



InstaGen Single-Phase Hybrid Inverter



The HYS-5.0LV-EUG1 is a high-performance single-phase hybrid inverter with excellent reliability, including a power class of 5kW.

The intelligent EMS function supports self-consumption mode, economic mode, and backup mode for multi-scenario applications.

Monitoring management through S-Miles Cloud allows users to remotely diagnose and track system's performance over time, maximizing the total solar power production and battery utilization.

Key features

- ✦ Intelligent export limitation
- ✦ Double MPPT tracker, up to 14 A MPPT current
- ✦ Compatible with multiple batteries, providing users with more choices
- ✦ UPS level switching time <10 ms
- ✦ DC/AC ratio up to 150%
- ✦ Ultralight for easy installation and space-saving
- ✦ Built-in dry contact flexibly set to earth fault alarm, load control or generator control
- ✦ Max. 10 parallel inverters

10 years

Enhanced product guarantee on product and workmanship

Product Certificates



For InstaGen enquiries email productsales@instagroup.co.uk

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Technical Specifications

HYS-5.0LV-EUG1	
Battery	
Battery Type	LiFePO4 InstaGen
Nominal Battery Voltage (V)	51.2
Voltage Range (V)	40-60
Max. Charge Current (A)	100
Max. Discharge Current (A)	100
Charging Strategy for Li-ion Battery	Self-adaption to BMS
Charging Curve	3 Stages / Equalization
External Temperature Sensor	Optional

PV Input	
Max. PV Input Power (W)	7500
Max. PV Input Voltage (V)	550
Nominal Input Voltage (V)	360
MPPT Voltage Range (V)	125-500
Start-up Voltage (V)	150
Number of MPPTs	2
Max. Number of PV String per MPPT	1/1
Max. PV Input Current (A)	14/14
Short-circuit Current of PV Input (A)	17/17

AC Input and Output (On-grid)	
Nominal Output Apparent Power (VA)	5000 ⁽¹⁾
Max. Output Apparent Power (VA)	5000 ⁽¹⁾⁽²⁾
Max. Input Apparent Power (VA)	7360
Nominal AC Voltage (V)	230
Nominal Grid Frequency (Hz)	50/60
Max. Output Current (A)	21.7
Max. Input Current (A)	32.0
Power Factor	0.8 leading...0.8 lagging
Total Harmonic Distortion (@nominal output)	<3%

AC Input and Output (Off-grid)	
Max. Output Apparent Power (VA)	5000
Peak Output Apparent Power (VA) ⁽³⁾	10000, 10s
Nominal AC Voltage (V)	230
Nominal AC Frequency (Hz)	50/60
Max. Output Current (A)	21.7
Total Harmonic Distortion (@linear load)	<3%

(1) 4600 for VDE-AR-N 4105 & VDE0126-1-1; 4999 for AS/NZS 4777.2

(2) Max. output apparent power 3680 VA for TOR Erzeuger Type A

(3) Can be achieved only if PV and battery power are sufficient.

Efficiency	
Max. Efficiency	97.6%
Euro Efficiency	97.0%
Max. Battery to Load Efficiency	95.0%
MPPT Efficiency	99.9%

Protection	
Anti-islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
AC Over Current Protection	Integrated
AC Short Current Protection	Integrated
AC Overvoltage and Undervoltage Protection	Integrated
Surge Protection	DC Type II/AC Type III

General	
Dimension (W x H x D) [mm]	502 X 461 X 202
Weight (kg)	24
Mounting	Wall Mounting
Operation Temperature (°C)	-25 to +65 (>45, derating)
Relative Humidity	0-95%, no condensing
Altitude (m)	≤2000
Cooling	Natural Convection
Protection Degree	IP65
Noise (db [A])	<40
User interface	LED & App
Communication with BMS	CAN
Communication with Meter	RS485
Communication Interface	RS485, Wi-Fi/Ethernet/4G (optional)
Digital Input/Output	DRM, 1 x DI, 2 x DO
Isolation Method (Solar/Battery)	Transformerless/High-frequency Isolation

Certification and Standards	
Grid Regulation	EN 50549, VDE-AR-N 4105, AS/NZS 4777.2, VFR: 2019, TOR Erzeuger Type A, RD647, NTS (SENP), CEI 0-21 2019:04
Safety Regulation	IEC 62109-1, IEC 62109-2
EMC	EN 61000-6-1, EN 61000-6-3

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