
1. General Introduction

NG-2 Data Collection System

NG-2 is 4G-based wireless packet switched technology used to provide end-to-end wide area wireless IP connections, which can transfers data to users in “Packet” mode at a a highspeed. The Cellular module has prominent advantages in many aspects such as the transfer rate, wireless resource management and billing.



Figure 1 GPRS/LTE Data Collection System

2. Feature and Benefit

- GSM/GPRS (900/1800 MHz)/ FDD LTE(B1/B3/B7/B8/B20/B28)/TDD LTE(B38/B40/B41)
- Over the Air Update
- Supports TCP/UDP/FTP/DNS protocol
- Remote SMS configuration
- Control Via AT Commands
- Supports USB2.0 slave mode
- Update Via USB Port
- Data transfer
 - FDD LTE
 - Max. 10Mbps(DL), Max.5Mbps(UL)
 - TDD LTE

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- Max. 8.96Mbps(DL), Max.3.1Mbps(UL)
 - GPRS
 - Max. 85.6Kbps(DL), Max. 85.6Kbps(UL)
- Certification
CE

3. Specifications

- Nominal voltage: 12V dc
- Voltage range: 5V dc-24V dc
- Idle current: 13mA@5V
- communication current: 210mA@5V
- Maximum current: 800mA
- Sensitivity: <-108.5dBm
- SIM interface: 1.8V/3V
- Electrostatic discharge IEC61000-4-2: Air discharge, 15kV, 10 cycles
- operating temperature: -25 °C ~ + 75 °C
- Relative humidity: ≤95%, non-condensing

4. Module Appearance

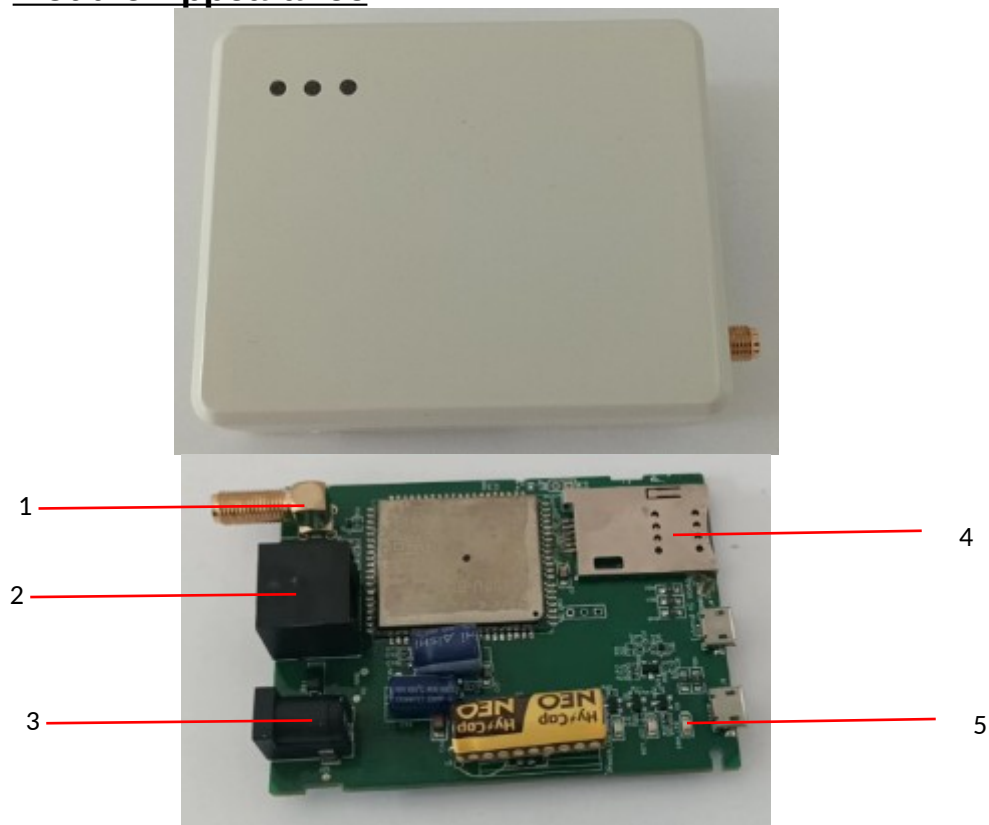


Figure2: NG-2 Module Function Diagram

- Antenna pedestal with SMA type
- Data cable socket to connect meter
- Power supply socket
- SIM card pedestal for installing SIM card

- Network LED with red always blink

5. Architecture

NG-2 Module is composed of several elements, including:

- CPU is a dual frequency for GSM/LTE chip
- Watch Dog chip to control power supply
- Antenna pedestal with SMA type
- SIM card pedestal for installing SIM card
- LED display to indicate network status
- DC/DC power supply to adjust voltage for 4G CPU

The block diagram below shows the main functional elements of the NG-2 Module:

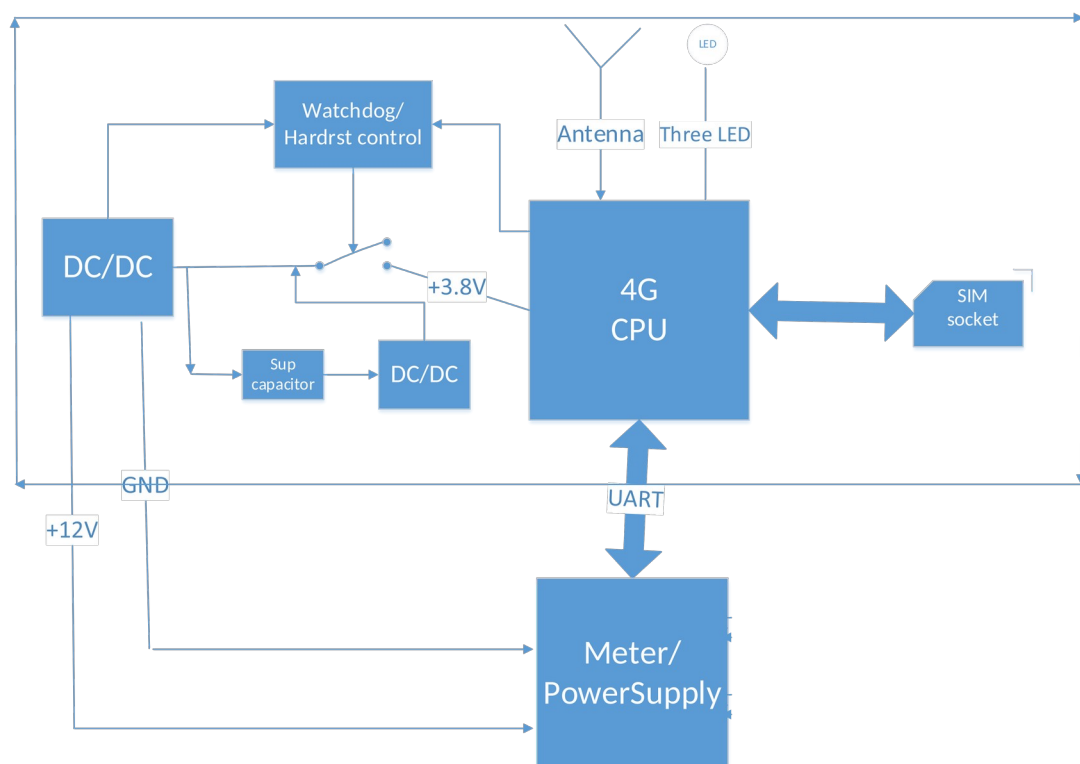


Figure 3: NG-2 Module and Meter System Diagram

6. Dimension

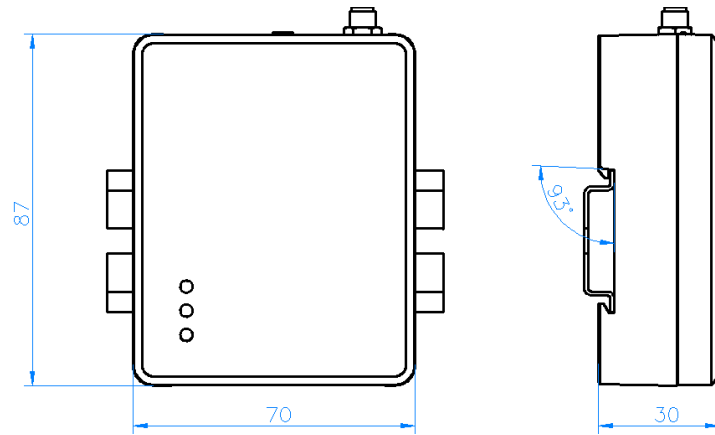
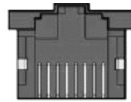


Figure4: NG-2 Module Dimensions

7. RS232 Interface

There are various interfaces in NG-2 Module to connect Meter and Antenna.

Pin	
1	NC
2	NC
3	Rx (out)
4	TX (in)
5	GND
6	NC
7	NC
8	NC



8 7 6 5 4 3 2 1

RS-232(male) port pin assignment

Pin No.	Signal Name	Pin Type	Description
1	NC		No connection
2	NC		No connection
3	RXD	Signal (meter input) RS232 TXD	Data from Modem to Meter
4	TXD	Signal (meter output) RS232 RXD	Data from Meter to Modem
5	GND	GND Power	DC Ground
6	NC		No connection
7	NC		No connection
8	NC		No connection

Table 1:NG-2 Module RS232 Interface Definition