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F8X36 Series Router Technical Specification

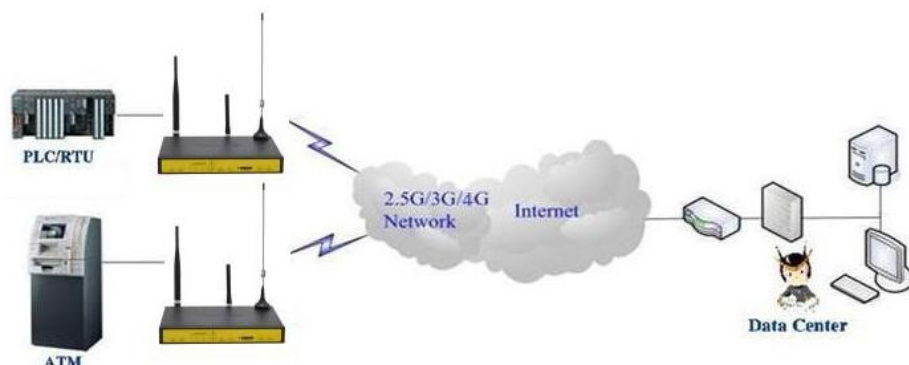


General

F8X36 Series Router is a kind of cellular terminal device that provides large data transfer function by public GPRS/CDMA/WCDMA/EVDO/LTE network. Also, it supports ZigBee function.

It adopts high-powered industrial 32-bits CPU and embedded real time operating system. It supports RS232 (or RS485/RS422), Ethernet and WIFI port that can conveniently and transparently connect one device to a cellular network, allowing you to connect to your existing serial, Ethernet and WIFI devices with only basic configuration. Also, it supports ZigBee function.

It has been widely used on M2M fields, such as self-service terminal industry, intelligent transportation, smart grid, industrial automation, telemetry, finance, POS, water supply, environment protection, post, weather, and so on.



Product Feature

Design for Industrial Application

- ◆ High-powered industrial cellular module
- ◆ High-powered industrial 32bits CPU
- ◆ High-powered industrial ZigBee module
- ◆ Support low-consumption mode, including sleep mode, scheduled online/offline mode, scheduled power-on/power-off mode(optional)
- ◆ Housing: iron, providing IP30 protection
- ◆ Power range: DC 5~36V

Stability and Reliability

- ◆ Support hardware and software WDT
- ◆ Support auto recovery mechanism, including online detect, auto redial when offline to make router always online
- ◆ Ethernet port: 1.5KV magnetic isolation protection

- ◆ RS232/RS485/RS422 port: 15KV ESD protection
- ◆ SIM/UIM port: 15KV ESD protection
- ◆ Power port: reverse-voltage and over-voltage protection
- ◆ Antenna port: lightning protection(optional)

Standard and Convenience

- ◆ Support standard RS232(or RS485/RS422), Ethernet and WIFI port that can connect to serial, Ethernet and WIFI devices directly
- ◆ Support standard WAN port and PPPOE protocol that can connect to ADSL directly
- ◆ Support intellectual mode, enter into communication state automatically when powered

- ◆ Provide management software for remote management
- ◆ Support several work modes
- ◆ Convenient configuration and maintenance interface(WEB or CLI)

High-performance

- ◆ Support multiple WAN access methods, including static IP, DHCP, L2TP, PPTP,PPPOE,2.5G/3G/4G
- ◆ Support ZigBee function
- ◆ Support double link backup between LTE and WAN(PPPOE, ADSL)(optional)
- ◆ Support VPN client(PPTP, L2TP, IPSEC)(only for VPN version)
- ◆ Support VPN server(PPTP, L2TP, IPSEC)(only for VPN version)
- ◆ Support local and remote firmware upgrade,import and export configure file
- ◆ Support NTP, RTC embedded
- ◆ Support multiple DDNS provider service

- ◆ Support VLANs, MAC Address clone, PPPoE Server
- ◆ WIFI support 802.11b/g/n. support AP, client, Adhoc, Repeater, Repeater Bridge mode
- ◆ WIFI support WEP,WPA,WPA2 encryption,Support MAC address filter
- ◆ Support multiple online trigger ways, including SMS, ring and data. Support link disconnection when timeout
- ◆ Support APN/VPDN
- ◆ Support DHCP server and client, firewall, NAT, DMZ host , URL block, QoS, traffic statistics, real time link speed statistics etc
- ◆ Full protocol support , such as TCP/IP, UDP, ICMP, SMTP(optional), HTTP, POP3(optional), OICQ(optional), TELNET, FTP(optional), SNMP, SSHD, etc
- ◆ Schedule Reboot, Schedule Online and Offline,etc

Product Specification -----

Cellular Specification

| Item | Content |
|---------------------------------------|---|
| F8136 ZigBee+GPRS WIFI ROUTER | |
| Standard and Band | EGSM 900/GSM 1800MHz, GSM 850/900/1800/1900MHz(optional) Compliant to GSM phase 2/2+ GPRS class 10, class 12(optional) |
| Bandwidth | 85.6Kbps |
| TX power | GSM850/900:<33dBm GSM1800/1900:<30dBm |
| RX sensitivity | <-107dBm |
| F8236 ZigBee+CDMA WIFI ROUTER | |
| Standard and Band | CDMA2000 1xRTT 800MHz, 450MHz(optional) |
| Bandwidth | 153.6Kbps |
| TX power | <30dBm |
| RX sensitivity | <-104dBm |
| F8436 ZigBee+WCDMA WIFI ROUTER | |
| Standard and Band | UMTS/WCDMA/HSDPA/HSUPA/HSPA+ 850/1900/2100MHz, 850/900/1900/2100MHz(optional) GSM 850/900/1800/1900MHz GPRS/EDGE CLASS 12 |
| Bandwidth | DC-HSPA+: Download speed 42Mbps, Upload speed 5.76Mbps |

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|---|--|
| | HSPA+: Download speed 21Mbps, Upload speed 5.76Mbps HSDPA: Download speed 7.2Mbps, HSUPA: Upload speed 5.76Mbps UMTS: 384Kbps |
| TX power | <24dBm |
| RX sensitivity | <-109dBm |
| F8636 ZigBee+EVDO WIFI ROUTER | |
| Standard and Band | CDMA2000 1X EVDO Rev A 800MHz, 800/1900MHz(optional), 450MHz(optional) CDMA2000 1X EVDO Rev B 800/1900MHz(optional) CDMA2000 1X RTT, IS-95 A/B |
| Bandwidth | EVDO Rev. A: Download speed 3.1Mbps, Upload speed 1.8Mbps EVDO Rev. B: Download speed 14.7Mbps, Upload speed 5.4Mbps (optional) |
| TX power | <23dBm |
| RX sensitivity | <-104dBm |
| F8736 ZigBee+TDD LTE WIFI ROUTER | |
| Standard and Band | LTE TDD 2600/1900/2300MHz(Band 38/39/40), 800/1400/1800MHz(Band 27/61/62)(optional) TD-SCDMA 2010/1900MHz(A/F frequency band, Band 34/39) GSM /GPRS/EDGE 900/1800/1900MHz |
| Bandwidth | LTE TDD: Download speed 61Mbps, Upload speed 18Mbps TD-HSPA+: Download speed 4.2Mbps, Upload speed 2.2Mbps TD-HSPA: Download speed 2.2Mbps, Upload speed 2.2Mbps |
| TX power | <23dBm |
| RX sensitivity | <-97dBm |
| F8836 ZigBee+FDD LTE WIFI ROUTER | |
| Standard and Band | LTE FDD 2600/2100/1800/900/800MHz, 700/1700/2100MHz(optional) DC-HSPA+/HSPA+/HSDPA/HSUPA/UMTS 850/900/2100MHz, 800/850/1900/2100MHz(optional) EDGE/GPRS/GSM 850/900/1800/1900MHz GPRS CLASS 10 GPRS CLASS 12 |
| Bandwidth | LTE FDD: Download speed 100Mbps, Upload speed 50Mbps DC-HSPA+: Download speed 42Mbps, Upload speed 5.76Mbps HSPA+: Download speed 21Mbps, Upload speed 5.76Mbps HSDPA: Download speed 7.2Mbps, HSUPA: Upload speed 5.76Mbps UMTS: 384Kbps |
| TX power | <23dBm |
| RX sensitivity | <-97dBm |
| F8A36 ZigBee+LTE WIFI ROUTER | |
| Standard and Band | LTE FDD,LTE TDD,EVDO,WCDMA,TD-SCDMA,CDMA1X,GPRS/EDGE |
| Bandwidth | LTE FDD: Download speed 100Mbps, Upload speed 50Mbps LTE TDD: Download speed 61Mbps, Upload speed 18Mbps DC-HSPA+: Download speed 42Mbps, Upload speed 5.76Mbps TD-HSPA+: Download speed 4.2Mbps, Upload speed 2.2Mbps EVDO Rev. A: Download speed 3.1Mbps, Upload speed 1.8Mbps |

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|----------------|---------|
| TX power | <23dBm |
| RX sensitivity | <-97dBm |

ZigBee Specification

| Item | Content |
|-----------------------------------|--|
| ZigBee Module | Industrial ZigBee Platform |
| Standard and Band | IEEE 802.15.4 ISM 2.4 ~2.5GHz |
| Indoor/Urban Range | 30m 90m(With PA) |
| Outdoor/RF Line-of-Sight Range | 500m 2000m(With PA) |
| Transmit Power | 2.82 mw (+4.5dBm) 100 mw (+20dBm) (With PA) |
| Bandwidth | 250Kbps |
| Receiver Sensitivity | -97dBm -103dBm(With PA) |
| Network Topologies | Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh |
| Number of channels | 16 Direct Sequence Channels |
| Channel | 11 to 26 |
| Max packge size | 300Bytes |

WIFI Specification

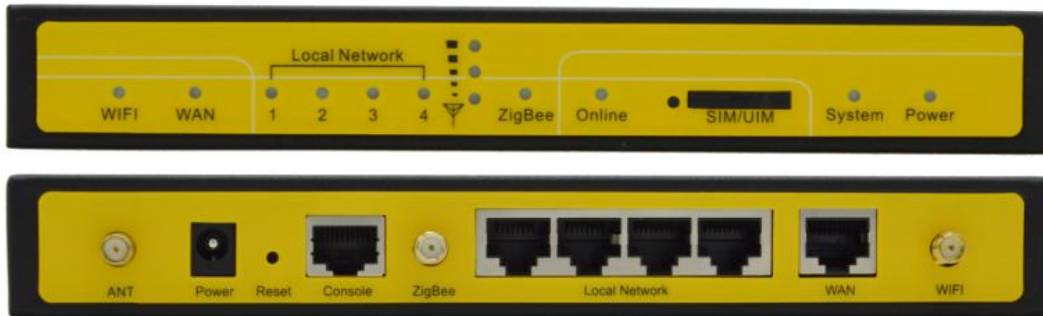
| Item | Content |
|----------------|---|
| Standard | IEEE802.11b/g/n |
| Bandwidth | IEEE802.11b/g: 54Mbps (max) IEEE802.11n: 150Mbps (max) |
| Security | WEP, WPA, WPA2, etc WPS (optional) |
| TX power | 20dBm(11n),24dBm(11g),26dBm(11b) |
| RX sensitivity | <-72dBm@54Mbps |

Hardware System

| Item | Content |
|-------|--------------------------|
| CPU | Industrial 32bits CPU |
| FLASH | 16MB(Extendable to 64MB) |
| DDR2 | 128MB |

Interface type

| Item | Content |
|-----------|---|
| WAN | 1 10/100 Mbps WAN port(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection |
| LAN | 4 10/100 Mbps Ethernet ports(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection |
| Serial | 1 RS232(or RS485/RS422) port, 15KV ESD protection Data bits: 5, 6, 7, 8 Stop bits: 1, 1.5(optional), 2 Parity: none, even, odd, space(optional), mark(optional) Baud rate: 2400~115200 bps |
| Indicator | "Power", "System", "Online", "ZigBee", "Local Network", "WAN", "WIFI", "Signal Strength" |
| Antenna | Cellular: Standard SMA female interface, 50 ohm, lightning protection(optional) ZigBee: Standard SMA female interface, 50 ohm, lightning protection(optional) WIFI: Standard SMA male interface, 50 ohm, lightning protection(optional) |
| SIM/UIM | Standard 3V/1.8V user card interface, 15KV ESD protection |
| Power | Standard 3-PIN power jack, reverse-voltage and over-voltage protection |
| Reset | Restore the router to its original factory default settings |



Note: There may be different components and interfaces in different model, please in kind prevail.

Power supply

| Item | Content |
|----------------|-------------|
| Standard Power | DC 12V/1.5A |
| Power range | DC 5~36V |

Consumption

| Working condition | Consumption |
|-------------------|--|
| Standby | 4G:305~345mA@12VDC 3G:285~310mA@12VDC 2G:244~303mA@12VDC |
| Communication | 4G:355~595mA@12VDC 3G:315~390mA@12VDC 2G:284~311mA@12VDC |

Physical Characteristics

| Item | Content |
|------------|---------------------------------|
| Housing | Iron, providing IP30 protection |
| Dimensions | 207x135x28 mm |
| Weight | 790g |

Environmental Limits

| Item | Content |
|-----------------------|------------------------|
| Operating Temperature | -35~+75°C(-31~+167°F) |
| Storage Temperature | -40~+85°C (-40~+185°F) |
| Operating Humidity | 95% (unfreezing) |

Ordering Information

| Model No. | Description | WAN | LAN | Cellular | WIFI | SIM/UIM |
|-----------|----------------------------|-----|-----|----------|------|---------|
| F8136 | ZigBee+GPRS WIFI ROUTER | 1 | 4 | 1 | 1 | 1 |
| F8236 | ZigBee+CDMA WIFI ROUTER | 1 | 4 | 1 | 1 | 1 |
| F8436 | ZigBee+WCDMA WIFI ROUTER | 1 | 4 | 1 | 1 | 1 |
| F8636 | ZigBee+EVDO WIFI ROUTER | 1 | 4 | 1 | 1 | 1 |
| F8736 | ZigBee+TDD LTE WIFI ROUTER | 1 | 4 | 1 | 1 | 1 |
| F8836 | ZigBee+FDD LTE WIFI ROUTER | 1 | 4 | 1 | 1 | 1 |
| F8A36 | ZigBee+LTE WIFI ROUTER | 1 | 4 | 1 | 1 | 1 |