GE VERNOVA

DATA SHEET

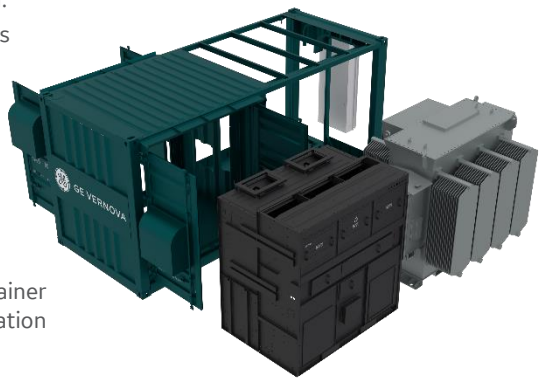
FLEXINVERTER 1.5kV BESS Power Station

GE Vernova has accumulated more than 28 gigawatts for its renewable energy inverter technology and was one of the first to introduce 1500 Vdc to the market.

The **FLEX**INVERTER is one of the industry's leading 1500 Vdc developments and is GE Vernova's latest evolution in renewable power electronics. Building on expertise in the renewables industry, GE Vernova now offers its latest power conversion technology for efficient, cost effective and dispatchable power.

FLEXINVERTER **BESS Power Station**:

- UL or IEC compliant configurations
- Up to 4.4 MVA output power
- High efficiency
- Air-cooled system
- Plug & play
- Advanced grid features
- Direct outdoor installation
- Standard 20ft ISO high cube container for optimized logistics and installation
- Digital ready



SPECIFICATIONS	UNITS	1571
INPUT DATA		
DC Input Range at Full Power Operation [1]	Vdc	1073 - 1450
Max DC Operating Voltage [1]	Vdc	1500
Max DC Current (up to 25°C / at 50°C)	Adc	4000 / 3600
Max DC Short-Circuit Withstand	kAdc	Up to 290kA peak
Number of DC Inputs & cables		Standard 12, up to 24 inputs; up to 800 kcmil (400 mm^2) per DC input
Max DC Fuse Rating per DC Input	Adc	Up to 750, multiple fuse ratings available
OUTPUT DATA - MEDIUM VOLTAGE		
Transformer HV/LV Connection		Δ (Delta) / Y (Wye)
Medium Voltage Short Circuit Rating	kA	Standard 25, Optional 40
Rated Output Power (at 52°C & 0.92 PF) [2]	MVA	3.82
AC Output Voltage (+10% / -10%) [2]	kVac	22 / 33 / 34.5
AC Discharge Power (up to 35°C / at 50°C) [3]	MW | MVA	4.16 / 3.74 | 4.40 / 4.13
Max Discharge AC Current (up to 40°C)	Aac	115 / 77 / 74
Max Discharge AC Current (at 50°C)	Aac	108 / 72 / 69
AC Charge Power (up to 25°C / at 50°C) [3]	MW | MVA	3.90 / 3.24 | 4.21 / 3.52
Max Charge AC Current (up to 25°C)	Aac	110 / 74 / 70
Max Charge AC Current (at 50°C)	Aac	92 / 62 / 59
Grid Frequency ±5%	Hz	50 / 60
Power Factor (PF) Range [2]		0 - 1 leading & lagging
Current Harmonic Distortion (TDD)	%	<3
Medium Voltage Cable		Up to 1x 630 mm^2 (IEC) 630 Aac / 1x 1500 kcmil (UL) 600 Aac, 900Aac optional, separable connectors possible
EFFICIENCY AND AUXILIARY POWER		
System Efficiency (Average for one way) [4]	%	97.4
Inverter Efficiency (Average for one way) [5]	%	98.0
Idle-time Aux Power [6]	W	≤700
INTERFACES		
Plant Control Interface / PLC		Modbus TCP, EGD
Diagnostic Interface		Modbus TCP
Extra Analog and Digital I/O		Option
Power Station Connections		Internal: CAT7 <30m / External: Fiber Optic
FEATURES AND OPTIONS		
Cooling		Air Cooled
Local Shut Down Button		Included
Mounting Options		Piers / Pad / Piles
DC Configuration Supported		Floating
Idle-time VAR Capability		Option
Insulation Monitoring		Option
Container Color Code		RAL 6036 (Dark Teal)

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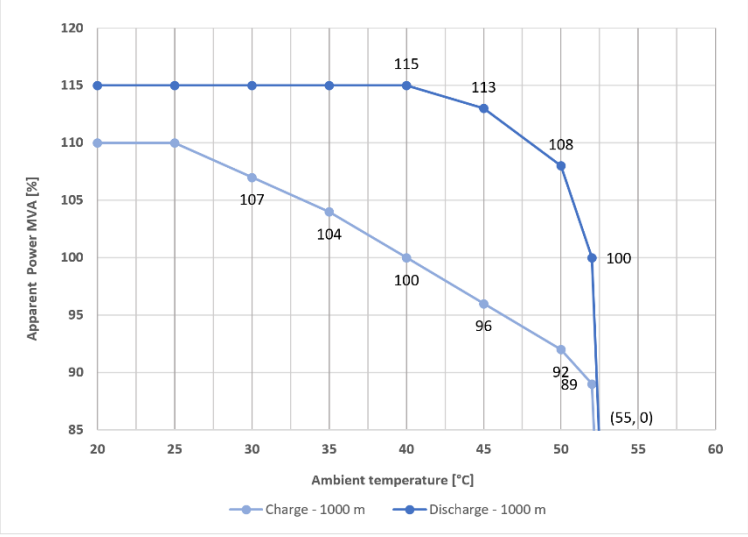
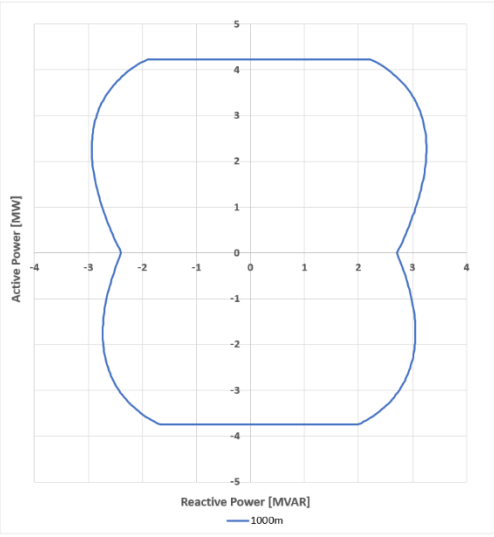
FEATURES AND OPTIONS		
Disconnect Low Voltage AC Side		Motorized AC Circuit Breaker
Disconnect DC Side		Motorized No-Load DC Switch
Overvoltage Protection – DC and AC		Included – IEC 61643-1 Class II / UL 1449
Main Power Transformer Oil Type		Mineral - ONAN (Standard) / Biodegradable - KNAN (Option)
Oil Spill Management		Option 1: Collection & drainage | Option 2: Full oil containment up to 120% oil-volume
Customer Aux Power Loads [7]	kVA	Standard 6, Option up to 165 with up to 10 circuits
Revenue Grade Metering		Option
GPS Enabled Fault Timestamping		Option (compliant to MISO App G and CAISO App H)
Altitude [2]	m / ft	No derating ≤ 1000 / 3281, up to 4000 / 13124
Noise at 1m [8]	dBA	≤79
Weight	kg / lbs	preliminary 17000 / 37480
Dimensions (L x W x H)	m / ft	6.1 x 2.4 x 2.9 / 20.0 x 8.0 x 9.5
PROTECTION RATING AND AMBIENT CONDITIONS		
Operating Temperature Range	°C / °F	Standard -10 to +55 / +14 to +131, Option -25 to +55 / -13 to +131
Cold Weather Option [9]	°C / °F	Down to -35 / -31
Storage Temperature Range	°C / °F	-40 to +65 / -40 to +149
Humidity	%	5 to 100 (rated for outdoor installation)
Maximum Altitude Without Derating [10]	m / ft	1000 / 3281
Seismic		IBC 2018 / ASCE 7-10 Ss=2g for 0.2 Sec
Maximum Wind Speed [11]	kph / mph	250 / 155
Snow Load		ASCE 7
NEMA Rating / IP Class		NEMA 3 / IP54 (Inverter & RMU) - NEMA 3R / IP23 (Transformer)
STANDARDS		
Electromagnetic Compatibility (EMC)		EN 61000-6-2, 62920 / CISPR 11
Certifications & Compatibility		IEC, CE & UL 1741 SA, CSA

1. *At nominal grid voltage, derating according to PQ curves*
2. *Derating will apply according to PQ curves*
3. *AC Power is valid for grid voltage ≥ nominal voltage. Self-consumption (max ~15 kVA) and customer auxiliary loads not included*
4. *Preliminary efficiencies for round trip performance, includes auxiliary power losses, EU Reg. No. 584/2014 available as option*
5. *Preliminary efficiencies round trip performance, includes self-consumption auxiliary power losses*
6. *No heating, no cooling, without environmental controls enabled & DC link de-energized*
7. *Customer Aux Power demand reduces total AC output power*
8. *At 1m in front of enclosure and 1.5m up from the ground. Please respect the restricted areas described in the manual*
9. *Cold weather option on request*
10. *Higher altitudes (with derating) on request*
11. *Maximum wind speed without derating 81 kph / 50 mph*

Power / Temperature Derating Curve [12] & Sample PQ Diagram [13]





12. *Applicable for grid voltage ≥ nominal voltage, altitudes >1000 m on request*

13. *Sample PQ diagram for **FLEX**INVERTER*

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