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## F2X14-D IP Modem Technical Specification

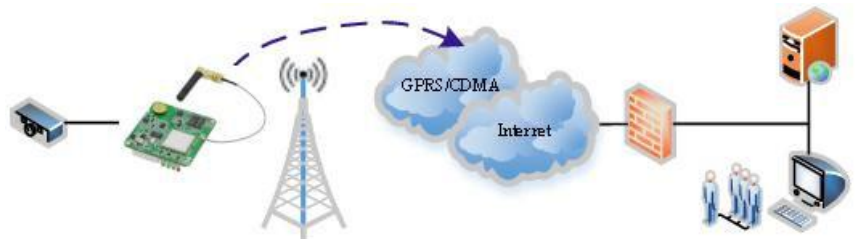


### General

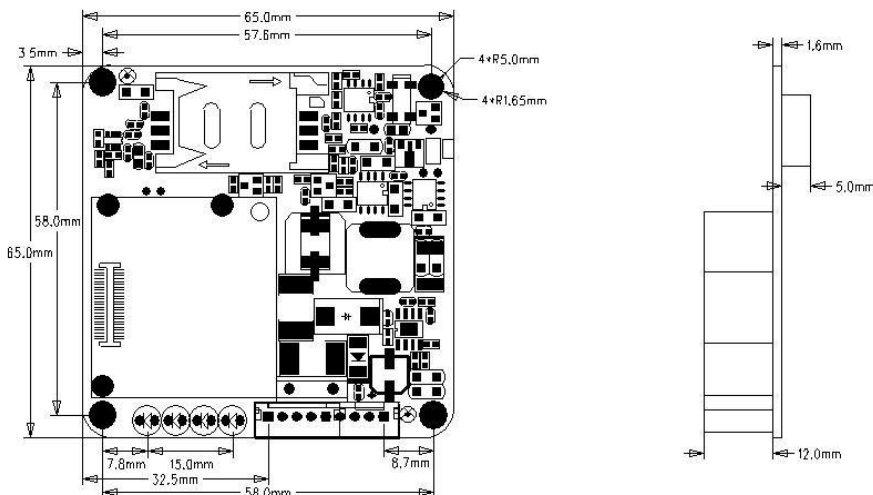
F2X14-D IP Modem is a kind of cellular terminal device that provides data transfer function by GPRS/WCDMA/EVDO/LTE network.

It adopts high-powered industrial 32 bits CPU and embedded real time operating system., it is dual serial port design, supports RS232 or RS485 port (Optional) 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 also has low power consumption states.

It has been widely used on M2M fields, such as intelligent substation, intelligent distribution network, smart electricity meters, intelligent interactive terminal, intelligent scheduling, intelligent home appliances, intelligent electricity building, power grids for smart cities, intelligent power generation system, smart grids (Such as new energy storage systems)and so on.



Product size (Unit: mm) :



(Note: The components and their position on the PCB board will change slightly with the version upgrade, please refer to the actual product!)

Note: There may be differences between different types of accessories and interfaces. Please refer to the actual product.

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## Product Features-----

### Design for Industrial Application

- ◆ High-powered industrial cellular module
- ◆ High-powered industrial 32 bits CPU
- ◆ Low power consumption design, to reduce the power dissipation in the most way
- ◆ Embedded Real-Time Clock (RTC) circuit
- ◆ Power range: DC 5~36V
- ◆ Operating temperature:-40~75℃

### 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 and surge protection
- ◆ Power port: reverse-voltage and overvoltage protection
- ◆ SIM/UM port: 15KV ESD protection
- ◆ Few connectors, with good seismic performance

### Standard and Convenience

- ◆ Support standard RS232/RS485 ports that can connect to serial devices directly
- ◆ Support intellectual mode, enter into communication state automatically when power is on

- ◆ Provide management software for remote management
- ◆ Support a variety of working modes which make it easy and flexible to use
- ◆ Convenient configuration and maintenance interface
- ◆ Support the serial update,remote update, can export the serial log
- ◆ Easy installation, fast fixing, conveniently and quickly

### High-performance

- ◆ Support TCP server and support 4 TCP client connection (optional)
- ◆ Support protocol conversion between ModBus and RTU/TCP (optional)
- ◆ Support dual data center backup transmission and multiple data center synchronous transmission (5 data centers)
- ◆ Support multi data centers and it can support 1-5 data centers at the same time
- ◆ Support protocol conversion between 101 and 104 (optional)
- ◆ Support standard TCP/UDP protocol, support data transfer transparently
- ◆ Support login security authentication
- ◆ Multiple indicator lights that can indicate a variety of system states

**Product Specification** -----

**Wireless parameters**

| Item                            | Content   |
|---------------------------------|---|
| <b>F2114-D GPRS IP MODEM</b>    |   |
| Standard and Band               | EGSM 900/GSM 1800MHz, GSM 850/900/1800/1900MHz(optional)<br>Compliant to GSM phase 2/2+<br>GPRS class 10, class 12(optional)  |
| Bandwidth                       | 85.6Kbps  |
| TX power                        | GSM850/900: <33dBm<br>GSM1800/1900: <30dBm  |
| RX sensitivity                  | <-107dBm  |
| <b>F2414-D WCDMA IP MODEM</b>   |   |
| Standard and Band               | DC-HSPA+/HSPA+/HSDPA/HSUPA/UMTS 850/1900/2100MHz , 850/900/1900/2100MHz (Optional)<br>GSM850/900/1800/1900MHz<br>GPRS/EDGE CLASS 12   |
| Bandwidth                       | DC-HSPA+: Download speed 42Mbps, Upload speed 5.76 Mbps<br>HSPA+: Download speed 21Mbps, Upload speed 5.76 Mbps<br>HSDPA: Download speed 7.2Mbps , HSUPA: Upload speed 5.76Mbps<br>UMTS: 384Kbps  |
| TX power                        | <24dBm  |
| RX sensitivity                  | <-109dBm  |
| <b>F2614-D EVDO IP MODEM</b>    |   |
| Standard and Band               | CDMA2000 1X EVDO Rev A 800MHz , 800/1900MHz (Optional),450MHz (Optional)<br>CDMA2000 1X EVDO Rev B 800/1900MHz (Optional)<br>IS-95 A/B and CDMA2000 1xRTT wireless network  |
| Bandwidth                       | EVDO Rev. A: Download speed 3.1Mbps, Upload speed 1.8Mbps<br>EVDO Rev. B: Download speed 14.7Mbps, Upload speed 5.4Mbps (Optional)  |
| TX power                        | <23dBm  |
| RX sensitivity                  | <-104dBm  |
| <b>F2814-D FDD LTE IP MODEM</b> |   |
| Standard and Band               | LTE FDD 2600/2100/1800/900/800MHz, 700/1700/2100MHz (Optional)<br>DC-HSPA+/HSPA+/HSDPA/HSUPA/UMTS 850/900/2100MHz , 800/850/1900/2100MHz (Optional)<br>EDGE/GPRS/GSM 850/900/1800/1900MHz ,<br>GPRS CLASS 10<br>EDGE CLASS 12                               |
| Bandwidth                       | LTE FDD: Download speed 100Mbps, Upload speed 50Mbps<br>DC-HSPA+: Download speed 42Mbps, Upload speed 5.76 Mbps<br>HSPA+: Download speed 21Mbps, Upload speed 5.76 Mbps<br>HSDPA: Download speed 7.2Mbps ,<br>HSUPA: Upload speed 5.76Mbps<br>UMTS: 384Kbps |
| TX power                        | <23dBm  |
| RX sensitivity                  | <-97dBm   |

**Interface type**

| Item      | Content  |
|-----------|--|
| SDI       | Num.of ports: 2<br>Port 1: RS232<br>Port 2: RS232 (Standard) / RS485 (Optional)<br>Serial port type : 5 pin 2.54mm pitch ; Single row of female header<br>+3 pin 2.54mm pitch; Single row of female header<br>Stop bits: 1 、 2<br>Parity: none, even, odd,<br>Baud rate: 300~115200bps |
| Antenna   | IPEX connector, 50 ohm   |
| SIM/UIM   | Standard clamshell socket interface, support 1.8V/3V SIM/UIM card, 15KV ESD  |
| Indicator | Power、SIM card、Operation、network state   |

**Power supply**

| Item        | Content     |
|-------------|-------------|
| Standard    | DC 12V/0.5A |
| Power range | DC 5~36V    |

**Consumption**

| Item          | Content       |
|---------------|---------------|
| Communication | 45~90mA@12VDC |
| Standby       | 10~15mA@12VDC |

**Physical Characteristics**

| Item         | Content      |
|--------------|--------------|
| Installation | Embedded     |
| Dimension    | 65x65x18.6mm |
| weight       | About 40g    |

**Other parameters**

| Item                | Content                |
|---------------------|------------------------|
| Working temperature | -40~+75°C (-40~+167°F) |
| Storage temperature | -40~+85°C (-40~+185°F) |
| relative humidity   | 95% (( unfreezing)     |

**Ordering Information**

| Model No. | Description      |
|-----------|------------------|
| F2114-D   | GPRS IP MODEM    |
| F2414-D   | WCDMA IP MODEM   |
| F2614-D   | EVDO IP MODEM    |
| F2814-D   | FDD LTE IP MODEM |