

REFUhybrid 100

High-voltage battery inverter
for commercial applications

Transformerless design

Scalable

Applicable

The REFUhybrid 100 is a transformerless three-phase inverter specifically designed for commercial storage applications, such as frequency regulation, spinning reserve, substation and line upgrade deferral, peak load reduction, microgrid and island grid support, power quality and renewable integration.

To ensure maximum flexibility, the REFUhybrid 100 features a wide input voltage range of 300 – 800V, making it suitable for various high-voltage batteries and system designs. Thanks to its modular architecture, the system is able to „grow“ with your requirements – from 100 kW up to the megawatt range. No PWM synchronisation is needed to operate the inverters in parallel.

Its control system enables pure sine wave output voltage with very low harmonic distortion, fast and accurate response to external set-points, safe battery operation and in addition offers an extensive range of grid management functions. An integration into energy management systems can easily be realized via the CANopen interface. Integrated DC disconnect and fuses simplify and speed up battery installation.



TECHNICAL DATA

REFUhybrid 100

Item no. 550300-3F00

DC-DATA

| | |
|----------------------|---------------------|
| Rated DC current (A) | 150 |
| Max. DC voltage (V) | 800 ¹ |
| Min. DC voltage (V) | 300 |
| No. DC inputs | 1 x Plus, 1 x Minus |

AC-DATA

| | |
|--|-------------------|
| Rated AC power (kVA) | 96,6 |
| Max. AC power (kVA) | 100 |
| Rated AC current (A) | 140 |
| Rated AC voltage (V) | 400 |
| AC voltage range (V) | 360 ... 440 |
| AC grid connection | L1, L2, L3, N, PE |
| Rated frequency / frequency range (Hz) | 50 / 47.5 – 51.5 |
| Power factor range | 0.9i ... 0.9c |

AMBIENT CONDITIONS

| | |
|--|-------------------------|
| Cooling concept | Active |
| Required air flow rate (m ³ /h) | 1500 |
| Operating temperature range (°C) | +5 ... +55 ² |
| Max. permissible air humidity (%) | 95 ³ |
| Max. altitude (m) | 2000 ⁴ |
| Type of protection (IEC 60529) | IP20 |
| Pollution degree (EN 60664) | 2 |

GENERAL DATA

| | |
|---|--|
| Dimensions W x H x D (mm) | 1000 x 2200 x 600 ⁵ |
| Topology | Transformerless |
| Approx. weight (kg) | 550 |
| Interfaces / Communication protocols | CAN / CANopen |
| Certification (more available on request) | VDE-AR-N 4105, BDEW-MSRL, 62109-1, EN 61000-6-4, EN 61000-6-2, CE declaration |

SAFETY AND PROTECTION

| | |
|-------------------------|--|
| DC disconnection device | DC switch |
| AC disconnection device | 1 x AC switch disconnecter, 2 x AC switch |
| Fuses | AC and DC side |
| Grid monitoring | Anti-islanding, adjustable voltage and frequency range |
| Battery monitoring | Adjustable battery voltage and current limits |

¹ limitation of continuous power below 667V ⁴ derating above 1000 m

² derating above 40°C ⁵ excluding rooftop fans

³ non-condensing

No responsibility is taken for the correctness of this information. Subject to modification.

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