

V3400 系列

搭載第 11 代 Intel® Core™ 處理器的鐵路無風扇 x86 電腦，支援 5G 與 Wi-Fi 6，配備 2 個可鎖的熱插拔 HDD/SSD 插槽，並可在 -40 至 70°C 的溫度範圍內運行 (符合 EN 50155 OT4)。



特色與優點

- 內嵌 Intel® Core™ i3/i7 電腦，適用於車內應用
- 多個無線連線選項：最多兩個 5G、一個 4G、一個 Wi-Fi 6 及一個 Wi-Fi 5
- 最多 8 個乙太網路連接埠，適合內建安全閘道應用
- 兩個可熱插拔 HDD/SSD 插槽，配備鎖具，可提供增強的安全性
- 內建 TPM 模組，提供增強的網路安全性
- 低電壓監控支援 RTC 電池
- 絕緣 24 至 110 VDC 電源輸入，符合軌道應用的多樣化電源需求
- 符合 EN 50155 OT4 操作溫度 (啟用行動通訊與 Wi-Fi 模組的情況下為 -40 至 70°C)
- 符合所有 EN 50155 規範強制性測試項目¹
- 符合 EN 50121-4 標準
- 符合 IEC 61373 防撞和抗震要求

認證



EN 50121-4



EN 50155



簡介

V3400 系列嵌入式電腦搭載 Intel® Core™ i7/i3 高效能處理器，並且配備高達 64 GB 記憶體、一個 M.2 2280 M key 插槽，以及兩個可熱插拔的 HDD/SSD (含鎖具) 以供儲存空間擴充。本電腦符合 EN 50155 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。

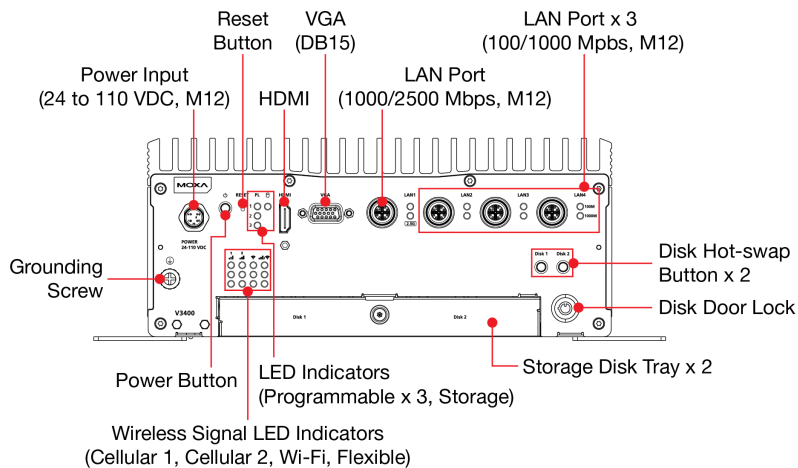
為連接車載以及軌旁系統與裝置，V3400 電腦配備有各種豐富介面，包括 4 至 8 個 Gigabit 乙太網路埠，其中 V3408 機型具備一組 LAN bypass 功能以確保資料傳輸不中斷、2 個 RS-232/422/485 串列埠、2 個 DI、2 個 DO 以及 2 個 USB 3.0 連接埠。內建 TPM 2.0 模組可確保平台完整性並提供硬體級安全防護。

V3400 電腦支援多種無線配置，例如 M.2 插槽中的兩個 5G 模組、mPCIe 插槽中的一個 LTE 或 Wi-Fi 5，以及 M.2 插槽中的一個 Wi-Fi 6。六個 SIM 卡插槽可協助建立備援 5G/LTE/Wi-Fi 連線。最佳化機構與散熱設計可讓 V3400 符合 EN 50155 OT4 (-40 至 70°C) 要求，即使安裝了兩個 5G 模組與一個 Wi-Fi 6 模組，也適合高要求車載運輸環境中的實際應用。

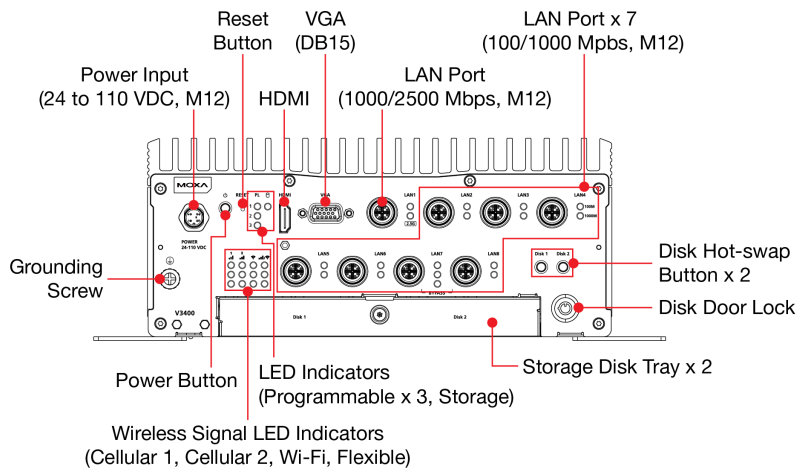
1. 此產品適用於符合 EN 50155 標準所定義的所有軌道車輛應用。按此處取得更詳細內容：www.moxa.com/doc/specs/EN_50155_Compliance.pdf

外觀

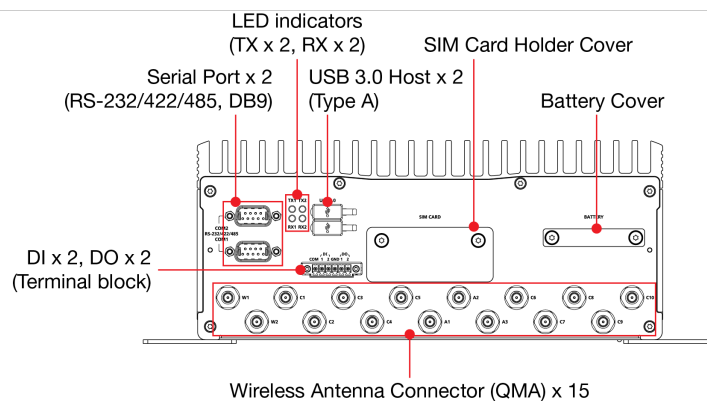
前視圖 V3404-TL 型號



前視圖 V3408-TL 型號



後視圖



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) Intel® Core™ i7-1185G7E processor (4C/8T, 12M cache, 1.8 GHz) Intel® Celeron® 6305E processor (2C/2T, 4M cache, 1.8 GHz) Intel® Celeron® 6305E processor (2C/2T, 4M cache, 1.8 GHz) Intel® Core™ i3-1115G4E processor (2C/4T, 6M cache, 2.2 GHz) Intel® Core™ i3-1115G4E processor (2C/4T, 6M cache, 2.2 GHz) Intel® Core™ i5-1145G7E processor (4C/8T, 8M cache, 1.5 GHz) Intel® Celeron® 6305E processor (2C/2T, 4M cache, 1.8 GHz) Intel® Core™ i5-1145G7E processor (4C/8T, 8M cache, 1.5 GHz) Intel® Core™ i5-1145G7E processor (4C/8T, 8M cache, 1.5 GHz) Intel® Core™ i7-1185G7E processor (4C/8T, 12M cache, 1.8 GHz) Intel® Core™ i3-1115G4E processor (2C/4T, 6M cache, 2.2 GHz) Intel® Core™ i3-1115G4E processor (2C/4T, 6M cache, 2.2 GHz) Intel® Celeron® 6305E processor (2C/2T, 4M cache, 1.8 GHz) Intel® Core™ i7-1185G7E processor (4C/8T, 12M cache, 1.8 GHz) Intel® Core™ i7-1185GRE processor (4C/8T, 12M cache, 1.8 GHz) Intel® Core™ i5-1145G7E processor (4C/8T, 8M cache, 1.5 GHz) Intel® Core™ i7-1185G7E processor (4C/8T, 12M cache, 1.8 GHz) 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 IoT Enterprise LTSC 2021 LTSC 64-bit Moxa Industrial Linux 3 (Debian 11, kernel 5.10), 2031 EOL Linux drivers supported: Debian 12 Ubuntu 22.04 LTS (HWE)
Graphics Controller	Intel® Celeron®/Core™ i3 Models: Intel® UHD Graphics Intel® Core™ i5/i7 Models: Intel® Iris® Xe Graphics Intel® Iris® Xe Graphics Intel® Iris® Xe Graphics Intel® UHD Graphics Intel® UHD Graphics Intel® Iris® Xe Graphics Intel® Iris® Xe Graphics Intel® Iris® Xe Graphics Intel® Iris® Xe Graphics Intel® UHD Graphics Intel® Iris® Xe Graphics Intel® UHD Graphics Intel® Iris® Xe Graphics Intel® UHD Graphics Intel® UHD Graphics Intel® Iris® Xe Graphics Intel® Iris® Xe Graphics Intel® UHD Graphics Intel® UHD 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 connector)
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 M.2 E key slots x 1 (for Wi-Fi 6) mPCIe slots x 1 (for LTE 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
IP Rating	IP30
Dimensions (without ears)	250 x 96.7 x 180 mm (9.84 x 3.80 x 7.09 in)
Weight	Product Only: 3.86 kg (8.51 lb) Product With Package: 5.10 kg (11.24 lb)
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 382,624 hrs 305,836 hrs 305,836 hrs 305,836 hrs 382,624 hrs 305,836 hrs 305,836 hrs 382,624 hrs 305,836 hrs 305,836 hrs 382,624 hrs 382,624 hrs 305,836 hrs 382,624 hrs 382,624 hrs 382,624 hrs
Standards	Telcordia (Bellcore), GB

Warranty

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

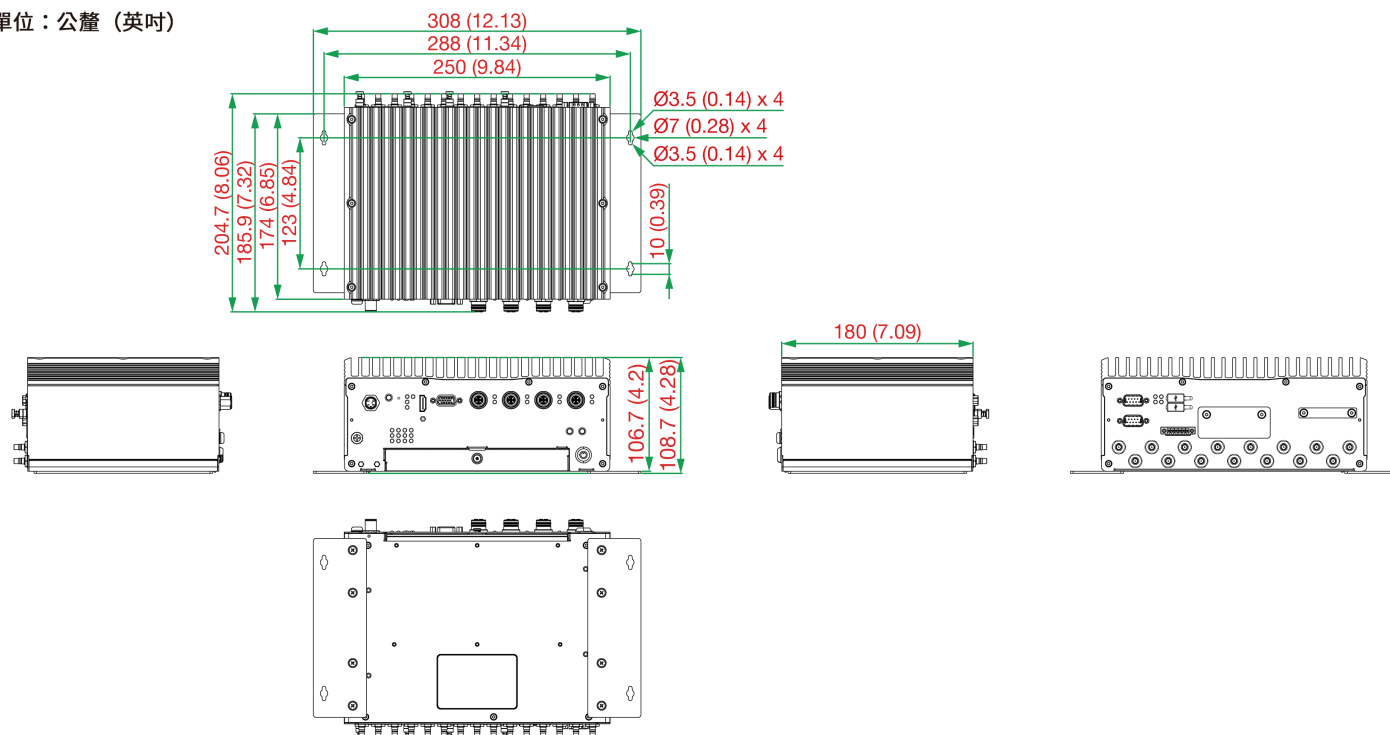
Package Contents

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

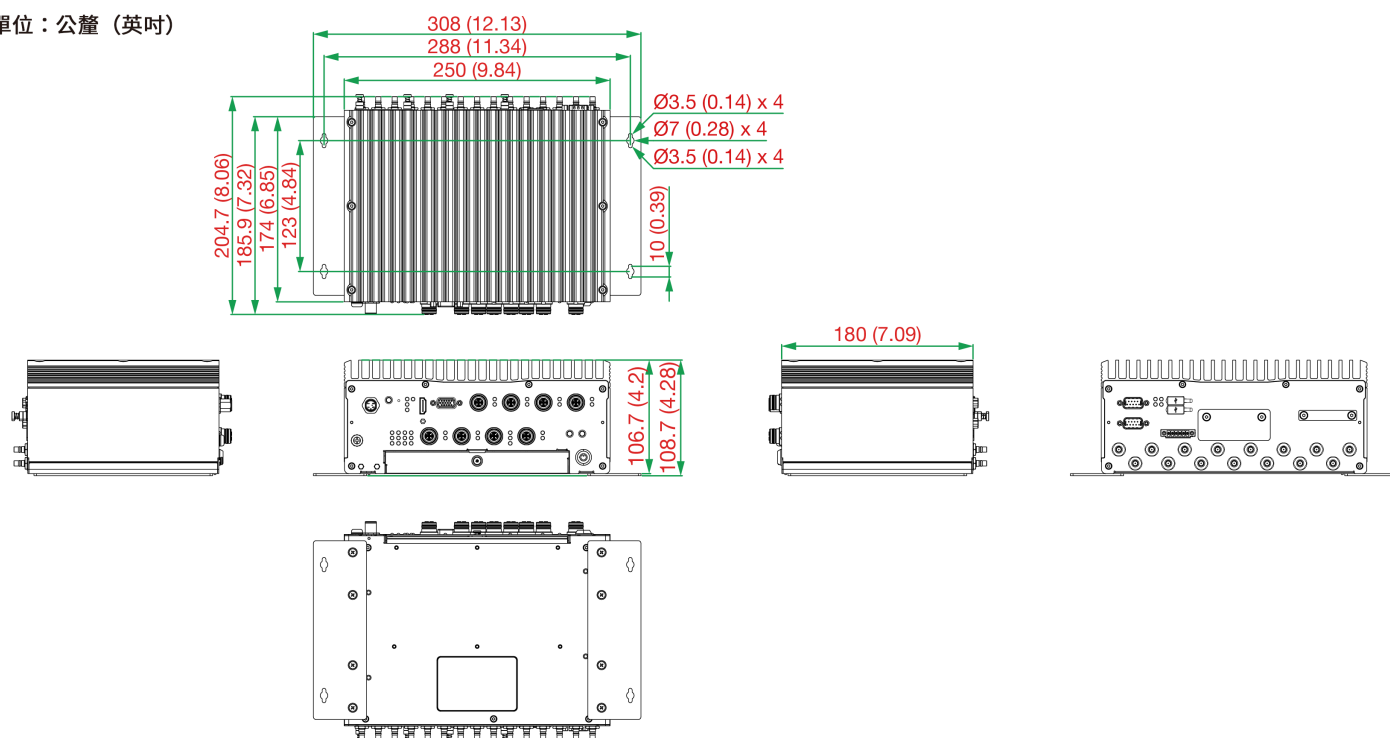
V3404-TL 型號

單位：公釐（英吋）



V3408-TL 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	5G (up to 2)	LTE	Wi-Fi 5	Wi-Fi 6 Module
V3404-TL3-W-CT-T	Intel® Core™ i3-1115G4E	16 GB	128 GB	Optional	4	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed
V3408-TL3-W-CT-T	Intel® Core™ i3-1115G4E	16 GB	128 GB	Optional	8	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed
V3404-TL7-W-CT-T	Intel® Core™ i7-1185G7E	16 GB	128 GB	Optional	4	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed
V3408-TL7-W-CT-T	Intel® Core™ i7-1185G7E	16 GB	128 GB	Optional	8	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed

Model Name	CPU	Memory	OS Storage (M.2 M Key)	2.5" SSD Slots (2)	GbE Ports	5G (up to 2)	LTE	Wi-Fi 5	Wi-Fi 6 Module
V3404-TL3-W-CT-T	Intel® Core™ i3-1115G4E	16 GB	128 GB	Optional	4	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed
V3408-TL3-W-CT-T	Intel® Core™ i3-1115G4E	16 GB	128 GB	Optional	8	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed
V3404-TL7-W-CT-T	Intel® Core™ i7-1185G7E	16 GB	128 GB	Optional	4	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed
V3408-TL7-W-CT-T	Intel® Core™ i7-1185G7E	16 GB	128 GB	Optional	8	1 preinstalled, 1 optional	Optional	Optional	Preinstall-ed

配件 (選購)

Wi-Fi Wireless Modules

V3400-LTECat4-GL	V3400-LTECat4-GL
V3400-5G-GL	V3400-5G-GL
V3400-WLAN22-AC	V3400-WLAN22-AC
V3400-WLAN22-AX	V3400-WLAN22-AX

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