

Industrial Integrated Display Computers with Keypad

Catalog Numbers 6180P-12KSP, 6180P-12BSP, 6180P-12BPXP, 6180P-12BPXPDC,
6180P-12KPXP, 6180P-15KSP, 6180P-15BSP, 6180P-15BPXP, 6180P-15KPXP, 6180P-15BPXPDC

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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://www.rockwellautomation.com/literature/>) 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.

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 consequences.
	SHOCK HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that dangerous voltage may be present.
	BURN HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that surfaces may reach dangerous temperatures.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Environment and Enclosure Information

Review the information on enclosures and environments before installing your computer.



ATTENTION: This equipment is intended for use in a Pollution Degree 2 environment, in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 m (6562 ft) without derating. The enclosure door must be closed.

This equipment is considered Group 1, Class A 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.

Operating the capacitive touchscreen version in a high noise environment may cause the touchscreen to respond slowly to touch inputs, or may cause the position of the screen cursor to drift.

This equipment must be mounted in an enclosure that is suitably designed to prevent personal injury resulting from accessibility to live parts. If not mounted inside another enclosure, the mounting method must limit the tilt of the product to +/- 30° from vertical. Examples include articulated arm, table-top stand, wall mount, or other means having sufficient mechanical stability. The mounting means must be firmly attached to the supporting surface using screws bolts, or clamps so the computer cannot tip.

In addition to this publication, see:

- Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#), for additional installation requirements
 - IEC 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure
-

European Union Directive 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 the conformity is available at <http://www.rockwellautomation.com/rockwellautomation/certification/overview.page>.



ATTENTION: The product 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 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 W of AC power directly from the public mains.

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

Installation Guidelines

Follow these guidelines to make sure your product provides safe and reliable service.

- The installation site must have sufficient power.
- Make sure that sufficient space is available around air inlets and outlets to provide the circulation necessary for cooling. Never allow air passages to become obstructed.
- The ambient air temperature must not exceed the maximum operating temperature. Consider heat produced by other devices in the enclosure. You may need to supply a fan, heat exchanger, or air conditioner to meet this condition.

TIP Hot air rises. The temperature at the top of an enclosure is often higher than the temperature in other parts of the enclosure, especially if air is not circulating.

IMPORTANT The product can operate at a range of extremes. However, the life span of any electronic device is shortened if you continuously operate the product at its highest rated temperature.

- The humidity of the ambient air must not exceed specified limits.
- In dry environments, static charges build up readily. Proper grounding of the equipment through the AC power cord helps to reduce static discharges, which may cause shocks and damage electronic components.
- The enclosure or cover must remain in place at all times during operation. The cover provides protection against high voltages inside the product and inhibits radio-frequency emissions that might interfere with other equipment.

Operating Systems

The computers are shipped with Microsoft licensed Windows XP Professional, Service Pack 3 operating system installed and configured.

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 hard-disk drives include a recovery partition on the system drive containing the original factory image. You can use the supplied Computer System Cloning CD to restore the operating system from the recovery partition and create a new recovery image. Refer to the Cloning Utility Technical Data, publication [6000-TD002](#), for instructions.

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

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 ensure adequate protection for a unit returned for service.

Parts List

Your computer is shipped with these items:

- Mounting hardware specific to each product
- Power cord, AC (IEC320-13, AC power option only)
- Ground bus strip (DC power option only)
- Panel mount clips (10)
- Panel cut-out template
- Keys for front-panel access door
- Installation instructions
- System CDs
 - Accessory CD with Cloning Utility (red)
 - DVD-burning software (performance models only, CD format)

Required Tools

The following tools are required for product installation:

- Panel cut-out tools
- #2 Phillips screwdriver
- Antistatic wrist strap (recommended)

Install the Computer

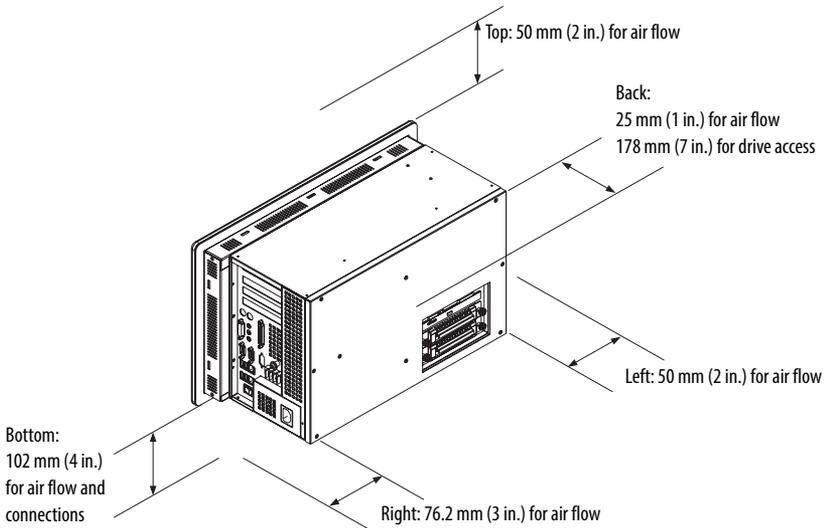
The 1200P and 1500P models of the display computer are installed in a panel. Before installation, review the following information:

- Mounting clearances
- Panel mounting guidelines
- Panel cutout dimensions
- Product dimensions

Mounting Clearances

Allow adequate space around the computer for mounting, air flow, connections, and maintenance. Sufficient airflow throughout the system unit is required to maintain proper cooling. Clearance should be enough to allow convenient installation or removal of peripheral components, such as the optical disc drive.

IMPORTANT Use adequate ventilation or other cooling methods to maintain the product temperature at its specified rating.



Panel Mounting Guidelines

Observe these guidelines when installing the unit in a panel:

- Confirm that there is adequate space within the panel enclosure.
- Cut supporting panels to specifications before installation.
- Take precautions so metal cuttings do not enter components already installed in panel.
- Supporting panels must be at least 14 gauge to ensure proper sealing against water and dust, and to provide proper support. The mounting hardware supplied accommodates panels up to 6 mm (0.24 in.) thick.
- Remove all electrical power from the panel before making cutout.
- Make sure the area around the panel cutout is clear.



ATTENTION: Failure to follow these guidelines may result in personal injury or damage to the panel components.

Panel Cutout Dimensions

The 6180P products must be appropriately mounted in the panel cutout specified below.

Model	Cut-out Dimensions (HxW), approx.
1200P	279.0 x 450.0 mm (10.98 x 17.72 in.)
1500P	326.4 x 429.3 mm (12.85 x 16.90 in.)

Mount the Display Computer in a Panel

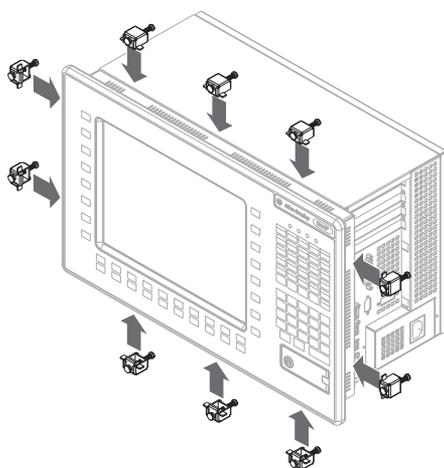
Mounting clips secure the computer to the panel. The 1200P and 1500P both require 10 mounting clips. Follow these steps to mount the computer in a panel.

1. Remove power from the panel before making the cutout.
2. Verify that the panel surface around the area to be cut is clean and free of debris.

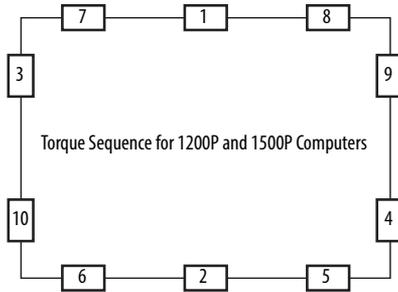


ATTENTION: Take precautions so metal cuttings do not enter components already installed in the panel to avoid personal injury or damage to the panel components.

3. Cut an opening in the panel using the appropriate panel cutout dimensions.
4. Make sure the sealing gasket is properly positioned on the computer.
This gasket forms a compression-type seal. Do not use sealing compounds.
5. Place the computer in the panel cutout.
6. Slide the mounting clips into the slots on the top, bottom, and sides of the computer.



7. Hand-tighten the mounting clips around the bezel by following the tightening sequence shown below.
8. Repeat this process at least three times until the clips are hand-tight and the gasket is compressed uniformly against the panel.
9. Tighten the mounting clips to a torque of 1.4 N•m (12 lb•in) by following the specified torque sequence shown below, being sure to not overtighten.

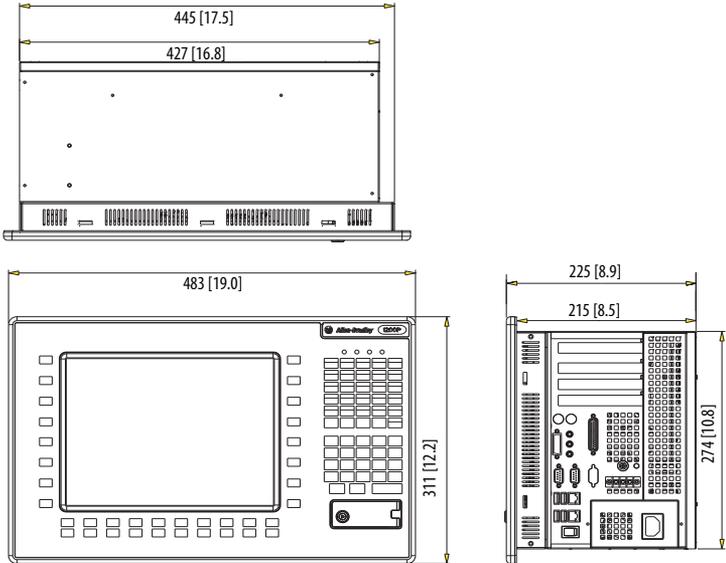


ATTENTION: Tighten the mounting clips to the specified torque to provide a proper seal and prevent damage to the product. Rockwell Automation assumes no responsibility for water or chemical damage to the product or other equipment within the enclosure because of improper installation.

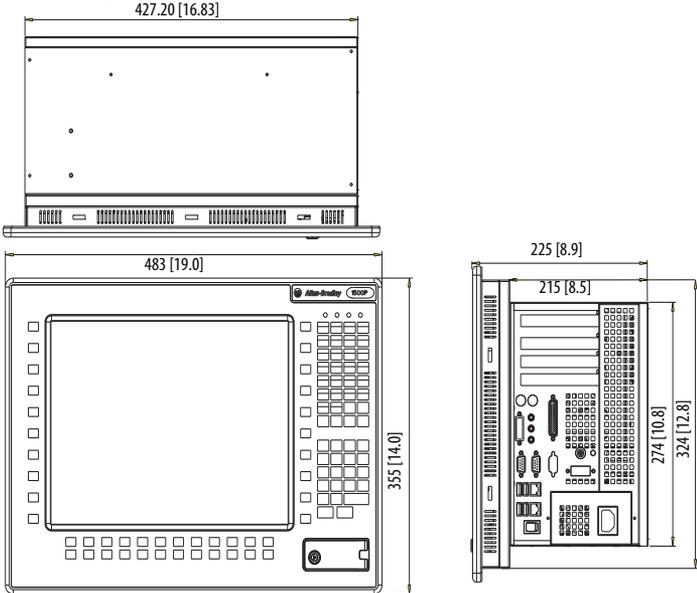
Product Dimensions

Product dimensions for each display computer model are given in mm (in.)

1200P Integrated Display with Keypad

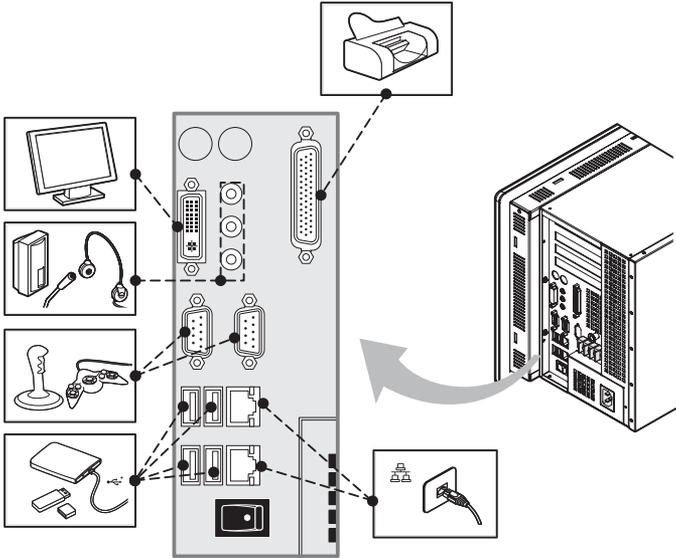


1500P Integrated Display with Keypad

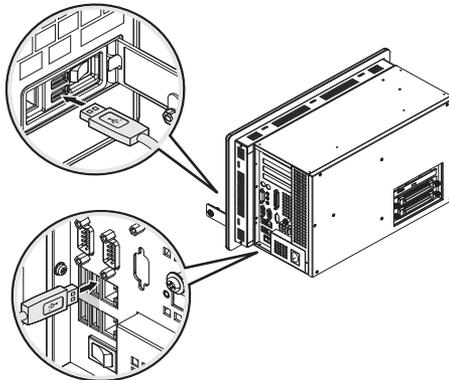


Connect Peripherals

The illustration shows the I/O port panel of the computers. Peripheral components compatible to each port are marked inside the callout figures.

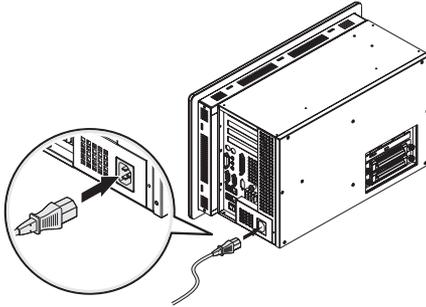


The 1200P and 1500P computers have USB ports on both the I/O port side panel and the front access door. You can use these ports to connect various USB devices, such as an external USB HDD or floppy disk drive to the computer. Front USB ports are enabled or disabled through settings in the BIOS set-up menu.



Connect AC Power

A grounded 3-prong inlet IEC320-C14 power cord provides power to the computer. The power supply input accepts 90...264V AC and is autoswitching.



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 cable to a power source with an earth ground to prevent electrical shock. Failure to follow this warning could result in electrical shock.

We recommend that the computer circuit has 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 following 6180P models are available with a DC power option, using a 3-screw terminal block (+24VDC, 24VTRN, GND):

- 6180P-12BPXPDC
- 6180P-15BPXPDC

The DC power option supports operation from either SELV or PELV power source. A ground bus strip is provided to allow a user to connect the DC common and functional ground terminals together. This is to support SELV cases where the end user requires grounding at the computer.

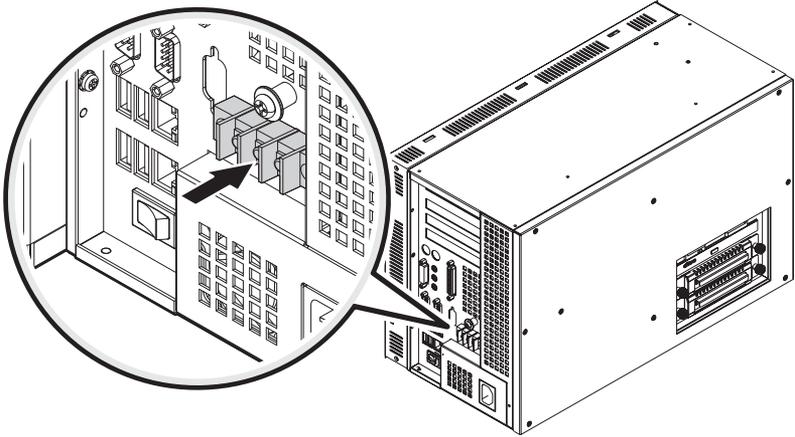
The power supply is internally protected against reverse polarity.



ATTENTION: Use a Class 2/SELV (Safety Extra-Low Voltage) isolated and ungrounded power supply as input power to the computer. This power source provides protection so that under normal and single-fault conditions, the voltage between the conductors and Functional Earth/Protective Earth does not exceed a safe value.

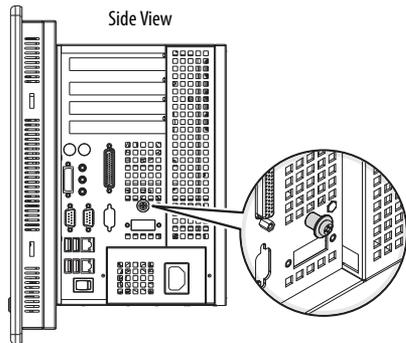
To connect DC power, follow these steps.

1. Secure the DC power wires to the terminal block screws.
2. Secure the ground wire to the GND terminal block screw.
3. Apply 24V DC power to the computer.



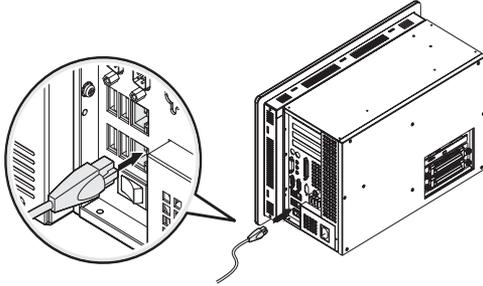
Functional Ground Screw

The use of the functional ground screw is not required for safety and regulatory compliance. However, if a supplemental ground is desired, use the functional ground screw on the side panel of the computer.



Connect to the Network

The computers have dual Gigabit LAN ports. The computers connect to an Ethernet network, using CAT5 or CAT5E twisted-pair Ethernet cabling with RJ-45 connectors.



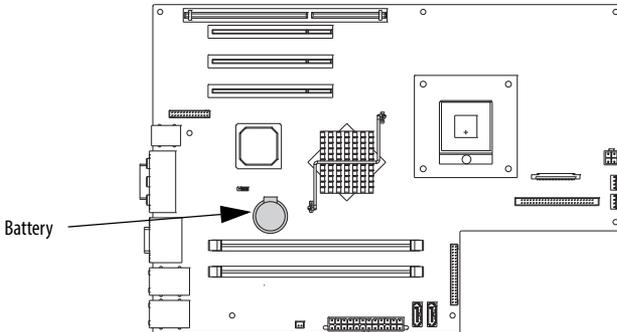
IMPORTANT

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 to ensure 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.

Replace the RTC Battery

The computers use nonvolatile memory that requires a battery to retain system information when power is removed. The 3V, 200 mAh lithium battery is on the system board.



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

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

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



ATTENTION: A risk of fire and chemical burn exists if the battery is not handled properly.

- Do not disassemble, crush, puncture, or short external contacts.
- Do not expose the battery to temperatures higher than 60 °C (140 °F).
- Do not dispose of a used battery in water or fire.

For safety information on handling lithium batteries, see Guidelines for Handling Lithium Batteries, publication [AG-5.4](#).



WARNING: To prevent voiding your product warranty, use only Allen-Bradley approved replacement parts and accessories.

IMPORTANT

When installing hardware or performing maintenance procedures that require access to internal components, we recommend that you first back up all computer data to avoid loss.

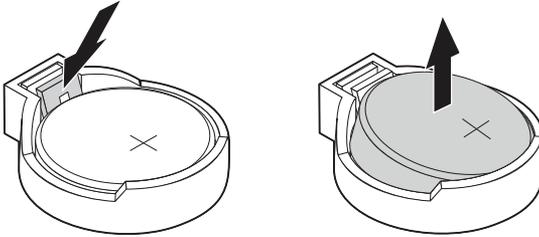
Follow these steps to replace the RTC battery.

1. Perform the pre-configuration procedure.
 - a. Turn off the computer and all of the peripherals connected to it.
 - b. Unplug all cables from the power outlets to avoid exposure to high energy levels. If necessary, label each one to expedite reassembly.
 - c. Disconnect telecommunication cables to avoid exposure to shock hazard from ringing voltages.
2. Remove the back cover.
3. Lay the computer on its front (components showing).
4. If necessary, remove any accessory boards or cables that prevent access to the RTC battery socket.
5. Remove the battery.
 - a. Insert a small flat-blade screwdriver between the battery and spring latch to dislodge the battery from its socket.

IMPORTANT

Do not bend the spring latch when replacing the RTC battery. For proper operation, the latch must retain contact with the battery.

- b. Remove the old battery from its socket.



6. Insert the new battery with the positive polarity (+ side) facing up, and make sure that it is seated completely.
7. Observe the post-configuration procedure.
 - a. Make sure that all components are installed according to the described step-by-step instructions.
 - b. Make sure that no loose tools or parts are left inside the computer.
 - c. Reinstall any expansion boards, peripherals, board covers, and system cables that have previously been removed.
 - d. Reinstall the back cover.
 - e. Connect all external cables and the AC power cord to the computer.
 - f. Press the power switch to turn on the computer.
8. Reconfigure the BIOS settings.

IMPORTANT

Replacing the battery results in all BIOS settings returning to their default settings. BIOS settings other than default must be reconfigured after replacing the battery.



This product contains a hermetically-sealed lithium battery that may need to be replaced during the life of the product.

At the end of its life, the battery contained in this product should be collected separately from any unsorted municipal waste.

Backlight Assembly Disposal



ATTENTION: The backlight assembly in this unit contains mercury. At the end of its life, this equipment should be collected separately from any unsorted municipal waste.

Transport the Product

If you need to ship your computer via common carrier or otherwise transport it to another location, you must first uninstall the unit from the panel 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

Hardware and Electrical Specifications

Attributes	6180P-12 and 6180P-15 Models
Display	
Display type	Color Active Matrix TFT
Touch screen, optional	Resistive antiglare
Display size, diagonal 1200P 1500P	308 mm (12.1 in.) 381 mm (15.0 in.)
Display area (WxH), approx 1200P 1500P	246 x 185 mm (9.7 x 7.3 in.) 305 x 229 mm (12 x 9 in.)
Native resolution 1200P 1500P	800 x 600 1024 x 768
Viewing angle Horizontal Vertical	60° 40°
Response time	20 ms
Electrical	
Input voltage, AC	90...264V AC, autoswitching
Line frequency	47...63 Hz
Power consumption, AC	144VA (1.4 A at 100V rms, 0.6 A at 240V rms)
Power consumption, DC	144 W (8 A at 18V DC, 4.5 A at 32V DC)
Power dissipation, AC	144 W
Power dissipation, DC	144 W
Input voltage, DC	18...32V DC
Inrush current at 24V	20 A peak, 5 ms
Mechanical	
Dimensions (HxWxD), approx 1200P 1500P	311 x 483 x 225 mm (12.25 x 19.01 x 8.86 in.) 355 x 483 x 225 mm (13.97 x 19.01 x 8.86 in.)
Weight 1200P 1500P	16.0 kg (35.3 lb) 17.6 kg (38.8 lb)
Enclosure ratings, panel-mounted	IEC IP66

Environmental Specifications

Attribute	6180P-12 and 6180P-15 Models
Temperature, operating	0...55 °C (32...131 °F)
Temperature, storage	-20...60 °C (-4...140 °F)
Relative humidity, operating ⁽¹⁾	20...85% without condensation
Relative humidity, nonoperating ⁽²⁾	5...90% without condensation
Vibration, operating	0.006 in. p-p, (10...57 Hz); 1 g (57...640 Hz)
Vibration, nonoperating	0.012 in. p-p, (10...57 Hz); 2 g (57...640 Hz)
Shock, operating	15 g (1/2 sine, 11 ms)
Shock, nonoperating	30 g (1/2 sine, 11 ms)

(1) Derate above 40 °C to 45% at 50 °C.

(2) Derate above 40 °C to 39% at 60 °C.

Certifications

Regulatory Area	Standards Group	Regulatory Standard
Americas	Safety requirements	UL 60950-1 CSA C22.2 - 60950-1
	Emissions requirements	FCC Rules for class A devices
	Product certification marks	c-UL-us
Europe	Enclosure rating	IP66 per EN60529
	Safety requirements	EN60950-1
	Immunity requirements	EN55024 EN61000-3-2 EN61000-3-3
	Emissions requirements	EN55022 Class A
	Product certification marks	CE mark
	EMC directive	EU Directive 2004/108/EC
	Low voltage directive	EU Directive 2006/95/EC
	Restriction of Hazardous Substance (RoHS)	EU Directive 2002/95/EC Turkey RoHS (EEE Yönetmeliğine Uygundur. In Conformity with the EEE Regulation)
Asia Pacific	Emissions requirements	CISPR-22
	Product certification marks	C-Tick mark
	RoHS	China RoHS

Additional Resources

For additional information about the 6180P Integrated Display Computers with Keypad, refer to the following publications.

Resource	Description
6180P Integrated Display Computer with Keypad user manual, publication number 6180P-UM001	Overview of the system and description of procedures for installation, connections, configuration, and troubleshooting.
Cloning Utility for Industrial Computers, publication number 6000-TD001	Information on using the cloning utility to create a back-up image of your computer's hard disk drive.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.rockwellautomation.com/rockwellautomation/certification/overview.page	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support>, you can find technical manuals, 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. You can also visit our Knowledgebase at <http://www.rockwellautomation.com/knowledgebase> for FAQs, technical information, support chat and forums, software updates, and to sign up for product notification updates.

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

Installation Assistance

If you experience a problem 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 product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/rockwellautomation/support/overview.page , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

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

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

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