ArKion Systems

SmartMeter
Installation Manual

880-0023-001

Document Rev 0.2

Document Information

Title:	SmartMeter Installation Manual
Version:	0.2
Created:	12/13/2008
Last Modified On:	12/13/2008
Author:	
Technical Lead:	
Contributors:	

Revision History

Version	Date	Author	Comments
0.1	12/03/08	TC	• Initial draft, submitted for review
0.2	12/13/08	TC	• Minor update for FCC notice
			•

Reviewers

Reviewed By	Title	Date Reviewed

Table of Contents

Table of Figures

FCC Information

Changes or modifications not expressly approved by the ArKion 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 ArKion SmartMeter is intended for indoor & outdoor use as an unattended automatic metering Infrastructure (AMI) & control device. The SmartMeter product consists of an ArKion AMI module fully integrated into a Landis+Gyr Focus solid state electric meter. The SmartMeter is fully self-contained with no user accessible controls.

The SmartMeter interrogates the ANSI C.12 register set in Focus 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 Smart Meters solid-state memory. On a specified interval, the Smart Meter will automatically transmit this information to the ArKion AMI server via. other meters or CCOM using the Radio Frequency (RF) network. The ArKion AMI server analyzes and archives the readings.

The Smart Meter 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

- SmartMeter high
- SmartMeter low Power

Note: High and low power refer to RF output power. low power is approximately +13dbm and high power is +30dbm Max. Other than transmit power the operation of the two radios is identical.

The SmartMeter supports the following forms

Form	Voltage	Current
1S	120Vac	Class 100
2S	240Vac	Class 200
2Se	240Vac	Class 320
3S	120	Class 10 or Class 20
3S	240	Class 10 or Class 20
4S	240	Class 10 or Class 20
12S	120Vac	Class 200

3. Maintenance

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

4. Product Labeling

4.1 Product Identification

This label is affixed to the face of the SmartMeter meter. This allows the installer to recognize if the product is high or low powered radio.
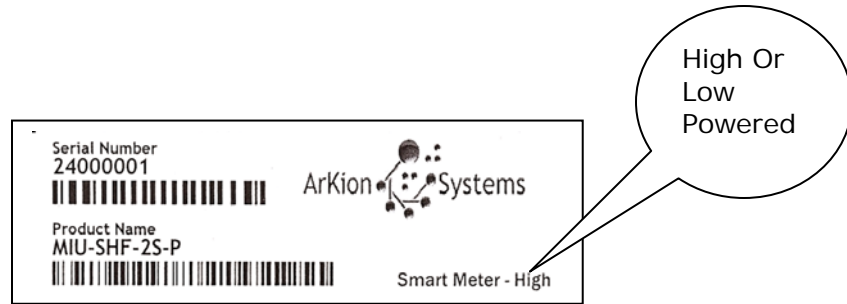

Figure 1. Product Identification Label

4.2 FCC Identification

This product contains Module FCC ID: SM6-UGM-H
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.

Figure 2. FCC Label SmartMeter-H

This product contains Module FCC ID: SM6-UGM-L-NS
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.

Figure 3. FCC Label SmartMeter-L