerative loads

OVERVOLTAGE REGULATORS	CODE	POWER (VA / W)	RATED VOLTAGE (V)	MINIMUM INPUT VOLTAGE (V)	MAXIMUM INPUT VOLTAGE (V)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
VR-5000-EQX-SH	6B2ST000015	5000	230	-	276	250 × 361 × 444	25
VR-6000-EQX-SH	6B2ST000016	6000	230	-	276	250 × 361 × 444	27
VR-10000-EQX-SH	6B2ST000034	10000	230	-	276	250 × 361 × 444	31

For higher power models and three-phase, please check EMI3 y RE3 products, compatible with regenerative loads

UNDER/OVER VOLTAGE REGULATORS	CODE	POWER (VA / W)	RATED VOLTAGE (V)	MINIMUM INPUT VOLTAGE (V)	MAXIMUM INPUT VOLTAGE (V)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
VR-5000-EQX-SLH	6B2ST000026	5000	230	172,5	276	250 × 361 × 444	40
VR-6000-EQX-SLH	6B2ST000027	6000	230	172,5	276	250 × 361 × 444	44
VR-10000-EQX-SLH	6B2ST000042	10000	230	172,5	276	250 × 361 × 444	48

For higher power models and three-phase, please check EMI3 y RE3 products, compatible with regenerative loads

Dimensions



Technical specifications

MODEL		Model -SL	Model -SH	Model -SLH
INPUT	Rated frequency	50Hz		
	Protection	1-pole breaker		
OUTPUT	Rated voltage	230 V		
	Response time	< 100 ms		
	Voltage surge	+23 V	-23 V	±23 V
	Total harmonic distortion (THDv)	Nule		
	Frequency	50Hz		
	Performance	> 97 %		
WORKING RANGES	Rated voltage	230 V		
	Voltage surge	23 V		
	Lower limit RD244/2019	195,5 V	Not applicable	195,5 V
	Minimum compensation voltage	172,5 V	Not applicable	172,5 V
	RD244/2019 upper limit	Not applicable	253 V	
	Maximum voltage with compensation	Not applicable	276 V	
	Margin over nominal	-25%	-20%	-25% / -20%
GENERAL	Ambient temperature	-10~50°C		
	Relative humidity	Up to 95%, non-condensing		
	Number of transformers	1 unit		
	Maxium operating altitude	2,400 masl		
	Degree of protection	IP20		
	Cooling	Natural		
	Acoustic noise at 1 metre	< 25dB		
STANDARDS	Safety	IEC-62103		
	Electromagnetic compatibility (EMC)	EN 61000-6-4; EN-6100-6-2		
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001		

Information subject to change without notice.

(1) For higher power models and three-phase, please check EMI3 y RE3 products, compatible with regenerative loads

