DX-3021L9 Series

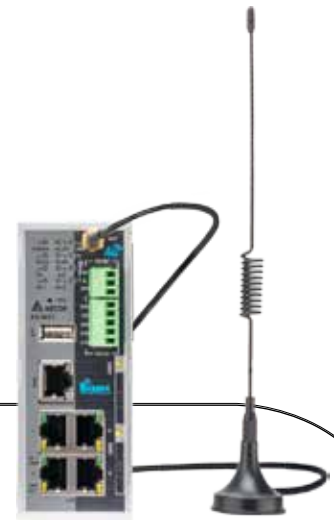## Industrial 4G/WAN DIACloud Cloud Routers

UL61010   -20~70°C   FANLESS   4G Universal   Rugged WIRELESS

- ▶ A data acquisition device connected to DIACloud cloud servers. Supports a two-way data collection channel between the devices and the cloud
- ▶ Sets up a secure tunnel between the user and the remote device via DIACloud cloud servers, without the need of additional VPN server
- ▶ Supports MODBUS TCP, MODBUS ASCII/RTU, Mitsubishi MC and Siemens ISO-on-TCP protocols
- ▶ Universal 4G LTE-FDD and LTE-TDD frequency bands, backward compatible with WCDMA/GSM/GPRS/EDGE 3G/2G networks
- ▶ LTE data transmission rate up to 150Mbps (downlink) / 50Mbps (uplink)
- ▶ Dual SIM dual standby technology, auto-switching between cellular operators without restarting devices
- ▶ Automatic APN parameter matching and connection redial
- ▶ Connecting to internet through by cellular network or broadband interfaces. Come with indication the priority of internet connectivity interfaces activated
- ▶ Various peripheral interfaces include RS-485, RS-232 and 4 LAN ports
- ▶ DI/DO built-in, users can trigger warning by specific events
- ▶ Support to upgrade device firmware and configure automatically via USB flash drive. Users can remotely access the USB flash drive by FTP also
- ▶ Built-in RTC and supports NTP time synchronization over a network
- ▶ Firewall function: Stateful Packet Inspection (SPI), prevent denial of service (DoS) attacks, MAC address filter and IP port filter
- ▶ Supports TCP/IP, UDP, ICMP, DHCP, HTTP, DNS and SSH protocols
- ▶ Scheduled jobs are available
- ▶ Device configurations import/export
- ▶ Network data flow statistics
- ▶ Networking failure diagnostics
- ▶ Device and PLC interlocking
- ▶ Custom alarm conditions with email alerts

Specifications

TECHNOLOGY

Standard Compliance
- GSM/GPRS/EDGE/ UMTS/DC-HSPA+/LTE
- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-T(X)

INTERFACE

4G
GSM/GPRS/EDGE/UMTS/DC-HSPA+/LTE
Antennas:
• 1 2.5dBi omni-directional, SMA (male) connector, 3 meters cable with magnetic stand

Fast Ethernet
RJ45 Ports:
• WAN: 1 10/100Base-T(X), auto MDI/MDI-X, auto negotiation
• LAN: 4 10/100Base-T(X), auto MDI/MDI-X, auto negotiation

Serial Communication
Serial Ports :
• 1 RS-232 (5-pin terminal block), 1 RS-485 (3-pin terminal block), 15KV isolation protection

Baud Rate:
• 2400bps to 115200bps

Data Bits:
• 7, 8

Parity:
• None, Even, Odd

Stop Bits:
• 1, 2

Flow Control:
• RTS/CTS(RS-232 only), XON/XOFF

RS-232:
• TxD, RxD, RTS, CTS, GND

RS-485
• D+, D-, GND

USB
• USB 2.0 host, type A

LEDs
Device:
• POWER, READY, USB, DI1, DI2, DO1, DO2, Signal Strength

RJ45 Ports:
• 100M, LINK/ACT

Serial Ports:
• RS-232, RS-485

Digital Inputs (DI)
• 2 sets
• 0~+5V is OFF
• +11V~30V is ON
• Max. input current 6mA

Alarm Contacts (DO)
• 2 relay outputs
• Carry current 1A@24V_{DC}

SIM Card
• Number of SIMs: 2, SIM 25mm x 15mm
• SIM Control: 1.8V/3V

Reset Button
• 1 set

4G RF
Frequency Band:
• LTE FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28
• LTE TDD: B38, B39, B40, B41
• UMTS: B1, B2, B4, B5, B6, B8, B19
• GSM: 850, 900, 1800, 1900MHz

Data Transmission Rates
LTE:
• LTE FDD Up link 50Mbps, down link 150Mbps
• LTE TDD Up link 30Mbps, down link 130Mbps

UMTS:
• DC-HSDPA Down link 42Mbps
• HSUPA Up link 5.76Mbps
• WCDMA Down link 384Kbps, up link 384Kbps

GSM:
• EDGE Up link 236.8Kbps, down link 296Kbps
• GPRS Up link 85.6Kbps, down link 107Kbps

RF Output Power:
• Class 4 (33dBm±2dB) @ GSM850
• Class 4 (33dBm±2dB) @ EGSM900
• Class 1 (30dBm±2dB) @ DCS1800
• Class 1 (30dBm±2dB) @ PCS1900
• Class E2 (27dBm±3dB) @ GSM850 8-PSK
• Class E2 (27dBm±3dB) @ EGSM900 8-PSK
• Class E2 (26dBm±3dB) @ DCS1800 8-PSK
• Class E2 (26dBm±3dB) @ PCS1900 8-PSK
• Class 3 (24dBm+1/-3dB) @ WCDMA bands
• Class 3 (23dBm±2dB) @ LTE-FDD bands
• Class 3 (23dBm±2dB) @ LTE-TDD bands

Receiver Sensitivity :
• -96.3dBm (10M) @ LTE B1
• -94.3dBm (10M) @ LTE B2
• -93.3dBm (10M) @ LTE B3
• -96.3dBm (10M) @ LTE B4
• -94.3dBm (10M) @ LTE B5
• -94.3dBm (10M) @ LTE B7
• -93.3dBm (10M) @ LTE B8
• -93.3dBm (10M) @ LTE B12
• -93.3dBm (10M) @ LTE B13
• -96.3dBm (10M) @ LTE B18
• -96.3dBm (10M) @ LTE B19
• -93.3dBm (10M) @ LTE B20
• -92.8dBm (10M) @ LTE B25
• -93.8dBm (10M) @ LTE B26
• -94.8dBm (10M) @ LTE B28
• -96.3dBm (10M) @ LTE B38
• -96.3dBm (10M) @ LTE B39
• -96.3dBm (10M) @ LTE B40
• -94.3dBm (10M) @ LTE B41
• WCDMA B1: -106.7dBm
• WCDMA B2: -104.7dBm
• WCDMA B4: -106.7dBm
• WCDMA B5: -104.7dBm
• WCDMA B6: -106.7dBm
• WCDMA B8: -103.7dBm
• WCDMA B19: -106.7dBm
• GSM850: -102dBm
• GSM900: -102dBm
• DCS1800: -102dBm
• PCS1900: -102dBm

ΔELTA

MANAGEMENT

Cloud Service
• DIACloud

Software
• SSH, DNS, HTTP, TFTP, DHCP Server/Client, Syslog, NTP, MODBUS TCP, MODBUS ASCII/RTU, Mitsubishi MC, Siemens ISO-on-TCP

Security
• MAC/IP/PORT filtering, SSH, SPI, Prevent denial of service (DoS) attacks

Configuration
• Web Browser, DIACom, Android/iOS App

POWER REQUIREMENTS

Input Voltage
• 12 to 48V_{DC}, 2 pin terminal block input

Input Current
• Max. 1.4A

Overload Current Protection
• Present, Max. Input current 2.5A

Reverse Polarity Protection
• Present

PHYSICAL

Housing
• IP30 metal case

Dimensions
• 145.3 mm (H) x 45 mm (W) x 115.7 mm (D)

Weight
• 382g

Installation
• Industrial DIN-Rail and Wall mounting

ENVIRONMENTAL LIMITS

Operating Temperature
• -20°C to 70°C (-4°F to 158°F)

Storage Temperature
• -40°C to 85°C (-40°F to 185°F)

Ambient Relative Humidity
• 5% to 95% (non-condensing)

APPROVALS

Safety
• UL 61010
• IEC 62368-1

EMI
• FCC 47 CFR Part 15 Subpart B Class A, IEC 61000-6-4, EN 55032, EN 55011, EN 301 489-1/52

EMS
(EN 301 489-1/52, IEC 61000-6-2, EN 55024)
• IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8

RF
• EN 50385
• EN 301 511
• EN 301 908-1
• NCC
• RCM

Environmental Type Tests
Cold Temperature:
• IEC 60068-2-1
Dry Heat:
• IEC 60068-2-2
Humidity:
• IEC 60068-2-30
Shock:
• IEC 60255-21-2
Freefall:
• IEC 60068-2-32
Vibration:
• IEC 60068-2-6
Hi-Pot:
• 1.5KV

Ordering Information

Product		Port Combination			Interface			RF	Region
Model Name	Operating Temperature	10/100 Base-T(X)	RS-232	RS-485	DI	DO (Relay)	Power Input	Band	
DX-3021L9	-20℃ to 70℃	5	1	1	2	2	1	Universal	Worldwide

NOTE. For available countries for purchase, please contact your regional sales or distributors.

Optional Products

DVP/CliQ/PMC Series: 12/24 V_{DC} Industrial Power Supply
CliQII/PMC Series: 48 V_{DC} Industrial Power Supply