

V2616A Series

Intel® 3rd Gen Core™ CPU, EN 50155 railway computer with power isolation and 2 hot-swappable HDD/SSD slots



Features and Benefits

- Compliant with EN 50121-4
- Complies with all EN 50155 mandatory test items¹
- IEC 61373 certified for shock and vibration resistance
- Two hot-swappable 2.5-inch HDD or SSD storage expansion trays
- SynMap for system health monitoring
- 24 to 110 VDC wide range isolated power input
- Easy coin battery replacement
- Ready-to-run Debian 7, Debian 9, Windows Embedded Standard 7, and Windows 10 Embedded IoT Enterprise 2016 LTSP platforms
- Smart Recovery for manual or automatic system recovery

Certifications



EN 50155



EN 50121-4



Introduction

The V2616A Series of embedded computers are based on the Intel Core i5/i7 processor, and feature 2 RS-232/422/485 serial ports, dual Gigabit LAN ports, 3 USB 2.0 ports, and dual VGA/DVI-D video outputs. The V2616A computers are compliant with mandatory sections of EN 50155, covering operating temperature, power input voltage, surge, ESD, and vibration, as well as conformal coating and power insulation, making them suitable for a variety of industrial applications.

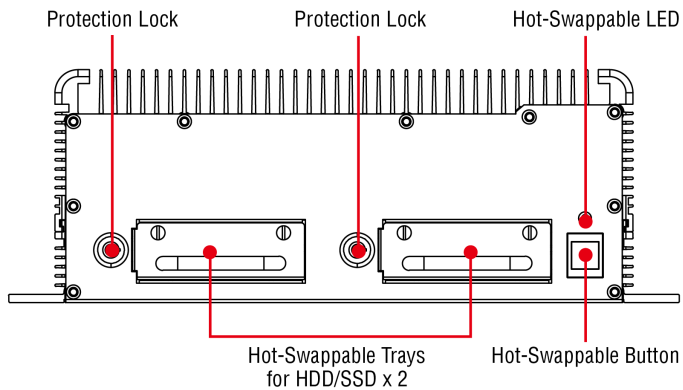
The V2616A computers come with a CFast socket that provides ample and secure data buffering or additional storage expansion, as well as 2 hot-swappable storage trays that accept 2.5-inch solid state or hard disk storage drives, and may be arranged in RAID 1 arrays to give full data redundancy.

The V2616A Series comes with preinstalled Windows Embedded Standard 7 or Debian 7 environments, allowing programmers and system integrators to choose their preferred computing and development platform.

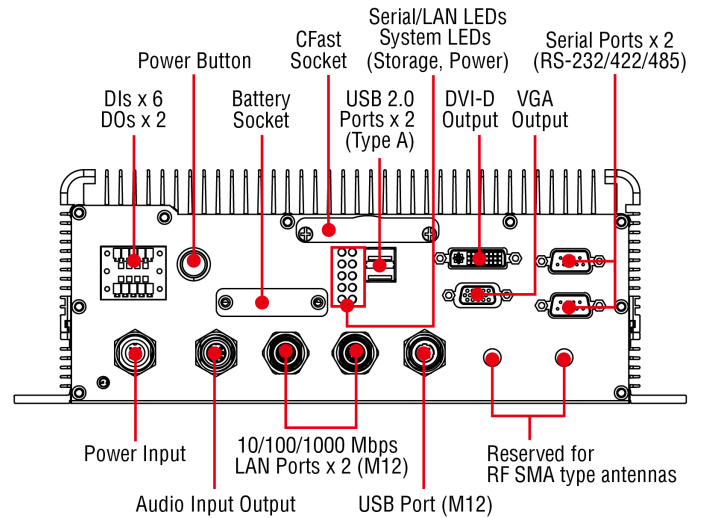
1. This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, click here: www.moxa.com/doc/specs/EN_50155_Compliance.pdf

Appearance

Front View



Rear View



Specifications

Computer

CPU	V2616A-C5 Series: Intel® Core™ i5-3610ME Processor (3 M cache, up to 3.30 GHz) V2616A-C7 Series: Intel® Core™ i7-3517UE Processor (4 M cache, up to 2.80 GHz) V2616A-C8 Series: Intel® Core™ i7-3612QE Processor (6 M cache, up to 3.10 GHz)
System Chipset	Mobile Intel® HM65 Express Chipset
Graphics Controller	Intel® HD Graphics 4000 (integrated)
System Memory Pre-installed	4 GB DDR3
Pre-installed OS	Linux Debian 7 Windows Embedded Standard 7 (WS7E) 32-bit
Storage Slot	2.5-inch HDD/SSD slots x 2 CFast slot x 1

Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (M12 X-coded) x 2
Serial Ports	RS-232/422/485 ports x 2, software selectable (DB9 male)
USB 2.0	USB 2.0 hosts x 1, M12 D-coded connector USB 2.0 hosts x 2, type-A connectors
Audio Input/Output	Line in x 1, Line out x 1, M12 D-coded
Digital Input	DIs x 6
Digital Output	DOs x 2
Expansion Slots	mPCIe slot x 1
Video Output	DVI-D x 1, 29-pin DVI-D connectors (female) VGA x 1, 15-pin D-sub connector (female)
Number of SIMs	1
SIM Format	Mini

Digital Inputs

Isolation	3k VDC
Connector	Screw-fastened Euroblock terminal
Dry Contact	On: short to GND Off: open
I/O Mode	DI
Sensor Type	Wet Contact (NPN or PNP)
Wet Contact (DI to COM)	On: 10 to 30 VDC Off: 0 to 3 VDC

Digital Outputs

Connector	Screw-fastened Euroblock terminal
Current Rating	200 mA per channel
I/O Type	Sink
Voltage	24 to 30 VDC

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

ESD	4 kV
Isolation	1.5 kV (built-in)
Baudrate	50 bps to 921.6 kbps
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
Data Bits	5, 6, 7, 8
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 Current	2.5 A @ 24 VDC, 0.55 A @ 110 VDC
Power Connector	M12 A-coded 4-pin male connector

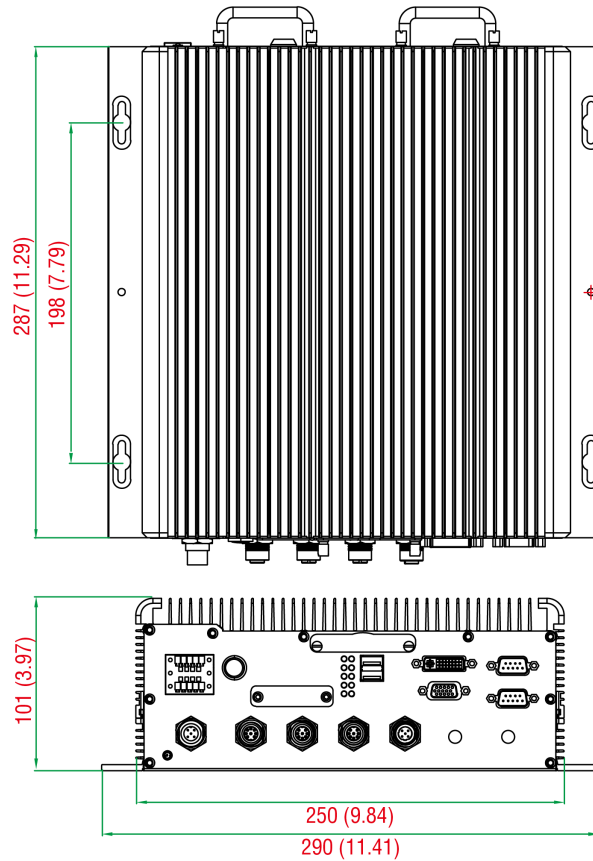
Power Consumption	2.5 A @ 24 VDC 0.55 A @ 110 VDC
Power Consumption (Max.)	60 W (max.)
Physical Characteristics	
Housing	Aluminum
IP Rating	IP40
Dimensions	287 x 290 x 101 mm (11.29 x 11.41 x 3.97 in)
Weight	5,000 g (11.11 lb)
Installation	Wall mounting (with optional kit)
Protection	-CT models: PCB conformal coating
Environmental Limits	
Operating Temperature	Standard Models: -25 to 55°C (-13 to 131°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 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Railway	EN 50121-4, EN 50155
Railway Fire Protection	EN 45545-2
Safety	EN 60950-1, UL 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	V2616A-C5 Series: 280,726 hrs V2616A-C7 Series: 261,297 hrs
Standards	Telcordia (Bellcore), GB
Warranty	
Warranty Period	3 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x V2616A Series computer
Installation Kit	2 x storage key 2 x terminal block, 5-pin
Documentation	1 x document and software CD 1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	Memory (Default)	OS CFast (Default)	Hot-swappable SSD/HDD Tray (CTO)	Internal SSD/HDD Conn.	Operating Temp.	Conformal Coating
V2616A-C5	i5-3610ME	4 GB	-	2 (Optional)	1	-25 to 55°C	-
V2616A-C5-W7E	i5-3610ME	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	-
V2616A-C5-CT-W7E	i5-3610ME	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	✓
V2616A-C5-LX	i5-3610ME	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	-
V2616A-C5-CT-LX	i5-3610ME	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	-
V2616A-C7-T	i7-3517UE	4 GB	-	2 (Optional)	1	-40 to 70°C	-
V2616A-C7-T-W7E	i7-3517UE	4 GB	8 GB	2 (Optional)	1	-40 to 70°C	-
V2616A-C7-CT-T-W7E	i7-3517UE	4 GB	8 GB	2 (Optional)	1	-40 to 70°C	✓

Model Name	CPU	Memory (Default)	OS CFast (Default)	Hot-swappable SSD/HDD Tray (CTO)	Internal SSD/HDD Conn.	Operating Temp.	Conformal Coating
V2616A-C7-T-LX	i7-3517UE	4 GB	8 GB	2 (Optional)	1	-40 to 70°C	–
V2616A-C7-CT-T-LX	i7-3517UE	4 GB	8 GB	2 (Optional)	1	-40 to 70°C	✓
V2616A-C8	i7-3612QE	4 GB	–	2 (Optional)	1	-25 to 55°C	–
V2616A-C8-W7E	i7-3612QE	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	–
V2616A-C8-CT-W7E	i7-3612QE	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	✓
V2616A-C8-LX	i7-3612QE	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	–
V2616A-C8-CT-LX	i7-3612QE	4 GB	8 GB	2 (Optional)	1	-25 to 55°C	✓

Accessories (sold separately)

Connectors

M12X-8PMM-IP67	8-pin male X-coded circular threaded gigabit Ethernet connector, IP67
M12A-5P-IP68	A-coded screw-in sensor connector, female, IP68, 4.05 cm
M12A-5PMM-IP68	5-pin male circular threaded D-coded M12 USB connector, IP68
M12A-8PMM-IP67	8-pin male circular threaded A-codes M12 connector, IP67-rated (for field-installation)

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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Power Cords

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

Storage Kits

V2616A HDD Kit	V2616A Internal Storage Kit
V2616A Storage Tray	V2616A Hot-swappable Storage Kit

Cables

CBL-M12XMM8PRJ45-BK-100-IP67	M12-to-RJ45 Cat-5E UTP gigabit Ethernet cable, 8-pin X-coded male connector, IP67, 1 m
CBL-F9DPF1x4-BK-100	Console cable with 4-pin connector, 1 m

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