



## POWER LEADER™ Modbus® Concentrator

### Product Overview

GE's recent introduction of the POWER LEADER Modbus Concentrator brings a new level of performance and compatibility to users of GE's POWER LEADER communication network (commnet) family of power management devices. Used in conjunction with GE's Power Management Control System 5.0 (PMCS) software, the Modbus Concentrator allows you to integrate your existing base of commnet devices into the faster Modbus Remote Terminal Unit (RTU) based PMCS network, improving overall system performance while retaining the full functionality of each commnet device.

Modbus RTU is an industry-standard communications protocol that operates on an RS485 network. The Modbus RTU protocol is widely supported for supervisory control and data acquisition (SCADA) systems, building management systems (BMS) and distributed control systems (DCS). Industry leaders such as Multilin, Power Measurements Limited, and GE Fanuc produce Modbus RTU-compatible devices and programmable logic controllers.

Modbus' open architecture provides a high level of flexibility while reducing the risks associated with proprietary communications protocols. Key benefits of the Modbus RTU protocol include:

- Devices and systems can be upgraded easily.
- A wide range of compatible devices from a variety of manufacturers is supported.
- Communications are extremely flexible, both upstream (to DCS, SCADA and BMS systems) and downstream (to meters and trip units).

GE's Power Management Control System 5.0 is a powerful yet easy-to-use software package. It provides

communications and control functions for Modbus RTU-compatible devices and (via the Modbus Concentrator) commnet-based devices (such as the POWER LEADER Meter or MicroVersaTrip trip unit). The Concentrator polls data from up to 32 commnet devices and communicates this data with PMCS. PMCS may also communicate with other Modbus-native devices such as the GE Fanuc 90/70 and 90/30 Programmable Logic Controllers, and Electronic Power Meter (EPM) 3710/3720 waveform capture meters.

For current POWER LEADER commnet device users, the POWER LEADER Modbus Concentrator provides a modular and cost-effective way to meet future power management needs by offering a link from commnet to the higher speed Modbus network.

Upgrading an existing commnet network with POWER LEADER Modbus Concentrators and PMCS has two important benefits. First, your network may benefit from increased overall performance, because the Modbus Concentrator provides the higher speed of Modbus communications. Second, PMCS is compatible with many Modbus devices. As your needs change and grow, PMCS supports a wide array of devices to meet those needs, while maintaining compatibility of your commnet devices through the Modbus Concentrator.

Conversely, if you are a user of PMCS equipped with Modbus devices who wishes to use commnet devices, you may add such devices to your network via the Modbus Concentrator. Up to 215 commnet devices may be attached (via multiple Modbus Concentrators) to a single Modbus RTU network, allowing you to build a power management system with maximum functionality and flexibility.



## Standard Features

- One-piece steel case construction
  - Simple installation (no cutouts)
- Ease of operation
  - Four-character alphanumeric high-contrast LED display
  - Simple four-button keypad
  - All setup done via faceplate keypad and display; no confusing DIP switches
  - Quick automatic setup capability
- Communications
  - Communicates on POWER LEADER commnet communications protocol
  - Communicates on Modbus RTU communications protocol
  - Each Modbus Concentrator supports up to 32 commnet devices (maximum 215 Commnet devices per RS485 network possible with multiple Concentrators)

## Product Specifications

### Catalog Number

Description	Catalog Number
POWER LEADER Modbus Concentrator	PLZOOMG01

### Communications

- POWER LEADER commnet
  - Eight individual segments supporting up to four devices per segment
- Modbus RTU
  - One RS485 input port, One RS485 output port (1200 baud, 2400 baud, 4800 baud, 9600 baud, and 19.2 Kbaud)

### Power Requirements

- Control power
  - 85 Vac – 265 Vac
  - 100 Vdc – 250 Vdc

## Supported POWER LEADER commnet Devices

### Meters

- POWER LEADER Meter
- POWER LEADER Electronic Power Meter

### Protection and Control Devices

- Spectra RMS™ Electronic Control Module
- POWER LEADER MDP200 Overcurrent Relay

### Other Devices

- POWER LEADER Repeater
- POWER LEADER Junction Box

### Standards

- UL listed 508 & 840
- CSA certified C22.2 No. 14

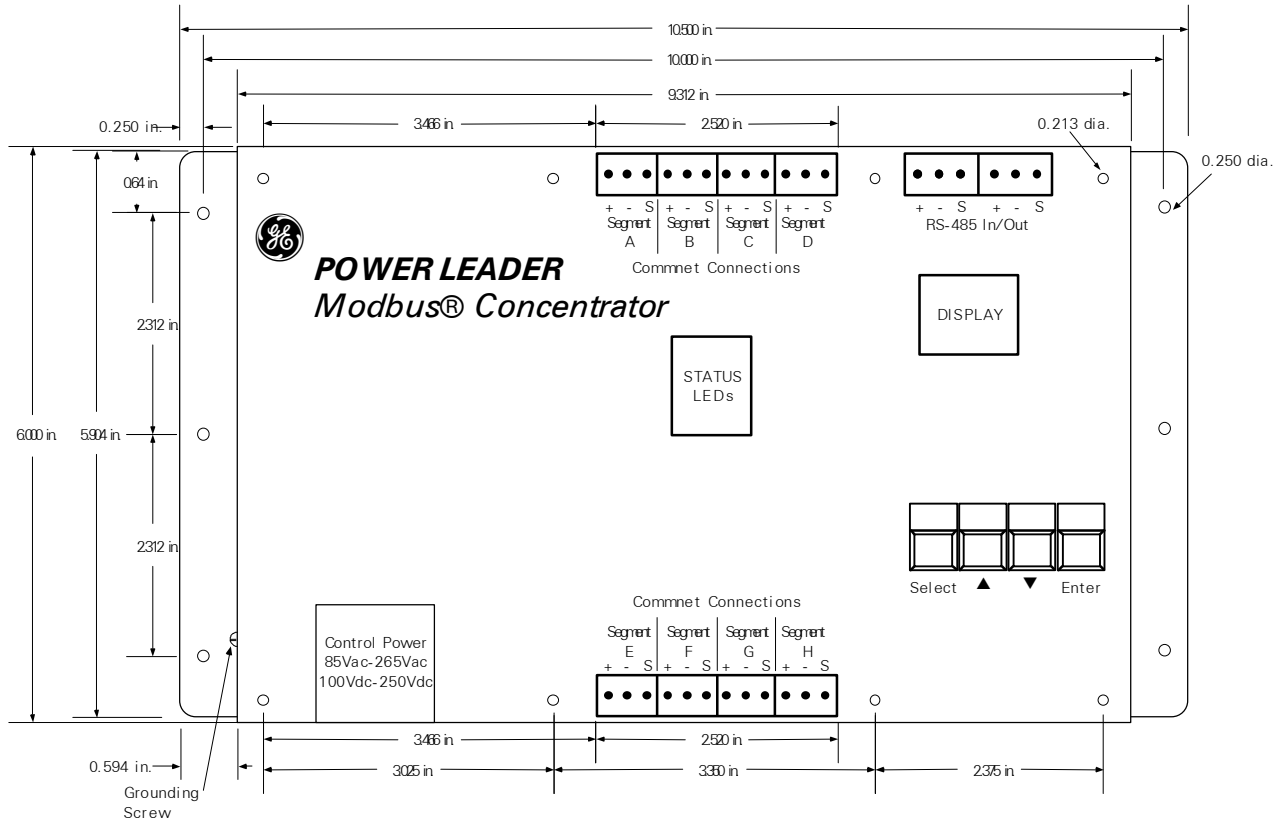
### Environment

- Operating temperature range –0° to +70° C
- Storage temperature range –20° to +80° C
- Relative humidity 5% to 95% noncondensing
- Vibration response and endurance IEC 255-21-1 Severity Class 1
- Fast transient surge ANSI C37.90.1
- Radiated EMI withstand capability ANSI C37.90.2
- Electrostatic discharge IEC 801-2 Severity Class 4

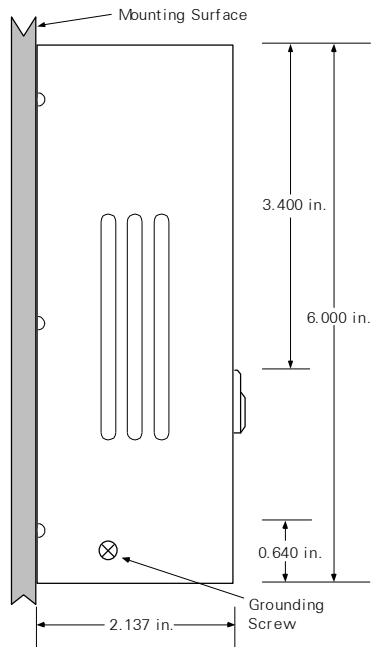
### Trip Units

- MicroVersaTrip for Spectra Molded Case circuit breakers (RMS6)
- MicroVersaTrip for Power Break and Type AKR circuit breakers (RMS9C)
- MicroVersaTrip for Power Break II circuit breakers (RMS9D)

# Outline Drawings



Front View



Side View

# Guide Form Specifications

The microprocessor-based multifunction device shall provide the functions listed below.

## Communications

The device shall be capable of communicating on both the POWER LEADER commnet and Modbus RTU communication protocols. It shall communicate all metering and setup information polled from connected POWER LEADER commnet devices to a host PC equipped with Power Management Control System 5.0 software. This shall be a multitasking system, providing event logging, alarm and event indication, energy trending, and the collection of information on a scheduled basis. The device shall also be capable of communicating setup and control commands from the host computer to the attached commnet devices.

## Inputs/Outputs

The device shall accept input from up to eight POWER LEADER commnet segments. Each commnet segment shall support up to four POWER LEADER commnet devices (not including POWER LEADER Repeaters and Junction/Outlet Boxes).

The device shall provide RS485 input and output ports with adjustable baud rate (1200, 2400, 4800 and 9600 baud, and 19.2 Kbaud) for communications on a Modbus RTU protocol network.

The device shall have a four-character alphanumeric high-contrast LED display and a four-key keypad on its faceplate.

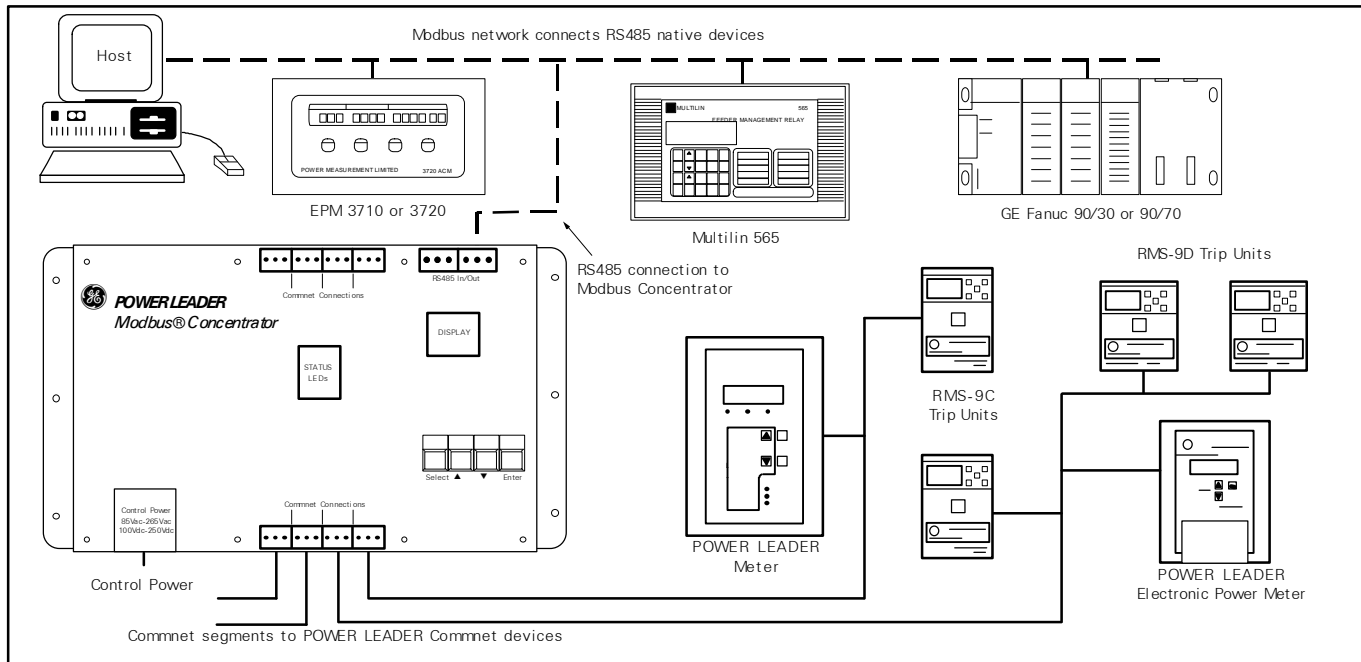
The device shall require control power of 85-265 volts ac or 100-250 volts dc.

## Configuration

The device configuration and all user-defined values and settings shall be entered via the keypad. The device shall be capable of being automatically configured.

## Construction

The device shall be provided in a steel case with provisions for communications connections on the front of the case. Control power voltage connections shall also be made on the front of the case. The device shall be front mounted via mounting holes provided at each end of the case.



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