

V2616A Series

High-performance network video recorder computers



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



Introduction

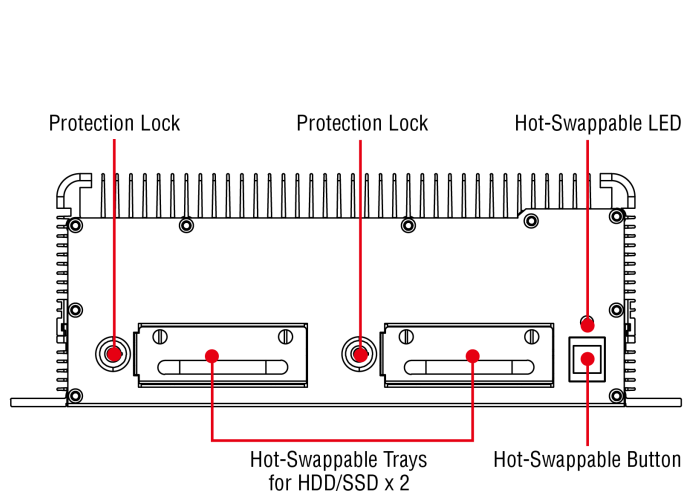
The V2616A Series of embedded computers are based on the Intel Core i5/i7 processor, and feature 2 RS-232/422/485 serial ports, dual Gigabit LAN ports, 3 USB 2.0 ports, and dual VGA/DVI-D video outputs. The V2616A computers are compliant with mandatory sections of EN 50155, covering operating temperature, 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.

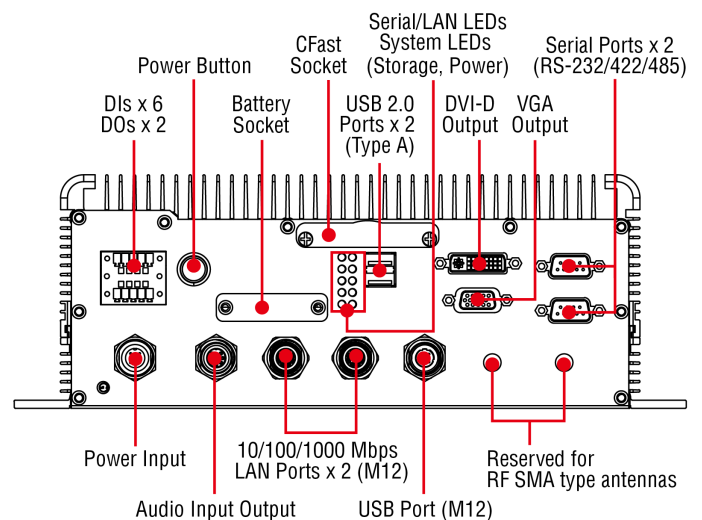
The V2616A Series comes with preinstalled Windows Embedded Standard 7 or Debian 7 environments, allowing programmers and system integrators to choose their preferred computing and development platform.

Appearance

Front View



Rear View



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

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

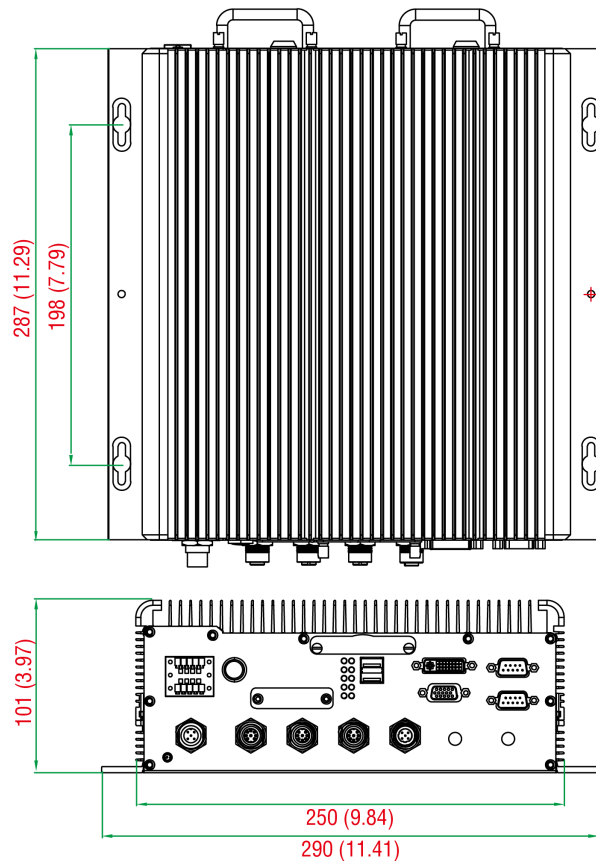
| | |
|-----------------|--|
| Warranty Period | 3 years |
| Details | See www.moxa.com/warranty |

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 | ✓ |
| 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 | ✓ |

| Model Name | CPU | Memory (Default) | OS CFast (Default) | Hot-swappable SSD/HDD Tray (CTO) | Internal SSD/HDD Conn. | Operating Temp. | Conformal Coating |
|-----------------|-----------|------------------|--------------------|----------------------------------|------------------------|-----------------|-------------------|
| 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)

Cables

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

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 |

Power Adapters

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

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 Hot-swappable Storage Kit V2616A Internal Storage Kit |
|----------------|---|

Cables

| | |
|---------------------|---|
| CBL-F9DPF1x4-BK-100 | Console cable with 4-pin connector, 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 |
|-----------------|--|

Power Cords

| | |
|-----------------|---|
| PWC-C7AU-2B-183 | Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m |
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| 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 |

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 |
| 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 |

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