



3.6-12kW Single-phase Hybrid Inverter

Flexible power range

- Available from 3.6 kW to 12 kW for residential and light commercial solar-plus-storage applications

Intelligent energy management

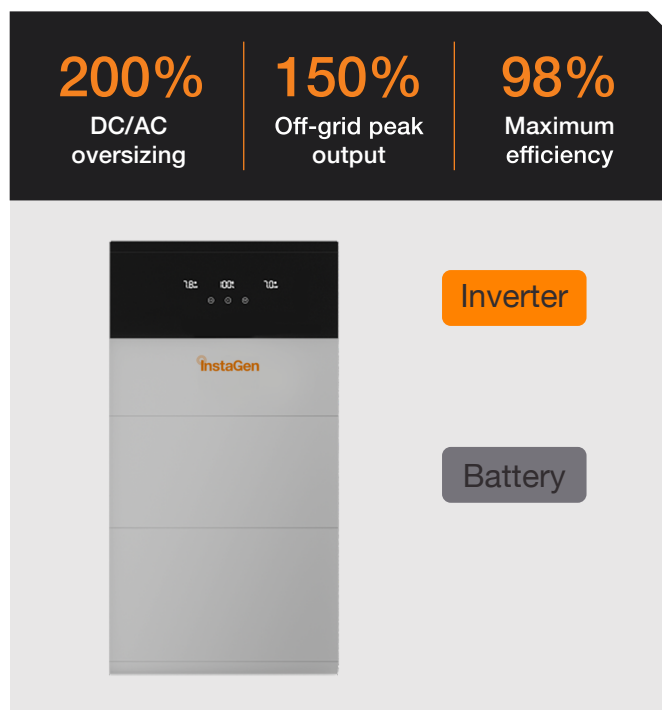
- Combines high-efficiency MPPT technology with integrated battery management for reliable, optimized energy performance and control

Advanced performance

- Supports up to 200% DC oversizing with four independent 18 A MPPTs for maximum energy harvesting

Safe and future-ready design

- IP66 protection, integrated EMS, and built-in AFCI technology provide enhanced safety and installation flexibility



| Model | INS-3.6S-G3 | INS-4.6S-G3 | INS-5S-G3 | INS-6S-G3 | INS-8S-G3 | INS-10S-G3 | INS-12S-G3 |
|----------------------------------|-------------|-------------|-----------|-----------|-------------|-------------|-------------|
| Battery | | | | | | | |
| Battery type | LiFeP04 | | | | | | |
| Battery voltage range (V) | 390-550 | | | | | | |
| Compatible battery model | INS-8B-G3 | | | | | | |
| Number of modules | 1-8' | | | | | | |
| PV Input | | | | | | | |
| Recommended max. PV power (W) | 7200 | 9200 | 10000 | 12000 | 16000 | 20000 | 24000 |
| Max. input voltage (V) | 600 | | | | | | |
| Rated voltage (V) | 390 | | | | | | |
| Start-up voltage (V) | 70 | | | | | | |
| MPPT voltage range (V) | 50-550 | | | | | | |
| Max. input current (A) | 18/18/18 | 18/18/18 | 18/18/18 | 18/18/18 | 18/18/18/18 | 18/18/18/18 | 18/18/18/18 |
| Max. short-circuit current (A) | 27/27/27 | 27/27/27 | 27/27/27 | 27/27/27 | 27/27/27/27 | 27/27/27/27 | 27/27/27/27 |
| MPPT number / Max. input strings | 3/3 | 3/3 | 3/3 | 3/3 | 4/4 | 4/4 | 4/4 |
| Efficiency | | | | | | | |
| Max. efficiency | 98.0% | | | | | | |
| EU efficiency | 97.5% | | | | | | |

| Model | INS-3.6S-G3 | INS-4.6S-G3 | INS-5S-G3 | INS-6S-G3 | INS-8S-G3 | INS-10S-G3 | INS-12S-G3 |
|---|--|--------------------|--------------------|--------------------|-------------------------|-------------------------|-------------------------|
| AC Output | | | | | | | |
| Rated output power (W) | 3600 | 4600 | 5000 | 6000 | 8000 | 10000 | 12000 |
| Max. on-grid output apparent power (VA) | 3600 | 4600 | 5000 | 6000 | 8000 | 10000 | 12000 |
| Max. output current (A) | 16 | 20 | 22.7 | 27.3 | 36.4 | 45.5 | 54.5 |
| Max. off-grid output apparent power (VA) ² | 5520 (10s) | 6900 (10s) | 7500 (10s) | 9000 (10s) | 12000 (10s) | 15000 (10s) | 18000 (10s) |
| Grid form | L/N/PE | | | | | | |
| Nominal AC output voltage (V) | 220/230/240 | | | | | | |
| Nominal grid frequency (Hz) | 50/60 | | | | | | |
| Power factor | >0.99 (0.8 leading–0.8 lagging) | | | | | | |
| THDi (@rated output) | <3% | | | | | | |
| Protection | | | | | | | |
| Anti-islanding protection | Integrated | | | | | | |
| PV string input reverse polarity protection | Integrated | | | | | | |
| Insulation resistor detection | Integrated | | | | | | |
| Residual current monitoring unit | Integrated | | | | | | |
| AC overcurrent protection | Integrated | | | | | | |
| AC short-circuit protection | Integrated | | | | | | |
| AC overvoltage and undervoltage protection | Integrated | | | | | | |
| Surge protection | DC Type II / AC Type II | | | | | | |
| General | | | | | | | |
| Dimensions (W x H x D mm) | 620 x 360 x 255 | | | | | | |
| Mounting | Wall-mounted / Floor-standing | | | | | | |
| Weight (KG) | 24.5 | 24.5 | 24.5 | 24.5 | 28.5 | 28.5 | 28.5 |
| Operating temperature (°C) | -30 to +65 (>45, derating) | | | | | | |
| Cooling | Natural convection | Natural convection | Natural convection | Natural convection | Intelligent air cooling | Intelligent air cooling | Intelligent air cooling |
| Relative humidity | 0-95%, no condensation | | | | | | |
| Topology | Non-isolation | | | | | | |
| Altitude | ≤4000 | | | | | | |
| Noise | <35 | <35 | <35 | <35 | <55 | <55 | <55 |
| Protection degree | IP66 | | | | | | |
| User interface | LED & App | | | | | | |
| Communication | RS485, Bluetooth, Wi-Fi / Ethernet / 4G (optional) | | | | | | |
| Warranty | 10 Years | | | | | | |
| Standard Compliance | | | | | | | |
| Grid connection standard | EN 50549-1/-10, NF EN 50549-1/-10, CEI0-21, AS/NZS 4777.2, PEA/MEA, TOR Erzeuger Type A, NTS 631, UNE 217001, UNE 217002, G98, G99 | | | | | | |
| Safety / EMC standard | IEC/EN 61000-6-1/-2/-3/-4, EN 62920, IEC/EN 62109-1&2 | | | | | | |

¹ Up to four modules can be stacked in one battery tower. ² Applicable only when the inverter is connected to InstaGen gateway.

8kWh Modular Battery Storage

High capacity energy storage

- 8 kWh total energy and 7.8 kWh usable capacity with 100% depth of discharge capability

Long-Life LiFePO4 technology

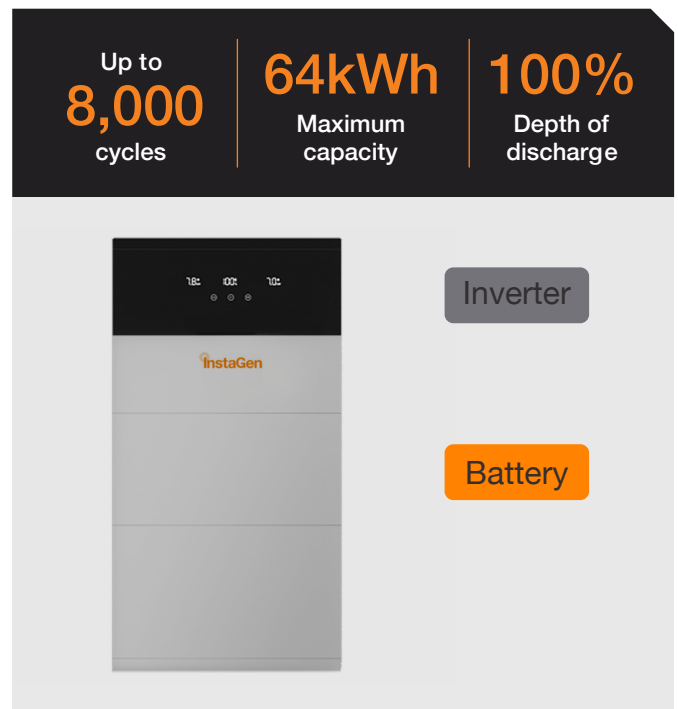
- Provides industry-leading durability with advanced LiFePO4 chemistry and an impressive 8,000-cycle operational lifespan

Scalable system design

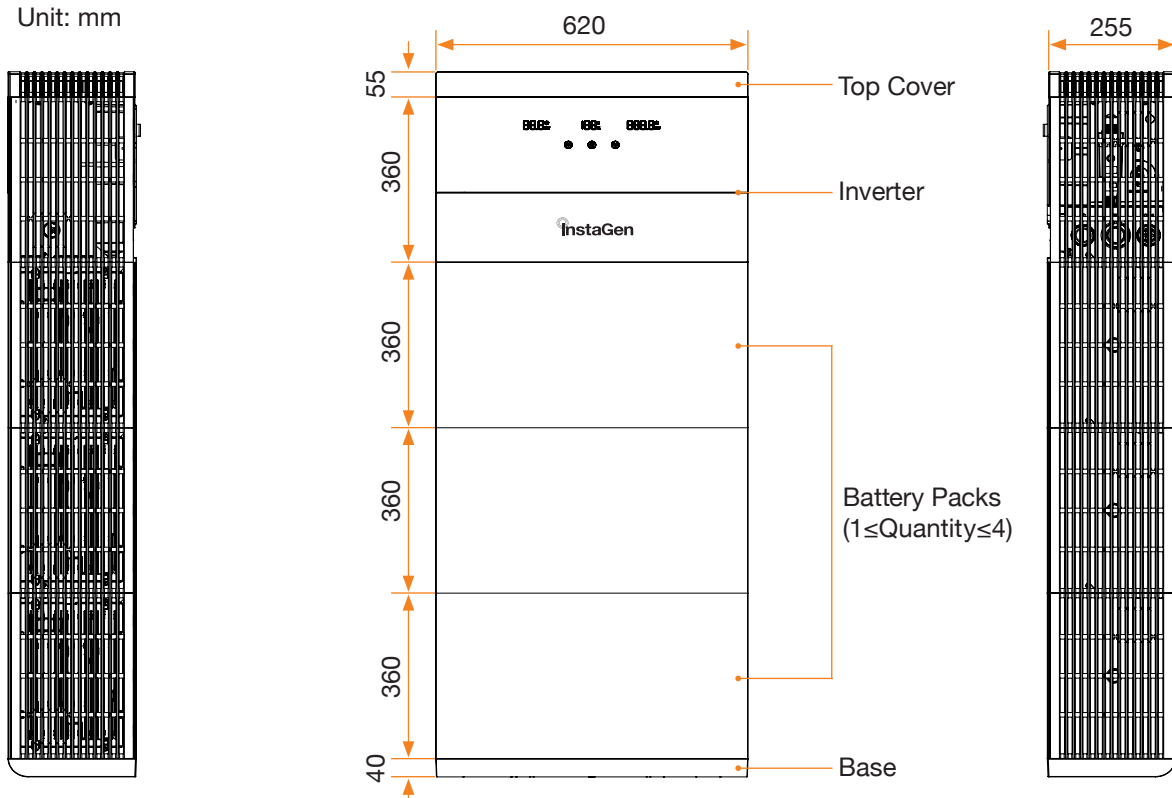
- Supports up to four stacked modules per tower and dual-tower parallel configurations for 64 kWh capacity

Flexible & intelligent integration

- Built-in optimisers allow seamless mixing of new and existing modules for simplified system expansion



Unit: mm



Key features

314 Ah large-capacity cells

Extended cycle life and enduring performance

Multi-layer protection mechanisms

Comprehensive electrical safety

Built-in optimisers

Support mixed use of new and old battery packs, maximising system scalability

Self-heating technology

Adapts to low temperatures, ensuring performance even in extreme cold

| Model | INS-8B-G3 |
|---|---|
| Battery data | |
| Battery type | LiFePO4 |
| Cell capacity (Ah) | 314 |
| Cycle life | 8000 ¹ |
| Total energy (kWh) | 8 |
| Usable energy (kWh) | 7.8 ² |
| Depth of discharge | 100% ³ |
| Max. charging/discharging power (kW) | 4 |
| Peak discharge power (kW) | 6 (10 s) |
| Max. stackable quantity | 4 |
| Max. parallel quantity | 2 |
| General | |
| Dimensions (W x H x D mm) | 620 x 360 x 255 (single pack) |
| Weight (KG) | 67 |
| Mounting | Wall-mounting / Floor-standing |
| Installation environment | Indoor / Outdoor |
| Storage temperature range (°C) | -25 to +60 |
| Charging/discharging temperature range (°C) | -20 to +55 |
| Protection degree | IP66 |
| Cooling | Natural convection |
| Altitude (m) | ≤4000 |
| Relative humidity range | 5%–95% |
| Compatible inverters | INS-(8-20)T-G3, INS-(3.6-12)S-G3 |
| Standard compliance | IEC/EN 60730-1, IEC/EN 61000-6-1&3, UN 38.3, IEC/EN 62619, IEC/EN 63056, IEC/EN 62477, BS EN 62109-1&-2 |
| Warranty | 10 Years |

¹ This value is provided by the cell manufacturer and is based on the following conditions: SOH=70%, 0.5 C charge/discharge rate at 25±2 °C

² This value is measured at the beginning of life under the following conditions: 100% depth of discharge, 0.2 C charge/discharge rate at 25±2 °C

³ This value refers to the usable energy capacity of the battery. To keep the battery in good condition, recharge it within 7 days after it has been fully discharged