



ENERGY AUTOMATION PRODUCTS

Voltage Regulator 6GC64

Measurement, control and voltage regulation in one device

The 6GC64 voltage regulator represents a new generation of voltage regulators by Maschinenfabrik Reinhausen (MR). The TAPCON® voltage regulator is based on the new ISM® Technology that provides maximum flexibility to meet current and future requirements.

Fitted with cutting-edge features of the communication technology, the 6GC64 supports all common protocols and even offers the possibility of a redundant connection via Ethernet.

Increasing requirements for operational reliability and data security are considered and ensured by implementing role-based user authorization as well as encrypted communication connections.

The innovative operating concept of the 6GC64 ensures easy and intuitive user guidance. Interactive Launch Assist (TILA) is an integrated start-up wizard that provides maximum support during guided initial start-up of the 6GC6.

Description

The basic configuration of the 6GC61 voltage regulator includes a fully graphical 5.7" color display, navigation via the rotary knob and the web-based visualization in accordance with the HTML 5 standard, thus providing easy local and remote operation.

In addition to simple regulation tasks, the 6GC64 also supports complex special applications such as regulation of three-winding transformers, transformer banks, phase shifters and shunt reactors.

The modular system allows you to adjust the regulator performance range precisely to your requirements.

Parallel control of transformers is based on the method of minimum circulating reactive current, or parallel operation is carried out by using the tap synchronization method. A digital bus system or IEC 61850 Goose communication is applied.

Characteristics

The 6GC64 voltage regulator controls motor-driven step transformers. In addition to regulation tasks, the voltage regulator provides other functions such as:

Operation types

- Local
- Remote

Regulation modes

- Manual
- Automatic

Tap position capture

- Digital, analog

Voltage regulation

- Line compensation (R-X or Z compensation)
- Dynamic Set Point Control (TDSC): Voltage control for decentralized infeed
- Parallel operation of up to 16 transformers (methods: master/follower, auto-synchronization or circulating reactive current)
- Paralleling mode Power Factor

Optional functions

- Customer-specific topology
- Regulation of three-winding transformers
- Bank parallel operation of single-phase transformers
- Order-specific programming
- Measured value memory function with graphic presentation
- Phase-shifter applications (regulation of active power, reactive power, or phase angle)
- TAPCON Personal Logic Editor

Monitoring functions

- Bandwidth monitoring
- Switching interval monitoring (for RAISE, LOWER and complete tap-changes)
- Function monitoring
- Switching direction control
- Adjustable tap limits
- Various adjustable limit values for all analog values incl. Hysteresis

Communication

- IEC 60870-5-101/103 (optional), Slave & Master IEC 60870-5-104, Server & Client
- DNP 3, Slave & Master MODBUS ASCII / RTU / TCP, Server & Client
- IEC 61850 Edition 1 and 2, Server & Client
- Dual Port Ethernet connection with redundancy protocols RSTP, PRP, and HSR (IEC 62439-3 Edition 2.0, 2012-07)

Security

- User administration and access protection based on BDEW or NERC

Programming tool

- Creation of individual functions (in accordance with IEC 61131)

User languages

- German, English, French, Spanish, Italian, Portuguese, Russian, Chinese, Korean

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For all products using security features of OpenSSL, the following shall apply: This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (www.openssl.org), cryptographic software written by Eric Young (eeay@cryptsoft.com) and software developed by Bodo Moeller.