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Certification Exhibit

FCC ID: R7PSSMM2TRP

FCC Rule Part: 15.247

ACS Project Number: 11-0444

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

Manual

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Landis+Gyr Solid State Meter Module Quick Start Guide

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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 Landis+Gyr S4e meters for use in residential and industrial commercial services.



Figure 1 - 1. Landis+Gyr Solid State Meter Module

The meter kit includes:

- Landis+Gyr Solid State Meter Module
- Landis+Gyr S4e Meter
- 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
- Landis+Gyr 1132Prog\1132Com 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. Landis+Gyr Label Identification

Label	Description
1	Landis+Gyr 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
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 Landis+Gyr S4e meter.
3	Landis+Gyr LAN ID
	Identifies the Solid State Meter Module to the Landis+Gyr 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.

Power Outage/Restoration

The Solid State Meter Module determines when a meter power failure has occurred. 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 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: R7PSSMM2TRP

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. Landis+Gyr Solid State Meter Module Specifications

Category	Specification	Value or Range	
Compatible Meters	Landis+Gyr Supported Meter Forms NOTE: Contact Landis+Gyr for additional forms.	Form	Class
		1S	200
		2S	200
		2SE	320
		3S	10
		3S	20
		4S	20
		9S/8S	20
		10A/8A	20
		25S	200
		12S	
		12SE	320
		12K	480
		16/15/14S	200
		16/15/14A	120
		16/15/14SE	320
		16/15/14K	480
		25S	200
		27K	480
		29S	20
		36A (6A)	20
		36S (6S)	20
		45A (5A)	20
	45S (5S)	20	
	56S	20	
Electrical	Voltage	8 to 17.1 VDC	
	Input Current	50mA	
RF	Output Power	22-26.5 dBm	
	Transmit Frequency	917.58 MHz (Fixed))	

Table 3. Landis+Gyr Solid State Meter Module Specifications(Continued)

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 Landis+Gyr S4/S4e Family of Solid State Meters, Instruction/Technical Manual for more details.
	Weight (Meter & Module)	Refer to Landis+Gyr S4/S4e Family of Solid State Meters, Instruction/Technical Manual for more details.

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