

 **California Instruments**

**Power Products
Electronic User Manual
Instructions**

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SAFETY SUMMARY

This power source (load) contains high voltage and current circuits, which are potentially lethal. Because of its size and weight, mechanical stability must be ensured. The following safety guidelines must be followed when operating or servicing this equipment. These guidelines are not a substitute for vigilance and common sense. California Instruments assumes no liability for the customer's failure to comply with these requirements. If the power source or load is used in a manner not specified by California Instruments, the protection provided by the equipment may be impaired.

BEFORE APPLYING POWER

1. Read the installation section of the User Manual for the product you purchased from the CD-ROM.
2. Verify the correct voltage is applied to the unit (for example 240V).
3. The chassis and cabinet of this power source must be grounded to minimize shock hazard. A chassis ground is provided as part of or near the input terminal block or as part of the standard line cord input connector. This is located at the back of the cabinet on the lower right hand or left hand side. Check proper markings to identify input connection versus output connection. The chassis ground must be connected to an electrical ground through an insulated wire of sufficient gauge or an AC Line cord of sufficient rating.

FUSES

Use only fuses of the specified current, voltage, and protection speed (slow blow, normal blow, fast blow) rating. Do not short out any of the fuse holders or use a repaired fuse.

DO NOT OPERATE IN A VOLATILE ATMOSPHERE

Do not operate the power source or load in the presence of flammable gases or fumes.

DO NOT TOUCH ENERGIZED CIRCUITS

Disconnect the input power cable before servicing this equipment. Even with the power cable disconnected, high voltage can still exist on some circuits. Discharge these voltages before servicing. Only qualified service personnel may remove covers, replace components or make adjustments.

DO NOT SERVICE ALONE

Do not remove covers, replace components, or make adjustments unless another person, who can administer first aid, is present.

DO NOT EXCEED INPUT RATINGS

Do not exceed the rated input voltage or frequency. Additional hazards may be introduced because of component failure or improper operation.

DO NOT MODIFY INSTRUMENT OR SUBSTITUTE PARTS

Do not modify this instrument or substitute parts. Additional hazards may be introduced because of component failure or improper operation.

MOVING THE POWER SOURCE / LOAD

When moving the power source or load, observe the following:

1. Remove all AC power to unit.
2. Use two people to prevent injury.

ALLOW CAPACITORS TO DISCHARGE

Capacitors in the power source or load may hold a hazardous electrical charge even if the power source has been disconnected from the mains supply. Allow capacitors to discharge to a safe voltage before servicing internal circuits or touching exposed pins of mains supply connectors.

SAFETY SYMBOLS:



THIS SYMBOL INDICATES DIRECT CURRENT



THIS SYMBOL INDICATES ALTERNATING CURRENT



THIS SYMBOL INDICATES BOTH DIRECT AND ALTERNATING CURRENT



THIS SYMBOL INDICATES THREE-PHASE ALTERNATING CURRENT



THIS SYMBOL INDICATES EARTH (GROUND) TERMINAL



THIS SYMBOL INDICATES PROTECTIVE CONDUCTOR TERMINAL



THIS SYMBOL INDICATES FRAME OR CHASSIS TERMINAL



THIS SYMBOL INDICATES ON (SUPPLY)



THIS SYMBOL INDICATES OFF (SUPPLY)



THIS SYMBOL INDICATES CAUTION, RISK OF ELECTRIC SHOCK



THIS SYMBOL INDICATES CAUTION (REFER TO ACCOMPANYING DOCUMENTS)

WARRANTY

California Instruments corporation warrants each instrument manufactured by them to be free from defects in material and workmanship for a period of one year from the date of shipment to the original purchaser. Excepted from this warranty are fuses and batteries, which carry the warranty of their original manufacturer where applicable. California Instruments will service, replace, or adjust any defective part or parts, free of charge, when the instrument is returned freight prepaid, and when examination reveals that the fault has not occurred because of misuse, abnormal conditions of operation, user modification, or attempted user repair. Equipment repaired beyond the effective date of warranty or when abnormal usage has occurred will be charged at applicable rates. California Instruments will submit an estimate for such charges before commencing repair, if so requested.

PROCEDURE FOR SERVICE

If a fault develops, notify California Instruments or its local representative, giving full details of the difficulty, including the model number and serial number. On receipt of this information, service information or a Return Material Authorization (RMA) number will be given. Add RMA number to shipping label. Pack instrument carefully to prevent transportation damage, affix label to shipping container, and ship freight prepaid to the factory. California Instruments shall not be responsible for repair of damage due to improper handling or packing. Instruments returned without RMA No. or freight collect will be refused. Instruments repaired under Warranty will be returned by prepaid surface freight. Instruments repaired outside the Warranty period will be returned freight collect, F.O.B. California Instruments 9689 Towne Centre Drive San Diego, CA 92121. If requested, an estimate of repair charges will be made before work begins on repairs not covered by the Warranty.

DAMAGE IN TRANSIT

The instrument should be tested when it is received. If it fails to operate properly, or is damaged in any way, a claim should be filed immediately with the carrier. A full report of the damage should be obtained by the claim agent, and a copy of this report should be forwarded to us. California Instruments will prepare an estimate of repair cost and repair the instrument when authorized by the claim agent. Please include model number and serial number when referring to the instrument.

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User Documentation

All user documentation for this product is contained on the Software and Documentation distribution CD ROM, which should be included in the shipping container. Make sure you locate the CD-ROM before proceeding.

WARNING: Do not install, connect or operate this equipment before you have consulted the User Manual contained on the CD-ROM. If needed, you may print out a copy of the manual on your printer.

This electronic format offers several advantages to you, the customer:

1. Manuals can be kept up to date better if in electronic format as there is no inventory of printed manuals that tends to get outdated as revision changes are made to either the product or the documentation. This ensures you always receive the latest version of all user documentation for your unit.
2. You can quickly search for a key word or phrase anywhere in the manual by using the Find function. This provides a much faster way of locating the right section than is the case with traditional printed manuals.
3. When using remote control programming, command syntax examples can be copied directly from the electronic manual and pasted into your code.
4. Electronic distribution of manuals is friendlier to the environment.

If you are unable to locate the CD ROM or do not have access to a PC with CD-ROM drive, you may request a hard-copy of the user manual by contacting the California Instruments customer service department. Use Table 1 in Appendix A: User Manual Part Number Cross-reference to determine the correct User Manual part number.

California Instruments
Customer Service Department
9689 Towne Centre Drive
San Diego, CA 92121
Email: service@calinst.com
Fax: 858 677 0940

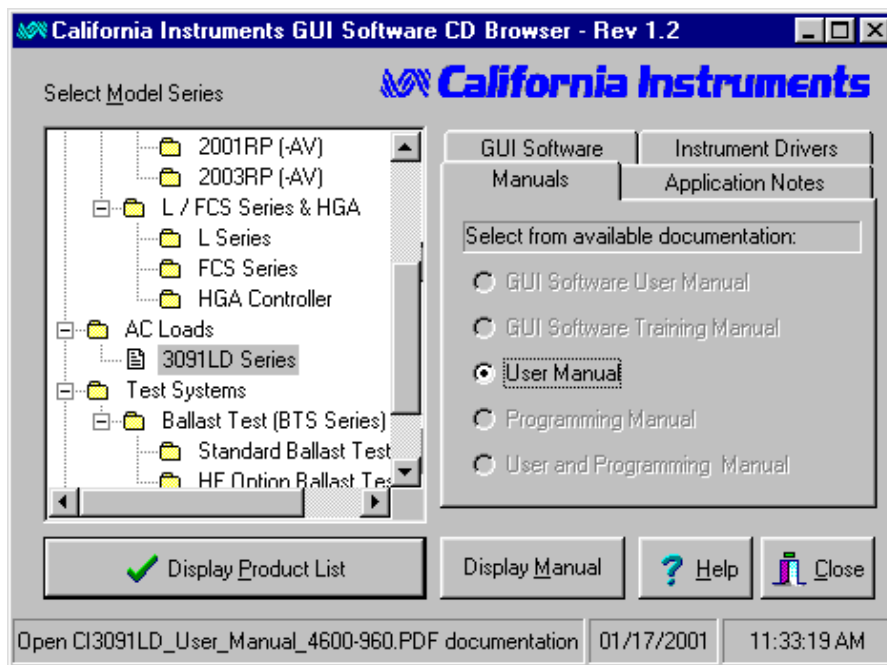
Accessing User Documentation on CD-ROM

All user manuals for this product are provided in electronic format using the widely used Adobe portable document format (PDF). The Adobe Viewer™ required to display this documentation is also provided on the same CD-ROM. The provided viewer is for the Windows operating system. For Apple or Sun platforms, you may download the PDF viewer free of charge from the Adobe Systems web site at www.adobe.com

If you already have a copy of the Adobe PDF viewer on your PC, you may open the user documents directly by browsing to the PDFDocs directory on the CD-ROM. You will find a list of PDF user manuals. For some products, we provide separate User Manuals and Programming Manuals. For others we provide a combined User and Programming Manual. Locate the correct manual for your unit based on the model series and or model number.

If you don't already have a copy of the Adobe PDF viewer and don't want to install it on your PC, you can still browse the user documentation from the CD-ROM if you are using a Windows PC. The required viewer program will run directly from the CD. To access the correct user documentation on a Windows PC, proceed as follows:

1. Insert the CD in your CD-ROM drive.
2. If your PC is set to auto start from CD, the CD browser program will appear after a few seconds. If not, you will have to open your Windows Explorer and select the CD-ROM drive root directory. Double click on the "start.exe" file to launch the CD browser program.
3. The CD browser screen is shown below. On the left hand side, you will find a tree of power product models series. Use this tree to select the product or model series you have. Click on the '+' signs in the product tree to expand a branch. Click on the '-' sign to collapse a branch. You may have to scroll up or down using the scroll bar on the right hand side of the product tree to locate the relevant product model number or product series.
4. Once you have selected the correct model or series, click on the tab labeled "Manuals" in the right hand pane of the browser window.



5. There are five choices on each manual tab, some of which may be disabled (grayed-out).
6. To display the User Manual, click on either the User Manual or the User and Programming Manual selection.
7. After you make this selection, click on the "Display Manual" button at the center bottom of the browser window and the selected manual will be displayed.
8. Use the on-line help provided by the Adobe PDF viewer to navigate through the manual.
9. If you need a hard copy of the manual, you can print a copy using the File, Print menu selection in the PDF viewer program. If needed, you can also specify a subsection of the manual or a single page to be printed by specifying the page number(s).

Other Manuals on disk

For certain products, additional manuals may be provided as well. Specifically, for programmable power products with an RS232 and/or IEEE-488 interface, a GUI Manual and/or GUI Training Manual may be provided as well. These manuals apply to the provided Graphical User Interface programs supplied with most programmable power products.

These manuals can be accessed in the same manner as the User Manuals.

Navigating PDF Manuals

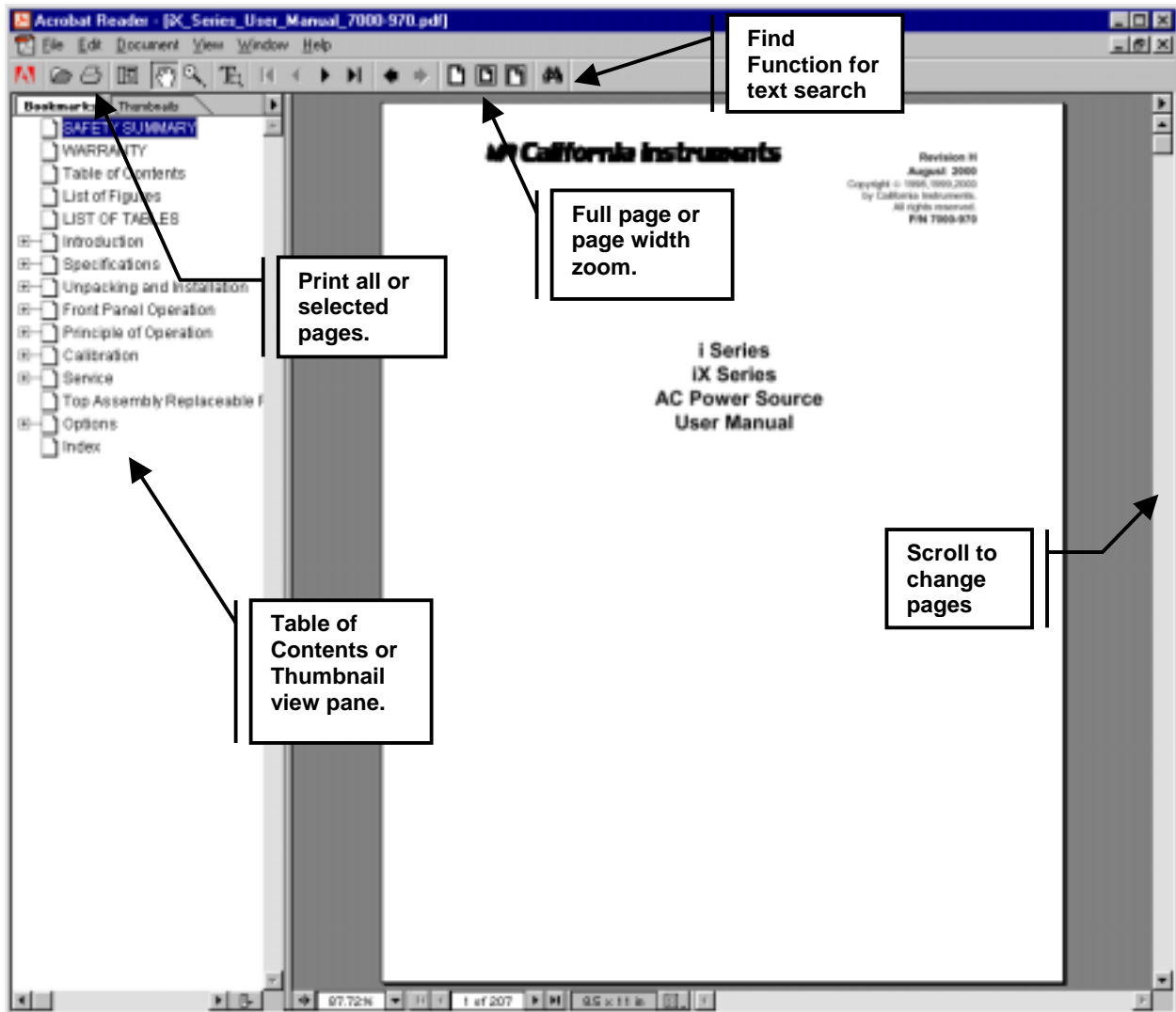
The PDF format supports a number of ways to navigate through a user manual. A navigation toolbar is located at the top of the main window, just below the menu bar. You can also use both the mouse and the keyboard to browse the documentation. It is possible to quickly locate a key word by using the Find function.

Each manual will have a Table of Contents displayed on the right hand side. Clicking on any entry in the TOC will jump directly to the relevant page.

You can also display thumbnail views of all pages in the left hand pane to get a quick view of all pages. Double-clicking on any thumbnail will cause the program to jump directly to that page.

The Home, End, PgUp, PgDn and cursor keys may be used to move through the document.

If you need a hard copy of the manual, you can print a copy using the File, Print menu selection in the PDF viewer program. If needed, you can also specify a subsection of the manual or a single page to be printed by specifying the page number(s).



Software on CD

The same CD-ROM also contains Windows software that may be used with your power source or load. To use any of this software, it has to be installed on your PC. To do so, use the same CD Browser program to locate the power source/load model or series you have and select the "GUI Software" tab. Any available software will be selectable on this tab. Once you select the desired choice, click on the "Execute Selection" button to install the GUI program.

For instrument drivers, use the "Instrument Drivers" tab of the CD browser. If a suitable driver is available, it can be selected and copied to your PC from the CD ROM using the "Copy Driver" button.

In case of Problems

Should you experience any problems using the provided CD-ROM or documentation, contact the customer service department using the contact information provided here:

California Instruments
Customer Service Department
9689 Towne Centre Drive
San Diego, CA 92121
Email: service@calinst.com
Fax: 858 677 0940

Appendix A: User Manual Part Number Cross-reference

When locating or order user manuals, refer to the table below for the correct part number designation.

| Model | Series | User Manual P/N | Programming Manual P/N | User and Progr. Manual P/N |
|--|-------------|-----------------|------------------------|----------------------------|
| 3001iX / 3001i 5001iX / 5001i 10001iX / 10001i 15001iX / 15001i 30003iX / 30003i | i/iX Series | 7000-970 | 7000-982 | |
| 3000iL 4500iL | iL Series | 5001-967 | 5001-969 | |
| 801P 1001P 1251P | P Series | | | 5002-966 |
| 801RP 1251RP | RP Series | | | 5003-960 |
| 2001RP | RP Series | | | 4005-985 |
| 2003RP | RP Series | | | 4005-995 |
| 3091LD 3091 | LD Series | | | 4600-960 |
| 804BL | BL Series | | | 4601-960 |
| 251TL 351TL | TL Series | | | TBD |
| 2300CL | CL Series | 7001-966 | | |
| | | | | |
| CTS | CTS Series | 5004-976 | | |

Table 1

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