

DIGUREG 2

Omnivise Electrical Solutions Digital voltage regulator

www.siemens-energy.com



Digital voltage regulator (DIGUREG 2)

is a compact voltage regulator, planned and tested in accordance with relevant standards*) of IEEE 421.5 and has an integrated power module. It is intended for synchronous machines with exciter sets and rotating diodes. DIGUREG is suitable for use in steam turbine, gas turbine and hydroelectric power plants.

Functions

The DIGUREG includes the following operating modes:

- Automatic voltage regulator AC7B*)
- Manual controller (excitation current controller)
- Reactive power controller on the generator*)
- Power factor regulation on the generator*)
- Reactive power controller at the net coupling point
- Power factor regulation at the net coupling point

The following limiting controllers are implemented:

- Overexcitation limiter*)
- Underexcitation limiter*)
- Ceiling current limiter*)
- Stator current limiter*)
- V/f limiter*)

Further functions:

- Diode failure monitoring
- Power System Stabilizer PSS2B*)
- Synchronization



max. continuous current: 34 A



max. continuous current : 16 A

Technical Data

Maximum output current:
16/34 A (at max. 45°C / 1000 m above sea level)

Maximum output voltage:
300 V DC

Power infeed:
100 to 230 V DC/AC 1/3-phase 0...650 Hz

Electronics supply:
24 V DC

Power requirement for electronics supply:
25 W plus output load

Advantages at a glance

- Extremely flexible power infeed: excitation power from pilot exciter, auxiliary winding in the machine's stator, via exciter transformer or battery
- Parallel infeed from two sources possible to maintain excitation if one infeed fails
- Compact structure
- Simple parameterization
- Suitable for new power plants and for modernizing existing excitation machines
- Touch-safe enclosure
- All required functions included as standard
- planned and tested in accordance with relevant standards*) of IEEE 421.5

Functional overview

Controller

Signals are exchanged with the control system either via a PROFIBUS DP interface or a PROFINET interface. Control signals, operational and failure indications, operational values and where applicable, reference values are also transferred.

However, simple hardware coupling is also possible via a 24 V DC coupling level on the input side or isolated contacts on the output side and 0(4) to 20 mA analog values.

Parameterization

The DIGUREG tool is a parameterization program with a graphical user interface and is easy to operate by any user experienced with such programs. The simple parameterization enables experienced operators to carry out commissioning without any problems, even without detailed knowledge of the DIGUREG excitation system.

The parameters to be modified are selected via a menu tree and can be modified directly. This can be carried out online, i.e. with a connection to the excitation device and immediate parameter modification, as well as offline for changing the parameter file.

Parameterization that has been created offline can simply be saved in the excitation device and activated. In addition, the current parameterization can be exported from the excitation device and saved in a file.

An operating menu of the DIGUREG tool enables on-site operation via the PC during commissioning. All control commands can be specified here, and the status messages are displayed. This enables the voltage regulator to be operated without the need for communication between commissioning personnel and maintenance personnel, which can be difficult because of the distance involved and the often noisy environment.

Published by

Siemens Energy Global GmbH & Co. KG
Gas Services
Siemenspromenade 9
91058 Erlangen, Germany

For the U.S. published by
Siemens Energy, Inc.
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4400 N Alafaya Trail
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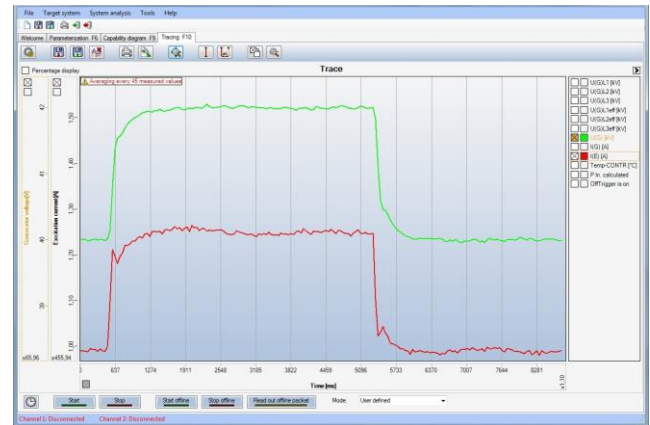
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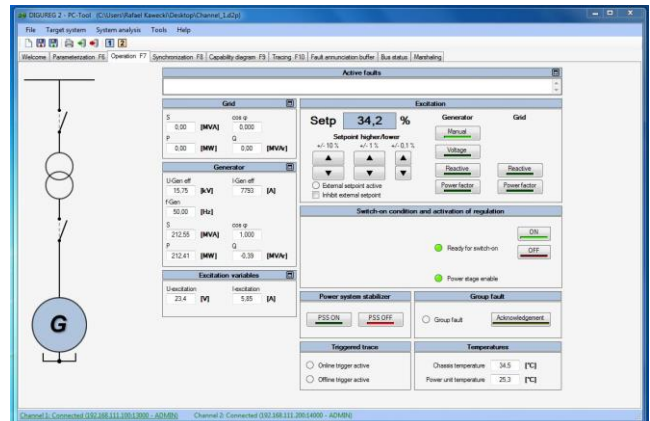
Trace

Trace is an add-on to the parameterization program that enables recorded data to be visualized. In addition, the data readout from the device can also be saved and reopened at a later time.

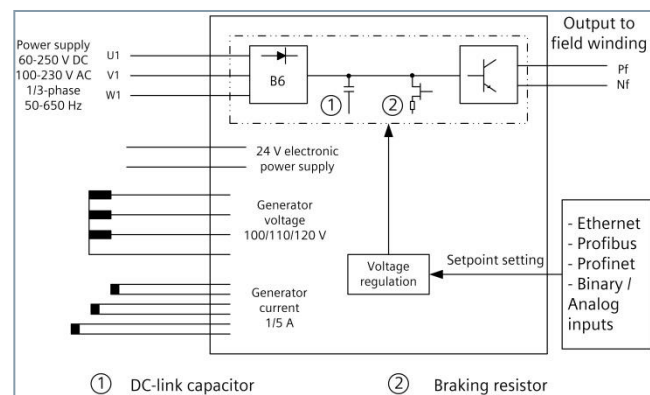
The data can also be transferred to word-processing programs or spreadsheet applications.



The Trace add-on visualizes recorded data.



All control commands can be specified in the operating menu of the DIGUREG tool



Functional overview of the DIGUREG