DIGITAL AUTOMATIC VOLTAGE REGULATOR DR-11

The electronic regulator ***DR-11*** is a fully digital technology AVR made with state-of-the-art electronic components which allow to obtain, with reduced dimensions, all needed functions to control any type of alternator.

The main features of this regulator are:

- Full digital technology
- Voltage static error on RMS value within the limit of ± 0.5%.
- Wide stability control PID regulation to guarantee the most suitable dynamic response to any situation (type of drive motor, size of alternator).
- Programmable protection from low frequency operation.
- Programmable protection from overexciting caused by anomalous loads.

TECHNICAL FEATURES:

- Supply Feeding voltage inlet: **80Vac ÷ 280Vac**
- Maximum field current: **10Adc**
- Permanent field current: **7Adc**
- Single phase reference voltage inlet: 8**0Vac ÷ 480Vac**
- Outlet voltage setting of the alternator with **Multi-round Trimmer**
- Stability **PID** programmable control
- Programmable level setting of **Low Frequency Protection**
- Programmable level setting of **Over-exciting Protection**
- Remote potentiometer inlet or **0 ÷ 5Vdc** external control
- Possible operation at 50Hz or 60Hz
- Possible operation of alternators in parallel

VOLTAGE REGULATOR

Voltage sensing is set during testing in order to obtain a rated voltage between **Rif_1** and **GND** of the regulator.
In case of any necessary adjustment on the voltage value, the VG trimmer allows to change ± 10% of the rated value considering that the voltage can be increased with a clockwise rotation.
It is also possible to set the voltage using a remote potentiometer of **> 500Ω/0.25W** connecting it between terminals **POTE** and **GND** as indicated in the electric diagram. These inputs are used for Parallel Governors in case of generator parallel operation.

STABILITY CONTROL

The PID stability control acts on the dynamic response of the system avoiding the creation of oscillations of the output voltage value.
The regulator is already set by Linz Electric in order to obtain the best performance in most applications.
In case a special application the regulator response can be programmed with a digital interface between the DR-11 and a PC.

PROTECTION FROM LOW SPEED OPERATION

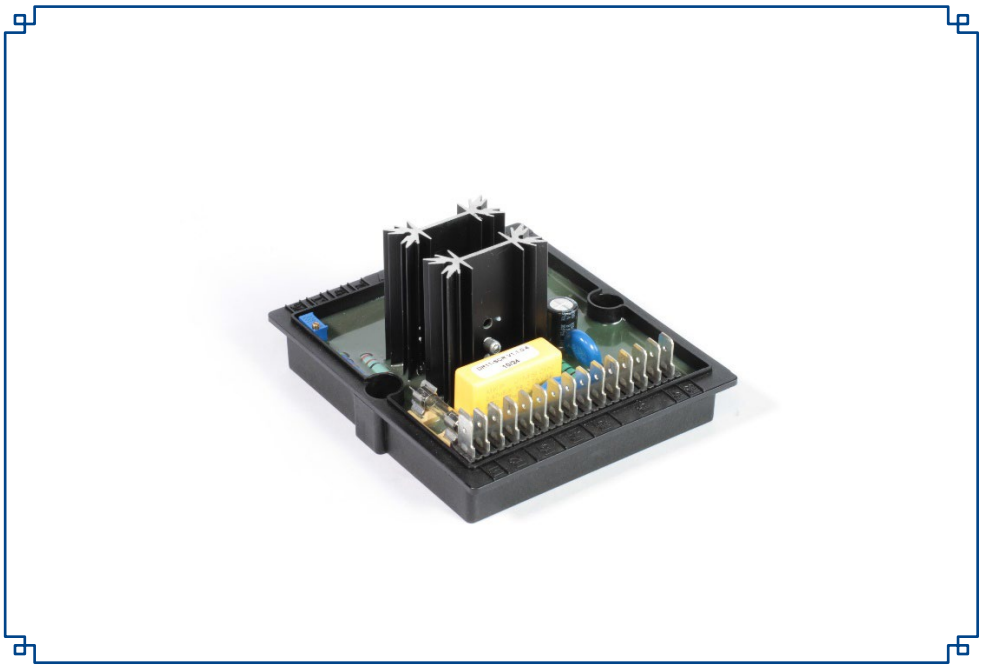
Protection from low frequency is set by Linz Electric in order to decrease the output voltage when the frequency is below **46Hz** for operation at 50Hz, and **57Hz** for operation at 60Hz.
The regulator allows, through programming, to set the knee and the slope drop V/Hz of this protection.

OVER LOAD / OVER EXCITATION PROTECTION

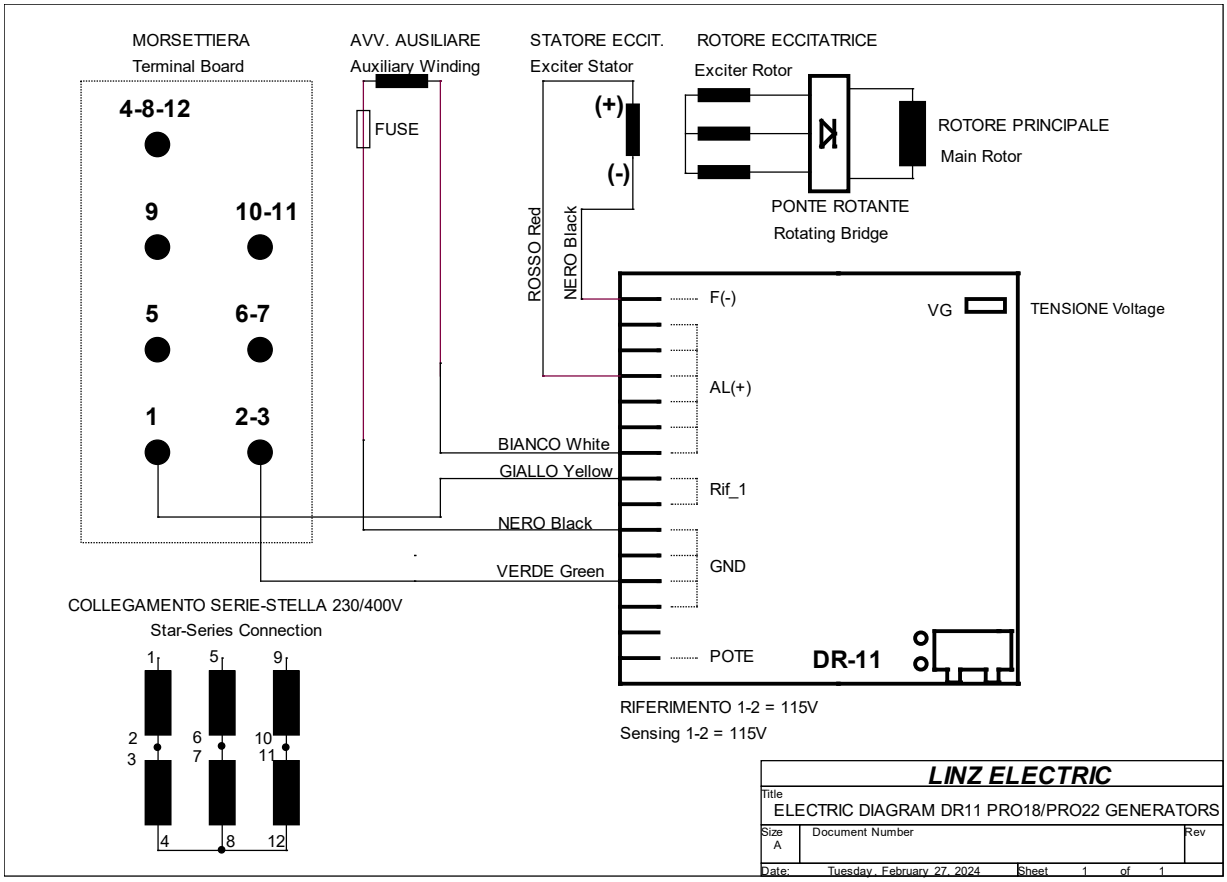
The overload protection, which corresponds to an overexcitation status, is made to protect the alternator excitation system from overload conditions or from high inductive loads.
This protection is delayed in order to allow overloading for short periods of time.
The protection limits the voltage of the exciter stator to a pre-set value; this value that limits the supply voltage of the exciter stator is pre-set in Linz Electric, the threshold and the integration time can be programmed.

WARNING

To avoid any damage to persons or to the equipment it is necessary that any control of the voltage regulator is made by qualified personnel only.



DR-11 WIRING DIAGRAM



Description of Trimmers:

VG: VOLTAGE. Increases the output voltage with a clockwise rotation.

Description of Terminals:

F(-): Negative (-) Exciter Stator

AI(+): 80Vac ÷ 300Vac Feeding voltage & Exciter Stator

Rif_1: Sensing voltage input

GND: Common of Sensing and Feeding voltages

POTE: Remote potentiometer & 0Vdc ÷ 5Vdc External Control input

We reserve the right to modify technical specifications without notice