RS
Rack Series

SiC
Technology

GE&EL AC/DC SiC-RS

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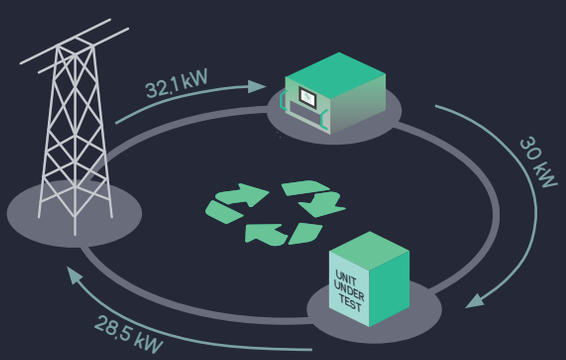
4Q Regenerative AC/DC Grid Simulator & Electronic Load | SiC - Rack Series

Introducing the All-in-One solution from our Rack Series: the GE&EL AC/DC SiC-RS. This high-efficienciy converter has been meticulously designed for R&D, validate and End-of-Line (EoL) testing in the fields of electromobility, EV charging infrastructures, Vehicle-to-Grid, smart grids, distributed energy resources, Power Hardware in the Loop, battery testing, aerospace and more.

The GE&EL AC/DC SiC-RS sets a new benchmark in performance, reliability and quality. Leveraging the latest SiC Technology, this unit significantly reduces switching losses in a compact design, making it the ultimate choice for scenarios where space and efficiency are paramount.

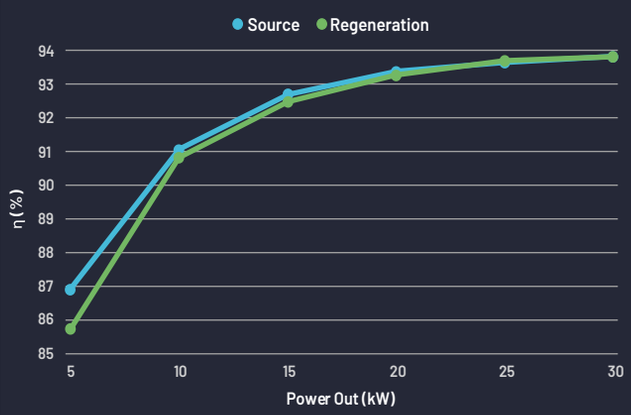
Regenerative Technology

Like all CINERGIA products, the GE&EL AC/DC SiC-RS allows for the reinjection of used power back to the grid, resulting in a reduction of both consumed energy and required power contributing to a smaller carbon footprint.



High-Efficiency

Our Rack Series offers the highest efficiency on the market for both sourcing and regenerating energy, resulting in greater energy savings and a reduction in electrical installation rating.



Functionalities

The GE&EL AC/DC SiC-RS may be used as an AC Grid Simulator, AC Electronic Load, DC Bidirectional source/sink, Power Amplifier, Battery Tester, Cycler and Emulator, or PV Panel Emulator.

Made in Europe

SiC-RS family products are fully designed and manufactured in Europe, subject to the most rigorous testing, and complying with all CE and quality standards.

SiC Technology

High performance and efficiency.

User Friendly Interface

Designed by engineers for engineers.

Larger Touchscreen

7-inch display for easy local operation.

19" Rack format

With 30 kW in a 7U and a 715 mm depth unit, it can be easily mounted into standard 19-inch rack cabinets.

Easy integration

Analog & digital IO and the open MODBUS/TCP protocol are provided for seamless integration into automated test lines.

Models

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GE&EL AC/DC SiC-RS

Reference	AC Power Rated	AC Current Rated RMS	DC Power Rated	DC Current Rated	Weight (kg)	Dimensions DxWxH (mm)
GE&EL 22,5 AC/DC SiC-RS	22,5 kW/kVA	44 Arms	22,5 kW	±44A	50 kg 110.23 lbs	715 x 440 x 310 mm (7U) 28.14 x 17.32 x 12.20 "
GE&EL 30 AC/DC SiC-RS	30 kW/kVA	44 Arms	30 kW	±44A	50 kg 110.23 lbs	715 x 440 x 310 mm (7U) 28.14 x 17.32 x 12.20 "

All specifications are subject to change without notice.

GRID SIDE

AC Input

Rated: 3x400 Vrms +Neutral+ Earth | 3x480 Vrms* (optional)

Range: +15% / -20% (-10% @ P_{rated})

Frequency: 47-63 Hz

Efficiency: >93,5% (@rated conditions)

**This option will add the IT-RS transformer.*

AC GRID SIMULATOR MODE

Voltage Mode (CV)

Range: 0 to 295 Vrms phase-neutral

Fundamental frequency range: 10 to 100Hz (consult us for higher frequencies)

Harmonics and interharmonics range: 0,1 to 50th independent per phase

Setpoint Resolution: 10mVrms

Setpoint Accuracy: < ± 0.1% of FS

Transient Time: <100 µs (10 to 90% of 230Vrms)

Grid fault testing (dips, voltage and frequency fluctuations, flicker...)

AC ELECTRONIC LOAD MODE

Current Mode (CC)

Range: 0 to ± 130% of I_{rated}

Setpoint Resolution: 10 mArms

Effective Resolution: <0.05% of FS

Setpoint Accuracy: < ± 0.2% of FS

Transient time: <100µs (10 to 90% of I_{rated})

Slew Rate: 1A/µs

Power Mode (CP/CS)

Range: from 0 to ±130% of P_{rated}

The current setpoint is derived from ISI and <S

Setpoint Resolution: 1W, 1A

Impedance Mode (CZ)

Calculation method configurable (rms, instantaneous)

Range: from 0.8 to 1000 Ohm, 0.1 to 2000 mH, 0 to 3.7 mF

Current setpoint derived from |Z| and <Z

Setpoint Resolution: 0.01 Ohm / mH / mF

Master / Slave

Parallel				in AC mode
Parallel	Serial	Serial Parallel		in DC mode

DC BIDIRECTIONAL SOURCE/SINK MODE

Voltage Mode (CV)

Range: 2Q: 20 to 800V

Setpoint Resolution: 10mV

Setpoint Accuracy: ± 0.1% of FS

Current Mode (CV)

Setpoint Resolution: 10mA

Setpoint Accuracy: ± 0.2% of FS

Power Mode (CP)

Setpoint Resolution: 1W

Setpoint Accuracy: ± 0.4% of FS

Resistance Mode (CR)

Range: from 0.1 to 1000 Ohm

Setpoint Resolution: 0.01 Ohm

Setpoint Accuracy: ± 0.2% of FS

OPERATION MODES

AC	
Programmable Voltage (only in GE Mode)	Programmable Impedance (CZ) (only in EL Mode)
Programmable Current (CC) (only in EL Mode)	
Programmable Power (CP / CS) (only in EL Mode)	Steps

DC	
Programmable Current (CV)	Steps
Power Amplifier (HiL)	Battery Testing/Cycling
Programmable Voltage (CV)	Battery Emulation
Programmable Power (CP)	PV Panel Emulation

PHiL AC/DC

Channel Configuration in GE&EL

3 channels | * 1 channel

*Power derating applies

Configuration Modes

GE&EL AC | PHiL AC | DC | PHiL DC

Channel Configuration in DC

3 channels | 1 channel | Bipolar | Unipolar

Talk directly with our engineers.

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Regenerative Power Electronic Solutions