

# DX-2100 Series

## Industrial 3G Cloud Routers



-20~70°C



FANLESS



- ▶ Data acquisition equipment connected to cloud servers. Supports a two-way data collection channel between the device and the cloud
- ▶ Sets up a secure tunnel between the user and the remote device via the cloud server, without the need of additional VPN servers
- ▶ Supports MODBUS TCP and MODBUS ASCII/RTU protocols
- ▶ Using UMTS/HSPA+ 3G technology, supports a wide range of bands (800/850, 900, AWS1700, 1900, 2100 MHz), downward compatible with GSM / GPRS / EDGE 2G network
- ▶ HSPA+ data transmission rate up to 21.6 Mbps (downlink)/ 5.76Mbps (uplink)
- ▶ Automatic APN parameter matching and connection redial
- ▶ Various peripheral interfaces include RS-485, RS-232 and LAN ports
- ▶ Built-in RTC and supports NTP time synchronization over a network
- ▶ Firewall functions: Stateful Packet Inspection (SPI), Prevent Denial of Service (DoS) attacks, NAT, port triggering, port mapping, IP address filtering, MAC address filtering, URL filtering

- ▶ 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/HSPA+
- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-T(X)

### INTERFACE

#### 3G

GSM/GPRS/EDGE/UMTS/HSPA+

#### Antennas:

- 1 2.5dBi omni-directional, SMA(male) connector, 3 meters cable with magnetic stand

## INTERFACE

### Fast Ethernet

#### RJ45 Ports:

- 1 10/100Base-T(X), auto MDI/MDI-X, auto negotiation

### Serial Communication

#### Serial Ports :

- 1 RS-232(DB9 male), 1 RS-485(DB9 female), 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

### LEDs

#### Device:

- PWR, SD, Ready, 3G, Signal Strength

#### RJ45 Ports:

- LAN

#### Serial Ports:

- RS-232 RX, RS-232 TX, RS-485 RX, RS-485 TX

### SIM Slot

- Number of SIMs: 1, Mini-SIM (25mm x 15mm)
- SIM Operating Voltage: 1.8V/3V

### SD Socket

- SDHC(32mm x 24mm x 2.1mm), up to 32GB

### Reset Button

- 1 set

## MANAGEMENT

### Cloud Service

- DIACloud

### Software

- SSH, DNS, HTTP, TFTP, DHCP Server/Client, Telnet, Syslog, MODBUS TCP, NTP, MODBUS ASCII/RTU

### Security

- MAC/IP/URL filtering, SSH, SPI, Prevent denial of service (DoS) attacks, Port triggering, Port mapping

### Virtual COM Drivers

- Windows XP, Windows Vista (32/64 bits), Windows 7 (32/64 bits)

### Configuration

- Web Browser, DIACom, Android/iOS App

## PHYSICAL

### Housing

- IP30 metal case

### Dimensions

- 111 mm(H) x 77 mm(W) x 26 mm (D)

### Weight

- 196g

### Installation

- Wall mounting

## 3G RF

### Frequency Band:

- UMTS/HSPA+: 800/850, 900, AWS1700, 1900, 2100 MHz
- UMTS/HSPA+ (CN model): 900, 2100 MHz
- GSM/GPRS/EDGE: 850, 900, 1800, 1900 MHz

### Data Transmission Rates

#### HSPA+:

- Up link 5.76 Mbps
- Down link 21.6 Mbps

#### UMTS:

- Up link 384 kbps
- Down link 384 kbps

#### EDGE:

- Up link 236.8 kbps
- Down link 296 kbps

#### GPRS:

- Up link 85.6 kbps
- Down link 85.6 kbps

#### RF Output Power:

- Class 4 (2 W, 33 dBm) @GSM 850 / 900
- Class 1 (1 W, 30 dBm) @GSM 1800 / 1900
- Class 3 (0.25 W, 24 dBm) @UMTS
- Class E2 (0.5 W, 27 dBm) @EDGE 850 / 900
- Class E2 (0.4 W, 26 dBm) @EDGE 1800 / 1900

#### RF Output Power(CN model):

- Class 4 (33 dBm, -2.5/+0.5dBm) @GSM 850 / 900
- Class 1 (30 dBm, -2.5/+0.5dBm) @GSM 1800 / 1900
- Class 3 (24 dBm, -2.5dBm) @UMTS 2100/900
- Class E2 (27 dBm, -2.5/+1.5dBm)
- Class E2 (0.4 W, 26 dBm)

#### Receiver Sensitivity :

- -108 dBm @ UMTS
- -107 dBm @ GSM 850 / 900 MHz
- -106 dBm @ DCS1800 / PCS1900 MHz

#### Receiver Sensitivity(CN model) :

- -109 dBm @ UMTS 2100 MHz
- -110 dBm @ UMTS 900 MHz
- -109.5 dBm @ GSM 850 MHz
- -109 dBm @ GSM 900 MHz
- -108 dBm @ DCS1800 / PCS1900 MHz

## POWER REQUIREMENTS

### Input Voltage

- 12 to 48V<sub>DC</sub>, 3 pin terminal block input

### Input Current

- Max 1A

### Overload Current Protection

- Present, Max. Input current 1.5A

### Reverse Polarity Protection

- NOT Present

## 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)

# Specifications

## APPROVALS

### Safety

- UL 60950-1, EN 60950-1 (DX-2100RW-WW certified)

### EMI

- FCC 47 CFR Part 15 Subpart B Class A
- EN 55022 (DX-2100RW-WW certified)
- EN 301 489-1/7/24 (DX-2100RW-WW certified)

### EMS

(EN 301 489-1/7/24, 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 (DX-2100RW-WW certified)

### RF

- EN 301 511, EN 301 908-1 (DX-2100RW-WW certified)
- FCC Part 22H, 24E, 27 (DX-2100RW-WW certified)

### 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			Region
Model Name	Operating Temperature	10/100 Base-T(X)	RS-232	RS-485	DI	DO (Relay)	Power Input	
DX-2100RW-CN	-20°C to 70°C	1	1	1	---	---	1	China
DX-2100RW-WW	-20°C to 70°C	1	1	1	---	---	1	EU, USA