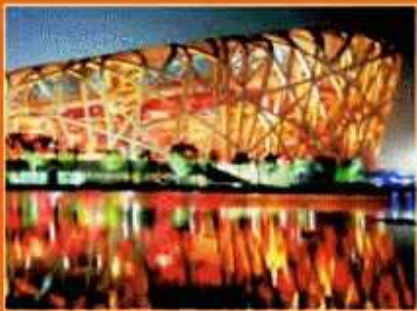


PV



SL series grid connected inverters





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GE4ALL SL Series PV Grid-Connected Inverters

Features

- High DC input voltage range
- Anti-Islanding detection methods: frequency, voltage and utility impedance
- Build-in MPPT (Maximum Power Point Tracking) function
- High efficiency with wide range operation
- Designed to meet UL-1741 or CSA Std. C22.2 no. 107.1-01 requirements
- Easy assemble in production line
- Easy replacement when servicing. The mean time of service is less than 20 minutes.
- Firmware flash capability: The firmware inside the micro-controllers can be updated by the optional communication interface
- GFDI: Ground Fault Detector Interruption, which is also known as RCD (Residual Current Device). To prevent electrical hazard of a user, a current transformer monitoring the difference between L and N current is applied. When the current is larger than the specified value stated in "General Data", the inverter will cut it's output to the grid.
- Bundled software for user buying the optional communication card.
- Outdoor models dust and waterproof sealed (IP65)
- Neatly designed aluminium housing.
- Small form factor and lightweight for easy installation and commissioning.
- Regulatory standards and requirements:
 - EMC: UL-1741 or CSA Std. C22.2 no. 107 1-01
 - Grid interference: IEEE-1547,
 - Grid monitoring: Independent disconnection device (Mains monitoring with allocated Switching Devices according to ETL; UL-1741 or CSA Std. C22.2 No. 107.1-01 approved by ETL test & certificate institute.
 - Low voltage regulation: IEEE-1547 approved by ETL test & certificate institute.

Standard models

The following standard models are available.

Single phase output

Model nr.	Indoor/outdoor type	DC voltage range	Nominal power
SL-1500 (no transformer)	Outdoor	100V ~ 450V	1.5 kW
SL-2000 (no transformer)	Outdoor	100V ~ 450V	2.0 kW
SL-3000 (no transformer)	Outdoor	100V ~ 450V	3.0 kW
SL-4000 (no transformer)	Outdoor	100V ~ 450V	4.0 kW





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Model SL-1500	
Input Parameters	Value
Isolation type	No transformer
Maximum input power of PV array	1875Wp
Nominal input power of PV array	1575Wp
Maximum array open-circuit voltage	450Vdc
Nominal DC voltage	360 ~ 400Vdc
MPPT voltage range	150 ~ 450Vdc +/- 5%
System start-up voltage	100V +/- 5%
Working voltage range	100V +/- 5% ~450-5%+0% V
Initial Feeding voltage	150V +/-5%
Full rating working range	250V to 450V
Shutdown voltage	80V typical
Max. nr. of parallel PV array strings	1
Maximum array input current	7.5A
DC voltage ripple	< 10%
DC insulation resistance	> 8MOhm
GFDI switch	ON/OFF 20A
DC terminal	Terminal block
Output Parameters	Value
Maximum cont. output power (25°C)	1650W
Nominal output power	1500W
Operational voltage range	183V ~ 228V @ 208Vac 211V ~ 264V @ 240Vac
Operational frequency range	59.3 ~60.5 Hz for 60Hz (limit IEEE1547) 59.5 ~60.5 Hz for 60 Hz (limit CSA Std. C22.2 no.107.1-01)
Nominal output frequency	60Hz
Maximum input short circuit current	< 30A
Maximum output over current protection	< 14.0A
Current THD	<3% (at nominal power, ref. IEEE1547)
Power factor	> 0.99 (at nominal power)
General Parameters	Value
Internal power consumption	< 7W
Power consumption idle mode (f.e. during the night)	< 0.1W
Maximum efficiency	> 96%
CEC efficiency	> 95.5%
Communication interface	RS-232, RS 485 and USB optional
Protection class	NEMA 3R (rain proof)
Operating temperature	-25°C ~ + 45°C
Noise	< 40dB, A-weighted, freq. up to 20kHz
Cooling	Convection
Dimension and weight parameters	Value
Size (W x H x D)	352 x 450 x 133 mm
Weight	15 kg



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Model SL-2000	
Input Parameters	Value
Isolation type	No transformer
Maximum input power of PV array	2500Wp
Nominal input power of PV array	2160Wp
Maximum array open-circuit voltage	450Vdc
Nominal DC voltage	360 ~ 400Vdc
MPPT voltage range	150 ~ 450Vdc +/- 5%
System start-up voltage	100V +/- 5%
Working voltage range	100V +/- 5% ~450-5%+0% V
Initial Feeding voltage	150V +/-5%
Full rating working range	250V to 450V
Shutdown voltage	80V typical
Max. nr. of parallel PV array strings	1
Maximum array input current	15A
DC voltage ripple	< 10%
DC insulation resistance	> 8MOhm
GFDI switch	ON/OFF 20A
DC terminal	Terminal block
Output Parameters	
	Value
Maximum cont. output power (25°C)	3300W
Nominal output power	3000W
Operational voltage range	183V ~ 228V @ 208Vac 211V ~ 264V @ 240Vac
Operational frequency range	59.3 ~60.5 Hz for 60Hz (limit IEEE1547) 59.5 ~60.5 Hz for 60 Hz (limit CSA Std. C22.2 no.107.1-01)
Nominal output frequency	60Hz
Maximum input short circuit current	< 30A
Maximum output over current protection	< 18.8A
Current THD	< 3% (at nominal power, ref. IEEE1547)
Power factor	> 0.99 (at nominal power)
General Parameters	
	Value
Internal power consumption	< 7W
Power consumption idle mode (f.e. during the night)	< 0.1W
Maximum efficiency	> 96%
CEC efficiency	> 95.5%
Communication interface	RS-232, RS 485 and USB optional
Protection class	NEMA 3R (rain proof)
Operating temperature	-25°C ~ + 40°C
Noise	< 40dB, A-weighted, freq. up to 20kHz
Cooling	Convection
Dimension and weight parameters	
	Value
Size (W x H x D)	352 x 450 x 143 mm
Weight	15 kg



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Model SL-3000	
Input Parameters	Value
Isolation type	No transformer
Maximum input power of PV array	3750Wp
Nominal input power of PV array	3159Wp
Maximum array open-circuit voltage	450Vdc
Nominal DC voltage	360 ~ 400Vdc
MPPT voltage range	150 ~ 450Vdc +/- 5%
System start-up voltage	100V +/- 5%
Working voltage range	100V +/- 5% ~450-5%+0% V
Initial Feeding voltage	150V +/-5%
Full rating working range	250V to 450V
Shutdown voltage	80V typical
Max. nr. of parallel PV array strings	1
Maximum array input current	10A
DC voltage ripple	< 10%
DC insulation resistance	> 8MOhm
GFDI switch	ON/OFF 20A
DC terminal	Terminal block
Output Parameters	Value
Maximum cont. output power (25°C)	3300W
Nominal output power	3000W
Operational voltage range	183V ~ 228V @ 208Vac 211V ~ 264V @ 240Vac
Operational frequency range	59.3 ~60.5 Hz for 60Hz (limit IEEE1547) 59.5 ~60.5 Hz for 60 Hz (limit CSA Std. C22.2 no.107.1-01)
Nominal output frequency	60Hz
Maximum input short circuit current	< 30A
Maximum output over current protection	< 28.1A
Current THD	< 3% (at nominal power, ref. IEEE1547)
Power factor	> 0.99 (at nominal power)
General Parameters	Value
Internal power consumption	< 7W
Power consumption idle mode (f.e. during the night)	< 0.1W
Maximum efficiency	> 95%
CEC efficiency	> 94.5%
Communication interface	RS-232, RS 485 and USB optional
Protection class	NEMA 3R (rain proof)
Operating temperature	-25°C ~ + 45°C, +40°C ~ 45°C derated
Noise	< 40dB, A-weighted, freq. up to 20kHz
Cooling	Convection
Dimension and weight parameters	Value
Size (W x H x D)	352 x 450 x 143 mm
Weight	16 kg



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Model SL-4000	
Input Parameters	Value
Isolation type	No transformer
Maximum input power of PV array	5000Wp
Nominal input power of PV array	4230Wp
Maximum array open-circuit voltage	450Vdc
Nominal DC voltage	360 ~ 400Vdc
MPPT voltage range	150 ~ 450Vdc +/- 5%
System start-up voltage	100V +/- 5%
Working voltage range	100V +/- 5% ~450-5%+0% V
Initial Feeding voltage	150V +/-5%
Full rating working range	250V to 450V
Shutdown voltage	80V typical
Max. nr. of parallel PV array strings	1
Maximum array input current	20A
DC voltage ripple	< 10%
DC insulation resistance	> 8MOhm
GFDI switch	ON/OFF 20A
DC terminal	Terminal block
Output Parameters	Value
Maximum cont. output power (25°C)	4400W
Nominal output power	4000W
Operational voltage range	183V ~ 228V @ 208Vac 211V ~ 264V @ 240Vac
Operational frequency range	59.3 ~60.5 Hz for 60Hz (limit IEEE1547) 59.5 ~60.5 Hz for 60 Hz (limit CSA Std. C22.2 no.107.1-01)
Nominal output frequency	60Hz
Maximum input short circuit current	< 30A
Maximum output over current protection	< 37.5A
Current THD	< 3% (at nominal power, ref. IEEE1547)
Power factor	> 0.99 (at nominal power)
General Parameters	Value
Internal power consumption	< 7W
Power consumption idle mode (f.e. during the night)	< 0.1W
Maximum efficiency	> 96%
CEC efficiency	> 95.5%
Communication interface	RS-232, RS 485 and USB optional
Protection class	NEMA 3R (rain proof)
Operating temperature	-25°C ~ + 45°C, +40°C ~ 45°C derated
Noise	< 40dB, A-weighted, freq. up to 20kHz
Cooling	Convection
Dimension and weight parameters	Value
Size (W x H x D)	550 x 450 x 143 mm
Weight	22 kg