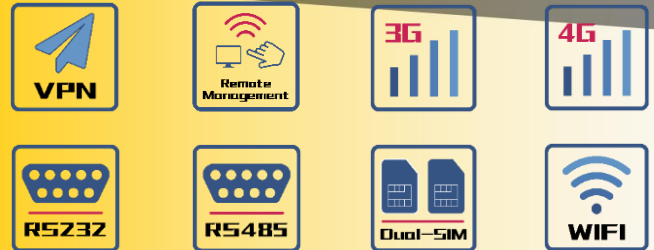


# Industrial 3G/4G Dual-module Router

F3946



## Introduction

F3946 Industrial 3G/4G Dual-Module Router is a kind of cellular terminal device that provides large data transmission function by public LTE/WCDMA/TD-SCDMA/EVDO network. It adopts high-powered industrial 32-bits CPU and embedded real time operating system. It supports RS232 (or RS485/RS422), Ethernet and WIFI port that can conveniently and transparently connect devices to cellular network. 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, etc.



Industrial-grade Design

- ▶ High-performance industrial cellular module
- ▶ Adapt Dual Module design to ensure the stable and reliable of the router
- ▶ Metal casing, IP30 protection level, suitable for most industrial control applications.
- ▶ Wide range power input (DC 5~36V)



Stability & Reliability

- ▶ Support hardware and software WDT
- ▶ Ethernet interface with built-in 15KV ESD
- ▶ RS232/RS485/RS422 with built-in 15KV ESD
- ▶ SIM/UM card slot with built-in 15KV ESD
- ▶ Power interface with built-in phase-reversal and over-voltage protection
- ▶ Antenna interface with lightning protection (Optional)



Standard & Convenience

- ▶ Support standard RS232 (or RS485/RS422), Ethernet and WIFI port
- ▶ Support standard WAN port and PPPOE protocol
- ▶ Support intellectual mode
- ▶ Provide management software for remote management
- ▶ Support several work modes
- ▶ Convenient configuration and maintenance interface (WEB or CLI)

# Industrial 3G/4G Dual-module Router F3946



- ▶ Support master module, standby module and WAN (PPPOE, ADSL) (Optional)
- ▶ Support IP, DHCP, PPPOE, 2.5G/3G/4G
- ▶ Support multiple WAN access methods
- ▶ Support VPN client (PPTP, L2TP, IPSEC, OPENVPN, GRE)
- ▶ Support VPN server (PPTP, L2TP, OPENVPN, IPSEC and GRE)
- ▶ Support local and remote firmware upgrade
- ▶ Support NTP, RTC embedded
- ▶ Support various DDNS
- ▶ Support VLANs, MAC Address clone, PPPoE Server
- ▶ Support 802.11 b / g / n WIFI network
- ▶ Support AP, client, Adhoc, Repeater, Repeater Bridge and WDS(optional) mode
- ▶ WIFI support variety types of encryptions such as WEP, WPA and WPA2.
- ▶ Support multi online trigger ways, including SMS, ring, and data.
- ▶ Support APN/VPDN
- ▶ Support schedule reboot, schedule online and offline and, etc.

## Product Specification

Cellular Specification	
Items	Contents
Standard and Band	<p><b>Main Module:</b></p> <p>FDD-LTE 2600/2100/1800/900/800MHz (Band 1/3/7/8/20)700/850/1700/1900/2100MHz (Band 2/4/5/13/17/25) (Optional)</p> <p>TDD-LTE 2600/1900/2300MHz (Band 38/39/40) (800/1400/1800MHz (Band27/61/62) (Optional)</p> <p>DC-HSPA+/HSPA+/HSDPA/ HSUPA/WCDMA/UMTS 2100/1900/900/850/800MHz (Band 1/2/5/6/8)</p> <p>TD-SCDMA 2010/1900MHz (A/F frequency band, Band 34/39)</p> <p>CDMA2000 1X EVDO Rev A 800MHz,800/1900MHz (Optional), EVDO Rev B 800/1900MHz (Optional)</p> <p>450MHz (Optional)</p> <p>EDGE/GPRS/GSM 850/900/1800/1900MHz</p>
	<p><b>Standby Module:</b></p> <p>FDD-LTE 2600/2100/1800/900/800MHz (Band 1/3/7/8/20)700/850/1700/1900/2100MHz (Band 2/4/5/13/17/25) (Optional)</p> <p>TDD-LTE 2600/1900/2300MHz (Band 38/39/40) (800/1400/1800MHz (Band27/61/62) (Optional)</p> <p>DC-HSPA+/HSPA+/HSDPA/ HSUPA/WCDMA/UMTS 2100/1900/900/850/800MHz (Band 1/2/5/6/8)</p> <p>TD-SCDMA 2010/1900MHz (A/F frequency band, Band 34/39)</p> <p>CDMA2000 1X EVDO Rev A 800MHz,800/1900MHz (Optional), EVDO Rev B 800/1900MHz(Optional)</p> <p>450MHz (Optional)</p> <p>EDGE/GPRS/GSM 850/900/1800/1900MHz</p>

# Industrial 3G/4G Dual-module Router F3946



<b>Bandwidth</b>	FDD-LTE (DL:100Mbps, UL:50Mbps)
	TDD-LTE (DL:61Mbps, UL:18Mbps)
	CDMA2000 1X EVDO Rev A (DL:3.1Mbps, UL:1.8Mbps)
	WCDMA (DL:42Mbps, UL:5.76Mbps)
	TD-SCDMA (DL:4.2Mbps, UL:2.2Mbps)

**TX Power** < 24 dBm

**RX Sensitivity** < -109 dBm

## WIFI Specification

Items	Contents
<b>Standard and Band</b>	IEEE802.11b/g/n
<b>Bandwidth</b>	IEEE802.11b/g: 54 Mbps (Maximum)
	IEEE802.11n: 150 Mbps (Maximum)
<b>Security</b>	Support WEP, WPA, WPA2, etc.
	WPS (Optional)
<b>TX Power</b>	20dBm (11n), 24dBm (11g), 26dBm (11b)
<b>RX Sensitivity</b>	< -72dBm @ 54Mbps

## Hardware System

Items	Contents
<b>CPU</b>	Industrial 32bits CPU
<b>Flash</b>	16MB
	(Extendable to 64MB)
<b>DDR2</b>	128MB

## Interfaces

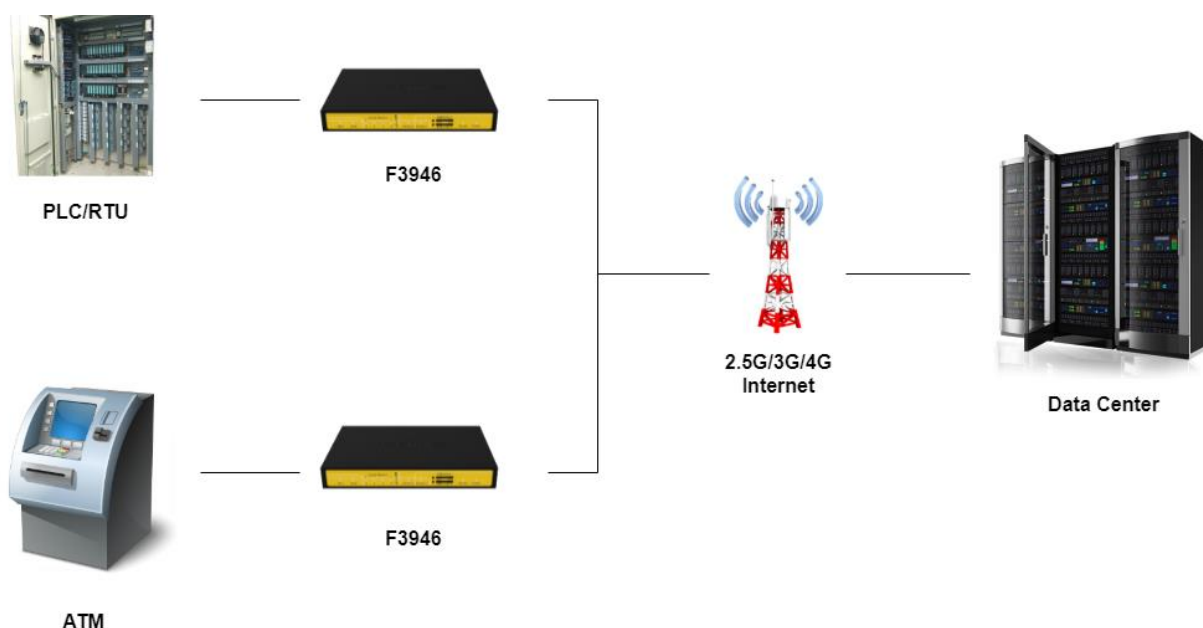
Items	Contents
<b>WAN Interface</b>	1x10/100 Mbps WAN port (RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection
<b>LAN Interface</b>	4x10/100 Mbps Ethernet ports (RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection
	1xRS232(or RS485/RS422) port, 15KV ESD protection
<b>Serial</b>	Data bits: 5, 6, 7, 8
	Stop bits: 1, 1.5 (Optional), 2
	Parity: none, even, odd, space (optional), mark (Optional)
	Baud rate: 2400~115200 bps
<b>LED Indicators</b>	"Power", "System", "Online-1", "Online-2", " Local Network ", "WAN", "WIFI", "Signal Strength"
<b>Antenna Interface</b>	Cellular: 2 x Standard SMA female interface, 50-ohm, lightning protection (Optional)
	WIFI: 1 x Standard SMA male interface, 50-ohm, lightning protection (Optional)
<b>SIM/UIM Slot</b>	Standard 3V/1.8V user card interface, 15KV ESD protection
<b>Power Interface</b>	Standard 3-PIN power jack, reverse-voltage, and overvoltage protection
<b>Reset Button</b>	Restore the router to its original factory default settings

# Industrial 3G/4G Dual-module Router F3946



Power	
<b>Items</b>	<b>Contents</b>
Input Voltage	DC 12V/1.5A
Accepted Range	DC 5~36V
Power Consumption	
<b>Work Mode</b>	<b>Consumption</b>
Standby	290~360mA @12VDC
Communicating	340~610mA @12VDC
Schedule Shutdown	2.57~4.2mA @12VDC
Physical Properties	
<b>Items</b>	<b>Contents</b>
Casing	Iron, providing IP30 protection
Dimensions	207x135x28 mm
Weight	810g
Others	
<b>Items</b>	<b>Contents</b>
Operating Temperature	-35~+75°C
Storage Temperature	-40~+85°C
Relative Humidity	95% (non-condensing)

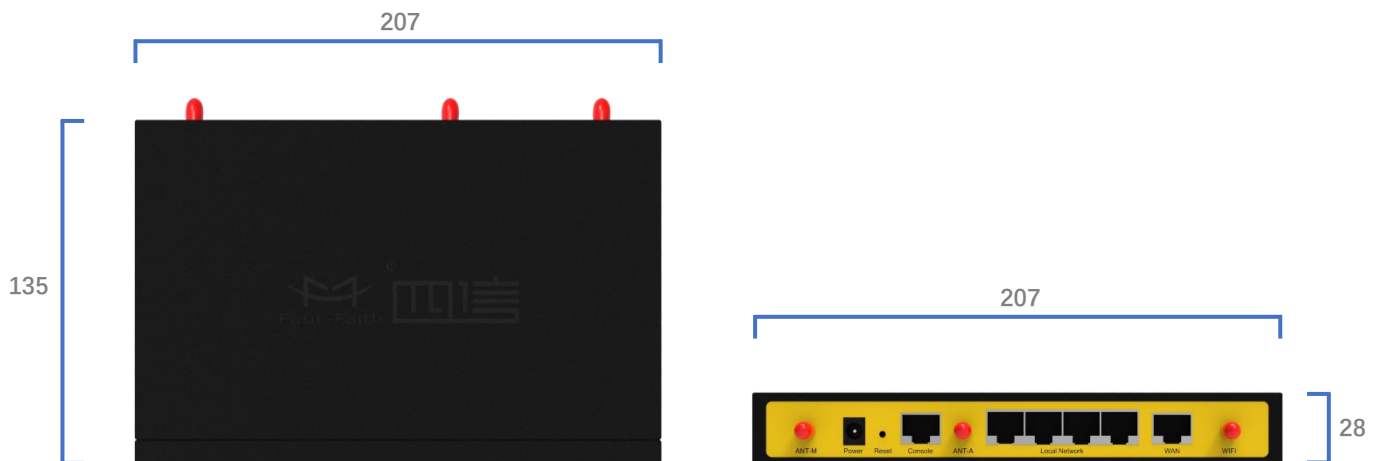
## Topology



# Industrial 3G/4G Dual-module Router F3946



## Dimension (mm)



## Order Information

Models	Description	WAN	LAN	Cellular Antenna	WIFI Antenna	SIM/UIM
F3946-W/W	WCDMA+WCDMA WIFI Router	1	4	2	1	2
F3946-V/V	EVDO+EVDO WIFI Router	1	4	2	1	2
F3946-TL/TL	TDD LTE+TDD LTE WIFI Router	1	4	2	1	2
F3946-FL/FL	FDD LTE+FDD LTE WIFI Router	1	4	2	1	2
F3946-L/L	LTE+LTE WIFI Router	1	4	2	1	2