

WL-D83 Series NB-IoT/CAT-M1 Modem



- NB-IoT/CAT-M1(eMTC) network optional
- Rugged design
- Low Power Consumption
- Cost-effective
- Wide Coverage Area
- Numerous and Powerful Nodes Connections
- Flexible and practical data communications
- Friendly configuration tool
- WLINK Modem Management Platform
- Wide operating temperature range: -30 to 75°C

Introduce

Narrow Band-Internet of Things (NB-IoT) is a standards-based low power wide area (LPWA) technology developed to enable a wide range of new IoT devices and services. NB-IoT uses a subset of the LTE standard, but limits the bandwidth to a single narrow-band of 200kHz.

NB-IoT focuses specifically on indoor coverage, low cost, long battery life, and high connection density, significantly improves the power consumption of user devices, system capacity and spectrum efficiency, especially in deep coverage. Battery life of more than 10 years can be supported for a wide range of use cases.

WLINK rugged D83 serial port to IP modem is a NB-IoT/CAT-M1(eMTC) modem have been developed especially for IoT/M2M application. It provides RS232/RS-485 interface and equipped with PPP, UDP and CoAP protocol, it could convert the user data into LTE NB-IoT/CAT-M1 network and transmits the data to the customer's data service center through complete transparent data channel, allows a simple and rapid integration of cellular network connectivity into IoT/M2M application.

D83 series modem is a unique compact hardware and low power consumption designs, making it an ideal solution for a variety of industrial automation and monitoring applications including smart water/oil/gas, Power, Environment Protection, Water Conservancy and Lighting control monitoring etc.

Basic Features

- Integrated NB-IoT/CAT-M1(eMTC) communication
- Standard PPP, UDP and Coap protocol
- RS232/RS485 optional for data communication

- Optimized EMC design
- Support APN and VPDN private network
- Support transparent data transmission
- Support data service center with dynamic IP address
- Support LED status indication
- Wide range voltage input
- Smart power management
- External power on/off control
- Reliable, flexible and easy to deploy

Enhanced Features

- | | |
|--|---|
| Multiple operation modes | <ul style="list-style-type: none"> ● Always online, automatically connect to NB-IoT/CAT M when powered on ● Off-line when idle, online mode will be triggered by user data/ring ● Online/offline control by commands via user equipment ● Data loop test ● Supports UDP and CoaP |
| Flexible and utilitarian data communications | <ul style="list-style-type: none"> ● Self-defines transparent or protocol communications ● Self-defines customized data frame separator ● Self-defines reconnecting interval ● Self-defines heart-beat data frame |
| Parameters configuration and remote management | <ul style="list-style-type: none"> ● Built-in parameters configuration menu ● Modem Configuration tool based on PC ● Remote parameters configuration via M2M Management Platform ● Remote parameters configuration by SMS |

Specification

Cellular Features

Network: NB-IoT
CAT-M1
GPRS
Protocol: PPP/UDP/Coap/ICMP
Gain: 1.4dBi@900MHz, 3dBi@1800MHz
RF impedance: 50Ω

Physical Characteristics

Dimension: 70.5mm x 55.5mm x 22mm (not including antenna)
Weight: 111g (not including accessories)
Mount: Wall Mount
Shock and Vibration: SAE J1455
Operation temperature: -30~+75℃
Store temperature: -40~+85℃
Related humidity: 0~95% (non-condensing)
Guarantee: one year

Interface

Cellular Antenna: SMA-K(Female)
Standard Micro SIM/R UIM interface
DB9 connector
GPS Antenna: SMA-K(Female) (optional)

Power

Voltage: DC +5 ~ 32V (standard 12V/1A power adapter)
SIM/R-UIM Card: 1.8/3V
Consumption: Transfer mode: 30mA/12v (Average),
Idle: 7mA/12V (GPS off)

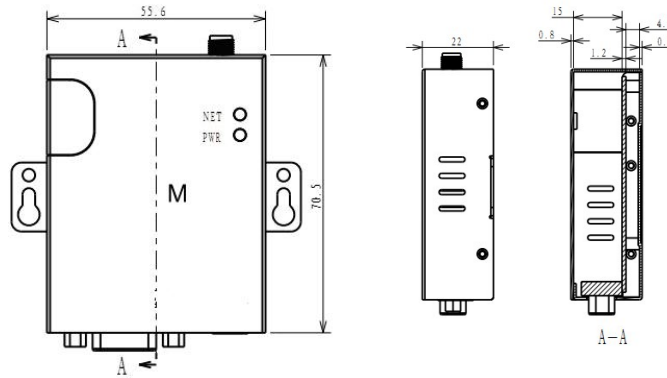
Serial Communication Port

1x RS232, RXD,TXD,GND
1xRS485, A, B
Baud Rate: 300 - 115200bps

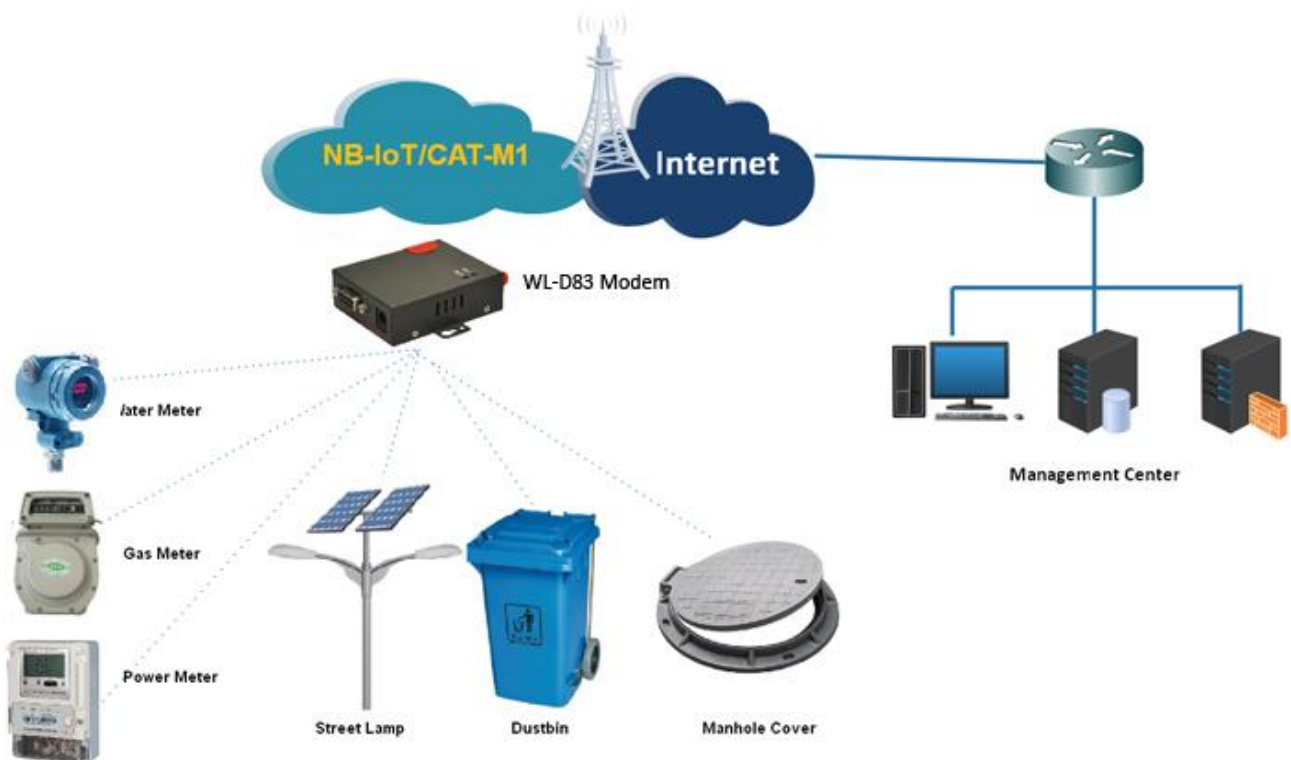
Device Management

D83 Configuration Tool
Support parameter configuration and firmware Upgrade via WLINK M2M Platform
Support remote parameters configuration by SMS

Dimension



Typical Diagram



Ordering Information

WL-D83-N2: NB-IoT B1/3/5/8/20/28, RS232 port

WL-D83-N4: NB-IoT B1/3/5/8/20/28, RS485 port

WL-D83-NC2:

NB-IoT/CAT-M1 B1/2/3/4/5/8/12/13/17/18/19/
20/25/26/28/39 (B39 CAT-M1 only), RS232 port

WL-D83-NC4:

NB-IoT/CAT-M1 B1/2/3/4/5/8/12/13/17/18/19/
20/25/26/28/39 (B39 CAT-M1 only), RS485 port

Package Contents:

D83 Unit
1x 12VDC Power Supply Adaptor
1x RS-232 connection Cable
1x LTE antenna