

AVR-20



Alternator voltage regulator

- 0-115 volts output
- 20A output current
- Relay-less circuit design
- Built-in voltage adjustment
- Remote voltage adjustment input



AVR series voltage regulators are electronic devices which allow the alternator to produce a fixed output voltage.

The device measures the voltage between one of the alternator phases and the neutral point and adjusts the DC voltage applied to the excitation winding until reaching the desired voltage.

The output stage of the device is a half wave thyristor output associated with a freewheeling diode.

EXCELLENT COMPATIBILITY

Basically the unit is compatible with all brushless type alternators. A stability adjustment potentiometer is also provided for this purpose.

RUGGED DESIGN FOR TROUBLE FREE OPERATION

The device has a special relay-less electronic circuit design. The required minimum residual voltage for build up is 5 V-AC. The unit does not include moving parts; therefore it is able to operate in highly vibrating environments.

The device includes a low frequency protection circuit. This circuit reduces the output voltage during overload or engine stop.

Therefore the diesel engine is protected from excessive torque generated by high start-up currents of large electrical equipments.

Similarly, the diesel engine may be stopped under load without damage.

CONSTANT MONITORING

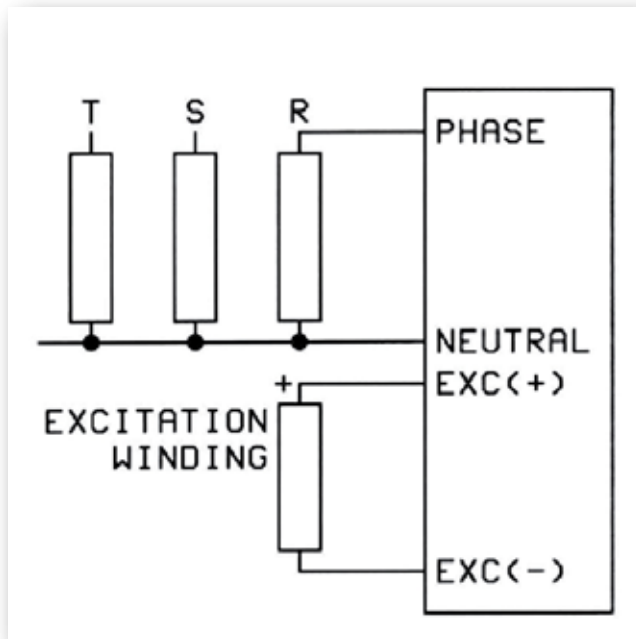
During operation, the device continuously monitors the input voltage and increases/decreases the excitation voltage in order to maintain the input voltage to a constant value.

The device keeps the alternator voltage change in minimum limits in case of a load change, and helps to reach the required voltage value quickly.

The regulation is of a P-I type, the proportional reaction is fast while the slow acting integral reaction helps the unit to recover the precise set voltage.

The stability potentiometer adjusts the reaction speed of the device. This helps the unit to comply with a large variety of alternators.

The unit is able to source the rated current continuously.



EASY ADJUSTMENT

The alternator voltage may be adjusted via the built in potentiometer. Also external voltage adjustment feature is provided. If used, the external potentiometer value shall be 1 K Ω .

INTEGRATED PROTECTION

The low frequency protection circuit shuts off the excitation voltage in order to prevent damage during engine stopping under load. The factory set value for the protection is 45Hz.

AFTER SALES SERVICE

Like every CRE Technology product, the unit also benefits from our technical support. All CRE products are delivered with one year warranty.

FEATURES

- Half wave thyristor output
- 0-115 volts output
- Relay-less circuit design
- Low frequency protection
- Built-in voltage adjustment
- Stability adjustment
- Remote voltage adjustment inputs
- Easy connection diagram
- Compatible with various types of alternator

CHARACTERISTICS

Current, voltage and Frequency

- Phases: single phase.
- Voltage Adjustment Range: 210-250 Volts min
- Frequency: 50/60Hz.
- Frequency Protection Adj. Range: 40-50Hz
- Output Voltage: 0-115 volts-DC @ 230 V-AC
- Output Current:
- 20A continuous
- Residual Voltage For Build Up: 5 volts minimum
- Regulation: +/- 2% typical.
- Voltage Adjustment Input: 0-1000 ohms.
- Power Output Stage: Half Wave thyristor.

Environment

- Operating temp.: -10°C (14°F) to 60 °C (140°F).
- Storage temp.: -20°C (-4°F) to 80 °C (176°F).
- Maximum humidity: 95% non-condensing.

Mounting

- The device has open chassis, resin moulded design and is intended to be mounted in the alternator's terminal box.
- Dimensions: 125x68x35mm (L x W x H)
- Fixing centres: 115mm, 2xM6
- Weight: 280grams.

PART NUMBER

A60S3

ASSOCIATED PRODUCT

Complementary: CB 12/24