EQUINOX2 HT

Three-phase hybrid solar inverters from 4 to 12 kW

EQUINOX2 HT: Versatility with three-phase renewable energy

The **EQUINOX2 HT** three-phase hybrid solar inverters retain the features of the single-phase EQUINOX2 HSX range, for application in installations with 3 x 380 V / 3 x 400 V.

As such, we can continue to speak of maximum versatility. The **EQUINOX2 HT** has up to six operating modes: general or automatic mode, peak load mode, isolated mode, UPS mode, economy mode (allowing users to program battery charging/discharging and usage times via the app, web or display) and a mode for operation without batteries.

The mode for operation without batteries ensures that photovoltaic energy is still available even when the batteries are in poor condition, disconnected for replacement or even if the user decides to acquire them at a future date and initially operates the system without storage. Although this function is usually temporary, it helps to enhance the already comprehensive availability of the installation.

The UPS function is also of particular note. Thanks to technological advances, our inverter boasts a transfer speed of just 10 ms, thereby ensuring the continued operation of connected devices in the event of an unexpected power outage and without requiring any manual intervention.

Applications: Self-consumption up to 12 kW

The **EQUINOX2 HT** offers a high degree of independence from the electricity network, with a three-phase installation. It is the ideal solution for facilities with low- and medium-power equipment, such as workshops, small production facilities, food retailers, catering establishments, etc.

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Performances

- Input current adapted for high-performance panels.
- Two 13 A MPPT trackers, without current penalty by the battery connection.
- Very low start-up voltage of 150/180 VDC (depending on the model) and the ability to charge the batteries even with low solar radiation.
- Admits +60% of input power in DC, above the nominal level.
- Battery transfer time of less than 10 ms.
- Option of delivering 10% more power in addition to the nominal.
- Fast charging/discharging of up to 25 A. Fast battery charging (1 hour).
- Back-up of up to 100% of nominal power, in battery mode.
- Wide battery voltage range: 135-750 V.
- Reduced dimensions and weight.
- Excellent fanless thermal design extends the life of the device and provides longer MTBF.
- Integrated DC disconnector.
- Plug & Play connection, with start-up and supervision of the installation via the free EQUINOX app, web portal or OLED screen.
- Meter and instrument transformers included.
- Useful life of the battery: 6,000 cycles @ 80% DOD.
- Maximum energy efficiency (up to 98.2%).

Fast charging and discharging

The **EQUINOX2 HT** enables a one-off delivery of current of up to 30 A, in the event that, in UPS or peak load mode, and on an exceptional basis, it is necessary to supply a load that exceeds the nominal power. In UPS mode, while using the batteries, a 12 kW unit can supply up to 20 kW on an exceptional basis.

Additionally, users can force fast battery charging to ensure full availability of power after just one hour.

Thanks to these features, the **EQUINOX2** hybrid series takes energy availability to the maximum level.

Maximum energy production

All of the models in the **EQUINOX2** series stand out for their low start-up voltage, which translates to maximum exploitation of solar radiation and a substantial increase in the number of production hours compared to our competitors' products.This increase is even more important in winter, when the number of hours of good solar radiation is significantly lower.

Smart energy management

The connection panel for our hybrid inverters allows users to discriminate between the connections for priority loads and those for secondary loads. Consequently, in the event of an interruption to the mains power supply, only the priority loads will be supplied by the energy stored in the batteries and the secondary loads will be ignored, thereby optimising the use of the previously stored energy.

In generation mode, the inverter distributes the photovoltaic energy in accordance with a scale of priorities, supplying the priority loads as a first preference, storing power as a second preference, and supplying power to the secondary circuit as a third preference (whether to supply secondary loads or send excess power to the mains network, as desired).

Range

MODEL	CODE	MAXIMUM DC INPUT POWER (kW)	RATED POWER (kW)	MAXIMUM APPARENT OUTPUT POWER (kVA)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
EQX2 4002-HT	6B2AB000035	6.4	4	4.4	5,7	175 × 550 × 410	26
EQX2 5002-HT	6B2AB000036	8	5	5.5	7,2	175 × 550 × 410	26
EQX2 6002-HT	6B2AB000037	9.6	6	6.6	8,6	175 × 550 × 410	26
EQX2 8002-HT	6B2AB000038	12.8	8	8.8	11,5	175 × 550 × 410	28
EQX2 10002-HT	6B2AB000039	16	10	11	14,5	175 × 550 × 410	28
EQX2 12002-HT	6B2AB000040	19.2	12	13.2	17,3	175 × 550 × 410	28

Battery selection

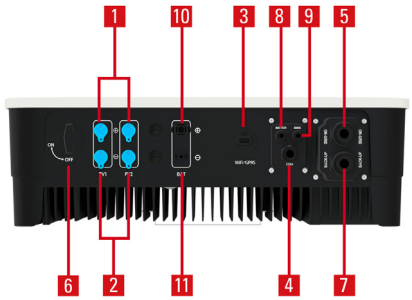
MODEL	BASE + BMS CODE	BATTERY CODE	RATED CAPACITY (kWh)	RATED VOLTAGE (V)	WEIGHT (kg)	COMPATABILITY
SUNWODA Residential 5 kWh	6B2AC000007	1 x 6B2AC000006	5	400	61	HSX, HT, HT+
SUNWODA Residential 10 kWh	6B2AC000007	2 x 6B2AC000006	10	400	112.5	HSX, HT, HT+
SUNWODA Residential 15 kWh	6B2AC000007	3 x 6B2AC000006	15	400	164	HSX, HT, HT+
SUNWODA Residential 20 kWh	6B2AC000007	4 x 6B2AC000006	20	400	215.5	HSX, HT, HT+

Up to 3 battery towers can be connected in parallel, achieving a capacity of up to 60 kWh.
For correct operation in isolated installations, the battery capacity must be at least double the power of the inverter.
To learn about additional capacity options, please refer to the product sheets of the corresponding batteries.

Dimensions

EQX2 4002÷12002-HT

Connections



EQX2 4002÷12002-HT

1. Positive photovoltaic input terminals.
2. Negative photovoltaic input terminals.
3. Main communication port (communication module connection).
4. Auxiliary communication port (optional).
5. AC / mains terminal.
6. DC disconnector.
7. Output connection for critical loads.
8. Connection port for current metering.
9. Communication port with batteries.
10. Positive battery connection terminal.
11. Negative battery connection terminal.

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Technical specifications

MODEL		EQX2 4002/5002-HT	EQX2 6002-HT	EQX2 8002÷12002-HT
INPUT DC	Starting voltage (V)	150	180	
	Max. short-circuit current - Isc PV (A)	18/18		
	Inputs per MPPT	1/1		
	Inputs per MPPT	2		
	MPPT voltage range (VDC)	150 ÷ 850	200 ÷ 850	
	Input maximum current per tracker (A)	13/13		
OUTPUT	Power factor	0.8 inductive…0.8 capacitive		
	Network voltage	3x400 V Three-phase (3L, N, PE)		
	Voltage ranges	195.5 ÷ 253 V (F-N) according to UNE 217002		
	Max. total harmonic distortion (THD)	<3%		
	Frequency	50 Hz (45.5 ÷ 55 Hz) / 60 Hz (55 ÷ 65 Hz)		
	Performance EU	97,3%		97,4%
	Maximum performance	98,1%		98,2%
BATTERY	Battery type	Lithium with BMS		
	Voltage range	180 ÷ 750 V(2)	182 ÷ 750 V(2)	183 ÷ 750 V(2)
	Maximum charge/discharge current	25 A		
COMMUNICATION	Ports	RS485, WiFi		
INDICATIONS	Type	3 LED states, LED bar for battery level, OLED display		
PROTECTION	Input DC disconnector	Included		
	Integrated in the device	Inverse polarity DC, Residual Current, DC disconnector, Over-voltage, Over-temperature, Differential, Islanding operation, AC short-circuit, Over-voltage AC		
	Over-voltage protection category	PV: II / AC: II		
GENERAL	Contamination level	PD2/PD3		
	Self-consumption (at night)	<1 W		
	Operating temperature	-30°C ~ +60°C (de-rate for temperature >45°C)		
	Relative humidity	0~100%		
	Maxium operating altitude	3,000 masl (power degradation up to 4,000 m)		
	Degree of protection	IP65		
	Acoustic noise at 1 metre	<25 dB		
	Terminal type	MC4		
	Installation	Indoor and outdoor installation / Wall support		
	Topology	Transformerless hybrid		
STANDARDS	Safety / EMC	IEC 62109-1/2 / EN 61000-6-2/3		
	Energy efficiency	IEC EN UNE 61683		
	Environmental tests	IEC EN UNE 60068-1/2/14/30		
	Operation / Protection	UNE EN 62116:2014, IEC 61727:2004, UNE 217002:2020, UNE 217001:2020		
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001		

(1) Minimum energy for starting the inverter up 150 W
(2) For EQUINOX batteries: 550 V
(3) Consult available regulations for other countries