Instruction Manual

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1 General introduction

RF (radio frequency) communication module of RF_LORA1276 is designed and developed by Topscomm independently. It provides a remote meter reading solution. Remote Distance, Low Power Consumption, Anti-interference Ability and High Reliability make it suitable for electricity, water and gas meter information acquisition system.

RF Communication Module of RF_LORA1276 is designed specifically for the meter DDSF1710 and DTSF1710. With the help of the software, this module can realize remote meter reading function. The meter data can be generated an excel table in accordance with the prescribed format.

2 Main Features

2.1 Low Power Consumption: Laptop or Tablet USB can complete the power supply

2.2 Portable: Light and Small

2.3 Operable: System interface is friendly

2.4 Indication: Two indicator lights

3 Technical Parameters

3.1 Supply voltage: 3.3V

3.2 Frequency Range: 904MHz--926MHz

3.3 Emission current: 92mA

3.4 Receiving current: 11mA

3.5 Resting current: 1.62mA

3.6 Modulation system: LORA

3.7 Transmitting power: 17dBm

3.8 Network capacity: 1024

3.9 Repeater depth: 3

3.10 Receiving sensitivity: -138dBm

3.11 Interface rate: 9600bps

3.12 Working temperature: -40℃-- 80℃

3.13 Wireless trans. Rate: 0.5-20 Kbps

3.14 Trans. distance (visual range): 2-5 Km

4 Equipment list for meter reading

4.1 RF communication module (External modem)

4.2 Laptop/Tablet

4.3 USB cable

5 Equipment connection guide

As shown in Fig1. Connect RF communication module (External Modem) with Laptop (or Tablet) through USB cable, then the left LED indicator will be on, indicating that the RF communication module (External Modem) is connected successfully and the power supply is in normal status. In the case of network connection, the Laptop (or Tablet) will automatically install the RF communication module (External Modem) driver. After driver installation is successful, the host computer software (Topscomm Meter Reading Software) can be used for meter reading.

In the process of meter reading with radio frequency, the right LED indicator will flash, indicating that the RF communication module is in normal working status.

Fig1. Equipment connection diagram

6 Topscomm Meter Reading Software

The software interface is shown in Fig2.The software interface is divided into two parts, display area and operating area. The display area can display the copied data. The operating area has four functions: “Serial Port Config”, “Scheme Config”, “Start Read Meter” and “Stop Read Meter”. “Serial Port Config” is used to open the serial port. “Scheme Config” is used to configure the reading scheme, the copied data items can be chosen with this button. “Start Read Meter” is used to read meter. And “Stop Read Meter” is used to stop reading meter. “Progress Bar” indicates the current meter reading progress.

After the completion of the meter reading, software will generate a file, the file is stored in the specified folder, user can copy the file out and then use the data processing software to generate the required spreadsheet form.

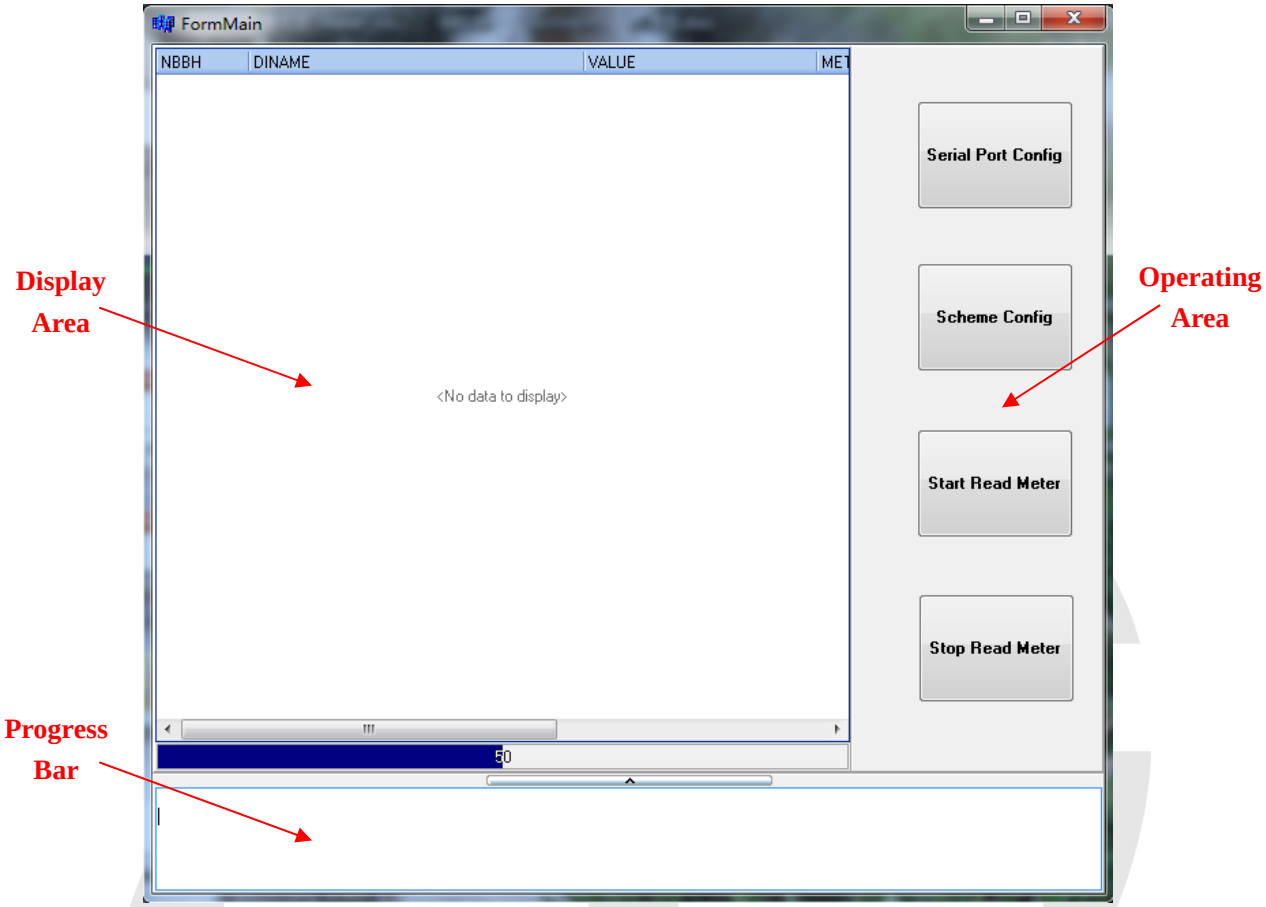

Fig2. Software Interface

7 Transportation and Storage

Products in transportation and unpacking should not be violent shocked. Storage place should be clean. The temperature should be -25 ~ + 85 ℃. Relative humidity should be not more than 95%. And do not contain enough harmful substances to cause corrosion.

Avoid severely vibration while transport or in non-packaging condition.

Dear Users:

This manual only specifies and illustrates the RF communication module (External Modem) general technical conditions and functions. As a result of the constant demand, when increase or decrease the functions as per your special request, the provisions of contract shall prevail, functions will not listed in this manual. Please check in any time during usage.

Technical Support Information:

Address: 5th floor, No. 6 building, Qingdao Software Park, No. 288 Ningxia Road, Qingdao 266024, China.
Tel: 0086-532-80970015 Fax: 0086-532-80970021
Website: www.topscomm.com

FCC STATEMENT

1. 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.

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

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital, pursuant to Part 15 or 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 casue harmful interference to radio communications, However, there is no guarantee that interference will not occur in a particular installation. If the 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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, Human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

This equipment complies with FCC radiation limits set forth for an uncontrolled environment. This equipment mush not be co-located or operating with any other antenna or transmitter. This module is designed to comply with FCC statement FCC ID is: 2AKOD-RFLORA1276. The host system using this module should have label in a visible area indicated the following texts "Contains FCC ID: 2AKOD-RFLORA1276".