

# F-M200

## Wireless M-Bus Gateway



**Four-Faith F-M200** gateway based on M-Bus protocol compliant standard EN13757, which is widely accepted in Europe for smart metering or Advanced Metering Infrastructure (AMI) applications.

**F-M200** can operate in the 868 MHz bands, which provides a link budget suitable for HAN range inside buildings. And it also can operate in the 169 MHz and 433 MHz band, which gives narrow-band solutions with higher link budget and enabling longer range coverage.

As a WM-BUS master device, it can access up to 200 slaves simultaneously, and send the data to remote sever through 3G/4G or ethernet. It supports TCP/UDP/FTP/HTTP/VPN Client/VPN Sever/DHCP protocols, and with AES128 data encryption. It contains many interfaces, including IO, Wired M-Bus, WAN, LAN, WIFI, SIM/UIM and so on.

It is especially suited for communication with heat, cooling, water, electricity and gas meters.

### HIGHLIGHTS

#### INDUSTRIAL-GRADE DESIGN

- ◆ High-performance industrial-grade 32bits CPU
- ◆ High-performance industrial-grade WM-Bus solutions
- ◆ WDT design to ensure system stability
- ◆ Operate temperature: -35~+75°C
- ◆ IP30 protection

#### STABLE & RELIABLE

- ◆ Anti-drop mechanism to ensure device always online
- ◆ Ethernet interface with built-in 15KV ESD
- ◆ SIM/UIM card interface with built-in 15KV ESD
- ◆ Power interface with built-in phase-reversal, over-voltage and lightning protection
- ◆ Antenna interface with lightning protection

## STANDARD INTERFACE & EASY-TO-USE

- ◆ Provide standard wired WAN interface (support standard PPPOE protocol), can be connected to ADSL device directly
- ◆ Intelligent data terminal, automatically enter transmission status after power-on
- ◆ Provide powerful central management software to facilitate equipment
- ◆ Convenient system configuration and maintenance interface (via WEB and CLI)

## POWERFUL FUNCTIONS

- ◆ Support variety types of wan connection, including static IP, DHCP, L2TP, PPTP, PPPOE, 2.5G/3G/4G
- ◆ Support Wireless cellular and wired WAN double link intelligent switch backup function (optional).
- ◆ Support VPN client (PPTP, L2TP, IPSEC) (only VPN version support)
- ◆ Support VPN server (PPTP, L2TP, IPSEC) (only VPN version support)
- ◆ Support remote management, such as SYSLOG, SNMP, TELNET, SSHD, HTTPS
- ◆ Support local and remote firmware upgrade, import and export configuration files
- ◆ Support NTP, built-in RTC
- ◆ Support variety types DDNS
- ◆ Support MAC clone, PPPOE server
- ◆ Support 802.11 b / g / n WIFI
- ◆ WIFI support variety types of encryption such as WEP, WPA and WPA2. Support MAC address filtering
- ◆ Support APN/VPDN
- ◆ Support DHCP server and DHCP client
- ◆ Support TCP/IP, UDP, FTP and HTTP
- ◆ Support SPI firewall
- ◆ Support wireless data transmission through LoRa technology

## SPECIFICATIONS

### F-M200-W WMBUS+WCDMA WIFI Router

<b>Standard &amp; Bands</b>	Support DC-HSPA+/HSPA+/HSDPA/HSUPA/UMTS 850/1900/2100MHz tri-band, 850/900/1900/2100MHz quad-band (optional) Support GSM 850/900/1800/1900MHz quad-band Support GPRS/EDGE CLASS 12
<b>Band Width</b>	DC-HSPA+: downlink rate 42Mbps, uplink rate 5.76Mbps HSPA+: downlink rate 21Mbps, uplink rate 5.76Mbps HSDPA: downlink rate 7.2Mbps, HSUPA: uplink rate 5.76Mbps UMTS: 384Kbps

<b>Transmit Power</b>	< 24dBm
<b>Receive Sensitivity</b>	< -109dBm
<b>F-M200-V WMBUS+EVDO WIFI Router</b>	
<b>Standard &amp; Bands</b>	Support CDMA2000 1X EVDO Rev A 800MHz, 800/1900MHz(optional), 450MHz (option al) Support CDMA2000 1X EVDO Rev B 800/1900MHz (optional) Support IS-95 A/B and CDMA2000 1xRTT wireless network
<b>Band Width</b>	EXDO Rev.A: downlink rate 3.1Mbps, uplink rate 1.8Mbps EXDO Rev.B: downlink rate 14.7Mbps, uplink rate 5.4Mbps(optional)
<b>Transmit Power</b>	< 23dBm
<b>Receive Sensitivity</b>	< -104dBm
<b>F-M200-TL WMBUS+TDD LTE WIFI Router</b>	
<b>Standard &amp; Bands</b>	Support LTE TDD 2600/1900/2300MHz (Band 38/39/40), 800/1400/1800(Band27/61/62) (optional) Support TD-SCDMA 2010/1900MHz (A/F Band 34/39) Support GSM/GPRS/EDGE 900/1800/1900MHz
<b>Band Width</b>	LTE TDD: downlink rate 61Mbps, uplink rate 18Mbps TD-HSPA+: downlink rate 4.2Mbps, uplink rate 2.2Mbps
<b>Transmit Power</b>	< 23dBm
<b>Receive Sensitivity</b>	< -97dBm
<b>F-M200-FL WMBUS+FDD LTE WIFI Router</b>	
<b>Standard &amp; Bands</b>	Support LTE FDD 2600/2100/1800/900/800MHz, 700/1700/2100 MHz(optional) Support DC-HSPA+/HSPA+/HSDPA/HSUPA/UMTS 850/1900/2100MHz tri-band, 850/900/1900/2100MHz quad-band (optional) Support EDGE/GPRS/GSM 850/900/1800/1900MHz Support GPRS CLASS 10 Support EDGE CLASS 12
<b>Band Width</b>	LTE FDD: downlink rate 100Mbps, uplink rate 50Mbps DC-HSPA+: downlink rate 42Mbps, uplink rate 5.76Mbps HSPA+: downlink rate 21Mbps, uplink rate 5.76Mbps HSDPA: downlink rate 7.2Mbps, HSUPA: uplink rate 5.76Mbps UMTS: 384Kbps
<b>Transmit Power</b>	< 23dBm
<b>Receive Sensitivity</b>	< -97dBm
<b>F-M200-L WMBUS+LTE WIFI Router</b>	
<b>Standard &amp; Bands</b>	Support LTE FDD, LTE TDD, EVDO, WCDMA, TD-SCDMA, CDMA1X, and GPRS/EDGE
<b>Band Width</b>	LTE FDD: downlink rate 100Mbps, uplink rate 50Mbps LTE TDD: downlink rate 61Mbps, uplink rate 18Mbps DC-HSPA+: downlink rate 42Mbps, uplink rate 5.76Mbps TD-HSPA+: downlink rate 4.2Mbps, uplink rate 2.2Mbps EVDO Rev.A: downlink rate 3.1Mbps, uplink rate 1.8Mbps

<b>Transmit Power</b>	< 23dBm
<b>Receive Sensitivity</b>	< -97dBm
<b>WIFI</b>	
<b>Standard</b>	Support standard IEEE802.11b/g/n
<b>Band Width</b>	IEEE802.11b/g: the maximum speed rate up to 54Mbps IEEE802.11n: the maximum speed rate up to 150Mbps
<b>Security</b>	Support WEP/WPA/WPA2 encryption types
<b>Transmit Power</b>	20dBm(11n), 24dBm(11g), 26dBm(11b)
<b>Sensitivity</b>	<-72dBm@54Mbps
<b>WM-BUS</b>	
<b>Protocol</b>	Wireless M-Bus compliant EN13757-3/4/5 standard
<b>Bands</b>	169/433/868/915MHz
<b>Range</b>	Up to 800m
<b>Transmit Power</b>	14dBm
<b>Receive Sensitivity</b>	-108dBm
<b>Radio Rate</b>	4.8, 32.768 or 100kcps
<b>Modes</b>	S, T, C, N
<b>Role</b>	Repeater or Master
<b>HARDWARE</b>	
<b>CPU</b>	Industrial 32bits CPU
<b>FLASH</b>	16MB (Extend able to 64MB)
<b>DDR2</b>	128MB
<b>INTERFACE</b>	
<b>WAN</b>	1*10/100 Mbps WAN
<b>LAN</b>	4*10/100 Mbps LAN
<b>M-BUS</b>	1*M-BUS
<b>IO</b>	2*DI \ 1*DO
<b>TF</b>	1*TF (up to 32G)
<b>Indicators</b>	"PWR", "SYS", "WIFI", "SIM", "WMBUS"
<b>Antenna</b>	Cellular: 1* standard SMA female antenna, 50 ohm, lightning protection (optional) WM-BUS: 1* standard SMA female antenna, 50 ohm, lightning protection (optional) WIFI: 1* standard SMA male antenna, 50 ohm, lightning protection (optional)
<b>SIM/UIM</b>	1*1.8/3.3V SIM/UIM



**POWER SUPPLY****Range** DC 5~36 V**Standard** DC 12V/1.5A**POWER CONSUMPTION****Stand By** 4G: 280 ~ 330mA@12V 3G: 268 ~ 295mA@12V**Communication** 4G: 310 ~ 563mA@12V 3G: 279 ~ 360mA@12V**PHYSICAL PROPERTIES****Dimensions** 133.0x115.7x45.0mm**Weight** 520g**Shell** IP30**OTHERS****Operating Temperature** -35~+75°C**Storage Temperature** -40~+85°C**Relative Humidity** 95% (non-condensing)

## PRODUCT PICTURES



## Ordering Information

Model	Description	WAN	LAN	Cellular	WIFI	WM-BUS	SIM/UIM
<b>F-M200-W</b>	M-Bus+WCDMA WIFI ROUTER	1	4	1	1	1	1
<b>F-M200-V</b>	M-Bus+EVDO WIFI ROUTER	1	4	1	1	1	1
<b>F-M200-TL</b>	M-Bus+TDD LTE WIFI ROUTER	1	4	1	1	1	1
<b>F-M200-FL</b>	M-Bus+FDD LTE WIFI ROUTER	1	4	1	1	1	1
<b>F-M200-L</b>	M-Bus+LTE WIFI ROUTER	1	4	1	1	1	1



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