



G5.CT Charger Tester Series

The G5.CT series are unidirectional regenerative sinks. It was developed specifically for testing chargers and is suitable for use in laboratories and on test benches. The modular and finely graded G5.CT series is characterized by highly dynamic response times and a wide current-voltage range with an auto-ranging factor 3. The G5.CT series can simulate the electrical charging characteristics of a modern battery pack. This includes active voltage output and Ri real-time simulation.

Device Types

Voltage V	Power kW	Current A	Height U	Order Code
0...500	18	-108...2	4	G5.CT.18.500.108
0...500	27	-162...3	7	G5.CT.27.500.162
0...500	36	-216...4	7	G5.CT.36.500.216
0...500	54	-324...6	10	G5.CT.54.500.324
0...1000	18	-54...1	4	G5.CT.18.1000.54
0...1000	36	-108...2	7	G5.CT.36.1000.108
0...1000	54	-162...3	10	G5.CT.54.1000.162
0...1500	27	-54...1	7	G5.CT.27.1500.54
0...1500	54	-108...2	10	G5.CT.54.1500.108

Modular and Easy Scalable Systems

The output of an individual DC electronic load is in the range from 0...18 kW to 0...2000+ kW, up to 3000 VDC. The advantageous modularity of REGATRON DC electronic load solutions allows the system to be easily adapted to ever changing test requirements. Not only is it possible to reconfigure between parallel, series, and mixed operation, but also to expand the system with additional DC electronic loads units or to split it into smaller units.

Therefore, the purchase of a REGATRON DC electronic load is a solid investment for the future.

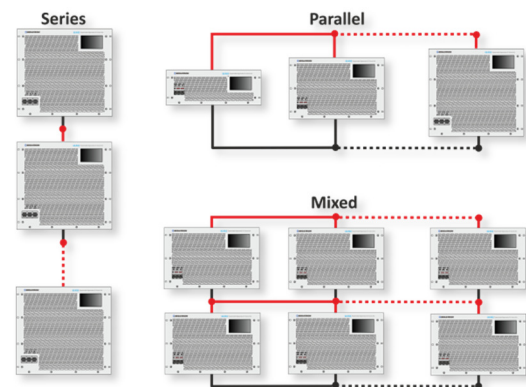


Figure 1: Modular concept for easy power and voltage increase by parallel, series, and mixed operation. The parallel configuration allows even an operation of different power levels, e.g., 18, 36, and 54 kW modules, in one system.

Whether for single devices or powerful multi-device master-slave systems, REGATRON also offers turnkey cabinet solutions or project specific system integration according to customer specifications.

Charger Testing Features

The G5.CT series simulates the electrical charging characteristics of a modern battery pack. This includes a real-time simulation of the internal resistance (Ri). In addition, the active voltage output of the G5 Charger Tester series is a key feature for the simulation of the charging process. Also important, the characteristics of the output filter stage are optimized for this application. Therefore, the G5.CT series is the ideal, versatile charger tester!

Features such as adjustable controller settings and the integrated powerful 8-channel digital scope assist the user to quickly and easily achieve optimal system behavior for a special application requirement. The G5.CT series also offers the possibility to store, edit and recall any device configuration on board the DC electronic load.

General Dynamic Data

rise/fall time set-value step	voltage 0...90%	150...200 μs
	current 0...90%	50...100 μs
response time load step	CV, recovery within 0.5% set value	100...150 μs

Accuracy

The G5.CT series has an exceptional accuracy of <0.02% FS. There is even an additional high-resolution current measurement range from 0 to 10% FS.

Control Modes

- CV constant voltage
- CC constant current
- CP constant power
- CR constant resistance
- Ri internal resistance simulation

Interfaces

Ethernet and USB

To connect with:

- G5.Control the operating and maintenance software
- API .NET programming, e.g., by LabView, Python, Matlab, or REST interface

I/O port

Interface featuring analog and digital signals used for set and actual values or operating states.

Grid Connection

The wide-band AC input accepts all common AC grid systems and has an active power factor correction.

AC Grid	380...480 VAC ±10% at 50/60 Hz
PF	0.99
Efficiency	95...96%

Options

Software and Control

Time-Based Function Generator

The TFE time-based function generator allows programming either through G5.Control operating software, HMI touch display, or CANmp interface.

- Time-dependent functions $U = f(t)$, $I = f(t)$, $P = f(t)$: sine, triangle, or square as well as user-defined data points. Import and export through csv files supported
- Sweep function for current ripple modulation 0...10 kHz

HMI

The HMI built into the front panel allows comprehensive and convenient operation of the DC electronic load via touch display.



Figure 2: Intuitive control by HMI touch display. Everything you need at a glance.

CAN Interface

The CAN multi-protocol (CANmp) interface has a 1 kHz data rate, a 16-bit resolution and is adaptable to any proprietary CAN bus. In addition, it supports dbc file handling.

User Safety

- Integrated safety relay (ISR) for increased emergency stop reliability supporting performance level PL c / PL e according to EN ISO 13849
- Discharge of AC filter (XCD), recommended for mobile use of the device. XCD ensures a discharge time of the AC filter <1 s required by EN 62477-1
- AC terminal protection cover (PAC.AC), recommended for use as tabletop unit

Rack-Integrated System Solutions

- Mobile rack solutions up to IP54
- Insulation monitoring: remote activation of the insulation measurement, actual insulation value and warning/error status are provided by CANmp interface or by optional HMI
- Easy reconfiguration between parallel, series, and mixed operation



Figure 3: REGATRON's rack-integrated turn-key system solutions, e.g., 72 kW (left) and 162 kW (right) power levels. Various types of AC/DC connectors and cables allow for comfortable handling. Third-party product integration and numerous safety options are additional features.

Environmental Conditions

Front-panel-mounted air filter (AirFilter), recommended for use in dusty environments.

Important Features of the G5.CT Series

Technology

- Technologically advanced, fast switching, compact 19-inch DC electronic loads
- High control dynamics in the 100...200 μ s range – even at higher power levels
- Exceptional accuracy of <0.02% FS, additional high-resolution measurement range
- Wide current-voltage range with an auto-ranging factor 3
- CV, CC, CP, CR, and Ri-Sim control modes
- Regenerative and highly efficient, resulting in significant reduction of energy consumption and heat dissipation

System Capability

- Modular and easy scalable systems
- Parallel, series, and mixed operation with a digital high-speed bus
- Simple master-slave configuration with the operating software
- Easy rack mounting
- Optional safety features such as 2-channel safety interface and insulation monitoring
- Turn-key cabinet solutions or project-specific system integration according to customer specification

System Control and Options

- Operating software, extended analysis, parameterization options, and calibration
- Powerful application programming interfaces (API)

For detailed technical information, contact your local sales partner or REGATRON.

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REGATRON DC & AC Power Supplies: Modular · Precisely Engineered · Technologically Advanced

NEW
DC Generation 5

