Jema Irizar Group | 70 years | Powering the future

Solutions for **Renewables**

Innovative energy for a sustainable future

PV · BESS · HYDROGEN

> Product range

X8 series > IFX8 - IBX8 - IHX8

X6 series > IFX6 - IBX6 - IHX6

X3 series > IFX3 - IBX3

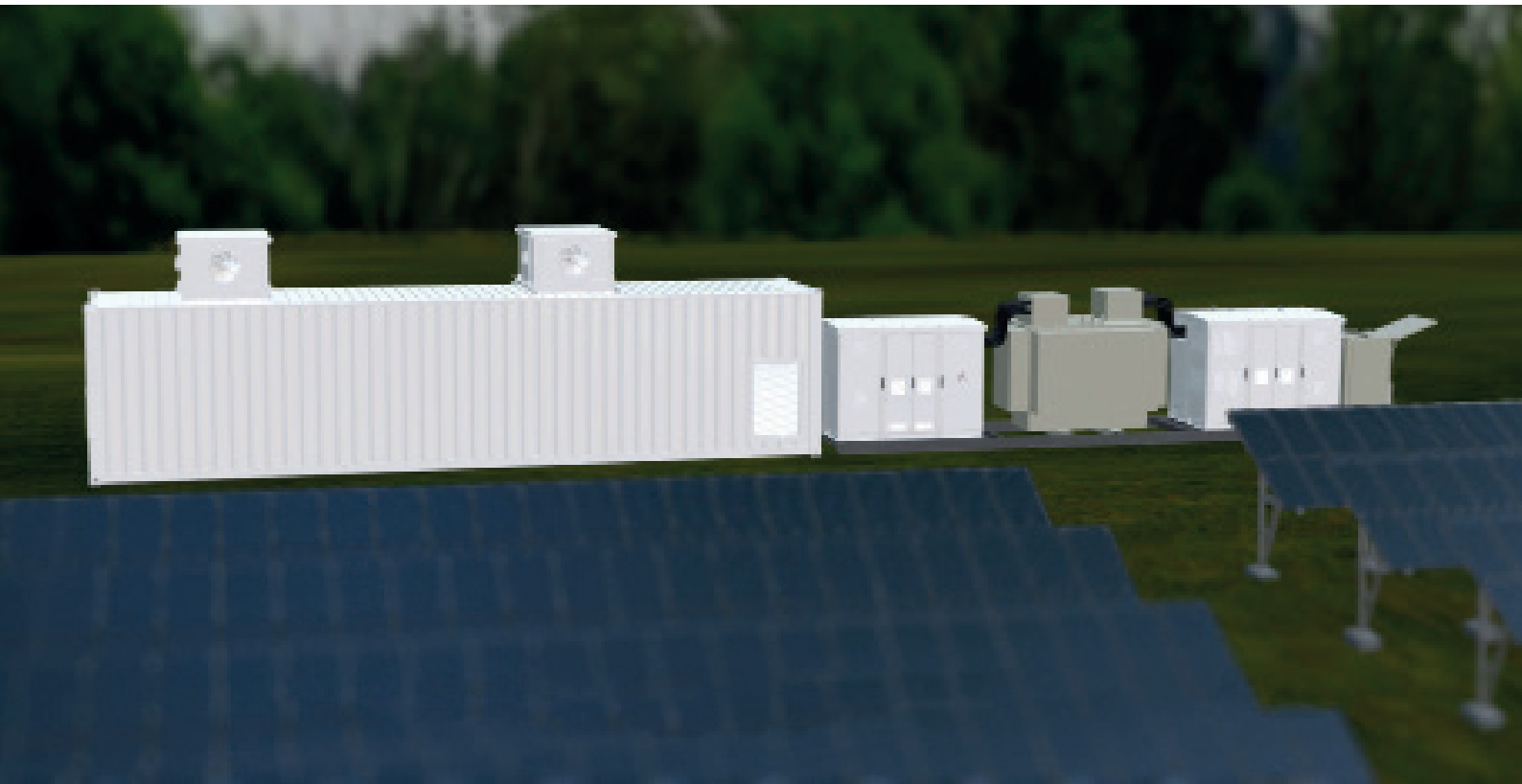
X8 SERIES

> *IFX8 - IBX8 - IHX8*

Prepared for the oncoming Grid challenges

Highlights:

- Full power operation at 1500V
- Multilevel topology
- Liquid cooling
- Modularity for PV inverters. Two models: >2 MVA and > 4 MVA
- Up to 9,4 MVA Skid Solution
- Ready for hybridisation. DC coupling or AC coupling



X6 SERIES

> *IFX6 - IBX6 - IHX6*

JEMA photovoltaic inverters are designed for commercial and utility scale PV plant. All IFX6-IBX6 inverters are bi-directional and can serve as dual use PV and BESS chargers/dischargers.

The battery charger versions (IBX) are specially programmed and share the same hardware as the inverters, simplifying spare parts maintenance.

Highlights:

- Wide power range
- Inverters developed for outdoor integration. Indoor integration is also feasible by using a container
- Very high power density (from 460 to 560 kVA/m^2)
- Minimal total lenght. Easy to transport and handle

Main features:

- Highest reliability (long-lasting components)
- Night reactive power compensation
- Grid support (VRT and FRT)
- SVM Advanced Control Algorithm (Space Vector Modulation)
- DHC technology (digital harmonic correction)
- Advanced thermal adjustment control
- High performance operating mode
- Integrated motorised circuit breakers in the DC side
- IP54 rating (IP65 for DC connections)
- Ground fault measurement

X3 SERIES

> *IFX3 - IBX3*

Design and performance

- The independent and modular power columns enable optimum performance in the event of low irradiance or the failure of one column.
- Master/slave mode enables maximum efficiency in the event of low irradiance by concentrating all the energy in a single column.
- Capacity to manage reactive power
- Anti-islanding with automatic disconnection
- Design according to anti-seismic guidelines
- Dual bi-directional inverter: battery charger capability
- Indoor and outdoor systems

High temperature performance

IFX inverters are designed to work at high temperatures without derating. All inverters ensure nominal power to an ambient temperature 50°C, maximising performance in the event of extreme heat.

The inverters are composed of columns or independent power units to optimise the thermal regulation system. Each column therefore has a separate ventilation system that can efficiently regulate the temperature of the critical system components.

This design structure offers ventilation by levels by activating and deactivating the fans depending on the temperature. It is also able to reduce the consumption of auxiliary power and increase system redundancy.

Skid solution

Plug & Play Solution for PV · BESS · HYDROGEN

Jema provides customised turnkey solutions for large solar plants with a wide power range. The SI Box solution significantly reduces transport, installation and commissioning costs.

The central inverters series provide important grid quality features that maximise the energy generated.

Data sheets

> X8 - IFX8 4c

> INPUT DATA

Vmppt.min (Vac=1,00pu & PF=1,00)	793 V	842 V	878 V	892 V	906 V	934 V	963 V	991 V	1.019 V
Vmppt.min (Vac=1,10pu & PF=0,90) & 60Hz	895 V	950 V	989 V	1.004 V	1.020 V	1.051 V	1.082 V	1.113 V	1.144 V
Vmppt.min (Vac=1,10pu & PF=0,00) & 60Hz	927 V	981 V	1.020 V	1.036 V	1.051 V	1.083 V	1.114 V	1.145 V	1.176 V
Vdc.máx absolute	1.414 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V
Maximum Current 55ºC	4300A ,2150A each DC switch								
Maximum Current 40ºC	4700A ,2350A each DC switch								
Insulation Fault Detection System	YES (IMD, GFDI)								
Input number	24 fuse protected (+/- or only +)								

> OUPUT DATA

Maximum Output Power (S/P55ºC)(1)	3.334 kVA	3.546 kVA	3.698 kVA	3.759 kVA	3.819 kVA	3.940 kVA	4.062 kVA	4.183 kVA	4.304 kVA
Maximum Output Power (S/P40ºC)(1)	3.694 kVA	3.929 kVA	4.097 kVA	4.164 kVA	4.232 kVA	4.366 kVA	4.500 kVA	4.635 kVA	4.769 kVA
Nominal Voltage (3F +10%, -10%)	550 V	585 V	610 V	620 V	630 V	650 V	670 V	690 V	710 V
Maximum Operation Current (55ºC)	3.500 A								
Maximum Operation Current (40ºC)	3.878 A								
Frequency	50/60Hz								
Power Factor	1 (Adjustable 0-1 leading/lagging. Q at Night optional)								
Output THD	< 3% at nominal power								
Maximum Efficiency*	98,8%	98,9%	98,9%	98,9%	98,9%	98,9%	99,0%	99,0%	99,0%
EUR Efficiency*	98,5%	98,5%	98,6%	98,6%	98,6%	98,6%	98,6%	98,6%	98,6%
Control Structure	Control Logic and DSP, SVM Technology								
Communications	RS-485 communications port, Ethernet...								

> GENERAL DATA

Operating Temperature	- 20ºC... + 55ºC (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.350 x 2.900 x 1.850 mm*
Weight	4.500 kg*
Altitude	1000 masl (3)
Ingress Protection (IP)	IP55
Auxiliary power consumption (max)	7000 W*
Auxiliary power consumption at night	250 W*

(1) Vac Nominal; (2) derating 55-60ºC/consult under -20ºC; (3) consult for different altitudes; (*) preliminary

> X8 - IFX8 2c

> INPUT DATA

Vmppt.min (Vac=1,00pu & PF=1,00)	793 V	842 V	878 V	892 V	906 V	934 V	963 V	991 V	1.019 V
Vmppt.min (Vac=1,10pu & PF=0,90) & 60Hz	895 V	950 V	989 V	1.004 V	1.020 V	1.051 V	1.082 V	1.113 V	1.144 V
Vmppt.min (Vac=1,10pu & PF=0,00) & 60Hz	927 V	981 V	1.020 V	1.036 V	1.051 V	1.083 V	1.114 V	1.145 V	1.176 V
Vdc.máx absolute	1.414 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V
Maximum Current 55ºC	2150A								
Maximum Current 40ºC	2350A								
Insulation Fault Detection System	YES (IMD, GFDI)								
Input number	12 fuse protected (+/- or only +)								

> OUPUT DATA

Maximum Output Power (S/P55ºC)(1)	1.667 kVA	1.773 kVA	1.849 kVA	1.879 kVA	1.910 kVA	1.970 kVA	2.031 kVA	2.091 kVA	2.152 kVA
Maximum Output Power (S/P40ºC)(1)	1.847 kVA	1.965 kVA	2.049 kVA	2.082 kVA	2.116 kVA	2.183 kVA	2.250 kVA	2.317 kVA	2.384 kVA
Nominal Voltage (3F +10%, -10%)	550 V	585 V	610 V	620 V	630 V	650 V	670 V	690 V	710 V
Maximum Operation Current (55ºC)	1.750 A								
Maximum Operation Current (40ºC)	1.939 A								
Frequency	50/60Hz								
Power Factor	1 (Adjustable 0-1 leading/lagging. Q at Night optional)								
Output THD	< 3% at nominal power								
Maximum Efficiency*	98,8%	98,9%	98,9%	98,9%	98,9%	98,9%	99,0%	99,0%	99,0%
EUR Efficiency*	98,5%	98,5%	98,6%	98,6%	98,6%	98,6%	98,6%	98,6%	98,6%
Control Structure	Control Logic and DSP, SVM Technology								
Communications	RS-485 communications port, Ethernet...								

> GENERAL DATA

Operating Temperature	- 20ºC... + 55ºC (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.350 x 2.900 x 900 mm*
Weight	3.000 kg*
Altitude	1000 masl (3)
Ingress Protection (IP)	IP55
Auxiliary power consumption (max)	5000 W*
Auxiliary power consumption at night	200 W*

(1) Vac Nominal; (2) derating 55-60ºC/consult under -20ºC; (3) consult for different altitudes; (*) preliminary

> X8 - IBX8 4c

> INPUT DATA

Vdc.min (V=1,00pu & PF=1,00)	793 V	842 V	878 V	892 V	906 V	934 V	963 V	991 V	1.019 V
Vdc.min (V=1,00pu & PF=1,00)	871 V	925 V	964 V	979 V	995 V	1.026 V	1.057 V	1.088 V	1.120 V
Vdc.min (V=1,10pu & PF=0,90) & 60Hz	895 V	950 V	989 V	1.004 V	1.020 V	1.051 V	1.082 V	1.113 V	1.144 V
Vdc.min (V=1,10pu & PF=0,00) & 60Hz	927 V	981 V	1.020 V	1.036 V	1.051 V	1.083 V	1.114 V	1.145 V	1.176 V
Vdc.máx full power	1.238 V	1.316 V	1.373 V	1.395 V	1.418 V	1.463 V	1.500 V	1.500 V	1.500 V
Vdc.máx absolute	1.414 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V
Maximum Current 55ºC	4300A ,2150A each DC switch/BMS								
Maximum Current 40ºC	4700A ,2350A each DC switch/BMS								
Insulation Fault Detection System	YES (IMD)								
Battery Short Circuit Current (4)	200 kA*each individual input (200 kA* total in case of two input connected)								
Input number	2 or 4, fuse protected (1 each BMS/DC switch)								

> OUPUT DATA

Maximum Output Power (S/P55ºC)(1)	3.334 kVA	3.546 kVA	3.698 kVA	3.759 kVA	3.819 kVA	3.940 kVA	4.062 kVA	4.183 kVA	4.304 kVA
Maximum Output Power (S/P40ºC)(1)	3.694 kVA	3.929 kVA	4.097 kVA	4.164 kVA	4.232 kVA	4.366 kVA	4.500 kVA	4.635 kVA	4.769 kVA
Nominal Voltage (3F +10%, -10%)	550 V	585 V	610 V	620 V	630 V	650 V	670 V	690 V	710 V
Maximum Operation Current (55ºC)	3.500 A								
Maximum Operation Current (40ºC)	3.878 A								
Maximum Transient Current (5min)	4.200 A								
Maximum Transient Current (30seg)	5.000 A								
Frequency	50/60Hz								
Power Factor	1 (Adjustable 0-1 leading/lagging. Q at Night optional)								
Output THD	< 3% at nominal power								
Maximum Efficiency (Vdc.min)*	98,8%	98,8%	98,8%	98,9%	98,9%	98,9%	98,9%	98,9%	99,0%
Maximum Efficiency (Vdc.max)*	98,1%	98,2%	98,2%	98,3%	98,3%	98,3%	98,4%	98,4%	98,4%
Control Structure	Control Logic and DSP, SVM Technology								
Communications	MODBUS TCP								

> GENERAL DATA

Operating Temperature	- 20ºC... + 55ºC (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.400 x 2.900 x 1.850 mm*
Weight	4.500 kg*
Altitude	1000 masl (3)
Ingress Protection (IP)	IP55
Auxiliary power consumption (max)	7000 W*
Auxiliary power consumption at night	250 W*

(1) Vac Nominal; (2) derating 55-60ºC/consult under -20ºC; (3) consult for different altitudes; (4) more kA with fuses study; (*) preliminary

> X8 - IBX8 2c

> INPUT DATA

Vdc.min (V=1,00pu & PF=1,00)	793 V	842 V	878 V	892 V	906 V	934 V	963 V	991 V	1.019 V
Vdc.min (V=1,00pu & PF=1,00)	871 V	925 V	964 V	979 V	995 V	1.026 V	1.057 V	1.088 V	1.120 V
Vdc.min (V=1,10pu & PF=0,90) & 60Hz	895 V	950 V	989 V	1.004 V	1.020 V	1.051 V	1.082 V	1.113 V	1.144 V
Vdc.min (V=1,10pu & PF=0,00) & 60Hz	927 V	981 V	1.020 V	1.036 V	1.051 V	1.083 V	1.114 V	1.145 V	1.176 V
Vdc.máx full power	1.238 V	1.316 V	1.373 V	1.395 V	1.418 V	1.463 V	1.500 V	1.500 V	1.500 V
Vdc.máx absolute	1.414 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V	1.500 V
Maximum Current 55ºC	2150A								
Maximum Current 40ºC	2350A								
Insulation Fault Detection System	YES (IMD)								
Battery Short Circuit Current (4)	200 kA* total charger								
Input number	1 or 2, fuse protected								

> OUPUT DATA

Maximum Output Power (S/P55ºC)(1)	1.667 kVA	1.773 kVA	1.849 kVA	1.879 kVA	1.910 kVA	1.970 kVA	2.031 kVA	2.091 kVA	2.152 kVA
Maximum Output Power (S/P40ºC)(1)	1.847 kVA	1.965 kVA	2.049 kVA	2.082 kVA	2.116 kVA	2.183 kVA	2.250 kVA	2.317 kVA	2.384 kVA
Nominal Voltage (3F +10%, -10%)	550 V	585 V	610 V	620 V	630 V	650 V	670 V	690 V	710 V
Maximum Operation Current (55ºC)	1.750 A								
Maximum Operation Current (40ºC)	1.939 A								
Maximum Transient Current (5min)	2.100 A								
Maximum Transient Current (30seg)	2.500 A								
Frequency	50/60Hz								
Power Factor	1 (Adjustable 0-1 leading/lagging. Q at Night optional)								
Output THD	< 3% at nominal power								
Maximum Efficiency (Vdc.min)*	98,8%	98,8%	98,8%	98,9%	98,9%	98,9%	98,9%	98,9%	99,0%
Maximum Efficiency (Vdc.max)*	98,1%	98,2%	98,2%	98,3%	98,3%	98,3%	98,4%	98,4%	98,4%
Control Structure	Control Logic and DSP, SVM Technology								
Communications	RS-485 communications port, Ethernet...								

> GENERAL DATA

Operating Temperature	- 20ºC... + 55ºC (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.350 x 2.900 x 900 mm*
Weight	3.000 kg*
Altitude	1000 masl (3)
Ingress Protection (IP)	IP55
Auxiliary power consumption (max)	5000 W*
Auxiliary power consumption at night	200 W*

(1) Vac Nominal; (2) derating 55-60ºC/consult under -20ºC; (3) consult for different altitudes; (4) more kA with fuses study; (*) preliminary

> X6 SERIES - IFX6 & IBX6 2c
1500 · 1600 · 1700

	1500	1600	1700
> INPUT DATA			
Battery charge mode	873-1300	928-1300	984-1300
Min. MPPT voltage	790 V	840 V	890 V
Max. MPPT voltage	1250 V		
Maximum VOC	1500 V		
Maximum current (25º)	2200 A		
Nº. DC inputs	12 inputs /1 MPPT		
Isolation detection system	Yes (Isolation measurement, Optional GFDI)		
> OUTPUT DATA			
Nominal output power (S/P ^{50º})	1500 kVA/kW	1600 kVA/kW	1700 kVA/kW
Max. output (S/P ^{25º}) (1)	1676 kVA/kW	1788 kVA/kW	1900 kVA/kW
Nominal voltage (3F + 10%, -15%)	550 V	585 V	620 V
Maximum current (25º)	1770 A		
Maximum current (50º)	1583 A		
Frequency	50/60 Hz		
Power factor	Adjustable (1 at rated power)		
Output THD	< 3% at rated power		
Galvanic isolation	No (Optional BT MT-BT/BT)		
Maximum efficiency	98.6%		98.7%
EUR efficiency	98.2%	98.3%	98.4%
Control structure	Logic control and DSP, SVM technology		
Communications	Communication Port RS-485, Ethernet, etc		
> GENERAL DATA			
Working Temperature	-20ºC ... +50ºC (14ºF...122ºF) (2)		
Relative temperature	0% - 100%		
Dimensions (h x w x d)	2300 x 1920 x 1780 mm (90,55" x 75,69" x 70,07")		
Weight	3200 kg (7,054.792 lbs)		
Altitude	1000 m (3280 ft)		
Enclosure (IP)	IP54		

> (1) V nominal grid · (2) derating 50-55ºC (122-131ºF)

> X6 SERIES - IFX6 & IBX6 2c
1780 · 1833 · 1887

	1780	1833	1887
> INPUT DATA			
Battery charge mode	1022-1300	1054-1300	1085-1300
Min. MPPT voltage	935 V	965 V	995 V
Max. MPPT voltage	1250 V		
Maximum VOC	1500 V		
Maximum current (25°)	2200 A		
Nº. DC inputs	12 inputs /1 MPPT		
Isolation detection system	Yes (Isolation measurement, Optional GFDI)		
> OUTPUT DATA			
Nominal output power (S/P $^{50°}$)	1780 kVA/kW	1833 kVA/kW	1887 kVA/kW
Max. output (S/P $^{25°}$) (1)	1987 kVA/kW	2050 kVA/kW	2110 kVA/kW
Nominal voltage (3F + 10%, -15%)	650 V	670 V	690 V
Maximum current (25°)	1770 A		
Maximum current (50°)	1583 A		
Frequency	50/60 Hz		
Power factor	Adjustable (1 at rated power)		
Output THD	< 3% at rated power		
Galvanic isolation	No (Optional BT MT-BT/BT)		
Maximum efficiency	98.7%	98.8%	
EUR efficiency	98.4%		
Control structure	Logic control and DSP, SVM technology		
Communications	Communication Port RS-485, Ethernet, etc		
> GENERAL DATA			
Working Temperature	-20ºC ... +50ºC (4ºF...122ºF) (2)		
Relative temperature	0% - 100%		
Dimensions (h x w x d)	2300 x 1920 x 1780 mm (90,55" x 75,69" x 70,07")		
Weight	3200 kg (7,054.792 lbs)		
Altitude	1000 m (3280 ft)		
Enclosure (IP)	IP54		

> (1) V nominal grid · (2) derating 50-60ºC (122-140ºF)

> X6 SERIES - IFX6 & IBX6 3c
2250 · 2400 · 2550

	2250	2400	2550
> INPUT DATA			
Battery charge mode	873-1300	928-1300	984-1300
Min. MPPT voltage	790 V	840 V	890 V
Max. MPPT voltage	1250 V		
Maximum VOC	1500 V		
Maximum current (25º)	3300 A		
Nº. DC inputs	18 inputs /1 MPPT		
Isolation detection system	Yes (Isolation measurement, Optional GFDI)		
> OUTPUT DATA			
Nominal output power (S/P ^{50º})	2250 kVA/kW	2400 kVA/kW	2550 kVA/kW
Max. output (S/P ^{25º}) (1)	2515 kVA/kW	2682 kVA/kW	2850 kVA/kW
Nominal voltage (3F + 10%, -15%)	550 V	585 V	620 V
Maximum current (25º)	2650 A		
Maximum current (50º)	1583 A		
Frequency	50/60 Hz		
Power factor	Adjustable (1 at rated power)		
Output THD	< 3% at rated power		
Galvanic isolation	No (Optional BT MT-BT/BT)		
Maximum efficiency	98.6%		98.7%
EUR efficiency	98.2%	98.3%	98.4%
Control structure	Logic control and DSP, SVM technology		
Communications	Communication Port RS-485, Ethernet, etc		
> GENERAL DATA			
Working Temperature	-20ºC ... +50ºC (14ºF...122ºF) (2)		
Relative temperature	0% - 100%		
Dimensions (h x w x d)	2300 x 1920 x 1780 mm (90,55" x 75,69" x 70,07")		
Weight	4500 kg (9,920.801 lbs)		
Altitude	1000 m (3280 ft)		
Enclosure (IP)	IP54		

> (1) V nominal grid · (2) derating 50-55ºC (122-131ºF)

> X6 SERIES - IFX6 & IBX6 3c
2670 · 2750 · 2830

	2670	2750	2830
> INPUT DATA			
Battery charge mode	1022-1300	1054-1300	1085-1300
Min. MPPT voltage	935 V	965 V	995 V
Max. MPPT voltage	1250 V		
Maximum VOC	1500 V		
Maximum current (25°)	3300 A		
Nº. DC inputs	12 inputs /1 MPPT		
Isolation detection system	Yes (Isolation measurement, Optional GFDI)		
> OUTPUT DATA			
Nominal output power (S/P $^{50°}$)	2670 kVA/kW	2750 kVA/kW	2830 kVA/kW
Max. output (S/P $^{25°}$) (1)	2980 kVA/kW	3075 kVA/kW	3165 kVA/kW
Nominal voltage (3F + 10%, -15%)	650 V	670 V	690 V
Maximum current (25°)	2650 A		
Maximum current (50°)	2375 A		
Frequency	50/60 Hz		
Power factor	Adjustable (1 at rated power)		
Output THD	< 3% at rated power		
Galvanic isolation	No (Optional BT MT-BT/BT)		
Maximum efficiency	98.7%	98.8%	
EUR efficiency	98.4%	98.5%	
Control structure	Logic control and DSP, SVM technology		
Communications	Communication Port RS-485, Ethernet, etc		
> GENERAL DATA			
Working Temperature	-20ºC ... +50ºC (4ºF...122ºF) (2)		
Relative temperature	0% - 100%		
Dimensions (h x w x d)	2300 x 1920 x 1780 mm (90,55" x 75,69" x 70,07")		
Weight	4500 kg (9,920.801 lbs)		
Altitude	1000 m (3280 ft)		
Enclosure (IP)	IP54		

> (1) V nominal grid · (2) derating 50-60ºC (122-140ºF)

> X3 - IFX3 & IBX3
1050 · 1100

	1050	1100
> INPUT DATA		
Battery charge mode	582-1000	610-1000
PV voltage range	522-875 Vdc	570-900 Vdc
PV voltage range at rated power	582-875 Vdc	610-900 Vdc
Maximum voltage	1050 V	
Maximum current	1850 A	
Nº. MPPt inputs	1 or 3 (configurable)	
Isolation detection system	Yes	
> OUTPUT DATA		
Rated activate output power (1)	1050 kW	1100 kW
Rated apparent output power	1105 kVA	1210 kVA
Rated voltage	365 Vac, 3F	400 Vac, 3F
Rated current	1588 A	
Maximum current	1800 A	
Frequency	50/60 Hz	
Power factor (1)	Adjustable (0,95 at rated power)	Adjustable (0,91 at rated power)
Output THD	< 3% at rated power	
Galvanic isolation	External to the inverter, MV transformer optional	
Maximum efficiency	98.6%	98.7%
EUR efficiency	98.4%	98.46%
Control structure	Logic control and DSP, SVM technology	
Communications	Communication Port RS-485, Ethernet, etc	
Soft Start	Yes	

> GENERAL DATA	
Standards	CE, VDE 0126-1-1, EN 61000-6-2, EN61000-6-4, EN 62103, EN 50178, PO 12.3
Night reactive compensation	Yes, optional kit
Working temperature	-10ºC ... +50 ºC (14ºF...122ºF) (2)
Relative humidity	5% - 95% non-condensaing
Altitude (2)	1500 m (4,921.25 ft)
Dimensions (h x w x d)	4000 x 2000 x 750 mm (157.48" x 78.74" x 750")
Weight	2700 kg (9,920.801 lbs)
Enclosure (IP)	IP30

> (1) V nominal grid · (2) derating 50-55ºC (122-131ºF)

> X3 - IFX3 & IBX3
1150 · 1200

	1150	1200
> INPUT DATA		
Battery charge mode	635-1000	690-1000
PV voltage range	595-900 Vdc	620-900 Vdc
PV voltage range at rated power	635-900 Vdc	690-900 Vdc
Maximum voltage	1050 V	
Maximum current	1850 A	
Nº. MPPt inputs	1 or 3 (configurable)	
Isolation detection system	Yes	
> OUTPUT DATA		
Rated activate output power (1)	1150 kW	1200 kW
Rated apparent output power	1270 kVA	1315 kVA
Rated voltage	420 Vac, 3F	435 Vac, 3F
Rated current	1581 A	1592 A
Maximum current	1800 A	
Frequency	50/60 Hz	
Power factor (1)	Adjustable (0,91 at rated power)	
Output THD	< 3% at rated power	
Galvanic isolation	External to the inverter, MV transformer optional	
Maximum efficiency	98.75%	98.80%
EUR efficiency	98.49%	98.52%
Control structure	Logic control and DSP, SVM technology	
Communications	Communication Port RS-485, Ethernet, etc	
Soft Start	Yes	

> GENERAL DATA	
Standards	CE, VDE 0126-1-1, EN 61000-6-2, EN61000-6-4, EN 62103, EN 50178, PO 12.3
Night reactive compensation	Yes, optional kit
Working temperature	-10ºC ... +50 ºC (14ºF...122ºF) (2)
Relative humidity	5% - 95% non-condensaing
Altitude (2)	1500 m (4,921.25 ft)
Dimensions (h x w x d)	4000 x 2000 x 750 mm (157.48" x 78.74" x 750")
Weight	2700 kg (9,920.801 lbs)
Enclosure (IP)	IP30

> (1) V nominal grid · (2) derating 50-55ºC (122-131ºF)

> Multi-Megawatt Converter Station

SIX6-3000 · SIX6-3200 · SIX6-3400

	SIX6-3000	SIX6-3200	SIX6-3400
> INPUT DATA			
MPPT voltage @ rated power	790-1250 Vdc	840-1250 Vdc	990-1250 Vdc
Max. input voltage (VOC)	1500 Vdc		
Maximum current (50ºC)	4000 A		
Number of inputs / Measurement	24 per pole / 24 DC current measurement		
> OUTPUT DATA			
Output rated power (50ºC)	3000 kVA	3200 kVA	3400 kVA
Output power (25ºC))	3200 kVA	3400 kVA	3600 kVA
Output voltage	Up to 360 kV		
Frequency	50/60 Hz		
MV transformer configuration (1)	Hermetically sealed oil		
MV transformer efficiency (2)	C0Bk/or A0Bk, Other options available		
> COMMUNICATIONS			
Open Control	TCP/IP ethernet, RS-485, PetQ analogue signal		
SCADA panel	Free space available for integration of SCADA client		
Communications integration	Optional: Fibre optic connection to the photovoltaic plant controller and SCADA		
> CENTRE DATA			
Skid dimensions	Lenght 9.7m, Width 2.4m, Height 2.8m		
Total weights	22 Tn	23 Tn	24 Tn
> AUXILIARY PS			
Auxiliary centre transformer	230 V, 400 V, 50/60 Hz 15 kVA, (9 kVA) Other powers available		
Centre auxiliary service	General control panel with auxiliary automatic circuit-brakers, lighting, power supply, inverter and auxiliary MCB		

> ENVIRONMENTAL EVALUATION	
Protection rating according to EN 60529	iP54
Permissible ambient temperature	-20ºC+50ºC (-4ºF...+122ºF)
Relative humidity, non-condensing	5%-95% non-condensing
Altitude	3000 m (9,842.52 ft)
Paint coating	C3H Optional C4 C5-M
Temperature control	Forced air with temperature control
> CENTRE CHARACTERISTICS	
Structure material	Steel, sandwich panels, insulation in walls and ceiling (Panels and communication board room)
Cabling	Inlet and outlet holes for underground wiring

> (1) For other available configurations, contact JEMA · (2) Other options available for A0Bk European countries

> Multi-Megawatt Converter Station
SIX6-4500 · SIX6-4800 · SIX6-5100

	SIX6-4500	SIX6-4800	SIX6-5100
> INPUT DATA			
MPPT voltage @ rated power	790-1250 Vdc	840-1250 Vdc	990-1250 Vdc
Max. input voltage (VOC)	1500 Vdc		
Maximum current (50°C)	4000 A		
Number of inputs / Measurement	24 per pole / 24 DC current measurement		
> OUTPUT DATA			
Output rated power (50°C)	4500 kVA	4800 kVA	5100 kVA
Output power (25°C))	4770 kVA	5040 kVA	5350 kVA
Output voltage	Up to 360 kV		
Frequency	50/60 Hz		
MV transformer configuration (1)	Hermetically sealed oil		
MV transformer efficiency (2)	C0Bk/or A0Bk, Other options available		
> COMMUNICATIONS			
Open Control	TCP/IP ethernet, RS-485, PetQ analogue signal		
SCADA panel	Free space available for integration of SCADA client		
Communications integration	Optional: Fibre optic connection to the photovoltaic plant controller and SCADA		
> CENTRE DATA			
Skid dimensions	Lenght 13.5 m, Width 2.4 m, Height 2.8 m (without transformer)		
Total weights	22 Tn	23 Tn	24 Tn
> AUXILIARY PS			
Auxiliary centre transformer	230 V, 400 V, 50/60 Hz 15 kVA, (9 kVA) Other powers available		
Centre auxiliary service	General control panel with auxiliary automatic circuit-brakers, lighting, power supply, inverter and auxiliary MCB		

> ENVIRONMENTAL EVALUATION	
Protection rating according to EN 60529	iP54
Permissible ambient temperature	-20°C+50°C (-4°F...+122°F)
Relative humidity, non-condensing	5%-95% non-condensing
Altitude	3000 m (9,842.52 ft)
Paint coating	C3H Optional C4 C5-M
Temperature control	Forced air with temperature control
> CENTRE CHARACTERISTICS	
Structure material	Steel, sandwich panels, insulation in walls and ceiling (Panels and communication board room)
Cabling	Inlet and outlet holes for underground wiring

> (1) For other available configurations, contact JEMA · (2) Other options available for A0Bk European countries

JEMA Energy S.A.
Paseo del Circuito 10
20160 Lasarte-Oria, Gipuzkoa, Spain
Tel. +34 943 376 400
Fax. +34 943 371 279
Email: jema@jemaenergy.com

JEMA Energy México
Av. Las Misiones, 13 3ª Etapa
Parque Industrial Bernardo Quintana
Municipio El Marqués 76249 Querétaro, Mexico
Tel. +52 55 8060 1990
Email: jema.mexico@jemaenergy.com

JEMA Energy USA LLC
7545 Irvine Center Dr Suite 200
Irvine, CA 92618, USA
Tel. +1 (402) 208 7494
Email: jema.usa@jemaenergy.com

JEMA Energy Brasil
Rodovia Marechal Rondon Km 252,5
CEP: 18607-810 Botucatu SP, Brazil
Tel. +55 14 38118000 2371
Email: jema.brasil@jemaenergy.com