

# CN2600 Series

## 8 and 16-port RS-232/422/485 terminal servers with dual-LAN redundancy



### Features and Benefits

- LCD panel for easy IP address configuration (excluding wide-temperature range models)
- Dual-LAN cards with two independent MAC addresses and IP addresses
- Redundant COM function available when both LANs are active
- Dual-host redundancy can be used to add a backup PC to your system
- Dual-AC-power inputs (for AC models only)
- Real COM and TTY drivers for Windows, Linux, and macOS
- Universal high-voltage range: 100 to 240 VAC or 88 to 300 VDC

### Certifications

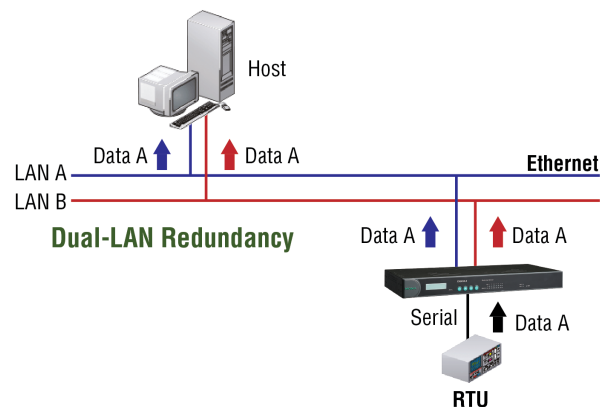


## Introduction

Redundancy is an important issue for industrial networks, and various types of solutions have been developed to provide alternative network paths when equipment or software failures occur. “Watchdog” hardware is installed to utilize redundant hardware, and a “Token”-switching software mechanism is applied. The CN2600 terminal server uses its built-in Dual-LAN ports to implement a “Redundant COM” mode that keeps your applications running uninterrupted.

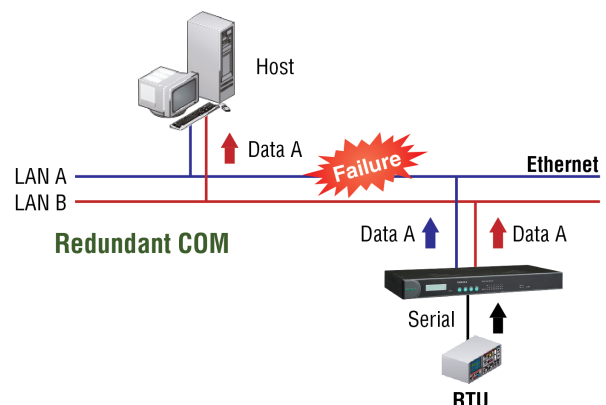
### Dual-LAN Redundancy

The CN2600 has two separate LAN ports that can be connected to separate LAN networks. Dual-LAN redundancy involves setting up two separate physical networks to connect the PC host with the CN2600 (the PC host also requires two LAN cards). If one connection fails, the PC host can still communicate with your serial devices over the alternative LAN connection.



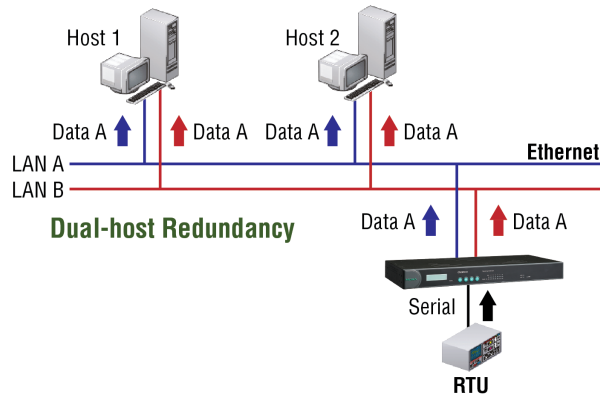
### Redundant COM

Moxa offers “Redundant COM,” an easy-to-use application to provide an alternative solution for network redundancy. When the CN2600 receives a data packet from a connected device, two identical data packets are sent over two independent LAN connections to prevent lost data packets if one LAN connection becomes unavailable. The CN2600 software is programmed to automatically discard duplicate data packets.



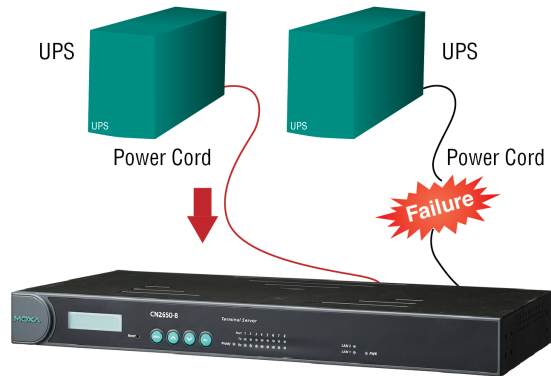
Dual-host Redundancy

The CN2600’s dual-LAN cards can also be used to set up “dual-host” redundancy. In this case, both networks (LAN A and LAN B in the figure) are connected to two different hosts. If either of the two hosts shuts down unexpectedly, the other host will still be able to communicate with serial devices connected to the CN2600.

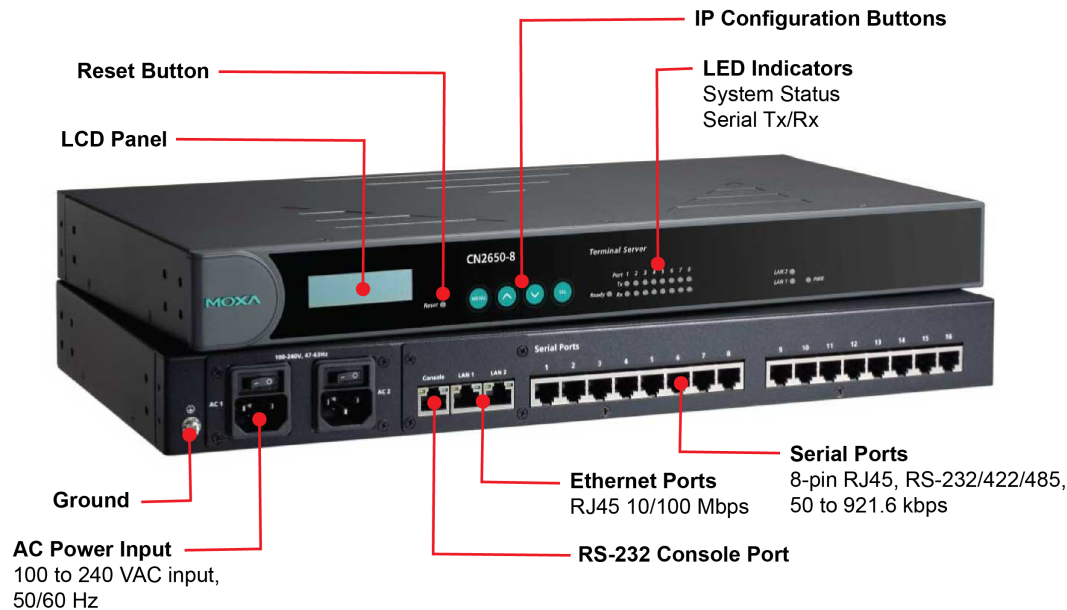


Dual-AC Model Supported

Dual-power redundancy uses two power inputs and redundant internal power supplies to ensure that all of the CN2600’s functions will be available, even in the event of power circuit failures.



Appearance



Specifications

Ethernet Interface

|                                       |                   |
|---------------------------------------|-------------------|
| 10/100BaseT(X) Ports (RJ45 connector) | 2                 |
| Magnetic Isolation Protection         | 1.5 kV (built-in) |

## Ethernet Software Features

|                          |  |
|--------------------------|--|
| Configuration Options    | CN2610-8/CN2610-16: Serial Console, Telnet Console, Windows Utility, Device Search Utility (DSU)<br>CN2650-8/CN2650-16/CN2600-2AC models: Serial Console, Telnet Console, Windows Utility, Device Search Utility (DSU), Web console (HTTP/HTTPS) |
| Management               | ARP, BOOTP, DDNS, DHCP Client, DNS, HTTP, IPv4, SMTP, SNMPv1/v2c/v3, TCP/IP, Telnet, UDP, ICMP, SLIP   |
| MIB                      | MIB-II   |
| Security                 | HTTPS/SSL, RADIUS, SSH, PAP, CHAP  |
| Unicast Routing          | RIPV1/V2, Static Route   |
| Windows Real COM Drivers | Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2/2016/2019 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded  |
| Linux Real TTY Drivers   | Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x   |
| Fixed TTY Drivers        | SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X   |
| Android API              | Android 3.1.x and later  |

## Security Functions

|                    |  |
|--------------------|--|
| Authentication     | Local database (password only)<br>RADIUS       |
| Encryption         | HTTPS, AES-128, AES-256, HMAC, RSA-1024, SHA-1 |
| Security Protocols | SNMPv3<br>SSHv2                                |

## Serial Interface

|                                   |   |
|-----------------------------------|---|
| Connector                         | CN2610/CN2650 models: 8-pin RJ45<br>CN2650I models: DB9 male  |
| No. of Ports                      | CN2600-8 models: 8<br>CN2600-16 models: 16  |
| Serial Standards                  | CN2610 models: RS-232<br>CN2650 models: RS-232/422/485  |
| Operation Modes                   | Real COM mode, TCP Server mode, TCP Client mode, UDP mode, RFC2217 mode, Terminal mode, Reverse Telnet mode, PPP mode, DRDAS mode, Redundant COM mode, Disabled |
| Baudrate                          | 50 bps to 921.6 kbps  |
| Data Bits                         | 5, 6, 7, 8  |
| Stop Bits                         | 1, 1.5, 2   |
| Parity                            | None, Even, Odd, Space, Mark  |
| Flow Control                      | None, RTS/CTS, DTR/DSR, XON/XOFF  |
| Isolation                         | CN2650I models: 2 kV  |
| RS-485 Data Direction Control     | ADDC® (automatic data direction control)  |
| Pull High/Low Resistor for RS-485 | 1 kilo-ohm, 150 kilo-ohms   |

|  |  |
|--|--|
| Terminator for RS-485                  | 120 ohms   |
| Console Port                           | RS-232 (TxD, RxD, GND), 8-pin RJ45 (19200, n, 8, 1)  |
| <b>Serial Signals</b>                  |  |
| RS-232                                 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND   |
| RS-422                                 | Tx+, Tx-, Rx+, Rx-, GND  |
| RS-485-4w                              | Tx+, Tx-, Rx+, Rx-, GND  |
| RS-485-2w                              | Data+, Data-, GND  |
| <b>Power Parameters</b>                |  |
| No. of Power Inputs                    | -2AC models: 2<br>All other models: 1  |
| Input Current                          | -HV models: 200 mA @ 88 VDC<br>All other models: 130 mA @ 110 VAC  |
| Input Voltage                          | -HV models: 110 VDC (88 to 300 VDC)<br>All other models: 100 to 240 VAC, 50/60 Hz  |
| <b>Reliability</b>                     |  |
| Automatic Reboot Trigger               | Built-in WDT   |
| Alert Tools                            | Built-in buzzer and RTC (real-time clock)  |
| <b>Physical Characteristics</b>        |  |
| Housing                                | Metal  |
| Installation                           | 19-inch rack mounting  |
| Dimensions (with ears)                 | 480 x 198 x 45.5 mm (18.9 x 7.80 x 1.77 in)  |
| Dimensions (without ears)              | 440 x 198 x 45.5 mm (17.32 x 7.80 x 1.77 in)   |
| Weight                                 | CN2610-8/CN2650-8: 2,410 g (5.31 lb)<br>CN2610-16/CN2650-16: 2,460 g (5.42 lb)<br>CN2610-8-2AC/CN2650-8-2AC/CN2650-8-2AC-T: 2,560 g (5.64 lb)<br>CN2610-16-2AC/CN2650-16-2AC/CN2650-16-2AC-T: 2,640 g (5.82 lb)<br>CN2650I-8: 3,907 g (8.61 lb)<br>CN2650I-16: 4,046 g (8.92 lb)<br>CN2650I-8-2AC: 4,284 g (9.44 lb)<br>CN2650I-16-2AC: 4,423 g (9.75 lb)<br>CN2650I-8-HV-T: 3,848 g (8.48 lb)<br>CN2650I-16-HV-T: 3,987 g (8.79 lb) |
| <b>Environmental Limits</b>            |  |
| Operating Temperature                  | Standard Models: 0 to 55°C (32 to 131°F)<br>CN2650-8-2AC-T/CN2650-16-2AC-T: -40 to 75°C (-40 to 167°F)<br>CN2650I-8-HV-T/CN2650I-16-HV-T: -40 to 85°C (-40 to 185°F)   |
| Storage Temperature (package included) | Standard Models: 0 to 55°C (32 to 131°F)<br>CN2650-8-2AC-T/CN2650-16-2AC-T: -40 to 75°C (-40 to 167°F)<br>CN2650I-8-HV-T/CN2650I-16-HV-T: -40 to 85°C (-40 to 185°F)   |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)  |
| <b>Standards and Certifications</b>    |  |
| EMC                                    | CN2650I models: EN 55032/35<br>All other models: EN 55032/24   |
| EMI                                    | CISPR 32, FCC Part 15B Class A   |

|           |   |
|-----------|---|
| EMS       | <p>-HV models:<br/>IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV<br/>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m<br/>IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV<br/>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV<br/>IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m<br/>IEC 61000-4-8 PFMF</p> <p>All other models:<br/>IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV<br/>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br/>IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV<br/>IEC 61000-4-5 Surge: Power: 2.5 kV; Signal: 1 kV<br/>IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m<br/>IEC 61000-4-8 PFMF<br/>IEC 61000-4-11</p> |
| Safety    | <p>CN2650I models: UL 62368-1<br/>All other models: UL 60950-1</p>  |
| Vibration | IEC 60068-2-6   |
| Freefall  | IEC 60068-2-32  |

#### Declaration

|               |                   |
|---------------|-------------------|
| Green Product | RoHS, CRoHS, WEEE |
|---------------|-------------------|

#### MTBF

|           |   |
|-----------|---|
| Time      | <p>CN2610-8: 831,925 hrs<br/>CN2610-16: 639,332 hrs<br/>CN2610-8-2AC/CN2650-8-2AC: 773,268 hrs<br/>CN2610-16-2AC: 604,346 hrs<br/>CN2650-8: 657,123 hrs<br/>CN2650-16: 457,175 hrs<br/>CN2650-16-2AC: 442,699 hrs<br/>CN2650I-8: 374,652 hrs<br/>CN2650I-8-2AC: 370,752 hrs<br/>CN2650-8-2AC-T: 190,562 hrs<br/>CN2650I-16: 248,847 hrs<br/>CN2650I-16-2AC: 247,119 hrs<br/>CN2650-16-2AC-T: 115,887 hrs<br/>CN2650I-8-HV-T: 357,995 hrs<br/>CN2650I-16-HV-T: 241,404 hrs</p> |
| Standards | Telcordia (Bellcore) Standard TR/SR   |

#### Warranty

|                 |  |
|-----------------|--|
| Warranty Period | 5 years  |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

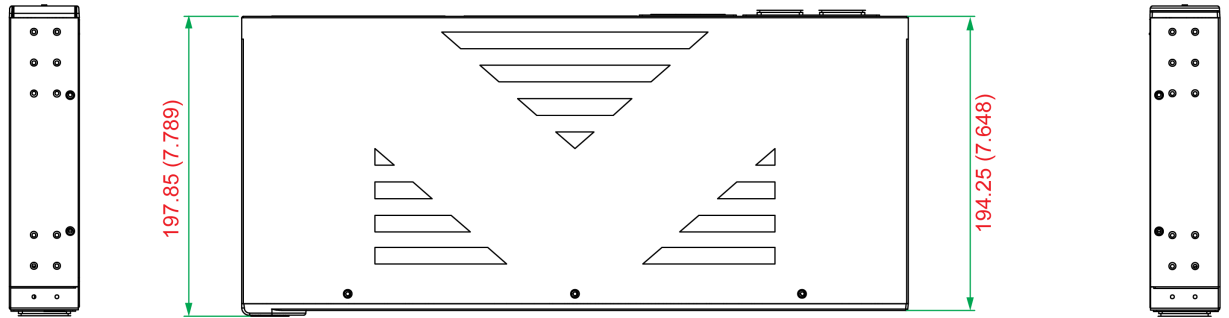
#### Package Contents

|                  |   |
|------------------|---|
| Device           | 1 x CN2600 Series terminal server   |
| Installation Kit | 1 x rack-mounting kit   |
| Cable            | <p>1 x RJ45-to-DB9 console cable<br/>1 x power cord, suitable for your region (AC models)</p> |
| Documentation    | <p>1 x quick installation guide<br/>1 x warranty card</p>                                     |

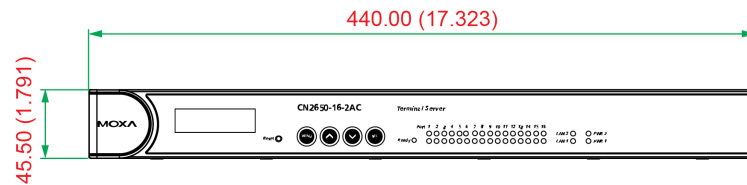
## Dimensions

Unit: mm (inch)

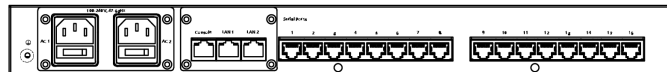
Top and Side Views



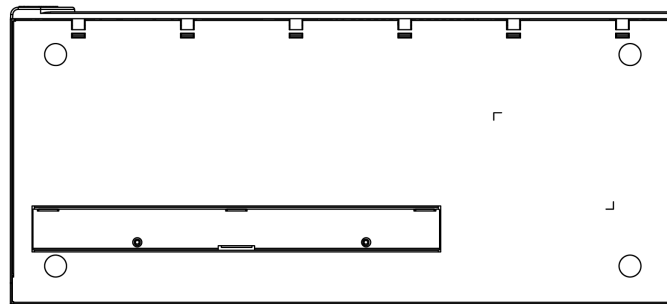
Front View



Rear View



Bottom View



## Ordering Information

| Model Name      | Serial Standards | No. of Serial Ports | Serial Connector | Isolation | No. of Power Inputs | Power Input | Operating Temp. |
|-----------------|------------------|---------------------|------------------|-----------|---------------------|-------------|-----------------|
| CN2610-8        | RS-232           | 8                   | 8-pin RJ45       | –         | 1                   | 100-240 VAC | 0 to 55°C       |
| CN2610-16       | RS-232           | 16                  | 8-pin RJ45       | –         | 1                   | 100-240 VAC | 0 to 55°C       |
| CN2610-8-2AC    | RS-232           | 8                   | 8-pin RJ45       | –         | 2                   | 100-240 VAC | 0 to 55°C       |
| CN2610-16-2AC   | RS-232           | 16                  | 8-pin RJ45       | –         | 2                   | 100-240 VAC | 0 to 55°C       |
| CN2650-8        | RS-232/422/485   | 8                   | 8-pin RJ45       | –         | 1                   | 100-240 VAC | 0 to 55°C       |
| CN2650-16       | RS-232/422/485   | 16                  | 8-pin RJ45       | –         | 1                   | 100-240 VAC | 0 to 55°C       |
| CN2650-8-2AC    | RS-232/422/485   | 8                   | 8-pin RJ45       | –         | 2                   | 100-240 VAC | 0 to 55°C       |
| CN2650-8-2AC-T  | RS-232/422/485   | 8                   | 8-pin RJ45       | –         | 2                   | 100-240 VAC | -40 to 75°C     |
| CN2650-16-2AC   | RS-232/422/485   | 16                  | 8-pin RJ45       | –         | 2                   | 100-240 VAC | 0 to 55°C       |
| CN2650-16-2AC-T | RS-232/422/485   | 16                  | 8-pin RJ45       | –         | 2                   | 100-240 VAC | -40 to 75°C     |
| CN2650I-8       | RS-232/422/485   | 8                   | DB9 male         | 2 kV      | 1                   | 100-240 VAC | 0 to 55°C       |
| CN2650I-16      | RS-232/422/485   | 16                  | DB9 male         | 2 kV      | 1                   | 100-240 VAC | 0 to 55°C       |

| Model Name      | Serial Standards | No. of Serial Ports | Serial Connector | Isolation | No. of Power Inputs | Power Input | Operating Temp. |
|-----------------|------------------|---------------------|------------------|-----------|---------------------|-------------|-----------------|
| CN2650I-8-2AC   | RS-232/422/485   | 8                   | DB9 male         | 2 kV      | 2                   | 100-240 VAC | 0 to 55°C       |
| CN2650I-16-2AC  | RS-232/422/485   | 16                  | DB9 male         | 2 kV      | 2                   | 100-240 VAC | 0 to 55°C       |
| CN2650I-8-HV-T  | RS-232/422/485   | 8                   | DB9 male         | 2 kV      | 1                   | 88-300 VDC  | -40 to 85°C     |
| CN2650I-16-HV-T | RS-232/422/485   | 16                  | DB9 male         | 2 kV      | 1                   | 88-300 VDC  | -40 to 85°C     |

## Accessories (sold separately)

### Cables

|                  |   |
|------------------|---|
| CBL-F9M9-20      | DB9 female to DB9 male serial cable, 20 cm                  |
| CBL-F9M9-150     | DB9 female to DB9 male serial cable, 1.5 m                  |
| CBL-RJ45M25-150  | 8-pin RJ45 to DB25 male serial cable, 1.5m                  |
| CBL-RJ45SF25-150 | 8-pin RJ45 to DB25 female serial cable with shielding, 1.5m |
| CBL-RJ45F25-150  | 8-pin RJ45 to DB25 female serial cable, 1.5 m               |
| CBL-RJ45M9-150   | 8-pin RJ45 to DB9 male serial cable, 1.5m                   |
| CBL-RJ45SM9-150  | 8-pin RJ45 to DB9 male serial cable with shielding, 1.5m    |
| CBL-RJ45SF9-150  | 8-pin RJ45 to DB9 female serial cable with shielding, 1.5m  |
| CBL-RJ45SM25-150 | 8-pin RJ45 to DB25 male serial cable with shielding, 1.5m   |
| CBL-RJ45F9-150   | 8-pin RJ45 to DB9 female serial cable, 1.5m                 |

### Connectors

|                 |  |
|-----------------|--|
| Mini DB9F-to-TB | DB9 female to terminal block connector |
|-----------------|--|

### Power Cords

|                  |  |
|------------------|--|
| PWC-C13AU-3B-183 | Power cord with Australian (AU) plug, 1.83 m         |
| PWC-C13CN-3B-183 | Power cord with three-prong China (CN) plug, 1.83 m  |
| PWC-C13EU-3B-183 | Power cord with Continental Europe (EU) plug, 1.83 m |
| PWC-C13JP-3B-183 | Power cord with Japan (JP) plug, 7A/125V, 1.83 m     |
| PWC-C13UK-3B-183 | Power cord with United Kingdom (UK) plug, 1.83 m     |
| PWC-C13US-3B-183 | Power cord with United States (US) plug, 1.83 m      |

### Rack-Mounting Kits

|          |  |
|----------|--|
| WK-45-01 | Rack-mounting kit, 2 L-shaped plates, 8 screws, 45 x 57 x 2.5 mm |
|----------|--|

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