

V2406C Series

Intel® 7th Gen Core™ CPU railway computer with power isolation, 2 mini PCIe expansion slots for wireless, and 2 hot-swappable HDD/SSD slots

Preliminary



Features and Benefits

- Intel® Celeron®/Intel® Core™ i3/i5/i7 high performance network video recorder for rolling stock applications
- Two hot-swappable 2.5-inch HDD or SSD storage expansion trays
- API library for easy deployment and storage volume notification
- 4K resolution HDMI display
- 2 Gigabit Ethernet ports with M12 X-coded connectors
- M12 A-coded power connector
- Complies with all EN 50155 mandatory test items¹
- Compliant with EN 50121-4
- IEC 61373 certified for shock and vibration resistance
- -40 to 70°C wide-temperature models available

Certifications



Introduction

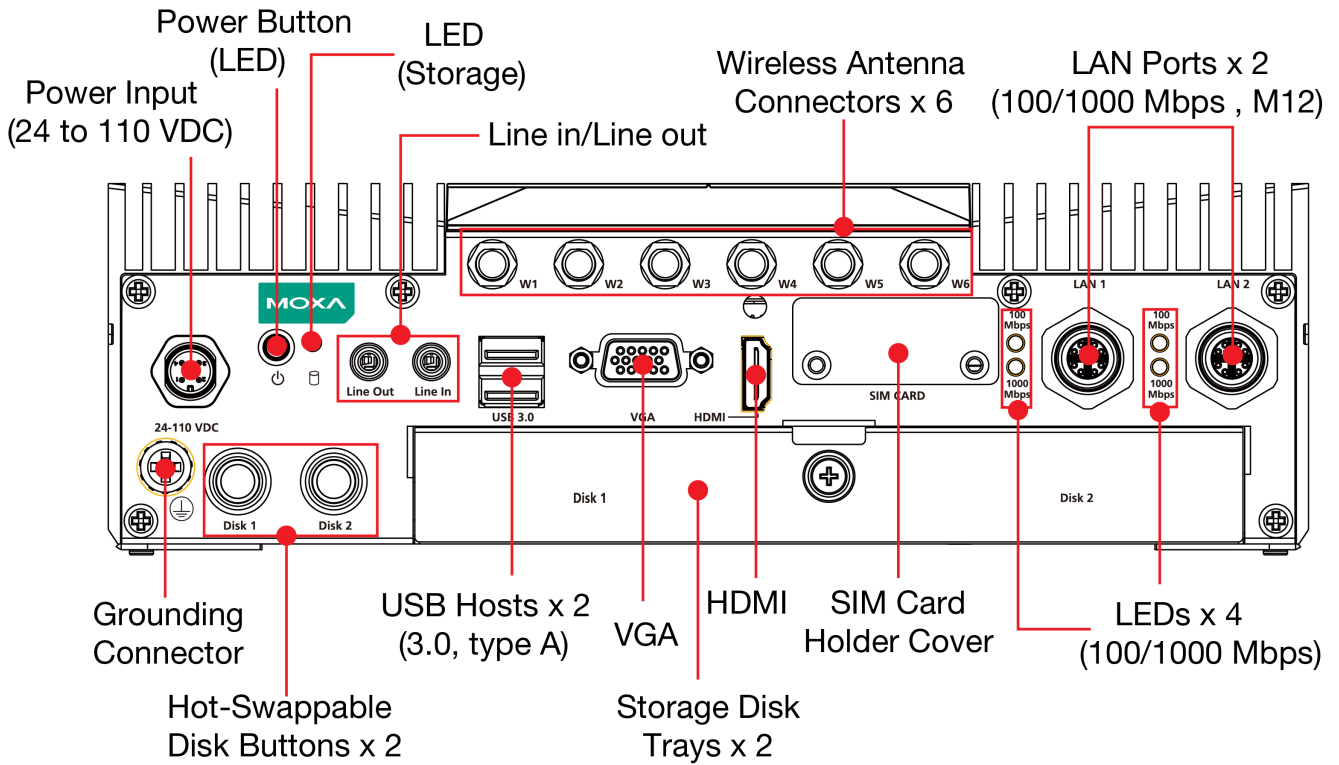
The V2406C Series embedded computers are based on the Intel® 7th generation processor and feature 4 RS-232/422/485 serial ports, dual LAN ports, and 4 USB 3.0 hosts. In addition, the V2406C computers provide 1 VGA output and 1 HDMI display with 4K resolution support. The computers comply with the EN 50155:2017 specifications, covering operating temperature, power input voltage, surge, ESD, and vibration, making them suitable for a variety of industrial applications.

The mSATA socket, SATA connectors, and USB sockets provide the V2406C computers with the reliability needed for industrial applications, which require data buffering and storage expansion. Most importantly, the V2406C computers come with 2 hot-swappable storage trays for inserting additional storage media, such as hard disk or solid-state drives, and support hot swapping for convenient, fast, and easy storage replacement. Each storage tray has its own LED to indicate whether or not a storage module is plugged in.

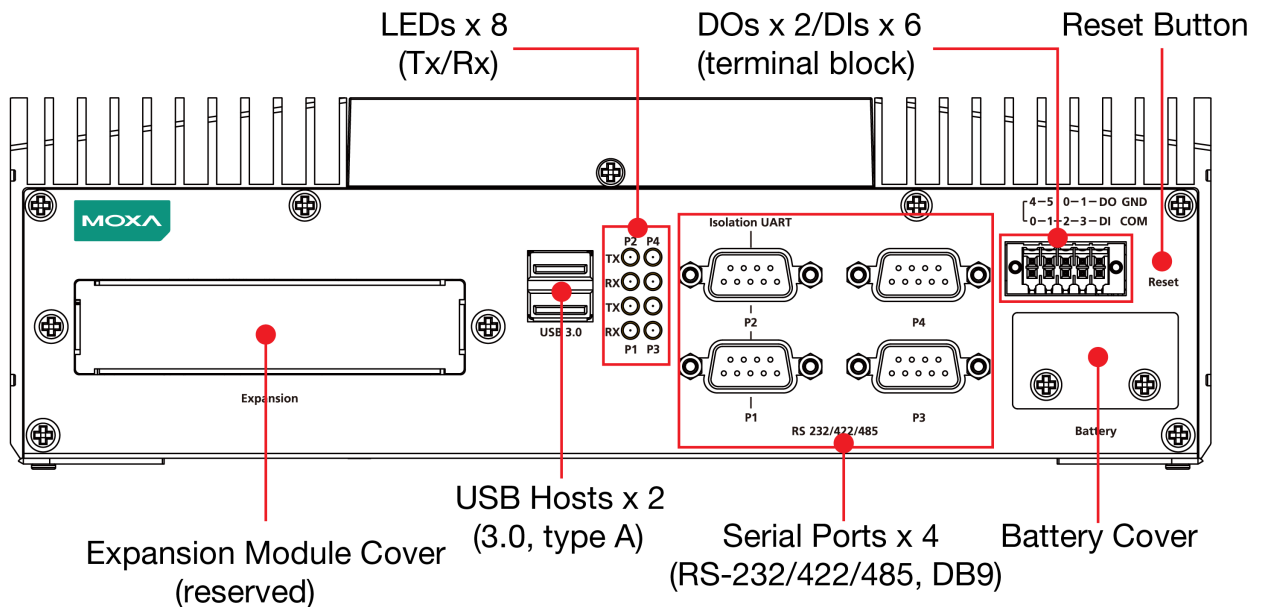
1. This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, click here: www.moxa.com/doc/specs/EN_50155_Compliance.pdf

Appearance

Front View



Rear View



Specifications

Computer

CPU	V2406C-KL1-T: Intel® Celeron® 3965U processor (2M Cache, 2.2 GHz) V2406C-KL3-T: Intel® Core™ i3-7100U processor (3M Cache, 2.4 GHz) V2406C-KL5-T: Intel® Core™ i5-7300U processor (3M Cache, 2.6 GHz) V2406C-KL7-T: Intel® Core™ i7-7600U processor (4M Cache, 2.8 GHz)
Storage Slot	2.5-inch HDD/SSD slots x 2 mSATA slots x 1, internal mini-PCIe socket

Supported OS	Linux Debian 9 Windows 10 Embedded IoT Ent 2019 LTSC 64-bit
System Memory Slot	SODIMM DDR4 slot x 2
DRAM	32 GB max
Graphics Controller	Intel® HD Graphics 620

Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (M12 X-coded) x 2
Digital Output	DOs x 2
Serial Ports	RS-232/422/485 ports x 4, software selectable (DB9 male)
Digital Input	DIs x 6
USB 3.0	USB 3.0 hosts x 4, type-A connectors
Audio Input/Output	Line in x 1, Line out x 1, 3.5 mm phone jack
Video Output	VGA x 1, 15-pin D-sub connector (female) HDMI x 1, HDMI connector (type A)

Digital Inputs

Connector	Screw-fastened Euroblock terminal
I/O Mode	DI
Isolation	3k VDC
Sensor Type	Wet contact (NPN or PNP) Dry contact
Dry Contact	Logic 0: Short to GND Logic "1": Open
Wet Contact (DI to COM)	Logic "1": 10 to 30 VDC Logic "0": 0 0 to 3 VDC

Digital Outputs

Connector	Screw-fastened Euroblock terminal 10-pin terminal block
Current Rating	200 mA per channel
I/O Type	Sink
Voltage	24 to 30 VDC
Isolation	3kVDC

LED Indicators

System	Power x 1 Storage x 1
LAN	2 per port (10/100/1000 Mbps)
Serial	2 per port (Tx, Rx)

Serial Interface

Baudrate	50 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Flow Control	RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485, RTS Toggle (RS-232 only)
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2

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

Physical Characteristics

Housing	Aluminum
Dimensions (without ears)	250 x 75 x 150 mm (9.84 x 2.95 x 5.91 in)
Weight	2,700 g (5.95 lb)
Installation	Wall mounting (standard)
Protection	PCB conformal coating V2406C PCB conformal coating: Available on request

Environmental Limits

Operating Temperature	-40 to 70°C (-40 to 158°F) Wide Temp. Models: -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)

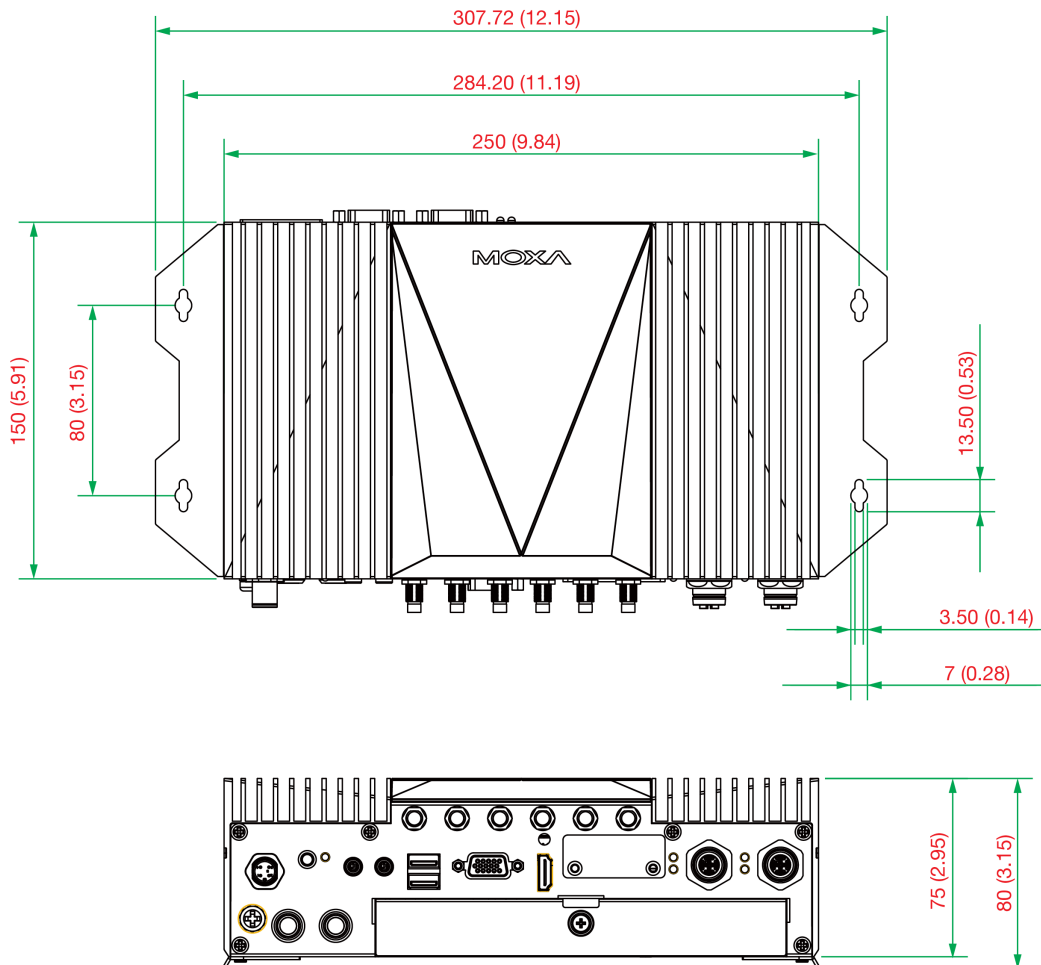
Standards and Certifications

EMC	EN 55032/24
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 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF IEC 61000-4-5 Surge: Power: 2 kV
Railway	EN 50121-4, IEC 60571
Railway Fire Protection	EN 45545-2
Safety	EN 60950-1

Shock	IEC 60068-2-27, IEC 61373, EN 50155
Vibration	IEC 60068-2-64, IEC 61373, EN 50155
Declaration	
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	394,260 hrs
Standards	Telcordia (Bellcore), GB
Warranty	
Warranty Period	3 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x V2406C Series computer
Documentation	1 x document and software CD 1 x quick installation guide 1 x warranty card
Installation Kit	1 x wall-mounting kit

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	Memory	OS Storage (mSATA)	SSD/HDD (Hot Swap)	USB	Power Input	Operating Temp.	Conformal Coating
V2406C-KL1-T	Celeron 3965U	2, DDR4, 2133 MHz (optional); 32 GB max.	1 (optional); 512 GB max.	2 (optional); 1 TB max.	4 x USB 3.0 (-type A)	24 to 110 VDC (M12 A-coded)	-40 to 70°C	-
V2406C-KL3-T	i3-7100U	2, DDR4, 2133 MHz (optional); 32 GB max.	1 (optional); 512 GB max.	2 (optional); 1 TB max.	4 x USB 3.0 (-type A)	24 to 110 VDC (M12 A-coded)	-40 to 70°C	-
V2406C-KL5-T	i5-7300U	2, DDR4, 2133 MHz (optional); 32 GB max.	1 (optional); 512 GB max.	2 (optional); 1 TB max.	4 x USB 3.0 (-type A)	24 to 110 VDC (M12 A-coded)	-40 to 70°C	-
V2406C-KL7-T	i7-7600U	2, DDR4, 2133 MHz (optional); 32 GB max.	1 (optional); 512 GB max.	2 (optional); 1 TB max.	4 x USB 3.0 (-type A)	24 to 110 VDC (M12 A-coded)	-40 to 70°C	-
V2406C-KL1-T-CT	Celeron 3965U	2, DDR4, 2133 MHz (optional); 32 GB max.	1 (optional); 512 GB max.	2 (optional); 1 TB max.	4 x USB 3.0 (-type A)	24 to 110 VDC (M12 A-coded)	-40 to 70°C	✓
V2406C-KL7-T-CT	i7-7600U	2, DDR4, 2133 MHz (optional); 32 GB max.	1 (optional); 512 GB max.	2 (optional); 1 TB max.	4 x USB 3.0 (-type A)	24 to 110 VDC (M12 A-coded)	-40 to 70°C	✓

Accessories (sold separately)

Power Cords

PWC-C7US-2B-183	Power cord with United States (US) plug, 10A/125V, 1.83 m
PWC-C7EU-2B-183	Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m
PWC-C7CN-2B-183	Power cord with two-prong China (CN) plug, 1.83 m
PWC-C7UK-2B-183	Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m
PWC-C7AU-2B-183	Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m

Battery Kits

RTC Battery Kit	Lithium battery with built-in connector
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Cables

CBL-M12(FF5P)/Open-100 IP67	A-coded M12-to-5-pin power cable, IP67-rated 5-pin female M12 connector, 1 m
CBL-M12XMM8PRJ45-BK-100-IP67	M12-to-RJ45 Cat-5E UTP gigabit Ethernet cable, 8-pin X-coded male connector, IP67, 1 m

Power Adapters

PWR-24270-DT-S1	Power adapter, input voltage 90 to 264 VAC, output voltage 24 V with 2.5 A DC load
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Connectors

M12X-8PMM-IP67	8-pin male X-coded circular threaded gigabit Ethernet connector, IP67
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