Jema Irizar Group 70 years

X8 Series

Conversion systems adapted to your projects

Datasheet


70
years
Jema
Irizar Group
Powering
the future


PHOTOVOLTAIC


BESS


FUEL CELL
HYDROGEN H2
HYDROGEN H2
HYDROGEN H2
HYDROGEN H2
HYDROGEN H2

X8 series > Great power density in minimum space

The X8 family is capable of actually handling its rated power at 1500 Vdc. The converter is fully configurable to work as a PV inverter, BESS converter and hydrogen cell rectifier.

The new multilevel topology not only allows full power operation over the entire DC voltage range, but also provides greater density and performance in high-altitude installations.

High performance

- UP TO 4,7 MVA @ 710 V
- FULL POWER OPERATION @ 1500 V
- OPERATION TEMPERATURE -20ºC TO 65ºC
- -30ºC KIT OPTION
- 4H SYSTEM CONFIGURATION FOR BESS

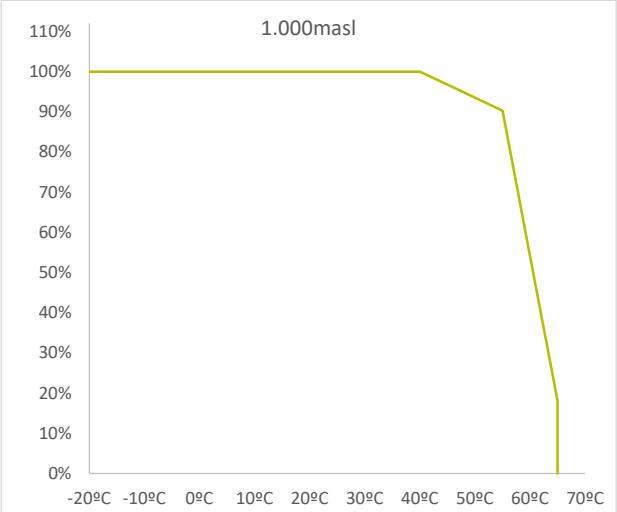
Grid support functionalities

- Reactive power control and Q-at-night function
- Black Start capability
- Grid- Feeding operation capability
- Grid-Forming operation capability

Maintenance

- Easy maintenance of cooling system
- Wide space for DC wiring installation
- Easy removal of power modules and main elements
- Dedicated monitoring and diagnostic tools
- HMI Screen

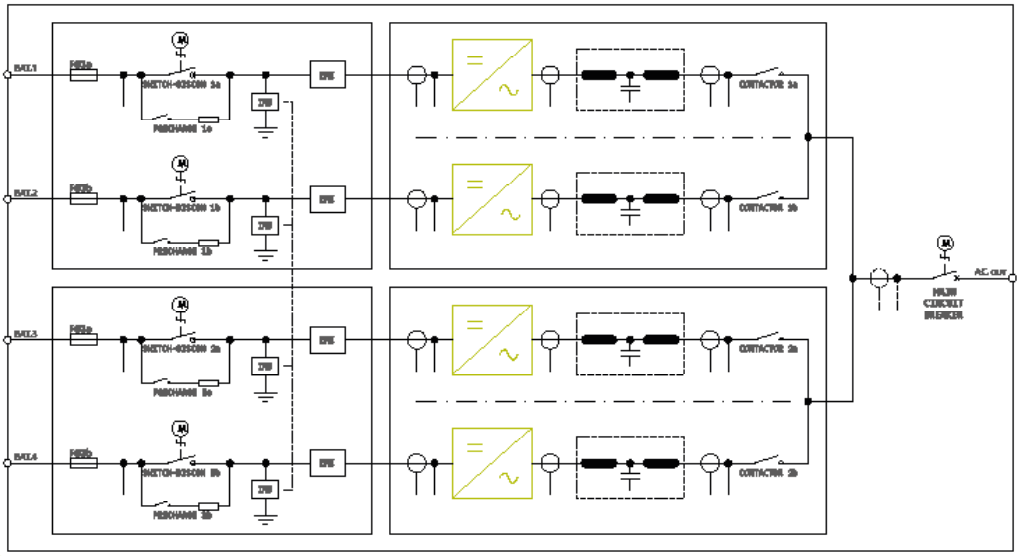
Derating curve

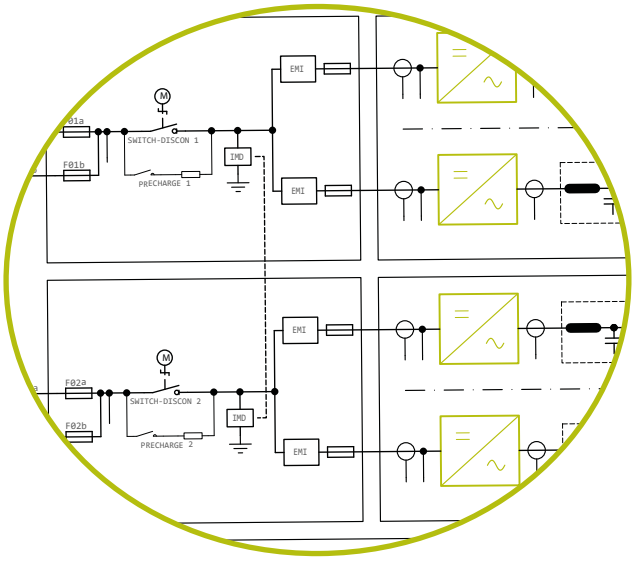


- Nominal power up to 40ºC
- 90% of rated power up to 55ºC
- Operation up to 65ºC
- IP55 protection

X8 BESS converter - Electric diagram

4 hours solution





2 hours solution

IFX8 > PHOTOVOLTAIC

4 Modules

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	4300 A, 2150 A each DC switch								
Maximum Current 40ºC	**4700 A, 2350 A each DC switch**								
Insulation Fault Detection System	YES (IMD, GFDI)								
Input number	24 fuse protected (+/- or only +)								

OUTPUT 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	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

GENERAL DATA

Operating Temperature	**- 20ºC... + 65ºC [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 from 55ºC to 65ºC/Consult under -20ºC;

(3) consult for different altitudes;

(*) preliminary

IFX8 > PHOTOVOLTAIC 2 Modules

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 Current55ºC	2150 A								
Maximum Current40ºC	**2350 A**								
Insulation Fault Detection System	YES (IMD, GFDI)								
Input number	12 fuse protected (+/- or only +)								

OUTPUT 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	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

GENERAL DATA

Operating Temperature	**- 20ºC... + 65ºC** [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 from 55ºC to 65ºC/Consult under -20ºC;

(3) consult for different altitudes;

(*) preliminary

IBX8 > BESS

4 Modules

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=1,10pu & 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	4300 A, 2150 A each DC switch/BMS								
Maximum Current 40ºC	4700 A, 2350 A each DC switch/BMS								
Insulation Fault Detection System	YES (IMD)								
Battery Short Circuit Current (4)	200 kA* each individual input								
Input number	2 or 4 inputs, fuse protected (1 each BMS/DC switch)								

OUTPUT 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	Adjustable (-1) - 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	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

GENERAL DATA	
Operating Temperature	- 20ºC... + 65ºC (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 m.a.s.l. (3)
Ingress Protection (IP)	IP55
Auxiliary power consumption (max)	7000 W*
Auxiliary power consumption at night	250 W*

(1) Vac Nominal;

(2) Derating from 55ºC to 65ºC/Consult under -20ºC;

(3) consult for different altitudes;

(4) more kA with fuses study;

(*) preliminary

IBX8 > BESS

2 Modules

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=1,10pu & 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 Current55ºC	2150A								
Maximum Current40ºC	2350A								
Insulation Fault Detection System	YES (IMD)								
Battery Short Circuit Current (4)	200 kA* each individual input								
Input number	Up to 2 inputs, fuse protected								

OUTPUT 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 (30 seg)	2.500 A								
Frequency	50/60Hz								
Power Factor	Adjustable (-1) - 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	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

GENERAL DATA	
Operating Temperature	- 20ºC... + 65ºC (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 m.a.s.l. (3)
Ingress Protection (IP)	IP55
Auxiliary power consumption (max)	5000 W*
Auxiliary power consumption at night	200 W*

(1) Vac Nominal;

(2) Derating from 55ºC to 65ºC/Consult under -20ºC;

(3) consult for different altitudes;

(4) more kA with fuses study;

(*) preliminary

X8 series ›

Jema Irizar Group | 70 years

SI IBX8 > BESS

4 modules - Single Skid, 1 PCS per skid

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=1,10pu & 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. max 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								
Input number	2 or 4 inputs fuse protected (1 each BMS/DC switch)								

OUTPUT 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	Adjustable (-1) - 0 - 1 leading/lagging. Q at Night optional								
Output THD	< 3% at nominal power								
Control Structure	Control Logic and DSP, SVM Technology								
Communications	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

MV COMPONENTS	
Set up transformer	**Dy11y11 KNAN/ONAN**
Switchgear	0L1V / 1L1V / 2L1V up to 38 kV 630A, other options upon demand
Custom Cabinet	Upon demande with Auxiliary Transformer and SCADA communication board integration

GENERAL DATA	
Operating Temperature	**- 20ºC... + 65ºC** (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.600 x 8.400 x 2.100 mm*
Weight	**15 Tn***
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 from 55ºC to 65ºC/Consult under -20ºC; (3) Consult for different altitudes; (4) more kA with fuses study; (*) preliminary

SI IBX8 >BESS

2 modules - Single Skid, 1 PCS per skid

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=1,10pu & 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
Vmppt.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. max 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* each individual input								
Input number	Up to 2 fuse protected (1 each BMS/DC switch)								

OUTPUT 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	Adjustable (-1) - 0 - 1 leading/lagging. Q at Night optional								
Output THD	< 3% at nominal power								
Control Structure	Control Logic and DSP, SVM Technology								
Communications	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

MV COMPONENTS	
Set up transformer	Dy11y11 KNAN/ONAN
Switchgear	0L1V / 1L1V / 2L1V up to 38 kV 630A, other options upon demand
Custom Cabinet	Upon demande with Auxiliary Transformer and SCADA communication board integration

GENERAL DATA	
Operating Temperature	- 20ºC... + 65ºC (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.600 x 8.400 x 2.100 mm*
Weight	13 Tn*
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 from 55ºC to 65ºC/Consult under -20ºC; (3) Consult for different altitudes; (4) more kA with fuses study; (*) preliminary

SI IBX8 > BESS

4 modules - Single Skid, 2 PCS per skid

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=1,10pu & 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. max 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	2 x 4300A, 2150A each DC switch/BMS								
Maximum Current 40ºC	**2 x 4700A, 2350A each DC switch/BMS**								
Insulation Fault Detection System	YES (IMD)								
Battery Short Circuit Current (4)	200 kA* each individual input								
Input number	2 times 2 or 4 fuse protected (1 each BMS/DC switch)								

OUTPUT DATA									
Maximum Output Power (S/P55ºC)(1)	**6.668 kVA**	**7.092 kVA**	**7.396 kVA**	**7.518kVA**	**7.638 kVA**	**7.880 kVA**	**8.124 kVA**	**8.366 kVA**	**8.608 kVA**
Maximum Output Power (S/P40ºC)(1)	7.388 kVA	7.858 kVA	8.194 kVA	8.328 kVA	8.464 kVA	8.732 kVA	9.000 kVA	9.270 kVA	9.538 kVA
Nominal Voltage (3F +10%, -10%)	2x550 V	2x585 V	2x610 V	2x620 V	2x630 V	2x650 V	2x670 V	2x690 V	2x710 V
Maximum Operation Current (55ºC)	**2x3.500 A**								
Maximum Operation Current (40ºC)	2x3.878 A								
Frequency	**50/60Hz**								
Power Factor	Adjustable (-1) - 0 - 1 leading/lagging. Q at Night optional								
Output THD	< 3% at nominal power								
Control Structure	Control Logic and DSP, SVM Technology								
Communications	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

MV COMPONENTS	
Set up transformer	**Dy11y11 KNAN/ONAN**
Switchgear	0L1V / 1L1V / 2L1V up to 38 kV 630A, other options upon demand
Custom Cabinet	Upon demande with Auxiliary Transformer and SCADA communication board integration

GENERAL DATA	
Operating Temperature	**- 20ºC... + 65ºC** (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.600 x 11.800 x 2.100 mm*
Weight	**27,5 Tn***
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 from 55ºC to 65ºC/Consult under -20ºC; (3) Consult for different altitudes; (4) more kA with fuses study; (*) preliminary

SI IBX8 >BESS

2 modules - Single Skid, 2 PCS per skid

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
Vmppt.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. max 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	2 times 2150A								
Maximum Current 40ºC	**2 times 2350A**								
Insulation Fault Detection System	YES (IMD)								
Battery Short Circuit Current (4)	200 kA*each individual input								
Input number	2 times 1 or 2 fuse protected (1 each BMS/DC switch)								

OUTPUT DATA									
Maximum Output Power (S/P55ºC)(1)	**3.334 kVA**	**3.546 kVA**	**3.698 kVA**	**3.758 kVA**	**3.820 kVA**	**3.940 kVA**	**4.062 kVA**	**4.182 kVA**	**4.304 kVA**
Maximum Output Power (S/P40ºC)(1)	3.694 kVA	3.930 kVA	4.098 kVA	4.164 kVA	4.232 kVA	4.366 kVA	4.500 kVA	4.634 kVA	4.768 kVA
Nominal Voltage (3F +10%, -10%)	2x550 V	2x585 V	2x610 V	2x620 V	2x630 V	2x650 V	2x670 V	2x690 V	2x710 V
Maximum Operation Current (55ºC)	**2x1.750 A**								
Maximum Operation Current (40ºC)	2x1.939 A								
Frequency	**50/60Hz**								
Power Factor	Adjustable (-1) - 0 - 1 leading/lagging. Q at Night optional								
Output THD	< 3% at nominal power								
Control Structure	Control Logic and DSP, SVM Technology								
Communications	ETHERNET / MODBUS TCP / IP (Optional: RS-485 communications port)								

MV COMPONENTS	
Set up transformer	**Dy11y11 KNAN/ONAN**
Switchgear	0L1V / 1L1V / 2L1V up to 38 kV 630A, other options upon demand
Custom Cabinet	Upon demande with Auxiliary Transformer and SCADA communication board integration

GENERAL DATA	
Operating Temperature	**- 20ºC... + 65ºC** (2)
Relative Humidity	0%-100%
Dimensions (h x w x d)	2.600 x 11.800 x 2.100 mm*
Weight	**23 Tn***
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 from 55ºC to 65ºC/Consult under -20ºC; (3) Consult for different altitudes; (4) more kA with fuses study; (*) preliminary

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, México
Tel. +52 (833) 134 4448
Email: jema.mexico@jemaenergy.com

JEMA Energy USA LLC
7545 Irvine Center Dr Suite 200
Irvine, CA 94618, 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, Brasil
Tel. +55 14 38118000 2371
Email: jema.brasil@jemaenergy.com