



## Introduction

**F2X16 V2 IP MODEM** is an IoT wireless data terminal, using public cellular network to provide users with wireless long-distance data transmission. Low power consumption design, provide 1 ADC, 2 I/O, can realize the functions of digital input and output, pulse output, analog input, pulse counting and, etc. This product has been widely used in the M2M industry in the IoT industry chain.



Industrial-grade Design

- ▶ High-performance industrial-grade wireless module
- ▶ High-performance industrial-grade 32-bit communication processor
- ▶ Low power design
- ▶ Metal shell, IP30 protection level
- ▶ Wide voltage input (DC 5~36V)



Stability & Reliability

- ▶ Watch dog design
- ▶ Anti-drop mechanism
- ▶ RS232/RS485 with 15KV ESD protection
- ▶ SIM/UIM with 15KV ESD protection
- ▶ Built-in reverse phase protection and over voltage protection for power interface
- ▶ Antenna interface lightning protection (Optional)



Standard & Convenience

- ▶ Industrial terminal interface
- ▶ 1 x RS232 and 1 x RS485
- ▶ Supports customize TTL, ADC
- ▶ Plug and play
- ▶ Central Management Software (Optional)
- ▶ Multiple work mode
- ▶ Easy configurations
- ▶ Support serial upgrade



High Performance

- ▶ Supports TCP server
- ▶ Dual data center backup transmission
- ▶ Supports APN
- ▶ Support multi-data center synchronous transmission
- ▶ Provide 2 x DI/DO + 1 x ADC (DI/DO can be customized to pulse counting)
- ▶ Support access to the center based on domain name and IP address
- ▶ Embedded standard TCP/IP protocol stack, support transparent data transmission

## Product Specification

### Cellular Specification

Items	Contents
<b>F2116 V2 GPRS IP MODEM</b>	
Frequency	GSM850/900/1800/1900MHz GSM phase 2/2+ GPRS class 10/12
Bandwidth	85.6Kbps
Transmit Power	GSM850/900: <33dBm GSM1800/1900: <30dBm
Sensitivity	<-108dBm
<b>F2816 V2 LTE IP MODEM</b>	
Frequency	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), 5.76Mbps(UL) TD-HSPA+: 4.2Mbps(DL), 2.2Mbps(UL) EVDO Rev. A: 3.1Mbps(DL), 1.8Mbps(UL)
Transmit Power	<23dBm
Sensitivity	<-98dBm
<b>F2C16 V2 Cat.1 IP MODEM</b>	
Frequency	LTE FDD, LTE TDD, GSM/GPRS
Bandwidth	LTE FDD: 10Mbps(DL), 5Mbps(UL) LTE TDD: 8.2Mbps(DL), 3.4Mbps(UL) GPRS: 85.6kbps(DL), 85.6kbps(UL)
Transmit Power	LTE FDD/TDD: 23±1 dBm GSM 900: 32.5±1 dBm DCS 1800: 29.5±1 dBm
Sensitivity	LTE FDD/TDD: -98+1 dBm GSM 900: -109.5 dBm DCS 1800: -108 dBm

# IP Modem

# F2X16 V2



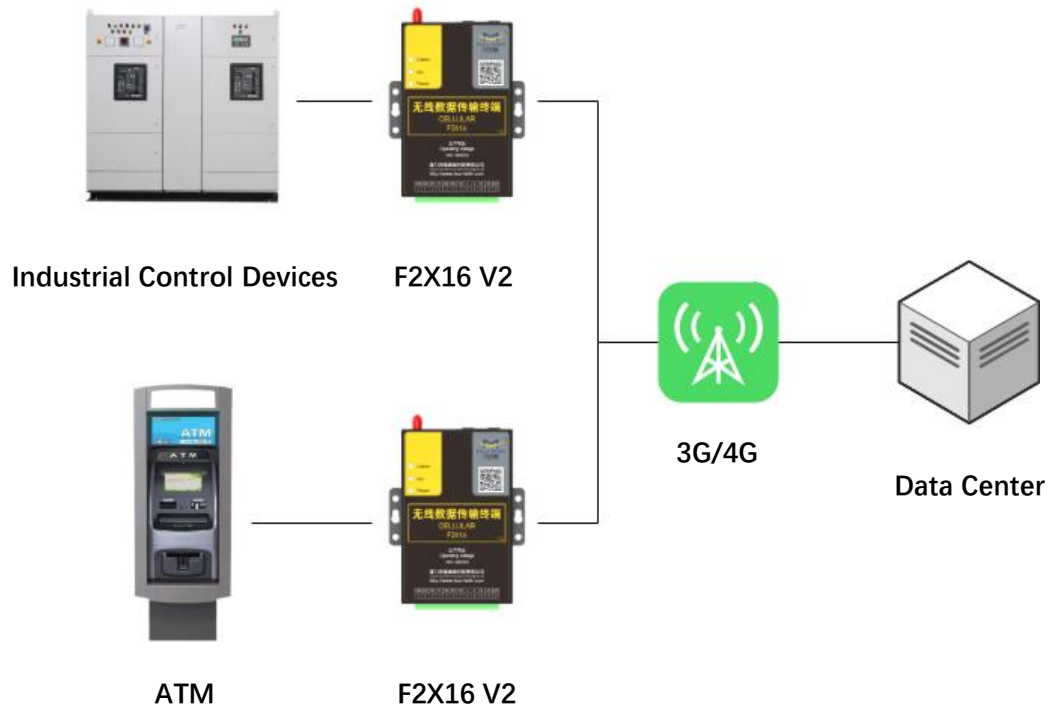
Hardware System	
Items	Contents
CPU	Industrial-grade 32-bit communication processor
FLASH	512KB (Can customize to 8MB)
SRAM	256KB
Interfaces	
Items	Contents
Serial	1 x RS232 + 1 x RS485, with 15KV ESD protection Data bit: 5, 6, 7, 8 Stop bit: 1, 1.5, 2 Check : None, Even, Odd Baud rate: 1200~230400 bits/s
Indicator	Power, Online, System
Antenna	SMA interface, Resistance= 50Ω
SIM/UIM	Standard sim card slot with 1.8V/3V SIM/UIM, with 15KV ESD protection
Power	Terminal
Power Supply	
Items	Contents
Standard	DC 12V/0.5A
Range	DC 5~36V
Consumption	
Status	Contents
Communication	20~65mA @12VDC (2G:20~40 mA 4G:20~65mA) 20~95mA @9VDC (2G:30~45 mA 4G:20~95mA)
Standby	15~30 mA @12VDC 20~40 mA @9VDC
Sleep	5~17mA @12VDC 6~22mA @9VDC
Physical Properties	
Items	Contents
Shell	Metal shell, IP30
Size	91x58.5x22 mm (Antenna not included)
Weight	205g
Other	
Items	Contents
Working Temperature	-35~+75°C
Storage Temperature	-40~+85°C
Humidity	95% (Non condensation)

# IP Modem

# F2X16 V2



## Topology



## Order Information

Models	Description
F2116 V2	GPRS IP MODEM
F2816 V2	LTE IP MODEM
F2C16 V2	Cat.1 IP MODEM