EPM 2000

DIGITAL POWER METER

Data acquisition node for basic power metrics

KEY BENEFITS

- Economical meter for Circuit Monitoring of Panels, Main Feeds, Branch Circuits, Gensets & equipment with communications
- Universal operation - 50 / 60 Hz, user programmable for high, medium or low voltage circuits
- DIN Standard 96 x 96 mm size for easy installation in new and retrofit Panels
- True RMS measurement more than 40 electrical parameters
- Instant load verification through analog type loadbar

APPLICATIONS

- Continuous metering of electrical loads such as generator panels, feeders, switchgear etc.
- Low and Medium voltage applications
- Provides remote status when used with EnerVista™ suite of software

FEATURES

Monitoring and Metering
- Measures 3-phase real-time amps, volts, power, energy, power factor and frequency
- Monitors equipment “run hours”, “on hours” and interruptions (outages)

Communications
- Brilliant 3 line LED Display
- Auto Scrolling features
- Standard RS-485 Modbus communications
Features

The EPM 2000 meter measures more than 40 electrical power parameters providing a low-cost, multifunction monitoring solution for industrial and power generation applications. EPM 2000 can easily be mounted in a panel for generator monitoring, substation automation and more. Meter can also provide data to RTUs, PLCs and other control devices. When used with the EnerVista™ suite of software, meters can be remotely monitored.

Metering

The following electrical parameters are measured and displayed locally on LED display and can be remotely accessed from the EPM 2000.

- Volts LN per phase and average
- Volts LL per phase and average
- Amps per phase and average
- kVA per phase and total
- kVAh total
- kVAr per phase and total
- kVARh total inductive and total capacitive
- kW per phase and total
- kWh total
- PF per phase and total
- Frequency
- Amps phase angle (AO) per phase
- Hours run, on hours and number of outages

Communications

Digital Communications

The EPM 2000 has a built-in, RS485 standard, communication capability using open Modbus RTU protocol. The meters can be daisy-chained using RS485 twisted pair. The baud rate can be adjusted from 1200 bps to 19,200 bps.

Display Features

- Brilliant 3 line, 4 digit per line, (digit height 14mm) LED display with auto-scaling capability for Kilo, Mega and Giga
- Meter can display volts, amps and frequency simultaneously
- Easy set up through front panel buttons
- Easy access to setup mode with one touch FAV key during power on
- Load bar graph indicating consumption in terms of percentage load average. Now user can quickly estimate the load by viewing the display without operating any key
- Password protection for setup parameters
- Parameters can be displayed in the following page format:
  - VLL, A avg., F
  - VLN, A avg., F
  - kVA, kW, kVAR
  - kVA, kW, PF
  - Individual phases of the above parameters

Additional integrated values displayed include:

- kVAh
- kWh
- kVARh inductive
- kVARh capacitive
- Run hours
- On hours
- Interruptions (Outages)

RS485 Modbus Communication

RS485

RS485 / RS232 Converter

PC/PLC or RTU

RS485

RS485 / RS232 Converter
EnerVista™ Software

EnerVista™ Launchpad
EnerVista™ Launchpad is a powerful software package that provides users a platform to access all of the setup and support tools needed for configuring and maintaining GE Multilin Products. Included in Launchpad is a document archiving and management system that ensures critical documentation is up-to-date and available when needed by automatically checking for and downloading new versions of manuals, applications notes, specifications, and service bulletins.

Viewpoint Monitoring
Viewpoint Monitoring is a simple-to-use, full-featured monitoring and data recording software package for small systems. Viewpoint Monitoring provides a complete HMI package that instantly puts critical real-time device data on your PC through pre-configured graphical screens with the following functionality:

- Plug-&-Play Device Monitoring
- System Single-Line Monitoring & Control
- Annunciator Alarm Screens
- Trending Reports
- Automatic Event Retrieval

EnerVista™ Integrator
EnerVista™ Integrator is a toolkit that allows seamless integration of GE Multilin devices into new or existing automation systems by sending GE device data to HMI, DCS, and SCADA systems. Included in EnerVista Integrator is:

- OPC/DDE Server
- GE Multilin Drivers
- Automatic Event Retrieval
- Automatic Waveform Retrieval

Typical Wiring

Star (Wye): Three Phase Four Wire Systems

Delta: Three Phase Three Wire Systems

Dimensions

Protective Cover

Meter

Terminal Block

Clamp

9mm additional space on both side of the meter inside the Panel
Technical Specifications

**ENERGICAL**
- Operating Temperature: -10°C to +60°C (14°F to 140°F)
- Storage Temperature: -25°C to +70°C (-13°F to 158°F)
- Humidity: 5% to 95% non-condensing

**PACKAGING**
- Weight: 400 gms approx. Unpacked
  500 gms approx. Shipping

**INPUTS**
- Input voltage range:
  - Voltage inputs (Va, Vb, Vc, Vn): 48 - 347 VLN, 80 - 600 VLL
  - Overload: 750 VLL max
- Input current:
  - 3 Current Inputs (la, lb, lc)
  - Programmable 6 Amperes or 1 Ampere input
  - 20mA - 6A secondary
- Frequency:
  - 45 - 65 Hz
- Sensing method:
  - True RMS sampling
- Update time:
  - 1 sec update time

**COMMUNICATIONS**
- Media: RS 485 half-duplex isolated serial channel connection
- Baud rate: 1,200 - 19,200 bps
- Protocol: ModBus® RTU

**POWER SUPPLY**
- CONTROL POWER
  - Input options: 80 - 270V AC, 100 - 270V DC
  - Frequency: 45-75 Hz
  - Burden: 3VA max

**TYPE TESTS**
- Emissions: CISPR22
  - Fast Transient: 4kV IEC 61000-4-4, level 4
  - ESD: IEC 61000-4-2
- Impulse Voltage Communication: IEC 60060, 1.2/50, 6kV
- Isolation: 2000 volts AC isolation for 1 min between communication and other circuits
- Overload current: 10A max continuous, 50A max for 3 seconds
- Safety Construction: Self extinguishable VO plastic

**MEASUREMENTS**
- Measured Values
  - Accuracy %
    - Volts LN per phase: 0.5%
    - Volts LL per phase: 0.5%
    - Volts LN Avg: 0.5%
    - Current per phase: 0.5%
    - Current Avg: 0.5%
    - Frequency: 0.1%
    - Real power per phase & total: 2.0%
    - Reactive Power per phase & total: 2.0%
    - Apparent power per phase & total: 2.0%
    - Power Factor per phase & total: 2.0%
    - Active Energy Import: 2.0%
    - Reactive Energy Inductive/Capacitive: 2.0%
    - Apparent Energy: 2.0%
  - Additional error of 0.05% of full scale, for meter input current below 100mA

**SAFETY**
- Measurement category III
- Pollution degree 2
- Protection against shock by double insulation at user accessible area.

**APPROVALS**
- UL/cUL: Listed under E2484953
- CE: Marked to European CE standards
- ISO: Manufactured to an ISO9001 registered program
- C-Tick: Certified by Australian Communications Authority

**ORDERING**

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