# Modem (NAMR-C108SR)

## User Manual

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**Customer: Africa**

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# Document Information

This document is published in Korea. And this chapter contains specific information of revised, approved, and distributed history.

## Revision History

| Ver. | Date | Name | Overview of changes |
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# Preface

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## › About This Guide

This guide provides detailed information about how to change and install modems.

## › Customer Support

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# Safety Information

The following symbols are used to draw your attention to the relevant danger level.

> **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.

> **NOTE**
>
> Used to address important tips, guidance, or advice.

## Safety Regulations

Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

> **WARNING**
>
> The following safety regulations must be read and understand for the work to be performed.

- When installing the product, please use the provided or designated connection cables/power cables/adaptors. Using any other cables/adapters could cause a malfunction or a fire.

- Wear protective equipment such as gloves, boots, etc. to prevent electric shock.

- Read this manual carefully before beginning installation.

- Replace the battery only with the same or equivalent type recommended by the manufacturer.

- Do not use this product near water; for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a web basement, or near a swimming pool.

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- Never install equipment in wet locations.

- Avoid using equipment during an electrical storm. There may be a risk of electric shock from lightning.

- Installation of the equipment must comply with local and national electrical codes.

- Only trained and qualified personnel should be allowed to install, replace, or service the equipment.

Ultimate disposal of this product should be handled according to all national laws and regulations.

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# 1 Introduction

## 1.1   Purpose of this document

The purpose of this document is to provide detailed information of NAMR-C108SR modem such as H/W specifications, etc.

## 1.2   Intended audience

The intended audience is the technical engineers who will install and maintain the equipment.
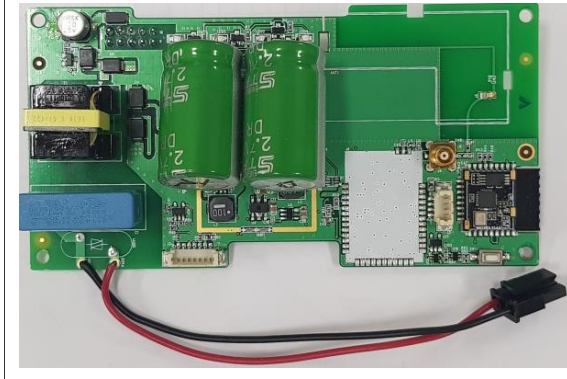
## 1.3   Acronyms and abbreviations

| Acronyms/Abbreviations | Description |
|---|---|
| AMI | Advanced Metering Infrastructure |
| CLI | Command Line Interface |
| DHCP | Dynamic Host Configuration Protocol |
| HES | Head-End System |
| IP | Internet Protocol |
| LAN | Local Area Network |
| LED | Light-Emitting Diode |
| RX | Receive |
| SNMP | Simple Network Management Protocol |
| SPI | Serial Peripheral Interface |
| TX | Transmit |
| UART | Universal Asynchronous Receiver/Transmitter |
| USB | Universal Serial Bus |

# 2  Description of NAMR-C108SR

This device uses GPRS to collect and store various data of the smart meter and transfer the data to the DCU.



| Name | Modem |
|------|-------|
| Model | NAMR-C108SR |
| Vendor | NURI Telecom |
| Origin | South Korea |

## 2.1  Main Features

The equipment provides following features:

- Supports communication security when transmitting/receiving PLC network data
- Based on open, standards-based design
- Provides secure, real-time, advanced metering and smart grid information
- Sends power outage/restoration notification
- Supports wide range of smart meters from leading meter manufacturers
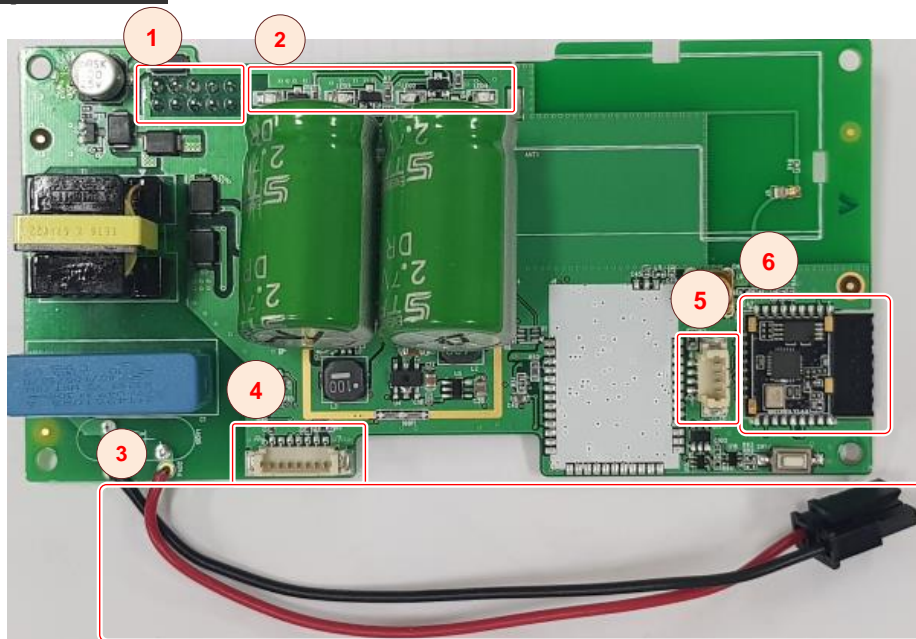
## 2.2  Specifications

The specifications of equipment are as follows:

| Item | Description |
|------|-------------|
| Processor | Cortex-M3, EFM32GG230F1024 |
| Memory | CPU  Internal  Flash 1024KB |
| External Memory | Serial Flash 8MB |
| Interface | UART : Metering & Console |
| Frequency Range | G3-FCC band (154~487KHz) |
| Operating Temperature / Humidity | -40℃ ~ +70 ℃ / 10% ~ 95% |

| torage Temperature / Storage Humidity | -40℃ ~ +85℃ / 10% ~ 95% |
|---|---|
| Power Consumption @ DC + 12V | 2.4 W |
| RoHS | Comply |
| Size (mm) | 41.85 (L) X 91 (W) X 24 (D) |
| DC Mains Input | DC +12V |

## 2.3    Appearance



| No. | Description |
|---|---|
| 1 | Power & Meter Interface PIN Header |
| 2 | Status LED |
| 3 | PLC Interface Cable |
| 4 | Debug port <br> - For checking the modem or firmware update |
| 5 | CLI port |
| 6 | Bluetooth Module |

# 3 Configuration

Generally, you can manage DCUs in the AiMiR Software. However, if you are not able to connect to the AiMiR server, you need to connect to the modem directly and use CLI (Command Line Interface) commands.

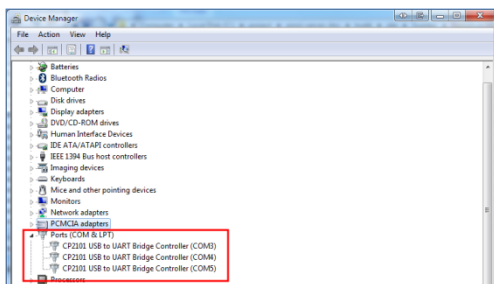Using the CLI commands, you can see and set various information.

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⚡ **WARNING**

- Before installation, please wear the protective equipment to prevent electric shock.

- Installation must be performed by qualified engineers.

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## 3.1 Connecting the Modem using a RS-232 cable

To use the CLI commands, you should connect the modem using a RS-232 cable to your computer.

**1.** Connect the USB RS-232 cable to the console port at the bottom of the modem.

**2.** Connect the other side of the USB RS-232 cable to your computer.

**3.** Check the port information on the Device Manage of Windows.

   **-** [Windows Start] - [Control Panel] - [System] - [Device Manager] -[Ports]
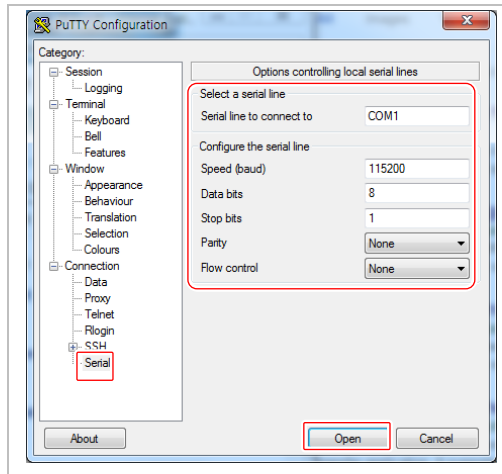


**4.** Execute a serial terminal program

**-** You can download the terminal program on the internet.

**5.** Select the 'Serial' category and enter the serial line information as follows:

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- Serial line to connect to: COM# from the step **2**.

- Speed (baud): 115200

- Data bits: 8

- Stop bits: 1

- Parity: None

- Flow control: None

**6.** Click the [Open] button to start the program.

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# 4 Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment should be installed and operated with minimum distance 20 cm (7.8 inches) between the antenna and your body. Users must follow the specific operating instructions for satisfying RF exposure compliance.

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