CJ-2DI2DO-RS

5×100M Ethernet Ports 4G Cellular 2.4GHz WiFi Industrial Router



- 1×100M WAN +4×100M LAN Ethernet ports
- 1×RS232/RS485 serial port, 2×DI, 2×DO
- 2G/3G/4G global cellular network, support APN / VPDN private network access
- 2.4GHz WiFi, compatible with 5.8GHz WiFi (optional)
- Support failover between 4G and WAN, ensuring automatic switch to alternative backup connection
- Support VPN: PPTP, L2TP, IPSec, GRE, OpenVPN
- Modbus Conversion: Automatically converts Modbus RTU to Modbus TCP between serial devices and network servers.
- -20℃~+70℃ working temperature range, IP30-rated housing protection, EMC level 3 protection

Product Description

The CJ-2DI2DO-RS is an industrial cellular VPN router and gateway designed for reliable equipment networking in Industrial IoT environments. This rugged router integrates multiple communication interfaces, including 5×100M Ethernet ports, 1×RS232/RS485 serial port, 2×DI, 2×DO, and a USB interface. It also supports 2.4GHz Wi-Fi, with optional 5.8GHz Wi-Fi and optional GPS positioning for asset tracking and location-based applications. With support for 4G LTE cellular connectivity and backward compatibility with 3G and 2G networks, together with wired Ethernet and Wi-Fi networking, the router enables flexible networking and stable data transmission for industrial devices.

The router developed by COME-STAR supports a wide range of networking and management functions including secure VPN communication, VLAN network segmentation, firewall protection, and remote device management through a cloud platform. It also supports serial DTU functions such as serial transparent transmission, Modbus protocol conversion, registration packets, and heartbeat packets. Users can remotely configure devices, upgrade firmware, and perform batch deployment, greatly improving the efficiency of large-scale network monitoring and maintenance.

Designed for industrial environments, the CJ-2DI2DO-RS features robust hardware protection, hardware and software watchdog mechanisms, and multi-layer link detection to ensure stable communication and automatic fault recovery. These capabilities make it suitable for mission-critical applications such as industrial automation, smart grid systems, transportation infrastructure, and remote equipment monitoring.

Product Features

- 5×100M Ethernet ports (1×WAN + 4×LAN)
- 1×RS232/RS485 serial port with DTU functions, Modbus conversion, registration and heartbeat packets
- 2×Digital Input (DI) supporting switch and counter modes
- 2×Digital Output (DO), DC 36V, 300mA max
- USB interface for peripheral expansion
- Optional GPS module for asset tracking and location-based applications
- 2.4GHz Wi-Fi, optional 5GHz Wi-Fi
- 4G LTE cellular connectivity with backward compatibility for 3G/2G
- Automatic network detection and mode switching (4G/3G/2G)
- Multi-network failover between wired and cellular connections
- WAN supports static IP, DHCP, and PPPoE
- Support wired and wireless network deployment
- Secure VPN communication: PPTP, L2TP, IPSec, OpenVPN (supports SM1/SM2/SM3/SM4), GRE
- Firewall, NAT, DMZ, port forwarding, and access control
- VLAN network segmentation for flexible traffic management
- Remote device management through cloud platform
- Remote configuration, firmware upgrade, and batch deployment
- DDNS and static routing for easy access to devices and subnet equipment
- AT command management via SMS, network, serial port, or cloud platform
- Alarm notifications via SMS, Email, or DO output
- Metal enclosure with IP30 protection
- Wide voltage input DC 9–36V with reverse polarity protection
- Multiple industrial protections: ESD, surge, and EFT/burst
- Built-in hardware and software watchdog with automatic fault recovery
- Support multiple installation methods: DIN-rail, wall mount, or desktop placement

Technical Specifications

Software Specifications		
Cellular	Antenna	2 × SMA-K Note: North America models: 2 × SMA 4G antenna connectors.
	SIM card	1 × (3 V & 1.8 V) Standard 2FF SIM, drawer-type sim card slots
	Frequency bands	See the model specifications below
Ethernet	WAN	1 × WAN port 10/100 Mbps, IEEE 802.3, auto MDI/MDIX Built-in 1.5KV isolation
	LAN	4 × LAN port, 10/100 Mbps, IEEE 802.3, IEEE 802.3u standards, auto MDI/MDIX Built-in 1.5KV isolation
Indicators	LED	PWR: red, always on after powered on Work: green, blinking when the router is ready and working properly WLAN: green, always on when WiFi enabled and working properly **Net indicator:** Red always on after connected to 2G network Green always on after connected to 3G network Orange always on after connected to 4G network Signal strength: 3 solid bars, strongest signal

Terminal blocks	Pinout	V+/V-: power supply 2-pin terminal blocks, built-in power supply reverse polarity protection GND: ground terminal Tx/B: RS-232/RS485 pin (setup by software) Rx/A: RS-232/RS485 pin (setup by software) DI: 2 × Digital input, passive switch DO: 2 × Digital open collector output, max output 36V, 300 mA COM: common terminal, use in conjunction with DOs
WiFi	Standards & Frequency	IEEE 802.11b/g/n,2.4GHz, AP mode
	Data speed	IEEE 802.11b/g, maximum 54Mbps. IEEE 802.11n, maximum 150Mbps
	Antenna	2 × RP-SMA-K
	Transmission distance	80 meters by line of sight. Actual transmission distance depends on the environment of the site.
Power Supply	Adaptor	DC 12V/1A
	Connector	DC Power Jack Barrel Type Female 5.5*2.1mm Round socket or industrial terminal block, reverse polarity protection
	Input voltage	DC 9~36V
	Working power	Average 522mA/12V, Maximum 811mA/12V
Serial Interface	RS485/RS232 (alternative)	Industrial terminal blocks. Note: RS232 default
	Baud rate(bps)	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400
	Data bits	8

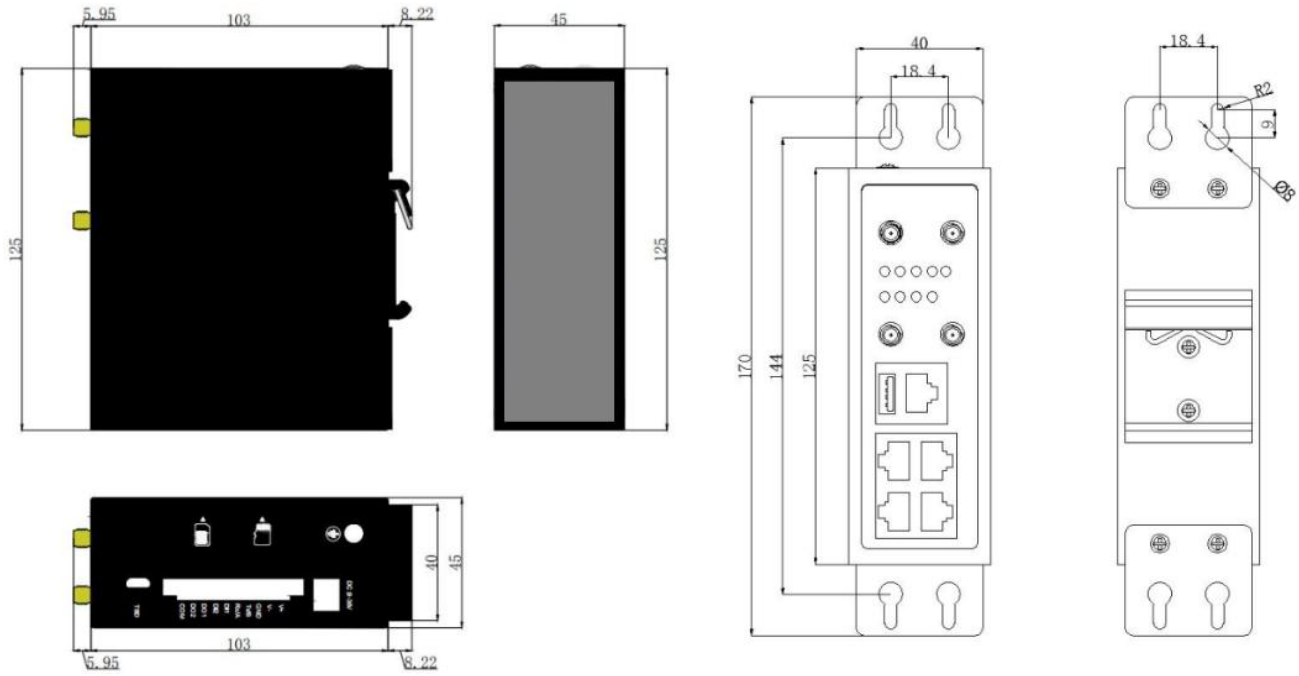
	Stop bits	1,2
	Parity	NONE, ODD, EVEN
Physical	Housing	Metal shell, IP30
	Dimensions	125.0*103.0*45.0mm (L*W*H)
	Installation method	Brackets mounting, DIN-Rail mounting
	EMC	Static IEC61000-4-2, level 3 Pulsed Electric Field IEC61000-4-4, level 3 Surge IEC61000-4-5, level 3
	Operating temperature	-20℃~+70℃
	Storage temperature	-40℃~+125℃
	Operating humidity	5%～95%RH (non-condensing)
Others	Reload	Pinhole button, restore factory defaults/firmware resume/firmware upgrading with USB
	TBD	Debug interface (TTL Level)
	USB	Firmware upgrading
	TF	TF card slot
	Ground protection	Screw
	Embedded Watchdog	Device runs self-detection, auto recovers from malfunctions
Software Specifications		
Network Connection	WAN Protocol	PPP, PPPoE, DHCP client
	LAN Protocol	ARP, DHCP server, NAT, VLAN

	4G Network Access	Auto APN/VPDN, private network; Access authentication: CHAP/PAP
	WLAN Security	Open system, WPA/WPA2 PSK, TKIP/AES encryption
	IP Routing	Static routing
	Network Diagnosis	Ping, route trace, DNS
Serial Modem	Work Mode	NET, HTTPD
	Sockets	4 sockets, 4 centers; TCPS(SOCKA)/TCPC/UDPS/UDPC
	Protocol Conversion	Modbus RTU to TCP support
	DI/DO Events	SMS, Email
Device Management	Configuration	Web interface
	Remote Management	SSH, AT command, SNMP, SMS
	Cloud Platform	Remote monitoring, firmware upgrade, alarming, base station location, and remote access to router web pages
Security & Failover	Failover Backup	Failover between 4G and WAN; automatic switch to backup connection
	Firewall	DMZ, anti-DoS, filtering (IP/Domain/MAC), port mapping, access control
	VPN	PPTP, L2TP, GRE, IPSec VPN (IKEv1), OpenVPN protocols
Service	DDNS	Remote access to device through domain name
	Alarm	Email, SMS, DO
Others	NTP Client	Time synchronization
	Timing Task	Scheduled tasks

	USB	Firmware upgrade
	User-defined Indicator	Customizable indicator status
Certificate	CE	

Dimensions

Unit: mm (first angle projection)



Ordering Information

Model	CJ-2DI2DO-RS	
Region	EMEA & APAC	
Frequency	TDD-LTE	B38/B40/B41
	FDD-LTE	B1/B3/B5/B7/B8/B20
	WCDMA	B1/B5/B8
	GSM/GPRS/EDGE	B3/B8
Model	**CJ-2DI2DO-RS-G**	
Region	Global	
Frequency	TDD-LTE	B38/B39/B40/B41
	FDD-LTE	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/ B25/B26/B28
	WCDMA	B1/B2/B4/B5/B6/B8/B19
	GSM	B2/B3/B5/B8
Model	**CJ-2DI2DO-RS-EAU**	
Region	Europe & Australia	
Frequency	TDD-LTE	B38/B40/B41
	FDD-LTE	B1/B3/B5/B7/B8/B20/B28
	WCDMA/HSPA+	B1/B5/B8
	GSM/EDGE/GPRS	850/900/1800MHz

Contact Us

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