

# 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

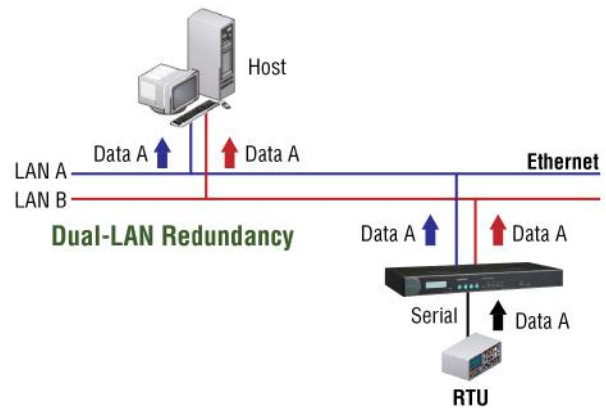


## Introduction

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.

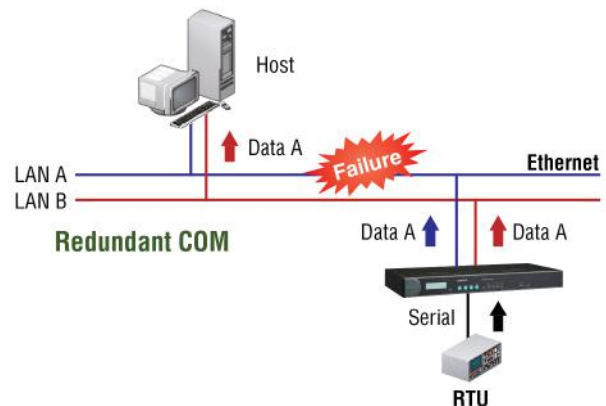
## Dual-LAN Redundancy

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.



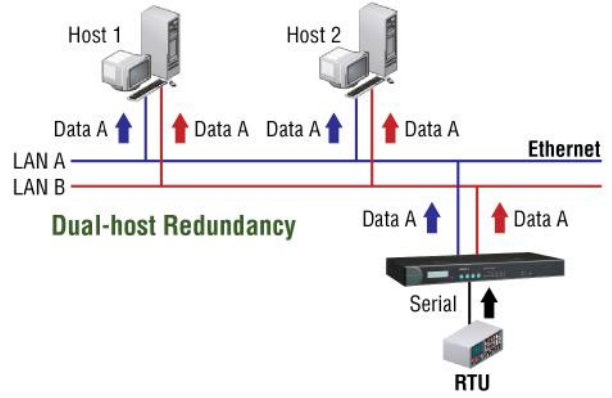
## Redundant COM

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.



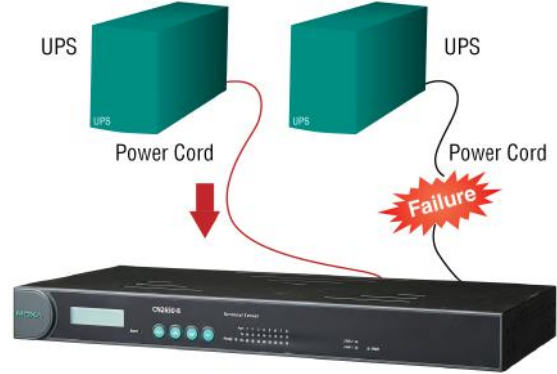
## Dual-host Redundancy

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.

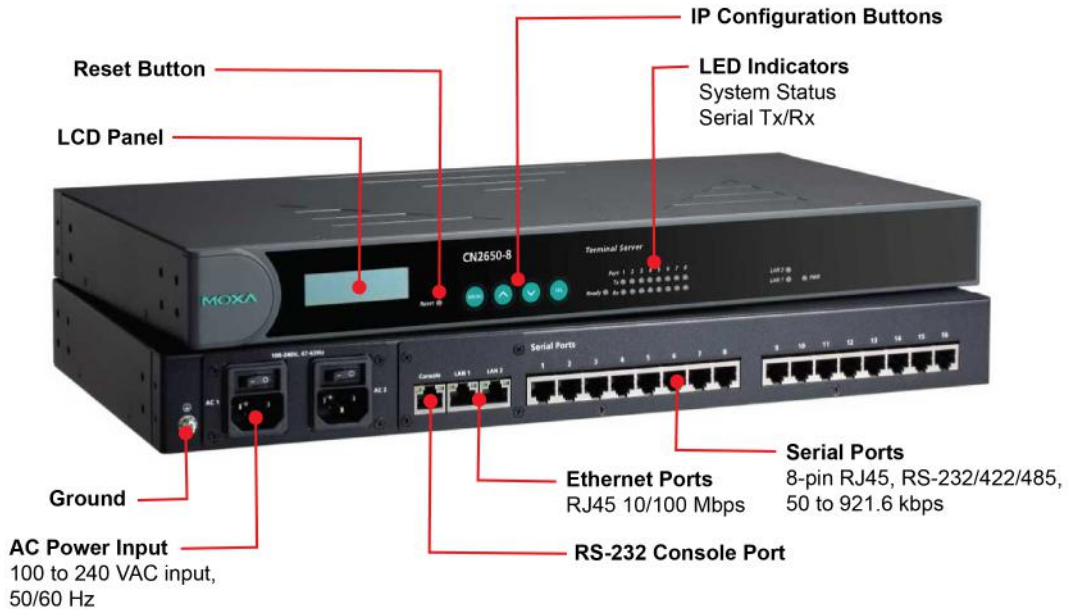


## Dual-AC Model Supported

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) 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) RADIUS
Encryption	HTTPS, AES-128, AES-256, HMAC, RSA-1024, SHA-1
Security Protocols	SNMPv3 SSHv2

## Serial Interface

Connector	CN2610/CN2650 models: 8-pin RJ45 CN2650I models: DB9 male
No. of Ports	CN2600-8 models: 8 CN2600-16 models: 16
Serial Standards	CN2610 models: RS-232 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 All other models: 1
Input Current	-HV models: 200 mA @ 88 VDC All other models: 130 mA @ 110 VAC
Input Voltage	-HV models: 110 VDC (88 to 300 VDC) 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) CN2610-16/CN2650-16: 2,460 g (5.42 lb) CN2610-8-2AC/CN2650-8-2AC/CN2650-8-2AC-T: 2,560 g (5.64 lb) CN2610-16-2AC/CN2650-16-2AC/CN2650-16-2AC-T: 2,640 g (5.82 lb) CN2650I-8: 3,907 g (8.61 lb) CN2650I-16: 4,046 g (8.92 lb) CN2650I-8-2AC: 4,284 g (9.44 lb) CN2650I-16-2AC: 4,423 g (9.75 lb) CN2650I-8-HV-T: 3,848 g (8.48 lb) 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) CN2650-8-2AC-T/CN2650-16-2AC-T: -40 to 75°C (-40 to 167°F) 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) CN2650-8-2AC-T/CN2650-16-2AC-T: -40 to 75°C (-40 to 167°F) 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 All other models: EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A

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

#### Declaration

Green Product	RoHS, CRoHS, WEEE
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#### MTBF

Time	<p>CN2610-8: 831,925 hrs CN2610-16: 639,332 hrs CN2610-8-2AC/CN2650-8-2AC: 773,268 hrs CN2610-16-2AC: 604,346 hrs CN2650-8: 657,123 hrs CN2650-16: 457,175 hrs CN2650-16-2AC: 442,699 hrs CN2650I-8: 374,652 hrs CN2650I-8-2AC: 370,752 hrs CN2650-8-2AC-T: 190,562 hrs CN2650I-16: 248,847 hrs CN2650I-16-2AC: 247,119 hrs CN2650-16-2AC-T: 115,887 hrs CN2650I-8-HV-T: 357,995 hrs 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>

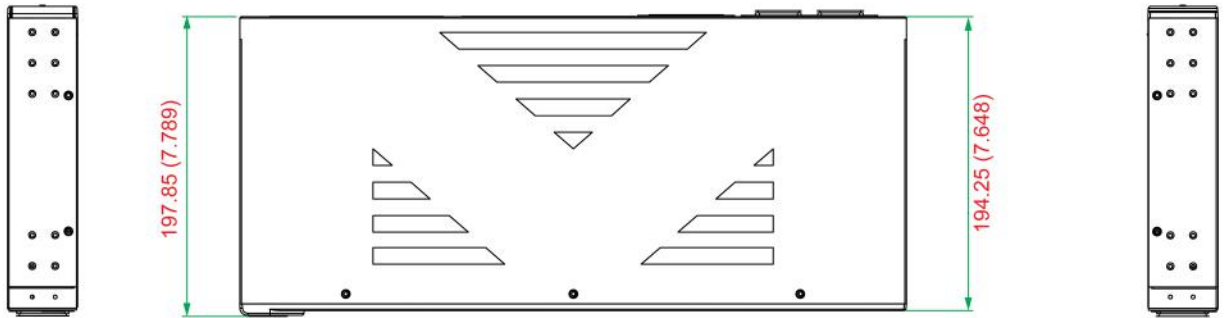
#### Package Contents

Device	1 x CN2600 Series terminal server
Installation Kit	1 x rack-mounting kit
Cable	<p>1 x RJ45-to-DB9 console cable 1 x power cord, suitable for your region (CN2610/CN2650 models) 2 x power cords, suitable for your region (CN2600-2AC models)</p>
Documentation	<p>1 x quick installation guide 1 x warranty card</p>

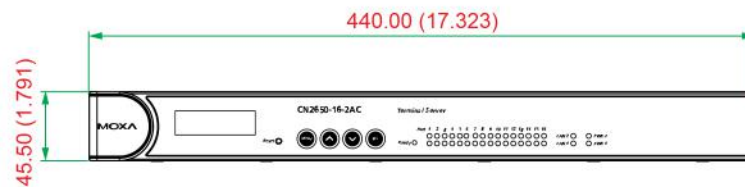
## Dimensions

Unit: mm (inch)

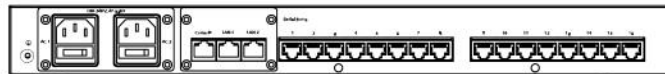
Top and Side Views



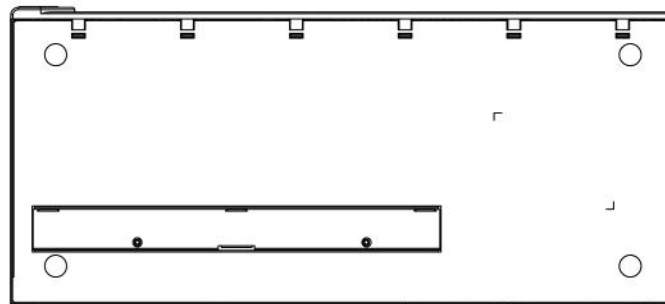
Front View



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
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### 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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