VersaView 6300P Panel PCs

Catalog Number 6300P

Allen-Bradley

by **ROCKWELL AUTOMATION**

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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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.

⚠	**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.

IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.

⚡	**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.

⚠	**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

Safety Guidelines

Only qualified personnel must operate the VersaView® 6300P panel personal computers (PCs). Qualified personnel are those who, based on their training and experience, are able to identify risks and potential hazards while working with these computers.

The VersaView 6300P panel PCs are only for indoor use. The computers can be damaged if operated outdoors.

The VersaView 6300P panel PCs are open equipment, which means the following:

- This equipment can only be integrated in housings or cabinets where the computer is operated from the front panel.
- The housing or cabinet in which the computer is mounted can only be accessed with a key or tool, and only by qualified personnel.
- Before a housing or cabinet can be opened, all power must first be disconnected.

Proper Disposal of the Computer

You cannot dispose of computer equipment like other waste material. Most computers and monitors contain heavy metals that can contaminate the earth. Therefore, check with local health and sanitation agencies for ways to dispose of computer equipment safely.

Battery Removal

This computer contains a sealed lithium battery that could need replacement during the life of the computer. At the end of its life, collect the battery that is contained in this computer separately from any unsorted municipal waste.

Waste Electrical and Electronic Equipment (WEEE)

At the end of its life, collect this equipment separately from any unsorted municipal waste.

Notes:

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Preface

Chapter 1

About the Panel PC

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Operate the Panel PC

This manual is a user guide for VersaView® 6300P panel PCs. It provides procedures to the following:

- Install the computer.
- Make computer connections.
- Operate the computer.
- Troubleshoot the computer.

A general knowledge of automation technology is needed to understand and follow the instructions in this publication.

Knowledge of personal computers and Microsoft Windows® operating systems are required to understand and follow the instructions in this publication.

Catalog Numbers

This publication is applicable to these 6300P panel PCs. For your catalog number, see the product label on the side of your computer.

Cat. No. Identifier	Bezel Type	Bezel Material	Touchscreen Type
6300P-***BAPS...	Standard	Aluminum	Resistive
6300P-***FAPS...			
6300P-***AAPS...	Low profile		
6300P-***ACPM...		Aluminum glass True Flat	PCAP
6300P-***ECPM...			

Summary of Changes

This publication contains the following new or updated information. This list includes only substantive updates and is not intended to reflect all changes.

Topic	Page
Removed HD and SVGA, and added WXGA as an available display resolution in the bullet point.	9
Updated the operating temperature range of the computers and added the corresponding footnote.	14
Expanded the ambient air humidity parameters.	14
Removed Intel Celeron from the table in Power Consumption subsection.	18
Removed the footnote and UL reference for the SELV power supply requirement.	19
Replaced artwork with photograph in Table 1.	20
Added row that green signifies watchdog is working to item 3 in Table 2.	22

Additional Resources

These documents contain additional information about related products from Rockwell Automation.

Resource	Description
VersaView 6300P Panel PC Installation Instructions, publication 6300P-IN001	Provides basic installation guidelines and instructions for VersaView 6300P panel PCs.
VersaView 6300 Industrial Computer and Monitor Specifications Technical Data, publication IC-TD003	Provides technical specifications about the VersaView 6300M industrial panel monitors.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

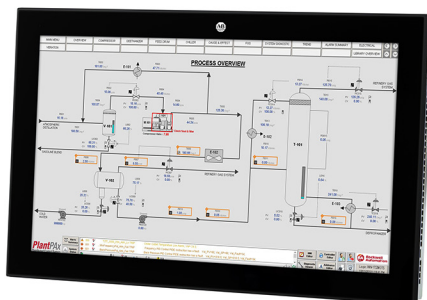You can view or download publications at rok.auto/literature.

Notes:

About the Panel PC

Standard Profile Aluminum Bezel

Low Profile Aluminum Bezel
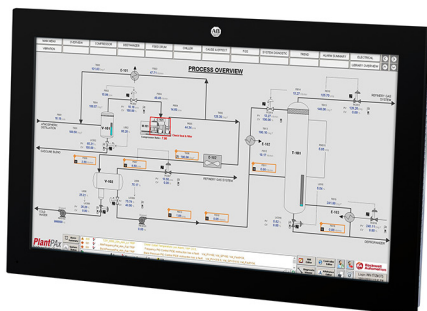

Low Profile Aluminum-glass True Flat Bezel

The Allen-Bradley® VersaView® 6300P panel PC family is available in various display sizes and resolutions. There are options of either standard or low profile bezel units.

IP65 environmental protection makes the VersaView 6300P panel PC an excellent match for wash-down applications such as food processing and life sciences. Fanless construction helps to deliver low maintenance operation and enhance longevity.

VersaView 6300P panel PCs are ideal for applications that require a high-performance Human Machine Interface (HMI). This product family integrates completely with our FactoryTalk® View SE and FactoryTalk View ME software for smooth assimilation within your facility.

VersaView 6300P panel PCs offer the following features:

- Available in standard and low profile bezels, with the latter available in aluminum and aluminum-glass True Flat
- Available in display sizes from 12.1...24 inches
- Resolutions that include FHD/VGA/SXGA/WXGA/XGA
- Analog resistive and PCAP (for multi-touch operation) touch screens
- Four Ethernet 10/100/1000 Mbps ports
- Supports 'Jumbo Frame' and 'Wake on LAN' network standards
- Capable of supporting Windows and Linux operating systems
- Variations available with long-distance support for up to two additional displays
- Mass storage types that include mSATA, SSD SATA III, and CFAST
- Up to 32 GB of SODIMM DDR4 RAM
- USB variations of one USB 2.0 (Type A) front[1] and rear ports, and up to three USB 3.0 rear (Type A) ports
- One RS-232 (DB9M) serial port
- One DVI-D video output
- IP65 environmental rating
- Fanless design for 24V DC SELV input power
- Additional options in TPM, PCI expansion slots, and additional communications

For more information about your computer model, see

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(1) The USB front port is only available on VersaView 6300P panel PCs with standard profile aluminum bezels.
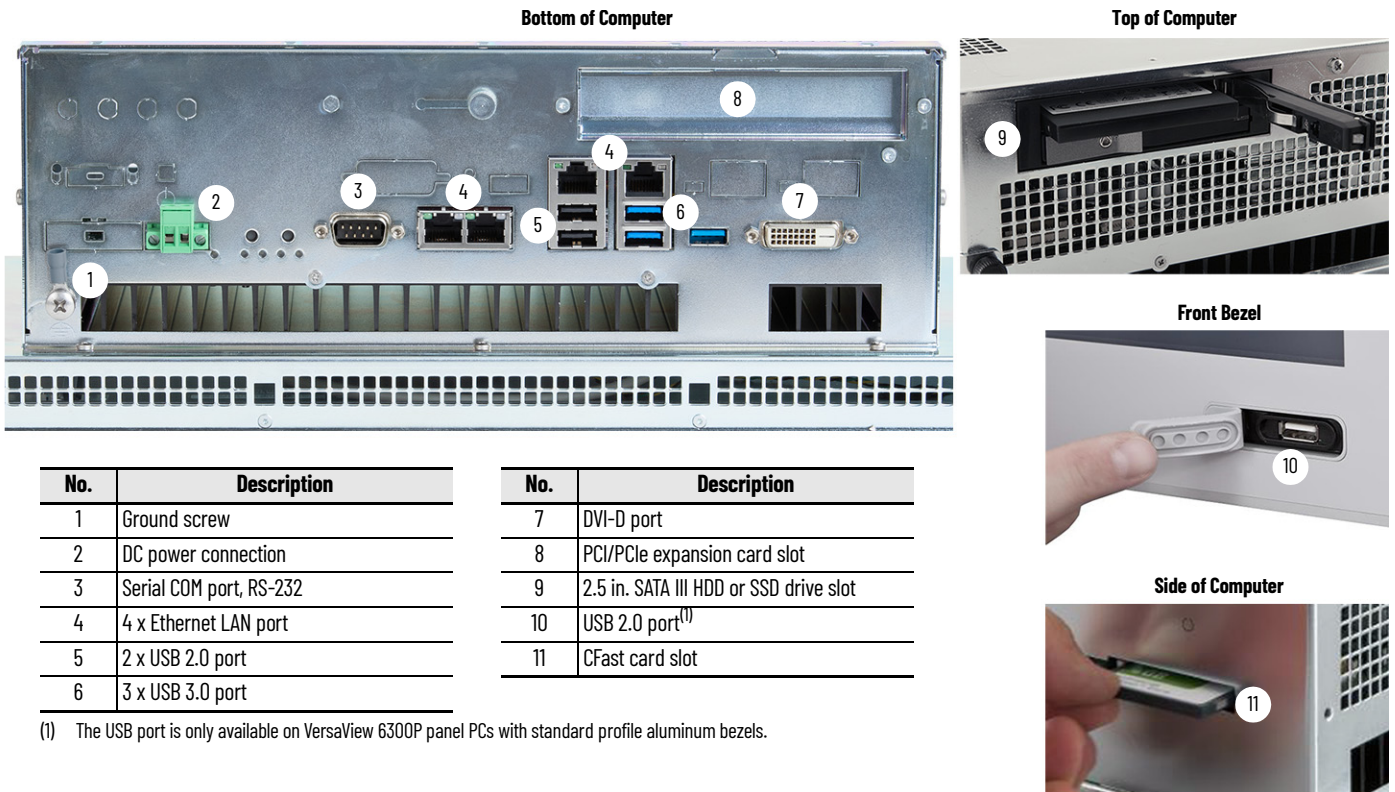
Computer Options

The following panel PCs are covered in this user manual. See the label on your computer for its catalog number.

Cat. No.	Display Size (in.)	Touch Screen Type	Aspect Ratio	Resolution (W x H)	Luminance, cd/m^2	Bezel Type	Power
6300P-121BAPS...	12.1	Resistive	16:10	1280x800, WXGA	400	Standard aluminum	24V DC
6300P-121FAPS...			4:3	1024x768, XGA	600		
6300P-150BAPS...	15.0		16:10	1280x800, WXGA	400		
6300P-150FAPS...			4:3	1024x768, XGA	500		
6300P-156AAPS...	15.6	PCAP	16:9	1920x1280, FHD	400	Aluminum-glass True Flat	
6300P-156ACPM...							
6300P-156ECPM...							
6300P-170BAPS...	17.0	Resistive	5:4	1280x1024, SXGA	350	Standard aluminum	
6300P-170FAPS...							
6300P-185AAPS...	18.5	PCAP	16:9	1920x1080, FHD	500	Aluminum-glass True Flat	
6300P-185ACPM...							
6300P-185ECPM...							
6300P-190BAPS...	19.0	Resistive	5:4	1280x1024, SXGA	350	Standard aluminum	
6300P-190FAPS...							
6300P-215AAPS...	21.5	PCAP	16:9	1920x1080, FHD	300	Aluminum-glass True Flat	
6300P-215ACPM...							
6300P-215ECPM...							
6300P-240AAPS...	24	Resistive				Standard aluminum	
6300P-240ACPM...		PCAP				Aluminum-glass True Flat	

Computer Connections

[Figure 1](#) shows the computer connections of the VersaView 6300P panel PCs.

Figure 1 - VersaView 6300P Computer Connections

Bottom of Computer

Top of Computer

Front Bezel

Side of Computer

No.	Description
1	Ground screw
2	DC power connection
3	Serial COM port, RS-232
4	4 x Ethernet LAN port
5	2 x USB 2.0 port
6	3 x USB 3.0 port

No.	Description
7	DVI-D port
8	PCI/PCIe expansion card slot
9	2.5 in. SATA III HDD or SSD drive slot
10	USB 2.0 port[1]
11	CFast card slot

(1)   The USB port is only available on VersaView 6300P panel PCs with standard profile aluminum bezels.
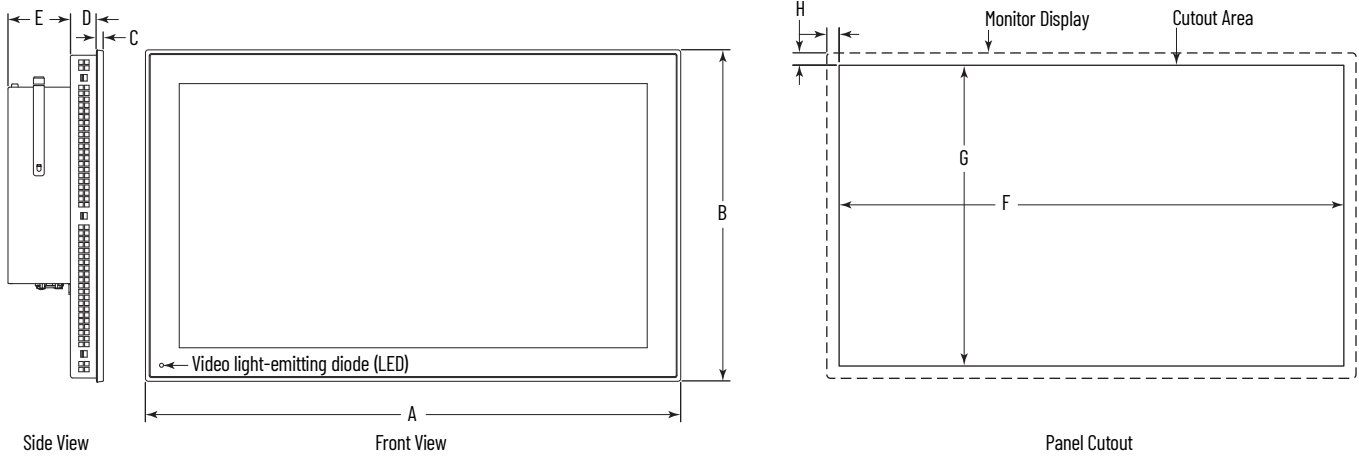
Computer Dimensions

Figure 2 shows the dimensions of the various VersaView 6300P panel PC models.

For the catalog number of your computer, refer to the label on your computer.

Figure 2 – VersaView 6300P Computer Dimensions

NOTE: Cat. No. 6300P-240ACPM... with a low profile bezel is shown only for illustrative purposes.

Side View   Front View   Panel Cutout

Cat. No.	Display Size, in.	Format[1]	All dimensions are in mm (in.)							
			Panel PC					Panel Cutout		
			A	B	C	D	E	F[2]	G[2]	H
6300P-121BAPS... 6300P-121FAPS...	12.1	S1	335 (13.2)	270 (10.62)	5 (0.2)	19 (0.75)	100 (3.94) 70 (2.76)	315 (12.4)	250 (9.84)	10 (0.39)
6300P-150BAPS... 6300P-150FAPS...	15		390 (15.35)	315 (12.4)			100 (3.94) 70 (2.76)	370 (14.57)	295 (11.61)	
6300P-156AAPS... 6300P-156ACPM... 6300P-156ECPM...	15.6	W1 W2	395.5 (15.57)	245 (9.65)		24 (0.95)	100 (3.94) 70 (2.76)	387.5 (15.26)	237.5 (9.35)	4 (0.16)
6300P-170BAPS... 6300P-170FAPS...	17	S1	455 (17.91)	355 (14)		21 (0.83)	100 (3.94) 70 (2.76)	435 (17.13)	335 (13.19)	10 (0.39)
6300P-185AAPS... 6300P-185ACPM... 6300P-185ECPM...	18.5	W1 W2	461 (18.15)	282 (11.1)	6 (0.24)	24 (0.95)	100 (3.94) 70 (2.76)	453 (17.83)	274.5 (10.81)	4 (0.16)
6300P-190BAPS... 6300P-190FAPS...	19	S1	490 (19.29)	388 (15.28)		23 (0.91)	100 (3.94) 70 (2.76)	470 (18.5)	368 (14.49)	10 (0.39)
6300P-215AAPS... 6300P-215ACPM... 6300P-215ECPM...	21.5	W1 W2	528 (20.79)	319.5 (12.58)		24 (0.95)	100 (3.94) 70 (2.76)	520 (20.47)	312 (12.28)	4 (0.16)
6300P-240AAPS... 6300P-240ACPM...	24	W1 W2	584 (23)	352 (13.86)			100	576 (22.68)	344.5 (13.56)	

(1)   S = standard and W = widescreen; 1 = single touch and 2 = multi-touch. For aspect ratios, see Computer Options on page 10.
(2)   Dimensions are +0/-1 mm (0.04 in.).

Notes:

Chapter **2**

Install the Panel PC

Follow these guidelines and procedures to help you plan your installation, prepare the panel cutout, and mount and power up the computer.

Unpack the Computer

Before you unpack the computer, 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 must return the computer for repair or transport it to another location.

The computers ship with the following items.

Parts List

Item	Description
Hardware	• Mounting clips • DC power connector assembly kit
Document	VersaView® 6300P Panel PCs Installation Instructions, publication 6300P-IN001

Prepare for Installation

Read and follow these precautions before you install the computer.

Environment and Enclosure Information

⚠ **ATTENTION:** This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 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/EN 61326-1. Without appropriate precautions, there can be potential difficulties with electromagnetic compatibility in other environments due to conducted and radiated disturbance.

This equipment is UL Listed. However, to meet some regulatory requirements, the computer must be mounted in an enclosure that is suitably designed for environmental conditions that can be present.

All VersaView 6300 panel PCs are shipped with a gasketed bezel to meet specified NEMA, UL Type, and IEC IP ratings only when mounted in a panel or enclosure with an equivalent rating.

In addition to this publication, see the following:

• Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1, for more installation requirements
• UL 50, CSA C22.2 No. 94.1, and IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures

UL/cUL Mark Compliance

Equipment with the UL/cUL mark complies with the requirements of
UL 61010-1, UL 61010-2-201, CSA C22.2 No. 61010-1, and CSA C22.2 No. 61010-2-201.
A copy of the certificate of compliance is available at rok.auto/certifications.

European Union Directive Compliance

This computer meets the European Union Directive requirements when
installed within the European Union or EEA regions and have the CE marking.
A copy of the declaration of the conformity is available at
rok.auto/certifications.

> ⚠️ **ATTENTION:** This equipment is intended to operate in an industrial or control room environment, which uses some form of power isolation from the public low-voltage mains. Some computer configurations cannot 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 you connect any computer configuration that draws more than 75 W of AC power directly from the public mains.
>
> All other I/O cables must be used only indoors.

Connect peripheral cables to the appropriate I/O ports on the computer. To
comply with EN 61326-1, see Connect Peripheral Cables on page 17 for the
required cable types.

Installation Guidelines

Follow these guidelines to make sure that your computer provides service with
excellent reliability.

- When choosing the installation site, consider the following:
  - The site must have sufficient power
  - The site must be indoors
  - The site must not expose the computer to direct sunlight
  - The material for panel mounting must meet certain criteria; see the second bullet point in Prepare the Panel Cutout on page 15
- The computers can operate in a surrounding air temperature range of 0…50 °C (32…122 °F) with the Intel Celeron and Core[1] processors
- Active fan cooling is needed when you use expansion cards with total power consumption between 10…20 W, with 20 W as the maximum.
- The surrounding air temperature must not exceed the maximum temperature for your computer, especially when the computer is mounted in an enclosure.

> **IMPORTANT**   The computer can operate at a range of extremes. However, the life span of any electronic device is shortened if you continuously operate the computer at its highest rated temperature, which includes the touch screen and LCD panel.

- The computers can be stored in a surrounding air temperature range of -10…+60 °C (4…140 °F).
- The relative humidity of the ambient air must be 20…90% noncondensing at 0…40 °C (32…104 °F), and 20…80% noncondensing at 41…50 °C (105…122 °F).

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(1) The Intel Core i7 processor will throttle above 45 °C (113 °F) when the CPU is heavily loaded.

Mounting Requirements

Follow these requirements to mount the VersaView 6300P panel PC.

- Choose a suitable mounting height.
- For optimal performance, mount the computers in the vertical (upright) position, so the I/O ports face down.

IMPORTANT	The vertical position can be tilted up to 20° forward or backward from the upright position. However, any tilt angle reduces the maximum operating temperature by 5 °C (41 °F).

- To help prevent overheating and to provide access to the I/O ports for cable connections, mount the computer so there are the following minimum clearances:
  - X and Z directions: 7 cm (2.75 in.)
  - Y direction: 10 cm (3.94 in.)
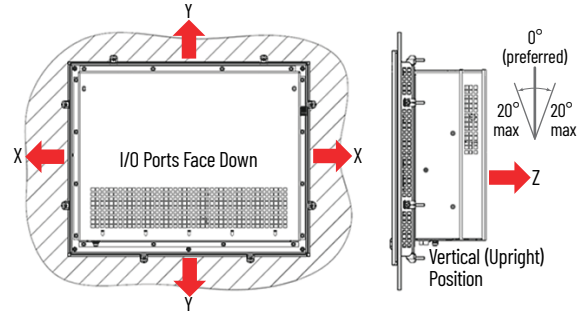
Enclosure Requirements

- The enclosure must allow sufficient space around air inlets and outlets to provide the circulation necessary for cooling. For further information, see Mounting Requirements on this page. Never allow air passages to become obstructed.
- Hot air rises. The temperature at the top of the enclosure is often higher than the temperature in other parts of the enclosure, especially if air is not circulating.

  Consider a user-supplied fan, heat exchanger, or air conditioner for heat generated by other devices in the enclosure. See Installation Guidelines on page 14 for the acceptable temperature ranges for these computers.

Prepare the Panel Cutout

Observe these guidelines to install the computer in a panel.

⚠	**ATTENTION:** Failure to follow these guidelines can result in personal injury or damage to the panel components.
	Take precautions so any metal fragments during the panel cutout do not enter components that are installed already in the panel.

- Plan the panel cutout according to the following:
  - The acceptable horizontal orientation and vertical position; see the last bullet point in Installation Guidelines on page 14.
  - The panel cutout dimensions needed for your computer that are found on page 11.
- The mounting panel material must be 2...6 mm (0.08...0.24 in.) thick.
- For a uniform gasket seal, the roughness of the panel surface must not exceed 120 microns (Rz 120).
- Confirm that there is adequate space behind the panel as needed. For specific information, see Mounting Requirements on this page.
- Verify that the area around the panel is clear of obstructions.
- Remove all electrical power from the panel before you make the cutout.

Mount the Computer in the Panel

Before you mount the computer in the panel, confirm that the cutout:

- Has been prepared according to the guidelines in Prepare the Panel Cutout on page 15.
- Surface is clean and free of debris.

Required Tools

These tools are required for computer installation:

- Panel cut out tools
- 1.5 mm hex key (supplied with the mounting clips)
- Adjustable torque driver with 1.5 mm hex key bit
- Safety glasses
- Mounting clips (supplied); for the needed quantity, see Figure 3 on page 17

Cat. No.	Description
6300V-MCLIP16	Replacement mounting clips (qty. 16)

Mount the Computer

Perform the following steps to install the computer in the panel cutout.

IMPORTANT	You need two people to install the computer; one person to hold the computer in place while another person installs the mounting clips.

1. Cut an opening in the panel area to the dimensions needed for your computer that are found on page 11.
2. After the cutout is completed, clean the panel area of all debris and metal fragments.
3. Make sure that the sealing gasket is positioned properly on the computer.

IMPORTANT	The gasket that is provided with the computer forms a compression-type seal. Therefore, do not use sealing compounds.

4. From the front of the panel, insert the computer into the cutout.
5. Slide the mounting clips into the holes on all four sides of the computer as shown at right. For the various hole locations, see Figure 3 on page 17.
6. Hand-tighten the mounting clips according to the tighten sequence in Figure 3 on page 17.
7. With the supplied 1.5 mm hex key, tighten the mounting clips to the tighten sequence in Figure 3 on page 17.
8. With the adjustable torque driver and 1.5 mm hex key bit, tighten the mounting clips to a torque of 0.2 N•m (1.8 lb•in) by the tighten sequence in Figure 3 on page 17.
9. Repeat this process at least three times until the clips are torqued properly to 0.2 N•m (1.8 lb•in).

Verify that the gasket is compressed uniformly against the panel.

> ⚠️ **ATTENTION:** Tighten the mounting clips to the specified torque to provide a proper seal and to help prevent product damage. Rockwell Automation assumes no responsibility for water or chemical damage to the computer or other equipment within the enclosure because of improper installation.

Figure 3 - Tighten and Torque Sequence for the Mounting Clips
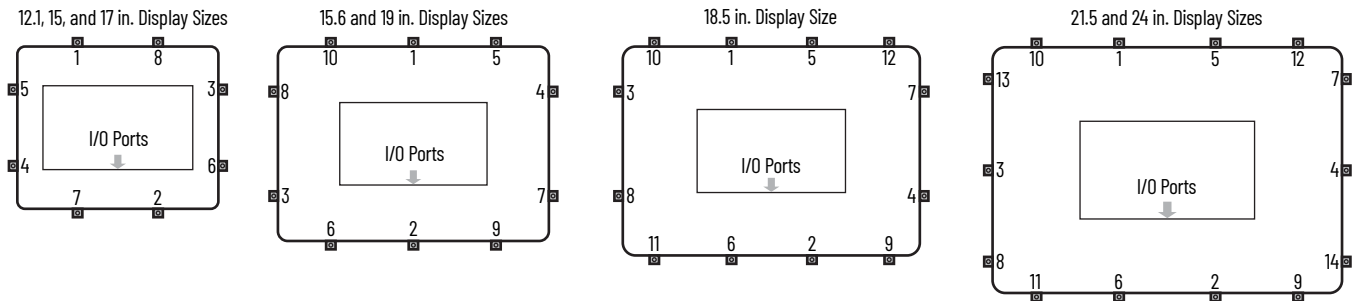
Connect Peripheral Cables

Connect peripheral cables to the appropriate I/O ports of the computer. To comply with EN 61326-1, use the following for cable types. All I/O cables must be used only indoors, and USB cables must be less than 3 m (9.84 ft) long.

Item No.	Cable Type	Required Attribute
1	LAN	
2	USB 2.0	Shielded
3	USB 3.0	

Item No.	Cable Type	Required Attribute
4	RS-232 DB9M	Shielded
5	DVI-D	
—	DC power	Unshielded

Grounding and Bonding

Whenever two connected pieces of equipment are far apart, it is possible that their ground connections could be at a different potential level.

To overcome possible grounding problems, the following bonding methods are recommended:

- Method 1: Connect the data cable shields to the Equipotential bonding rail on both sides before connecting the cable to the interfaces.
- Method 2: Use an Equipotential bonding cable (16mm^2) to connect the grounds between the monitor and the VersaView® 6300P panel PC.

For further information, see Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

DC Power Supply Guidelines

Follow these guidelines to select the DC power supply for the computer.

- The computer must be powered with a voltage of 24V DC (18…32V DC SELV input voltage range).
- The nominal output power must be 25% larger than the drained power.
- The output voltage rise time has to be less than 100 ms.
- Consider the working temperature and the thermal derating of the power supply.

- The inrush current cannot exceed a peak current of <13 A and a pulse width time of 2 ms.

IMPORTANT	In environments with electrical noise, use an isolated power source and electromagnetic compatibility (EMC) filter to help provide a reliable touch screen operation.
	Use an analog resistive touch screen where you anticipate EMC noise.

Power Consumption

The following table shows the maximum power consumption in watts of various components in VersaView 6300P panel PCs.

Component	Description	Power (W)
Display	12.1 in. (4:3)	6
	15 in. (4:3)	13
	15.6 in. (16:9)	24
	17 in. (5:4)	17
	18.5 in. (16:9)	14
	19 in. (5:4)	17
	21.5 in. (16:9)	22
	24 in. (16:9)	16

Component	Description	Power (W)
Motherboard and Processor	Intel Core i3-7100E	43
	Intel Core i7-7820EQ	65
SSD	mSATA2	2
	2.5 in. SATA MLC	3
Expansion slot[2]	PCI half-size or PCIe x4	6.5[3]
USB ports[2]	2.0 Type A, each port	2.5
	3.0 Type A, each port	4.5

Component	Description	Power (W)
Memory card[2]	CFast SATA	1.3
RAM	4 GB	[1]
	8 GB	1
	16 GB	2
	32 GB	2

(1)   4 GB is included in the motherboard power estimate. Higher memory is in addition to the motherboard power estimates.

(2)   Power consumption value applies only when the port or slot is loaded.

(3)   5 W is the maximum that the card can use.

WARNING: Do not exceed 120 W for the total system configuration. Power consumption greater than 120 W can overpower the external and internal power supplies, which can lead to component damage or, in extreme cases, electrical fires.

Install the Ground Wire

1. Turn off the main power switch or breaker.

2. Remove the supplied nut, eyelet terminal, and washers from the ground screw.

3. For earth ground, fasten a 2.5 mm^2 (14 AWG) or larger external wire to the eyelet terminal.

    Use a ground wire with an insulation color that is approved by local inspection authority.

4. Tighten the nut to the ground screw.

Sequence No.	Description
1	Toothed washer
2	Eyelet terminal
3	Washer

Sequence No.	Description
4	Lock washer
5	Nut

Connect DC Power

⚠ **ATTENTION:** When you connect power to the computer for the first time, these actions occur:
- The default UEFI setting automatically starts the computer after it is plugged into a power source.
- For VersaView 6300P panel PCs with a Microsoft Windows operating system (OS), you must read and accept an End User Setup procedure.

  Do not disconnect power from the system until after the Windows Setup Procedure is completed. If power is disconnected during this procedure, it can result in a corrupted system image.

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

⚠ **ATTENTION:** For VersaView 6300P panel PCs with a Windows OS, perform the following:
- Supply the computer with its own disconnect. Use an uninterruptible power source (UPS) to help protect against unexpected power failure or power surges.
- Always shut down the Windows OS before you disconnect power to the computer to minimize performance degradation and operating system failures.

All VersaView DC powered models require a safety extra low voltage (SELV) power supply. The power supply is internally protected against reverse polarity.

To minimize ground loop currents and noise, Allen-Bradley recommends that DC powered models use only one grounded connection. See <u>Figure 1 on page 10</u> for the ground connection on these models.

Follow these steps to connect the computer to a DC power source.

💡 You need the following tools for this installation:
- Adjustable torque screwdriver with M2 and M3 flat-blade screw bits
- Wire stripper, cutter, and crimper tool
- Cutting pliers

Install the DC Power Connector Assembly

This connector assembly provides strain relief for the DC power wires by reducing their movement. To assemble and attach the connector assembly, perform the following steps.

IMPORTANT	DC power wires must be of stranded copper, certified for at least 85 °C operation, and sized according to <u>Table 1 on page 20</u>.

1. Remove the DC terminal block from the computer chassis.
2. Open the power connector assembly kit that ships with the computer (A on <u>page 20</u>).
3. Insert the cable tie through the slots of the appropriate connector half (B on <u>page 20</u>).
4. Strip the end of each DC power wire to the length in <u>Table 1 on page 20</u>.
5. Insert each stripped end into the DC terminal block as shown in <u>Table 1 on page 20</u>.

IMPORTANT	The DC terminal block in the photos is only for illustrative purposes. Your DC terminal block can differ in size, shape, and color to what is shown in the photos.

Table 1 - DC Terminal Block Connection Specifications
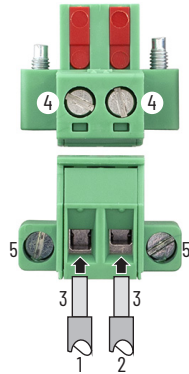
Item	Description	Attribute
1	DC+ (24V DC nominal) recommended power wire size	1.5 mm² (16 AWG)
2	DC- (0V DC) recommended power wire size	
3	Stripped wire length	7 mm (0.275 in.)
4	Torque range to secure DC power wires	0.22...0.25 N•m (0.16...0.18 ft•lb)
5	Torque value to reinstall DC terminal block to computer	0.3 N•m (0.22 ft•lb)

6. Tighten the screws on top of the terminal block to secure the DC power wires to the torque value in Table 1.

7. Slide the connector half with the attached tie onto the end of the DC terminal block (C).

8. Tighten the cable tie so it is snug against the terminal wires.

9. Use cutting pliers to cut the excess part of the cable tie (D).

10. Install the white label supplied with the kit (E).

> The white label can be used for identification or other information.

11. Align and install the other connector clamp half to complete the assembly (F).
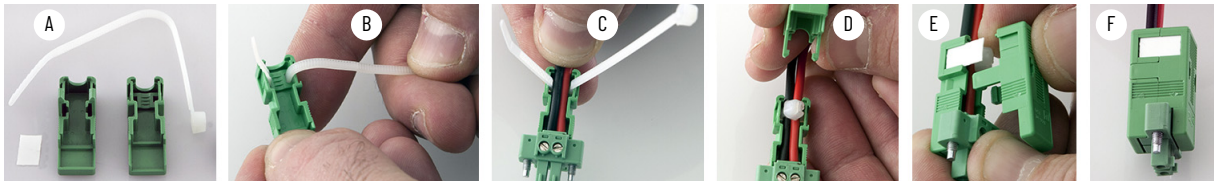
> When installed correctly, both tabs of the clamp half lock into place.

12. Reconnect the DC terminal block with the connector assembly to the computer chassis.

    Torque the DC terminal block flange screws to the values in Table 1.

13. Turn on the main power switch or breaker.

Operate the Panel PC

Operating Guidelines

Follow these operating guidelines for your VersaView® 6300P panel PC.

- When the computer is panel mounted, operator access is limited to the front of the computer, which includes the display and the touch screen.

IMPORTANT	Access to components behind the panel where the computer is installed is restricted to authorized and properly trained personnel.

- When the computer is mounted in an enclosure, keep the enclosure door closed during operation so dust and other airborne contamination do not infiltrate the computer. Open the door only for routine maintenance.

⚠	**ATTENTION:** Do not operate the computer with the covers removed. All covers are required to maintain its electromagnetic interference (EMI) shield.

- Always use the proper power down procedures as required by your operating system (OS), such as the Shut Down command in the Microsoft Windows® OS.
- After you shut down the computer, do not apply power again until shutdown is complete.

Touch Screen Precautions

⚠	**WARNING:** If the LCD screen darkens or if the backlight is not functioning properly, the screen can be difficult to read and use of this screen could result in a potentially hazardous outcome. Do not use the LCD touch screen under these circumstances.

The design of the system must take into account the possibility of the LCD screen or LCD touch screen losing functionality and unable to be used to maintain or change control of the system. The touch screen cannot be the single point of control of critical functions and is not intended to replace an E-stop.

Design of the system must follow all applicable code and good engineering practice. Factors to consider include the following:

- The possibility of an unreadable LCD screen
- The possibility of an inoperable touch screen
- Unexpected communication errors or delays
- Operator error in the control of the system
- Proper use of E-stops and other safety practices

The user must provide means to achieve a safe state during anomalies and verify that the system has adequate redundancy for critical functions.

Failure to follow these instructions can result potentially in death, serious injury, or equipment damage.

Touch Screen Calibration

VersaView 6300P panel PCs with analog resistive touch screens use an eGalax driver and can be field calibrated. VersaView 6300P panel PCs with PCAP touch screens use the native Microsoft Windows Human Interface Device (HID) driver and cannot be field calibrated.

Start the Panel PC

Follow these steps to start your VersaView 6300P panel PC.

IMPORTANT	The following steps apply to when the panel PC must be started manually, and power has been connected already. See Connect DC Power on page 19 for when power is applied to the panel PC for the first time.

1. Make sure that all necessary peripheral devices are connected to the corresponding I/O ports on the panel PC.

2. Make sure any connected components with separate power supplies (such as an external display) are turned on first.

3. To power on the computer, turn on the main DC power switch or breaker.
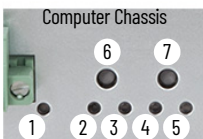
Light-emitting Diode and Button Descriptions

After a VersaView 6300P panel PC is powered on, various light-emitting diodes (LEDs) monitor its state. Use these LEDs to determine if they are lit and what color they emit. There are also buttons on the computer to reset computer states that are monitored by the LEDs.

The following tables detail what LEDs and buttons are on a panel PC.

Table 2 - LEDs and Buttons

Display Bezel[1]

Computer Chassis

(1) Aluminum glass True Flat bezel shown.

No.	Description	Color	Function
1	Power supply LED	No color	The computer is not powered.
		Green	The computer is on and powered by the main power supply.
		Flashing green	The computer is on and powered by an uninterruptible power supply (UPS).
		Yellow	If a UPS is connected, verify that the UPS connection is secure or that the UPS battery is not faulty.
2	Over temperature/ battery fault LED	Red	The computer has exceeded its operating temperature. For more information, see Thermal Alarm on page 39.
		Flashing red	The real-time clock (RTC) battery is lower than 2.5V. Replace before the battery goes lower and risks loss of date and time.
3	Watchdog LED	Green	The watchdog is working.
		Red	The watchdog timer has expired.
4	Mass storage LED	Yellow	When lit, access to a mass storage device (SSD or CFast) is happening through a SATA channel.
5	On/Off/Standby/UPS LED	No color	The computer is powered off or the CPU is not starting.
		Green	• The computer is powered on. • The system is in a low-power state, and current session information is being stored in the RAM.
		Flashing green	The computer is powered but a UPS is powering the system while main power is missing.
		Yellow	The computer is safe to power off; the operating system has been shut down successfully.
6	System reset button	–	Forces an internal reset, as if power was lost temporarily and then returned. **IMPORTANT:** Use this button only if there are no better options, like keyboard or mouse commands, or if the resumed DC power does not restart the computer. System reset can cause data loss and possible corruption to the operating system.
7	Watchdog reset button	–	Turns off the watchdog LED (item 3).

Table 3 - LAN LEDs

No.	Description	Color	Function
1	Data link	No color	No data link is present.
		Green	Data link is established.
		Flashing green	Data link is established and there is data transfer.
2	Data speed	No color	10 Mbps
		Green	100 Mbps
		Yellow	1000 Mbps (1 Gbps)

Restart or Reset the Panel PC

To restart of reset the computer, perform the following steps.

Restart the VersaView 6300P Panel PC

IMPORTANT	A connected keyboard and mouse are needed for the following steps.

Use either of the following methods to restart the panel PC.

- From the Start menu, click or choose Restart.
- Press Ctrl+Alt+Delete, and then click or choose Restart.

During a restart, the panel PC does the following:

- Clears the RAM.
- Starts the power-on self-test (POST).
- Initializes peripheral devices.
- Loads the Windows OS.

Use the display to view the progress of the POST, initializing of any peripheral devices, and the startup dialogs for any installed Windows OS.

Reset the VersaView 6300P Panel PC

IMPORTANT	Use this method only if there are no better options, like keyboard or mouse commands. System reset can cause data loss and possible corruption to the operating system.

Use this method when power has been interrupted temporarily, and the panel PC is unresponsive when power returns.

If methods to restart the panel PC are unsuccessful, then press the system reset button on the front panel of the computer.

For the system reset button location, see Table 2 on page 22.

Shut Down the Panel PC

IMPORTANT	A connected keyboard and mouse are needed for some of the following steps.

Use either of the following methods to shut down the panel PC.

- From the Start menu, click or choose Shut Down.
- Press Ctrl+Alt+Delete, and then click or choose Shut Down.

Notes:

Configure, Restore, and Update System Settings

Each VersaView® 6300P panel PC has a set-up utility, which is a hardware configuration program that is built into the universal extensible firmware interface (UEFI).

You can run the set-up utility to do the following:

- Change the system configuration.
- Set the time and date as part of a commissioning step.

> A commissioning step is one of the following situations:
> - When the VersaView 6300P panel PC is powered up initially
> - When the Windows OS image is restored
> - When the UEFI is upgraded

  Information is included in this chapter to restore and back up the Microsoft Windows® OS image, and to upgrade the UEFI.

- Redefine communication ports to help prevent any conflicts.
- Read the current amount of system memory.
- Change the boot drive order.
- Set or change the password or make other changes to the security settings.

Access the Set-up Utility

Follow these steps to access the set-up utility in your panel PC.

> **IMPORTANT** To perform these steps, an external keyboard must be connected to the computer.

1. Start or restart your computer.
2. During POST, press F2 to access the set-up utility.
3. The following screens are accessible through the set-up utility:
   - Main (default screen when you access the utility)
   - Advanced
   - Security
   - Boot

   > If you wish to change the boot order temporarily, press F10 during POST to access the boot menu directly.

   - Exit
4. Use the following keys to navigate in the set-up utility (numeric keypad keys are in parentheses):
   - Up (8) and down (2) arrows to toggle between fields in the current menu
   - PgUp (9) and PgDn (3) to toggle between the previous or next page on scrollable menus

- Home (7) and End (1) to move to the top and bottom items in the current menu
- Within a field, F5 or minus (-) to select the next lower value, and F6 or plus (+) to select the next higher value
- Left (4) and right (6) arrows to select menus on the menu bar

Common Set-up Modifications

With pre-arranged configurations, there is usually no need to change specific items. Some exceptions are as follows:

- Change the system date and time
  - Available on the Main menu
  - With Microsoft Windows OS, you can also change these settings through the Control Panel > Date and Time
- View UEFI version and system memory
  - Under the System Information setting on the Main menu
  - With Microsoft Windows OS, you can view these settings by Windows > System Information
- Modify the boot device order
  - Under the Boot menu; use to prioritize storage devices
- Modify network configuration
  - Under the Advanced menu; use when a LAN with a pre-boot execution environment (PXE) is needed
- Add passwords
  - Under the Security menu; use when system security is needed

Initial Steps to Back Up or Restore a Windows OS Image

Before you can back up or restore the Microsoft Windows OS image on your computer, you must first download the accessory files (system image, and backup and restore files) and then create a bootable USB drive.

Download the Accessory Files

To download the accessory files, perform the following steps.

IMPORTANT	To perform these steps, an external keyboard must be connected to the computer.

1. Access the Rockwell Automation® Product Compatibility and Download Center (PCDC) website at: https://compatibility.rockwellautomation.com/Pages/home.aspx.
2. On the home page, click Find Downloads.
3. On the Find Downloads page, use your computer model as the search criteria.
4. Follow the instructions on the PCDC site to find your accessory files.

   You must be registered with the Rockwell Automation PCDC website and accept a User Agreement before you can download files.

Accessory Files

  Backup and Restore Files

  System Image-VersaView 6300 Windows 10 2019 LTSC

5. Select and download the accessory files to your computer desktop.

   Use the appropriately named batch (BAT) file to <u>Back Up the OS Image on page 27</u> or to <u>Restore the OS Image on page 29</u>.
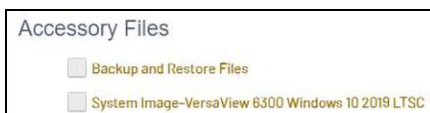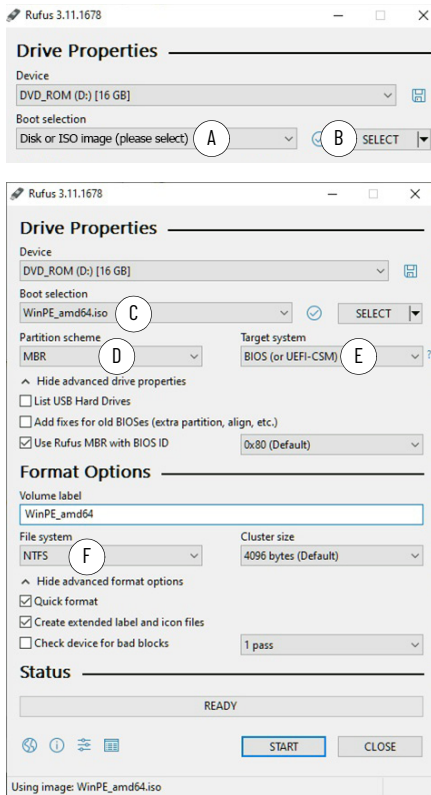
Create a Bootable USB Drive

To create a bootable USB drive, you need the following:

- A keyboard
- A USB drive (16 GB minimum)
- A utility installed on your computer that can create a bootable USB drive

> Rufus is a commonly used utility and the one used in the following examples. Rufus is free software that can be downloaded at https://rufus.ie/.
>
> Other utilities can offer slightly different methods to create a bootable USB drive. In those cases, follow their instructions.

To create a bootable USB drive, perform the following steps.

1. Connect the USB drive to your computer.
2. To create a bootable USB drive, open the Rufus utility.
3. On Drive Properties, select 'Disk or ISO image (please select)' from the boot selection pull-down menu (A).
4. Click Select (B), and browse to your computer desktop.
5. Select the ISO file that you downloaded from the Rockwell Automation PCDC site. The ISO file name now appears in the boot selection field (C).
6. Select the following from other pull-down menus:
   - From partition scheme, select MBR (D)
   - From target system, select BIOS (or UEFI-CSM) (E)
   - From file system, select NTFS (F)

> The field 'Volume label' contains the name of the downloaded ISO file that you selected but you can change the volume name.

7. After you have been changed the fields, click Start.
8. A warning appears that any data on the drive is to be erased; click OK.
9. Use the Status portion of the dialog box to monitor the boot progress.
10. When the boot process is completed, click Close.

Back Up the OS Image

To back up the OS image on your computer, perform the following steps.

> **IMPORTANT**   Before you can back up the OS image, you must first Download the Accessory Files on page 26 and Create a Bootable USB Drive on page 27.
>
> To perform these steps, an external mouse and keyboard must be connected to the computer.

1. Copy the BackupImage.bat file on your computer desktop to the bootable USB drive.
2. Restart the computer.
3. During POST, press F10 to access the Boot menu.
4. Use the down arrow to toggle down and select the bootable USB drive that you created, and then press Enter.

The Microsoft Windows Protective Environment (WinPE) then boots from the USB drive.

5. Navigate to the directory where the BAT file is located.

    For example, type **D:** and press Enter if you know that the BAT file is on the D drive.

6. Type **BackupImage.bat** and press Enter.

7. The following batch file script appears:

8. Once in the directory, type **BackupImage NameFile.wim**, where **NameFile** is the name of the file that you wish to back up.

IMPORTANT	The image file name cannot have any space characters; use underscore characters instead.

9. After you type in the WIM file name, press Enter.

    You receive the following confirmation screen:

10. If the targeted drive is correct, press **Y** and then press Enter.

IMPORTANT	The size of the image that is captured on the WIM file affects how long the back-up process takes.

    The following script appears after the back-up process is completed.

11. After the OS image is saved, do one of the following:

    - To restart the computer, type **exit** and then press Enter.
    - To shut down the computer, type **wpeutil shutdown** and then press Enter.

The OS image has been backed up successfully to the bootable USB drive.

Restore the OS Image

To restore the OS image on your computer, perform the following steps.

IMPORTANT	Before you can restore the OS image, you must first <u>Download the Accessory Files on page 26</u> and <u>Create a Bootable USB Drive on page 27</u>.
	When you restore the OS image, all files on your computer storage drive are erased.
	To perform these steps, an external mouse and keyboard must be connected to the computer.

1. Copy the WIM and BAT files on your computer desktop to the bootable USB drive.

2. Restart the computer.

3. During POST, press F10 to access the Boot menu.

4. Use the down arrow to toggle down and select the bootable USB drive that you created, and then press Enter.

The Microsoft Windows Protective Environment (WinPE) then boots from the USB drive.

5. Navigate to the directory where the BAT file is located.

For example, type **D:** and press Enter if you know that the BAT file is on the D drive.

6. Once in the directory, type **RestoreImageUEFI.bat NameFile.wim** where **NameFile** is the name of the file that you wish to restore.

IMPORTANT	The image file name cannot have any space characters; use underscore characters instead.

The screen capture below is merely an example of a possible file name but it illustrates the correct character structure.

7. After you have added that information, press Enter.

You receive a confirmation screen similar to the following:

IMPORTANT	The device name and capacity of your computer can differ from what is shown in the following example.

8. If the targeted drive is correct, press **Y** and then Enter.

The following script appears after the restoration process is completed.

9. After the OS image is restored, do one of the following:
   - To restart the computer, type **exit** and then press Enter.
   - To shut down the computer, type **wpeutil shutdown** and then press Enter.

The OS image has been restored successfully to your computer storage drive.

Update to a New UEFI

Sometimes a new UEFI is released to enhance the performance of your computer or to correct an anomaly. In such cases, you can download UEFI upgrades at the Rockwell Automation® Product Compatibility and Download Center (PCDC) website at https://compatibility.rockwellautomation.com/Pages/home.aspx.

Verify or Create a FAT32-formatted USB Drive

To update the UEFI, you must use a FAT32-formatted USB drive. To verify if a USB drive is FAT32-formatted, perform the following steps.

IMPORTANT	To perform these steps, an external display, keyboard, and FAT32-formatted USB drive must be connected to the computer.

1. Connect a USB drive to the computer.

2. In Windows Explorer, right-click on the USB drive icon and select Properties.
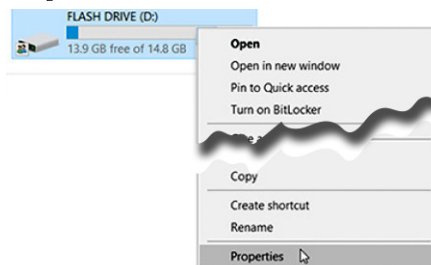
3. In Properties, verify if the file system is FAT32.
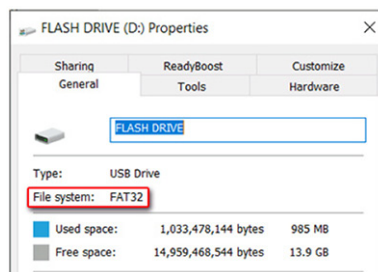
4. Click Cancel to exit Properties.
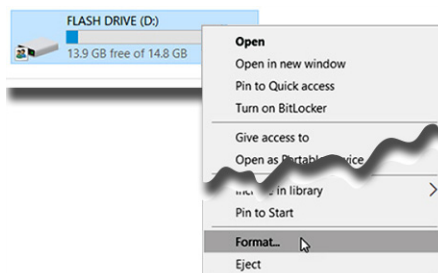
5. If the drive is FAT32-formatted, proceed to <u>Download the UEFI Update Files on page 31</u>.
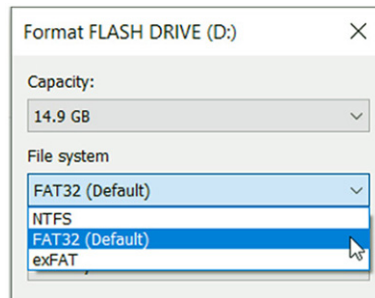
   If the drive is not FAT32-formatted, proceed to <u>step 6</u>.

IMPORTANT	Before you proceed, verify that no content is on the USB drive. If the drive must be FAT32-formatted, any content on the drive is erased and lost.

6. Right-click on the drive icon and select Format.

7. In Format Flash Drive, select FAT32 from the file system pull-down menu.

8. Click Start to format the drive to FAT32.

A confirmation box appears after formatting is completed; click OK.

Download the UEFI Update Files

To update the UEFI, perform the following steps.

IMPORTANT	To perform these steps, an external mouse and keyboard must be connected to the computer.

1. Access the Rockwell Automation PCDC website at: https://compatibility.rockwellautomation.com/Pages/home.aspx.
2. On the home page, click Find Downloads.
3. On the Find Downloads page, use your computer model as the search criteria.
4. To find your UEFI file, follow the instructions on the PCDC site.

> You must be registered with the Rockwell Automation PCDC website to download files.
> You must accept a User Agreement before files can be downloaded.

5. Download the UEFI file to the FAT32-formatted USB drive connected to your computer.

To update the UEFI on VersaView 6300P panel PCs, perform the following steps.

1. Verify that the following files are on your USB drive:
    - ShellFlash64.efi
    - AfuEfix64.efi
    - UEFI upgrade (.bin) file
2. Start or restart your computer.
3. During POST, press F2 to access the set-up utility.
4. Use the right (6) arrow to toggle over to the Advanced tab.
5. On Advanced, use the down (2) arrow to toggle down and select PCI-FW Configuration, and then press Enter.

6. On PCI-FW Configuration, toggle down and select Firmware Update Configuration, and then press Enter.

```
                    Advanced

    ME Firmware Version              11.8.78.3689
    ME Firmware Mode                 Normal Mode
    ME Firmware SKU                  Corporate SKU
    ME File System Integrity Value   2
    ME Firmware Status 1             0x90000255
    ME Firmware Status 2             0x89108306
    NFC Support                      Disabled

    ME State                         [Enabled]

  ▶ Firmware Update Configuration
  ▶ PTT Configuration
```
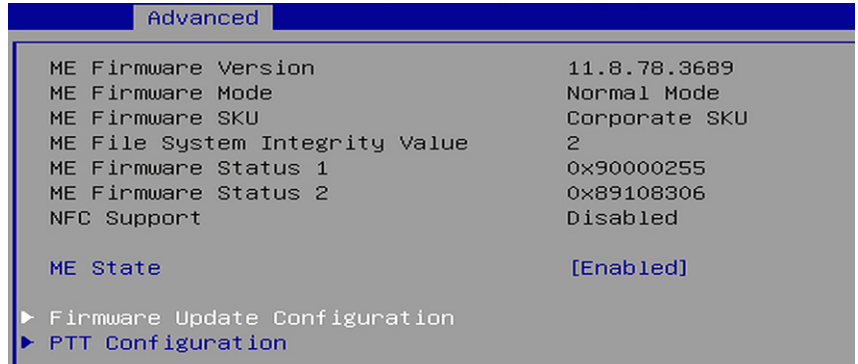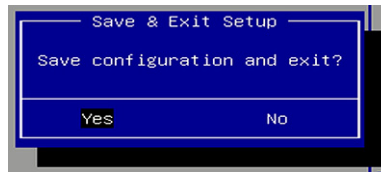
7. Enable Me FW Image Re-Flash, and then press Enter.

```
                    Advanced

    Me FW Image Re-Flash             [Enabled]
```
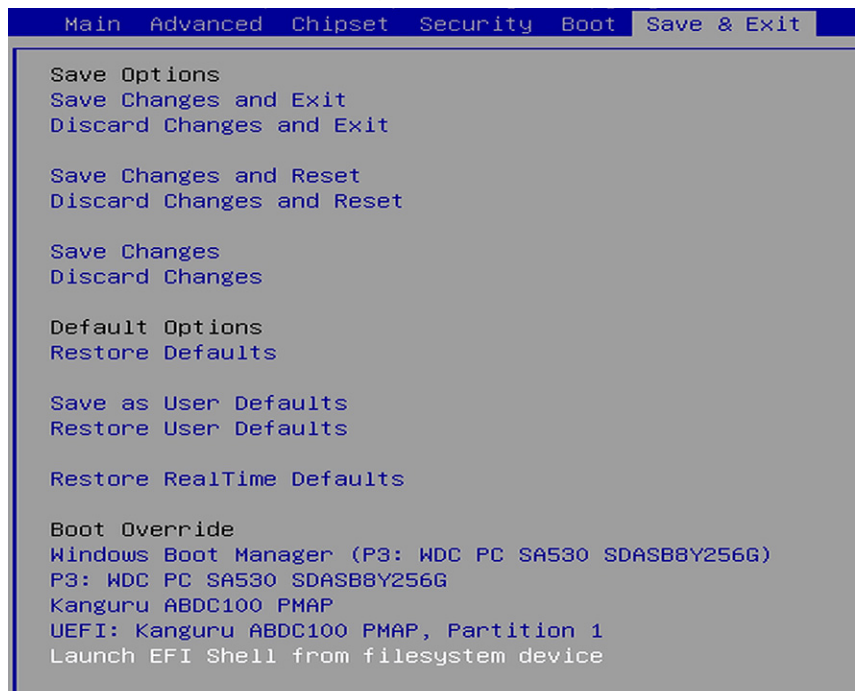
IMPORTANT	This option is only valid after the next computer restart. It resets automatically with the following computer restart.

8. A confirmation box appears; select Yes and press Enter.

```
    ─── Save & Exit Setup ───

    Save configuration and exit?


       Yes              No
```

9. Restart the computer.

10. During POST, press F2 to enter the set-up utility.

11. Use the right (6) arrow to toggle over to the Save and Exit tab.

12. On Save and Exit, use the down (2) arrow to toggle down and select 'Launch EFI Shell from the filesystem device', and then press Enter.

```
    Main  Advanced  Chipset  Security  Boot  Save & Exit

    Save Options
    Save Changes and Exit
    Discard Changes and Exit

    Save Changes and Reset
    Discard Changes and Reset

    Save Changes
    Discard Changes

    Default Options
    Restore Defaults

    Save as User Defaults
    Restore User Defaults

    Restore RealTime Defaults

    Boot Override
    Windows Boot Manager (P3: WDC PC SA530 SDASB8Y256G)
    P3: WDC PC SA530 SDASB8Y256G
    Kanguru ABDC100 PMAP
    UEFI: Kanguru ABDC100 PMAP, Partition 1
    Launch EFI Shell from filesystem device
```

The internal UEFI shell appears.

```
UEFI Interactive Shell v2.1
EDK II
UEFI v2.70 (American Megatrends, 0x0005000C)
Mapping table
      FS0: Alias(s):HD0q0b:;BLK1:
           PciRoot(0x0)/Pci(0x14,0x0)/USB(0x10,0x0)/HD(1,MBR,0xD9417
      FS1: Alias(s):HD1d65535a1:;BLK4:
           PciRoot(0x0)/Pci(0x17,0x0)/Sata(0x3,0xFFFF,0x0)/HD(1,GPT,
```

13. Type **FSx**: (where 'x' is the number that is shown for your mapped USB drive) and press Enter.

> To verify that you moved to the USB drive, use the command '**dir**' and confirm that the downloaded files are there.

14. To update the UEFI, type
AfuEfix64.efi "NAME_OF_THE_BIN_FILE.bin" /x /me /p /b /n
and press Enter.

```
Shell> fs0:
FS0:\> AfuEfix64.efi '0922082A.01_RA_MB1351_Signed.bin" /x /me /p /b /n
```

> ⚠ **ATTENTION:** Do not disconnect power from the computer until after the UEFI update procedure is completed.
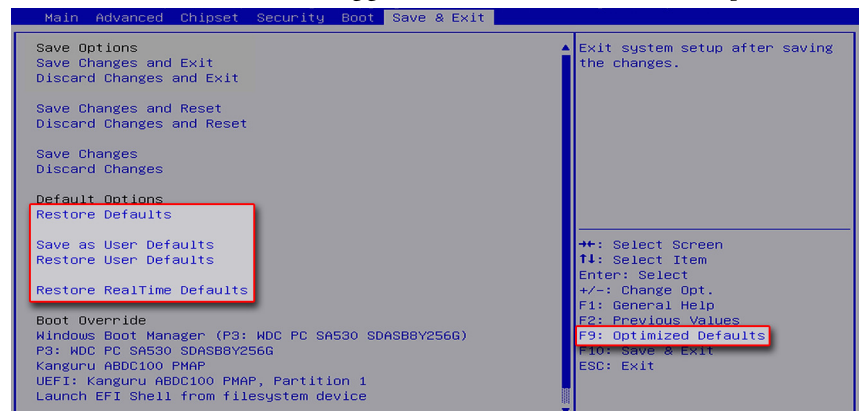>
> Power loss during this procedure can render the computer inoperable.

15. Once the UEFI update procedure is completed, restart the computer.

> **IMPORTANT**   In some instances, the computer restarts more than once before POST.

16. During POST, press F2 to enter the set-up utility.

17. Use the right (6) arrow to toggle over to the Save and Exit tab.

18. Use the down (2) arrow to toggle down and select a default option.

```
Main  Advanced  Chipset  Security  Boot  Save & Exit

Save Options                             Exit system setup after saving
Save Changes and Exit                    the changes.
Discard Changes and Exit

Save Changes and Reset
Discard Changes and Reset

Save Changes
Discard Changes

Default Options
Restore Defaults

Save as User Defaults
Restore User Defaults                    →←: Select Screen
                                         ↑↓: Select Item
Restore RealTime Defaults                Enter: Select
                                         +/-: Change Opt.
Boot Override                            F1: General Help
Windows Boot Manager (P3: WDC PC SA530 SDASB8Y256G)  F2: Previous Values
P3: WDC PC SA530 SDASB8Y256G             F9: Optimized Defaults
Kanguru ABDC100 PMAP                     F10: Save & Exit
UEFI: Kanguru ABDC100 PMAP, Partition 1  ESC: Exit
Launch EFI Shell from filesystem device
```

UEFI Setting	Function
Restore Defaults	Restores the default values for all set-up options.
Save as User Defaults	Save the changes that are already done as user defaults.
Restore User Defaults	Restores the user defaults to all set-up options.
Restore RealTime Defaults	Restores the real-time default settings.

> You can also press F9 to select Optimized Defaults.

19. After you have selected the preferred UEFI setting, press F10 to save and exit.

The UEFI has been updated successfully to your computer.

Restore Factory Defaults Through a DIP Switch

This section is for when the UEFI set-up utility cannot be entered, which can happen when a created password is forgotten or a critical setup item was erroneously changed.

If the UEFI setup utility cannot be entered, then a DIP switch must be accessed and changed to reset to the UEFI factory-default settings.

| IMPORTANT	Access to internal components of the computer is restricted to qualified and properly trained personnel.

To access and reset the DIP switch, perform the following steps.

IMPORTANT	To perform these steps, an external display and keyboard must be connected to the computer.

1. Turn off the power to the computer.
2. Remove the computer cover as detailed in <u>Remove the Cover on page 44</u>.
3. Locate the DIP switch bank SW4.
4. Move switch 3 of bank SW4 to on (factory reset).
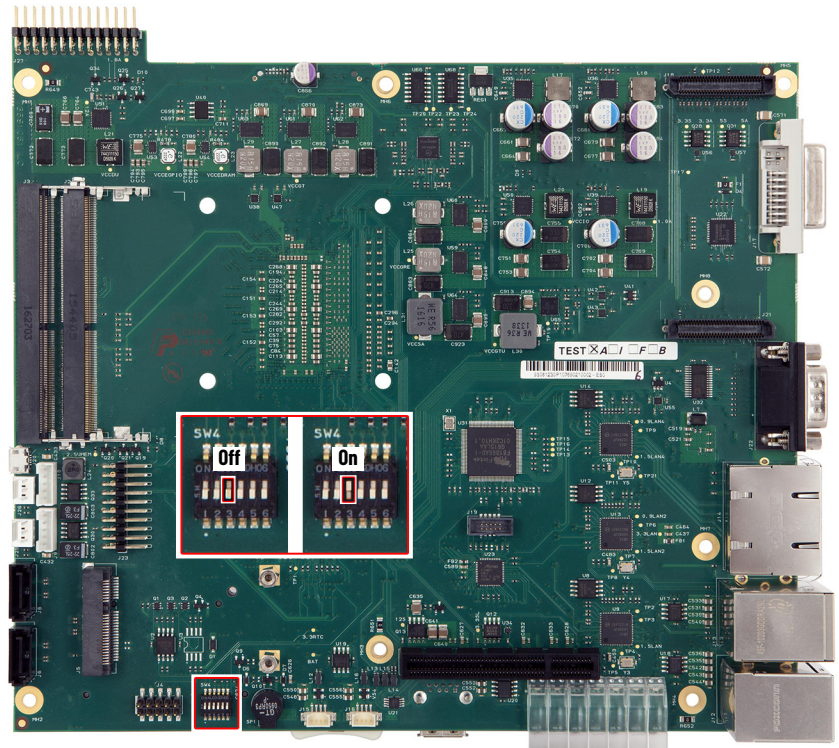
5. Reinstall the cover as detailed in <u>Reinstall the Cover on page 46</u>.
6. Turn on power to the computer.
7. During startup, the following warning appears instead of POST.
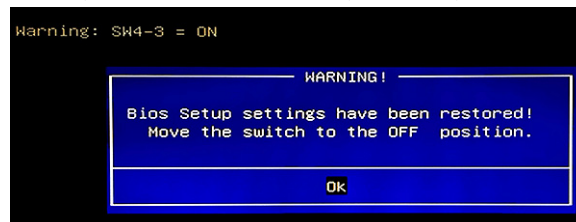
8. Press Enter.

IMPORTANT	The blue Warning box disappears after you press OK, but the 'Warning: SW4-3 = ON' message remains until you turn off power to the computer.

9. Turn off power to the computer.

10. Remove the computer cover as detailed in <u>Remove the Cover on page 44</u>.

11. Move switch 3 of bank SW4 to off.

12. Reinstall the cover as detailed in <u>Reinstall the Cover on page 46</u>.

13. Turn on power to the computer.

14. During POST, press F2 to enter the UEFI set-up utility.

15. Use the right (6) arrow to toggle over to the Save and Exit tab.

16. Use the down (2) arrow to toggle down and select Restore RealTime Defaults or press F9 to select Optimized Defaults.
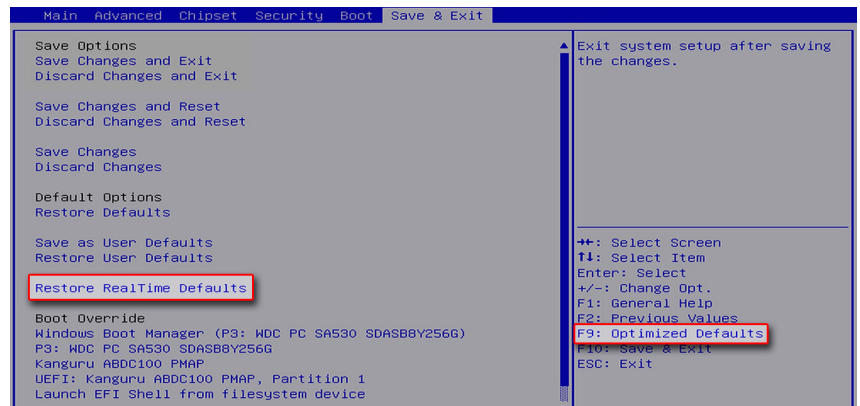
17. After you have selected the preferred UEFI setting, press F10 to save and exit.

Notes:

Clean the Panel PC

For optimal performance, it is important to clean the VersaView® 6300P panel PCs periodically.

Clean the Computer

To maintain your computer, it is important to clean the display, cooling fins, and vent holes, and to remove grease or paint.

IMPORTANT	VersaView 6300P panel PCs resist the following chemicals: • Alcohol (methyl, ethyl, or isopropyl) • Commercial glass cleaners

Clean the Integrated Display

Perform the following steps to clean a display.

1. Disconnect power from the computer at the power source.

   ⚠️ **ATTENTION:** Since the display is a touch screen, it is possible for screen objects to activate during equipment wash-downs if the computer is turned on.

2. Clean the display with a mild soap and a clean sponge or a soft cloth.

   ⚠️ **ATTENTION:** Use of abrasive cleansers, solvents, and high-pressure washes can damage the display window. Do not scrub or use brushes.

3. Dry the display with a chamois or moist cellulose sponge to avoid water spots.

Clean the Air Openings and Heatsinks

Perform the following steps to clean the panel PCs.

1. Disconnect power from the computer at the power source.
2. Disconnect all peripheral devices from the computer.
3. Vacuum dust and debris from all air openings on the displays, and from any heatsinks on the chassis.

   Remove stubborn dirt with a mild detergent and soft cloth.

Remove Paint and Grease from the Bezel

Perform the following steps to remove paint and grease from the bezel of computers that are properly mounted in IP65 enclosures.

1. Remove paint splashes and grease by rubbing lightly with isopropyl alcohol.

> ⚠️ **ATTENTION:** Make sure that the isopropyl alcohol does not come in contact with the equipment labels. Alcohol can cause the label printing to smear.

2. Use a mild soap or detergent solution to remove residue.
3. Rinse with clean water.

Troubleshoot the System

Thermal Alarm

The VersaView® 6300P panel PCs have a light-emitting diode (LED) that lights when the computer reaches its operating temperature. See Table 2 on page 22 for where these LEDs are.

The internal temperature is measured near the CPU. The over-temperature LED lights when a thermal limit of 85 °C (185 °F) is reached.

Follow these steps to determine where an operating threshold has been reached.

1. Shut down the computer by using the appropriate method.
   For more information, see Shut Down the Panel PC on page 23.
2. Apply power to the computer.
3. During POST, press F2 to access the UEFI set-up utility:
4. On Main, use the right (6) arrow to toggle over to the Advanced tab.
5. On Advanced, use the down (2) arrow to toggle down and select Hardware Monitor, and then press Enter.
   Use this menu to determine if there is an issue with internal voltages or component temperatures.

Troubleshooting

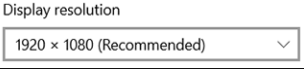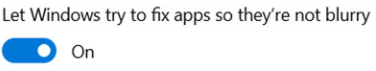Follow these steps to identify and isolate an issue with computer operation.

1. Shut down the computer by using the appropriate method.
   For more information, see Shut Down the Panel PC on page 23.
2. Disconnect power to the computer.
3. Disconnect all peripheral devices from the computer.
4. If a keyboard and mouse are used, verify that they are properly connected.
5. If an external display is used, verify that it is properly connected.
6. Connect power to the computer. During POST, one of three events occurs:
   - The startup process is completed.
   - A nonfatal error occurs and the related error message is displayed.
   - A fatal error occurs and the startup process terminates.

If	Then
The computer starts	Reconnect all peripheral devices one at a time until the issue occurs.
The issue is with a specific software or driver	Reinstall the software or driver.

If an issue cannot be identified by the above steps or a fatal error occurs, see Rockwell Automation Support on the back page for technical support.

Display Troubleshooting

The following table lists typical problems that are possible with the integrated display. It contains symptoms and possible actions to correct a problem.

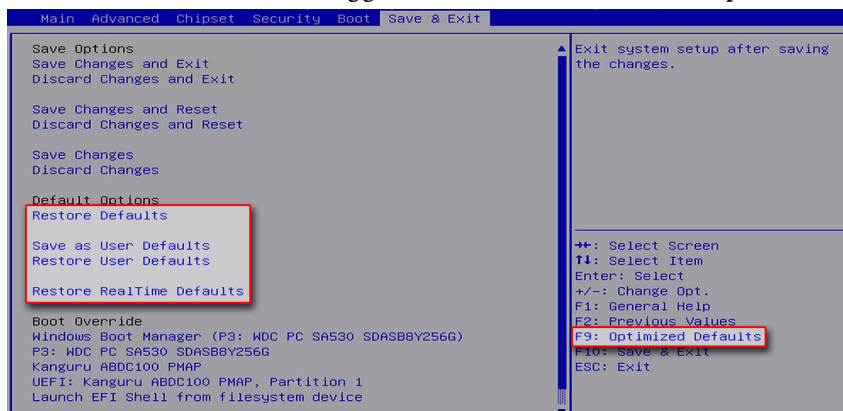| Symptom	Action
No signal message	Check the video cable connection between the computer and monitor.
Screen is blank	The video mode could be out of range. Change to the recommended resolution; see Picture is not clear action.
	Disable the screen saver on the computer.
	Verify that the power cord is connected.
	Test the outlet by plugging in a properly functioning device.
	Replace the suspected faulty cable or power cord.
	Have the monitor serviced.
Out of range message	Check the maximum resolution and the frequency on the video port of your computer.
Picture is scrambled	The video mode could be out of range. Change to the recommended resolution; see Picture is not clear action.
	Check the video cable connection between the computer and monitor.
	Check the maximum resolution and the frequency of the video (DVI-D) port of your computer.
Picture is not clear	Verify that the recommended display resolution and screen refresh frequency rate are selected. 1. On the Windows desktop, right-click and select Display Settings. 2. Scroll down to Scale and Layout. Verify that the recommended display resolution is chosen from the pull-down menu. In this example, 1920 x 1080 is the recommended resolution. Display resolution 1920 × 1080 (Recommended) **Note:** If you select any resolution other than the recommended one, you receive an alert to keep the change or to revert, and an additional warning that the recommended resolution is the optimal one for the display.
	Check the video cable connection between the computer and monitor.
	Minimize unnecessary accessories such as video extension cables.
Applications appear blurry	Verify that Windows is set to try and fix application scaling. 1. On the Windows desktop, right-click and select Display Settings. 2. Scroll down to Scale and Layout. Select Advanced Scaling Settings. 3. Verify that Fix Scaling for Apps is on. Let Windows try to fix apps so they're not blurry On
Image is not stable	The video mode could be out of range. Change to the recommended resolution; see Picture is not clear action.
	Check for proper video cable installation. Replace the suspected faulty cable.
Screen jitter or noisy video	The video mode could be out of range. Change to the recommended resolution; see Picture is not clear action.
	Check for proper video cable installation. Replace the suspected faulty cable.
	Reroute the cables or replace suspected faulty cables.
	Check the host computer and monitor grounding.

System Default Options

If the computer fails after you make changes in the set-up menus, load the system default settings to correct the error. These default settings have been selected to optimize computer performance.

To load the system defaults, perform the following steps.

IMPORTANT	To perform these steps, an external keyboard and mouse must be connected to the computer.

1. Restart the computer by using the appropriate method for the installed operating system.

    For more information, see .

2. During POST, press F2 to access the UEFI set-up utility.

3. Use the right (6) arrow to toggle over to the Save and Exit tab.

4. Use the down (2) arrow to toggle down and select a default option.

```
  Main  Advanced  Chipset  Security  Boot  Save & Exit

Save Options                              ▲  Exit system setup after saving
 Save Changes and Exit                       the changes.
 Discard Changes and Exit

 Save Changes and Reset
 Discard Changes and Reset

 Save Changes
 Discard Changes

 Default Options
 Restore Defaults

 Save as User Defaults                       ⇄: Select Screen
 Restore User Defaults                       ↑↓: Select Item
                                             Enter: Select
 Restore RealTime Defaults                   +/-: Change Opt.
                                             F1: General Help
 Boot Override                               F2: Previous Values
 Windows Boot Manager (P3: WDC PC SA530 SDASB8Y256G)   F9: Optimized Defaults
 P3: WDC PC SA530 SDASB8Y256G                F10: Save & Exit
 Kanguru ABDC100 PMAP                        ESC: Exit
 UEFI: Kanguru ABDC100 PMAP, Partition 1
 Launch EFI Shell from filesystem device ▼
```

UEFI Setting	Function
Restore Defaults	Restores the default values for all set-up options.
Save as User Defaults	Save the changes done already as user defaults.
Restore User Defaults	Restores the user defaults to all set-up options.
Restore RealTime Defaults	Restores the real-time default settings.

> You can also press F9 to select Optimized Defaults.

5. After you have selected the preferred UEFI setting, press F10 to save and exit.

Ship or Transport the Computer

If you must ship the computer via common carrier or otherwise transport it to another location for service or any other reason, you must first uninstall the monitor and place it in its original packing material.

> **IMPORTANT** Do not ship or transport the computer when it is installed in a machine, panel, or rack. To avoid damage to the computer, you must uninstall the computer and place it in its original packing material before you ship it. Rockwell Automation is not responsible for damage to a computer that is shipped or transported while installed in a machine, panel, or rack.

Dispose of the Computer

> At the end of its life, collect the computer separately from any unsorted municipal waste.

You cannot dispose of computer equipment like other waste material. Most computers and monitors contain heavy metals that can contaminate the earth. Therefore, check with local health and sanitation agencies for ways to dispose monitor equipment safely.

When a storage drive is part of what you plan to dispose, then erase any data on it permanently or destroy the drive before it is disposed.

Notes:

Replace Components

VersaView® 6300P panel PCs have replacement parts and upgrade accessories. This chapter explains how to replace or add these components to the panel PCs.

IMPORTANT	Access to internal components of the computer is restricted to qualified and properly trained personnel.

Replacement Parts

You can view a list of replacement parts at https://ab.rockwellautomation.com/Computers.

Review the specifications of a new component before you install it to verify that it is compatible with the computer. Record the model, serial number, and any other pertinent information of new components for future reference.

IMPORTANT	We recommend that you use only Allen-Bradley® approved replacement parts.

Voltage Precautions

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

Electrostatic Discharge Precautions

⚠	**ATTENTION:** Electrostatic discharge (ESD) can damage static-sensitive devices or microcircuitry: • Disconnect all power before you work on the computer as detailed in Voltage Precautions. • Observe proper packaging and grounding techniques to help prevent damage.

Follow these ESD precautions:

- Transport the computer and replacement parts in static-safe containers, such as conductive tubes, bags, or boxes.
- Keep electrostatic-sensitive parts in their containers until they arrive at the designated static-free work area.
- Cover the designated work area with approved static-dissipating material:
  - Use an anti-static wriststrap that is connected to the work surface.
  - Use properly grounded tools and equipment.
- Keep the designated work area free of nonconductive materials, such as ordinary plastic assembly aids and foam packing.
- Avoid contact with pins, leads, or circuitry.
- Always hold components with a printed circuit board (PCB) by its edges and place it with the assembly side down.

Pre-configuration

IMPORTANT	Before you install hardware or perform maintenance procedures that require access to internal components, we recommend that you first back up all computer data to avoid loss.

ATTENTION: Make sure to read and understand all installation and removal procedures before you configure the computer hardware.

Follow these steps before you remove the computer cover or replace a hardware component.

1. Shut down the computer and all peripherals that are connected to it.
2. To avoid exposure to high energy levels, disconnect all cables from power outlets.

   If necessary, label each cable to expedite reassembly.
3. Disconnect all peripheral cables from the I/O ports.
4. Loosen the mounting screws and remove the computer from its mounting.

Post-configuration

Follow these steps after you install or replace a hardware component.

1. Reinstall the computer to its mounting.
2. Tighten the mounting screws.
3. Reinstall any peripherals and system cables that were previously removed.
4. Reconnect all external cables and power to the computer.
5. Turn on the main power switch or breaker.

Remove the Cover

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

You need a #2 Phillips screwdriver to loosen the cover screws.

1. Follow the steps for on this page.
2. Remove the three screws that secure the back cover of the computer.
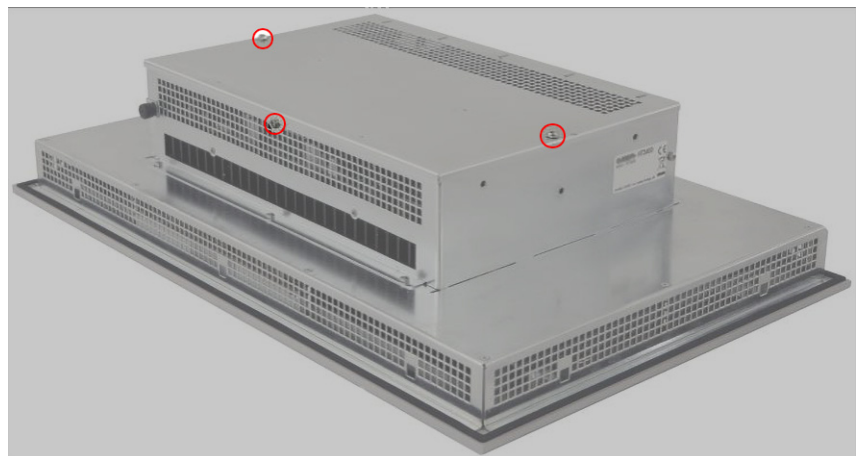
3. Remove the cover.
4. After you install, replace, or upgrade internal computer components, perform the steps in .

Replace the Battery

All VersaView 6300P box PCs and 6300T box thin clients use nonvolatile memory that requires a real-time clock (RTC) lithium battery to retain system information when power is removed.

This battery must be replaced during the life of the computer. The battery life depends on the amount of time the computer is on, or on-time.

The thermal light-emitting diode (LED) on the front of all VersaView 6300P box PCs and 6300T box thin clients flashes red when the RTC battery is lower than 2.5V. For the thermal LED location, see Table 2 on page 22.

Follow these steps to replace the RTC battery.

1. Perform the steps in Remove the Cover on page 44.
2. Locate the battery on the motherboard.
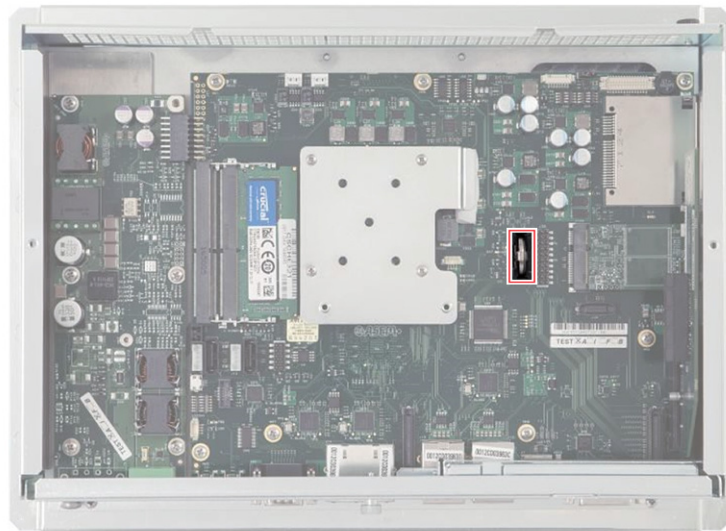
3. Remove the battery and replace it with the same model (Lithium CR2032 3v coin).

   Replace the battery so the positive polarity side faces the locking tab.
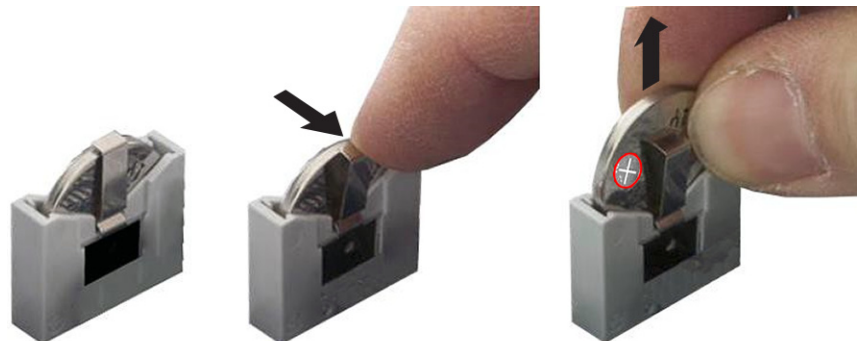
⚠	**WARNING:** Replace the battery with the same model. There is a risk of explosion if the battery is replaced with the wrong type.

⚠	**AVERTISSEMENT:** Remplacer la batterie par le même modèle, sinon il y a risque d'explosion.

4. Follow the steps in <u>Post-configuration on page 44</u>.

IMPORTANT	If you replace the battery, then all UEFI settings return to their default settings. UEFI settings other than default must be reconfigured after you replace the battery.

At the end of its life, collect the battery that is contained in this computer separately from any unsorted municipal waste.

5. After you install, replace, or upgrade internal computer components, perform the steps in <u>Reinstall the Cover</u>.

Reinstall the Cover

To reinstall the cover, perform the following steps.

You need a #2 Phillips screwdriver to reinstall the cover screws.

1. Reinstall the cover.
2. Reinstall the three screws that secure the back cover of the computer.
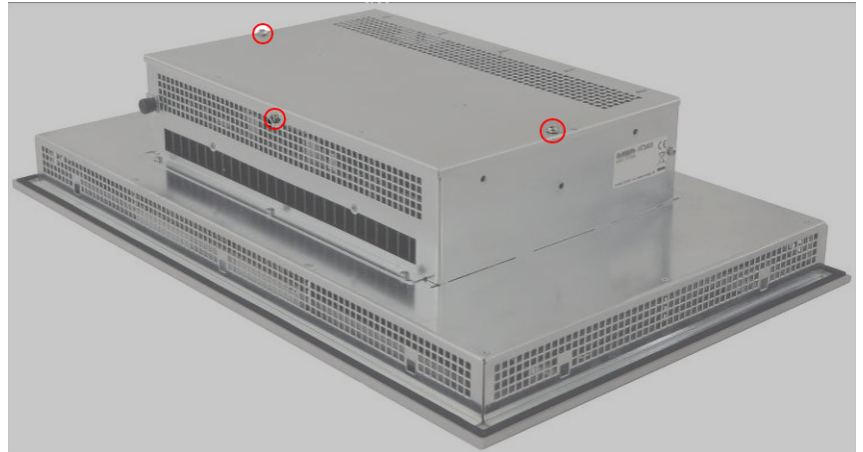
3. Follow the steps for <u>Post-configuration on page 44</u>.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, and product notification updates.	rok.auto/support
Knowledgebase	Access Knowledgebase articles.	rok.auto/knowledgebase
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	rok.auto/pcdc

Documentation Feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.

Waste Electrical and Electronic Equipment (WEEE)

At the end of its life, collect this equipment separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental information on its website at rok.auto/pec.

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EEE YÖnetmeliğine Uygundur

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