



# ProcessLogix Controller

Catalog Number 1757-PLX52

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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.

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

## North American Hazardous Location Approval

<p>The following Information applies when operating this equipment in hazardous locations:</p>	<p>Informations sur l'utilisation de cet équipement en environnements dangereux:</p>
<p>Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.</p>	<p>Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.</p>

<p><b>WARNING</b></p> 	<p><b>EXPLOSION HAZARD</b></p> <p>Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.</p> <p>Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.</p> <p>Substitution of components may impair suitability for Class I, Division 2.</p> <p>If this product contains batteries, they must only be changed in an area known to be nonhazardous.</p>	<p><b>AVERTISSEMENT</b></p> 	<p><b>RISQUE D'EXPLOSION</b></p> <p>Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.</p> <p>Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit.</p> <p>La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2.</p> <p>S'assurer que l'environnement est classé non dangereux avant de changer les piles.</p>
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## Environment and Enclosure

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**ATTENTION**



This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 meters (6562 ft) without derating.

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

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA, V2, V1, V0 (or equivalent) if non-metallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see:

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

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**ATTENTION**

This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
  - Wear an approved grounding wriststrap.
  - Do not touch connectors or pins on component boards.
  - Do not touch circuit components inside the equipment.
  - Use a static-safe workstation, if available.
  - Store the equipment in appropriate static-safe packaging when not in use.
-

## Before You Begin

To communicate with the 1757-PLX52 controller, your Server must have the following:

- An operating PCIC or Ethernet card
- A device driver for the network card
- A valid network address to communicate with network devices
- RSLinx software properly configured
- RSLinx drivers

Each network device must also have a unique network address.

Refer to the Installation and Upgrade Guide that was shipped with your ProcessLogix software or the device installation instructions for more information.

## Install the Battery

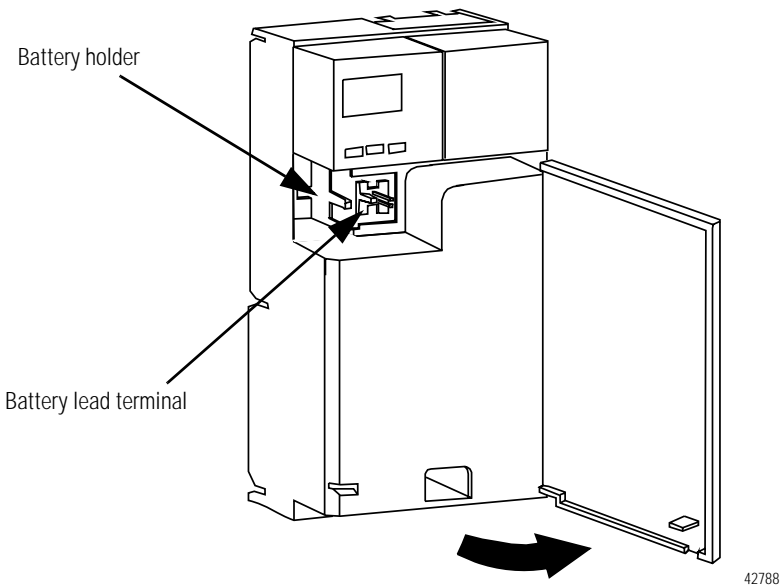
The battery is disconnected during shipping to conserve power. Follow this procedure to install the battery.

**WARNING**

When you connect or disconnect the battery an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

For Safety information on the handling of lithium batteries, including handling and disposal of leaking batteries, see Guidelines for Handling Lithium Batteries, publication AG 5-4.

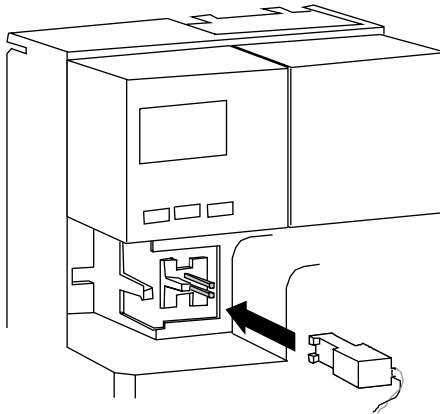
1. Open the front door of the 1757-PLX52 controller.
2. Locate the battery connector (a small, white plug at the end of a pair of red and black twisted wires).



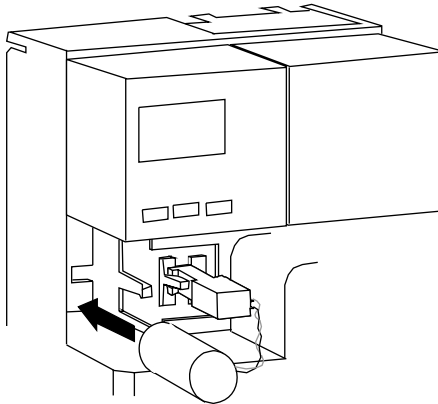
3. Turn the plug so that the wires enter the plug from the right.

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- Slide the plug over the two-prong male plug in the battery compartment.



- Insert the end of the battery away from the lead wire into the recessed area in the controller. Be certain that the black retaining tab (located next to the battery lead terminal) clicks and secures the battery in its holder.



- Close the controller front door.



## Install the 1757-PLX52 Controller

### WARNING

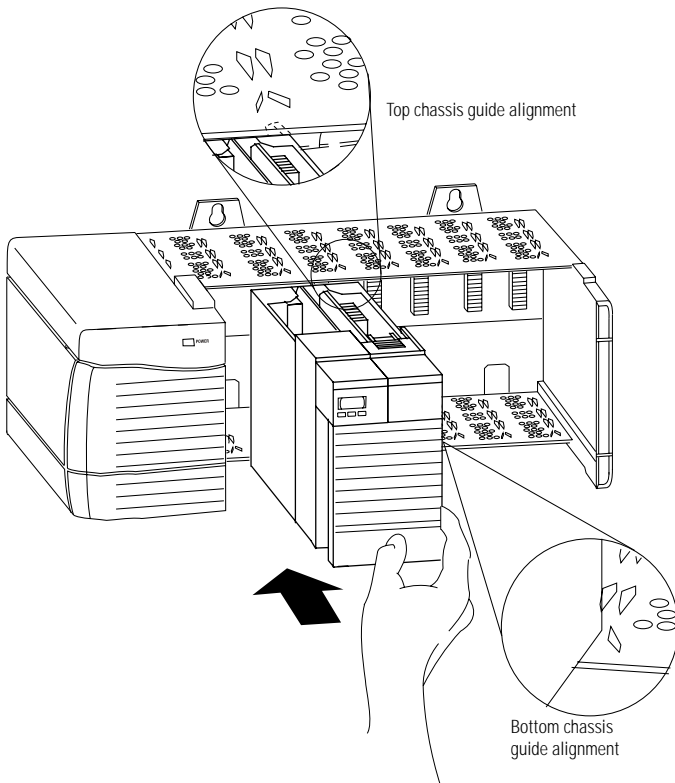


If you insert or remove the controller while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations.

Be sure that power is removed or the area is nonhazardous before proceeding.

The 1757-PLX52 controller can be installed into any two consecutive slots of the chassis. The default location is slots 1 and 2.

1. Align the controller circuit board with the top and bottom guides in the chassis.



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2. Slide the controller into the chassis in the appropriate slot. Make sure the controller properly connects to the chassis backplane.

The controller is fully installed when it is flush with the other installed modules, and the locking clips click into place.

## Uninstall the 1757-PLX52 Controller

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**WARNING**

If you insert or remove the controller while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations.

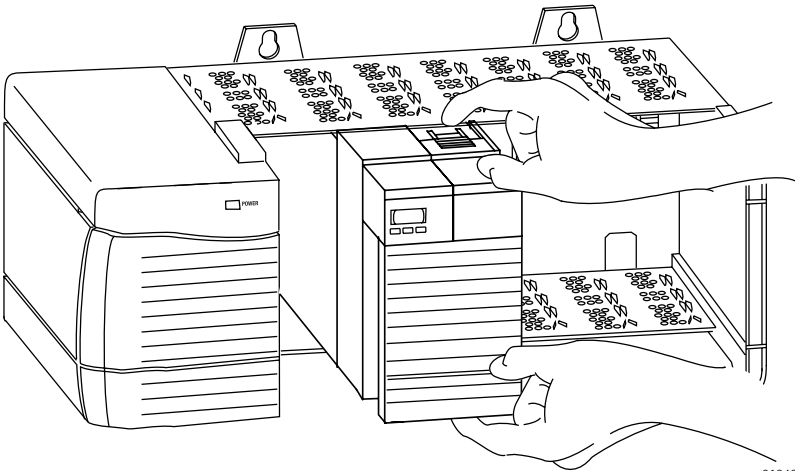


Be sure that power is removed or the area is nonhazardous before proceeding.

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To remove the controller complete the following procedure.

1. Turn off chassis power.
2. Push down on the locking clips at the top right and bottom left of the controller.



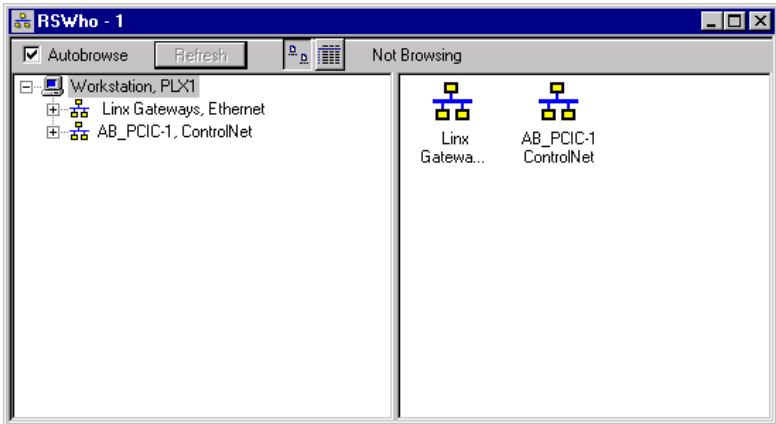
3. Slide the controller out of the chassis.

## Verify Network Connection

To verify that the controller is communicating over the network, complete the following steps.

1. In RSLinx, select Communications > RSWho.

The RSWho window opens.



2. Expand the ControlNet or Ethernet node and verify that the 1757-PLX52 controller is listed in the backplane.

### IMPORTANT

The 1757-PLX52 controller is supplied with only the boot code installed. You must update the controller firmware before you can use it in your system.

Refer to the Installation and Upgrade Guide that was shipped with your ProcessLogix software for more information.

## Specifications

### ProcessLogix Controller - 1757-PLX52

Attribute	Value
Intrinsically safe	No
Temp. rate of change	$\leq 1$ °C/min ( $\leq 33.8$ °F/min)
Corrosives	G2 std, G3 option (ISA S71.04)
Emissions	CISPR 11: Group 1, Class A
ESD immunity	IEC 61000-4-2: 4 kV indirect contact discharges
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1 kHz sine-wave 80%AM from 80..2000 MHz
Power requirements	24V dc @ 5 mA 5.1V dc @ 1.6 A 3.3V dc @ 1.3 A 1.2V dc @ 7 mA
Controller battery backup time	
Lithium battery (standard, built in)	144 hours (non-rechargeable) - 6 days: Replacement Battery: 1757-PLXBAT Lithium battery is disconnected during shipment.
Battery Extension Module, 1757-BEM	120 hours (rechargeable) - 5 days Spare Battery: 1757-BEMS
Removal/Insertion under power (RIUP)	<b>Permitted</b> when equipment is installed in ordinary, non-hazardous, locations (I/O modules reload automatically). <b>Not permitted</b> when equipment is installed in a Class I, Division 2, Hazardous (Classified) Location.

## Environmental Specifications

Attribute	Value
Temperature, operating	IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock): 0...60 °C (32...140 °F)
Temperature, non-operating	IEC 60068-2-1 (Test Ab, Unpackaged Non-operating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Non-operating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Non-operating Thermal Shock): -40...85 °C (-40...185 °F)
Barometric pressure	Altitude, -300...2000 m
Relative humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5...95% non-condensing <sup>(1)</sup>
Vibration	IEC 60068-2-6 (Test Fc, Operating): 0.5 g @ 10...60 Hz
Shock, operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 5 g
Shock, non-operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 20 g
Enclosure required	Yes
Enclosure type rating	None (open-style)
North American temperature code	T4A

<sup>(1)</sup> The maximum relative humidity specification applies up to 40 °C (140 °F). Above 40°C (140 °F) the RH specification is de-rated to 55% to maintain constant moisture content.

## Certifications

<b>Certification <sup>(1)</sup></b> (when product is marked)	<b>Value</b>
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions"
CE	European Union 89/336/EEC EMC Directive, compliant with: EN 50082-2; Industrial Immunity EN 61326: Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions EN 61131-2; Programmable Controllers (Clause 8, Zone A & B)
CSA	CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations. See CSA File LR18656C.
FM	FM Approved Equipment for use in Class I Division 2 Group A,B,C,D Hazardous Locations
UL	UL Listed Industrial Control Equipment. See UL File E65584.

<sup>(1)</sup> See the Product Certification link at [www.ab.com](http://www.ab.com) for Declarations of Conformity, Certificates, and other certification details.

## Additional Resources

For instructions, specifications and applications for the power supply, chassis, I/O modules, network cabling, and other related hardware and software, refer to the documentation that was shipped with the hardware and software.

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

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# Rockwell Automation Support

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

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

## Installation Assistance

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

United States	1.440.646.3223 Monday – Friday, 8am – 5pm EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

## New Product Satisfaction Return

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

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

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[www.rockwellautomation.com](http://www.rockwellautomation.com)

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