



V2616A Series Quick Installation Guide

Second Edition, February 2015

Overview

The V2616A series of embedded computers feature Intel Ivy Bridge processors and 2 software-selectable RS-232/422/485 serial ports, dual LAN ports, and 3 USB 2.0 hosts.

In addition, V2616A computers provide VGA and DVI-D outputs, and are EN 50155 certified, making them robust enough for railway and industrial applications.

Package Checklist

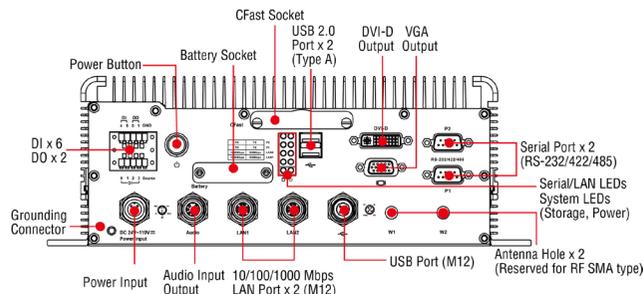
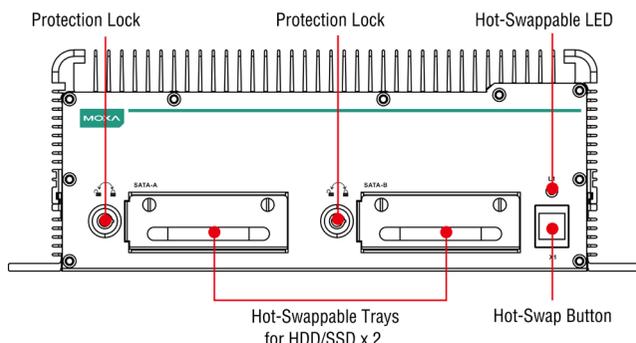
Before installing the computers, verify that the package contains the following items:

- V2616A embedded computer
- 2 storage tray keys
- Power cable (CBL-M12FF5PPJ21-BK-15-IP68)
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card
- 2 5-pin terminal blocks

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

V2616A Panel Layout

V2616A Front & Rear Views



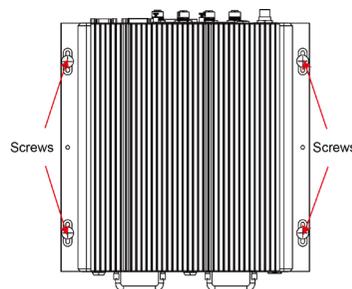
LED Indicators

The following table describes the LED indicators located on the front and rear panels of the V2616A.

| LED Name | LED Color | LED Function |
|------------|-----------|--|
| Power | Green | Power is on and functioning normally |
| | Off | Power is off, down, or has failed |
| Storage | Yellow | CFast card/HDD/SSD is transmitting data |
| | Off | CFast card/HDD/SSD is not transmitting data |
| LAN (1, 2) | Green | 100 Mbps Ethernet mode |
| | Yellow | 1000 Mbps Ethernet mode |
| | Off | 10 Mbps or no activity |
| Tx (P1-P2) | Green | Serial ports P1-P2 transmitting data |
| | Off | Serial ports P1-P2 not transmitting data |
| Rx (P1-P2) | Yellow | Serial ports P1-P2 receiving data |
| | Off | Serial ports P1-P2 not receiving data |
| L1 | Red | Programmable. By default, two disks ready to be removed. |
| | Blinking | Programmable. By default, disks inserted into incorrect storage tray. |
| | Off | Programmable. By default, two disks inserted into correct storage trays. |

Installing the V2616A

The V2616A comes with two wall-mounting brackets. Use two screws on each side to attach the V2616A to a wall or cabinet.



Connector Description

Power Connector

Connect the power line with M12 connector to the V2616A computer. The V2616A offers the power input range from 24 to 110 VDC. 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

Please note that the branch circuit over current protection must be rated maximum 10 A.

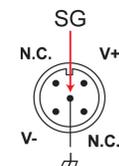
Grounding the V2616A

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.



SG: 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.

VGA and DVI Outputs

The V2616A comes with a D-Sub 15-pin female connector for a VGA monitor; it also comes with a DVI-D connector for the DVI display. These output interfaces are all located on the rear panel. Use the proper cable when connecting devices to the V2616A.

CFast Card Socket

The V2616A has a CFast card socket located on the rear panel for storing the operating system. To install a CFast card, remove the outer cover, and then insert the CFast card in the socket. When finished, push the cover into the socket and fasten the screws.

Note that the operating system (Linux or Windows Embedded Standard 7) has already been stored on the CFast card. If you change the CFast card, you will need to re-install the V2616A's operating system. Refer to the System Recovery Section in the Software User's Manual for details.

USB Ports

The V2616A has one USB port with an M12 X-coded connector, and two USB ports with type A connectors on the rear panel. These USB

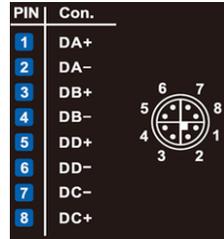
ports can be used to connect flash disks for storing large amounts of data.

Ethernet Ports

ATTENTION

There is risk of damage to the M12 X-coded cable due to improper installation or removal. For detailed information on cable installation, see the *V2616A Hardware User's Manual*.

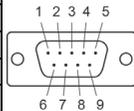
To connect an M12 X-coded cable on the rear panel, orient the cable so that the indicator on the M12 X-coded cable aligns with the key notch on the port, or the notch on the M12 X-coded cable pin core aligns with the notch on the port socket. Then, connect the cable to the port and tighten the interlock screw.



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 | - | - | - |



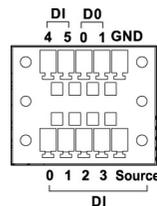
Note: This is the pin assignment on the connectors of the V2616A computer. If you use your own serial cable, you need to mirror the pin assignment on the connector of the serial cable.

Audio Interface

The V2616A comes with audio input and stereo output, allowing users to connect speakers or an earphone.

DI/DO

The V2616A comes with a 6-channel digital input and 2-channel digital output terminal blocks.



Hot-swappable Storage Trays

V2616A computers come with 2 hot-swappable trays for inserting additional storage media. To insert the hard disk, simply remove the screws from the tray disk, fasten the hard disk with the screws, and then place the tray back in the slot. Protection keys are also provided to protect the disk tray from being removed. Refer to the Hardware User's Manual for detailed storage installation instructions.

Real-time Clock

The V2616A's real-time clock is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team.

ATTENTION

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

Configuring the Ethernet Interface

Power on the V2616A computer after connecting a monitor, keyboard, and mouse, and verify that the power source is ready. Once the operating system boots up, the first step is to configure the Ethernet interface. The factory default settings for the V2616A LANs are show below. (Note that Windows models use DHCP settings.)

| | Default IP Address | Netmask |
|------|--------------------|---------------|
| LAN1 | 192.168.3.127 | 255.255.255.0 |
| LAN2 | 192.168.4.127 | 255.255.255.0 |

Instructions for Linux Users:

If you are configuring network settings using the console, enter the following commands to edit the interfaces file:

```
Moxa~:#ifdown -a
```

This will disable all Ethernet interfaces, so **do not use this command if you are accessing the console over Ethernet.**

```
Moxa~:#vi /etc/network/interfaces
```

The above command opens the interfaces file for editing. Below, we show you basic interface configuration with DHCP for LAN1/eth0, and a static configuration for LAN2/eth1. A line for IPV6 stateless address autoconfiguration (SLAAC) is also included, as well as standard IPV6 configuration for DHCP.

```
iface eth0 inet static
auto eth0
allow-hotplug eth0
iface eth0 inet dhcp
iface eth0 inet6 dhcp
# iface eth0 inet6 auto
iface eth1 inet static
address 192.168.4.127
```

```
network 192.168.4.0
netmask 255.255.255.0
```

Write the /etc/interfaces file to the drive by entering **wq**

After the network settings have been modified, use the following command to activate the interfaces:

```
Moxa~:#sync; ifup -a
```

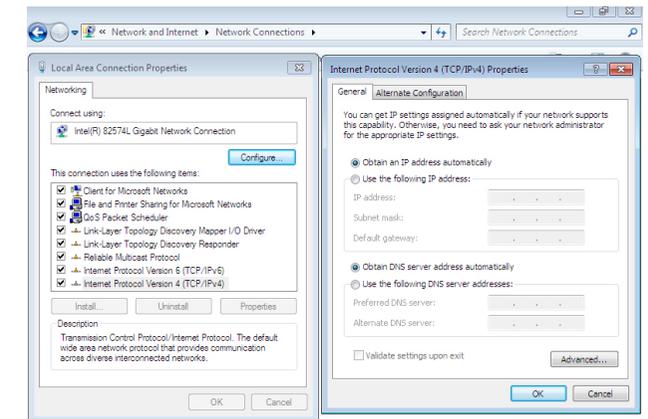
Instructions for W7E Users:

The Windows operating system comes with DHCP as the default setting. Windows users who want to set up a static IP address will need to follow the steps below.

Step 1: Go to **Start > Control Panel > Network and Internet > Network Connections**.

Step 2: In the screen of **Local Area Connection Properties**, click **Internet Protocol (TCP/IP)** and then select **Properties**.

Step 3: Click **OK** after inputting the preferred IP address and netmask.



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