

F-DPU110

Distributed Processing Unit

F-DPU110 Technical Specification

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V2.0.2	



F-DPU110 is an IoT Distributed Processing Unit designed for the wireless remote and large data transfer function by public 3G/4G network.

It uses high-performance dual-core processors and industrial-grade wireless modules, with Linux operating system as the software support platform, while providing 2 RS232/RS485, 6 RS485, 4 Ethernet LAN, 1 Ethernet WAN and 2 WIFI antenna interface, 2 3G/4G wireless interfaces, 8 digital inputs, 4 relay outputs, 2 12V controllable power outputs, optional LoRa interface, can connect serial devices, Ethernet devices and WIFI/LoRa devices.

DPU110 can provide comprehensive data communication processing functions including different communication interfaces such as Ethernet, standard RS232, standard RS485, WIFI, etc. for different background SCADA systems, power protection devices, various smart devices, different management systems, etc.; its main functions It is to process the upstream and downstream information, complete the forwarding of different protocols, and realize the transparent transmission of application software communication of different systems and different protocols.

Application topology



Product features

Design for Industrial Application

- ◆ High-powered industrial cellular module
- ◆ High-powered industrial 32bits CPU
- ◆ Support low-consumption mode,including sleep mode, scheduled online/offline mode
- ◆ Housing: iron, providing IP30 protection
- ◆ Wide power input (85~265VAC/DC)

Standard and Convenience

- ◆ Support standard RS232,RS485, Ethernet, WIFI port that can connect to serial, Ethernet and WIFI devices directly
- ◆ Support standard WAN port and PPPOE protocol that can connect to ADSL directly
- ◆ Support intellectual mode, enter into communication state automatically when powered
- ◆ Provide management software for remote management (Optional)
- ◆ Support several work modes, easy and flexible to use
- ◆ Convenient configuration and maintenance interface(WEB or CLI)

Stability and Reliability

- ◆ Support hardware and software WDT
- ◆ Support auto recovery mechanism, including online detect, auto redial when offline to make router always online
- ◆ Ethernet port: 1.5KV magnetic isolation protection
- ◆ RS232/RS485 port: 15KV ESD protection
- ◆ SIM/UIM port: 15KV ESD protection
- ◆ Power port: reverse-voltage and over-voltage protection
- ◆ Antenna port: lightning protection(optional)

High-performance

- ◆ Ultra-large capacity flash memory, storing lots of protocols, compatible with different systems and platform protocols of various manufacturers
- ◆ Support multiple WAN access methods, including static IP, DHCP, PPPOE, 2.5G/3G/4G
- ◆ Support double link backup between Cellular and WAN (optional)
- ◆ Support VPN client(PPTP,L2TP,IPSEC)(Note: Only for VPN version)
- ◆ Support VPN sever(PPTP,L2TP,IPSEC)(Note: Only for VPN version)
- ◆ Support remote management, SYSLOG, SNMP, TELNET, SSHD,HTTPS etc.
- ◆ Support local and remote firmware upgrade,import and export configure file
- ◆ Support NTP, RTC embedded
- ◆ Support multiple DDNS provider service
- ◆ Support MAC address clone, PPPOE server

- ◆ Support rack installation.
- ◆ WIFI support 802.11b/g/n, support WIFI AP、 AP Client, repeater, repeater bridge mode etc. (Optional)
- ◆ WIFI support WEP,WPA,WPA2 encryption, support MAC address filter
- ◆ Support multiple online and offline trigger ways, including SMS, phone call, serial data and network data
- ◆ Support APN/VPDN
- ◆ Support multichannel DHCP server and DHCP client,DHCP bind MAC address, DDNS, firewall,NAT,DMZ host,QOS,traffic statistics, real-time display of data transmission rate etc.
- ◆ Support TCP/IP、 UDP、 FTP(Optional)、 HTTP etc.
- ◆ Support SPI firewall,VPN traversing, access control,URL filtration etc.
- ◆ Timed online and offline function.
- ◆ Support USB3.0, backward compatible with USB2.0
- ◆ Local storage supports flash memory, TF card
- ◆ Support multi-protocol conversion

Product Specification

Cellular Specification

Item	Content
F-DPU110	
Standard and Band	Support band (optional): TDD-LTE、 FDD-LTE、 EVDO、 WCDMA、 TD-SCDMA、 CDMA1X、 GPRS/EDGE
Bandwidth	LTE FDD : download speed 100Mbps,upload speed 50Mbps LTE TDD : download speed 61Mbps,upload speed 18Mbps CDMA2000 1X EVDO Rev A : download speed 3.1Mbps,upload speed 1.8Mbps WCDMA : download speed 42Mbps,upload speed 5.76Mbps TD-SCDMA : download speed 4.2Mbps,upload speed 2.2Mbps
TX power	<23dBm
RX sensitivity	<-93.3dBm

WIFI Specification

Item	Content
Standard and Band	Support IEEE802.11b/g/n, 2.4G, 2*2 MIMO, support AP mode, Station mode (optional) Support IEEE802.11ac, 5.8G, 2*2 MIMO, support AP mode, Station mode (optional)
Bandwidth	IEEE802.11b/g: the highest rate reaches 108Mbps IEEE802.11n: the highest rate reaches 300Mbps IEEE802.11ac: the highest speed up to 780Mbps
Secure encryption	Support WEP, WPA, WPA2 and other encryption methods, optional WPS function
RX sensitivity	26dBm (11b) , 21.5dBm (11g) , 20dBm (11n) , 16dBm (11ac)

LoRa Specification (optional)	
Item	Content
Communication standards and frequency bands	support multiple frequency bands around the world (433/470/780/868/915 MHz)
Indoor/urban communication distance	2km
Outdoor/line-of-sight communication distance	9km
Tx power	<30dBm
RX sensitivity	<-140dBm
Communication theoretical rate	6 levels adjustable (0.3, 0.6, 1.0, 1.8, 3.1, 5.5Kbps)

Hardware System	
Item	Content
CPU	Dual-core 880MHZ processor
FLASH	64MB SPI flash/512MB Nand flash
DDR3	512MB
TF	8GB/32GB, optional

Interface type	
Item	Content
WAN	1*10/100M Ethernet port (RJ45 socket), auto MDI/MDIX, 1.5KV magnetic isolation protection
LAN	4*10/100M Ethernet ports(RJ45 socket), auto MDI/MDIX, 1.5KV magnetic isolation protection
Serial port	2 RS232/RS485 port, 6RS485 port 15KV ESD protection Data bit: 5、6、7、8 Stop bit: 1、1.5(Optional)、2 Parity: none, even, odd, space(optional), mark(optional) Baud rate:2400~115200bits/s
indicator	"PWR"、"SYS"、"LAN"、"WAN"、"NET"、"Signal Strength"
I/O port	8 channels with isolated digital input, Applicable types: passive empty contact, active contact, open collector Input high level: 5~30 VDC Input low level: 0~3 VDC Input current range: DC2~20mA Resolution: 100mS 4 digital outputs Output type: relay output Contact capacity: 5A 250V AC/30V DC

	2 channels 12VDC power output Output type: 12V/1A output, controllable
Antenna	Cellular: 2* Standard SMA female interface, 50 ohm WIFI/GPS: 2 *Standard SMA male interface, 50 ohm, Lora: 1 *Standard SMA male interface, 50 ohm(optional)
SIM/UIM	2 standard drawer type 3V/1.8V user card interface, 15KV ESD protection
Power	3-core terminal power socket with built-in reverse power protection Working voltage: 85~265VAC/DC Overload protection, reverse connection protection, redundancy protection
USB	Standard USB3.0 interface, support various USB storage
TF	Standard TF card interface, support various TF cards
Reset	Restore the router to its original factory default settings

Power supply	
Item	Content
Standard Power	AC220V
Power range	85~265VAC/DC

Power	
Item	Content
Communication status	7.8W

Physical Characteristics	
Item	Content
Housing	Metal, IP30
Dimensions	482.6*180*44mm(Without antenna and mounting parts)
Weight	1.53kg(Without external expansion)

Other parameters	
Item	Content
Operating Temperature	-35~+75°C (-31~+167°F)
Storage Temperature	-40~+85°C (-40~+185°F)
Operating Humidity	95%(unfreezing)

Ordering Information

Model No.	Description	Note
F-DPU110	Distributed Processing Unit	