

## G5.DT Drivetrain Tester Series

The G5.DT series is bidirectional regenerative. It was developed specifically for testing DC components of the electrical drive train or DC components of other parts of the vehicle electrical system. It is suitable for use in laboratories and on test benches. The modular and finely graded G5.DT series is characterized by highly dynamic response times and a wide current-voltage range with an auto-ranging factor 3. The power supplies are equipped with a powerful CAN multi-protocol interface (1 kHz, 16 bit) and optionally offer test bench relevant safety functions such as PL e according to EN ISO 13849, insulation monitoring as well as automatic discharge on the load side in case of shutdown.

### Device Types

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

### Modular and Easy Scalable Systems

The output of an individual power supply is in the range from 0...18 kW to 0...2000+ kW, up to 3000 VDC. The advantageous modularity of REGATRON power supply 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 power supply units or to split it into smaller units.

Therefore, the purchase of a REGATRON power supply is a solid investment for the future.

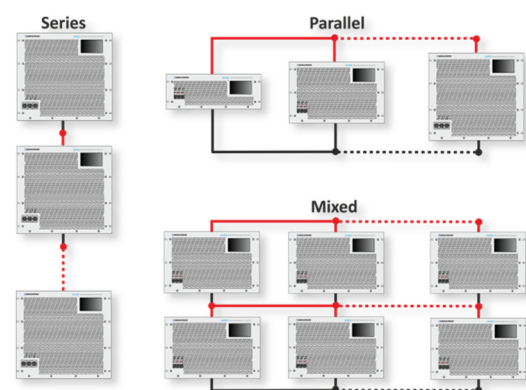


Figure 1: Modular concept for easy power and voltage increase by parallel, series, and mixed operation. The parallel configuration allows even an operation of different power levels, e.g., 18, 36, and 54 kW modules, in one system.

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

## Drivetrain-Component Testing Features

The G5.DT series for testing electrical components of the drivetrain has a high functional range and extraordinary dynamics. It features an optimized output filter stage for this application and extensive safety options. Drivetrain testers from REGATRON are used worldwide in test benches at all well-known car manufacturers, suppliers, research and testing institutes.

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.DT series also offers the possibility to store, edit and recall any device configuration on board the power supply.

## General Dynamic Data

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

## Accuracy

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

## 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.

## Integrated Safety Relay

Integrated safety relay (ISR) for increased emergency stop reliability supporting performance level PL c / PL e according to EN ISO 13849.

## 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 $\pm$ 10% at 50/60 Hz
PF	0.99
Efficiency	95...96%

# Options

## Software and Control

### HMI

The HMI built into the front panel allows comprehensive and convenient operation of the power supply via touch display.



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

## User Safety

- 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

## 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
- DC discharge unit (DDU): offers an active discharge of the DC load side at voltage off, emergency stop and/or error state. Remote activation is supported by CANmp interface.
- 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.DT Series

### Technology

- Technologically advanced, fast switching, compact 19-inch power supplies
- High control dynamics in the 100...200  $\mu$ 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, insulation monitoring and active DC discharge function
- 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 (APIs)

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

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All product specifications and information herein are provisional and subject to change without notice.

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

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**DC Generation 5**

