

# Multilin™ EPM 4600

## Multi-feed Power and Energy Metering Solution



## Quick Start Guide

Software Revision: 1.0x

Manual P/N: 1601- 0297-

A3

Manual Order Code: GEK-119590B

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## **NOTICE**

For further product details and safety considerations, refer to the *EPM 4600 Instruction Manual*, part number 1601-0296.

## **⚠ CAUTION**

Failure to observe and follow the instructions provided in the equipment manual(s) could cause irreversible damage to the equipment and could lead to property damage, personal injury and/or death.

Before attempting to use the equipment, it is important that all danger and caution indicators are reviewed.

If the equipment is used in a manner not specified by the manufacturer or functions abnormally, proceed with caution. Otherwise, the protection provided by the equipment may be impaired and can result in Impaired operation and injury.

Caution: Hazardous voltages can cause shock, burns or death.

Installation/service personnel must be familiar with general device test practices, electrical awareness and safety precautions must be followed.

Before performing visual inspections, tests, or periodic maintenance on this device or associated circuits, isolate or disconnect all hazardous live circuits and sources of electric power.

Failure to shut equipment off prior to removing the power connections could expose you to dangerous voltages causing injury or death.

All recommended equipment that should be grounded and must have a reliable and uncompromised grounding path for safety purposes, protection against electromagnetic interference and proper device operation.

Equipment grounds should be bonded together and connected to the facility's main ground system for primary power.

Keep all ground leads as short as possible.

At all times, equipment ground terminal must be grounded during device operation and service.

In addition to the safety precautions mentioned all electrical connections made must respect the applicable local jurisdiction electrical code.

Before working on CTs, they must be short-circuited.

To be certified for revenue metering, power providers and utility companies must verify that the billing energy meter performs to the stated accuracy. To confirm the meter's performance and calibration, power providers use field test standards to ensure that the unit's energy measurements are correct.

### Safety symbols and definitions

Before attempting to install or use the device, review all safety indicators in this document to help prevent injury, equipment damage, or downtime.

The following safety and equipment symbols are used in this document.

**⚠ DANGER** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

**⚠ WARNING** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

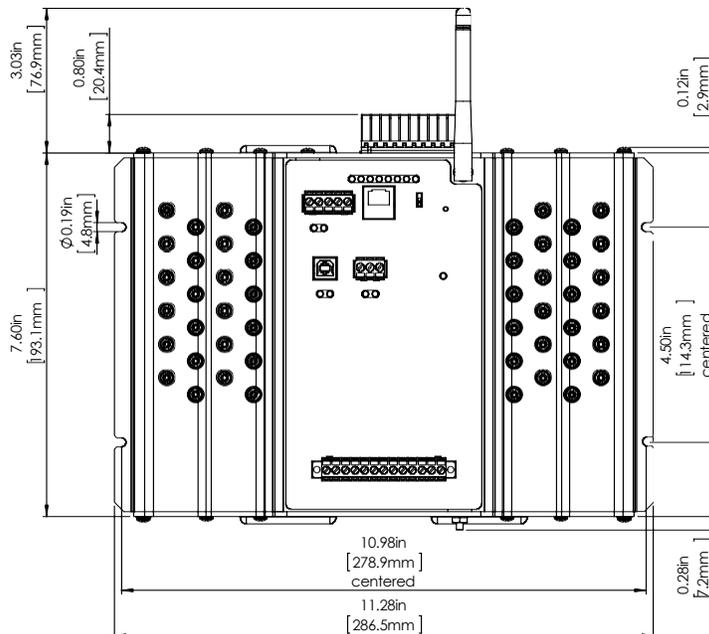
**NOTICE** Indicates practices not related to personal injury.

### Recommended Tools

Recommended tools for EPM 4600 installation:

- #2 Phillips screwdriver
- 1/4-inch (0.250") nut driver socket, box, or open-end wrench
- wire cutters

The EPM 4600 unit is designed to withstand harsh environmental conditions; however it is recommended you install it in a dry location, free from dirt and corrosive substances



## Installation

To install the EPM 4600 Unit:

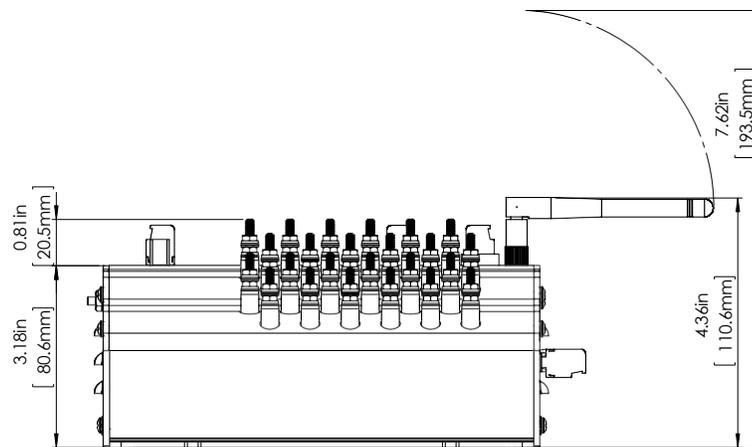
1. Mount the unit against any firm, flat surface.
2. Use a #8 screw in each of the four slots on the flange to ensure that the EPM 4600 unit is installed securely.

### **WARNING**

For safety reasons, mount the EPM 4600 unit in an enclosed and protected environment, such as in a switchgear cabinet.

Connect an earth ground to the post on the side of the EPM 4600 unit, using an AWG 12 wire.

Install a switch or circuit breaker nearby; label it clearly as the EPM 4600 unit's disconnecting mechanism.



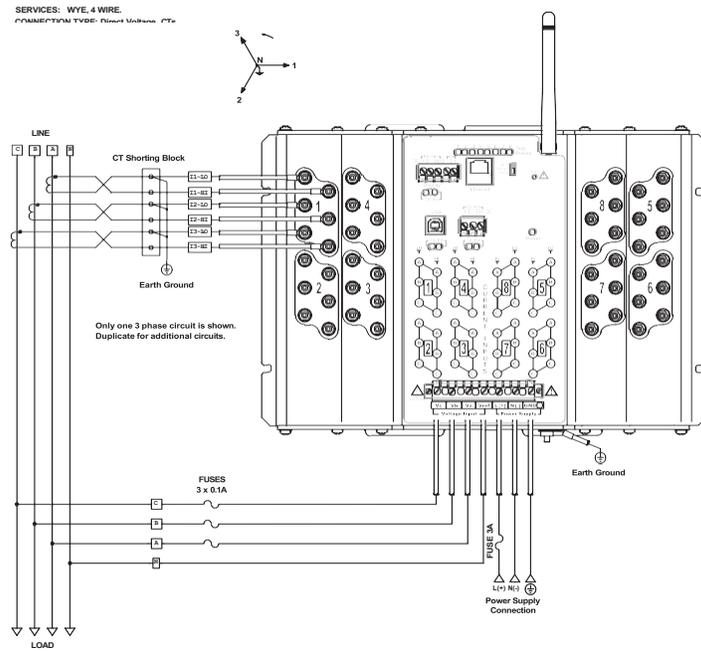
## Electrical Installation

### **WARNING**

All Primary and Secondary circuits can, at times, produce lethal voltages and currents. Avoid contact with any current-carrying surfaces. The current inputs are only to be connected to external current transformers (CTs).

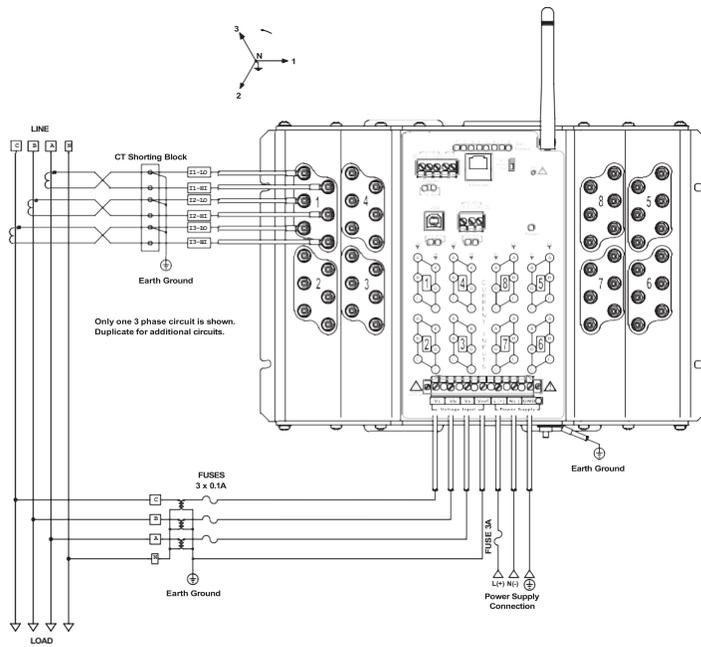
### **WARNING**

All CTs must have one side grounded to reduce shock hazard. GE Vernova Digital Energy highly recommends using shorting blocks so that the meter can be removed from service while the CT is energized.



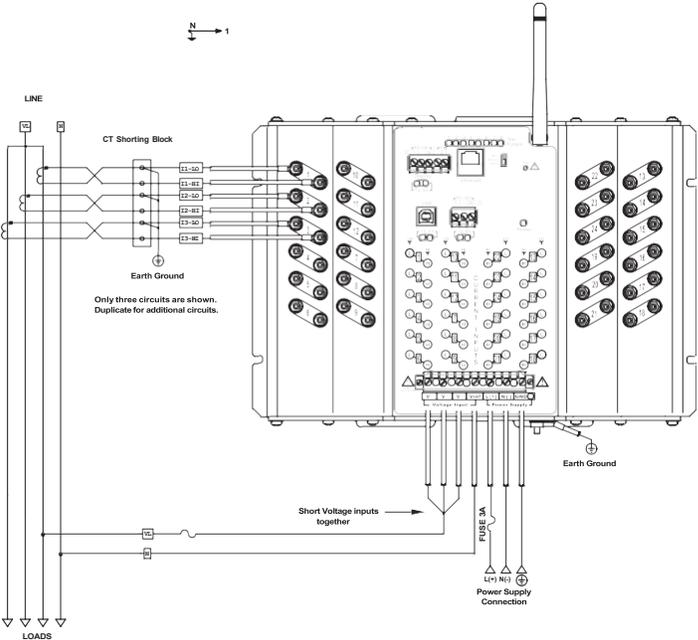
**Service:**

- Three Phase, 4-Wire WYE Service Direct Voltage and 3 CT Connection for Metering 8 Three Phase Loads: EPM 4600-T



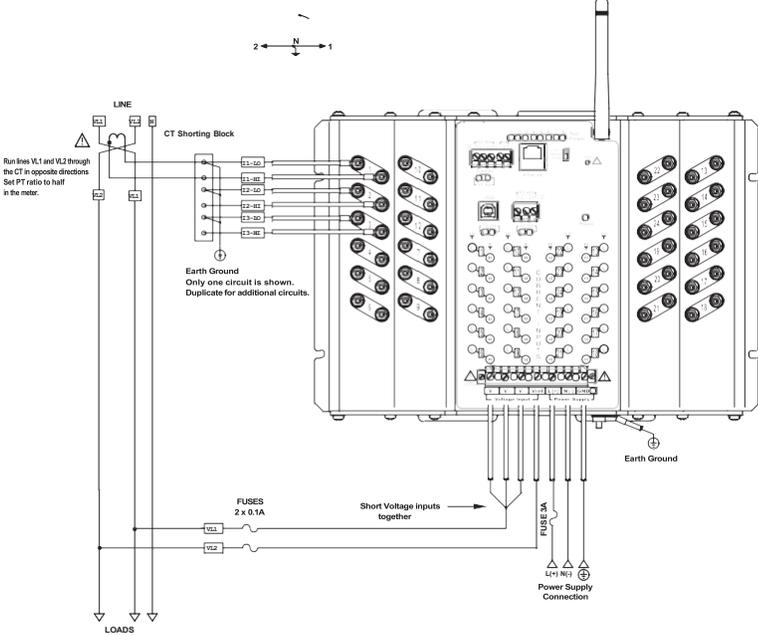
**Service:**

- Three Phase, 4-Wire WYE Service with 3 PT Voltage and 3 CT Connection for Metering 8 Three Phase Loads: EPM 4600-T



**Service:**

- Single Phase, 2-Wire Service with Direct Voltage and 1 CT Connection for Metering 24 Single Phase Loads: EPM 4600-S



**Service:**

- Single Phase, 3-Wire Service with Direct Voltage and 1 CT Connection for Metering 24 Single Phase Loads: EPM 4600-S

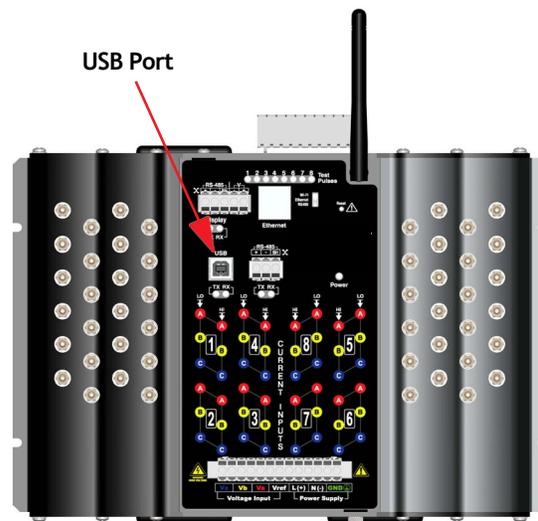
## Connecting to the EPM 4600

1. Connect to the EPM 4600 unit through the USB port. Use a USB Type A to B plug to connect from your PC USB port to the EPM 4600 unit's USB port.

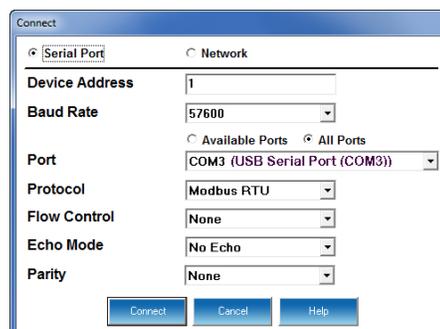
If your PC doesn't automatically find the USB driver:

- Download the GE Vernova Communicator software package. (Click **Software** on left side of the EPM 4600 page [www.gegridsolutions.com/multilin/catalog/epm4600.htm](http://www.gegridsolutions.com/multilin/catalog/epm4600.htm)).
- Start the GE Vernova Communicator installation and select the USB driver. The driver is installed on your PC (you will see screens and messages during the process).

Note that this *EPM 4600 Quickstart Guide* shows connection using the USB port only. For Ethernet/Wifi or RS485 connection, see the *EPM 4600 Instruction Manual*.



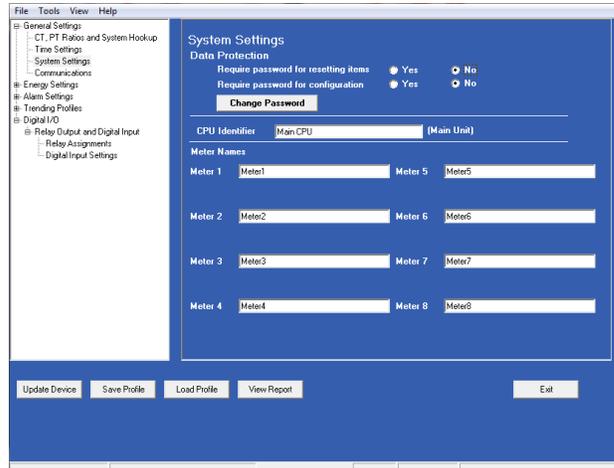
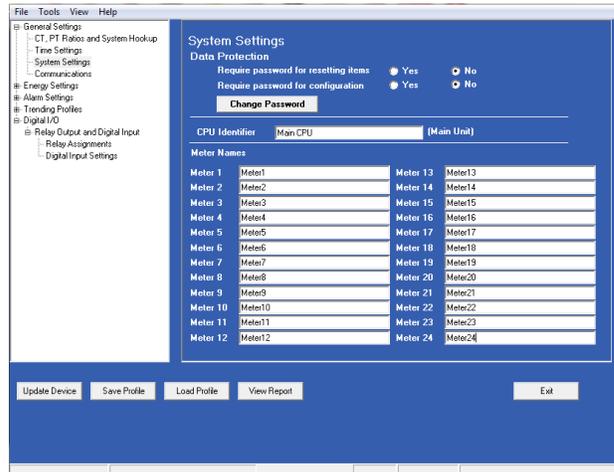
2. Download, install, and open GE Vernova Communicator software. (Click **Software** on left side of the EPM 4600 page [www.gegridsolutions.com/multilin/catalog/epm4600.htm](http://www.gegridsolutions.com/multilin/catalog/epm4600.htm)).
3. Click **Connect** on the tool bar.  
You will see the Connect screen. Make sure the Address, Baud Rate, and Protocol settings match the ones shown here.



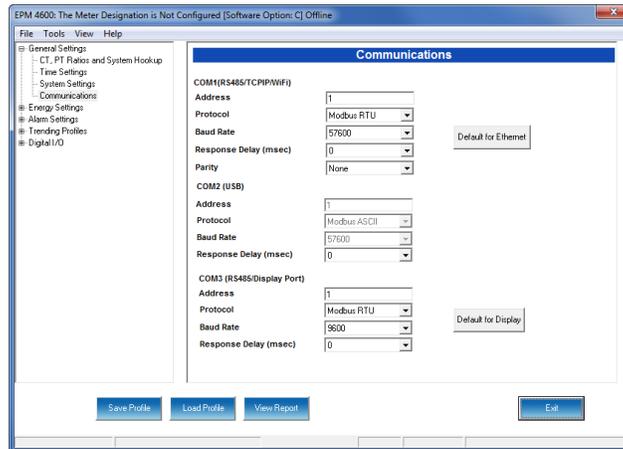
4. Click **Connect** - the Device Status screen confirms the connection.
5. Click **OK** - the GE Vernova Communicator main screen opens.

## Configuring the EPM 4600

1. Click the **Profile** button on the tool bar.  
The Device Profile screen opens. The Tree menu on the left side of the screen lets you choose setting screens.
2. Click **System Settings** to open one of the following two screens which differ for the three-phase EPM 4600-T and single-phase EPM 4600-S.  
Use this screen to name the EPM 4600 unit (CPU) and to label the circuits (individual meters). You must give the EPM 4600 CPU an individual, unique name to properly download data to the database.



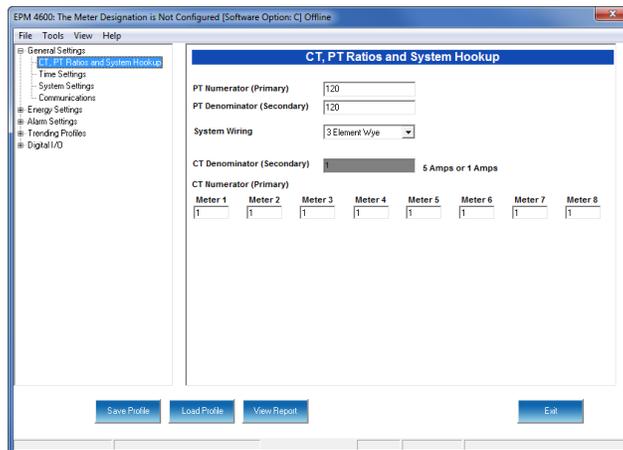
3. Click **Communications** (see the following section).
4. Click **CT, PT Ratios and System Hookup** (see the following section).



## Communications Settings

### COM 1: RS485/ Ethernet/WIFI (optional)

Address: 1-247; Baud Rate: 57600;  
 Protocol: Modbus RTU/Modbus ASCII;  
 Response Delay: 0-750ms; Parity: Odd, Even or None



### COM 2: USB port

NOTE: The USB port settings are fixed.

### COM 3: RS485

Address: 1-247; Protocol: Modbus RTU/ASCII  
 Baud Rate: 9600, 19200, 38400, 57600  
 Response Delay: 0-750ms

NOTE: Click the (1)Default to Ethernet or (2)Default to Display button to set either the (1)Ethernet settings for COM1 or (2)Display settings for COM3, to their default values.

### CT, PT Ratios and System Hookup

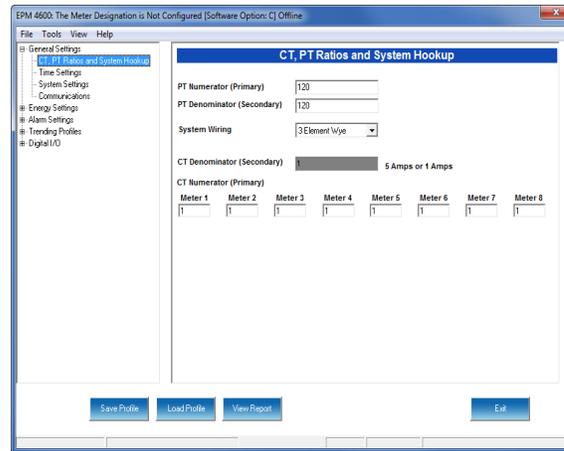
Note that the settings you see on the screen depend on your EPM 4600 unit's circuit configuration. The top screen is for an EPM 4600 unit with the single phase circuit configuration (EPM 4600-S). The bottom screen is for an EPM 4600 unit with the three phase circuit configuration (EPM 4600-T). For PT settings, see the EPM 4600 meter manual (click **Manuals** on left side of the EPM 4600 page [www.gegridsolutions.com/multilin/catalog/epm4600.htm](http://www.gegridsolutions.com/multilin/catalog/epm4600.htm)).

The CT settings are:

#### CT Ratios

CT Numerator (Primary): 1 - 65535

CT Denominator (Secondary): 10 or 2 Amps, depending on the EPM 4600 unit's ordered option (this field is display only).



### Updating the Device Configuration

To Update the EPM 4600:

1. When changes are complete, click the **Update** button to send a new profile to the EPM 4600 unit.
2. Click **Cancel** to Exit the screen.

For further details and additional programming screens, see the meter manual (link below) and the software manual (click **Help > Contents** from the GE Vernova Communicator application Main screen).

#### For further assistance

For product support, contact the information and call center as follows:

GE Vernova Grid Solutions    Worldwide telephone: +1 905 927 7070  
 650 Markland Street        Europe/Middle East/Africa telephone: +34 94 485 88 54  
 Markham, Ontario         North America toll-free: 1 800 547 8629  
 Canada L6C 0M1            Fax: +1 905 927 5098

Worldwide e-mail: [multilin.tech@gevernova.com](mailto:multilin.tech@gevernova.com)

Europe e-mail: [multilin.tech.euro@gevernova.com](mailto:multilin.tech.euro@gevernova.com)

Website: <https://www.gevernova.com/grid-solutions/automation/protection-control-metering>  
 Manuals and software: <https://www.gevernova.com/grid-solutions/automation/protection-control-metering>

# EC Declaration of Conformity

**Declaration No.** DOC-MAR-C-08AUG13-1

**Manufacturer Name:** GE Multilin Inc.  
**Address:** 650 Markland Street  
Markham, ON, L6C 0M1, Canada

**Authorized representative:** GE Power Management, S.A.U.  
**Address:** Avenida Pinoa 10 - 48170  
Zamudio (Vizcaya), Spain

CE 13

## Object of the declaration

Electrical Meter

We (the Manufacturer) declare under our sole responsibility that the product(s) described above is/are in conformity with applicable EC harmonization Legislation.

Document No.	Title
2006/95/EC	Low Voltage Directive
2004/108/EC	EMC Directive
1999/5/EC	R&TTE Directive

## Harmonised standards or references to the specifications in relation to which conformity is declared:

Doc No.	Title	Edition
EN 61000-6-2	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments	2005
EN 61000-6-4	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments	2007
EN 61326-1	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	2006
EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	2001
EN 300 328 (WiFi Module)	EMC and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques;	V1.8.1
EN 60950-1 (WiFi Module)	Information technology equipment - Safety - Part 1: General requirements	2006 + A1:2010 + A12:2011

## Additional Information

The WIFI module was fully installed in conformance with the supplier's installation instructions.

## Signed for and on behalf of the Manufacturer:

**Name:** Vijay Muthukrishnan  
**Function:** Engineering Monoger. GE Vernova Multilin Inc  
**Signature:**



Issued Date: 08 August 2013

**Name:** Kevin Fuller  
**Function:** DE Regulatory Leader - TRS & ITC  
**Signature:**



