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## **Certification Exhibit**

**FCC ID: R7PSSMM1TRP**

**FCC Rule Part: 15.247**

**ACS Project Number: 11-0372**

Manufacturer: Landis+Gyr Technology, Inc.  
Model: Elster Solid State Meter Module

## **Manual**

# Elster Solid State Meter Module Quick Start Guide

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# Elster Solid State Meter Module Quick Start Guide

## Overview

The Landis+Gyr Solid State Meter Module (SSMM) is designed to provide active energy (Kilo-Watt hour) data from Elster ALPHA Plus meters for use in residential and industrial commercial services.



*Figure 1 - 1. Elster Solid State Meter Module*

The meter kit includes:

- Elster ALPHA Plus meter (A1D+ or A1T+)
- Communication Module (SSMM)
- Antenna

## Required Software

To work with the endpoint, you need at least one of the following software tools and documentation:

- UtiliNet Solution Center (USC)
- Meter Master Lite software
  - *Meter Master Lite Quick Start Guide*, publication number 98-0071
- Elster ALPHA Plus software

Landis+Gyr recommends you have RF Verify software and the *RF Verify User Guide*, publication number 98-0069.

## Labels

The endpoint contains the following labels:

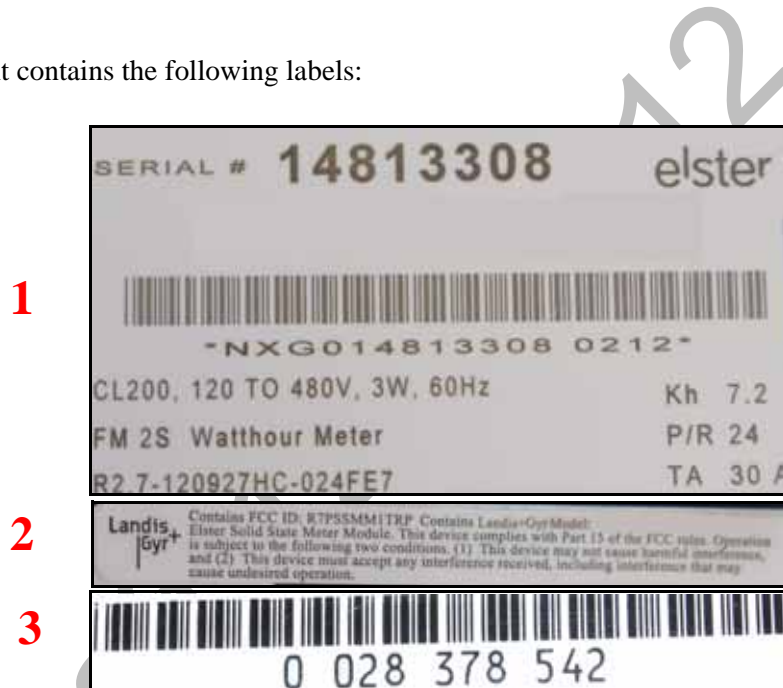


Figure 2. Label Identification

Table 1. Elster Label Identification

Label	Description
1	Elster Meter Name Plate
	AEP compliant bar code that defines meter manufacturer, form, base, test voltage and current, watt-hour constant, serial number, and customer specific information.
	Manufacturer or customer specified serial number
	Manufacturer model and style number
2	Landis+Gyr FCC ID
	Federal Communications Commission (FCC) Identification (ID) number assigned to the Landis+Gyr Solid State Meter Module for use in the Elster Alpha+ meter.
3	Landis+Gyr LAN ID
	Identifies the Solid State Meter Module to the Landis+Gyr billing network (printed and barcoded).

## LAN ID

The LAN ID is a unique identifier for each Landis+Gyr endpoint. Landis+Gyr provides the LAN address. You cannot change the LAN ID of a radio.

# Features and Functions

## Endpoint Registration

The endpoint is automatically registered with the host system. No special tools are needed during installation.

Admin packets are sent once each hour at a random time during the hour and play a crucial role in the automatic discovery of a meter by the Landis+Gyr system. They tell what kind of meter the module interfaces with, and other characteristics, such as the scaling constant, number of dials, and the firmware version.

Admin packets include:

**Table 2. Admin Packet Information**

Meter ID	Identifies the customer
Protocol ID	Identifies the type of meter.
Scaling Constant	Tells how to convert meter readings into real units such as kWh
Number of dials	Also referred to as displayed digits.
Maximum Sensor Change Rate	Tells how much the meter reading can change in a certain period of time.
Firmware Version	Specifies the firmware revision number.
Current Cumulative Reading from the meter	

## Communication and Retrieving Data

A microprocessor on the communications module counts pulses, records usage over multiple intervals, and transmits the information to the head end system. Several different packet types are sent. The most frequently sent packet contains the current rotational count and historical interval data that is useful for load profiling and time-of-use metering. Another less frequently sent (Admin) packet contains the current cumulative rotation count, useful for basic automatic meter reading applications. An Admin packet is sent once hourly and contains the information listed in Table 2, “Admin Packet Information,” on page 5.

## Power Outage/Restoration

When an outage occurs, the meter uses an early power failure signal to alert the communication module. The communication module saves critical endpoint data to non-volatile memory, creates and sends a power fail message to the host system that includes the LAN ID.

When power is restored, the communication module sends a Power Up message to the host system. This message includes the following information:

- LAN ID
- Total count
- Last ten interval counts

## Customer Service

Contact Landis+Gyr Customer Support at [solutionsupport.na@landisgyr.com](mailto:solutionsupport.na@landisgyr.com) or call 888-390-5733 with any questions or problems for guidance through the troubleshooting process.

## Compliance

### FCC Class B

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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 antenna.
- Increase the separation between the equipment and receiver.
- Consult Landis+Gyr or an experienced radio technician for help.



**WARNING: Changes or modifications to this device not expressly approved by Landis+Gyr could void the user's authority to operate the equipment.**

## RF Exposure

In accordance with FCC requirements of human exposure to radio frequency fields, the radiating element shall be installed such that a minimum separation distance of 20 centimeters will be maintained.

## Host FCC Label Requirement

In the final installation, the following information must be visible:

“Contains FCC ID: R7PSSMM1TRP

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.”

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# Product Specifications

**Table 3. Elster Solid State Meter Module Specifications**

Category	Specification	Value or Range	
Compatible Meters	Elster ALPHA Plus Supported Meter Forms <b>NOTE:</b> Contact Elster Electricity for additional forms.	Form	Class
		1S	200
		1S	320
		2S	200
		2S	320
		3S	20
		4S	20
		35S	20
		35A	20
		12S	200
		12S	320
		13S	200
		13S	320
		13A	100
		36S	20
		36A	20
		9S	20
		10S	20
10A	20		
16S	200		
16S	320		
16A	100		
Electrical	Voltage	13.5VDC $\pm$ 1V, 50mA (limited duration from meter's power supply)	
	Input Current	50mA	
RF	Output Power	22-26.5 dBm	
	Transmit Frequency	917.58 MHz (Fixed)	

**Table 3. Elster Solid State Meter Module Specifications**

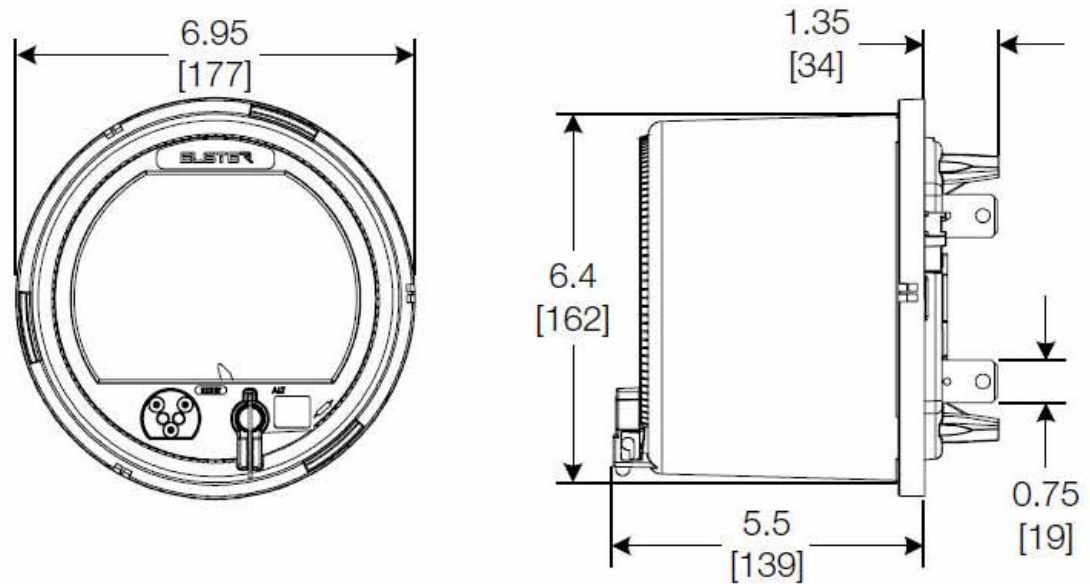
Category	Specification	Value or Range
Standards Compliance	FCC Title 47 CFR Part 15 Subpart B & C	Radiated and Conducted Emissions
	IEC 61000 4-2,3,4,5	Electromagnetic Compatibility
	ANSI C12.1-2011	Electricity Metering
	ANSI C12.20-2002	Electricity Meters Standard
	ANSI C37.90.1	Substation Standards - Fast Transient and Oscillatory Waveform
	ANSI/IPC-A-610-Class 2	Workmanship Standard for Electronic Assemblies
Environmental	General Environmental	Outdoor, rain-protected, sunlight-exposed
	Operating Temperature Range	-40 to +85 C (under meter glass)
	Humidity	10% to 95% relative humidity, non-condensing
Mechanical	Size (Meter & Module)	Refer to Elster Technical Manual, TM42-2182E for more details.
	Weight (Meter & Module)	Refer to Elster Technical Manual, TM42-2182E for more details.

## Physical Dimensions

The ALPHA Plus meter fits all standard S-base services. Meters with an A-base are also available. Figure 1 - 1 illustrates the S-base meter type and dimensions.



NOTE: The dimensions are for reference purposes only and should not be used for construction.



*Figure 1 - 1. S-base Meter Type and Dimensions in Inches (millimeters) - Front and Side View*  
Figure 1 - 2 and Figure 1 - 3 illustrate the A-base meter type and dimensions.

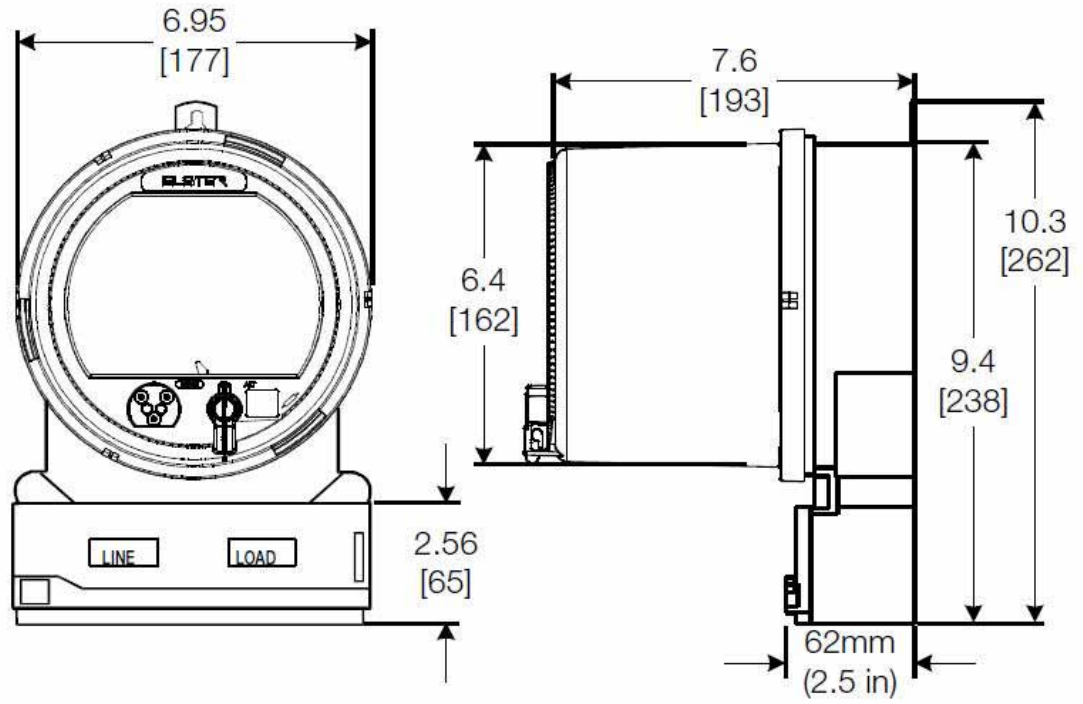


Figure 1 - 2. A-base Meter Type and Dimensions in Inches (millimeters) - Front and Side View

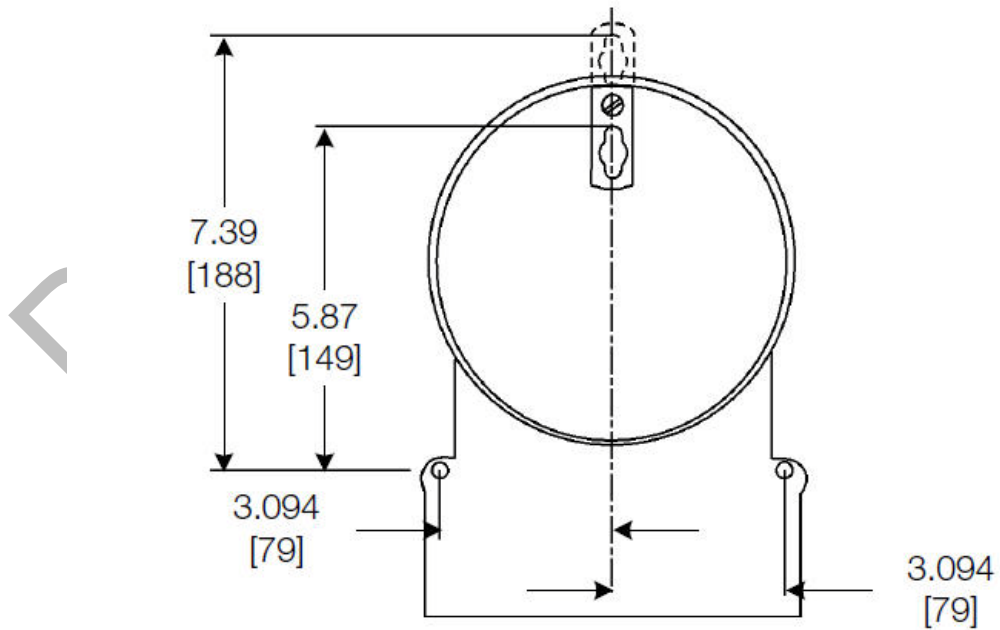


Figure 1 - 3. A-base Meter Type and Dimensions in Inches (millimeters) - Back View

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