



# PM500 AUTOMATIC VOLTAGE REGULATOR

## SIMPLE ANALOG SETUP

Advanced voltage regulation and generator protection in an easy-to-use, robust package.

## PERFORMANCE

Full wave regulator provides dynamic performance and motor starting equivalent to the DVR2000E+.

## ROBUST PROTECTION

- Under Frequency with Front Panel Indicator and Adjustable Volts/Hz Operation
- Over Excitation Shut Down with Front Panel Indicator
- Replaceable Fuse on Back Panel

## AGENCY APPROVAL

- UL Recognized and UL Certified for Canada – Component per UL file E222903
- CE mark for the European Union

## FLEXIBLE OPERATION

- 0.25% Regulation Over Load Range at Rated Power Factor
- True RMS Sensing Three Phase or Single Phase for Superior Voltage Regulation
- 175V – 600Vac Direct Voltage Sensing Input
- 60Hz or 50Hz Sensing Input
- PMG Input Power Isolated from Generator Output
- Remote Voltage Adjust with 0 – 10Vdc or  $\pm 5$ Vdc Analog Signal and Fine Tune Adjustment Pot
- Manual Voltage Adjust at the Generator with Optional Field Mount Rheostat
- 5A or 1A CT Connections for Paralleling Applications with Adjustable Droop Range
- All Options DIP Switch or Jumper Selectable – No Programming Required

# PM500 AUTOMATIC VOLTAGE REGULATOR

## SPECIFICATIONS

**Voltage Regulation** –  $\pm 0.25\%$  with  $\leq 4\%$  engine governing

**Voltage Build-up** – Voltage build-up with residual voltage  $> 5\text{Vac}$

**Thermal Drift** –  $0.05\%$  per  $^{\circ}\text{C}$  change in AVR ambient temperature

**Output Power, Continuous** –  $85\text{Vdc}$  at  $3.5\text{Adc}$ ,  
**Forcing** –  $170\text{Vdc}$ ,  $7\text{Adc}$  for 10 seconds

**Sensing (RMS)** – 175 to  $600\text{Vac}$ , 60/50Hz, 3 phase/1 Phase

**Exciter Field Resistance** – 9 ohms, minimum

**Input Power** – 200 to  $240\text{Vac}$ , 300 / 250 Hz PMG Power Supply

**Remote Voltage Adjustment** –  $\pm 20\%$  with 0- $10\text{Vdc}$  or  $\pm 5\text{Vdc}$

**Manual Voltage Adjustment** –  $\pm 5\%$  with 500 ohm rheostat  
 $\pm 10\%$  with 1000 ohm rheostat

**Under Frequency Protection** – 57Hz factory preset for 60Hz operation, 47Hz factory preset for 50Hz operation.

**Weight** – 1 lb (470g)

**Operating Temperature** –  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$   
( $-40^{\circ}\text{F}$  to  $+158^{\circ}\text{F}$ )

**Storage Temperature** –  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
( $-40^{\circ}\text{F}$  to  $+185^{\circ}\text{F}$ )

**Power Dissipation** – 12 watts

**Size** – 5.9" L x 5.3" W x 2.2" H  
(150mm L x 135mm W x 55mm H)

## **Electromagnetic Compatibility Tests** **Immunity**

IEC61000-4-2	Electrostatic Discharge (ESD)
IEC61000-4-3	Radiated RF
IEC61000-4-4	Electrical Fast Transient
IEC61000-4-5	Surge
IEC61000-4-6	Conducted RF
IEC61000-4-11	

## **Emission**

EN61204-3	Conducted RF
CISPR 22	
IEC61000-3-2	Harmonic IEC
IEC61000-3-3	Flicker IEC



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## APPLICATION CONSIDERATIONS

The proper selection and application of power generation products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Marathon Electric LLC and its affiliated with respect to the use of products and components is given in good faith and without charge, and Marathon assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

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