

**Mueller** SYSTEMS

Mi.Node - CI  
Installation Manual

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Document Rev 2

## Document Information

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## Revision History

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1.0	9/22/2009	TC	<ul style="list-style-type: none"> <li>Initial draft, submitted for review</li> </ul>
2.0	6/1/2011	DS	<ul style="list-style-type: none"> <li>Revised label (CIH) per ECN11013</li> </ul>

## Reviewers

Reviewed By	Title	Date Reviewed

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## FCC Information:

**Changes or modifications not expressly approved by the Mueller Systems could void the user's authority to operate the equipment.**

**IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.**

"NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

# 1. Introduction

The Mueller Systems MiNODE-CI is intended for indoor & outdoor use as an unattended automatic metering Infrastructure (AMI) & control device. The SMART METER-CI product consists of a Mueller Systems AMI MiNODE-CI module fully integrated into a Landis+Gyr C&I (Commercial & Industrial) solid state electric meter.

The Smart Meter-CI is fully self-contained with no user accessible controls.

The MiNODE-CI interrogates the ANSI C.12 register set in C&I solid-state electric meters from Landis + Gyr. It's main function is to obtain energy consumption, negative consumption, and voltage readings for billing, distribution monitoring, fraud detection, and conservation purposes.

Meter reading interval is remotely settable. Information retrieved from the meters registers are temporarily stored within the solid-state memory. On a specified interval, the MiNODE-CI will automatically transmit this information to the Mueller Systems AMI server via other meters or MiGATE using the Radio Frequency (RF) network.

The Mueller Systems AMI server analyzes and archives the readings.

The MiNODE-CI uses SuperCapacitors to support transmission of power failure messages and to maintain the time of day clock. The Smart Meter does not use any internal batteries eliminating need for field service.

The contents of this installation manual are intended for technically qualified personnel of energy distribution utilities who have been trained and are technically qualified in basic electrical principles, including safety procedures for installation of energy meters.

The installer should refer to the latest edition of the Landis+Gyr "FOCUS kWh Solid-State Meter Technical Manual" for physical installation, wiring, and safety precautions.

# 2. Supported Products

- MiNODE CI

The MiDODE-CI supports the following electric meter forms

Form	Voltage	Current

# 3. Maintenance

There are no user serviceable items within a SmartMeter CI. No cleaning is required.

# 2. Product Labeling

## 2.1 Product Identification

This label is affixed to the face of the SmartMeter CI unit. This allows the installer to easily scan the label with the Mi.Tech hand-held during the installation process. This label includes

the Date of Manufacture, the Hardware Version and the MI.NODE-CI /Serial Number (Node ID) that is used to uniquely address the device and Assembled in Mexico.



Figure 1. Product Identification Label

## 2.2 FCC Identification

This label is affixed to the side of the SmartMeter CI enclosure and indicates the FCC ID number of the product.

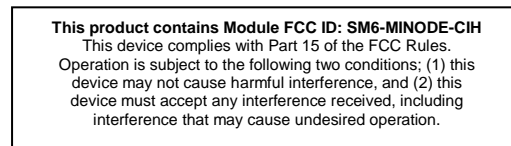


Figure 2. MI.NODE-CI FCC ID text