

V3200 系列

搭載第 11 代 Intel® Core™ 高效能處理器，配備電源隔離、多無線擴展插槽、2 個 SSD 插槽，可供鐵路應用。



特色與優點

- 搭載 Intel® Celeron®/Intel® Core™ i3/i5/i7 的嵌入式電腦，可供車載應用
- 多種介面：多達 8 GbE、2 個串列埠、2 個 USB 連接埠、2 個 DI、2 個 DO 和 2 個用於無線 (5G) 的 M.2 B key 插槽、1 個用於無線 (Wi-Fi 5 或 4G) 的 mPCIe 插槽、1 個用於無線 (Wi-Fi 6) 的 M.2 E key
- 支援雙獨立顯示器 (VGA 和 HDMI，具有 4K 解析度)
- 原有時間敏感網路 (Time-Sensitive Networking, TSN) 支援 (適用搭載 i7-1185GRE 處理器的型號)
- 板載信賴平台模組 (Trusted Platform Module, TPM) 型號可增強網路安全
- 符合所有 EN 50155 規範強制性測試項目¹
- 符合 EN 50121-4 標準
- 通過 IEC 61373 防撞和抗震認證

認證



簡介

V3200 系列嵌入式電腦搭載 Intel® Core™ i7/i5/i3 或 Intel® Celeron® 高效能處理器，並配備高達 64 GB 記憶體、一個 M.2 2280 M key 插槽，以及兩個 2.5 吋 SSD 插槽以供儲存空間擴充。本電腦符合 EN 50155:2017 與 EN 50121-4 標準，涵蓋操作溫度、電源輸入電壓、突波、ESD 以及震動，使其適合軌道車載以及軌旁應用。

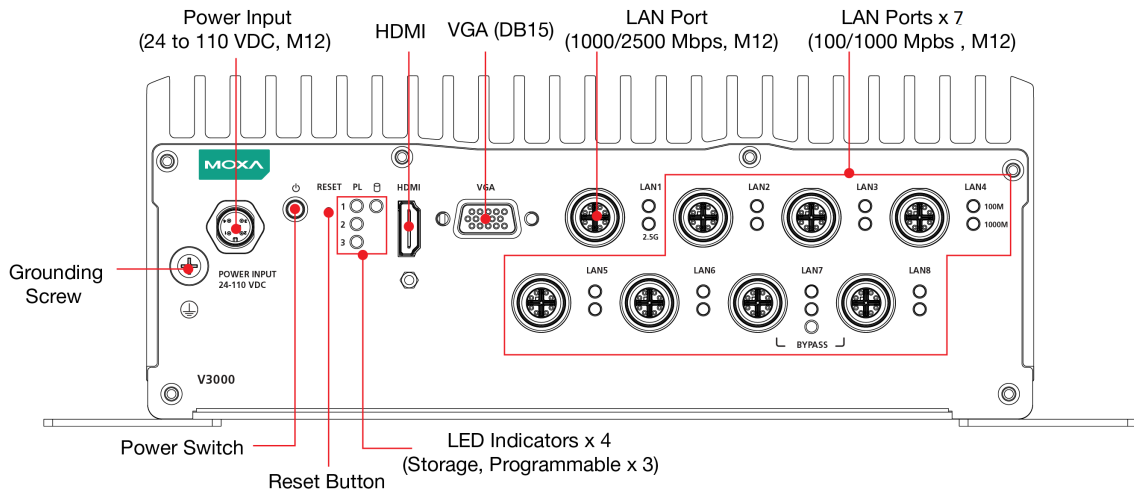
為連接車載以及軌旁系統與裝置，V3200 電腦配備各種豐富介面，包括確保資料傳輸不間斷的 4 個附一對 LAN bypass 功能的 Gigabit 乙太網路連接埠 (預設；最多可擴充至 8 個連接埠)、2 個 RS-232/422/485 串列埠、2 個 DI、2 個 DO 和 2 個 USB 3.0 連接埠。內建 TPM 2.0 型號可確保平台完整性並提供基於硬體的安全以及防篡改的保護。

車輛應用需要確實可靠的連接。同時要求設備配置有清晰的顯示器以識別軟體的狀態。V3200 電腦配備兩個 5G/一個 LTE 和 6 個 SIM 卡插槽，可協助建立冗餘 LTE/Wi-Fi 連接，以及三個可監控軟體運行狀態的可編程 LED。

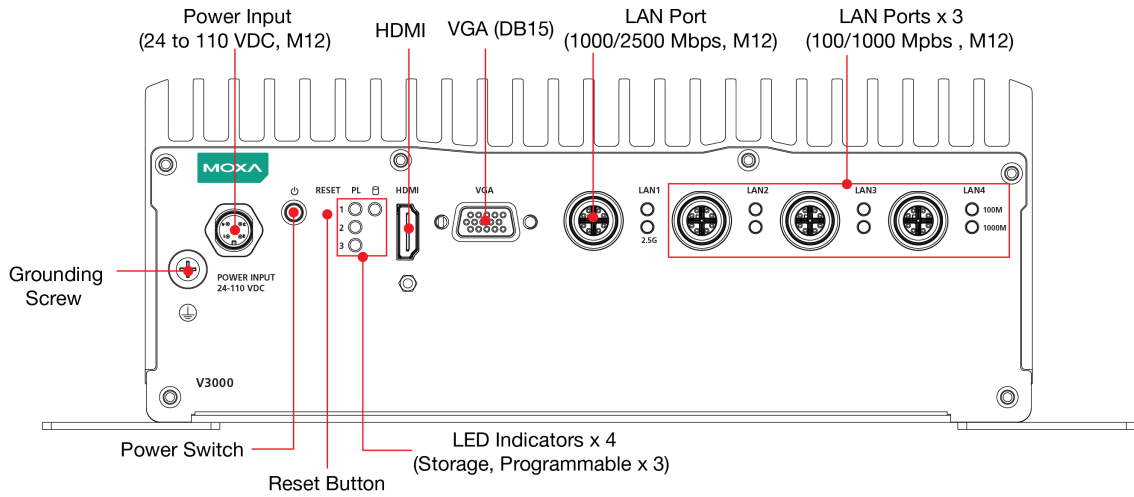
1. 此產品適用於符合 EN 50155 標準所定義的所有軌道車輛應用。按此處取得更詳細內容：www.moxa.com/doc/specs/EN_50155_Compliance.pdf

外觀

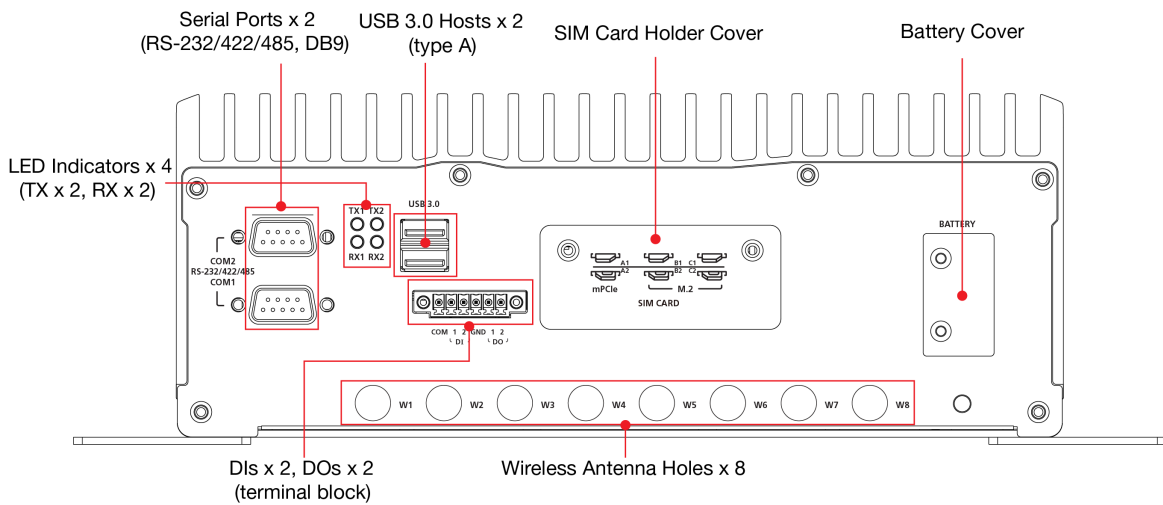
Front View 8P Models



Front View 4P Models



Rear View



規格

Computer

CPU	V3210-TL1-4L-T/8L-T/4L-CT-T/8L-CT-T: Intel® Celeron® 6305E processor (2C/2T, 4M cache, 1.8 GHz) V3210-TL3-4L-T/8L-T/4L-CT-T/8L-CT-T: Intel® Core™ i3-1115G4E processor (2C/4T, 6M cache, 2.2 GHz) V3210-TL5-4L-T/8L-T/4L-CT-T/8L-CT-T: Intel® Core™ i5-1145G7E processor (4C/8T, 8M cache, 1.5 GHz) V3210-TL7-4L-T/8L-T/4L-CT-T/8L-CT-T: Intel® Core™ i7-1185G7E processor (4C/8T, 12M cache, 1.8 GHz) V3210-TL7-4L-TSN-CT-T/8L-TSN-CT-T: Intel® Core™ i7-1185GRE processor (4C/8T, 12M cache, 1.8 GHz)
System Memory Slot	SODIMM DDR4 slots x 2 (64 GB max)
System Memory Pre-installed	16 GB DDR4
Storage Slot	2.5-inch SSD slots x 2 M.2 M key 2280 slot x 1 (NVMe; 128 GB preinstalled)
Supported OS	Windows 10 Embedded IoT Ent 2021 LTSC 64-bit Linux Debian 11/Ubuntu 20.04/CentOS 7.9 (driver)
Graphics Controller	Intel® Celeron®/Core™ i3 Models: Intel® UHD Graphics Intel® Core™ i5/i7 Models: Intel® Iris® Xe Graphics

Computer Interface

Ethernet Ports	Default: 4 ports (2.5 GbE x 1 and GbE x 3), can go up to 8 ports Auto-sensing 1000/2500 Mbps x 1 Auto-sensing 10/100/1000 Mbps x up to 7 LAN1: Intel® Ethernet Network Adapter I225 with Intel® AMT support
Serial Ports	RS-232/422/485 ports x 2, software selectable (DB9 male)
Digital Input	DIs x 2
Digital Output	DOs x 2
USB 3.0	USB 3.0 hosts x 2, type-A connectors
Video Output	VGA x 1, 15-pin D-sub connector (female) HDMI x 1, HDMI connector (type A)
Wi-Fi Antenna Connector	QMA x 8 (optional with accessory kit)
Expansion Slots	M.2 B key 3052/3050 slots x 2 (for 5G; 4 Micro SIMs) M.2 E key slots x 1 (for Wi-Fi 6) mPCIe slots x 1 (for cellular with 2 Micro SIMs, Wi-Fi 5, or I/O expansion)
SIM Format	Micro
Number of SIMs	6
TPM	TPM v2.0

Digital Inputs

Connector	Screw-fastened Euroblock terminal
Isolation	3k VDC
Sensor Type	Dry contact Wet contact (NPN)

Dry Contact	Logic 0: Close to GND Logic 1: Open
Wet Contact (COM to DI)	Logic 0: 10 to 30 VDC Logic 1: 0 to 3 VDC

Digital Outputs

Connector	Screw-fastened Euroblock terminal
Current Rating	200 mA per channel
I/O Type	Sink
Voltage	0 to 30 VDC
Isolation	3k VDC

LED Indicators

System	Power x 1 Storage x 1
LAN	2 per port (LAN1: 1000/2500 Mbps, LAN2 to LAN8: 100/1000 Mbps) 1 per LAN bypass pair (LAN7 - LAN8)
Serial	2 per port (Tx, Rx)
User Programmable	3

Serial Interface

Baudrate	50 bps to 115.2 kbps
Connector	DB9 male
ESD	Contact: 6 kV; Air: 8 kV (level 3)
Isolation	2 kV
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, XON/XOFF Automatic Data Direction Control (ADDC) for RS-485 RTS Toggle (RS-232 only)

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Power Parameters

Input Voltage	24 to 110 VDC
Power Connector	M12 A-coded male connector
Power Consumption	100 W (max.)

Physical Characteristics

Housing	Aluminum
Dimensions (without ears)	249 x 88.9 x 180 mm (9.80 x 3.50 x 7.09 in)
Weight	Product Only: 3.86 kg (8.51 lb) Product With Package: 5.10 kg (11.24 lb)
IP Rating	IP30
Installation	Wall mounting
Protection	PCB conformal coating Available on request

Environmental Limits

Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Safety	EN 62368-1 IEC 62368-1 UL 62368-1
Railway Fire Protection	EN 45545-2:2020
Railway	EN 50121-4 EN 50121-3-2 EN 50155:2017
Shock	IEC 60068-2-27, IEC 61373
Vibration	IEC 60068-2-64, IEC 61373

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	4L Models: 382,624 hrs 8L Models: 305,836 hrs
Standards	Telcordia (Bellcore), GB

Warranty

Warranty Period	3 years
Details	See www.moxa.com/tw/warranty

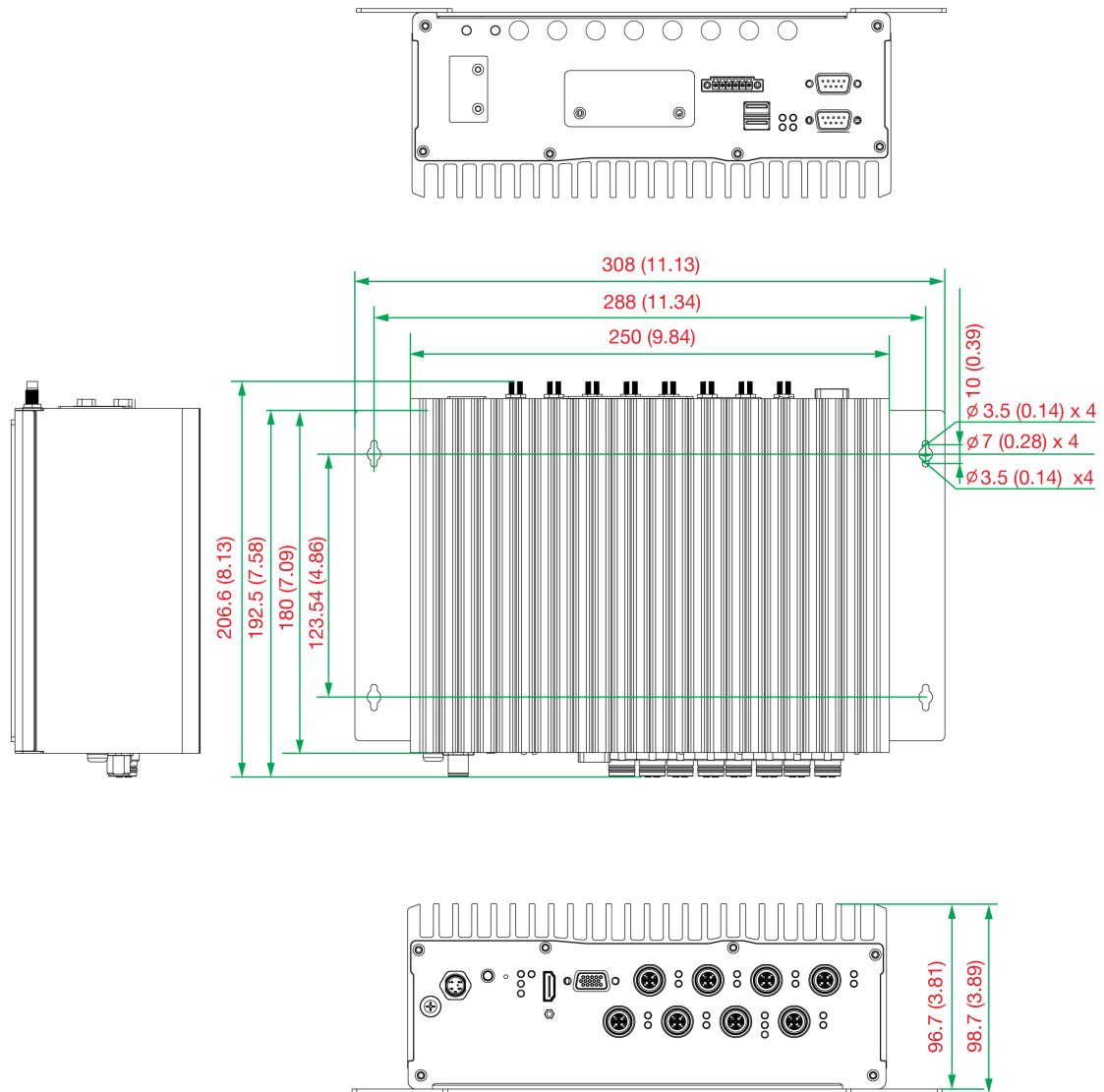
Package Contents

Device	1 x V3200 Series computer
Installation Kit	4 x SSD/HDD brackets 1 x wall-mounting kit
Documentation	1 x quick installation guide 1 x warranty card

尺寸

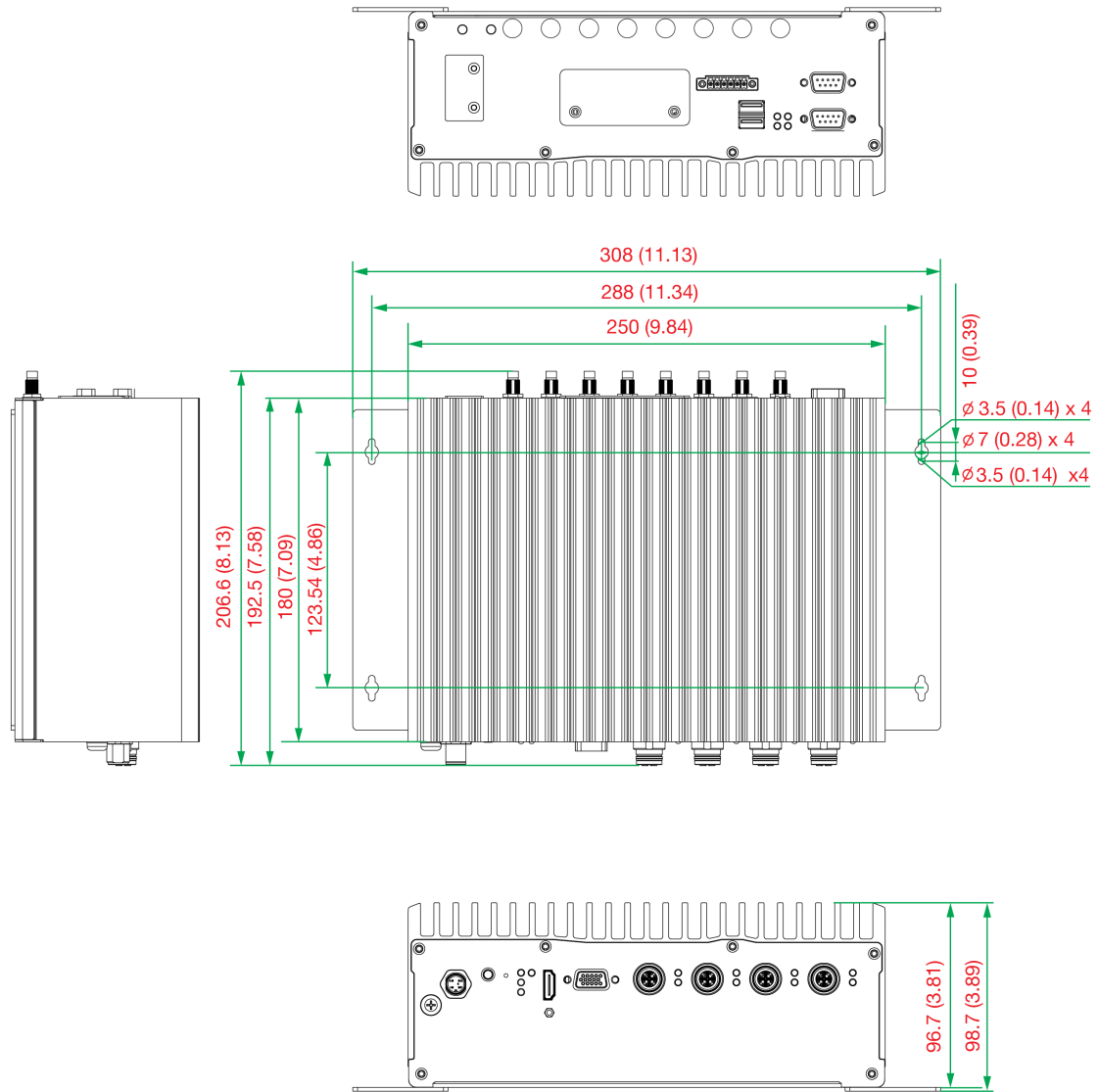
8P 型號

單位：公釐 (英吋)



4P 型號

單位：公釐 (英吋)



訂購資訊

Model Name	CPU	Memory	OS Storage (M.2 M Key)	2.5" SSD Slots (2)	GbE Ports	TPM 2.0	Native TSN Enhancement	Power Input	Operating Temp.	Conformal Coating
V3210-TL1-4L-T	Celeron 6305E	16 GB	128 GB	Optional	4	P	-	24-110 VDC	-40 to 70°C	-
V3210-TL3-4L-T	i3-1115G4E	16 GB	128 GB	Optional	4	P	-	24-110 VDC	-40 to 70°C	-
V3210-TL3-4L-CT-T	i3-1115G4E	16 GB	128 GB	Optional	4	P	-	24-110 VDC	-40 to 70°C	P
V3210-TL7-4L-T	i7-1185G7E	16 GB	128 GB	Optional	4	P	-	24-110 VDC	-40 to 70°C	-
V3210-TL1-8L-CT-T	Celeron 6305E	16 GB	128 GB	Optional	8	P	-	24-110 VDC	-40 to 70°C	P
V3210-TL5-8L-CT-T	i5-1145G7E	16 GB	128 GB	Optional	8	P	-	24-110 VDC	-40 to 85°C	P

Model Name	CPU	Memory	OS Storage (M.2 M Key)	2.5" SSD Slots (2)	GbE Ports	TPM 2.0	Native TSN Enhancement	Power Input	Operating Temp.	Conformal Coating
V3210-TL7-8L-CT-T	i7-1185G7E	16 GB	128 GB	Optional	8	P	-	24-110 VDC	-40 to 70°C	P
V3210-TL7-8L-TSN-CT-T	i7-1185GRE	16 GB	128 GB	Optional	8	P	P	24-110 VDC	-40 to 70°C	P

配件 (選購)

Cables

CBL-M12(FF5P)/OPEN-100 IP67

A-coded M12-to-5-pin power cable, IP67-rated 5-pin female M12 connector, 1 m

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