



DVR[®] 2000E+ / EC+ Digital Voltage Regulator

Four Digit HMI Display

From initial setup to monitoring regulator status, this display provides innovative, world class, fast and easy setup.

Advanced Regulation Modes

Single and Three phase Automatic Voltage Regulation. Manual Field Current Regulation mode. All modes compatible with control by external devices.

VAR / PF Control – DVR2000EC+ Only

Reactive power regulation (VAR) and Power Factor regulation (PF) modes enables paralleling with utility power.

Generator Soft Start

Controlled increase to rated voltage limits overshoot during voltage build-up in AVR modes.

True RMS Voltage Sensing - Single or Three Phase

Connect in the sensing mode you prefer. Directly sense 100 to 600 Volts $\pm 10\%$ at 50/60 Hz. Circuitry senses true RMS voltage rather than average voltage for superior load regulation.

True Three Phase Power Monitoring

Additional CT inputs enable you to sense current on all three phases.

Frame Specific PID Selection

Tuning your regulator for your Marathon Electric generator has never been easier. Simply select the appropriate frame size and your gains are set.

Robust Generator Protection Features

14 different Alarm and Shutdown protection features, many customizable for your application including –

- Generator Startup Fault – DVR2000EC+ Only
- Field Over & Under Excitation
- Instantaneous Field Over Current
- Generator Over & Under Voltage

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DVR[®] 2000E+ / EC+ Specifications

Voltage Regulation – 0.25% over load range at rated power factor and constant generator frequency.

Output Power – 75 Vdc, 3.0 Adc continuous rating and 150 Vdc, 7.5 Adc forcing capability for one minute.

Exciter Field DC Resistance – 18 to 25 Ω range

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

Input Power – 180 to 240 Vac, 250 to 300 Hz PMG power supply

Operating Temperature – From -40°C to $+70^{\circ}\text{C}$ (-40°F to $+158^{\circ}\text{F}$)

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

Ingress Protection – IP52 (front side mounted in conduit box); IP10 (rear side with protective cover)

Shock – 20 Gs in 3 perpendicular planes

Vibration – 2.5 G at 5 to 26 Hz; 0.050" double amplitude (27 to 52 Hz); 7 Gs at 53 to 500 Hz

Weight – 3.5 lb. (1361 g)



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Humidity Testing – Per MIL-STD-705B, Method 711-D

Salt Fog Testing – Per MIL-STD-810E

CAN Protocol – SAE J1939

Regulator Sensing – 100 to 600 Vac, 50/60 Hz, 1-phase/3-phase

EMI Compatibility

Immunity

Meets EN 61000-6-2: 2005 Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments.

Emission

Meets EN 61000-6-4: 2007 Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments

EMI Compatibility Tests

Immunity

Electrostatic Discharge (ESD):

IEC 61000-4-2

Radiated RF: IEC 61000-4-3

Electrical Fast Transient (EFT) / Burst:

IEC 61000-4-4

Conducted RF: IEC 61000-4-6

Power Frequency and Magnetic Field:

IEC 61000-4-8

Emission

Radiated RF: EN 61000-6-4: 2007, 30 MHz to 1000 MHz

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