

Allen-Bradley

VersaView Industrial Non-display Computers

**Catalog Numbers 6155R-NSXPH,
6155R-NPXPB, 6155R-7SXPH,
6155R-7S2KH, 6155R-7PXPB,
6155R-7P2KH, 6155R-14SXPH,
6155R-14S2KH, 6155R-14XPB,
6155R-14P2KH, 6155F-NPXPB,
6155F-NPXPBDC**

User Manual

**Rockwell
Automation**

Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (publication SGI-1.1 available from your local Rockwell Automation sales office or online at <http://literature.rockwellautomation.com>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.





In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

WARNING 	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
ATTENTION 	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence
SHOCK HAZARD 	Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.
BURN HAZARD 	Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

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Summary of Changes

The information below summarizes the changes made to this manual since the last revision.

Revision bars, as shown in the margin, identify updated information. These are the changes for this version of the document.

Topic	Page
Operating system information updated.	9
Information on the Multilingual User Interface CD Pack updated.	10
Updated parts list.	15

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Read this preface to familiarize yourself with the rest of the manual. The preface covers these topics:

- Intended audience
- Purpose of this manual
- Manual conventions
- Additional resources

Intended Audience

Use this manual if you are responsible for installing, using, or troubleshooting the VersaView Industrial Non-display Computers.

Purpose of This Manual

This manual is a user guide for the VersaView Industrial Non-display Computers. It gives an overview of the system and provides procedures to perform these tasks:

- Install the computers
- Make computer connections
- Configure the computers
- Troubleshoot the computers

Manual Conventions

These conventions are used throughout this manual:

- Bulleted lists such as this one provide information, not procedural steps.
- Numbered lists provide sequential steps.

Additional Resources

For additional information on the VersaView Industrial Non-display Computers, refer to these publications.

Resource	Description
VersaView Industrial Non-display Computer Installation Instructions, publication 6155R-IN001	Provides procedures on how to install the computer and make connections to the computer.
Cloning Utility Technical Data, publication 6000-TD001	Provides information on how to create and restore a backup image of your computer's hard drive.

These publications are on the VersaView Accessories/Cloning CD, which ships with your computer. You can also download electronic versions of these publications from the Rockwell Automation website <http://literature.rockwellautomation.com>.

System Features

Chapter Objectives

This chapter provides an overview of the computer.

- Operating systems
- Multilingual user interface
- Product options
- Accessories and replacement parts
- Features
- Parts list

Computer Overview

The VersaView Industrial Non-display Computers run factory operations from small visual interface and maintenance applications to large control and information applications. These computers operate in rugged environments where endurance to high-temperature, shock, and vibration is critical. Combine the VersaView 200R, 700R, or 1400R computer with any VersaView monitor to complete your system.

Most of the computers are available with the Windows 2000 or Windows XP operating system, and offer standard or performance features. All of the computers come standard with Ethernet and serial ports.

For the less rugged environments where endurance to high-temperature, shock, and vibration is not as critical, Rockwell Automation offers a line of light industrial computers and monitors.

Operating Systems

The computers are shipped with one of these operating systems:

- Windows 2000 Professional, Service Pack 4 with Update Rollup 1
- Windows XP Professional, Service Pack 2b

No operating system updates have been applied to the factory image beyond the service packs.

For your convenience, the I386 source directory for Microsoft Windows is on the system drive of your computer off the root directory, C:\I386. This allows for easy removal and addition of Windows components.

Computers with rotating-media hard drives include a recovery partition on the system drive containing the original factory image. You can use the supplied System Accessories/Cloning CD to restore the operating system from the recovery partition, create a new recovery image, and create bootable external recovery media.

Refer to the Cloning Utility documentation, publication 6000-TD001, for instructions. You can view or download publications at <http://literature.rockwellautomation.com>.

Computers with solid state drives have been customized to accommodate the unique properties of the solid state drive. Some of the pre-installed customizations include:

- no paging file.
- system restore set to zero and disabled.
- DLLCACHE directory emptied.

Computers with solid state hard drives do not contain a recovery partition. If additional drive space is required, copy the I386 directory to external media; then delete the I386 directory from C:\I386, which is approximately 400 MB.

To obtain the original factory image on bootable external recovery media, which also includes the I386 source directory, contact your local technical support center.

Multilingual User Interface CD Pack

The Microsoft Multilingual User Interface (MUI) CD Pack contains a collection of different language sets that can be installed into the operating system. MUI packs are available for all Windows XP operating systems and provide a localized start menu and system icons support.

The instructions for installing MUI languages on your computer are supplied with the MUI CD Pack.

Product Options

The table summarizes the product options available for the VersaView Industrial Non-display Computers.

Cat. No.	Model	Series	Package	Storage Device	Operating System
6155R-NPXP	200R	D	Performance	Hard drive	Windows XP
6155R-NSXP		D	Standard	Hard drive	
6155F-NPXP		D	Performance	Solid state drive	Windows XP for solid-state drives
6155F-NPXPDC ⁽¹⁾		D			
6155R-7P2KH	700R	C	Performance	Hard drive	Windows 2000
6155R-7S2KH		C	Standard	Hard drive	
6155R-7PXP		C	Performance	Hard drive	Windows XP
6155R-7SXP		C	Standard	Hard drive	
6155R-14P2KH	1400R	C	Performance	Hard drive	Windows 2000
6155R-14S2KH		C	Standard	Hard drive	
6155R-14PXP		C	Performance	Hard drive	Windows XP
6155R-14SXP		C	Standard	Hard drive	

⁽¹⁾ This model operates from dc power.

Accessories and Replacement Parts

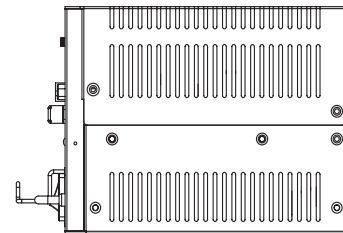
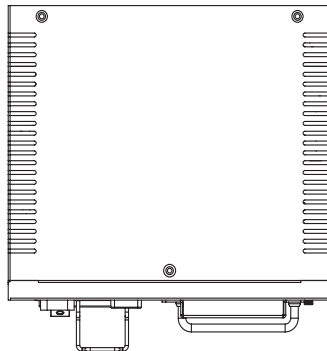
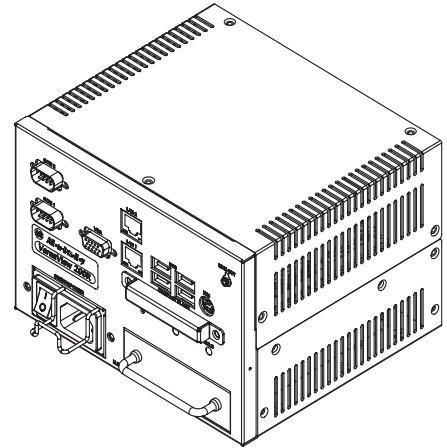
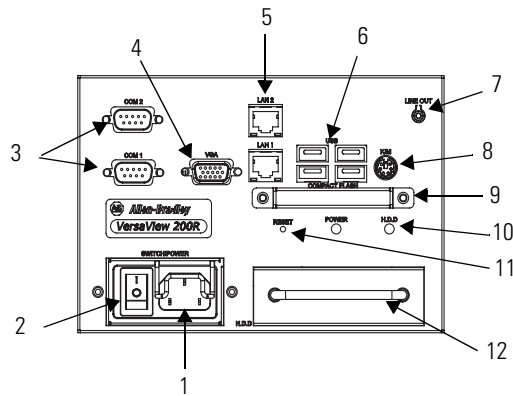
You can view a current list of accessories at this Rockwell Automation Allen-Bradley website <http://www.ab.com/industrialcomputers>.

Features

The illustrations show the features of each computer.

VersaView 200R Computer

The performance model is shown.

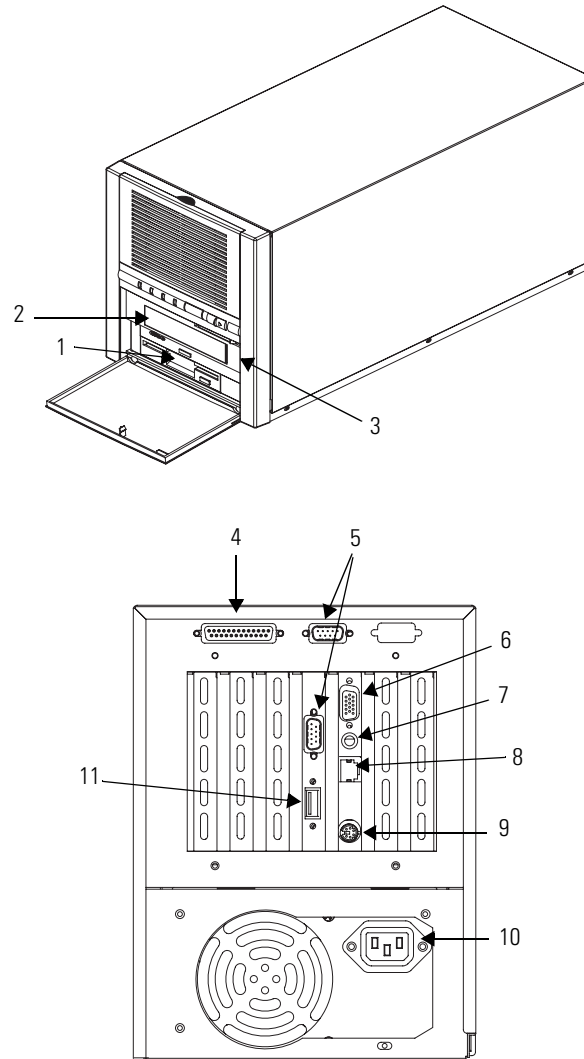


Item	Component	Item	Component
1	Power input, ac or dc ⁽¹⁾	7	Audio line out
2	Power switch	8	PS/2 keyboard and mouse port
3	Serial COM ports, 2	9	CompactFlash card slot
4	VGA port	10	Power and HDD indicators
5	Ethernet ports (RJ45), 1 or 2 ⁽²⁾	11	Reset switch
6	USB ports, 4	12	Hard disk drive

⁽¹⁾ Model dependent.

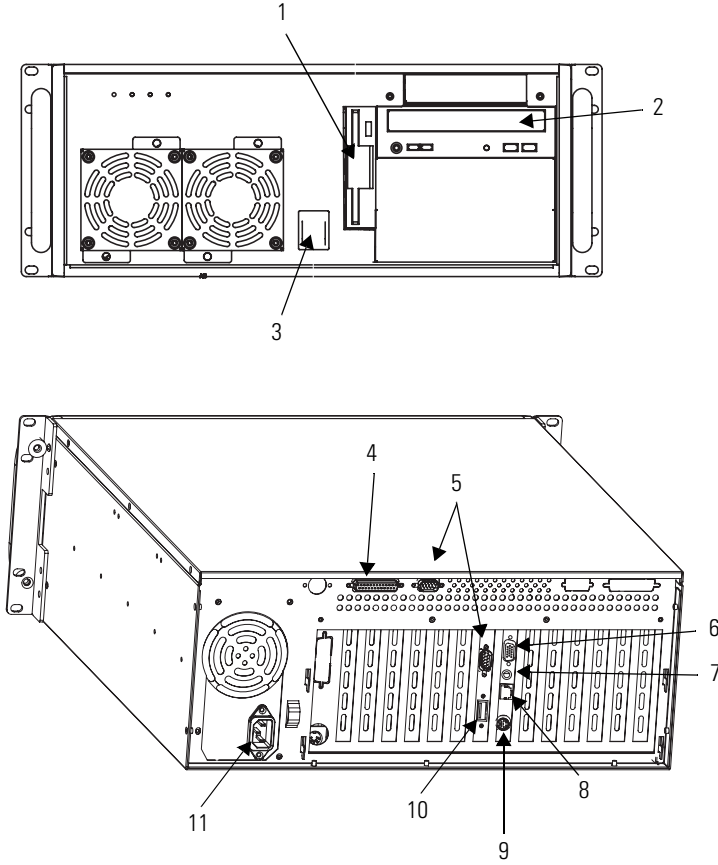
⁽²⁾ Standard models have one port. Performance models have two ports.

VersaView 700R Computer



Item	Description	Item	Description
1	Floppy drive	7	Audio connector
2	CD drive	8	Ethernet port (RJ45)
3	Power switch	9	PS/2 keyboard or mouse port
4	Parallel printer port	10	Power input, ac
5	Serial COM ports, 2	11	USB port
6	VGA port		

VersaView 1400R Computer



Item	Description	Item	Description
1	Floppy drive	7	Audio connector
2	CD drive	8	Ethernet port (RJ45)
3	Power switch	9	PS/2 keyboard or mouse port
4	Parallel printer port	10	USB port
5	Serial COM ports, 2	11	Power input, ac
6	VGA port		

Before You Begin

Before unpacking the product, inspect the shipping carton for damage. If damage is visible, immediately contact the shipper and request assistance. Otherwise, proceed with unpacking.

Keep the original packing material in case you need to return the product for repair or transport it to another location. Use both the inner and outer packing cartons to provide adequate protection for a unit returned for service.

Parts List

The computers ship with these items:

- VersaView System Accessories/Cloning CD
- VersaView System Support CD
- Microsoft Multilingual User Interface (MUI) CD Pack
This CD pack is not included with VersaView computers containing a solid-state hard drive or VersaView computers with the Windows 2000 operating system.
- Installation instructions
- Power cord, ac, where applicable
- PS/2 adapter cable to connect both a keyboard and a mouse
- Mounting hardware

Installation

Chapter Objectives

This chapter shows how to install your computer on a machine, wall, DIN rail, or rack, and how to make computer connections.

Review each mounting type and the product dimensions before installation.

European Union Compliance

This product meets the European Union Directive requirements when installed within the European Union or EEA regions and have the CE mark. A copy of the Declaration of Conformity is available at the Rockwell Automation website <http://rockwellautomation.com/products/certification>.

ATTENTION

This product is intended to operate in an industrial or control room environment, which utilizes some form of power isolation from the public low-voltage mains. Some computer configurations may not comply with the EN 61000-3-2 Harmonic Emissions standard as specified by the EMC Directive of the European Union. Obtain permission from the local power authority before connecting any computer configuration that draws more than 75 Watts of ac power directly from the public mains.

ATTENTION

To comply with EN 55024 and EN 61000-6-2, the Ethernet port LAN cable must be less than 30 m (98.42 ft) and used only indoors, not exit the building at any point. All other I/O cables must be less than 3 m (9.84 ft) and used only indoors.

Environment and Enclosure Information

Review the information on enclosures and environments before installing the product.

ATTENTION



Environment and Enclosure

This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 m (6561 ft) without derating.

This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR Publication 11. Without appropriate precautions, there may be potential difficulties ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbance.

This equipment is supplied as open type equipment. UL Recognized equipment must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The interior of the enclosure must be accessible only by the use of a tool. UL listed equipment does not need to be mounted inside another enclosure. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see:

- Industrial Automation Wiring and Grounding Guidelines, for additional installation requirements, publication 1770-4.1.
- NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.

Required Tools

These tools are required to rack- or machine-mount your computer.

- #2 Phillips screwdriver
- Drill motor and drill bit

Mounting Hardware

The table lists the hardware required to mount each computer.

Item	Quantity	Use To	This Computer
Wall or machine mounting brackets	2	Wall or machine mount	VersaView 200R VersaView 700R
VESA mounting bracket	1	VESA mount	VersaView 200R
DIN rail bracket	1	DIN rail mount	VersaView 200R
Mounting screws or nuts	8	Wall, machine, DIN rail, rack slide, or VESA mount	VersaView 700R
	12		VersaView 1400R
	24		VersaView 200R
Rack handles	2	Rack mount	VersaView 1400R

Mounting Clearances

Review the product dimensions to make sure you allow adequate clearance on the sides and rear of the computer for ventilation and cable connections. You must also be able to remove the covers to install or remove peripheral components.

When mounted in an enclosure or high temperature area, the ambient temperature around the computer must not exceed the operating temperature range.

Install the Computer

The computers support various mounting options.

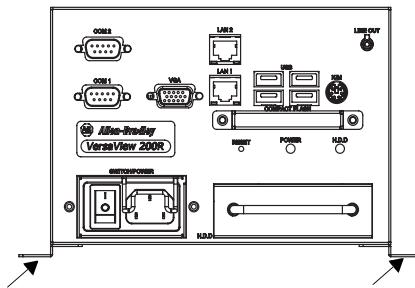
- Machine mount (200R and 700R)
- Wall mount the (200R)
- DIN rail mount (200R)
- Rack mount (1400R)
- VESA mount (200R)

Mount the Computer on a Machine

You can mount the VersaView 200R and 700R computers on a shelf inside a machine by using mounting brackets. The brackets secure the computer to the shelf.

1. Attach the two mounting brackets to the bottom of the computer by using four of the provided screws.

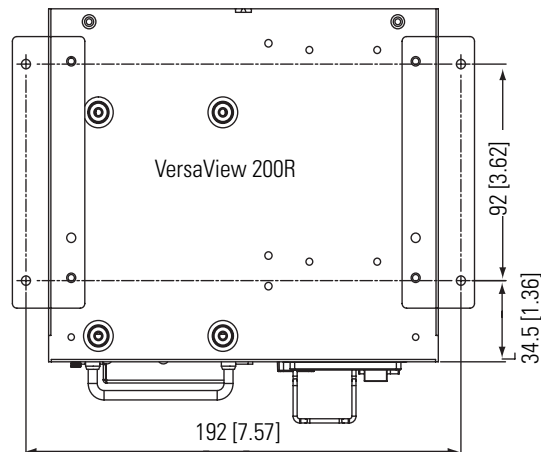
For the 200R computer, use four of the M3 x 5 mm panhead screws, and torque to 0.678 Nm (6 lb-in).

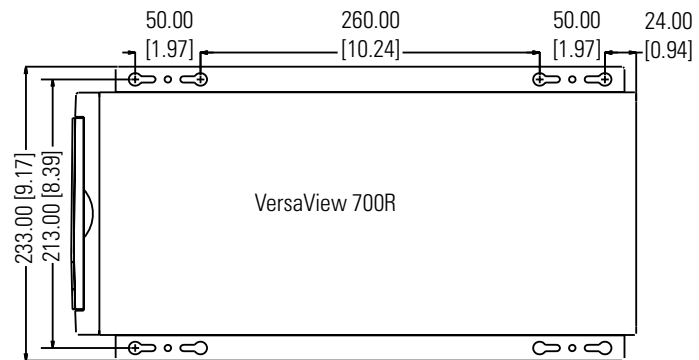


2. Drill holes in the shelf that correspond to holes in the mounting brackets.

- The 200R requires four holes.
- The 700R requires eight holes.

Dimensions are in mm (in.).





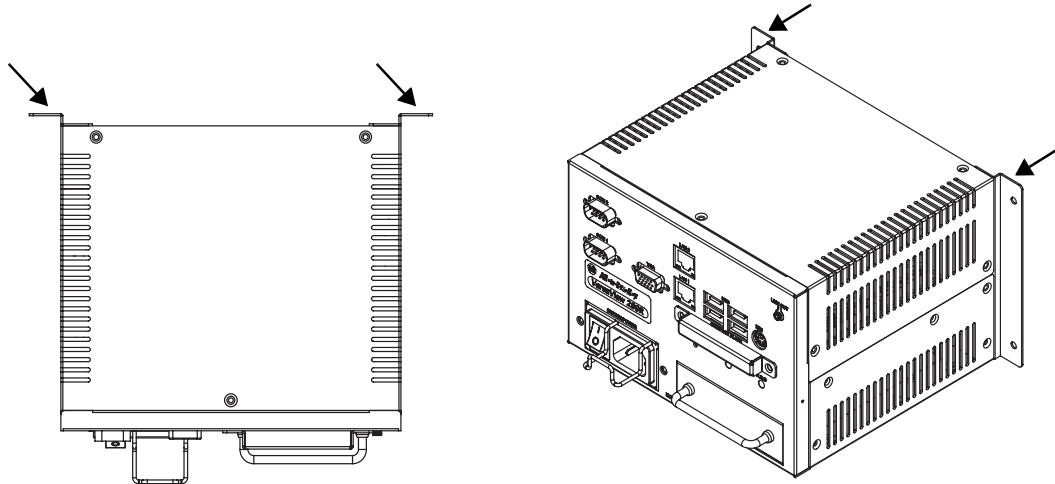
3. Place the computer on the shelf and align the holes in the mounting brackets with the holes in the shelf.
4. Insert the remaining screws through the mounting bracket into the shelf and tighten.

For the VersaView 200R computer, use four of the provided, M3 x 5 mm, panhead screws.

Mount the Computer on a Wall

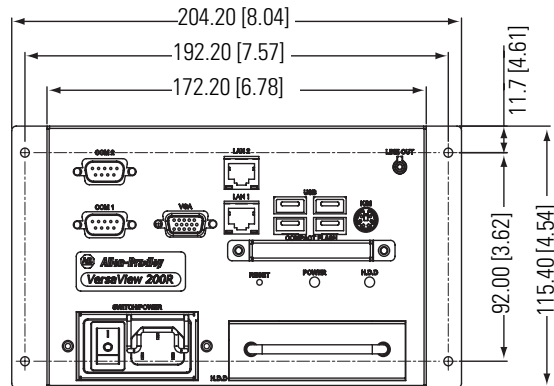
You can mount the VersaView 200R computer on a wall inside a machine by using mounting brackets. The brackets secure the computer to the wall.

1. Attach the two mounting brackets to the rear of the computer by using four of the provided, M3 x 12 mm panhead screws; torque to 0.678 Nm (6 lb-in).



2. Drill four holes in the wall that correspond to the holes in the mounting brackets.

Dimensions are in mm (in.).



3. Position the computer against the wall, aligning the holes in the mounting brackets with the holes in the wall.

TIP

Support the computer with a shelf or other means to make installation at the appropriate height easier.

4. Insert the remaining screws through the mounting bracket into the wall and tighten.

For the VersaView 200R computer, use four M3 x 5 mm, panhead screws.

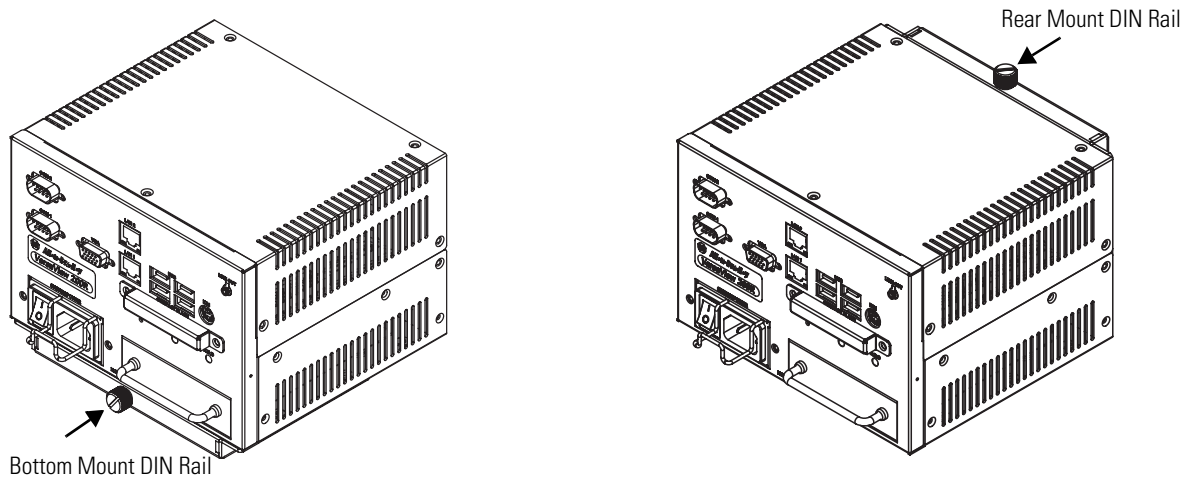
Mount the Computer on a DIN Rail

You can mount the VersaView 200R computer on a DIN rail. The DIN rail bracket mounts to the bottom or back of the computer.

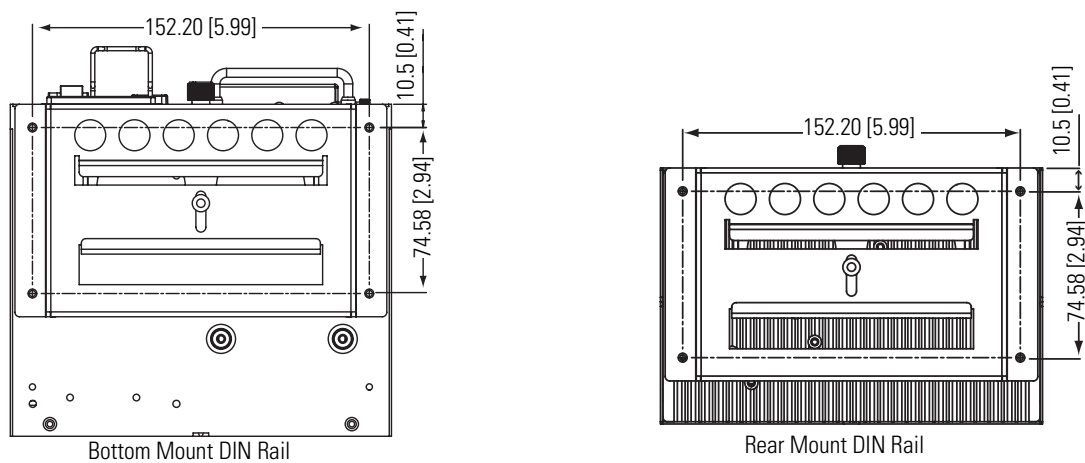
IMPORTANT

Do not mount the computer on a DIN rail in high shock and vibration environments.

1. Fasten the DIN rail bracket on the bottom or back of the computer by using four, M3 x 5 mm panhead screws; torque to 0.678 Nm (6 lb-in).



Dimensions are in mm (in.).



2. Mount the computer on a DIN rail and secure it by hand-tightening the fastener, being careful not to strip the screw.

Mount the Computer on a Rack

You can install the VersaView 1400R computer in a rack cabinet that conforms to EIA standards for equipment with 483 mm (19 in.) wide panels. The cabinet must accommodate the computer's height and depth, and also provide rear clearance for cables and air flow. A cabinet with a depth of 610 mm (24 in.) is sufficient.

The computer must be supported by rack slides or fastened to a shelf. The four flanges of the computer are intended only to horizontally secure the unit to the front mounting rails of the rack cabinet.

To locate the cat. no. for the VersaView-approved rack slide, go to the website <http://www.ab.com/industrialcomputers>.

1. Review the product dimensions to confirm that there is adequate space behind the cabinet for cables and air flow.
2. Install the rack slides inside the rack cabinet.
3. Attach the rack slides to the computer, aligning the rack slides to the corresponding slides inside the cabinet.
4. Insert the computer in the rack cabinet from the front of the cabinet.

TIP

Support the computer with a shelf or other means to make installation at the appropriate height easier.

5. Fasten the two rack handles to the front of the unit by using the included screws.
6. Horizontally secure the computer to the front mounting rails of the rack cabinet with the included screws.

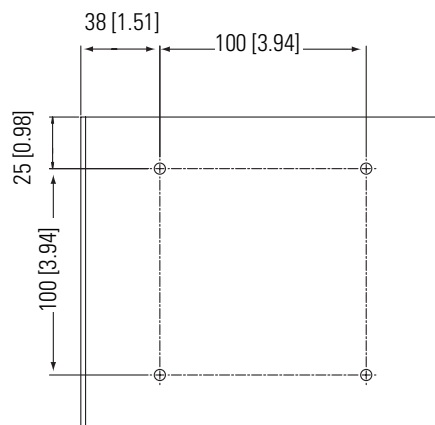
VESA Mount the 200R Computer

You can VESA mount the VersaView 200R computer to any of the VersaView industrial monitors or other surface by using the VESA mounting bracket provided.

1. Orient and attach the VESA mounting bracket to the four, 100 mm VESA holes that will be used to mount the computer.

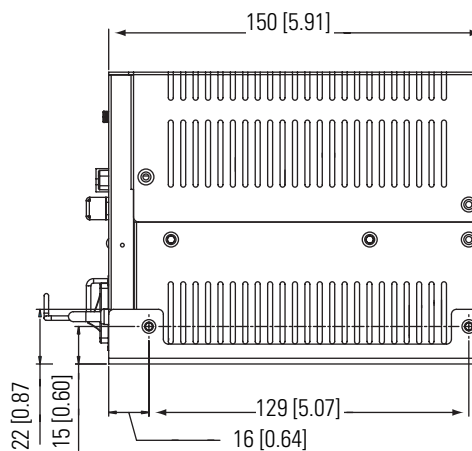
Use four, M4 x 8 mm flathead screws with four, M4 x 3 mm nuts. If attaching the bracket to the back of a VersaView monitor, the nuts are not needed.

Dimensions are in mm (in.).

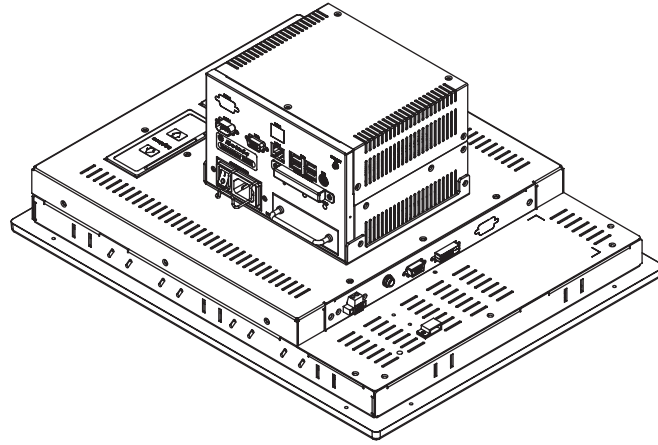


2. Attach the computer to the VESA mounting bracket by using four, M3 x 6 mm screws.

Dimensions are in mm (in.).



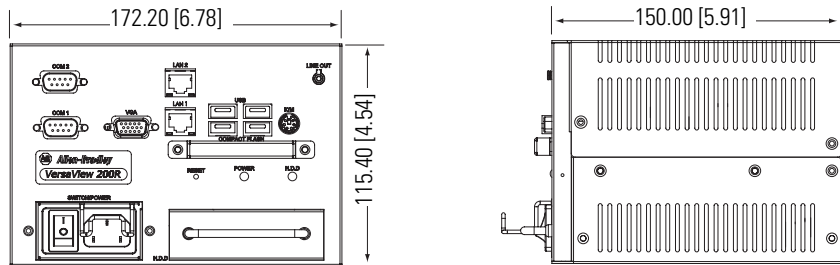
The illustration shows the VersaView 200R computer VESA mounted to the back of a VersaView 1700M monitor.



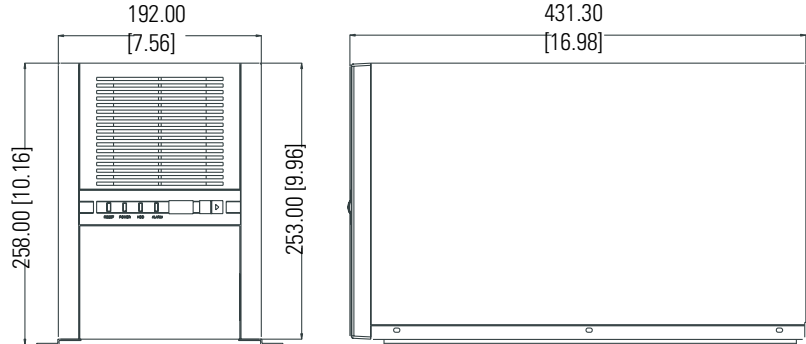
Product Dimensions

The illustrations show product dimensions in mm (in.).

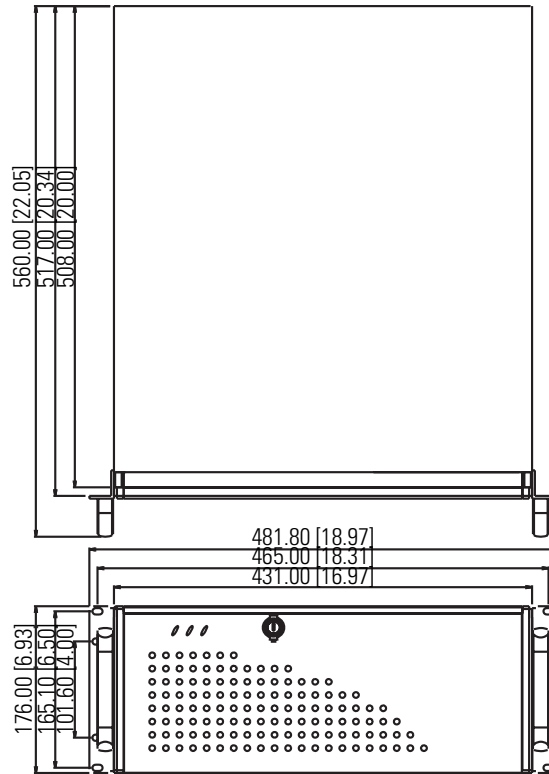
VersaView 200R Computer



VersaView 700R Computer

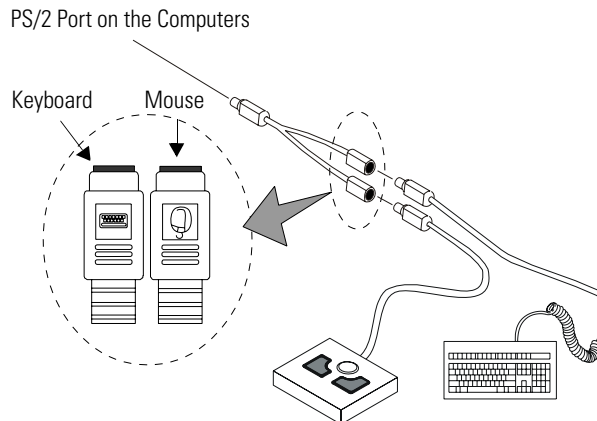


VersaView 1400R Computer



Connect the Keyboard and Mouse

You can plug either a keyboard or mouse into the PS/2 port on the computer. You can connect both devices by using the PS/2 adapter cable that is shipped with the computer.



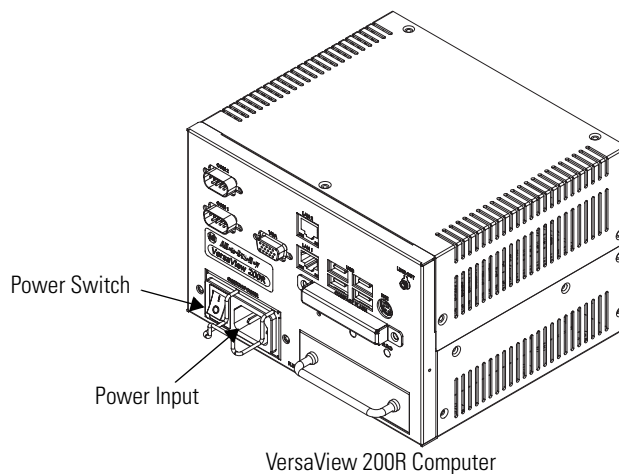
Connect Power

The power connection for the computers varies by model.

- The VersaView 200R computer connects to either a 120/240V ac or 9...36V dc power source, depending on the model.
- The VersaView 700R and 1400R computers connect to a 120/240V ac power source.

Connect ac Power

Computers with an ac power input use a standard IEC 320 power cord. The power supply input accepts 120/240V ac and is autoranging.



Operate the computer in an industrial or control room environment, which uses some form of power isolation from the public low-voltage mains.

ATTENTION



- Connect the ac power cord to a power source with an earth ground to prevent electrical shock. Failure to follow this warning could result in electrical shock.
- The computer circuit should have its own disconnect. Use an uninterruptible power source (UPS) to protect against unexpected power failure or power surges.
- Always shut down the operating system before removing power to minimize performance degradation and operating system failures.

Connect dc Power

The power supply on the VersaView 200R computer has a dc input terminal block for connecting to a 9...36V dc power source.

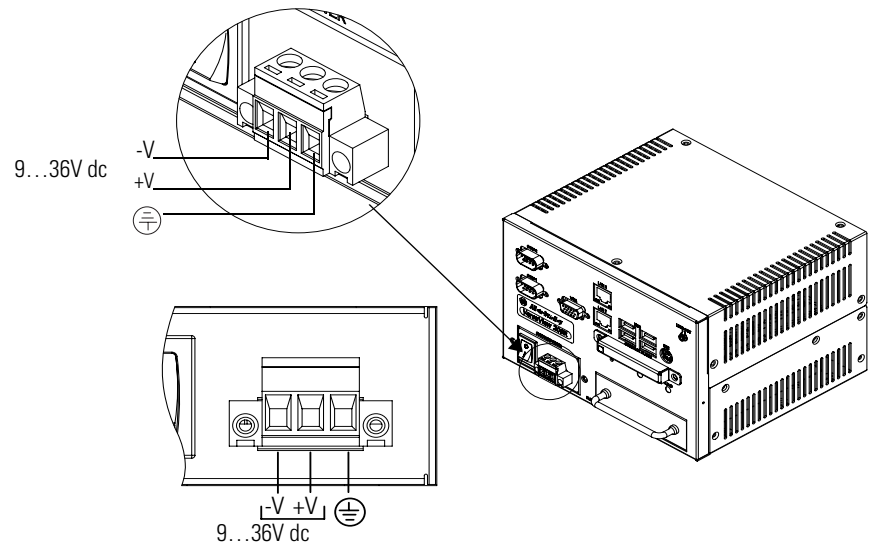
ATTENTION



- Connect the dc ground connection to a power source with an earth ground to prevent electrical shock. Failure to follow this warning could result in electrical shock.
- The computer circuit should have its own disconnect. Use an uninterruptible power source (UPS) to protect against unexpected power failure or power surges.
- Always shut down the operating system before removing power to minimize performance degradation and operating system failures.

Follow these steps to connect the VersaView 200R computer to a dc power source.

1. Turn off the main power switch or breaker.
2. Route the power wires from your dc power supply and connect the leads to the dc input terminal block.



3. Tighten the screw terminals to provide a good connection.
4. Secure the terminal block connector to the computer by using the two side screws.
5. Restore power.

Connect to Network

The computer connects to the Ethernet network by using CAT5 or CAT5E twisted-pair Ethernet cabling with RJ45 connectors.

IMPORTANT

To prevent performance degradation of Ethernet communication, do not subject the computer or cables to extreme radiated or conducted high-frequency noise.

Proper cable routing and power conditioning is required for reliable Ethernet communication in industrial environments. Rockwell Automation recommends that you route all Ethernet cabling through dedicated metal conduits. Installing ferrite bead filters at the cable ends may also improve reliability.

Operation

Chapter Objective

This chapter covers these topics:

- Operating guidelines
- Starting the system
- Resetting the system
- Universal serial bus (USB) ports

Operating Guidelines

Observe these operating guidelines when using your computer:

- If you are using an external monitor, turn the monitor on first.
- Always use the proper power down procedures as required by your operating system, such as the Shut Down command in the Microsoft Windows operating system.
- After shutting the system off, do not move the computer, or turn it back on again, until the computer comes to a complete stop, which takes about 30 seconds.

SHOCK HAZARD

Do not operate the computer with the covers removed. An electrical shock hazard exists. Removing the covers will disrupt air flow and may result in overheating. All covers, including the slot covers, are required to maintain EMI shield.

Start the System

Apply power to the computer. The computer performs a Power On Self Test (POST). The processor board, memory, keyboard, and certain peripheral devices are tested.

Use a monitor if you want to view the progress of the POST and initialization of accessory devices. The monitor displays the startup dialogs for the operating system that is installed.

If your system does not start, or you notice other anomalies, refer to the System Troubleshooting chapter.

Reset the System

To reset the computer, press Ctrl+Alt+Delete on an attached keyboard and follow the operating system instructions.

After resetting, the computer begins the Power On Self Test (POST). During a reset, the computer:

- clears RAM.
- starts the POST.
- initializes peripheral devices, such as drives and printers.
- loads the operating system, if installed, or starts a Windows session.

Universal Serial Bus (USB) Ports

The universal serial bus (USB) is an external bus standard that supports data transfer rates of 12 Mbps (12 million bits per second). The 200R computer supports USB 2.0 in the Windows operating system with data transfer rates of 480 Mbps.

You can connect multiple peripheral devices to the USB ports such as a mouse, modem, and keyboard. USB also supports Plug-and-Play installation and hot plugging.

For information on installing or using USB, refer to the documentation for your USB peripheral device.

TIP

Many USB devices only work with Windows XP or Windows 2000 operating systems because these operating systems have native USB drivers. Make sure the selected USB peripheral has software drivers available for your target operating system.

Replace System Components

Chapter Objectives

This chapter provides procedures to perform these tasks:

- Remove the cover
- Install add-in cards
- Replace the hard disk drive
- Connect an external drive
- Replace memory modules
- Load a memory card
- Replace the battery
- Replace the fan filter

Accessories and Replacement Parts

You can view a current list of accessories at the Rockwell Automation Allen-Bradley website <http://www.ab.com/industrialcomputers>.

Safety Precautions

The computers contain line voltages. Disconnect all power to the computer before you install or remove system components.

SHOCK HAZARD

Disconnect power from the computer before removing components. Failure to disconnect power could result in severe electrical shock and damage the computer.

Electrostatic Discharge (ESD)

ATTENTION

Electrostatic discharge (ESD) can damage the computer and components. Make sure you work in a static-safe environment and wear a grounding strap whenever handling circuit boards, power supply, memory modules, or other internal components.

Remove the Cover

To install or upgrade computer components, you must first remove the cover.

SHOCK HAZARD

Failure to follow proper safety precautions could result in severe electrical shock and or damage to the computer.

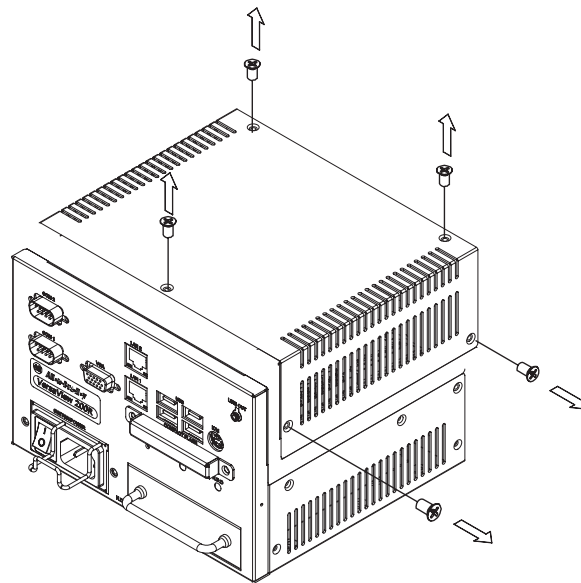
Required Tools

You need a #2 Phillips screwdriver.

Remove the Cover of the 200R Computer

Follow these steps to remove the cover of the VersaView 200R computer.

1. Disconnect power from the computer.
2. Remove the top three screws and two screws on each side.
3. Remove the top plate.

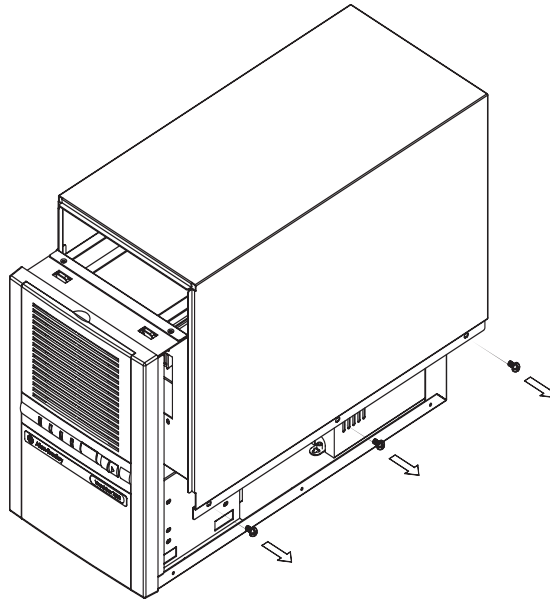


When reattaching the top cover on the 200R computer, torque the screws to 0.678 Nm (6 lb-in).

Remove the Cover of the 700R Computer

Follow these steps to remove the cover of the 700R computer.

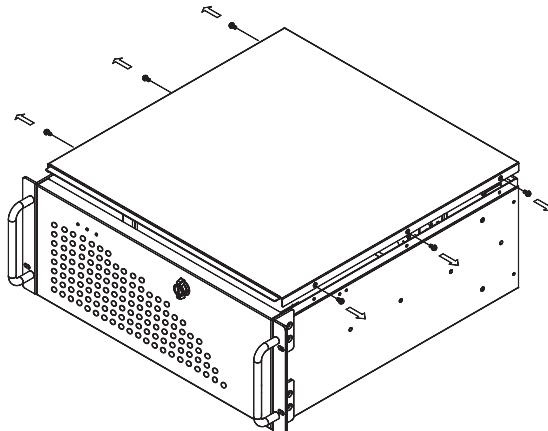
1. Disconnect power from the computer.
2. Remove the three screws on each side.
3. Remove the top plate.



Remove the Cover of the 1400R Computer

Follow these steps to remove the cover of the 1400R computer.

1. Disconnect power from the computer.
2. Remove the three screws on each side.
3. Remove the top plate by moving it back, then up.



Install Add-in Cards

You can install PCI or ISA add-in cards in the VersaView 700R and 1400R computers.

SHOCK HAZARD

Failure to follow proper safety precautions could result in severe electrical shock or damage to the computer.

ATTENTION

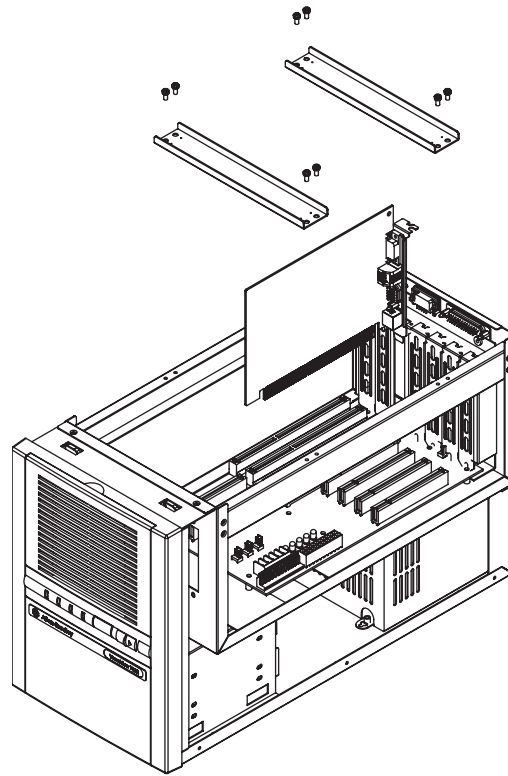
Add-in cards are sensitive to ESD and require careful handling. Hold cards only by the edges. Do not touch connectors, components, or circuits. After removing a card, place it on a flat, static-free surface, component side up. Do not slide the card over any surface.

To locate the cat. nos. for the VersaView approved PCI or ISA add-in cards, go to the website <http://www.ab.com/industrialcomputers>.

Required Tools

You need a #2 Phillips screwdriver.

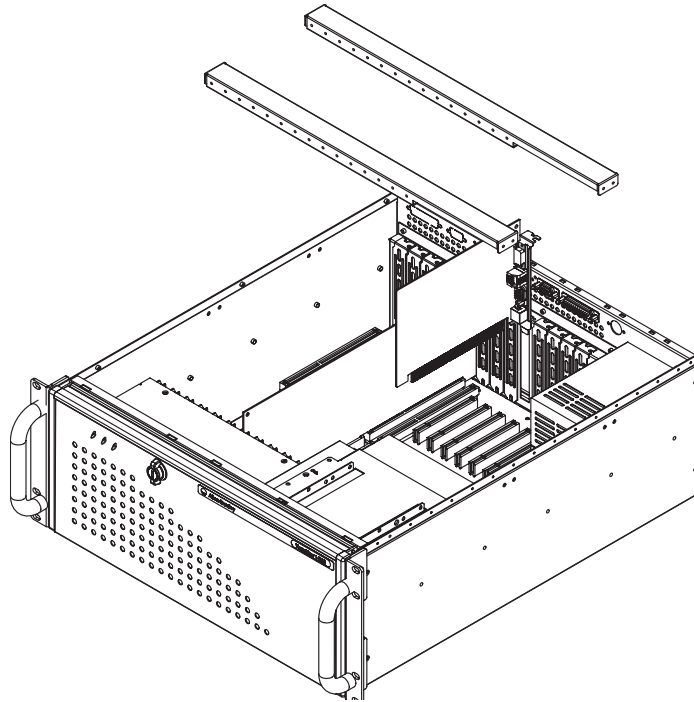
Install Add-in Cards in the 700R Computer



Follow these steps to install add-in cards in the VersaView 700R computer.

1. Disconnect power from the computer.
2. Remove the top cover.
3. Remove the four screws in each hold-down bar.
4. Remove the hold-down bars.
5. Remove the screw and blank orb from the selected slot.
6. Gently, but firmly, install the add-in card into the appropriate expansion slot and screw in the orb.
7. Replace the two top hold-down bars and four screws in each bar.
8. Replace the top cover.

Install Add-in Cards in the 1400R Computer



Follow these steps to install add-in cards in the VersaView 1400R computer.

1. Disconnect power from the computer.
2. Remove the top cover.
3. Remove the four screws on each hold-down bar.
4. Remove the hold-down bars.
5. Remove the screw and blank orb from the selected slot.
6. Gently, but firmly, install the add-in card into the appropriate expansion slot and screw in the orb.
7. For low profile cards, loosely attach a padded hold-down finger to the hold-down bar.
8. Replace the two top hold-down bars and four screws in each bar.
9. Position and tighten the hold-down finger, if appropriate.
10. Replace the top cover.

Replace the Hard Disk Drive

Follow these precautions when working with the hard disk drive:

- Do not touch internal components.
- Always handle the hard disk drive by its metal frame.
- Store the hard disk drive in an anti-static bag when it is not installed.
- Never remove or install a hard disk drive with the power on.

SHOCK HAZARD

Failure to follow proper safety precautions could result in severe electrical shock and/or damage to the computer.

ATTENTION

Electrostatic discharge (ESD) can damage the computer and components. Make sure you work in a static-safe environment and wear a grounding strap whenever handling circuit boards, power supply, memory modules, or other internal components.

ATTENTION

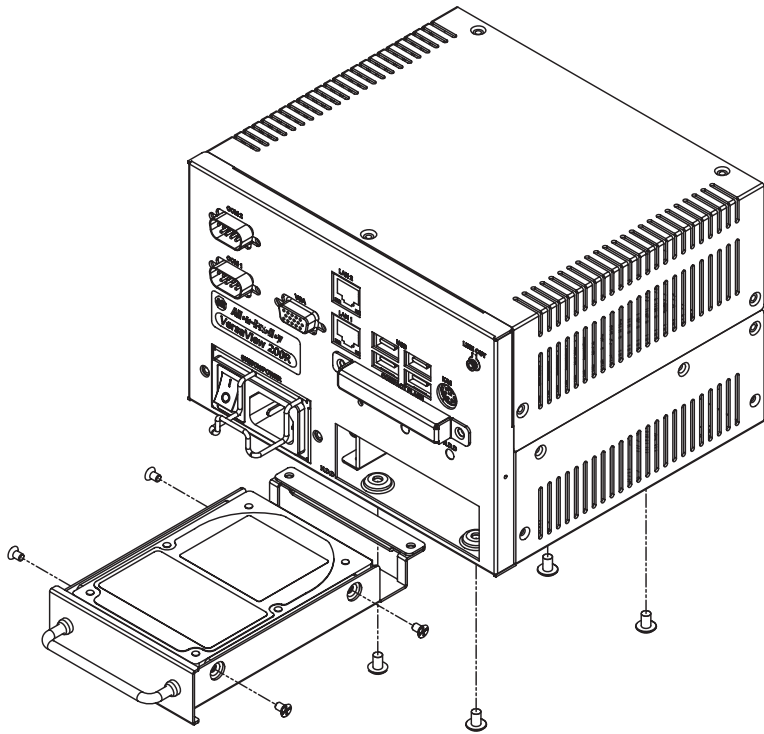
Mechanical shock can damage a hard drive. Do not drop or bump the drive.

To locate the catalog number for the approved VersaView 2.5-inch hard drive, go to the website <http://www.ab.com/industrialcomputers>.

Remove the Hard Disk Drive on the 200R Computer

Follow these steps to remove the hard disk drive of the VersaView 200R computer.

1. Disconnect power from the computer.
2. Remove the four screws from the bottom of the enclosure that secure the hard disk drive assembly.
3. Pull the handle to slide the hard disk drive carrier out of the enclosure.
4. Remove the four screws that hold the hard disk drive to the bracket.
5. Lift the hard disk drive out of the carrier.
6. Disconnect the IDE ribbon cable from the hard disk drive.



Install a Hard Disk Drive in the 200R Computer

Follow these steps to install a hard disk drive in the VersaView 200R computer.

- 1.** Connect the IDE ribbon cable to the hard disk drive.
- 2.** Place the hard disk drive into the bracket and secure it by using the four screws; torque to 0.452 Nm (4 lb-in).
- 3.** Gently slide the hard disk drive assembly into the bracket.
- 4.** Secure the hard drive carrier by fastening the four screws to the bottom of the enclosure and torque to 0.678 Nm (6 lb-in).

Connect an External Drive

Observe these precautions when connecting an external drive:

- Always handle the media by its case.
- Avoid touching the cable connectors.
- Remove disks before disconnecting power to the drive.
- Do not expose the external drive to severe shock or temperature.
- Operate the external drive only on a flat surface.
- Do not move the external drive while it is operating.

Sample External Drives

Examples of external drives are listed.

- Lacie 1.44 MB USB floppy drive (model number 706018)
For more information, refer to the website
<http://www.lacie.com>.
- Lite-on External USB Slim CDRW/DVD-ROM Combo Drive
(Model number LSC-24081MX)
For more information, refer to the website
<http://www.liteonit.com.tw>.
- For VersaView approved external drives, refer to the website
<http://www.ab.com/industrialcomputers>

Connect an External Drive to the Computer

Follow these steps to connect an external drive to the computer.

1. Turn on power to the computer.
2. Connect the ac plug for the external drive to a power source.
3. Connect the drive to the USB port on the computer.
4. Follow the manufacturer's instructions to load any required software drivers and to configure the computer to operate with the external drive.

Add or Remove Memory

The CPU board in the VersaView 700R and 1400R computers has two 168-pin sockets. Each socket supports a single or double-sided 3.3V dual in-line memory module (DIMM). Use the Allen-Bradley 512 MB DIMM (catalog number 6189V-DIMM512) for memory replacement or expansion.

TIP

We recommend that you use only qualified Allen-Bradley parts.

Memory for the VersaView 200R computer is not serviceable or upgradeable.

Guidelines for Replacing Memory

ATTENTION

ESD can damage the computer and components. Make sure you work in a static-safe environment and wear a grounding strap whenever handling circuit boards, power supply, memory modules, or other internal components.

Follow these guidelines when adding memory to the CPU board in the VersaView 700R or 1400R computer.

- Use only a standard, 168-pin unbuffered DIMM that conforms to both PC-133, and serial presence detect (SPD) compliance industry standards.
- Use only synchronous dynamic random access memory (SDRAM) type DIMMs.
- BIOS automatically detects memory size and type.
- Use only gold-plated lead DIMMs.
- Always handle the memory cards by the ends, not by the memory module contacts.
- Store memory in a sealed, anti-static bag when it is not installed.
- Never install or remove memory with the power on.

Add or Remove Memory Modules

Follow these steps to add or remove memory modules in a VersaView 700R or 1400R computer.

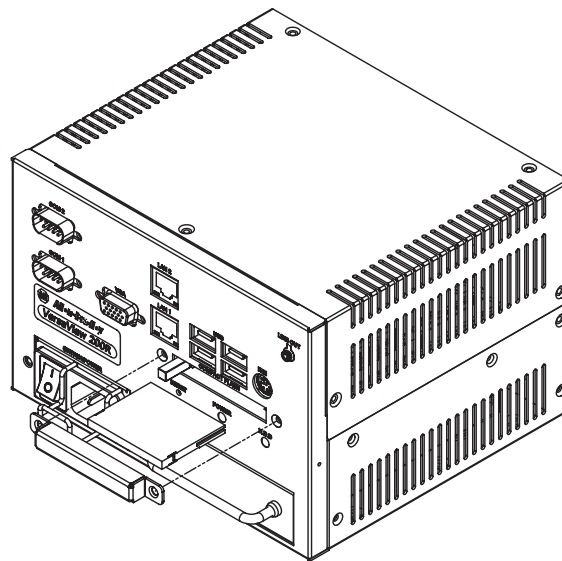
1. Disconnect power from the computer.
2. Remove the top cover.
3. Remove any retaining brackets blocking access to the memory module.
The DIMM sockets are near the top of the CPU board.
4. Remove the existing memory modules from the CPU card by clipping the cable tie, and pressing outward on the retaining latches.
5. To install a new DIMM, hold the module only by the edges as you remove it from its anti-static package.
6. Position the DIMM so that the small notches in the bottom edge of the DIMM align with the notches in the DIMM socket on the CPU card.
The retaining latches should be fully disengaged, or open, when you install a DIMM.
7. Press down firmly, and uniformly, on the DIMM to seat it in the socket.
The latches must engage in the DIMM slot to secure the DIMM.
8. Replace the tie wrap around the DIMM and latches to fully secure the DIMM.
9. Replace the top cover.

Load a Memory Card

The VersaView 200R computer has a CompactFlash slot for loading memory cards.

Follow these steps to load a card in the CompactFlash slot of a VersaView 200R computer.

1. Locate the CompactFlash slot on the front of the computer.
2. Remove the CompactFlash cover by removing the screw on each side of the cover.



3. Insert the card into the card slot until it is firmly seated.

ATTENTION

Do not force the card into the slot. Forcing the card into the slot may damage the connector pins.

4. Reattach the CompactFlash cover by using the two screws on each side.

Replace the Battery

The computers use nonvolatile memory that require a battery to retain system information when power is removed. The lithium battery is in a battery holder on the computer's CPU board.

- For the VersaView 700R and 1400R computer, replace this battery as needed with a Panasonic battery, part number CR2032, or equivalent.
- For the VersaView 200R computer, replace the battery as needed with a specially-packaged replacement part from Allen-Bradley.

WARNING



To avoid the danger of explosion, replace the battery with only the recommended equivalent or Allen-Bradley replacement part. Dispose of used batteries according to the manufacturer's instructions.

The battery life depends on the amount of time the computer is powered on. The table lists the estimated life span of the battery.

Estimated Battery Life Span

On Time	Expected Battery Life
0 hours/week	4 years
40 hours/week	5.5 years
80 hours/week	7 years

If your computer does not display the correct time and date, replace the battery.

IMPORTANT

Loss of BIOS settings occurs when the battery is removed. BIOS settings must be reconfigured whenever the battery is replaced.

Replace the Fan Filter

Replace the fan filters every 6...12 months. The replacement schedule depends on the environment. The more severe the environment, the more often you need to replace the filter.

The VersaView 200R computer is fanless and does not require replacement of the fan filters.

To locate approved VersaView fan filters, go to the website <http://www.ab.com/industrialcomputers>.

System Troubleshooting

Chapter Objectives

This chapter provides information on troubleshooting anomalies with your computer.

- Troubleshooting procedure
- Diagnostic utility
- Troubleshooting checklists
- Shipping information

Troubleshooting Procedure

To identify and isolate an anomaly with your computer, follow these steps.

1. Shut down the computer's operating system by using the appropriate method for your operating system.
2. Disconnect the power to the computer.
3. Disconnect peripheral devices such as a printer or external drive.
4. Connect the keyboard and mouse, if used.
5. Check the video connections if using an external monitor.
6. Connect power to the computer.
When you apply power, check the power on self test (POST). One of three events will occur.
 - The computer completes the startup process.
 - An error message displays to indicate a nonfatal fault. You may have to acknowledge the message before the startup process continues.
 - The startup process terminates if a fatal error occurs.
7. If the system starts, isolate the anomaly by connecting peripheral devices one at a time until the anomaly occurs.

If the anomaly is with a specific software package, or driver, reinstall the software.

8. If the anomaly is not related specifically to a software installation or peripheral device, refer to the diagnostic utility and the troubleshooting checklists.

Diagnostic Utility

If you followed the troubleshooting procedure and are still having anomalies, use the VersaView diagnostic utility to isolate the anomaly. This utility determines the cause of the malfunction by testing computer components.

You can perform an initial diagnosis without disconnecting or moving your computer. The process takes as little as five minutes or as long as eight hours, depending on the anomaly. After the diagnostic utility has run, you can generate a report for analysis by a technical support representative, expediting any necessary repair process.

The diagnostic utility and documentation are on the VersaView Support CD that ships with your computer. To run the diagnostic utility, insert the Support CD into the computer's CD-ROM drive and restart the computer. No software is installed, nor does the utility affect any software already installed.

Troubleshooting Check Lists

Use the following checklists to test or verify items.

Problems During Startup

- Are all connections secure?
- Are the device drivers installed?
- Are the jumpers on any add-in boards correctly positioned?
- If starting from a hard drive, is the hard drive formatted and set up in the BIOS?
- Is the RAM memory properly installed? You may want to reinstall it to verify a good connection.
- If starting from a hard drive, is the IDE cable from the hard drive properly connected? You may want to check if the system will start from a floppy disk.
- Is BIOS properly configured? Restore the system's original factory settings.

Problems After Startup

- If you are running a software package, reinstall the software.
- If the anomaly is intermittent, you may have a loose connection. Check all connections including any PCI expansion cards.

- Are the memory modules fully installed?
- Does your system have a computer virus? Run anti-virus software.
- If there is a flickering display, unexpected restarts, or a locked system, exit the application and start over. Although the computers have a regulated and protected power supply, a transient voltage in the power line or peripheral cable could cause errors.
- Is the IDE cable from the hard drive properly connected? You may want to check if the system will start from a floppy drive.
- Is the system overheating? Verify that the chassis fan is working.
- Is the alarm light on the 700R or 1400R computer on? The light indicates one of three failures that may require service.
 - The CPU fan is not operating at the correct speed.
 - The CPU temperature is elevated beyond its rating.
 - One of the power supply voltages is outside its specified range.

If the alarm light remains on, the computer should be returned for service.

Problems Running New Software

- Does the software have a hardware requirement that is not present?
- Are you using an authorized copy of the software? Some copies of software will not work without proper activation.
- Did the software install correctly? Reinstall the software.
- Are you following the software instructions? Refer to the vendor user manual.

Problems With an Add-in Card

- Is the card installed and configured correctly? Check the jumper and other configuration settings.
- Are cables incorrectly installed?
- Does the card use a dedicated interrupt? You may need to reserve that interrupt in the CMOS setup PCI/PNP menu.

Problems With the Display

- Are the display contrast and brightness controls properly adjusted? Refer to the operating system containing the video driver for setup functions.
- Is the monitor compatible with the selected video mode? Press Auto Adjust on the monitor.
- Is the monitor functioning properly? Verify monitor operation by connecting it to another computer.
- Is the selected character color the same as the background color? If so, change the character color.
- Is the video cable properly installed?
- Is the display still not working correctly? Restart the computer with the external monitor connected and powered on.

Ship or Transport the Product

If you need to ship the product via common carrier or otherwise transport it to another location, you must first uninstall the product and place it in its original packing material.

ATTENTION

Do not ship or transport the product when it is installed in a machine, panel, or rack. Doing so may cause damage to the product. You must uninstall the product and place in its original packing material before shipping. Rockwell Automation is not responsible for damage incurred to a product that is shipped or transported while installed in a machine, panel, or rack.

Specifications

VersaView Industrial Non-display Computers

Attribute	Value
System	
Display description	Requires external monitor
Processor type	
Standard models	
200R	Intel Celeron M, 1 GHz
700R	Intel Pentium 4 Celeron, 2 GHz
1400R	Intel Pentium 4 Celeron, 2 GHz
Performance models	
200R	Intel Celeron M, 1 GHz
700R	Intel Pentium 4, 2 GHz
1400R	Intel Pentium 4, 2 GHz
Expansion slot description	
200R	1 CompactFlash slot
700R	Half-length: 3 PCI slots, Full-length: 2 ISA slots, 1 CompactFlash connector (internal)
1400R	Half-length: 3 PCI, 2 ISA slots, Full-length: 4 PCI, 3 ISA slots, 1 CompactFlash connector (internal)
RAM, 200R 6155R models	
Standard	256 MB
Performance	512 MB
RAM, 200R 6155F models	
Performance	1 GB
RAM, max capacity	
200R	1GB max, not serviceable or upgradable
700R, 1400R	2GB max, 2 DIMMS of 1GB memory
Hard drive	
200R 6155F	4 GB solid-state drive
200R 6155R	40 GB
700R	80 GB
1400R	80 GB
Removable media	
Standard models	
200R	-
700R	3.5 in. floppy drive, slim CD-ROM drive
1400R	3.5 in. floppy drive, CD-ROM drive
Performance models	
200R	-
700R	3.5 in. floppy drive, slim DVD-ROM/CD-RW drive
1400R	3.5 in. floppy drive, DVD-ROM/CD-RW drive

Attribute	Value
I/O	
200R standard	2 serial ports, 1 PS/2 port (keyboard/mouse), 1 Ethernet port 10/100 Mbps, VGA port, 4 USB 2.0 ports, audio line out port
200R performance	2 serial ports, 1 PS/2 port (keyboard/mouse), 2 Ethernet ports 10/100 Mbps, 1 VGA port, 4 USB 2.0 ports, audio line out port
700R, 1400R	2 serial ports, 1 PS/2 port (keyboard/mouse), 1 parallel port, 1 Ethernet port 10/100 Mbps, 1 VGA port, 1 USB 1.1 port, audio out
Operating system	
200R	Windows XP
700R, 1400R	Windows 2000, Windows XP
Electrical	
Input voltage, ac	90...264V ac, autoranging
Line frequency	47...63 Hz
Power consumption, ac	
200R	30 W (0.5 A @ 100V rms, 0.28 A @ 240V rms)
700R	130V A (1.3 A @ 100V rms, 0.54 A @ 240V rms)
1400R	150V A (1.5 A @ 100V rms, 0.63 A @ 240V rms)
Input voltage, dc	
200R	9...36V dc, autoranging
Power consumption, dc	
200R	30 W (0.84 A @ 36V dc, 3.34 A @ 9V dc)
Mechanical	
Weight, approx.	
200R	2.5 kg (5.6 lb)
700R	10.8 kg (23.7 lb)
1400R	17.4 kg (38.3 lb)
Dimensions (HxVxD), approx.	
200R	115 x 172 x 150 mm (4.54 x 6.78 x 5.91 in.)
700R	258 x 192 x 431 mm (10.16 x 7.56 x 16.98 in.)
1400R	176 x 482 x 560 mm (6.93 x 18.97 x 22.05 in.)

Environmental

Attribute	Value
Temperature, operating	0...50 °C (32...122 °F)
Temperature, storage	-20...60 °C (-4...140 °F)
Relative humidity	10...90% noncondensing
Shock, operating	15 g (1/2 sine, 11 ms)
Shock, nonoperating	30 g (1/2 sine, 11 ms)
Vibration, operating 200R 6155R rotating hard drive 6155F solid-state drive 700R and 1400R	1 Grms random 0.012 in. p-p, 10...57 Hz, 2 g peak, 57...500 Hz 0.006 in. p-p, 10...57 Hz, 1 g peak, 57...500 Hz
Vibration, nonoperating	0.012 in. p-p, 10...57 Hz, 2 g peak, 57...500 Hz
Enclosure ratings	NEMA Type 1

Certifications

Certifications ⁽¹⁾	
c-UL-us	UL 60950 recognized component, c-UL 950 recognized component, or UL/c-UL listed when marked
CE	Marked for all applicable directives EMC 89/336/EEC LVD 73/23/EEC
RoHS compliant	
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions

⁽¹⁾ See <http://ab.com> for declarations of conformity, certificates, and other certification details.

Upgrade to a New BIOS

Sometimes a new BIOS is released to enhance the performance of your computer, make it compatible with new hardware or software, or to correct a defect. You can download BIOS updates from the Rockwell Automation website <http://www.ab.com/industrialcomputers> to update your computer.

Follow these steps to update the BIOS in your computer.

1. Attach a monitor and keyboard to your computer.
For the 200R computer, connect an external USB floppy drive.
2. On any computer connected to the Internet and containing a floppy disk, go to the website <http://www.ab.com/industrialcomputers>.
3. Click Support Resources>Drivers.
4. Click the link matching your computer's description and navigate to the specific product.
5. Click the link for the specific BIOS download and save it to the hard drive.
6. Unzip the download.
7. Run the extracted executable and choose to write on the floppy drive.
This creates a BIOS update floppy disk that you can use to start your VersaView computer.
8. Load the floppy disk containing the BIOS update in your VersaView computer and restart the computer.
9. Follow the directions that appear on the computer screen to properly update the BIOS.

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Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <http://support.rockwellautomation.com>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect Support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://support.rockwellautomation.com>.

Installation Assistance

If you experience a problem with a hardware module within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your module up and running.

United States	1.440.646.3434 Monday – Friday, 8am – 5pm EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

New Product Satisfaction Return

Rockwell tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning, it may need to be returned.

United States	Contact your distributor. You must provide a Customer Support case number (see phone number above to obtain one) to your distributor in order to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for return procedure.

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