



Using DC Power with Industrial Computers

Catalog Numbers 6181F-12TSWE, 6181F-12TSXP, 6181P-12NSXP, 6181P-12TSXP, 6181F-15TSWE, 6181F-15TSXP, 6181P-15NSXP, 6181P-15TSXP, 6181F-17TSWE, 6181F-17TSXP, 6181P-17NSXP, 6181P-172TSXP

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About This Publication

This publication covers instances where AC power is unavailable for an Allen-Bradley integrated-display industrial computer. The industrial computer catalog numbers discussed in this document are where the AC adapter barrel-connector cable can be modified to work with a DC/DC converter.

Use a DC/DC converter to:

- provide a constant, conditioned 24V DC, thus protecting the computer from voltage fluctuations and surges.
- buffer the rest of the system from any noise that the computer may generate on the DC power input.

Rockwell Automation recommends an Allen-Bradley DC/DC converter, catalog number 1606-XLDC92D. Refer to publication [1606-IN019](#) for specific product data about this converter.



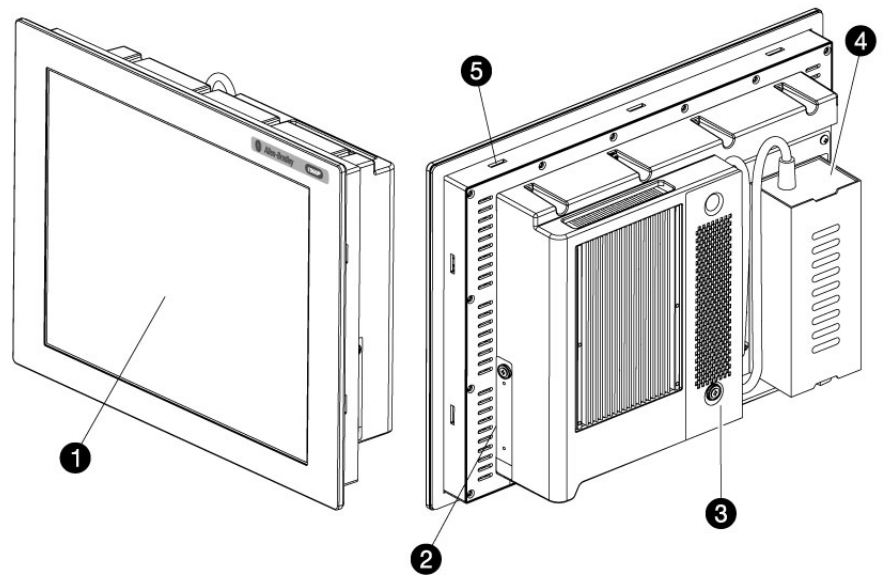
Catalog Number Explanation

This table lists the integrated-display industrial computers covered in this publication.

Cat. No.	Model	Display Size (in.)	Touch-screen	Package	Windows Operating System
6181P-12NSXP	1200	12.1	No	Standard	XP
6181P-12TSXP			Yes		
6181F-12TSXP ⁽¹⁾					Embedded Standard
6181F-12TSWE ⁽¹⁾					
6181P-15NSXP	1500	15.0	No	Standard	XP
6181P-15TSXP			Yes		
6181F-15TSXP ⁽¹⁾					Embedded Standard
6181F-15TSWE ⁽¹⁾					
6181P-17NSXP	1700	17.0	No	Standard	XP
6181P-17TSXP			Yes		
6181F-17TSXP ⁽¹⁾					Embedded Standard
6181F-17TSWE ⁽¹⁾					

⁽¹⁾ 6181F models have solid-state drives.

Figure 1: Standard Computers, Front and Side Views



Item	Component
1	LCD panel
2	CompactFlash Type II card slot
3	Rear cover
4	Power adapter
5	Mounting slots (10)

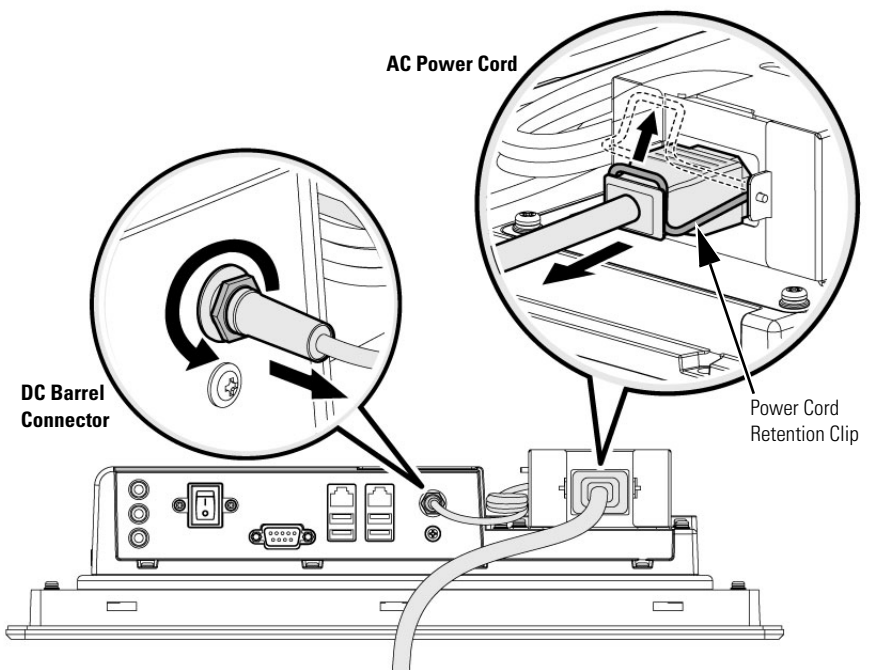
Before You Begin

You will need the following tools to complete the conversion instructions:

- Phillips-head screwdriver
- Wire stripping and cutting tool

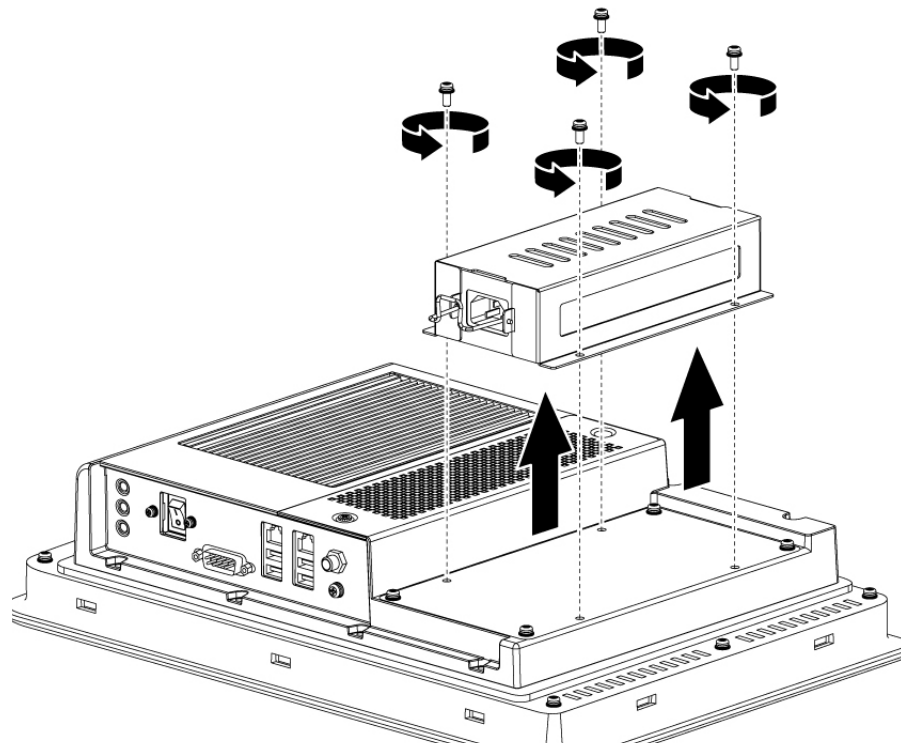
Access and Remove the AC Adapter

1. See Figure 1 on page 2 to locate the AC adapter on the back panel of the industrial computer.
2. Locate the AC power input.
3. Loosen the power cord retention clip and disconnect the power cord.
4. Locate the DC barrel connector.
5. Disconnect the DC barrel connector from the power input jack.



6. Remove the AC adapter from the back of the industrial computer.

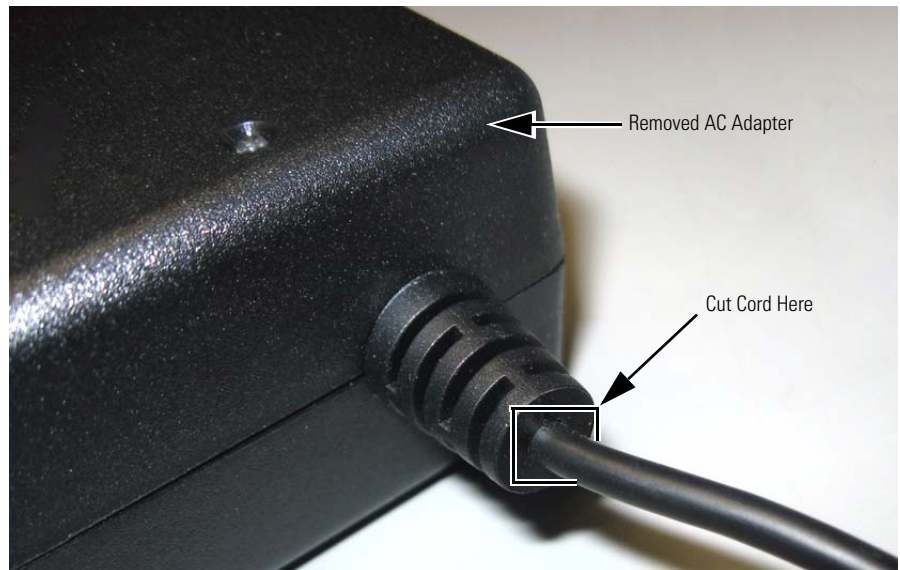
- a. Remove the two screws on each side that secure the AC adapter to its mounting bracket.



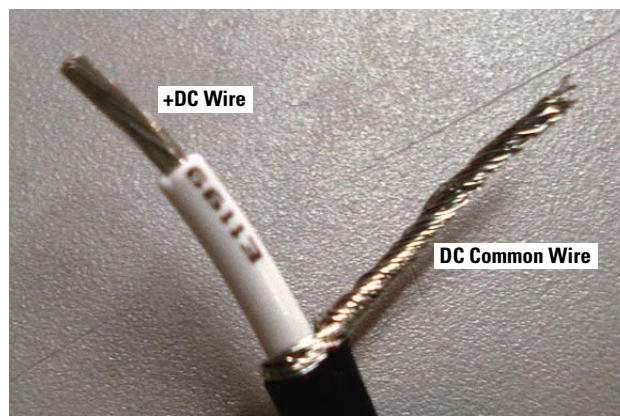
- b. Cut the cable tie and remove the AC adapter from the mounting bracket.

Modify the Barrel Connector Cable

1. Cut the barrel connector cable at the AC adapter end to remove the cable from the adapter.

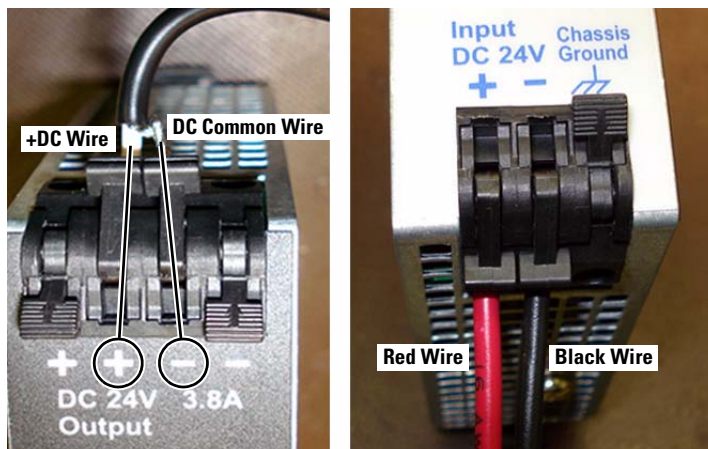


2. Strip the outer insulation on the cut end of the barrel connector cable to expose the two wires.

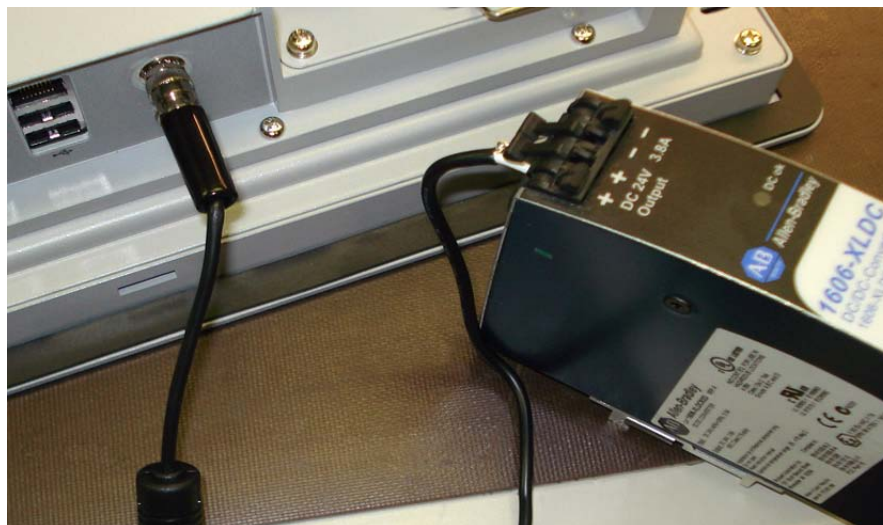


3. Strip the insulation on each wire (+DC and DC common) by at least 7 mm (1/4 inch).

4. Connect the +DC and DC common wires from the barrel connector cable to the corresponding **output** terminals of the DC/DC converter.



5. Connect the 24V DC power-supply wires to the corresponding **input** terminals of the DC/DC converter.
6. Reconnect the DC barrel connector to the power input jack on the back panel of the industrial computer.



Additional Resources

These documents contain additional information concerning integrated-display industrial computers.

Resource	Description
Integrated Display Computers Installation Instructions, publication 6181-IN010	Information on how to install and connect the computer.
Integrated Display Industrial Computers User Manual, publication 6181P-UM002	Information on how to install, connect, configure and troubleshoot the computer.
DC/DC Converter Instruction Manual, publication 1606-IN019	Information on DC/DC converter specifications and installation.
Cloning Utility for Rockwell Automation Industrial Computers Technical Data, publication 6000-TD002	Information on how to create and restore a back-up image of your computer's hard disk drive.
Diagnostic Utility Technical Data, publication 6000-TG001	Information on how to diagnose hardware issues with the industrial computers.
System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001	Information, examples, and techniques designed to minimize system failures caused by electrical noise.
EMC Noise Management DVD, publication GMC-SP004	

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

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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://www.rockwellautomation.com/support/>.

Installation Assistance

If you experience an anomaly within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support 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/support/americas/phone_en.html , or contact your local Rockwell Automation representative.

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 to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

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