Release Notes

SII for OpenLab 1.2 • October 2022

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Table of Contents

1   Introduction

Thermo Scientific^{TM} Standard Instrument Integration (SII) for OpenLab^{TM} is an interface driver for controlling Thermo Scientific chromatography instruments within the Agilent^{TM} OpenLab^{TM} CDS software.

SII for OpenLab 1.2 is built on the modern Thermo Scientific^{TM} Chromeleon^{TM} 7 Chromatography Data System framework.

2   Abbreviations

The following abbreviations are used throughout this document. Further explanations can be found in the chapters of use.

SII   Thermo Scientific Standard Instrument Integration – Driver interface framework that allows control of supported Thermo Scientific chromatography modules under various software environments, using the Chromeleon 7 framework.

xxxxxx   SII for OpenLab issue tracking ID

3   Scope of this Document / Other Resources

The Release Notes describe the main features, list supported instruments and compatibility with Agilent OpenLab CDS and Windows operating systems. If you require further information, for example, about installation, first steps, or troubleshooting, refer to one of the documents listed below.

List of Supported Instruments	Lists the instruments and modules that are supported with SII for OpenLab. Provides details of module specific limitations.
Installation Guide	Gives step-by-step instructions for installing and configuring Thermo Scientific SII for OpenLab and describes all the requirements for installing SII for OpenLab (for example, PC and operating system requirements).
Quick Start Guide	Describes the basic operation of SII for OpenLab. Provides step-by-step instructions on how to control instruments and acquire data from HPLC, GC and IC modules supported by SII for OpenLab via the OpenLab CDS software.
Certificate of Validation	Declaration that the product has been developed and tested according to the specification and appropriate standards.

Note: The SII for OpenLab PDF documents are available on the SII for OpenLab distribution medium in the /Documents folder.

4　Product Features

SII for OpenLab 1.2 provides support for Thermo Scientific chromatography instrumentation within Agilent OpenLab CDS.

4.1　Thermo Scientific Aquion and Aquion RFIC – New Drivers

This release introduces support for the Thermo Scientific Aquion and Aquion RFIC.

4.2　Thermo Scientific Integrion HPIC – New Driver

This release adds support for the Integrion HPIC system.

4.3　Thermo Scientific TRACE 1600 GC – New and Updated Drivers

This release of SII for OpenLab introduces support for the following GC instruments for which separate installers are provided on the media in the Drivers folder:

- Thermo Scientific TRACE 1600 Series GC
- Thermo Scientific AI/AS 1610 Sampler

Additionally, the TriPlus RSH driver has been updated to support the Triplus RSH Smart. A separate installer is available in the Drivers directory for this as well.

Note: When using an FID Detector with the TRACE 1600, the Instrument Method Editor will not show some of the gas settings fully due to missing scroll bars. The gas settings can be set using the script editor.

4.4　Vanquish Autosamplers – Updated Driver and Module Support

This release adds support for the 2 Vanquish Duo Autosamplers (VH-A40-A and VF-A40-A).

Additionally, this release provides an updated Vanquish autosampler driver which extends the injection volume range up to 1000 µL. for Vanquish Horizon and Flex, having already been available for the Vanquish Core in the previous version.

4.5   Compatibility

4.5.1   Agilent OpenLab CDS

This version of SII for OpenLab has been validated for use with the following versions of Agilent OpenLab CDS:

- Agilent OpenLab CDS 2.4 (Update 05 or higher)

- Agilent OpenLab CDS 2.5

- Agilent OpenLab CDS 2.6

- Agilent OpenLab CDS 2.7

4.5.2   Chromeleon 7

This version of SII for OpenLab is based on Chromeleon 7.3.1. Limitations and issues present in Chromeleon 7.3.1 may also be found in this version of SII for OpenLab.

4.5.3   Microsoft Windows

This version of SII for OpenLab is compatible with Windows 10 (Pro + Enterprise x64 English), and Windows Server 2016 (x64 English), Windows 11, and Windows Server 2019 and 2022. Please see the Supported Operating Systems document for Chromeleon 7.3.1 included with this release for further details.

Note: When using English versions of Windows, this release also supports non-English locale/regional settings.

Note: This release can be installed on non-English versions of Windows, however, all UI elements of this release will appear in English.

Note: The documentation of OpenLab CDS should be used to determine the Operating Systems supported for the combination of SII for OpenLab with OpenLab CDS.

5   Resolved Issues

This chapter describes all issues that have been resolved with this release of SII for OpenLab. If an issue is not listed here, it has not been resolved with this software update.

The numbers in the first column of the table below refer to the Thermo Fisher Scientific tracking IDs.

ID	Description
56506	Run Abort: If the current sample was aborted, this would set the system into error, thus preventing further analyses taking place.
188307	Control during a run: Even with the correct privilege (Manual Control in run) in OpenLab CDS, the user was prevented from sending commands to the instrument during an active run.
252240	Sequence: Inserting injections into a sequence while the sequence was acquiring would cause generate an error and stop the sequence.

6   Known Limitations

Currently, Thermo Scientific SII for OpenLab has the following limitations:

6.1   Unsupported Use Cases

The following use cases are NOT supported by SII for OpenLab:

- Acquisition of 3D Fluorescence data
- Acquisition of single spectra
- Auto configuration of instruments
- Fraction collection
- Autosampler tray visualization
- Extend Run
- Emergency methods
- 2 modules of the same type in an instrument
- Enabling/Disabling channels in existing instruments

6.2   Use Case Limitations

The following are functional limitations of instrument control support using SII for OpenLab:

6.2.1   Instrument Configuration

It is only possible to configure Chromeleon instruments on the PC controlling that instrument. That is, remote instrument configuration is not supported. While an instrument is offline during instrument configuration, it is possible that messages relating to that instrument are broadcast and appear in the Activity Log of other instruments or not at all.

6.2.2   Offline Instrument Mode

In the instrument offline mode, it is not possible to create a new instrument method.

6.2.3   FOCUS GC Instrument Status [107875]

Thermo FOCUS GC: In the instrument mini-panels, some FOCUS GC devices may not appear online even though the instrument is connected. For those mini-panels, it will also not be possible to access commands by right-clicking. If this occurs, use the Instrument View to get the correct status and execute online command. Note that actual operation of the GC is not affected by this issue.

6.2.4   Download and Upload Method

Method download is only possible in the context of a sample or sequence run. Method Upload from instrument to method editor is not supported.

6.2.5   Missing Vial Handling [82131]

When a missing vial is detected, the autosampler will abort the injection even if the 'Skip missing vial and continue' option is selected.

6.2.6   Smart Startup [56494]

Although it is possible in the instrument method to define Smart Startup (or Smart Shutdown/Standby) settings, it is not possible to use these settings during a Sequence Run nor on an on-demand basis.

6.2.7 ICS-5000 EDet [108102]

When an ICS-5000 is configured with an EDet, if the detector is in Int-Amp mode, running Smart Standby/Shutdown will generate an error.

6.2.8 Take/Release Control [110096]

While the Take/Release control now correctly greys out the various control options, in certain limited user configuration scenarios, it remains possible to use the direct controls outside a run even if the instrument is not taken, regardless of privilege level of the user. No changes can be made during a run. It is suggested that SOPs are used to document correct user behaviour and that this is to use the instrument view.

6.2.9 Editing Instrument Methods

If a user with the necessary privilege attempts to edit an instrument method, this will be prevented when an attempt is made to save the updated method.

6.2.10 Shutdown Methods, Blank/No injection runs

If a Corona Veo is part of the instrument, submitting a shutdown method in acquisition will lead to an error. Additionally Blank/No injection runs will cause the sequence to abort

6.2.11 Chromatogram Display [110094]

Following the fix to the above issue, the signal names/descriptions available in Data Analysis in OpenLab CDS has changed, leading to some backwards compatibility. Further details of this will be described in a ReadMe available from Agilent.

6.2.12 ICS-6000 or Integrion with Suppressor and Pump

If an incorrect flow is set during instrument method creation, the user is prevented from moving to another page of the editor to adjust the value.

6.2.13 Manual Injection with the AS-DV Sampler [85957]

SII for OpenLab includes a security feature which disables Manual Injections being performed on instruments controlled through SII for OpenLab. Any attempt to perform a manual injection will be blocked and will be recorded in the OpenLab CDS Audit Trail. Please note that the AS-DV sampler is an exception to this.

7   SII Integration with OpenLab CDS – Operational Differences

7.1   Overlapping Sample Preparation [63483]

Overlapping sample preparation is supported using the Thermo Scientific TriPlus RSH and Thermo Scientific TriPlus 500 HS. Overlapping automatically occurs, based on the operating mode selected in the instrument method. As a result, unlike when using other samplers, the 'Bracketing Mode' setting in the Sequence Creation Template is ignored.

7.2   Current Instrument Method Parameters [28707, 56471]

When defining an instrument method for Thermo Scientific instruments, some devices support the ability to 'Use current setting' for certain parameters. When selected, no value is stored in the method for that parameter; rather the setting last applied to the instrument is retained and used.

In these cases, in order to see all the parameters 'Advanced Run Information' needs to be included in the report.

7.3   Corona Veo Operation [63795]

When the Corona Veo is configured as part of an instrument, it is necessary to do the following:

- A 'Remote Inject' module (found in the 'Generic' category) must also be included in the instrument configuration
- The RS232 Input Port needs to be added and configured in the instrument configuration
- A triggering cable must be used to connect the autosampler sampler and the Instrument Control PC

7.4   Number of Controlled Instruments

Only one instance of SII for OpenLab may be configured within OpenLAB CDS. This instance of SII for OpenLab has the ability to control up to 4 instruments.

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