EQUINOX

Grid-tied solar string inverters from 2 to 30 kW

salicru

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Technology and design for a greener world

The solar power inverters in Salicru's **EQUINOX** series are an excellent option for the generation of electrical power in a great variety of photovoltaic installations, and are ideal for use in homes and commercial and industrial premises, allowing clean, cheap energy to be obtained from the roof of the building itself.

They are outstanding both for their elegant design and because they are reliable, efficient and functional devices that guarantee a completely stable energy production.

They have been designed using the latest thermal simulation technology, in order to obtain high power density and a longer service life.

The range includes single-phase devices with powers of 2, 3, 4, 5 and 6 kW and three-phase devices with powers of 5, 8, 10, 15, 20 and 30 kW, making them suitable for a wide range of projects.

Their wide input voltage range allows for flexible string design, since a variable number of photovoltaic modules of different types can be used.

The high protection degree of the housing makes them suitable for indoor and outdoor use, and installation is fast and easy, due to their compact design and the location of the connections in the lower part of the device.

Several communications interfaces are available (WIFI, LAN, 4G and GPRS) that, together with the free **EQX-sun** App for smartphones or tablets, allow easy, uncomplicated monitoring of the photovoltaic installation.

Features

EXCELLENT FINISH

Elegant design with aluminium housing and anodized finish (according to model).

LCD for start-up, configuration and viewing of production data.

Integrated DC disconnector.

Minimum sound level due to natural convection cooling (no fans) or Smart Cooling technology (variable-speed fans).

FLEXIBLE DESIGN

2 MPPT Trackers allow the sizing of most roofs.

Wide MPPT tracker voltage range for more flexible string design.

Power export limiting function available, using optional **ESM…EQX** power meters.

Intelligent DC combiner and integrated over-voltage protection to improve system flexibility and reduce its cost.

OPENED TO THE WORLD

Supervision and inspection of historical data of the installation via free **EQX-sun** app for smartphone and tablet.

SUPERIOR WARRANTY

5-Year standard warranty in all models, extendable to 20 years.

EASY INSTALLATION

Ergonomic forms and easy wall mounting.

Compact size, minimizes the space required.

IP65 protection degree allows outdoor use.

Plug & Play connection.

The design requires no neutral connection, allowing compliance with many mains connection requirements.

Complete solution: Includes wall-mount brackets, fixing screws, expansion bolts, DC connectors, AC connectors and communications connector.

MAXIMUM PERFORMANCE

High-efficiency single-phase inverters, arriving to a maximum efficiency of 98.13%.

Three-phase devices incorporate 3-level type T topology and SVPWM control, greatly reducing switching losses and distortion to increase efficiency and improve the quality of the output waveform.

Inductance located in the radiator, to reduce the internal temperature (according to model).

Advanced film DC bus capacitors, designed with the latest thermal simulation technology to provide a greater service life.

Complete solution

EQUINOX inverters offer a very complete solution that incorporates, amongst other elements, a display screen for configuration and data display, a DC disconnector and over-voltage protection, an intelligent input combiner and the brackets and hardware required for installation.

Plug & Play

To configure the equipment, you only need to choose the standard associated with the country.

However, we recommend that you set the correct time and, if you wish, the price per kWh, to obtain an estimate of your savings.

LCD

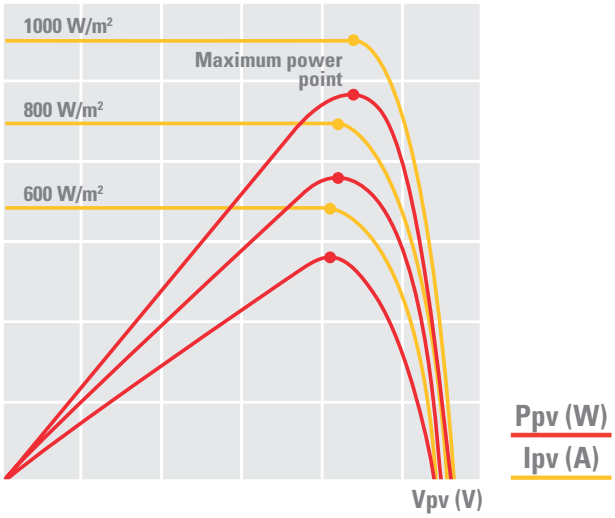
DC Disconnector

Wide range of MPPT voltages

The solar energy received by the photovoltaic panels depends on several factors, such as latitude, orientation, inclination, irradiation, shadows, temperature, etc. As a consequence, it is necessary at every moment to identify the point on the V-I curve of the photovoltaic generator at which the inverter is operating, in order to operate at the maximum power, and this is achieved using the integrated MPPT (Maximum Power Point Tracker) control.

This requires that the MPPT control has a wide voltage range, since this allows the system to operate at lower levels of irradiation and to generate more energy during each day.

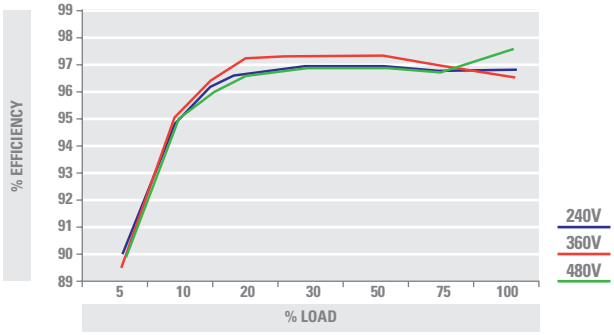
Smart Combiner



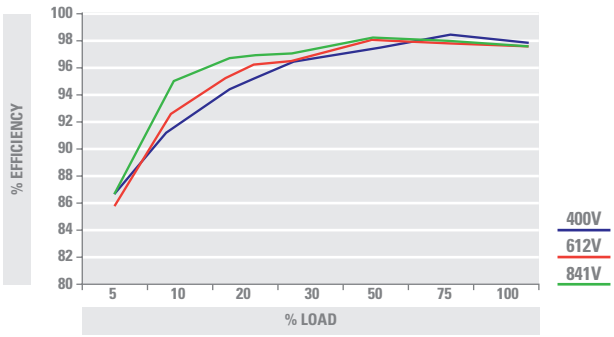
Efficient

The range presents high efficiency, up to 98.14% in model **EQX 10000-2T**, which translates directly into greater productivity of the photovoltaic installation.

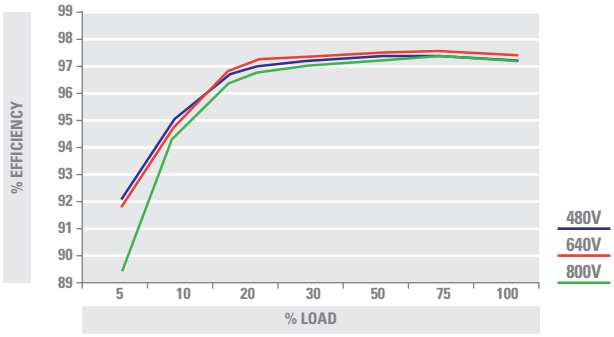
This is possible thanks to the 3-level transformerless type T topology with SVPWM (Space Vector Pulse-Width Modulation) control and variable-speed fan cooling. This leads to greatly reducing switching losses and distortion, increasing efficiency and improving the quality of the output waveform.



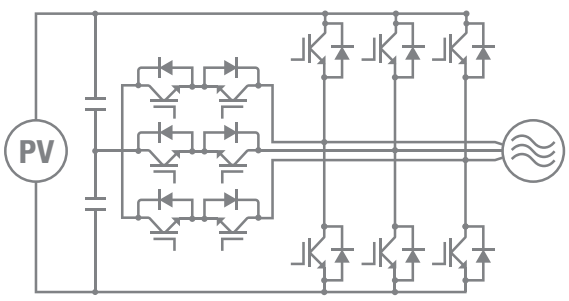
Efficiency of inverter EQX 5000-2S



Efficiency of inverter EQX 10000-2T



Efficiency of inverter EQX 30000-2T



3-level type T topology

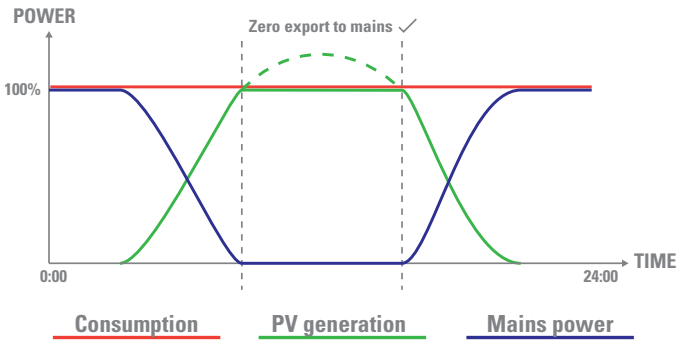
Silent operation

In domestic self-consumption installations, the noise level of the inverter is an important factor as regards personal comfort and well-being. For this reason, the single-phase inverters in the **EQUINOX** series never exceed 25 dB, a noise level similar to the silence of a library or an empty room closed off from the exterior.

Integrated power export limiting

All inverters in the **EQUINOX** series incorporate intelligent control of the output power. Using the **ESM...EQX** power meters, the inverters monitor the mains in real time and, when configured appropriately, prevent energy being injected into the mains by constantly adjusting the output power, thus avoiding the system shutting down and allowing it to continue to use the available photovoltaic energy.

This function allows them to adapt to widely-varying power demands and to systems of differing capacity.



Paralleling of devices

EQUINOX inverters can work in parallel both in self-consumption installations under the surplus modality and in generation plants. There is no limit to the number of devices, nor to the combination of models of different powers.

EQX-sun APP for smartphone and tablet

In modern solar power installations, it is vitally important to have an effective tool to monitor and analyse the system.

The **EQX-sun** application for smartphone and tablet covers this requirement superbly, allowing the current status of the photovoltaic installation to be supervised and historical data to be consulted.

It helps installers offer a better service to their clients, and is a useful tool for the owner of the installation to supervise the installation and monitor power consumption.

The installation can be monitored intuitively and in real time, viewing the power produced, the amount consumed by the loads and the amount taken from or injected into the mains.

The App also provides data on the cost savings achieved, the total reduction in CO_2 and the equivalent in planted trees.

Historical data of accumulated energy can be consulted graphically by day, month or year.

The energy flows in the installation can be analysed in detail, with clear graphs combining the photovoltaic energy produced, the energy consumed by the loads and the self-consumed energy (the energy generated by the solar power installation that has been used by the loads).

In addition, the self-consumption quota is displayed (giving us an idea of how effectively our installation is working) and the self-sufficiency quota (indicating how independent of the mains our installation is).

EQX-sun is free and is available for iOS and Android.

EQX-sun

GET IT ON Google Play

Available on the App Store

Options

Communication modules

The **485/...EQX** communication modules transmit the inverter data to the cloud, for subsequent use by the **EQX-sun** app.
Two types of assembly are possible:

- In the inverter itself: The **485/WIFI EQX** communication module only obtains data of power generation. Their IP65 protection degree allows outdoor use.
- On DIN rail in the AC board: A single-phase or three-phase energy meter, as corresponds to the installation, is connected to the **485/WIFI 24H EQX,** allowing 24 hours data collection (generated power, mains and consumption).

Power meters

The ESM... EQX Smart Meters are network analysers that allow energy flow to be measured bidirectionally.

Three-phase devices include three fully-wired external split-core transformers that must be installed on the three phases, while this is not necessary in single-phase devices since the energy flow is measured directly.

These must be installed next to the **485/WIFI 24H EQX** communications module if we wish to obtain 24 hours data via the **EQX-sun** App: energy generated, consumed/injected into the mains and consumed by the loads.

They also allow dynamic adjustment of the energy supplied to the mains.

Additional connectors

In order to avoid problems during installation, the **EQUINOX** series offers the possibility of obtaining additional original DC and AC connectors.

Warranty extensions

The **EQUINOX** series of solar-power inverters includes a standard warranty of 5 years. In addition to this warranty, **Salicru** offers their clients the possibility of extending it for an additional 5, 10 or 15 years, providing a maximum warranty period of 20 years.

These extensions of the warranty period of the solar power inverter offer:

· Carefree operation during the warranty period.
· Complete coverage from the manufacturer.
· Quick, flexible service.
· On-site replacement of devices (for models **EQUINOX S** and **EQUINOX TM**)(1)
· The most cost-effective solution.

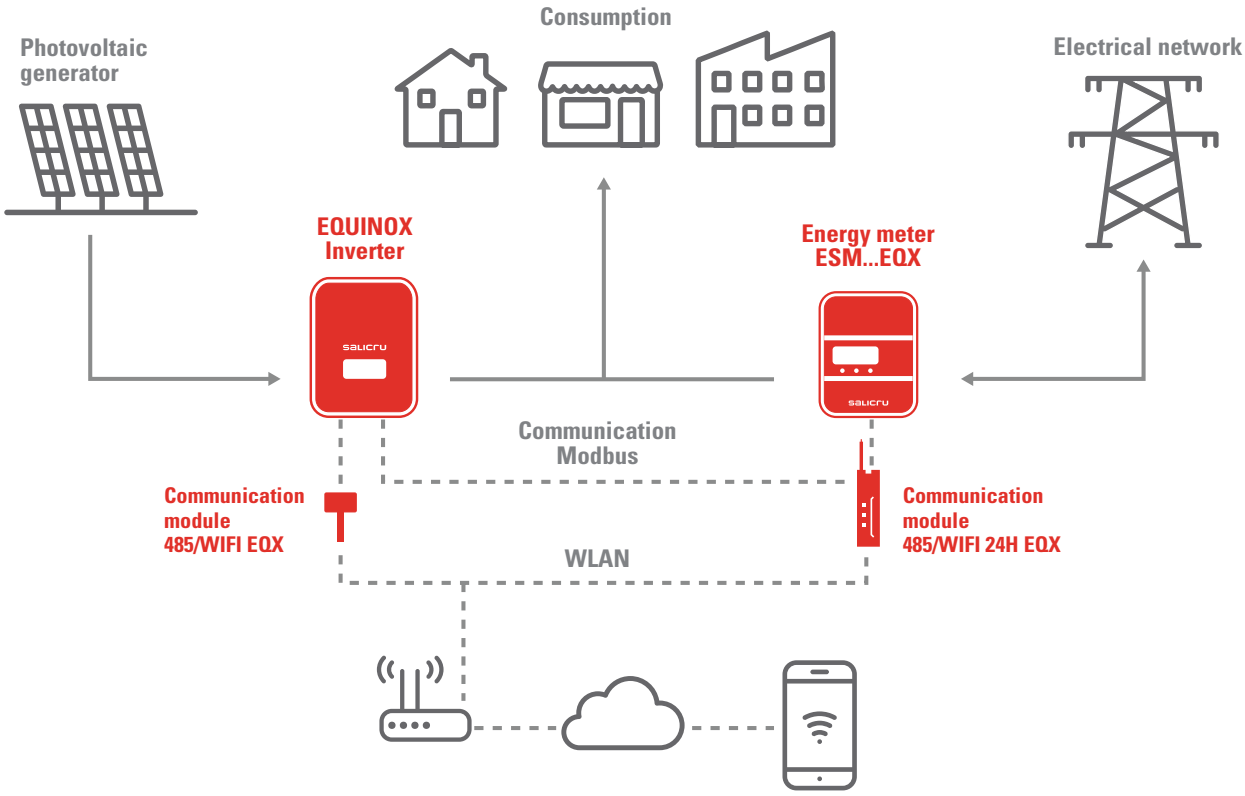
(1) Ask for local conditions.

Applications

The **EQUINOX** series has been developed by **Salicru** with the possibility of using several devices in parallel to offer self-consumption solutions in homes, commercial and industrial premises and small-scale photovoltaic parks.

Installations of this type allow companies and individuals to produce their own electrical power, reducing their electricity bills and their dependence on the conventional power grid by using the sun's energy, that is ecological and clean.

They are also an attractive capital investment, since in general, both the plant and the income belong to the owner.



Technical Service and Support

The day-to-day running of your solar-power installation must not be allowed to be interrupted by an incident in your inverter. **Salicru** puts at your disposal its Technical Service & Support (TSS) department, with its extensive network of qualified technicians who can provide assistance in the event of any eventuality or incident with your device, regardless of location, day or time.

Our goal is your peace of mind and satisfaction, providing you with the reassurance that **Salicru** will resolve any issues that may arise. The productivity of your solar-power installation must never be affected by a failure.

5 good reasons to trust in our service

· Experience of more than 50 years, as a manufacturer of prestige, offering the highest quality of service.

· First-class, fast and efficient technical support capable of carrying out any technical intervention on your device, wherever you are.

· A wide range of maintenance contracts, designed to meet the technical requirements of your systems according to your needs.

· Ongoing training that will help you to optimise the operation of your installations, recognise situations of potential risk and overcome any setbacks that may arise.

· Checking and monitoring your facility in order to ensure the best results and prolong the life of your devices.

Services

- Pre-sales support.
- Device renewal studies.
- Telephone technical support.
- Startup.
- Preventative actions.
- Corrective actions.
- Maintenance contracts.
- Training courses.

General technical specifications

		EQUINOX RANGE
PROTECTION	Input DC switch	Included
	Integrated in the device	Input: overvoltage, undervoltage, overcurrent, inverse polarity, insulation resistance monitoring. Output: anti-islanding, overvoltage, undervoltage, frequency out of range, overcurrent, shortcircuit, residual current detection, high DC component.
	Over-voltage protection category	PV: II / AC: III
GENERAL	Contamination level	3
	Self-consumption (at night)	<1 W
	Operating temperature range	-25°C~+60°C (de-rate for temperature >45°C)
	Relative humidity	0~100% with condensation
	Maximum altitude	2000 m (de-rate for altitude >2000 m)
	Protection degree	IP65
	Insulation	Class I
	DC terminal type	MC4 or compatible
	Installation	Indoor and outdoor installation / Wall support
	Topology	No transformer
COMMUNICATION	Ports	Standard: RS485 / Optional: Wifi, LAN, 4G and GPRS
STANDARDS	Certificate	RD 244/2019; UNE 206007-1 IN (1)
	Safety / EMC	EMC - IEC 62109-1/2 / EN 61000-6-2/3
	Energy efficiency	IEC 61683
	Environmental testing	IEC 60068-2-1/2/14/30
	Islanding prevention	IEC 62116
	Quality and Environmental Management	ISO9001 and ISO14001
WARRANTY	Standard warranty	5 years
	Optional warranty extension	Up to 20 years

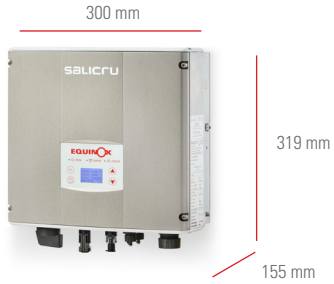
(1) Consult regulations available for other countries

Range

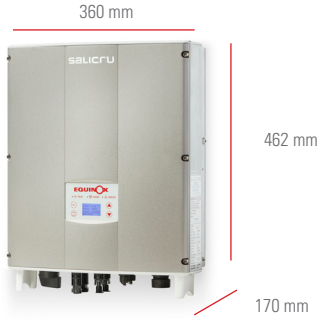
Single-phase

MODEL	CODE	POWER (kW)	No. MPPTs	DIMENSIONS (D x W x H mm)	WEIGHT (kg)
EQX 2000-1S	6B2AA000001	2	1	155 x 300 x 319	9.5
EQX 3000-2S	6B2AA000002	3	2	170 x 360 x 462	18
EQX 4000-2S	6B2AA000003	4	2	170 x 360 x 462	18
EQX 5000-2S	6B2AA000004	5	2	170 x 360 x 462	18
EQX 6000-2S	6B2AA000005	6	2	170 x 360 x 462	18

EQX 2000-1S



EQX 3000 ÷ 6000-2S



Three-phase

MODEL	CODE	POWER (kW)	No. MPPTs	DIMENSIONS (D x W x H mm)	WEIGHT (kg)
EQX 5000-2T	6B2AA000006	5	2	155 x 360 x 532	20
EQX 8000-2T	6B2AA000007	8	2	155 x 360 x 577	23
EQX 10000-2T	6B2AA000008	10	2	155 x 360 x 577	23
EQX 15000-2T	6B2AA000009	15	2	236 x 505 x 637	38
EQX 20000-2T	6B2AA000010	20	2	251 x 545 x 723	52
EQX 30000-2T	6B2AA000011	30	2	251 x 545 x 723	52

EQX 5000-2T

EQX 8000-2T
EQX 10000-2T

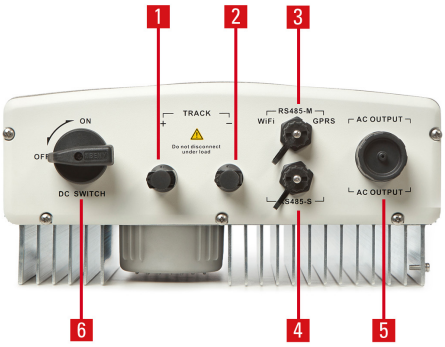
EQX 15000-2T

EQX 20000-2T
EQX 30000-2T

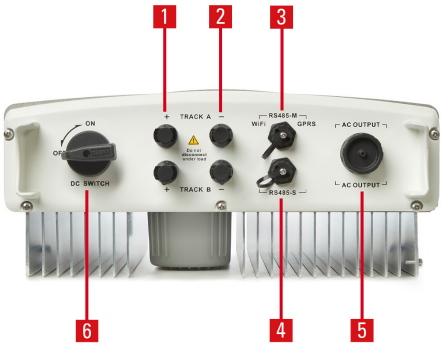
EQUINOX S technical specifications

MODEL		EQX 2000-1S	EQX 3000-2S	EQX 4000-2S	EQX 5000-2S	EQX 6000-2S
INPUT	Maximum DC input power	2600 W	4500 W	6000 W	7500 W	9000 W
	Maximum DC input voltage	450 Vdc	600 Vdc			
	MPPT voltage range (operation)	120-410 Vdc	120-550 Vdc			
	MPPT voltage range (rated power)	180-360 Vdc	180-480 Vdc	200-480 Vdc	240-480 Vdc	200-500 Vdc
	No. of MPPT Trackers / inputs per MPPT	1/1	2/1			
	Max. input current per MPPT x No. of MPPTs	12A x 1	12A x 2		15A x 2	16A x 2
	Max. short-circuit current per MPPT (Isc PV) x No. of MPPTs	13.2A x 1	13.2A x 2		16.5A x 2	17.6A x 2
OUTPUT	Power factor	0.95 inductive to 0.95 capacitative (non-adjustable)				
	Maximum power	2000 W	3000 W	4000 W	5000 W	6000 W
	Type of mains	Single-phase (L, N, PE)				
	Voltage range	Single-phase 180~270 Vac				
	Maximum apparent output power	2000 VA	3000 VA	4000 VA	5000 VA	6000 VA
	Total harmonic distortion (THDi)	<3%				
	Frequency range	50 Hz (47~51,5 Hz) / 60 Hz (57~61,5 Hz)				
	Rated output current	9 A	14 A	20 A	24 A	26 A
	Maximum efficiency	97.51%	97.27%	97.29%	97.56%	98.13%
	EU efficiency	97.01%	96.49%	96.59%	96.66%	97.32%
	MPPT efficiency	99.9%				
INDICATIONS	Type	2" back-lit LCD + status LEDs				
GENERAL	Method of cooling	Natural convection (no fans)				
	Maximum noise level	≤25 dB				

Connections



EQX 2000-1S



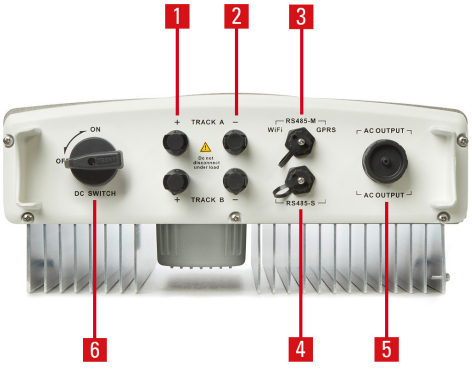
EQX 3000÷6000-2S

1. Positive photovoltaic input terminals
2. Negative photovoltaic input terminals
3. Main communication port (communication module connection).
4. Auxiliary communication port.
5. AC current output terminal / mains.
6. DC switch.

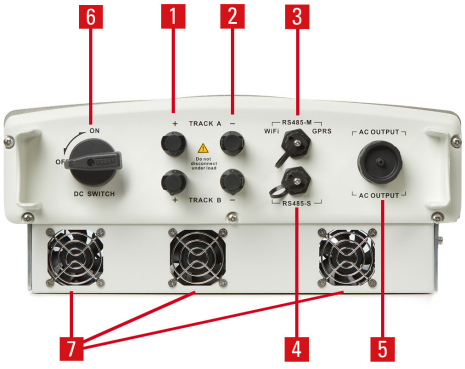
EQUINOX TM technical specifications

MODEL		EQX 5000-2T	EQX 8000-2T	EQX 10000-2T
INPUT	Maximum DC input power	6500 W	10400 W	13000 W
	Maximum DC input voltage	900 Vdc	1000 Vdc	
	MPPT voltage range (operation)	200-800 Vdc		
	MPPT voltage range (rated power)	260-800 Vdc	350-800 Vdc	400-800 Vdc
	No. of MPPT Trackers / inputs per MPPT	2/1		
	Max. input current per MPPT x No. of MPPTs	11A x 2	12A x 2	12.5A x 2
	Max. short-circuit current per MPPT (Isc PV) x No. of MPPTs	12A x 2	13A x 2	14A x 2
OUTPUT	Power factor	0.9 inductive to 0.9 capacitative (adjustable)		
	Maximum power	5000 W	8000 W	10000 W
	Type of mains	Three-phase (L1, L2, L3, N, PE) or (L1, L2, L3, PE)		
	Voltage range	Three-phase 320~460 Vac		
	Maximum apparent output power	5000 VA	8000 VA	10000 VA
	Total harmonic distortion (THDi)	<3%		
	Frequency range	50 Hz (47~51,5 Hz) / 60 Hz (57~61,5 Hz)		
	Rated output current	8 A	12.5 A	14 A
	Maximum efficiency	98.04%	98.08%	98.14%
	EU efficiency	96.28%	96.78%	97.22%
	MPPT efficiency	99.90%		
INDICATIONS	Type	2" back-lit LCD + status LEDs		
GENERAL	Method of cooling	Natural convection (no fans)	Smart cooling (variable-speed fans)	
	Maximum noise level	≤30 dB	≤50 dB	

Connections



EQX 5000-2T



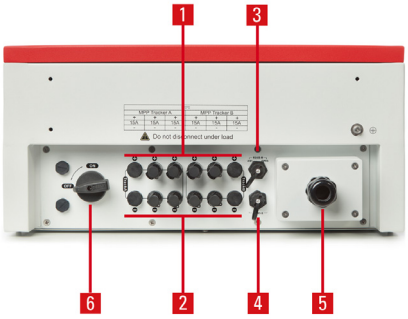
EQX 8000/10000-2T

1. Positive photovoltaic input terminals
2. Negative photovoltaic input terminals
3. Main communication port (communication module connection).
4. Auxiliary communication port
5. AC current output terminal / mains.
6. DC switch.
7. Cooling fans.

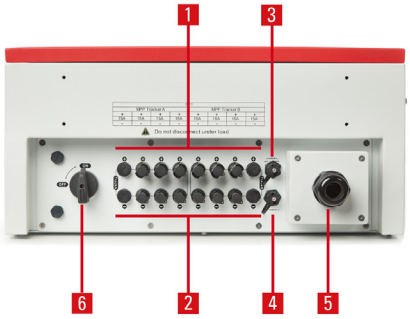
EQUINOX TL technical specifications

MODEL		EQX 15000-2T	EQX 20000-2T	EQX 30000-2T
INPUT	Maximum DC input power	19500 W	26000 W	39000 W
	Maximum DC input voltage	1000 Vdc		
	MPPT voltage range (operation)	200-800 Vdc	300-800 Vdc	
	MPPT voltage range (rated power)	400-800 Vdc	450-800 Vdc	480-800 Vdc
	No. of MPPT Trackers / inputs per MPPT	2/2	2/3	
	Max. input current per MPPT x No. of MPPTs	21 A x2	25 A x 2	33 A x 2
	Max. short-circuit current per MPPT (Isc PV) x No. of MPPTs	23.5 A x 2	27 A x 2	36 A x 2
OUTPUT	Power factor	0.8 inductive to 0.8 capacitative (adjustable)		
	Maximum power	15000 W	20000 W	30000 W
	Type of mains	Three-phase (L1, L2, L3, N, PE) or (L1, L2, L3, PE)		
	Voltage range	Three-phase 320~460 Vac		
	Maximum apparent output power	15000 VA	20000 VA	30000 VA
	Total harmonic distortion (THDi)	<3%		
	Frequency range	50 Hz (47~51,5 Hz) / 60 Hz (57~61,5 Hz)		
	Rated output current	24.1	32 A	48 A
	Maximum efficiency	97.52%	97.60%	97.65%
	EU efficiency	97.01%	96.69%	97.12%
	MPPT efficiency	99.9%		
INDICATIONS	Type	3.5" back-lit LCD + status LEDs		
GENERAL	Method of cooling	Smart cooling (variable-speed fans)		
	Maximum noise level	≤55 dB		

Connections



EQX 15000-2T



EQX 20000/30000-2T

1. Positive photovoltaic input terminals
2. Negative photovoltaic input terminals
3. Main communication port (communication module connection).
4. Auxiliary communication port
5. AC current output terminal / mains.
6. DC switch.

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Product Range

Uninterruptible Power Supplies (UPS)
Photovoltaic Inverters
Variable Frequency Drives
DC systems
Transformers and Autotransformers
Voltage Stabilisers
Electric Active Protector
Batteries

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