KEITHLEY
A Tektronix Company

ACS Basic Edition

Keithley Instruments
28775 Aurora Road
Cleveland, Ohio 44139
1-800-833-9200
tek.com/keithley

Version 3.2.1 Release Notes

Contents

General information

This document describes the features added to the Keithley Instruments Automated Characterization Suite (ACS) Basic Edition software (version 3.2.1).

The ACS Basic Edition software supports component characterization testing of packaged parts and wafer-level testing using a manual probe station. ACS Basic Edition software can be installed on any computer, including Keithley Instruments Model 4200A-SCS Parameter Analyzer or Model 4200 Semiconductor Characterization System (4200-SCS).

Supported operating systems

ACS Basic Edition software is supported on the following operating systems:

Microsoft Windows® 11, 64-bit

Microsoft Windows 10, 64-bit

Microsoft Windows 10, 32-bit

Microsoft Windows 7, 64-bit (with Service Pack 1)

Microsoft Windows 7, 32-bit (with Service Pack 1)

ACS Basic Edition revision history

Version	Release date
3.2.1	March 2023
3.2	November 2022
3.1	March 2022
3.0	August 2021
2.1.5	November 2017
2.1	November 2015
2.0	September 2012
1.3	July 2011
1.2	September 2010

Install ACS Basic

To install ACS Basic software:

1. Log in to your computer as an Administrator.

2. Open the ACS Basic executable file.

3. Select **Yes** if you have an older version of ACS Basic installed.

Figure 1: ACS Basic Software installation
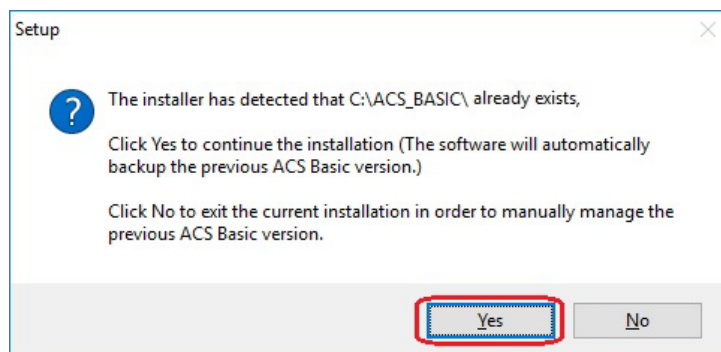
4. Follow the instructions to specify how you want to install the software on your system.

Once the updated version of ACS Basic is installed, the older version is renamed. You can copy the projects and libraries from the previous version using the following steps.

To copy and paste folders:

1. Find the `C:\ACS_BASIC_DDMMYYYY_HHMMSS\Projects\` folder; copy and paste to the current `C:\ACS_BASIC\Projects` folder.

2. Find the `C:\ACS_BASIC_DDMMYYYY_HHMMSS\library\pyLibrary\PTMLib\` folder; copy and paste to the current `C:\ACS_BASIC\library\pyLibrary\PTMLib\` folder.

3. Find the `C:\ACS_BASIC_DDMMYYYY_HHMMSS\library\26library\` folder; copy and paste to the current `C:\ACS_BASIC\library\26library\` folder.

NOTE

ACS Basic 3.2.1 is based on the Python® 3.7 programming language. If you customized your projects in a previous version of ACS Basic you may need to change the projects created in the older version of ACS Basic, which includes the Python language test module (PTM) script libraries. You can go to this site to review the Python changes for more detail:
https://docs.python.org/3/whatsnew/3.7.html#porting-to-python-37

Install applications on a 4200A-SCS

If you are installing ACS Basic on a 4200A-SCS Parameter Analyzer, you will see the following dialog box indicating that the applications identified are needed for installation. Make sure you select **Do not close applications** and **Next** to install (see the following figure). If you select **Automatically close the applications**, you must restart the computer after the installation is completed.

Figure 2: ACS Basic 3.2.1 prepare to install
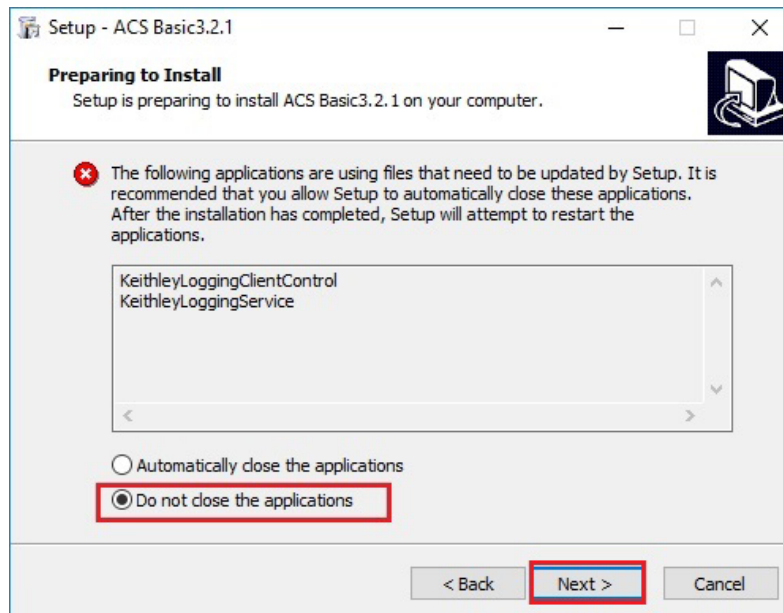
Install applications on a system with NI-488.2 drivers

If you are installing ACS Basic on a 4200A-SCS Parameter Analyzer, you will see the following dialog box indicating that the applications identified are needed for installation. Make sure you select **Do not close applications** and **Next** to install (see the following figure). If you select **Automatically close the applications**, you must restart the computer after the installation is completed.

Figure 3: ACS Basic 3.2.1 prepare to install
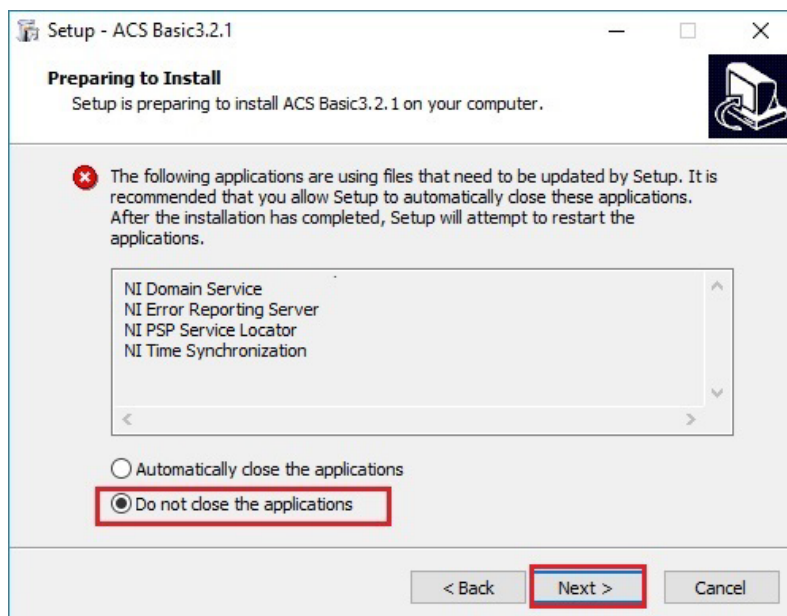
Supported models and test configurations

ACS Basic Edition software can be used to characterize semiconductor devices with a variety of Keithley Instruments products. The *ACS Basic Reference Manual* (part number ACSBASIC-901-01) contains detailed information about the supported hardware and test configurations.

The following table summarizes the instruments supported in the ACS Basic test libraries.

Instrument type	Supported models
SMU instruments	2600B Series: 2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B
	2600A Series: 2601A, 2602A ,2611A, 2612A, 2635A, 2636A
	2400 Graphical Touchscreen Series SMU (KI24XX TTI): 2450, 2460, 2460-NFP, 2460-NFP-RACK, 2460-RACK, 2461, 2461-SYS, 2470
	2400 Standard Series SMU: 2401, 2410, 2420, 2430, 2440
	2606B High Density SMU
	2650 Series for High Power: 2651A, 2657A
Parameter analyzers	4200A and supported cards/modules (4210-CVU, 4215-CVU 4225-PMU/4225-RPM, 4225-RPM-LR, 4200-SMU, 4201-SMU, 4210-SMU, 4211-SMU, 4200-PA, 4200A-CVIV)
DMMs	DMM6500, DMM7510, 2010 Series
Switching and data acquisition systems	DAQ6510, 707A/B, 708A/B, 3700A
Pulse generators	3400 Series

NOTE

The graphical interactive test module (ITM) supports Series 24xx Touch Test Invent® (TTI) instruments and 26xx instruments at the same time. The 24xx instrument should be connected as the primary instrument and the 26xx connected as the subordinate.

You can control any test script processor (TSP™) instrument using script test module (STM) scripts.

You can control any instrument using the Python language test module (PTM) script, including instrumentation from other vendors.

Also, existing ACS Basic STM and PTM libraries support specific instruments based on the library definition.
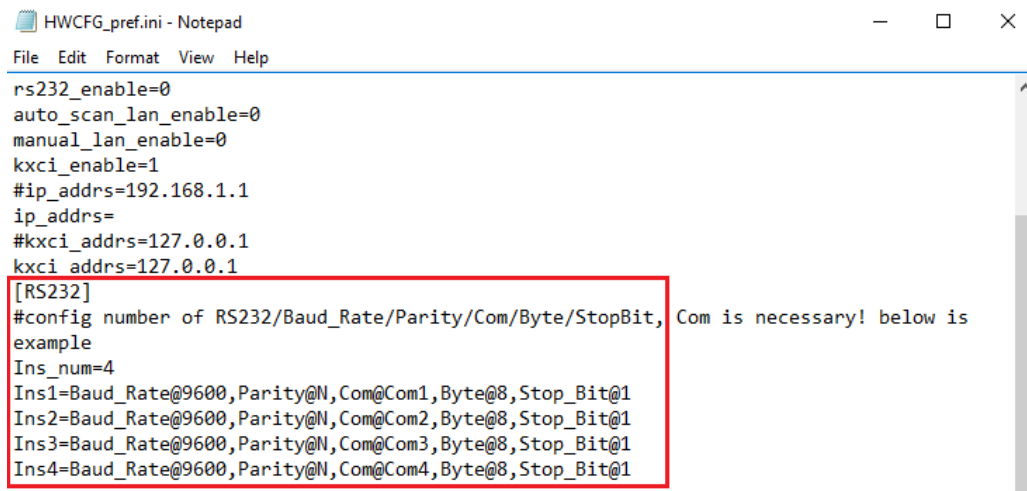
Supported communication interfaces

- GPIB
- LAN (Auto Scan and LAN)
- USB
- RS-232

NOTE

If you are using a RS-232 connection, the instrument will not be automatically added to the hardware configuration. You must add instruments connected with RS-232 manually. Change the hardware configuration file that is in the following directory on your computer:

`C:\ACS_BASIC\HardwareManagementTool\HWCFG_pref.ini`. In this file you must change the baud rate, parity, byte, and stopBit settings. Review the following figure for details.

Figure 4: RS-232 connection

Software license

ACS Basic allows you to create tests, manipulate settings, and view previous data without a license. However, you must have a license for ACS Basic to control and retrieve data from a physical instrument. You can launch a one-time, 60-day trial for ACS Basic after the initial installation. Once the license expires, you must purchase a full license to use the software.

**Figure 5: ACS Basic 3.2.1 license information**
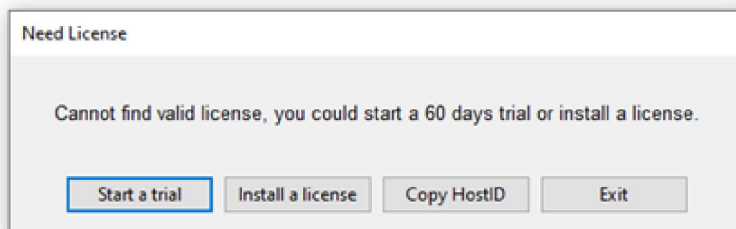
License management

The ACS Basic software license is managed using the Tektronix Asset Management System (TekAMS).

To generate a license file:

1. You must submit your Host ID to TekAMS. For more information about TekAMS, see tek.com/products/product-license.

2. To find the host ID, open the License Manage dialog box from the ACS Basic Help menu. Select **License** > **Host ID** > **Click to copy** the Host ID.

3. Select **Install**.

Figure 6: ACS Basic Host ID 3.2.1 license information
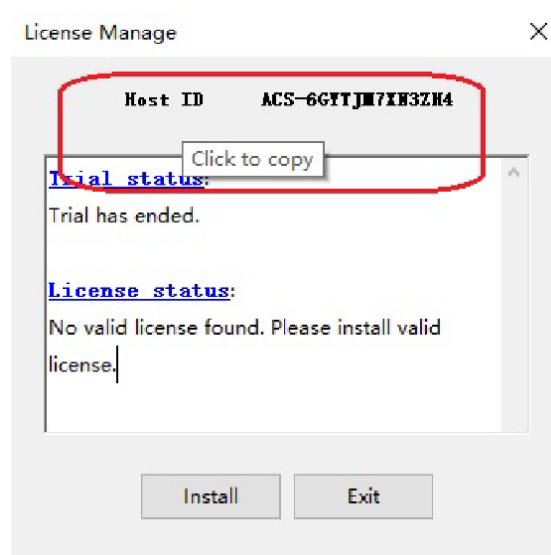
ACS Basic Edition version 3.2.1

Enhancements

Hardware configuration	
Issue number:	ACS-652
Enhancement:	Added support in ACS to configure the DMM6500 instrument and the DAQ6510 instrument using TSP-Link.

| ACS Basic software and libraires	
Issue number:	ACS-624
Enhancement:	Added hold time during testing for the sweep-step, which is enabled for each step.
Issue number:	ACS-544
Enhancement:	Added the option to stop testing during compliance and power compliance for each step.

Resolved issues

Issue number:	ACS-667
Symptom:	When running multiple group testing using TSP-Link with a 2430 instrument in Group3, there is no output after the test has completed.
Resolution:	This issue has been corrected.
Issue number:	ACS-666
Symptom:	A hardware scan error occurs when connecting TSP-Link using 24xx TTI SMU instruments.
Resolution:	This issue has been corrected.
Issue number:	ACS-665
Symptom:	A hardware scan error occurs when connecting multiple 2410 and 2430 instruments.
Resolution:	This issue has been corrected.
Issue number:	ACS-662
Symptom:	The voltage drain output is not correct when used with the 100 A compliance.
Resolution:	This issue has been corrected.
Issue number:	ACS-661
Symptom:	When combining the 100 A compliance for the ITM, it will not refresh with new data.
Resolution:	This issue has been corrected.
Issue number:	ACS-660
Symptom:	There is no data output when pulse transient mode for the ITM is enabled.
Resolution:	This issue has been corrected.
Issue number:	ACS-657
Symptom:	Selecting the pulse sweep function in ITM mode does not work.
Resolution:	This issue has been corrected.
Issue number:	ACS-655
Symptom:	The Sweep2V and Sweep2I from the ITM function list have been removed from ACS software testing.
Resolution:	This issue has been corrected.
Issue number:	ACS-648
Symptom:	If the stress count is too high during a Subsite Loop, the test will not complete.
Resolution:	This issue has been corrected.
Issue number:	ACS-554
Symptom:	ACS software will crash when you select the `Ron_5A_PULSE_check` function.
Resolution:	This issue has been corrected.

Software compatibility

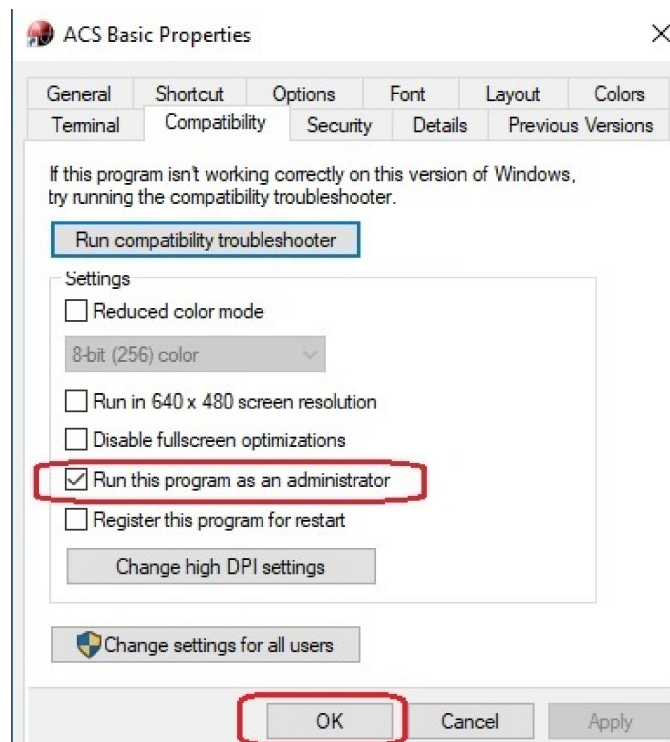|	
Issue number:	N/A
Resolution:	When you start ACS Basic on the 4200A-SCS that has Clarius software version 1.4 or higher (with the Windows 10 operating system), a warning message may appear indicating that Keithley External Control Interface (KXCI) did not start successfully. Select **Cancel** to dismiss the warning.

Figure 7: KXCI did not start
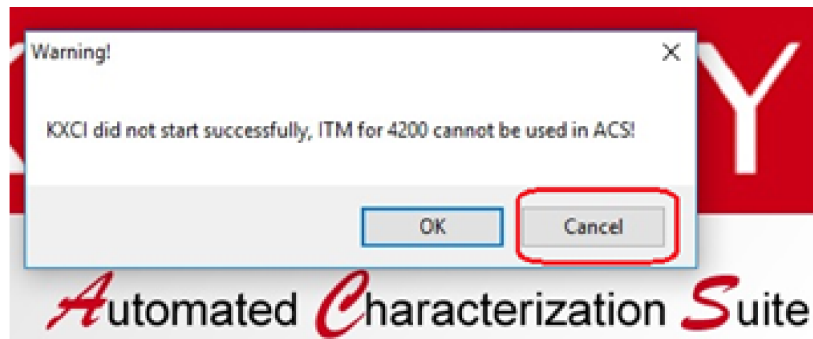
To manually configure the compatibility settings:

1. Right-click the **ACS Basic icon** and select **Properties**.

2. Open the **Compatibility** tab.

3. Select **Run this program as an administrator** and select **OK** to save.

Figure 8: ACS Basic properties

Usage note

Issue number:	N/A
Resolution:	If you install a KUSB-488B GPIB driver, you will see the following message. You must select the **Keithley Command Compatible** option. Select **Next** to continue the installation.

Figure 9: ACS Basic command compatible option