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F-IM100 Series Technical Specification

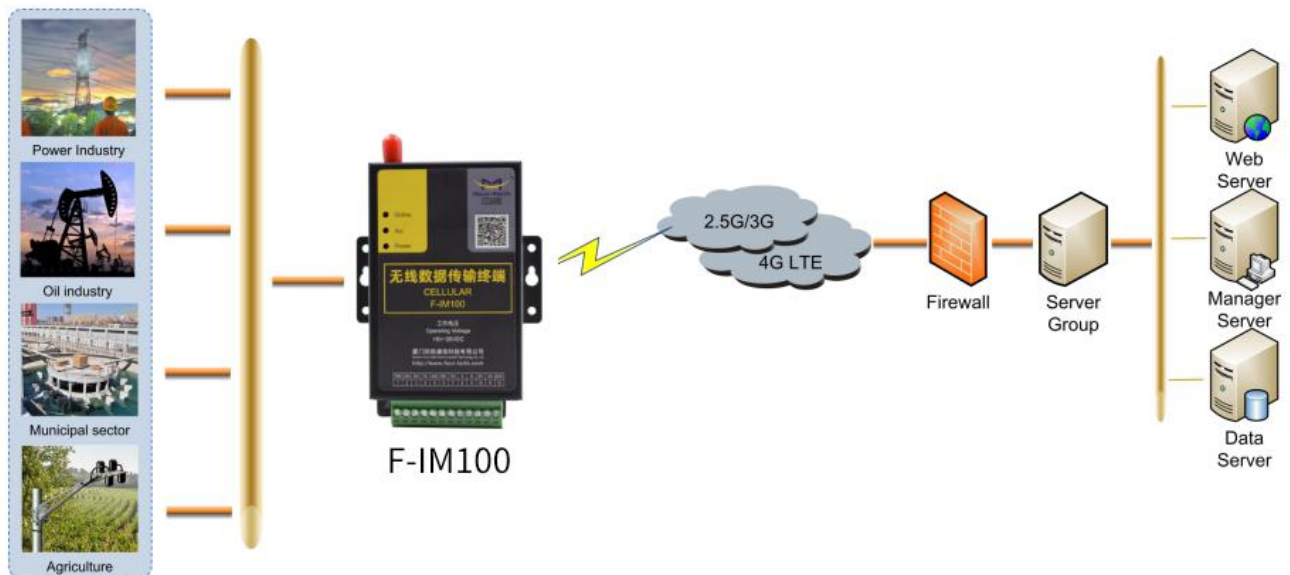


General

F-IM100 Series IP MODEM is a kind of cellular terminal device that provides data transfer function by public cellular network.

It adopts high-powered industrial 32 bits CPU and embedded real time operating system. It supports RS232 and RS485 port that can conveniently and transparently connect one device to a cellular network, allowing you to connect to your existing serial devices with only basic configuration. It has low power consumption; it support 1 ADC and 2 I/O, compatible digital input/output channel, Analog input, input pulse counter and pulse wave output function.

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



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Product Feature

Design for Industrial Application

- ◆ High-powered industrial cellular module
- ◆ High-powered industrial 32 bits CPU
- ◆ Low power consumption design, support multi-sleep and trigger modes to reduce the power dissipation farthest
- ◆ Housing: iron, providing IP30 protection, The metal casing and system are safely isolated, suitable for industrial applications.
- ◆ Wide power input: DC 9~36V

Stability and Reliability

- ◆ Support hardware and software WDT
- ◆ Support auto recovery mechanism, including online detect, auto redial when offline to make it always online
- ◆ RS232/RS485/RS422 ports: 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

- ◆ Adopt terminal block interface, convenient for industrial application
- ◆ 1 RS232 and 1 RS485(or 2RS485) standard ports can connect to serial devices directly
- ◆ TTL logic level serial port/ADC interface can be customized

- ◆ Support intellectual mode, enter into communication state automatically when powered
- ◆ Provide powerful central management software for convenient management (optional)
- ◆ Easy to use, flexible, multiple working mode options
- ◆ Convenient configuration and maintenance interface
- ◆ Support serial software upgrade and remote maintenance

High-performance

- ◆ Support TCP server and support 4 TCP connection(optional)
- ◆ Support double data centers and multi-data center synchronous transmission (5 data centers)
- ◆ Supply 2 I/O channels, compatible 2 pulse wave output channels, 2 analog inputs and 2 pulse input counters
- ◆ Support multi online/offline trigger ways, including SMS, ring and data, serial data triggers online/offline mode
- ◆ Support domain name and IP access to data center
- ◆ Design with standard TCP/IP protocol stack
- ◆ Embedded standard TCP/IP protocol, support data transparent transmission

Product Specification

Cellular Specification

Item	Content
F-IM100 GPRS IP MODEM	
Standard and Band	Support GSM850/900/1800/1900MHz quad-band Support GSM phase 2/2+ Support GPRS class 10/12 (optional 1-12)
Bandwidth	85.6Kbps

F-IM100 Series IP MODEM Technical Specification

TX power	GSM850/900:<33dBm GSM1800/1900:<30dBm
RX sensitivity	<-108dBm
F-IM100 WCDMA IP MODEM	
Standard and Band	Support UMTS/WCDMA/HSDPA/ HSUPA/HSPA+ 850/1900/2100MHz tri-band, optional 850/900/1900/2100MHz Quad-band Support GSM850/900/1800/1900MHz quad-band Support GPRS/EDGE CLASS 10/12
Bandwidth	UMTS: 384Kbps(DL/UL) HSDPA/HSUPA: 2.8 Mbps(DL), 2.2 Mbps(UL) HSPA+: 21Mbps(DL), 5.76Mbps(UL) DC-HSPA+: 42Mbps(DL), 5.76Mbps(UL) TD-HSPA+: 4.2Mbps(DL), 2.2Mbps(UL)
TX power	<24dBm
RX sensitivity	<-109dBm
F-IM100 LTE IP MODEM	
Standard and Band	Support All-modes network: LTE FDD, LTE TDD, EVDO, WCDMA, TD-SCDMA, CDMA1X, GPRS/EDGE
Bandwidth	LTE FDD: 150Mbps(DL), 50Mbps(UL) LTE TDD: 130Mbps(DL), 35Mbps(UL) DC-HSPA+: 42Mbps(DL), 5.76 Mbps(UL) TD-HSPA+: 4.2Mbps(DL), 2.2Mbps(UL) EVDO Rev. A: 3.1Mbps(DL), 1.8Mbps(UL)
TX power	<23dBm
RX sensitivity	<-98dBm

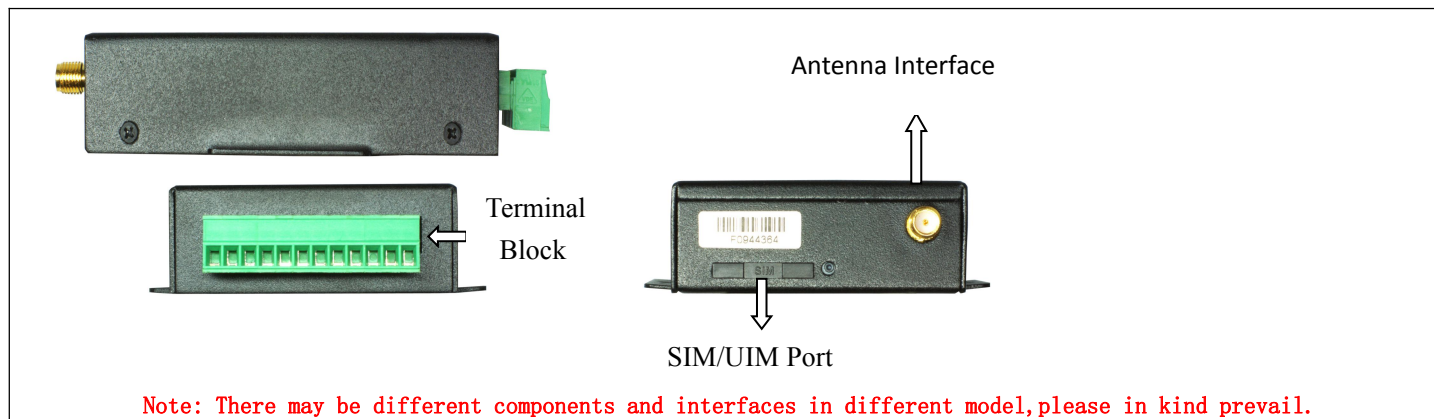
Hardware System

Item	Content
CPU	Industrial 32 bits CPU
FLASH	512KB (Extendable)
SRAM	256KB

Interface Type

Item	Content
Serial	1 RS232 port and 1 RS485(or 2 RS232) port, 15KV ESD protection Data bits: 5, 6, 7, 8 Stop bits: 1, 1.5, 2 Parity: none, even, odd, space, mark Baud rate: 600-115200 bps
Indicator	"Power", "ACT", "Online"
Antenna	Standard SMA female interface, 50 ohm
SIM/UIM	Standard drawer interface, support 3V/1.8V SIM/UIM card, 15KV ESD protection
Power	Terminal block interface, reverse-voltage and overvoltage protection

F-IM100 Series IP MODEM Technical Specification



Power Input

Item	Content
Standard Power	DC 12V/0.5A
Power Range	DC 9~36V

Power Consumption

Working States	Power Consumption
Communication	20~65mA@12VDC(2G:20~40 mA 4G:20~65mA) 20~95mA@9VDC (2G:30~45 mA4G:20~95mA)
Standby	15~30 mA@12VDC 20~40 mA@9VDC
Sleep	5~17mA@12VDC 6~22mA@9VDC

Physical Characteristics

Item	Content
Housing	Iron, providing IP30 protection
Dimensions	91x58.5x22 mm((excluding antennas and mountings))
Weight	205g

Environmental Limits

Item	Content
Operating Temperature	-35~+75°C (-22~+167°F)
Storage Temperature	-40~+85°C (-40~+185°F)
Operating Humidity	95% (unfreezing)

Ordering Information

Model No.	Description
F-IM100-G	GPRS IP MODEM
F-IM100-W	WCDMA IP MODEM
F-IM100-L	LTE IP MODEM