



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 (A0) 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



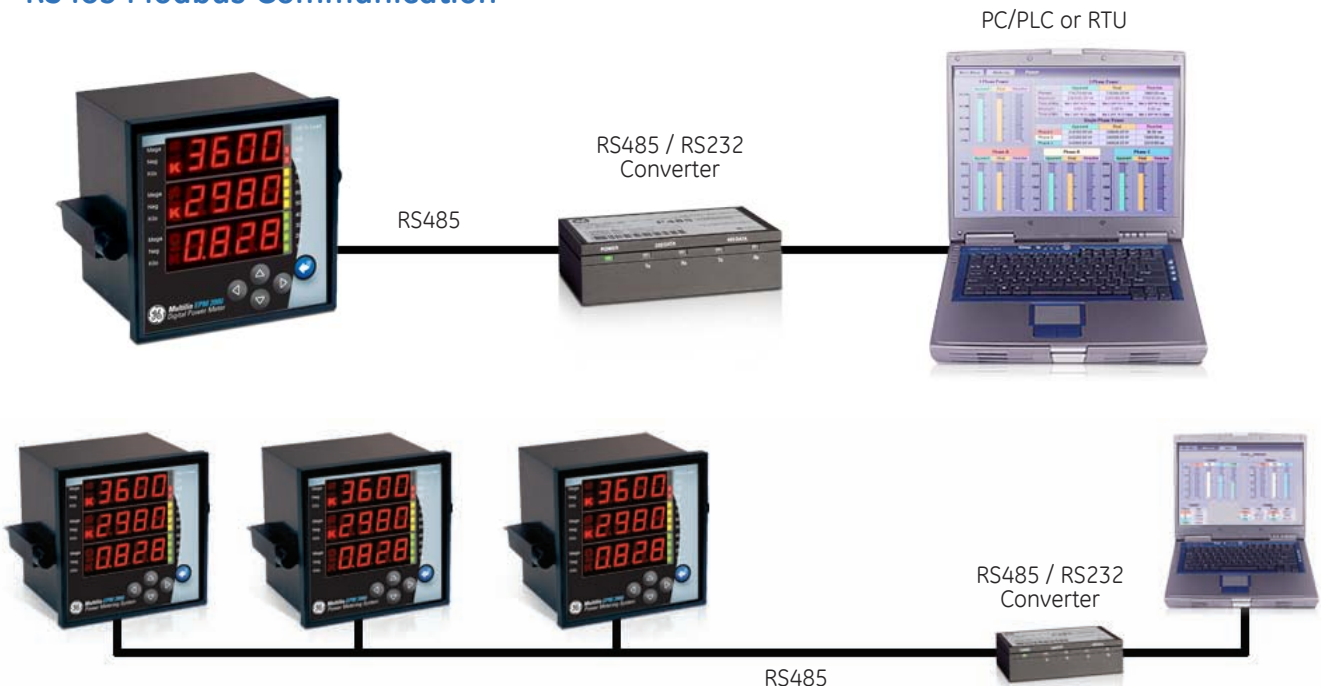
- Brilliant 3 line, 4 digit per line, (digit height 14mm) LED display with auto-scaling capability for Kilo, Mega and Giga
- Meter can display volts, amps and frequency simultaneously

- 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



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

- Automatic Waveform Retrieval

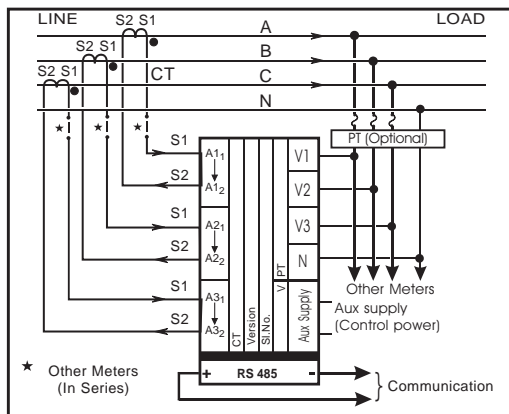
EnerVista™ Integrator

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:

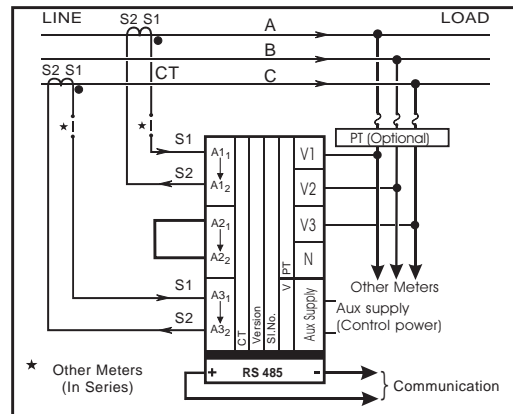
- OPC/DDE Server
- GE Multilin Drivers
- Automatic Event Retrieval
- Automatic Waveform Retrieval

Typical Wiring

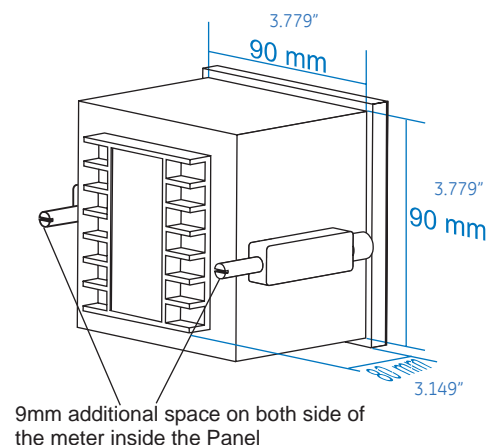
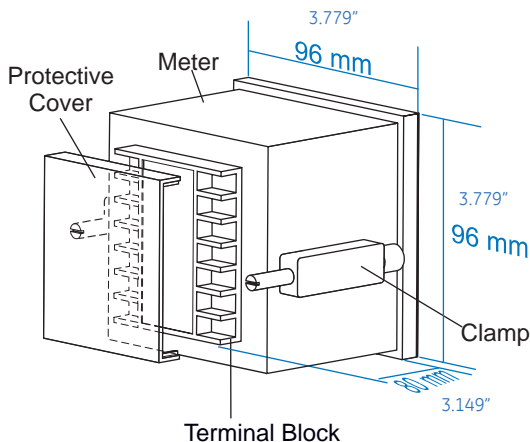
Star (Wye): Three Phase Four Wire Systems



Delta: Three Phase Three Wire Systems



Dimensions



Technical Specifications

METERING

MEASURED VALUES

ACCURACY	ACCURACY %
Volts LN per phase	0.5%
Volts LL per phase	0.5%
Volts LN Avg	0.5%
Volts LL Avg	0.5%
Amps per phase	0.5%*
Amps Avg	0.5%*
Amps phase angle per phase	1°
Frequency	0.1%
Real power per phase & total	1.0%*
Reactive Power per phase & total	2.0%*
Apparent power per phase & total	1.0%*
Power Factor per phase & total	1.0%*
Active Energy Import	1.0%*
Reactive Energy (Inductive / Capacitive)	2.0%*
Apparent Energy	1.0%*

* Additional error of 0.05% of full scale, for meter input current below 100mA

INPUTS

Input voltage range:

4 Voltage inputs (Va, Vb, Vc, Vn)
48 - 347 VLN
80 - 600 VLL

Input current:

Overload - 750LL max
3 Current inputs (Ia, Ib, Ic)
Programmable 6 Amps or
1 Amp inputs

Burden:

20mA - 6A secondary
0.2VA max per Volts/Amps input
45 - 65Hz

Frequency:

True RMS sampling
4 quadrant power & 2 quadrant
energy

Sensing method:

1 sec update time

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

ENVIRONMENTAL

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

SAFETY

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

APPROVALS

UL/cUL: Listed under E244953
CE: Marked to European CE standards
ISO: Manufactured to an ISO9001 registered program
C-Tick: Certified by Australian Communications Authority

Ordering

PL 2000

System Voltage	Description
80 - 270V AC	
100 - 270V DC	
Input Voltage	48 - 270 VLN
	80 - 500 VLL
Communication	Modbus RS 485

Visit www.GEMultilin.com/EPM2000 to:



- View Guideform Specifications
- Download the instruction manual
- Review applications notes and support documents
- Buy a EPM 2000 online