ACS Basic Edition

Version 3.1 Release Notes

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Contents

General information

This document describes the features added to the Keithley Instruments Automated Characterization Suite (ACS) Basic Edition software (version 3.1).

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:

Windows® 10, 64-bit

Windows® 10, 32-bit

Windows® 7, 64-bit

Windows® 7, 32-bit

ACS Basic Edition revision history

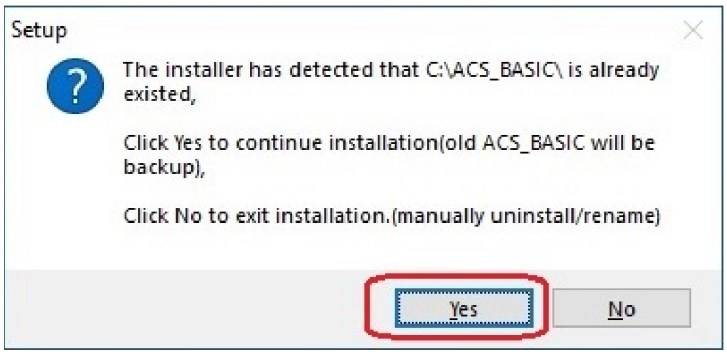
Version	Release date
3.1	March 2022
3.0	August 2021
2.1.5	November 2017
2.1	November 2015
2.0	September 2012
1.3	July 2011
1.2	September 2010

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 new version of ACS Basic is installed, the older version will be 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.

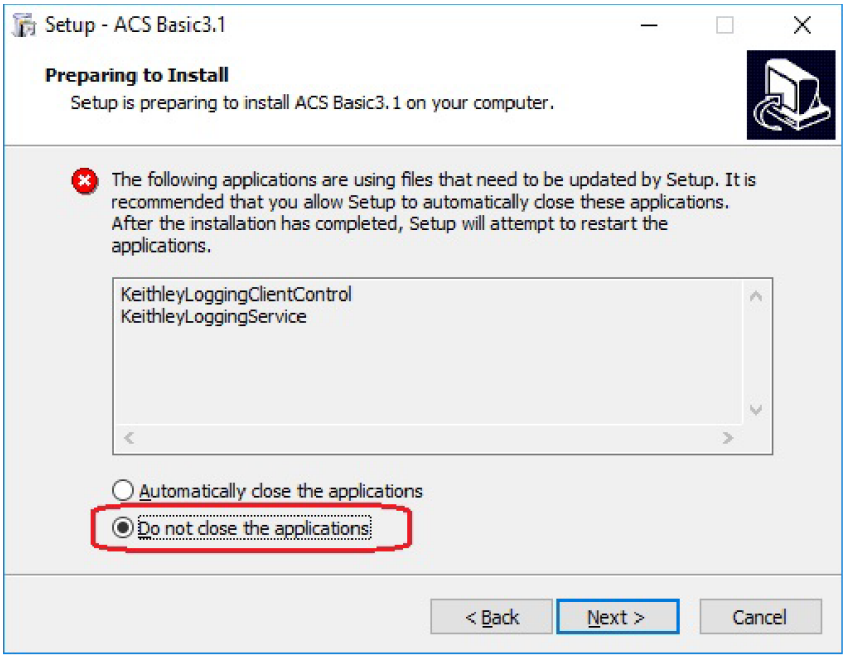
NOTE

ACS Basic 3.1 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

NOTE

When installing ACS on a 4200A-SCS Parameter Analyzer, the following applications use files needed to close applications. Select Do not close applications and click Next to install (see the following figure). If you select Automatically close the applications, you must restart the computer after the installation has completed

Figure 2: ACS Basic 3.1 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	DMM7510, 2010 Series
Switching Systems	707A/B, 708A/B, 3700A
Pulse Generators	3400 Series

NOTE

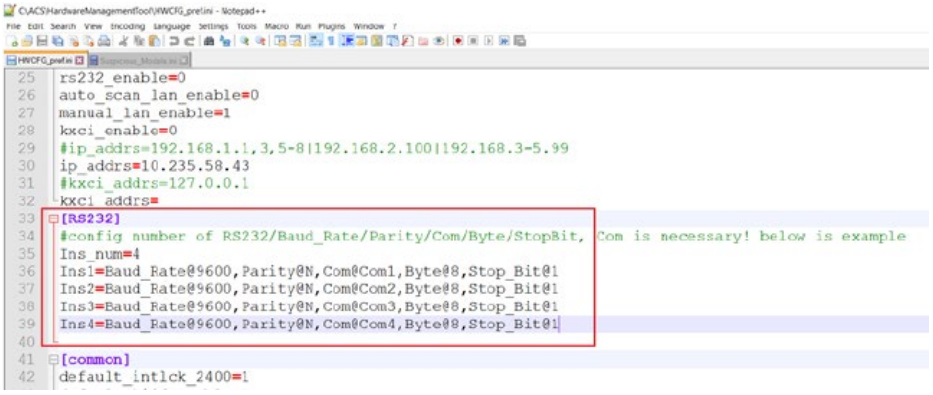
The graphical interactive test module (ITM) supports 24xx Touch Test Invent® (TTI) instruments and 26xx instruments at the same time. The 24xx instrument should be connected as the master and the 26xx connected as subordinate.
You can control any test script processor (TSPTM) instrument using script test module (STM) script.
You can control any instrument using the Python language test module (PTM) script, including instrumentation from other vendors.
Also, existing ACS 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

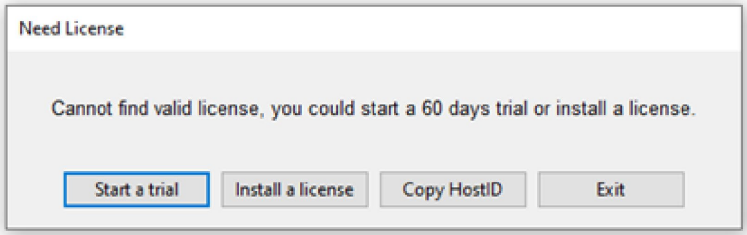
If you are using a RS-232 connection, the instrument will not be automatically added to the hardware configuration. You will have to add instruments connected with RS-232 manually. Change the hardware configuration file that is located in the following directory on your computer: *C:\ACS_BASIC\HardwareManagementTool\HWCFG_pref.ini*. In this file you will need to change the Baud rate, parity, byte, and stopBit settings. Review the following figure for details.



Licensing

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 in 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 will need to purchase a full license to use the software.

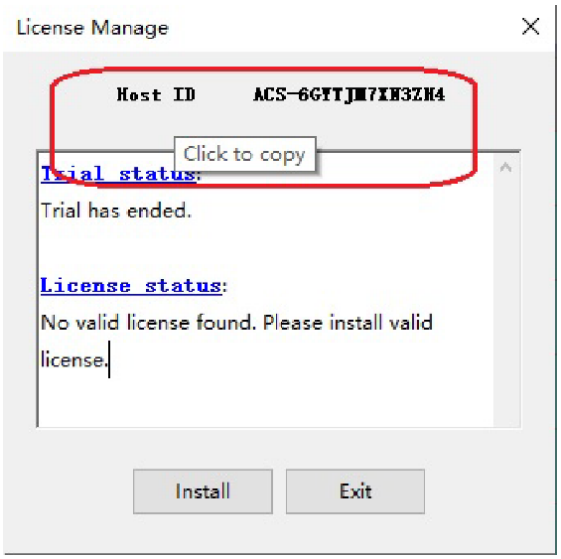
Figure 3: ACS Basic 3.1 license information



License management

The ACS Basic software license is managed using the Tektronix Asset Management System (TekAMS). To generate a license file, you must submit your Host ID to TekAMS. For more information on TekAMS, see tek.com/products/product-license. To find the host ID, open the License Manage dialogue box from the ACS Basic Help menu. Select **License** > **Host ID** > click to copy the Host ID. Select **Install**.

Figure 4: ACS Basic Host ID 3.1 license information



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Enhancements

Hardware configuration	
Issue number:	ACS-81
Enhancement:	Added the ACS Basic Hardware Manager Tool to scan for instruments.
ACS Basic manual updates	
Issue number:	ACS-378
Enhancement:	Updated the ACS Basic Reference Manual, Library Reference Manual, and Quick Start Guide (all manuals are avialable in the Tools drop-down menu in the software).
Data management	
Issue number:	ACS-8
Enhancement:	Added a pass / fail check for ACS Basic test data.

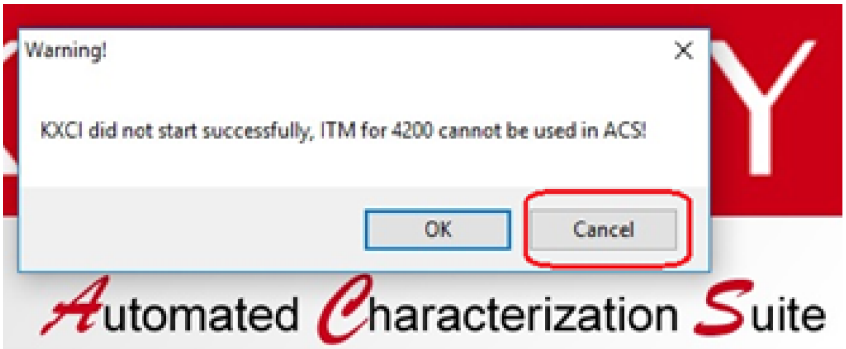
Resolved issues

Issue number:	ACS-352
Symptom:	Loop run does not work in ACS Basic device level.
Resolution:	This issue has been corrected.
Issue number:	ACS-368, AR66718
Symptom:	ACS Basic 3.0 is unable to detect instruments if two instruments share one GPIB address.
Resolution:	This issue has been corrected.
Issue number:	ACS-369, AR66716
Symptom:	ACS Basic 3.0 behavior is erratic when selecting past data in the data tab after tests.
Resolution:	This issue has been corrected.
Issue number:	ACS-370, AR66717
Symptom:	ACS Basic 3.0 stopped working after disconnecting the KUSB adapter and network connection.
Resolution:	This issue has been corrected.
Issue number:	ACS-431
Symptom:	A Python error can occur and cause ACS Basic to fail after using the KUSB-488B adapter, which may overwrite the installed NI driver.
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 KXCI did not start successfully. Select **Cancel** to dismiss the warning.

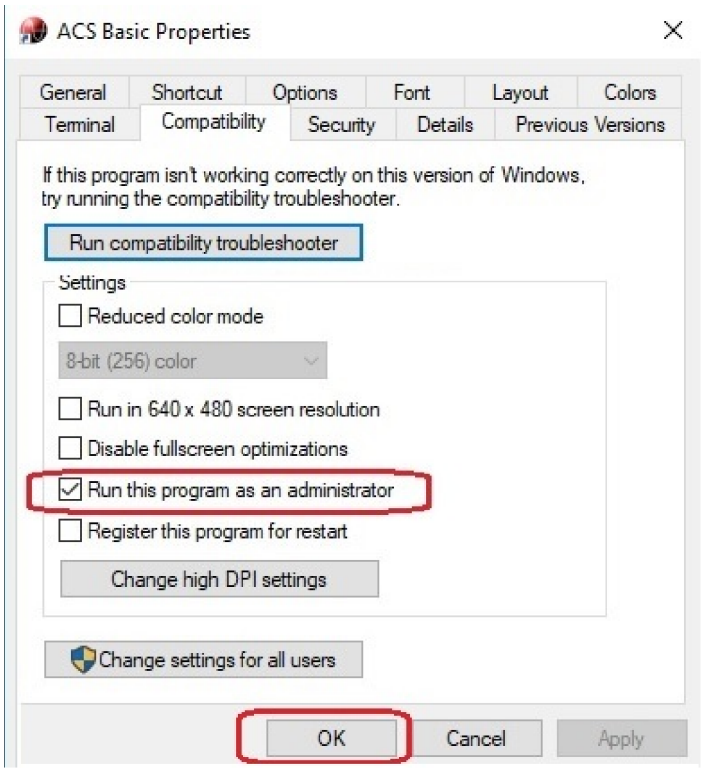
Figure 5: KXCI did not start



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 click **OK** to save.

Figure 6: 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 7: ACS Basic command compatible