GE VERNOVA

PRELIMINARY DATA SHEET

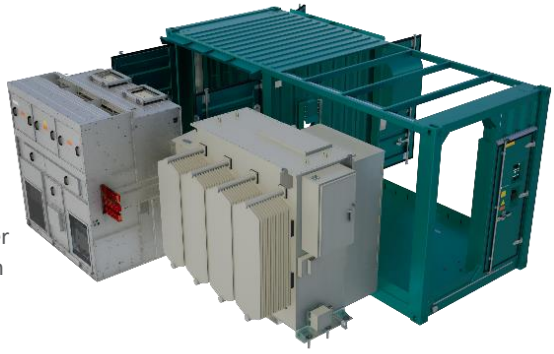
FLEXINVERTER 2.0kV Solar Power Station

The GE Vernova **FLEX**INVERTER 2000 Vdc Solar Power Station is the latest utility scale power station product offering for the renewable energy market. The **FLEX**INVERTER power station combines an inverter, medium voltage transformer, in addition to various configurable options, for a reliable, plug & play, factory integrated power conversion solution for utility-scale solar installations.

As one of the industry's first 2000 Vdc inverter platforms, it benefits from more than 30 GW of global 1500 Vdc inverter project experience. Building on expertise in the renewables industry, GE Vernova now offers its latest power conversion technology for efficient, cost effective and dispatchable solar power.

FLEXINVERTER **Solar Power Station:**

- Up to 6.0 MVA output power
- High efficiency power conversion
- Air-cooled system
- Plug & Play on-site installation
- Direct outdoor installation
- Standard 20 ft ISO high cube container for optimized logistics and installation
- Fiber-optic SCADA interface
- DC-coupling option



SPECIFICATIONS	UNITS	2090
INPUT DATA		
MPPT Range [1]	Vdc	1277 - 1600
Max Permissible DC Voltage	Vdc	2000
Max DC Current Capability (up to 35°C / at 50°C)	Adc	4821 / 4313
Number of MPPT		1
Number of DC Inputs & cables		18 standard, up to 24 input pairs; 2 x 500 kcmil / 300 mm^2 or 1 x 750 kcmil / 400 mm^2 per DC input
Max DC Fuse Rating per DC Input	A	up to 400, multiple fuse ratings available
DC-coupling with battery energy storage systems		Option – compatible with or without PV optimizers including separate BESS input
OUTPUT DATA - MEDIUM VOLTAGE		
Transformer HV / LV Connection		Δ (Delta) / Y (Wye)
Short Circuit Capability	kA	IEC MVSG - Standard 20kA 1s, (Option 20kA 3s, 25kA 1s) / UL Padmount Transformer - Standard 25kA, (Option 40kA)
Rated Output Power (at 55°C & 0.92 PF)	MVA	4.89
AC Output Power (up to 35°C / at 50°C) [2]	MW	6.01 / 5.37
AC Output Voltage (+10% / -10%) [3]	kVac	22 / 33 / 34.5
Max AC Current (up to 35°C)	Aac	157 / 105 / 101
Max AC Current (at 50°C)	Aac	141 / 94 / 90
Grid Frequency ±5%	Hz	50 / 60
Power Factor (PF) Range [3]		0-1 leading & lagging
Current Harmonic Distortion (TDD)	%	<3
Medium Voltage Cable		Up to 1x 630 mm2 (IEC) 630Aac / 1x 1500 kcmil (UL) 600 Aac, 900 Aac optional Separable connectors possible
EFFICIENCY & AUXILIARY POWER		
Power Station Efficiency at 40°C (Max / EU / CEC) [4]	%	98.4 / 97.6 / 97.9
Inverter Efficiency at 40°C (Max / EU / CEC) [5]	%	99.1 / 98.7 / 98.7
Power Station Nighttime Aux Power [6]	W	≤700, Excludes MV Transformer No-Load Losses
INTERFACES		
Plant Control Interface / PLC		Modbus TCP, EGD
Programming / 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
Array Configurations Supported		Negative Pole Grounded or Floating
Ground Fault Monitoring		Standard for Grounded Arrays, Option for Floating Arrays
Night-time VAR Function		Option
Insulation Monitoring		Option

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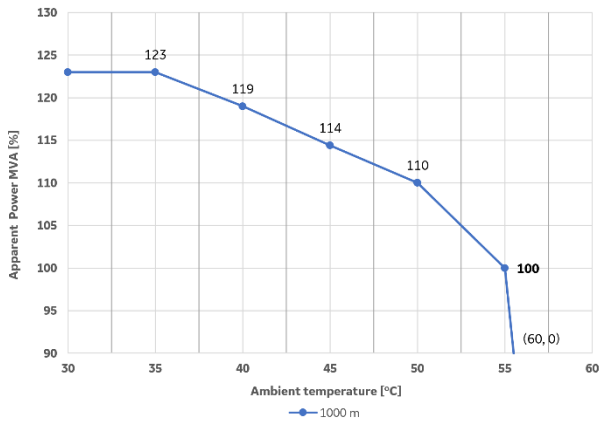
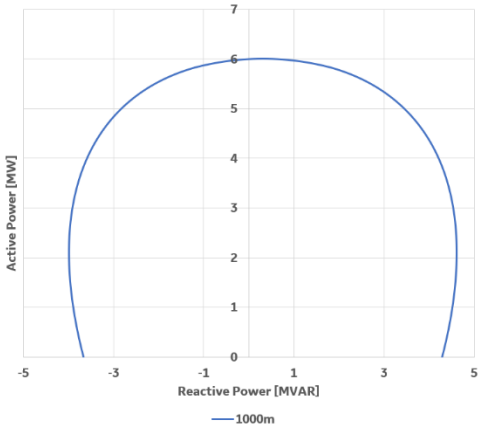
FEATURES AND OPTIONS		
Container Color Code		RAL 6026 (Dark Teal)
Disconnect Low Voltage AC Side		Motorized AC Circuit Breaker
Disconnect DC Side		Motorized - DC Breaker
Overvoltage Protection, DC and AC		Included – IEC 61643-1 Class II / UL 1449
Main Power Transformer Oil Type		Mineral - ONAF (Standard) / Biodegradable - KNAF (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 40
Revenue Grade Metering		Option
GPS Enabled Fault Timestamping		Option
Altitude [3]	m / ft	No derating ≤ 1000 / 3281, up to 4000 / 13124
Noise at 1m [8]	dBA	Standard ≤79, Acoustic Hood Option ≤71
Weight	kg / lbs	preliminary 21000 / 46297
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	%	5-100 (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	257 / 160
Snow Load		ASCE 7
NEMA Rating / IP Class		NEMA 3 / IP54 (Inverter & RMU), NEMA 1 / IP11 (IEC); NEMA 0 / IP00 UL (Transformer Area)
STANDARDS & CERTIFICATIONS		
Electromagnetic Compatibility (EMC)		EN 61000-6-2, 62920 / CISPR 11
Certifications		IEC, CE, UL 1741 SA, CSA pending

1. *At nominal grid voltage and PF=1, please refer to PQ curves for detailed MPPT voltage & temperature profiles*
2. *AC Power is valid for grid voltage ≥ nominal voltage. Self-consumption (max ~16 kVA) and customer auxiliary loads not included*
3. *Derating will apply according to PQ curves*
4. *Preliminary measurements at 40°C for 900 Vac, includes auxiliary power losses, EU Reg. No. 584/2014 available as option. 99.1% rated efficiency option available for IEEE transformer*
5. *Preliminary measurements at 40°C for 900 Vac, includes self-consumption for CEC & Max efficiencies and excludes self-consumption for EU efficiency*
6. *No heating, no cooling, without environmental controls enabled, DC link de-energized and without transformer no load losses, no customer loads, for inverter only auxiliary needs*
7. *Customer Aux Power demand reduces total AC output power*
8. *At 1m / 10m in front of enclosure and 1m up from the ground*
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 >1000m on request



*13. Sample PQ diagram for **FLEX**INVERTER 2090 at nominal grid voltage, 1400 Vdc and 35°C ambient*

www.gevernova.com/power-conversion/solar-storage

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