

ADVR-321

Universal Hybrid Analog / Digital Automatic Voltage Regulator for Parallel-Capable Generators

Permanent Magnet Generator Type AVR

Compatible with Newage Stamford MX321 regulator

Features

- 3 Phase RMS Reading for Sensing Input
- Provides current limiting function when the generator output is short-circuited.
- Built-in LED indicator for displaying under-frequency, overvoltage, overcurrent, and over-excitation conditions
- Voltage regulation less than +/-0.5% RMS
- For use in parallel operation
- Digital circuit for voltage sensing and under frequency protection, it can effectively minimize the output voltage variations and under frequency knee point drifted affected by the changes of environment temperature.
- When the AVR detects an abnormal generator condition (over-excitation, over-voltage, or over-current), it can supply power to the MCCB trip solenoid to disconnect the load from the generator.



Specifications

Sensing Input	RMS reading 180 - 270 Vac 3 phase 50/60 Hz	Analogue Voltage Input	+/- 5 Vdc or 0 to 10 Vdc ³ Each 1 Vdc can affect 0 to 5% of the output voltage
Power Input (PMG)	120 - 220 Vac 3 phase 60 - 120 Hz	Typical System Response	Less than 20 ms
Excitation Output	Continuous 120 Vdc 2.7 to 4A ¹ @220Vac 3 phase Max. 180 Vdc 7A for 8 Sec. @220Vac 3 phase	Under Frequency Protection Knee Point Factory Preset	Under frequency voltage droop rate from 4 V/Hz to 15 V/Hz (Adjustable) Under Frequency Voltage Recovery 200V/s -30V/s (Adjustable)
Field Resistance	Min. 15 Ohms. Max. 100 Ohms. PMG Input voltage must exceed 120 Vac.	Under Frequency Knee Point Thermal Drift	Less than +/- 0.1 Hz from -40 to +70 °C
Volts Thermal Drift	Less than 3% ² from -40 to +70 °C	Static Power Dissipation	Max. 12 watts
External Voltage Adjustment	Max. +/-10% @ 5K Ohms 1 watt potentiometer	Over Excitation Protection	Excitation voltage from 60 to 160V (Adjustable) Delay 8 to 15 seconds. This function can be disabled.
Soft Start Ramp Time	0.4 to 4 seconds +/-10% (Adjustable)	Sensing Input Overvoltage Protection	220 Vac system 300 Vac +/- 5V Delay 1 second. This function can be disabled.
Quadrature Droop Input	Sensitivity 0.22A for 5% droop (PF=0) (Adjustable) Max. input 0.33A	Current Limit Input	The secondary overcurrent detection range of the CT can be set from 0.3 A to 1.0 A. (Adjustable) If the condition persists for more than 10 seconds, the field output will be shut down This function can be disabled.

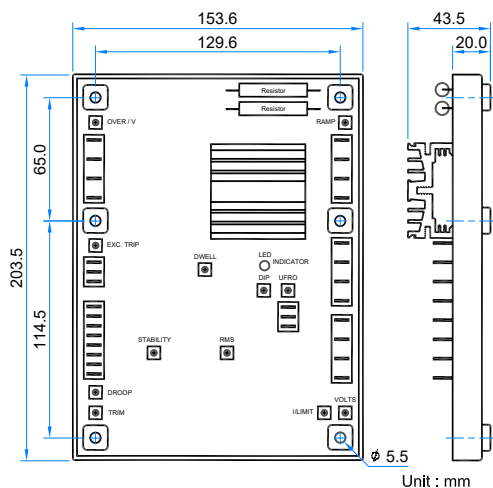
Voltage Regulation Less than +/-0.5% RMS (with 4% engine governing)

*1 De-rate linearly from 4.0 A at 50°C to 2.7A at 70°C

*2 The voltage value is measured after 10 minutes of operation.

*3 Any device connected to the analog input terminal must be completely isolated from ground, with an insulation withstand voltage greater than 500 Vac.

Dimensions



Environment

Operating Temperature	-40 to +70 °C
Storage Temperature	-40 to +85 °C
Relative Humidity	Max. 95%
Vibration	5.5 Gs @ 60Hz

Physical Specifications

Dimensions	203.5 (L) x 153.6 (W) x 46.8 (H) mm 8.01 (L) x 6.05 (W) x 1.84 (H) inch
Weight	754 g +/- 2% 1.66 lb +/- 2%

Accessories

M5L35 Screw Set	x1
Plastic screwdriver	x1

*All manufacturer names and numbers are used for reference purpose only and do not imply that any part is the product of these manufacturers.



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