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
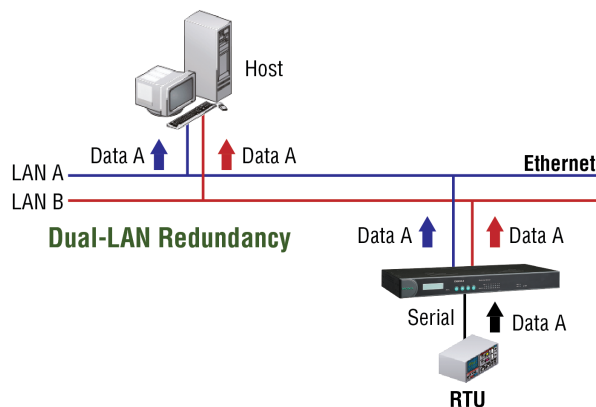
Certifications

CE FC

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.
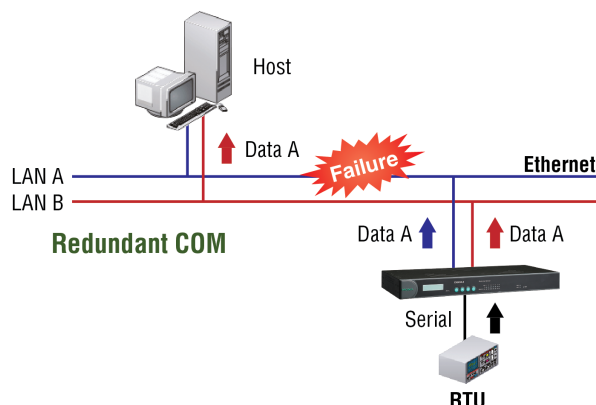
Dual-LAN Redundancy

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.
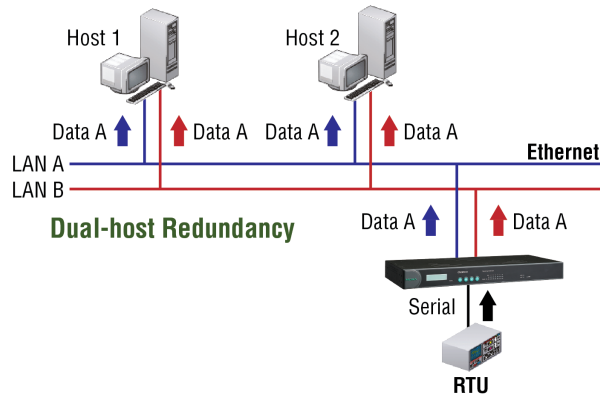

Redundant COM

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.
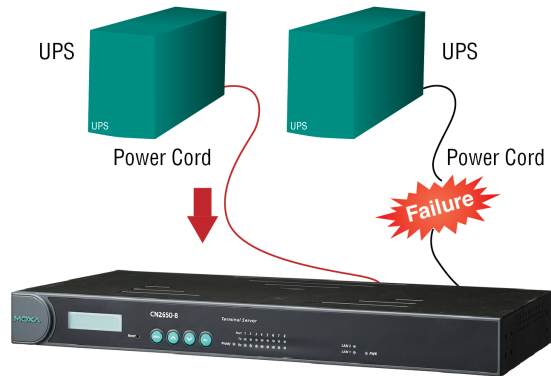
Dual-host Redundancy

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.
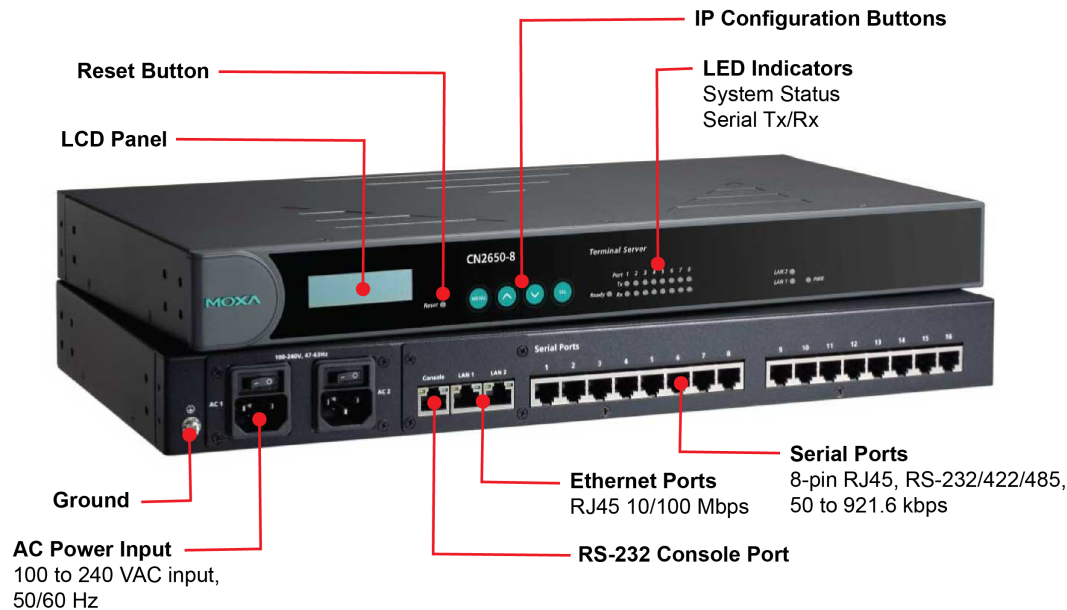

Dual-AC Model Supported

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

- **IP Configuration Buttons**
- **LED Indicators** — System Status, Serial Tx/Rx
- **Reset Button**
- **LCD Panel**
- **Serial Ports** — 8-pin RJ45, RS-232/422/485, 50 to 921.6 kbps
- **Ethernet Ports** — RJ45 10/100 Mbps
- **Ground**
- **RS-232 Console Port**
- **AC Power Input** — 100 to 240 VAC input, 50/60 Hz

Specifications

Ethernet Interface

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

MOXA
Reliable Networks ▲ Sincere Service

Ethernet Software Features

Configuration Options	CN2610-8/CN2610-16 models: 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 11, 10, 8.1, 8, 7, Vista, XP, ME, 98 and 95 Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2, 2008, 2003, 2000 and NT Windows Embedded CE 5.0 and 6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 6.x, 5.x, 4.x, 3.x, 2.6.x and 2.4.x
Fixed TTY Drivers	macOS versions: 14, 13, 12, 11 and 10.1x SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Virtual Machine	VMWare ESXi (Windows 11 / 10) VMware Fusion (Windows on macOS 14, 13, 12, 11 and 10.1x) Parallels Desktop (Windows on macOS 14, 13, 12, 11 and 10.1x)
Arm®-based Platform Support	Windows 11 Linux Kernel 6.x, 5.x and 4.x macOS 14, 13, 12 and 11
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 Note: Each serial port has 2-kV Isolation. So, if one of them is disabled because of a surge, other ports are not affected ensuring that the device works without any drops.
RS-485 Data Direction Control	Automatic Data Direction Control (ADDC)
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)

Serial Signals

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

Power Parameters

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

Reliability

Automatic Reboot Trigger	Built-in WDT
Alert Tools	Built-in buzzer and RTC (real-time clock)

Physical Characteristics

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)

Environmental Limits

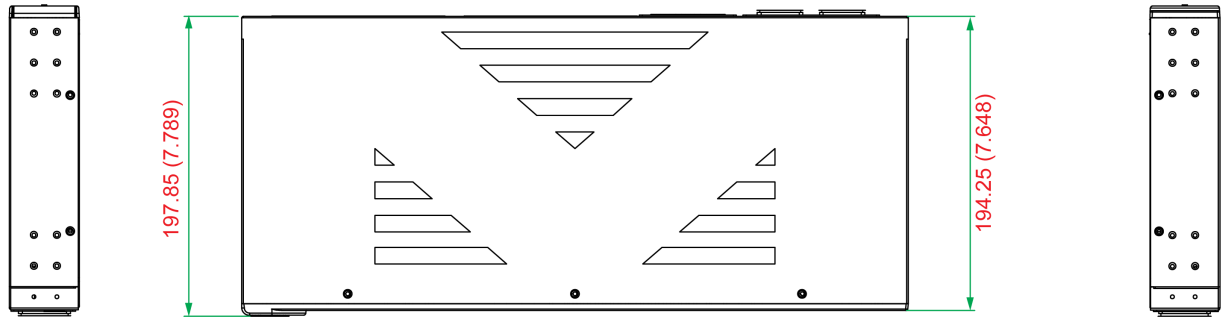|	
Operating Temperature	Standard models: 0 to 55°C (32 to 131°F) CN2650-8-2AC-T/CN2650-16-2AC-T models: -40 to 75°C (-40 to 167°F) CN2650I-8-HV-T/CN2650I-16-HV-T models: -40 to 85°C (-40 to 185°F)
Storage Temperature (package included)	Standard Models: 0 to 55°C (32 to 131°F) CN2650-8-2AC-T/CN2650-16-2AC-T models: -40 to 75°C (-40 to 167°F) CN2650I-8-HV-T/CN2650I-16-HV-T models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	CN2650I models: EN 55032/35 All other models: EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	-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 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
International Approval	CN2650-16-2AC models: KC
Safety	CN2650I models: UL 62368-1 All other models: UL 60950-1
Vibration	IEC 60068-2-6
Freefall	IEC 60068-2-32

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	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
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

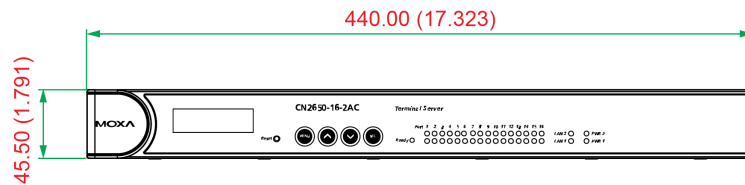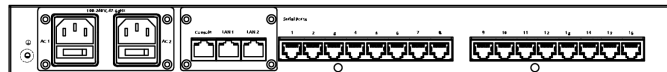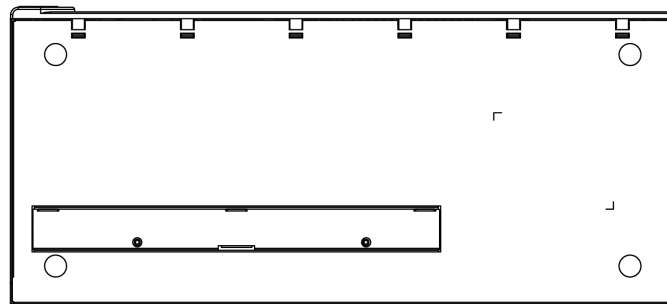|	
Device	1 x CN2600 Series terminal server
Installation Kit	1 x rack-mounting kit
Cable	1 x RJ45-to-DB9 console cable 1 x power cord, suitable for your region (CN2610/CN2650 models) 2 x power cords, suitable for your region (CN2600-2AC models)
Documentation	1 x quick installation guide 1 x warranty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

Dimensions

Unit: mm (inch)

Top and Side Views

197.85 (7.789)
194.25 (7.648)

Front View

440.00 (17.323)
45.50 (1.791)

CN2650-16-2AC   Terminal Server

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
CBL-RJ458P-Cisco-BK-180	8-pin RJ45 to 8-pin RJ45 serial cable, 1.8 m, for Cisco console port

Connectors

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

Power Cords

PWC-C13AU-3B-183	Power cord with AU plug, 1.83 m
PWC-C13CN-3B-183	Power cord with three-prong CN plug, 1.83 m
PWC-C13EU-3B-183	Power cord with EU/KR plug, 1.83 m
PWC-C13JP-3B-183	Power cord with JP plug plug, 7A/125V, 1.83 m
PWC-C13UK-3B-183	Power cord with UK plug, 1.83 m
PWC-C13US-3B-183	Power cord with 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