



V2416A Series Quick Installation Guide

Edition 2.2, June 2019

Overview

The V2416A-C2 uses the Intel® Celeron® 1047UE processor and the V2416A-C7 uses the Intel® Core™ i7-3517UE processor. Both models feature 4 RS-232/422/485 serial ports, dual 10/100/1000 Mbps LAN ports, 3 USB 2.0 hosts, and 2 CFast sockets. The computers provide 2 DVI-I outputs, making them particularly well-suited for industrial applications such as rolling stock, SCADA, and automation systems.

Most importantly, the V2416A computers come with 2 hot-swappable storage trays for additional storage media, such as hard disks or solid-state drives. The hot swap support makes storage replacement convenient, fast, and easy, and each storage tray has its own LED to indicate whether or not a storage module is plugged into the V2416A.

Package Checklist

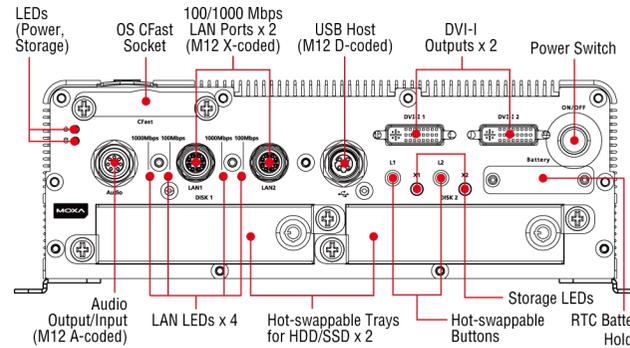
Before installing your V2416A computer, verify that the package contains the following items:

- V2416A series embedded computer
- Wall-mounting kit
- 8 screws for hot-swappable HDD trays
- 8 HDD soft washers
- 2 keys for hot-swappable HDD trays
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card

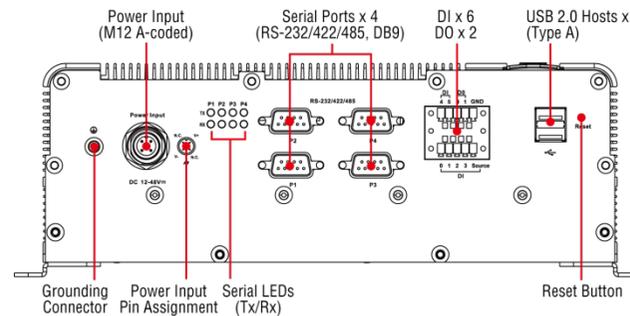
NOTE: If any of the above items are missing or damaged, notify your sales representative.

V2416A Panel Layout

V2416A Front View



V2416A Rear View



LED Indicators

The following table describes the LED indicators located on the front and rear panels of the V2416A.

LED Name	LED Color	LED Function
Power	Green	Power is on and functioning normally
	Off	Power is off or power error exists
Storage	Yellow	CFast card/HDD/SSD is transmitting data
	Off	CFast card/HDD/SSD is not transmitting data
LAN (1 or 2)	Green	100 Mbps Ethernet mode
	Yellow	1000 Mbps Ethernet mode
	Off	10 Mbps or no activity
TX (P1-P4)	Green	Serial port is transmitting data
	Off	Serial port is not transmitting data
RX (P1-P4)	Yellow	Serial port is receiving data
	Off	Serial port is not receiving data
L1/L2	Green	Disk is inserted correctly into storage tray
	Blinking	Disk is ready to be removed
	Off	Storage tray is empty

Installing the V2416A

The V2416A can be DIN-rail mounted, wall mounted, or VESA mounted. Some mounting kits may need to be purchased separately. Refer to the V2416A Hardware User's Manual for detailed installation instructions.

Connector Description

Power Connector

Connect the 12 to 48 VDC LPS or Class 2 power line to V2416A's M12 A-coded power connector. If the power is supplied properly, the Power LED will light up. The OS is ready when the Ready LED glows a solid green.



ATTENTION

The branch circuit overcurrent protection must be rated at a maximum of 5 A.

Grounding the V2416A

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting the power.

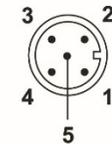


ATTENTION

This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.

PIN | PWR

- 1 V+
- 2 N.C.
- 3 V-
- 4 N.C.
- 5 \varnothing



SG (Pin 5): The shielded ground (sometimes called protected ground) contact is the central pin of the power input connector. Connect the SG wire to an appropriate grounded metal surface.

N.C.: Not connected

DVI-I Outputs

The V2416A comes with 2 DVI-I female connectors for the DVI display. The DVI output interfaces are located on the front panel of the product. Be sure to use the correct cable to connect the computer to the display.

CFast Slot

The V2416A has 2 CFast sockets. One slot is located on the front panel for OS storage and the other slot is located inside the V2416A for backup storage. Both slots support CFast Type-I/II with DMA mode.

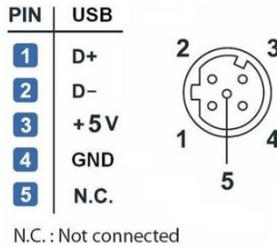
To install an OS CFast card, remove the outer cover and insert the CFast card in the socket. When finished, push the cover into the socket and refasten the screws.

To install a CFast card for backup storage, purchase a CFast card through Moxa's CTO* service. Refer to the V2416A datasheet for more information.

*CTO = Configure to order

USB Hosts

The V2416A has one USB port with an M12 D-coded connector on the front panel, and two USB ports with type-A connectors on the rear panel. These USB ports can be used to connect flash disks for storing large amounts of data.



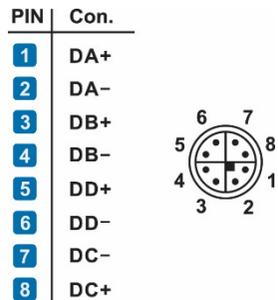
Hot-swappable Storage Trays

The V2416A computers have two slots for additional storage media. Both slots support hot swapping for convenient, fast, and easy storage expansion. Refer to the *Hardware User's Manual* for detailed storage installation.

To eject a storage unit, first press the hot-swap button for that tray. When the LED starts to blink, unfasten the two screws for the corresponding storage tray, rotate the lock counterclockwise using the key provided in the package, and then pull out the hot-swappable storage tray.

Ethernet Ports

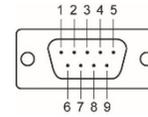
Two 10/100/1000 Mbps Ethernet ports using M12 X-coded connectors are located on the front panel. The pin assignments are shown below:



Serial Ports

The serial ports use DB9 connectors. Each port can be configured by software for RS-232, RS-422, or RS-485. The pin assignments for the ports are shown in the following table:

Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	-
2	RxD	TxDB(+)	TxDB(+)	-
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	-	-	-
7	RTS	-	-	-
8	CTS	-	-	-



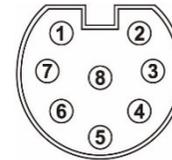
DI/DO

The V2416A comes with a 6-channel digital input and 2-channel digital output on the terminal block connectors.

Audio Interface

The V2416A comes with an M12 A-coded audio connector for audio input and audio output, allowing users to connect a speaker or an earphone.

Pin No.	Audio
1	Line in - Right
2	GND
3	Line in - Jack Detect
4	Line in - Left
5	Line out - Left
6	Line out - Jack Detect
7	Line out - Right
8	GND



Reset Button

Press the "Reset" Button on the rear panel of the computer to reboot the system automatically. The Ready LED will blink on and off for the first 5 seconds, and then maintain a steady glow once the system has rebooted.

Real-Time Clock (RTC)

The V2416A's real-time clock is powered by a lithium battery. You can easily replace the battery yourself using an optional battery kit*. However, please note that there is a risk of explosion if the battery is replaced by an incorrect type of battery. Refer to the *V2416A Hardware User's Manual* or contact a qualified Moxa support engineer if you have any questions about the RTC battery.

*Moxa offers an RTC battery kit that you can use to easily replace the battery. For details, check the optional accessories section of the *V2416A datasheet*.



ATTENTION

There is a risk of explosion if the battery is replaced by a battery of the incorrect type.

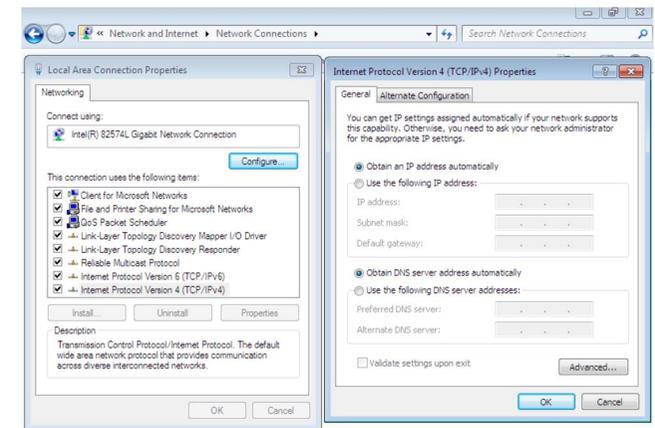
Powering on the V2416A

To power on the V2416A, connect the power cable to the V2416A's M12 A-coded power connector (located on the rear panel). Press the power button to turn on the computer. Note that the Shielded Ground wire should be connected to the central pin of the connector. It takes about 30 seconds for the system to boot up. Once the system is ready, the Power LED will light up.

Configuring the Ethernet Interface

W7E users should follow these steps:

1. Go to **Start → Control Panel → Network and Internet → View network status and tasks → Change adapter setting**.
2. In the Local Area Connection Properties screen, click **Internet Protocol (TCP/IP)** and then select **Properties**. Select **Internet Protocol Version 4**, and then click **Properties**.
3. Click **OK** after inputting the proper IP address and netmask.



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