Bivocom®

Key Features

- LoRa 850~931MHz, or 410-490MHz to choose
- 1-RS232(Debug), 1-RS485, half-duplex
- Low power, long-range up 10Km(open air)[1]
- Anti-interference, high receiving sensitivity
- AES Encryption and Decryption over the air communication
- Point-to-point, fixed-point transparent transmission mode
- Easy to configure, plug and play
- Wide operating temperature: -35~+75 ° C
- Power Input: 5-35VDC

Introduction

The Bivocom TW820 LoRa modem is a scalable communication device designed for reliable, long-range and light data transmission using advanced technology. Engineered for various industrial and IoT applications, this modem excels in low-power consumption while maintaining high receiving sensitivity and strong anti-interference capabilities.
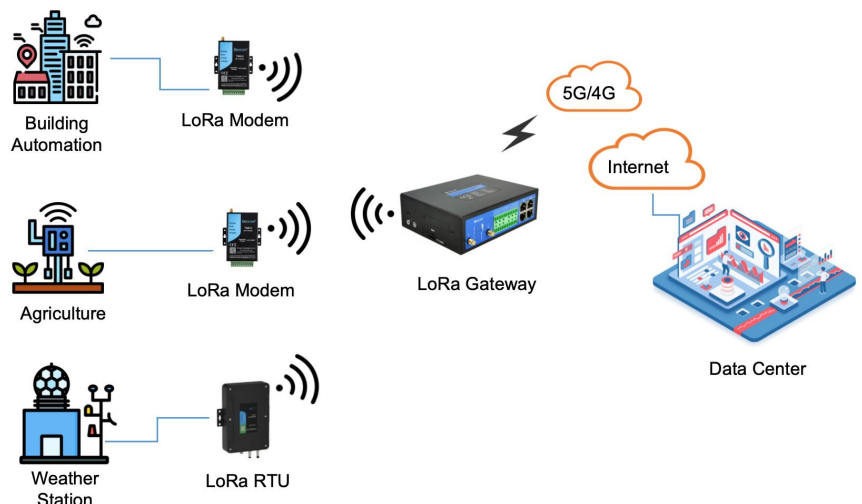
Equipped with versatile connectivity options including RS232 (debug) and RS485, the TW820 supports seamless integration into existing systems. Its robust AES encryption ensures secure over-the-air communication, protecting sensitive data from unauthorized access. The modem operates efficiently in both point-to-point and fixed-point transparent transmission modes, making configuration straightforward and user-friendly.

With a wide operating temperature range of -35 to +75 ° C and a flexible power input of 5-35VDC, the Bivocom TW820 is designed for durability and reliability in harsh environments. Whether you're building a smart city, monitoring remote assets, or deploying sensor networks, the TW820 provides a plug-and-play solution that meets your long-range communication needs.

Applications

The LoRa technology is widely used in various IoT applications due to its long-range capabilities, low power consumption, and ability to handle a large number of devices.

- Smart Agriculture
- Smart Cities
- Asset Tracking
- Environmental Monitoring
- Smart Metering
- Connected Healthcare
- Flood and Weather Monitoring
- Industrial Automation

Specifications

LoRa Interface

- **Frequency** — 850~931MHz, or 410-490MHz(Option)[2]
- **Distance** — Building: Up to 3KM / Open air: Up to 10KM
- **Sensitivity** — Up to -129dBm
- **TX Power** — 21-30dBm
- **Encryption** — AES
- **Air Data Rate** — 1.2~62.5kbps (default: 4.8kbps)
- **Single-packet Data Size** — Up to 230 Bytes
- **Channel** — 82 Channels
- **Antenna Connector** — 1 × 50 Ω SMA Female

Serial Interfaces

- **Connector** — Terminal block, 3.5 mm female socket
- **Ports** — 1-RS232(Debug), 1-RS485
- **Baud Rate** — 1200bps to 115200bps(default 9600bps)
- **ESD protection** — 8KV for RS232, 15KV for RS485

Power Supply and Consumption

- **Connector** — Terminal block, 3.5 mm female socket
- **DC Input** — 5-35 VDC
- **Standard Power** — DC 12V/0.5A
- **Idle Mode** — 5mA@12VDC
- **Working Mode** — 85mA@12VDC

Physical Characteristics

- **Ingress Protection** — IP30
- **Housing & Weight** — Metal, 218g(0.48lbs), without accessories
- **Dimensions** — 91x58x22mm (3.58 x 2.28 x 0.87in)
- **Mounting** — Wall mount

Environmental

- **Operating Temperature** — -35°C to +75°C (-31°F to +167°F)
- **Storage Temperature** — -40°C to +80°C (-40°F to +176°F)
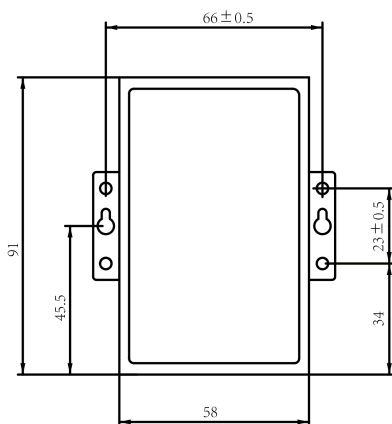- **Relative Humidity** — 5% to 95% (non-condensing)

Others

- **LED Indicators** — LoRa TX, LoRa RX, Power
- **Approvals[3]** — CE*, RCM*, FCC*
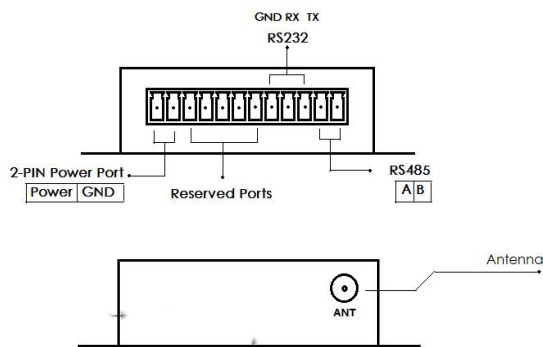- **Warranty Period[4]** — Standard: 12 Months / Extended: 2-5 Years

Standard Package Content

1.	TW820 Modem	1 PCS
2.	Power Adapter(DC 12V/1.5A, EU/US/UK/AU plug optional)	1 PCS
3.	LoRa Antenna	1 PCS
4.	RS232 Cable (DB9 Female, 1 meter)	1 PCS
5.	8-Pin Terminal Block	1 PCS

Dimensions(mm)

Side Views

Order Information

Model	Part Number	Description	Frequency Band[5]
TW820-LR	TW820- LR<1>	LoRa Modem, RS232(Debug), RS485	850~931MHz, or 410-490MHz to choose

<1>: LoRa module for different countries and regions

Note:

1. The distance is just theoretical value, it may vary due to factors like environmental conditions
3. There are other frequeny bands to choose
3. * Under progress
4. Price of the extended warranty will be different.
5. If you couldn't find the frequency band for your regions or have any questions, please contact Bivocom sales representatives for more information.
6. To save the earth, Bivocom doesn't print the user guide, if you need it, please go to Bivocom website to download.
7. Icons are from Flaticon

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