



InstaGen Single-Phase Hybrid Inverter



The INS-3.6LV-EUA1 is a high-performance single-phase hybrid inverter with excellent reliability, including a power class of 3.6kW.

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

Management through Cloud remote monitoring allows users to remotely diagnose and track system's performance over time, maximizing the total solar power production and battery utilization.

10 years

Enhanced product guarantee on product and workmanship

Product Certificates



Key features

- * Max. Efficiency 97.6%, CEC Efficiency 97.0%
- * Double MPPT tracker, up to 14 A MPPT current
- * DC/AC ratio up to 160%
- * Ultralight for easy installation and space-saving
- * Support both DC-coupled and AC-coupled system
- * EMS has integrated with self-consumption, economic mode, backup mode for multi-scenario application
- * Built-in dry contact flexibly set to earth fault alarm, load control or generator control
- * Cloud remote monitoring

For InstaGen enquiries email productsales@instagroup.co.uk

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Technical Specifications

| INS-3.6LV-EUA1 | |
|--------------------------------------|-------------------------|
| Battery | |
| Battery Type | LiFePO4 InstaGen |
| Nominal Battery Voltage (V) | 48 |
| Voltage Range (V) | 40-60 |
| Max. Charge Current (A) | 90 |
| Max. Discharge Current (A) | 90 |
| 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 | 6000 |
| Max. PV Input Voltage (V) | 550 |
| Nominal Input Voltage (V) | 360 |
| MPPT Voltage Range (V) | 125-500 |
| Start-up Voltage | 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) | 3680 |
| Max. Output Apparent Power (VA) | 3680 |
| Max. Input Apparent Power (VA) | 7360 |
| Nominal AC Voltage (V) | 230 |
| Nominal Grid Frequency (Hz) | 50/60 |
| Max. Output Current (A) | 16.0 |
| 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) | 3680 |
| Peak Output Apparent Power (VA) ⁽¹⁾ | 7360, 10s |
| Nominal AC Voltage (V) | 230 |
| Nominal AC Frequency (Hz) | 50/60 |
| Max. Output Current | 16.0 |
| Total Harmonic Distortion (@linear load) | <3% |

(1) 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) | 25 |
| 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 | RS485, 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 |
| Safety Regulation | IEC 62109-1, IEC 62109-2 |
| EMC | EN 61000-6-1, EN 61000-6-3 |

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