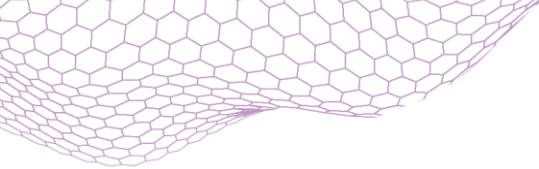


INDUSTRIAL GRADE 4G CELLULAR & WI-FI IOT GATEWAY

DDCG SERIES





SYNOPSIS

- DDCG IO F IS AN INDUSTRIAL-GRADE 4G CELLULAR ROUTER FEATURING A HIGH-PERFORMANCE PROCESSOR AND WIRELESS MODULE, RUNNING ON AN EMBEDDED REAL-TIME OPERATING SYSTEM.
- IT OFFERS VERSATILE CONNECTIVITY WITH 2 SERIAL PORTS, 1 X RS232, 1 X RS485, 1 X ETHERNET LAN, 1 X ETHERNET WAN, DI/DO AND WI-FI.
- THIS ROUTER ENABLES SEAMLESS DATA TRANSMISSION BETWEEN SERIAL, ETHERNET, AND WI-FI DEVICES. IT SUPPORTS DUAL SIM CARDS.

FEATURES

- HIGH-PERFORMANCE INDUSTRIAL-GRADE CPU
- HIGH-PERFORMANCE INDUSTRIAL-GRADE WIRELESS COMMUNICATION MODULE
- PROVIDES STANDARD RS232 AND RS485 PORTS FOR DIRECT CONNECTION TO SERIAL DEVICES
- 2 X 100M ETHERNET PORTS FOR DIRECT CONNECTION TO ETHERNET DEVICES
- DUAL SIM CARD DESIGN WITH COMPLETE DROPOUT PREVENTION MECHANISMS, ENSURING THE DATA TERMINAL IS ALWAYS ONLINE
- SIM CARD INTERFACE WITH 15KV ESD PROTECTION.
- SUPPORTS MULTIPLE VPN PROTOCOLS INCLUDING IPSEC, OPENVPN, AND WIREGUARD.
- SUPPORT 2000 TAGS IN PROTOCOL CONVERSION.
- BUILT-IN MQTT GATEWAY, SUPPORTING DATA TRANSPARENT TRANSMISSION TO HTTP/MQTT/AZURE CLOUD
- SUPPORTS REMOTE MANAGEMENT PLATFORM AND PC CLIENT APPLICATIONS
- SUPPORTS SPI FIREWALL
- WI-FI SUPPORTS MULTIPLE ENCRYPTION METHODS INCLUDING WEP, WPA, WPA2 AND, ETC.
- SUPPORTS MULTIPLE NETWORK PROTOCOLS INCLUDING TCP, UDP, IPV4, DNSS, TELNET
- SUPPORTS MOUNTING REMOTE FILE SYSTEMS VIA SSH PROTOCOL
- EQUIPPED WITH DDOS PROTECTION (SYN FLOOD PROTECTION, SSH ATTACK PROTECTION, TELNET ATTACK PROTECTION)
- FLEXIBLE ACCESS CONTROL FOR SSH, WEB INTERFACE, CLI, AND TELNET
- SUPPORTS MODBUS TCP AND MODBUS RTU STATUS/CONTROL
- SUPPORTS MQTT SUBSCRIPTION AND MQTT PUBLISHING
- SUPPORTS BRIDGING AND TRANSPARENT TRANSMISSION FUNCTIONS
- EMC LEVEL 3 AND ABOVE, WITH STRONG ANTI-INTERFERENCE CAPABILITY

PROTOCOL CONVERSION SUPPORTED

- MODBUS RTU TO MODBUS TCP AND VICE VERSA
- MODBUS RTU / MODBUS TCP TO DNP3 ETHERNET AND VICE VERSA
- MODBUS RTU / MODBUS TCP TO IEC 104 AND VICE VERSA
- MODBUS RTU / MODBUS TCP TO MQTT / HTTP
- DNP3 ETHERNET TO MQTT
- IEC 104 TO MQTT / HTTP
- BACNET IP TO MQTT / HTTP
- BACNET MSTP TO MQTT / HTTP
- BACNET IP TO OPC UA CONVERTER.

TECHNICAL SPECIFICATIONS

CELLULAR SPECIFICATIONS

Standard and Band

HIGH SPEED LTE MODULE

FDD-LTE B1 to B8 and B28

FDD LTE 2600/2100/1800/900/800MHz, 700/1700/2100MHz (optional)

TDD-LTE B38/B39/B40/B41

TDD LTE 2300/2500/2600 MHz

TD-SCDMA: B34, B39

HSPA+/UMTS B1/B2/B5/B8

WCDMA/HSPA+: Band 1, 8, TD-SCDMA: Band 34, 39

EV-DO: BC0

CDMA 1x: BC0

EDGE/GPRS/GSM 850/900/1800/1900MHz

LOW SPEED LTE MODULE

FDD-LTE Band B1/3/5/8

TDD-LTE Band B34/38/39/40/41

GSM/GPRS 900/1800MHz

GPRS Terminal Device Class: Class B

GPRS Coding Schemes CS1 to CS4

Bandwidth

LOW SPEED LTE MODULE

FDD LTE (Mbps): Downstream rate 10.3Mbps, Uplink rate 5.1Mbps

TDD-LTE: Downstream rate 9.1Mbps, Uplink rate 3.1Mbps

GPRS (Kbps): Downstream rate 85.6 Kbps, Uplink rate 85.6 Kbps

TX power: <23 dBm

RX sensitivity: < -97 dBm

Antennae gain : 3dB. Higher gains possible

HIGH SPEED LTE MODULE (Optional)

FDD-LTE: Downstream rate 150Mbps, Uplink rate 50Mbps

TD-LTE: Downstream rate 130Mbps, Uplink rate 35Mbps

TD-HSPA+: Downstream rate 4.2Mbps, Uplink rate 2.2Mbps

DC-HSPA+: Downstream rate 42Mbps, Uplink rate 5.76 Mbps

HSPA+ : Downstream rate 21Mbps, Uplink rate 5.76 Mbps

UMTS: 384Kbps

HARDWARE SYSTEM

CPU	Industrial-grade CPU
Flash	32MB
DDR3	128MB

WI-FI SPECIFICATIONS

Standard and Band	IEEE802.11b/g/n, 2.4G
Bandwidth	IEEE802.11b/g: 54Mbps (Maximum) IEEE802.11n: 144Mbps (Maximum)
Security	Support WEP, WPA, WPA2 and other encrypt methods
Transmit Power	15 ± 2dBm
Sensitivity	< -72dBm @ 54Mbps

INTERFACES

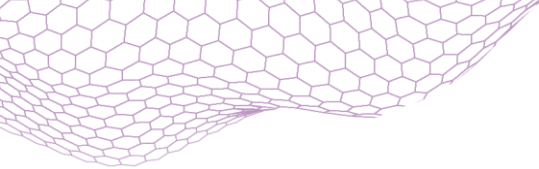
WAN Interface	1 x 10/100M RJ45 Ethernet port, Auto MDI/MDIX, Built-in 1.5KV ESD
LAN Interface	1 x 10/100M RJ45 Ethernet port, Auto MDI/MDIX, Built-in 1.5KV ESD (Support Passive POE)
Serial I/O	1 x RS232, 1 x RS485 serial interface with built-in 1.5KV ESD 1xDI, 1xDO
LED Indicators	PWR", "Online", "LAN", "WAN", "WIFI", "SYS"
Antenna Interface	Cellular: 2 x Standard SMA female antenna interface, characteristic impedance: 50 Ω WIFI: 1 x Standard SMA Male antenna interface, characteristic impedance: 50 Ω
SIM/UIM Slot	2 x Standard 2FF SIM card slot
Power Interface	Standard 4 pin terminal block interface, with built-in phase-reversal and over-voltage protection
Reset Button	Can reset router's configuration to default factory setting by this button

POWER CONSUMPTION

Standard	DC 12V/1.5A
Voltage Range	DC 9 to 36V
Operating Current	<1.2A (12V)

PHYSICAL PROPERTIES

Casing	Aluminum Metal casing
Dimensions	91.4x92.4x31mm (excluding antennas and mountings)
Weight	200g
IP Rating	IP30



ENVIRONMENTAL

Operating Temperature	-40 to +75°C
Storage Temperature	-40 to +85°C
Relative Humidity	95% (non-condensing)

ORDERING CODE

DDCG IO F DATABRIDGE DYNAMIC INDUSTRIAL CELLULAR 4G LTE GATEWAY 2.4G WIFI,
2 X SIM, 1 X RS232, 1 X RS485 WITH 1XDI, 1XDO.



DATA BRIDGE
D Y N A M I C