Four-Faith

F-R100WM

Wireless M-Bus Gateway



M-Bus wireless

Four-Faith F-R100WM gateway based on M-Bus protocol with compliant standard EN13757-3, which is widely used in Europe energy market for AMI (Advanced Metering Infrastructure) applications.

It operates in 169/433/868MHz free-license band, and supports up to 200 meters access simultaneously. It can work in listen, normal or Install mode, depends on the openness of the network.

It can receive data from all access slaves, and then transparent transmission data to cloud server by 3G, 4G or ethernet. Also, it supports TCP/UDP/FTP/HTTP/VPN Client/VPN Sever/DHCP protocols, and with AES128 data encryption, and contains many interface types, including GPIO, WAN, LAN, WIFI and SIM/UIM

It is especially suitable for communication with heat, water, electricity and gas meters through wireless M-Bus technology.

HIGHLIGHT

INDUSTRIAL-GRADE DESIGN

- High-performance industrial-grade 32bits CPU
- High-performance industrial-grade WM-Bus solution
- Hardware and software WDT
- Low power consumption
- Operate temperature: -35~+75ºC
- Storage temperature: -40~+85ºC
- Humidity: 95%
- IP30

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 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 by M-Bus

SPECIFICATIONS

F-R100WM-W WMBUS+WCDMA WIFI Router	
Standard & Bands	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
Band Width	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

Output Power	< 24dBm
Receive Sensitivity	< -109dBm
F-R100WM-V WMBUS+EVDO WIFI Router	
Standard & Bands	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
Band Width	EXDO Rev.A: downlink rate 3.1Mbps, uplink rate 1.8Mbps EXDO Rev.B: downlink rate 14.7Mbps, uplink rate 5.4Mbps(optional)
Output Power	< 23dBm
Receive Sensitivity	< -104dBm
F-R100WM-TL WMBUS+TDD LTE WIFI Router	
Standard & Bands	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
Band Width	LTE TDD: downlink rate 61Mbps, uplink rate 18Mbps TD-HSPA+: downlink rate 4.2Mbps, uplink rate 2.2Mbps
Output Power	< 23dBm
Receive Sensitivity	< -97dBm
F-R100WM-FL WMBUS+FDD LTE WIFI Router	
Standard & Bands	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
Band Width	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
Output Power	< 23dBm
Receive Sensitivity	< -97dBm
F-R100WM-L WMBUS+LTE WIFI Router	
Standard & Bands	Support LTE FDD, LTE TDD, EVDO, WCDMA, TD-SCDMA, CDMA1X, and GPRS/EDGE
Band Width	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
Output Power	< 23dBm
Receive Sensitivity	< -97dBm

WIFI	
Standard	Support standard IEEE802.11b/g/n
Band Width	IEEE802.11b/g: the maximum speed rate up to 54Mbps IEEE802.11n: the maximum speed rate up to 150Mbps
Security	Support WEP/WPA/WPA2 encryption types
Output Power	20dBm(11n), 24dBm(11g), 26dBm(11b)
Receive Sensitivity	<-72dBm@54Mbps
WM-BUS	
Protocol	Compliant with EN13757-3/4/5 standard or OMS standard
Bands	Free-license 169/433/868MHz
Range	Up to 800m
Output Power	14dBm@868MHz; 14dBm@433MHz; 25dBm@169MHz
Receive Sensitivity	-110dBm@M-Bus
Radio Rate	4.8, 32.768 or 100kbps
Modes	S, T, C, N
Role	Repeater or Master
HARDWARE	
CPU	Industrial 32bits CPU
FLASH	16MB (Able extend to 64MB)
DDR2	128MB
INTERFACE	
WAN	1*10/100 Mbps WAN
LAN	4*10/100 Mbps LAN
GPIO	2*DI \ 1*DO
TF	1*TF (32G)
Indicators	“PWR”, “SYS”, “WIFI”, “SIM”, “WMBUS”
Antenna	Cellular: 1* standard SMA female antenna, 50-ohm, lighting protection (optional) WM-BUS: 1* standard SMA female antenna, 50-ohm, lighting protection (optional) WIFI: 1* standard SMA male antenna, 50-ohm, lighting protection (optional)
SIM/UIM	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	TBD
Shell	IP30
OTHERS	
Operating Temperature	-35~+75ºC
Storage Temperature	-40~+85ºC
Relative Humidity	95% (non-condensing)

PICTURES



ORDERING

Model	Description	WAN	LAN	Cellular	WIFI	WM-BUS	SIM/UIM
F-R100WM-W	M-Bus+WCDMA WIFI ROUTER	1	4	1	1	1	1
F- R100WM -V	M-Bus+EVDO WIFI ROUTER	1	4	1	1	1	1
F- R100WM -TL	M-Bus+TDD LTE WIFI ROUTER	1	4	1	1	1	1
F- R100WM -FL	M-Bus+FDD LTE WIFI ROUTER	1	4	1	1	1	1
F- R100WM -L	M-Bus+LTE WIFI ROUTER	1	4	1	1	1	1