

# DVR® 2000E

## Enhanced Digital Technology Voltage Regulator

### Advanced Features:

#### True RMS Sensing – One or Three Phase

Connect the sensing mode you prefer. Senses 95 to 600 volts  $\pm 10\%$  at 50/60 hertz. Patented circuitry senses true RMS voltage rather than average for superior load regulation.

#### Soft-Start Ramp on Initial Start-Up

Controlled increase to rated voltage. Limits overshoot of voltage during voltage build-up.

#### Engine Unloading

Monitors the rate of frequency change during transient conditions. Provides additional voltage dip during speed drop to allow engine to recover faster.

#### Overtoltage Shutdown

Provides generator protection during sustained overtoltage. The overtoltage point is preset at 20% over normal generator operating voltage, with a preset timeout of 0.75 seconds.

#### VAR/PF Controller

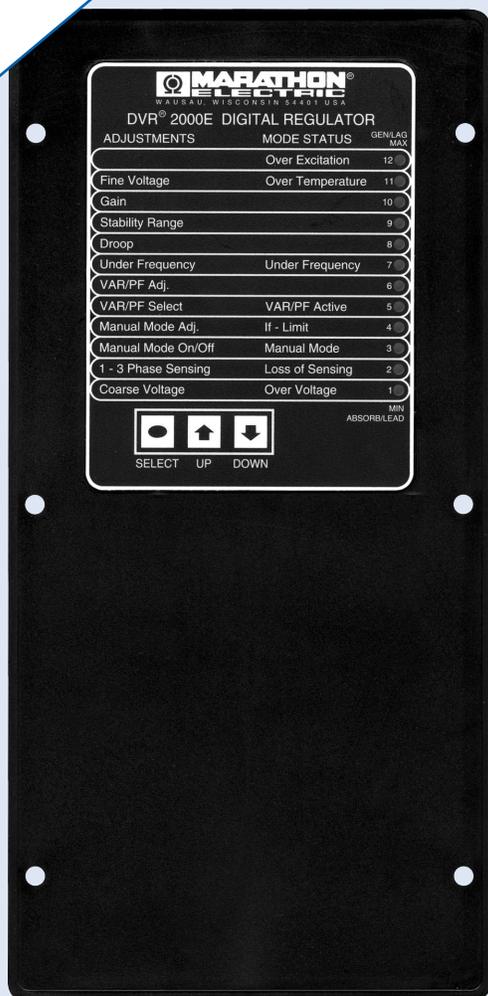
Model DVR®2000EC (optional) provides control when paralleled to utility power. VAR or PF control can be selected or changed by regulator adjustment.

#### Encapsulated Design

Maximum protection against moisture or abrasive contamination, which can lead to early regulator failure. Tested to MIL-STD-705, Method 711.1C. Salt fog tested to MIL-STD-810E.

#### Auto/Manual Mode

Exciter field current can be controlled by the regulator or manually set at a fixed value.



CSA Approved

Solid State Voltage Build-Up  
eliminates voltage build-up relays  
with contacts that arc and fail.

ISO 9002 Certified

## Another First by the Generator Leader

**MARATHON**  
ELECTRIC  
A Subsidiary of Regal-Beloit Corporation

**RUNS.  
AND RUNS.  
AND RUNS.  
AND RUNS.**



# DVR<sup>®</sup>2000E Regulator Specifications

**Voltage Regulation.** 0.25% for precise voltage control on most applications. Voltage drift less than 0.5% for 40°C ambient temperature change (15 to 70°C range).

**Output Power.** 3.0 ADC, 75 VDC, 225 watts, maximum continuous rating; 7.5 ADC, 150 VDC, 1125 watts forcing for one (1) minute.

**Exciter Field DC Resistance.** Nominal hot resistance 18 to 25 ohms.

**Voltage Adjustment.** Minimum of  $\pm 10\%$  of nominal voltage range. Remote adjustment can be made up to 150 feet from voltage regulator.

**50 or 60 Hz Operation.** No reconnection required for frequency change.

**Power Input.** 180–240 volts AC, 200–360 hertz PMG supply.

**Wide Operating Temperature Range.**  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  covers all normal operating environments. Regulator “latches” off when  $+70^{\circ}\text{C}$  is exceeded.

**Loss of Sensing Shutdown.** Protects the generator against uncontrolled voltage output when the sensing circuit to the regulator is opened. Regulator shuts down when the sensing circuit to the regulator does not find continuity. Regulator also shuts down when voltage unbalance exceeds 20% for a specified duration, adjustable by the user.

**Overexcitation Shutdown.** Protects the generator against damage caused by prolonged field forcing.

**Paralleling Mode.** Paralleling for multiple generator setups is standard. Simply add 5 VA current transformers for parallel operation in “droop” or “cross current” compensation.

**Shock.** Withstands up to 20 Gs in each of three (3) perpendicular planes.

**Vibration.** Withstands 0.036 inch peak, 27–52 Hz; 1 G from 5–26 Hz and 5.0 Gs from 53–500 Hz.

**Multiple Use of Current Transformers.** The same current transformers can be used for multiple functions. The voltage regulator does not require separate transformers for paralleling or metering.

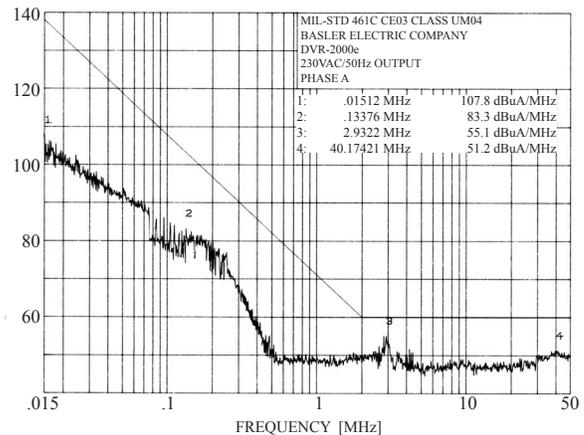
**Ease of Use.** All regulator adjustments and LED indicators are located on one side for easy use and adjustment. Push button controls allow adjustment of the various regulator functions.

**External Device Port.** PC or Palm connectivity allows access to enhanced operational features using custom software available from our website or upon request.

**Volts-per-Hertz Operation.** Protects the generator during underspeed operation and aids the prime mover during 100% block load pickup. Adjustable transition between flat regulation and volts-per-hertz ramp adjustable from 40 to 65 Hz. Provides selectable slope of 1 to 3 times PU volts/hertz.

**Accessory Input.**  $\pm 1$  VDC creates a  $\pm 10\%$  adjustment for AVR, FCR, and VAR.  $\pm 1$  VDC creates a  $\pm 0.1$  PF adjustment in the PF mode (adjusts only the active regulation mode).

**EMI Suppression.** Internal electromagnetic interference filter meets MIL-STD-461C, Part 9. for radiated and conducted emissions susceptibility when mounted in the MAGNAMAX<sup>DVR</sup> generator connection box.



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