



# LV5+ Solar Power Station Data Sheet



GE's LV5+ Solar Power Station combines GE Power Conversion's LV5+ 1500V solar inverter, with medium voltage power transformer, optional MV switchgear, and various options for a reliable, plug & play, factory integrated power conversion solution for utility-scale solar installations.

The LV5+ Solar Inverter is one of the industry's leading 1500V developments and is GE's latest evolution in renewable power electronics. Building on expertise in the renewables industry, GE now offers its latest power conversion technology for efficient, cost effective and dispatchable solar power.

## LV5+ Solar Power Station Features:

- UL or IEC compliant configurations
- 2.7 - 3.5 MW output power
- High efficiency
- Filterless air-cooling system
- Plug & play
- Night time disconnect option
- Direct outdoor installation
- Standard 20ft ISO high cube container for optimized logistics and installation
- Fibre-optic SCADA interface
- Digitally ready

## 1. LV5+ 1500V Solar Power Station Data

Specifications	Units	LV5+ 1560 Solar Power Station	LV5+ 1563 Solar Power Station	LV5+ 1566 Solar Power Station	LV5+ 1569 Solar Power Station
<b>Input Data</b>					
MPPT Range <sup>1</sup>	Vdc	880 - 1300	922 - 1300	963 - 1300	1004 - 1300
Max Permissible DC Voltage	Vdc	1500			
Max Continuous DC Current (at 35°C / 50°C)	Adc	4000 / 3200			
Max DC Short Circuit Interrupt Rating	Adc	12000 <sup>2</sup>			
Number of MPPT		1			
Number of DC Inputs		up to 24			
<b>Output Data - Medium Voltage</b>					
Transformer HV / LV Connection		Δ (Delta) / Y (Wye)			
Efficiency at 100% Load (Standard / High)	%	98.8 (Standard) / 99.1 (Option)			
Active AC Output Power (PF=1) <sup>3</sup> (at 35°C / 50°C)	MW	3.08 / 2.73	3.23 / 2.87	3.40 / 3.00	3.54 / 3.14
AC Output Voltage (+10% / -10%) <sup>4</sup>	kVac	22 / 33 / 34.5			
Max AC Current (at 50°C)	Aac	72 / 48 / 46	76 / 51 / 48	80 / 53 / 51	83 / 56 / 53
Max AC Current (at 35°C)	Aac	82 / 55 / 52	86 / 57 / 55	90 / 60 / 57	94 / 63 / 60
Grid Frequency ±5%	Hz	50 / 60			
Power Factor (PF) Range		0-1 <sup>4</sup>			
Current Harmonic Distortion (TDD)	%	<3			
Medium Voltage Cable		Designed for 630 mm <sup>2</sup> / 1250 MCM max			
<b>Efficiency &amp; Auxiliary Power</b>					
System Efficiency (Max / EU / CEC) <sup>5</sup>	%	97.8 / 97.6 / 97.7			
Inverter Efficiency (Max / EU / CEC) <sup>6</sup>	%	98.9 / 98.6 / 98.7			
System Nighttime Aux Power <sup>7</sup>	W	≤700			
<b>Interfaces</b>					
Plant Control Interface / PLC		EtherNet IP / Modbus TCP, OPCUA, EGD			
Programming / Diagnostic Interface		EtherNet IP / Modbus TCP, OPCUA			
Extra Analog and Digital I/O		Option			
<b>Features and Options</b>					
Cooling		Air Cooled			
Emergency Shut Down		Included			
Mounting Options		Piers / Pad / Gravel			

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Array Configurations Supported		Negative Pole Grounded or Floating			
Ground Fault Monitoring		Standard for Grounded Arrays, Option for Floating Arrays			
Nighttime Transformer Disconnect		Option			
Nighttime VAR Function		Option			
Insulation Monitoring		Option			
Power Disconnect AC Side		Motorized AC Circuit Breaker			
Switch-Disconnect DC Side		Motorized 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 Containment		Option			
Aux Power for Tracker / Customer Loads		Option (up to 100 kVA)			
Door Interlocking System		Option			
Weather Station		Option			
Noise (at 1m / 10m) <sup>8</sup>	dB(A)	≤85 / ≤75			
Weight	kg / lbs	approx. 17000 / 37480			
Dimensions (L x W x H)	m / ft	6.1 x 2.4 x 2.9 / 20.0 x 8.0 x 8.5			
<b>Protection Rating and Ambient Conditions</b>					
Operating Temperature Range	°C	-25 to +50			
Storage Temperature Range	°C	-40 to +65			
Cold Weather Option <sup>9</sup>	°C	-35 to +50			
Humidity	%	5-100 (rated for outdoor installation)			
Maximum Altitude without Derating <sup>10</sup>	m / ft	2000 / 6562			
Seismic		Zone 2B ASCE 7 / IBC			
Maximum Wind Speed <sup>11</sup>	kph / mph	250 / 155			
Snow Load		ASCE 7			
NEMA Rating / IP Class		NEMA3 / IP54 (Inverter & RMU) NEMA3R / IP23 (Transformer)			
<b>Standards</b>					
Electromagnetic Compatibility (EMC)		EN 61000-6-2, 62920 / CISPR 11			
Certifications		IEC, CE, UL 1741 SA			

<sup>1</sup> At nominal voltage and PF=1 (at 50°C)

<sup>2</sup> Up to 5 times per lifetime

<sup>3</sup> Implies active power reduction, Altitude ≤ 2000m, grid voltage ≥ nominal voltage

<sup>4</sup> Derating will apply according to PQ curves

<sup>5</sup> Preliminary, includes auxiliary power losses

<sup>6</sup> Preliminary, excludes auxiliary power losses

<sup>7</sup> No heating, no cooling, without environmental controls enabled, DC link de-energized and without main transformer no load losses, no customer loads, for inverter only auxiliary needs

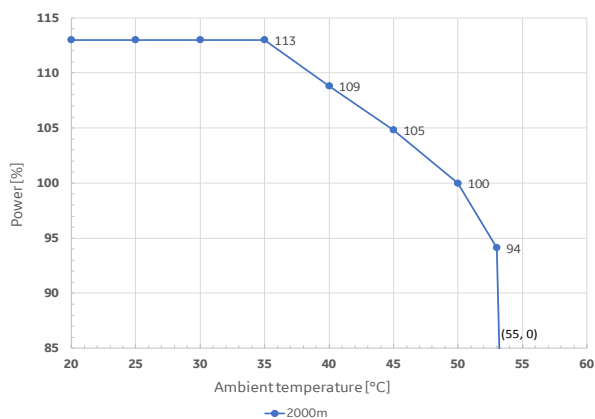
<sup>8</sup> At 1m / 10m in front of enclosure and 1m up from the ground

<sup>9</sup> Cold weather option on request

<sup>10</sup> Higher altitudes (with derating) on request

<sup>11</sup> Maximum wind speed without derating 81 kph / 50 mph

## 2. Derating Curve (Altitude and Temperature)<sup>12</sup>



<sup>12</sup> Applicable for grid voltage ≥ nominal voltage, altitudes >2000m on request