

Deye SUN-10K-SG05LP3-EU

Product code: F.deye.3f.H.10k-SG05LP3-EU



Deye SUN-10K-SG05LP3-EU – 10 kW Three-Phase Hybrid Inverter for PV Systems with Energy Storage

The Deye SUN-10K-SG05LP3-EU is a next-generation hybrid inverter designed for three-phase PV installations with both on-grid and off-grid operation modes. Thanks to transformer isolation, compatibility with low-voltage 48V batteries, and parallel operation of up to 10 units, this model offers maximum flexibility and safety. It's ideal for both new PV systems and the modernization of existing installations thanks to AC coupling functionality.

Product variants

Index	Price
<div>Deye SUN-10K-SG05LP3-EU</div> <div>F.deye.3f.H.10k-SG05LP3-EU</div>	<div>Product prices only visible after login. If you do not have an account, please register.</div>

Product description

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Key Advantages:

Hybrid on-grid and off-grid operation – enables energy storage and usage from the grid, PV, or generator sources.

Supports up to 10 inverters in parallel – in both grid-tied and off-grid mode, suitable for scalable systems.

48V low-voltage battery support – compatible with a wide range of lithium-ion and lead-acid batteries.

High charge/discharge capability – up to 240 A for maximum energy throughput.

AC coupling – retrofit existing PV systems without replacing the current inverter.

100% unbalanced three-phase load support – ideal for systems with unequal phase distribution.

6 programmable battery time periods – accurate control of charging and discharging schedules throughout the day.

Technical Specifications:

General Information:

Inverter Type: Hybrid, three-phase

Topology: Non-isolated

Cooling: Intelligent air cooling

Protection class: IP65

Weight: 35.2 kg

Dimensions: 386 × 660 × 253 mm

Noise level: ≤55 dB

Operating temperature range: -40°C to +60°C

Humidity: 0–100%

Max installation altitude: 3000 m a.s.l.

PV Input (DC side):

Max PV input power: 15,000 W

Max PV input voltage: 650 V

MPPT voltage range: 200–650 V

Start-up voltage: 160 V

Max input current: 2 × 20 A

MPPT trackers / Strings per tracker: 2 / 1+1

AC Input/Output:

Rated power: 10,000 W

Max apparent power: 11,000 VA

Rated current: 16 A

Max current: 22.8 A

Grid voltage: 220/380 V, 230/400 V

Frequency: 50/60 Hz (range 45–65 Hz)

Connection type: 3L+N+PE

Unbalanced load support: YES (up to 50% of rated power per phase)

Battery:

Supported types: Lithium-ion, lead-acid

Voltage range: 40–60 V

Max charge/discharge current: 240 A

Battery inputs: 1

Charging strategy: Auto-adaptive to BMS

Efficiency:

Max efficiency: 97.6%

Euro efficiency: 97.0%

MPPT efficiency: >99%

THDi: <3%

DC injection into AC: <0.5%

Safety & Compliance:

Protections: Short-circuit, overvoltage, overcurrent, over-temperature, residual current device (RCD)

Surge protection: Type II (DC/AC)

Certifications: IEC 62116, IEC 61727, EN 50549, VDE-AR-N 4105, CEI 0-21, G99, RD 1699, and others

EMC & Safety: IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1/-2

Communication & Monitoring:

Interfaces: RS485, RS232, CAN

Communication options: WiFi, Bluetooth, GPRS, 4G, LAN (optional)

Choose Reliability and Flexibility with Deye Inverters

The Deye SUN-10K-SG05LP3-EU hybrid inverter is the intelligent core of any modern solar energy system. It offers complete control over production and storage, compatibility with a wide range of batteries and infrastructures, and long operational life. Ideal for residential, agricultural, and small commercial installations, this inverter delivers energy independence and cost optimization.