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F2416 WCDMA IP MODEM TECHNICAL SPECIFICATION

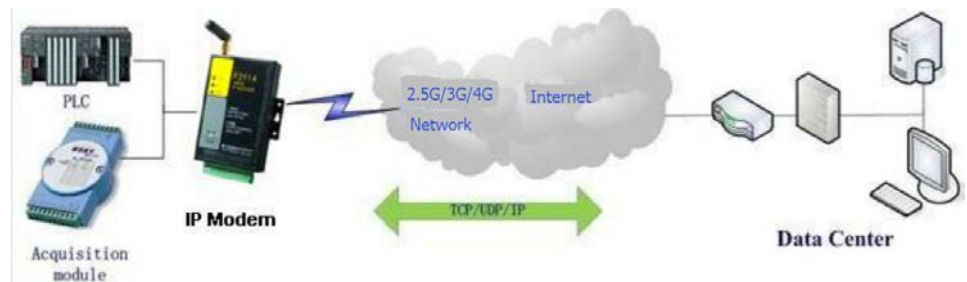


General

F2416 WCDMA IP MODEM is a kind of cellular terminal device that provides data transfer function by public GPRS network.

It adopts high-powered industrial 32 bits CPU and embedded real time operating system. It supports RS232 and RS485 (or RS422) 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 states in which the power consumption could be lower than 5mA@12VDC. It has compatible digital I/O channel, ADC, 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.



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
- ◆ Embedded Real Time Clock(RTC) circuit which can realize timing online/offline function
- ◆ 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 it always online

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

Standard and Convenience

- ◆ Adopt terminal block interface, convenient for industrial application
- ◆ Support 2 standard RS232 and 1 RS485 ports that can connect to serial devices directly
- ◆ TTL logic level RS232 interface can be customized,

- ◆ 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

High-performance

- ◆ Support TCP server and support multi TCP client connection(optional)
- ◆ Support double data centers, one main and another backup

- ◆ Supply 2 I/O channels, compatible 2 pulse wave output channels, 2 analog inputs and 2 pulse input counters.
- ◆ Support multi data centers and it can support 5 data centers at the same time
- ◆ Support multi online trigger ways, including SMS, ring and data. Support link disconnection when timeout
- ◆ Support dynamic domain name(DDNS) and IP access to data center
- ◆ Design with standard TCP/IP protocol stack Support APN/VPDN

Product Specification -----

Cellular Specification

Item	Content
Cellular Module	Industrial cellular module
Standard and Band	UMTS/WCDMA/HSDPA/HSUPA 850/1900/2100MHz, 850/900/1900/2100MHz(optional) GSM850/900/1800/1900MHz WCDMA/HSDPA/HSUPA/EDGE CLASS 12
Bandwidth	HSDPA:7.2Mbps(DL),HSUPA:5.76Mbps(UL) UMTS:384Kbps (DL), 384Kbps (UL)
TX power	<24dBm
RX sensitivity	<-109dBm

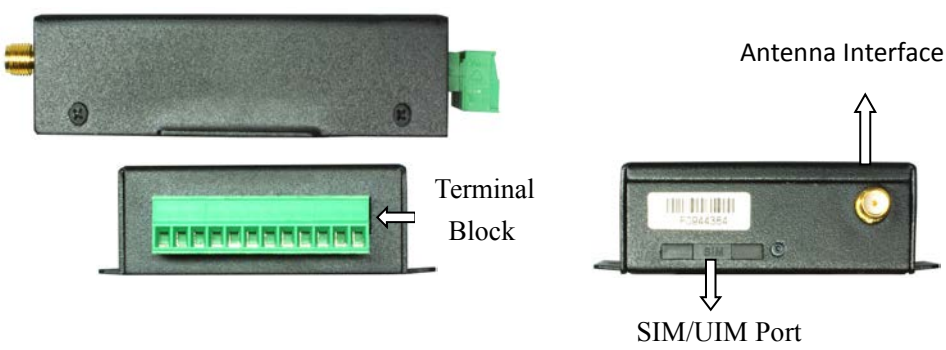
Hardware System

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

Interface Type

Item	Content
Serial	2 RS232 port and 1 RS485(orRS422) port, 15KV ESD protection Data bits: 5, 6 ,7, 8 Stop bits: 1, 1.5, 2 Parity: none, even, odd, space, mark Baud rate: 110~230400 bps
Indicator	"Power", "ACT", "Online"
Antenna	Standard SMA female interface, 50 ohm, lightning protection(optional)

SIM/UIM	Standard 3V/1.8V user card interface, 15KV ESD protection
Power	Terminal block interface, reverse-voltage and overvoltage protection



The diagram shows three views of the modem. The top view shows the antenna interface on the right and a terminal block on the left. The middle view is a close-up of the terminal block with an arrow pointing to it labeled 'Terminal Block'. The bottom view shows the SIM/UIM port on the left and the antenna interface on the right, with arrows pointing to them labeled 'Antenna Interface' and 'SIM/UIM Port'.

Power Input

Item	Content
Standard Power	DC 12V/0.5A
Power Range	DC 5~36V

Power Consumption

Working States	Power Consumption	
Communication	95~165mA@12VDC	205~365mA@5VDC
Standby	40~50mA@12VDC	80~100mA@5VDC
Sleep	5mA@12VDC	6mA@5VDC

Physical Characteristics

Item	Content
Housing	Iron, providing IP30 protection
Dimensions	91x58.5x22 mm
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)