CIRRIS®

4200 Series
Getting Started Guide

To download software, the *4200 Series User Manual,* and other supporting documentation scan the QR code here or on the tester to visit **downloads.cirris.com.**

Getting Started

Cirris 4200 Series Testers combine thorough and flexible testing capabilities with a simple, touchscreen user interface for ease of operation. This guide will help the new user set up the tester and become familiar with its operation by working through the process of creating a test program and testing a cable.

For complete operating instructions, see the *4200 Series User Manual*.

Symbols

This symbol indicates that the 4250 tester produces high voltage and there is a risk of electric shock if safety warnings are not followed.

This symbol alerts the reader to a risk of personal injury.

This symbol indicates that a person using an electronically controlled medical device should not be permitted to perform high voltage testing.

4250 Safety Warning

The 4250 tester is capable of performing high voltage Dielectric Withstand (DW) and Insulation Resistance (IR) testing. By design and function, the output of high voltage (hipot) testers presents a risk of electric shock. To mitigate this risk, 4250 testers limit current, high voltage energy and high voltage charge to levels below thresholds that define Hazardous Live or Dangerous in international standards IEC 61010-1 and EN 50191 respectively. However, operators can still receive a painful or startling shock when using any high voltage test equipment. Therefore, it's necessary to protect workers from exposure to high voltage.

Protecting workers begins with training. Operators should understand:

- Basic electricity including the fact that electric current will take any available path to ground, including through a person.

- How to use the test equipment and how to recognize when high voltage testing is being performed.

- Not to not touch the product or test fixture hardware during high voltage testing.

A safe test station is an essential complement to training:

- Use a non-conductive work surface to avoid creating an unintended electrical path between high voltage and workers.

- Verify that the power outlet provides a properly wired, low impedance earth ground. The connection to earth ground is integral to the power cord supplied with the tester.

- Do not allow untrained workers to use high voltage test equipment.

- Isolate high voltage testing from untrained employees and post high voltage warning signs at the test station.

Medical Safety Warning

An individual wearing a cardiac pacemaker, an insulin pump, or any electronically-controlled medical device should NOT perform high voltage testing.

Intended Use

Cirris 4200 Series testers are designed for electrical testing and are intended to be used indoors, in a dry environment, at a temperature of 50-104 degrees Fahrenheit (10-40 degrees Celsius). High voltage Insulation Resistance measurements degrade at over 70% relative humidity.

No User-Serviceable Parts

The tester includes no user-serviceable parts. Attempting repairs or altering the tester in any way voids the warranty and may lead to an unsafe condition. Contact Cirris Technical Support for assistance if needed.

Calibration

New Cirris testers ship with a Certificate of Calibration valid for one year. Cirris recommends that the calibration be validated annually at a minimum thereafter. The validation can be performed by Cirris or by the end user or a calibration service provider using a 4200/4250 Performance Verification Kit. Contact your Cirris sales representative for more information.
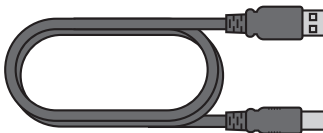
Unpacking

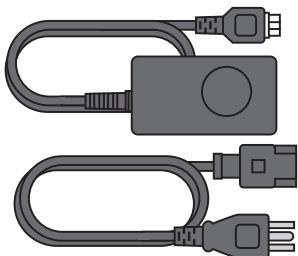The package in which the tester was shipped should have included the following items:

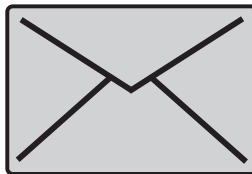☐ 4200 or 4250 Tester

☐ USB Cable

☐ Power Supply and Cord

☐ Probe

☐ Certificate of Calibration
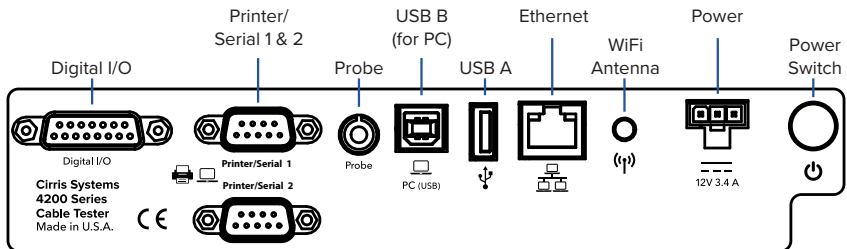

☐ WiFi Antenna

You may have also received:

- Expansion Scanners
- Cirris Adapters
- Tilt Stand

- Performance Verification Kit
- Smart USB to Serial Printer Cable
- Label Printer

Hardware Setup

The tester includes 128 test points in the base enclosure. It can be expanded to a maximum of 1024 test points using expansion scanners, each of which provides an additional 128 test points. If expansion scanners were included in the shipment, see the *4200 User Manual* for installation instructions.

After installing any expansion scanners, make the necessary connections on the back panel of the tester and power on the unit:

1. Connect the power cord to the tester.
2. Plug the power cord into a grounded outlet (surge protector recommended).
3. Connect the probe.
4. Press the power switch to turn on the tester.

Networking

While it's not required to operate the tester, installing the included Cirris Hub software on a PC allows the tester to take advantage of its built-in Ethernet or WiFi networking capability to perform a variety of tasks including:
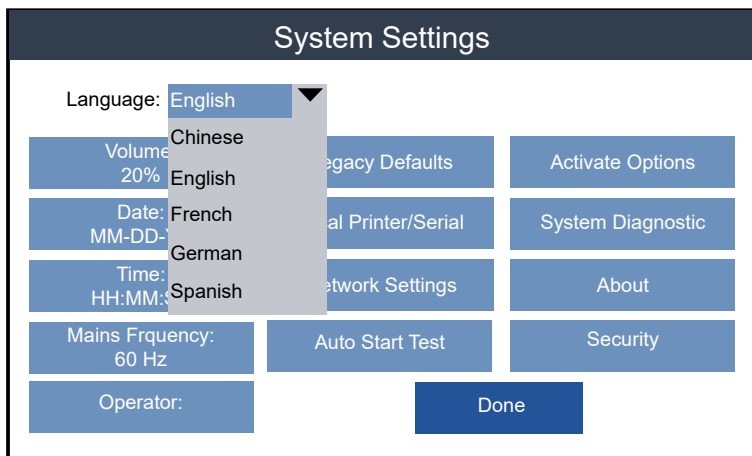
- Storing test programs on a network drive for easy backup of the files.
- Sharing test programs stored on a network drive or on a mapped cloud drive such as OneDrive, SharePoint, Google Drive, Dropbox etc.
- Printing reports to network printers.
- Saving reports as PDF or text files.
- Editing test programs using the Hub editor.
- Organizing testers with custom names and tracking calibration status and firmware version.
- Monitoring the current status of testers.

For more information on networking and the Cirris Hub, see the *Cirris Hub Manual* and the *4200 Series User Manual*.

System Settings

There are three system settings that should be changed or confirmed initially. On the **Main Menu**, select **System Settings.**

Several alternate languages are available for the 4200 Series user interface. To change the default language, select an alternate from the drop down box at the top of the screen.

Tap the associated buttons to set the **Mains Frequency** and the current **Date** and **Time**, depending on the region of operation.

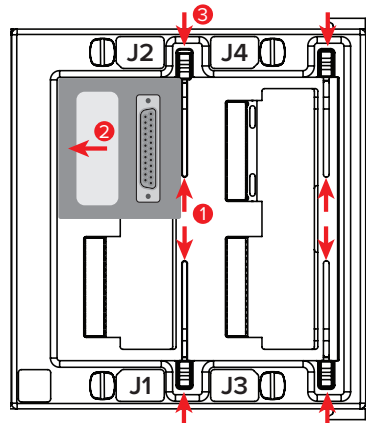Tap **Done** when finished to return to the **Main Menu**.

Fixturing

The 4200 Series testers use interchangeable adapters as the interface for connecting the tester to the Device Under Test (DUT). Standard adapters are available with a wide variety of connector types (a complete list can be found on the Cirris web site). However, if the DUT includes connectors that have no direct adapter mates, test cables can be used to connect the connector on a standard Cirris adapter to the DUT connector. Your Cirris sales representative can also provide pricing for custom adapters.

Adapters are available in three sizes. Single-high adapters plug into one receptacle on the tester (e.g. J1). Double-high adapters plug into two vertically-adjacent receptacles (e.g. J1 & J2). Quad-high adapters plug into all four receptacles on the tester base or on an expansion scanner.

Adapter Installation

1. Push the slidelocks to the outward positions.

2. Set an adapter in one or more of the J1-J4 slots. Align the adapter properly to avoid damage and push it to the left (toward the tester's screen) with steady, even pressure.

3. The adapter is fully seated when the slidelocks can be moved inward to hold the adapter in place.
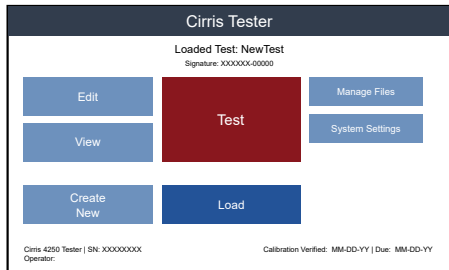
Adapter Maintenance

- Premium gold plating provides 500 or more mating cycles. A very low contact resistance of 10mΩ will likely be maintained during this time. Contact resistance gradually increases with additional cycles, therefore, application requirements will determine when adapters should be replaced.

- Always use slidelocks to reduce the stress on the adapter pins and on the tester's receptacles increasing the lifespan of both.

- Visually inspect right-angle adapter pins before each use. Bent pins can damage the tester's receptacles.

- Never straighten pins using serrated pliers as this produces a saw-like profile that will damage the tester receptacles.

- Store adapters properly to reduce the possibility of damage. Cirris offers ARAC-SS and ARAC-SD adapter trays for this purpose.

Create New Test Program

Before a cable can be tested, a test program must be created. This is most often accomplished by using the tester's capability to "learn" a sample product. Once a test program has been created, it can be saved and then loaded when needed to test subsequent batches of the same product.
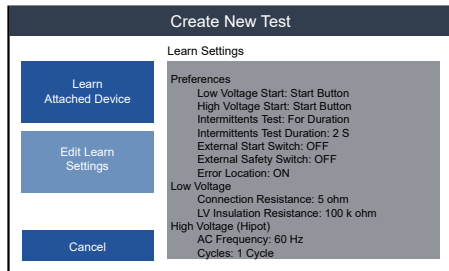
To create a test program using the Learn feature:

1. Install the appropriate adapters.

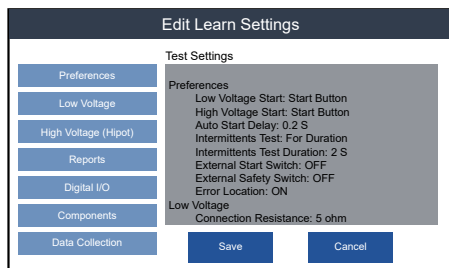2. From the tester's **Main Menu**, press **Create New**.

	Cirris Tester	
	Loaded Test: NewTest	
	Signature: XXXXXX-00000	
Edit		Manage Files
	Test	System Settings
View		
Create New	Load	

Cirris 4250 Tester | SN: XXXXXXXX   Calibration Verified: MM-DD-YY | Due: MM-DD-YY
Operator:

3. Press **Edit Learn Settings** to adjust settings per the cable specifications.

   Note: Edited learn settings will be saved as the default for subsequent program learning.

Create New Test

Learn Settings

Learn Attached Device

Edit Learn Settings

Cancel

Preferences
  Low Voltage Start: Start Button
  High Voltage Start: Start Button
  Intermittents Test: For Duration
  Intermittents Test Duration: 2 S
  External Start Switch: OFF
  External Safety Switch: OFF
  Error Location: ON
Low Voltage
  Connection Resistance: 5 ohm
  LV Insulation Resistance: 100 k ohm
High Voltage (Hipot)
  AC Frequency: 60 Hz
  Cycles: 1 Cycle

4. Using the category options on the left side of the screen, adjust the learn settings to match your cable's specifications.

Edit Learn Settings

Test Settings

Preferences
Low Voltage
High Voltage (Hipot)
Reports
Digital I/O
Components
Data Collection

Preferences
  Low Voltage Start: Start Button
  High Voltage Start: Start Button
  Auto Start Delay: 0.2 S
  Intermittents Test: For Duration
  Intermittents Test Duration: 2 S
  External Start Switch: OFF
  External Safety Switch: OFF
  Error Location: ON
Low Voltage
  Connection Resistance: 5 ohm

Save   Cancel

Learn Settings

Preferences:

Set the low voltage start condition (and high voltage start condition if using a 4250 tester). Set the desired Intermittents Test parameters and decide whether to prompt the operator to enter a Lot ID.

Low Voltage:

Set the maximum acceptable connection resistance and the minimum insulation (isolation) resistance.

High Voltage (Hipot) on 4250 only:

Set hipot voltage, minimum insulation resistance, and dwell time. If needed, **Advanced Settings** can be accessed to adjust dielectric withstand test parameters separately.

Reports:

Select reports/labels and configure print settings.
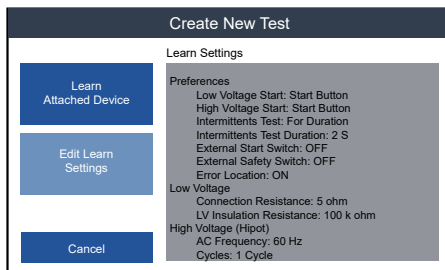
Digital I/O:

The testing process can be automated by including Digital I/O in the test program. See the *4200 User Manual* for more information.

Components:

Designate which components, if any, are included in the DUT. Options include resistors, capacitors, diodes and twisted pairs. Adding a 4-Wire component will instruct the tester to identify 4-Wire pairs in the test fixture before learning the DUT.

Perform a Learn

1. After making any required changes to the Learn Settings, select **Save** to return to the **Create New Test** screen. Attach the sample DUT and press **Learn Attached Device**. The tester will scan the DUT and create a test program.

2. After the learn is complete, the tester will display the test program on the **Verify and Save Learned Test Program** screen. Review the program and verify that the settings are correct and that the connections and any components match the documentation for the DUT.

Saving Test Programs

After verifying that the test program is accurate, save the program using one of the two options:

Save

Selecting **Save**, stores the program in the default location using the filename "NewTest.wir." The next time a test program is learned, selecting **Save** would repeat the process overwriting the test program previously saved with the "NewTest.wir" filename.
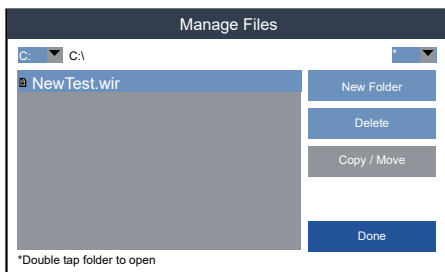
Save As...

Selecting **Save As...**, allows the user to select a storage location and a name for the test program.

1. Navigate to a location within the directory to save the test program. If using the Cirris Hub Software, saving files to the network location (F:) will allow other networked testers to use the test program also.

   Note: The selected location will be the default the next time a test program is saved or loaded.

Manage Files
C: ▼ C:\	▼
🗎 NewTest.wir	New Folder
	Delete
	Copy / Move
	Done
*Double tap folder to open	

2. To name the new test program, select **New...,** enter a name for the program, and press **Done**.
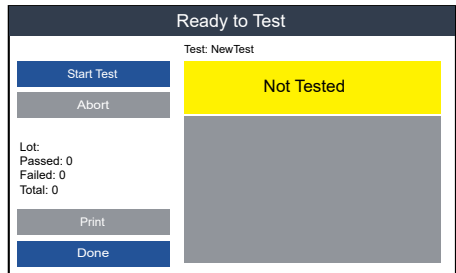
Load a Test Program

From the **Main Menu**, press **Load**. Navigate to the desired directory by selecting a drive from the top left drop-down box. Open a folder by tapping on it twice. To go back, double-tap the folder with the trailing two dots (..).
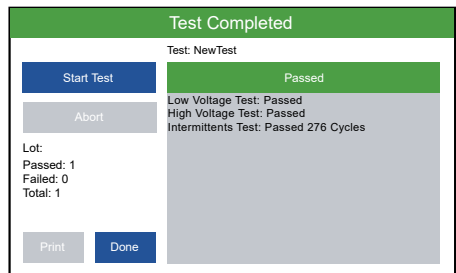
When the desired test program has been located, select it and press **Load**. The name of the loaded test program will appear at the top of the **Main Menu**.

Test

1. From the **Main Menu**, check that the correct test program is loaded and press **Test**.

2. Depending on the Start Condition, either attach a cable to start the test automatically or attach a cable and press **Start Test**.

3. The low voltage testing is initiated and may take less than a second to complete.

4. For 4250 testers, if the low voltage portion of the test passes, the high voltage (hipot) test window will open and the test will begin depending on the start condition. If the low voltage portion of the test fails, the test will terminate.

5. If an intermittents test was programmed, it will begin after the test passes on a 4200 tester and after the high voltage test passes on a 4250 (if a hipot test was programmed). Flex the cable to check for intermittent errors. The test will end depending on the intermittents test settings.

6. If the test passed, the header will turn green and display "Passed." If the test failed, the header will turn red and display "Failed" and the error details will appear in the test window. For more information on errors, refer to the *4200 Series User Manual*.

7. When the test is complete, disconnect the DUT from the tester. The test screen will reset and be ready for the operator to connect another cable, or press **Done** to return to the **Main Menu**. If a report was added to the test, it will print automatically when the DUT is disconnected or the operator can press **Print**.

Help / Support

In addition to this Getting Started Guide, there are several resources that provide important information about the test system and its operation. The Easy-Wire Help is installed with the software. Software, manuals, and other documentation can be downloaded from the Cirris web site at **downloads.cirris.com** or by scanning the QR code on the tester.

- See the *4200 Series User Manual* for more complete documentation.
- See the *Cirris Hub User Manual* for more information about the software.
- Visit www.cirris.com/learning-center to access articles about Cirris products and a variety of testing-related subjects.
- In the United States, contact technical support at TechSupport@cirris.com or by telephone at 1-801-973-4600.
- Outside the United States, visit www.cirris.com to find your Cirris sales and support representative.

Warranty

Cirris Inc. warrants new products manufactured by Cirris Inc. to be free from defects in material and workmanship for a period of twelve months. Products not manufactured by Cirris Inc. are warranted by their manufacturer. Cirris Inc. at its option will repair or replace faulty goods and is not responsible for any consequential loss incurred due to faulty goods. This warranty does not cover normal wear, misuse or consumable items. The warranty does not include modifications or damages due to abuse by the user.

NO WARRANTY AGAINST INFRINGEMENT: Cirris Inc. makes no warranty whatsoever that the goods are delivered free of any rightful claim of any third person for infringement of patent.

CIRRIS®

Cirris, Inc.
401 North 5600 West
Salt Lake City, UT 84116
USA
1-801-973-4600
www.cirris.com