

## ***Installation Instructions***

# **PanelView 1000 Terminals**

Catalog Numbers 2711-K10Cxx, 2711-K10Gxx, 2711-T10Cxx, 2711-T10Gxx

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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://literature.rockwellautomation.com>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

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

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

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.

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

**IMPORTANT**

This document is for both current series and revision terminals. Check terminal back label for final ratings and certifications.

This document describes how to mount a PanelView 1000 terminal in a panel or enclosure and apply power.

- European Union Directive Compliance
- wiring and safety guidelines
- hazardous locations
- enclosures
- required tools
- mounting dimensions
- cutout dimensions
- clearances
- installing the terminal in a panel
- installing the memory card retainer
- connecting AC or DC power

For more information on PanelView Operator Terminals, refer to Publication [2711-UM014](#).

## **European Union Directive Compliance**

If a PanelView 1000 Operator Terminal is installed within European Union or EFTA regions and has a CE mark, the following regulations apply.

## EMC and Low Voltage Directives

This apparatus is tested to meet Council Directive 2004/108/EC Electromagnetic Compatibility (EMC) and 2006/95/EC Low Voltage Directive, using the following standards, in whole or in part.

	<b>PV1000G</b>	<b>PV1000C</b>
Emissions (Class A: Industrial) EN61000-6-4:2001	x	x
Immunity (Industrial) EN61000-6-2:1999	x	x
Programmable Controllers (Equipment Requirements and Tests) EN61131-2	x	x
Low Voltage Directive (Safety Sections of EN61131-2)	x	x

## Intended Use of Product

According to these Standards, the factor which determines, for EMC purposes, whether an apparatus is deemed to be “Industrial” or “Residential, commercial and light industrial”, is given as follows:

Apparatus covered by this standard is not intended for connection to a public mains network but is intended to be connected to a power network supplied from a high- or medium-voltage transformer dedicated for the supply of an installation feeding a manufacturing or similar plant.

When installed in Europe, any other application is in contravention of European Union Directives, and a breach of these laws.

The PanelView 1000 grayscale terminals are certified for direct connection to a low-voltage public mains supply or to a dedicated source, which is intended to interface to a low-voltage public mains supply.

Korean Radio Wave Suitability Registration - This equipment is registered for Electromagnetic Conformity Registration as business equipment (A), not home equipment. Sellers or users are required to take caution in this regard.

## Wiring and Safety Guidelines

Install the PanelView terminal using Publication 70E, Electrical Safety Requirements for Employee Workplaces. In addition to the NFPA general guidelines, follow these recommendations:

- Connect the PanelView terminal to its own branch circuit.

Protect the input power source by a fuse or circuit breaker rated at no more than 15 Amps.

- Route incoming power to the PanelView terminal by a separate path from the communication cable.
- Where power and communication lines must cross, they should cross at right angles. Communication lines can be installed in the same conduit as low level DC I/O lines (less than 10 Volts).
- Grounding minimizes noise from electromagnetic interference (EMI) and is a safety measure in electrical installations. To avoid EMI, shield and ground cables appropriately.
- A source for grounding recommendations is the National Electrical Code published by the National Fire Protection Association of Boston.

## Hazardous Location Considerations

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F and G; Class III; or non-hazardous locations only. The following WARNING statement applies to use in hazardous locations.

### WARNING



#### EXPLOSION HAZARD

- Substitution of components may impair suitability for Class I, Class II, Class III.
- Do not replace components or disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Do not connect or disconnect components unless power has been switched off or the area is known to be non-hazardous.
- This product must be installed in an enclosure. All cables connected to the product must remain in the enclosure or be protected by conduit or other means.
- All wiring must comply with N.E.C. article 501-4(b), 502-4(b), 503-3(b) as appropriate.

See the nameplate on terminal for hazardous locations certifications.

### ATTENTION



In Class I, Class II, Class III Hazardous locations, the PanelView terminal must be wired per the National Electric Code as it applies to hazardous locations. Peripheral equipment must also be suitable for the location in which it is installed.

## Enclosures

The terminals must be mounted in an environment that provides EN/IEC 61131-2 Pollution degree 2 protection.

Mount the terminal in a panel or enclosure to protect the internal circuitry. The terminal meets NEMA Type 12/13 or 4X (indoor use) ratings only when mounted in a panel or enclosure with the equivalent rating.

Allow enough space within the enclosure for adequate ventilation. Consider the heat produced by other devices in the enclosure. The ambient temperature around the terminal must be between 0...55 °C (32...131 °F) for PV1000 terminals.

Make provisions for accessing the back panel of the terminal for wiring, maintenance, installing a memory card, and troubleshooting.

## Required Tools

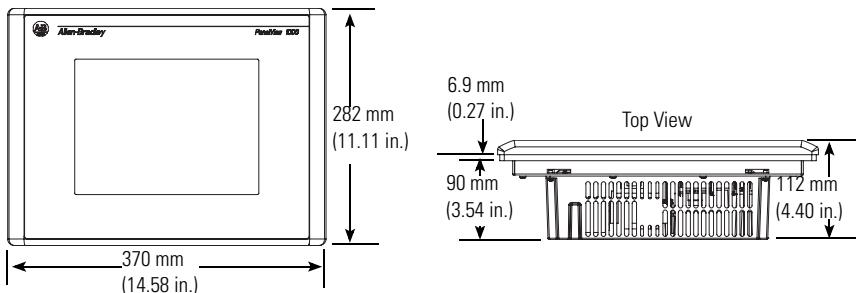
Other than the tools required to make the panel cutout, the tools required for installation are:

- small slotted screwdriver
- torque wrench (N•m, lb•in) with slotted or phillips head driver

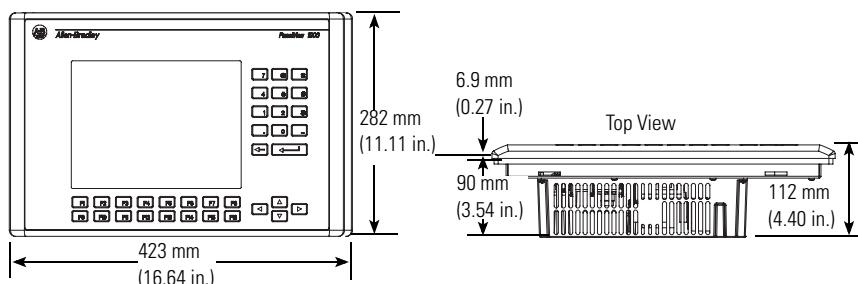
## Mounting Dimensions

The following figures show mounting dimensions for the PanelView 1000 grayscale and color terminals.

### PanelView 1000 Touch Terminal



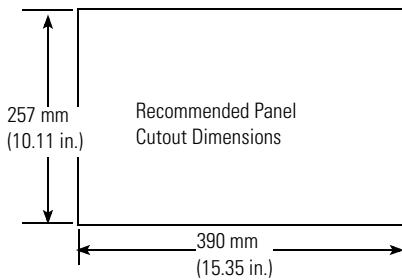
## PanelView 1000 Keypad Terminal



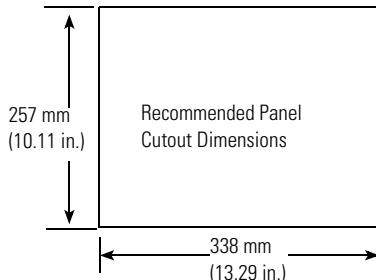
## Cutout Dimensions

Use the full size template shipped with the PanelView 1000 terminal to mark the cutout dimensions. The following figures show reduced size cutouts.

PanelView 1000 Keypad Terminals

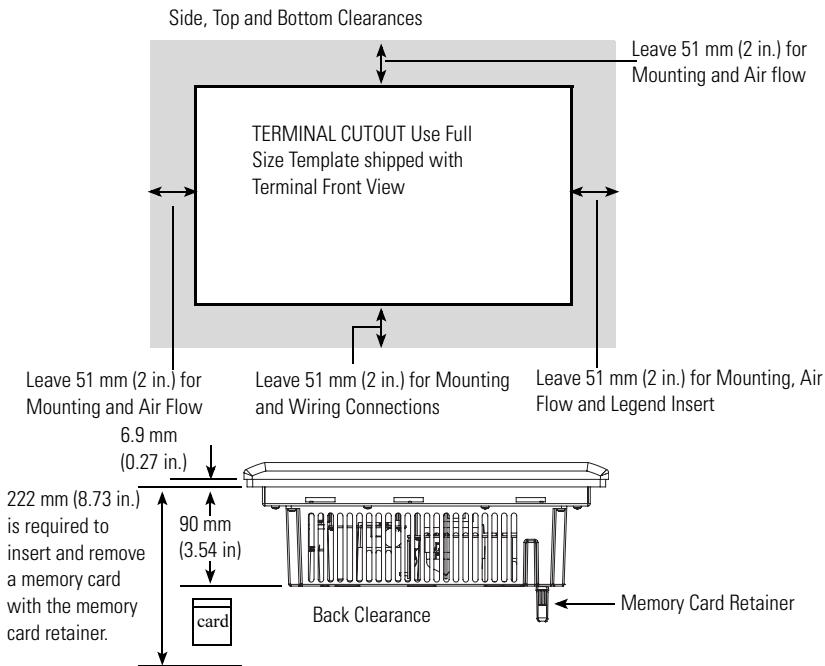


PanelView 1000 Touch Screen Terminals



## Clearances

Allow adequate space for mounting, air flow, maintenance, and for installing a memory card and function key legend inserts.



## Installing Terminal in a Panel

To install the PV1000 terminal in a panel:

**ATTENTION**



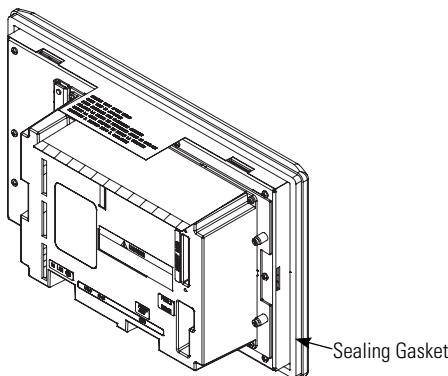
Disconnect all electrical power from the panel before making the cutout.

Make sure the area around the panel cutout is clear.

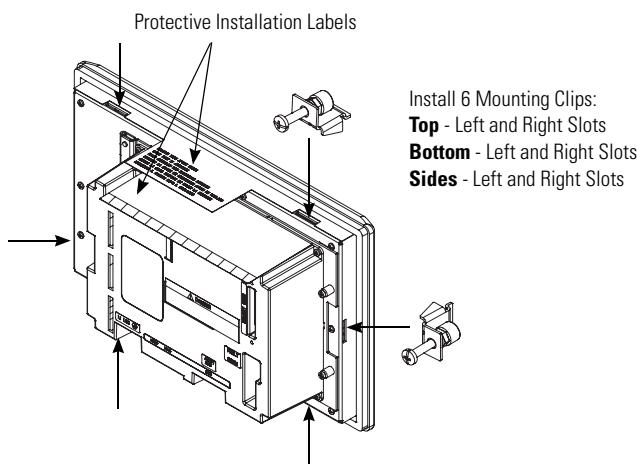
Take precautions so that metal cuttings do not enter any components that may already be installed in panel.

Failure to follow this warning may result in personal injury or damage to the panel components.

1. Cut an opening in the panel using the panel cutout provided with the terminal. Remove any sharp edges or burrs.
2. Make sure the terminal sealing gasket is properly positioned on the terminal as shown below. This gasket forms a compression type seal. Do not use sealing compounds.



3. Although the keypad legend insert can be installed any time, we recommend that you install it after the terminal is installed.
4. Place the terminal in the panel cutout.
5. Install the 6 mounting clips (2 on top, 2 on bottom, 1 on each side); the ends of the clips slide into the slots on the terminal. Tighten the clip mounting screws by hand until the gasket seal contacts the mounting surface uniformly.



6. Alternately tighten the mounting clip screws to a torque of  $1.13 \text{ N}\cdot\text{m}$  (10 lb•in). Do not overtighten. Bezel may not contact enclosure surface.

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**ATTENTION**



Tighten mounting clips to a torque of  $1.13 \text{ N}\cdot\text{m}$  (10 lb•in) to provide a proper seal and to prevent potential damage to the terminal. Allen-Bradley assumes no responsibility for water or chemical damage to the terminal or other equipment within the enclosure because of improper installation.

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7. Remove the 2 protective labels covering the top vents of the terminal.

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**ATTENTION**



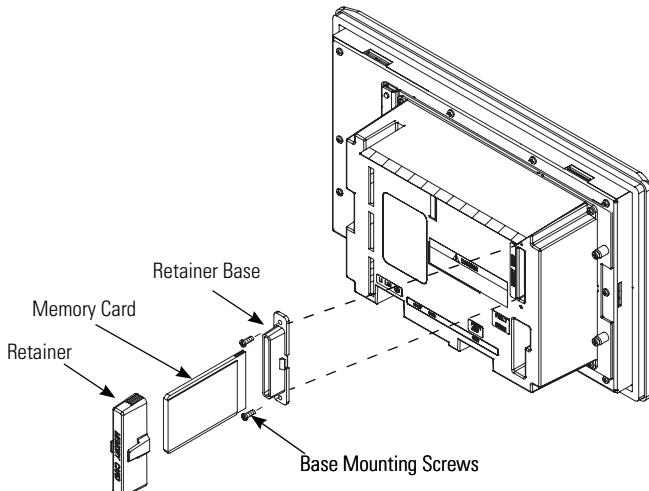
Remove the protective installation labels covering the top vents to prevent overheating and damage to the terminal.

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## Installing the Memory Card Retainer

The memory card retainer is required for UL508 installations where a memory card is inserted in the card slot. The retainer protects against Electrostatic Discharge (ESD) up to 15KV and prevents accidental removal of a memory card in high vibration environments.

To attach the memory card retainer:



1. Secure the base of the retainer over the existing memory card slot using the 2 screws provided. Tighten screws to a torque of 0.7...0.9 N•m (6 ...8 lb•in).
2. Insert the memory card and install the retainer until it is properly seated.
3. To remove the retainer, press the tabs on each side and pull.

## Connecting AC Power

Below are AC electrical ratings for the PanelView 1000 terminals.

Terminal Type	Supply Voltage	Power Consumption
PV1000G and PV1000C	85...264V AC, 47...63 Hz	55VA maximum

The PanelView 1000 terminal is an EN/IEC 61131-2 Equipment Class I device and requires you to connect the  $\ominus$  (Protective Earth) terminal to an earth conductor.

**ATTENTION**

The terminal is designed for safe use when installed in a suitably rated NEMA Type 12, 13, 4X (indoor use only), IP54 or IP65 enclosure.

**ATTENTION**

Do not apply power to the terminal until all wiring connections have been made. Failure to do so may result in electrical shock.

**ATTENTION**

Explosion Hazard - Do not connect or disconnect equipment while circuit is live unless area is known to be non-hazardous.



To connect the AC power to the PV 1000 terminals:

1. Secure the AC power wires to the L1 and L2N screws on the terminal block.
2. Secure the Earth Ground/Protective Earth wire to the  $\oplus$  screw on the terminal block.

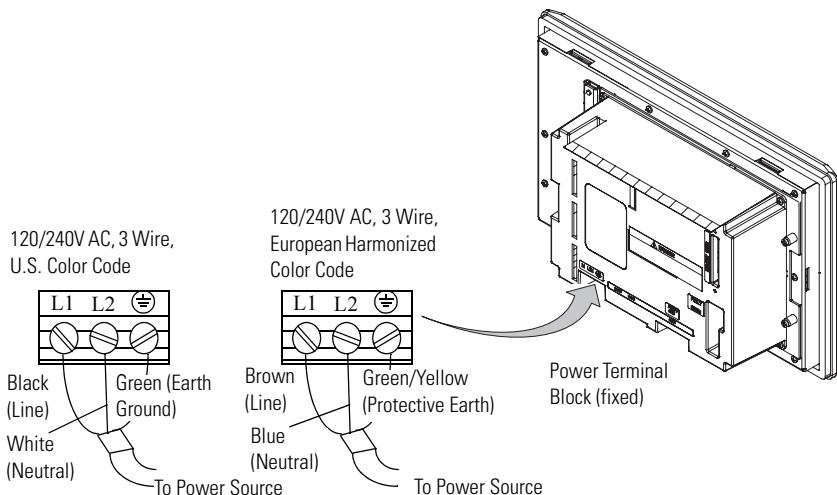
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**ATTENTION**

Improper wiring of the power terminals may result in voltage at the communication connector shells. Refer to the figure below when wiring.



3. Apply power to the terminal.



## Connecting DC Power

The L1 versions (Catalog No. 2711-T10G1L1) of the PV1000 terminals connect to a 24V DC power source.

The electrical ratings for the PanelView 1000 terminals is shown below. Electronic circuitry and an internal fuse protect the terminals from reverse polarity and over-voltage conditions.

Terminal Type	Supply Voltage	Power Consumption
PV1000G	18...32V DC, (24V DC nominal)	24 Watts max. (1.0 Amps @ 24V DC)
PV1000C	18...32V DC, (24V DC nominal)	24 Watts max. (1.0 Amps @ 24V DC)

### ATTENTION

Do not connect the PanelView terminal to an AC power source. Connecting to an AC power source may damage the terminal.



### ATTENTION

The PanelView terminal is designed for safe use when installed in a suitably rated NEMA Type 12, 13, 4X (indoor use only), IP54 or IP65 enclosure.



To connect DC power to the PV1000 terminal:

1. Secure the DC power wires to the DC negative and DC positive screws on the terminal block.
2. Secure the Earth Ground wire to the  $\text{E}$  screw on the terminal block.

### ATTENTION

Explosion Hazard - Do not connect or disconnect equipment while circuit is live unless area is known to be non-hazardous.

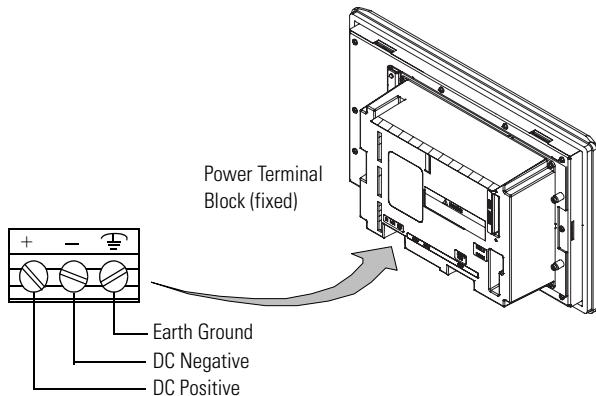


**ATTENTION**

Do not apply power to the terminal until all wiring connections have been made. Failure to do so may result in electrical shock.



3. Apply 24V DC power to the terminal.



## EtherNet/IP Protocol

The PanelView terminal is initially set to DHCP with BootP support (Dynamic Host Configuration Protocol) enabled. If your network has a DHCP/BootP server, you can connect the PanelView terminal to the EtherNet/IP network and the DHCP/BootP server will automatically establish an IP address. If your network does not have a DHCP/BootP server, you need to program an IP address. This is done by accessing Configuration Mode on the PanelView terminal and selecting Communication Setup. For details, refer to the PanelView Standard Operator Terminals Manual.

**IMPORTANT**

If a PanelView is connected to an EtherNet/IP network and has the same IP address as another device on the network, both devices will drop off the network.

## ControlNet Protocol

**IMPORTANT**

When making ControlNet connections, only use the PanelView Channel B for redundant communications. Connecting Channel B to a Channel A only ControlNet network will result in:

- the PanelView not being able to communicate over the network
- a PanelView communications fault after several minutes

## ControlNet Communication Port

**ATTENTION**

PanelView Plus terminals with ControlNet communications ports include a Network Applications Port (NAP). This port is for temporarily connecting programming terminals to devices on a ControlNet network, and are not intended for continuous operation.

## Battery Removal and Disposal

The terminal contains a lithium battery, which is intended to be replaced during the life of the product.

**ATTENTION**

The clock module contains lithium. Do not dispose of the battery in a fire or incinerator, or the clock module may explode. Follow disposal regulations in your area for lithium battery disposal.

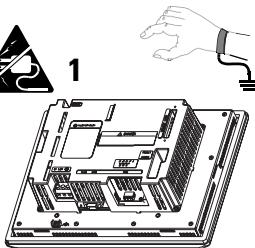


At the end of its life, the battery contained in this product should be collected separately from any unsorted municipal waste.

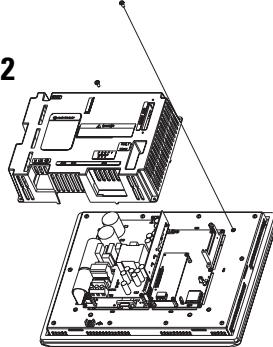
Follow these steps to remove or replace the battery.



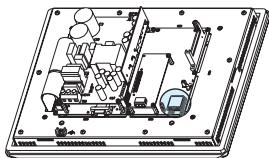
**1**



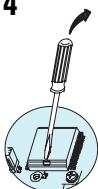
**2**



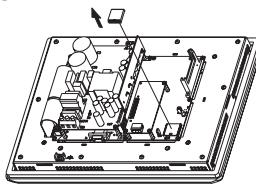
**3**



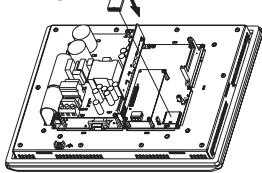
**4**



**5**



**6**



**7**



**8**



**Notes:**

**Notes:**



# **Rockwell Automation Support**

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

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

## **Installation Assistance**

If you experience a problem 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	1.440.646.3434 Monday – Friday, 8 a.m. – 5 p.m. EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

## **New Product Satisfaction Return**

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning 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 in order to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

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### **Power, Control and Information Solutions Headquarters**

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640  
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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