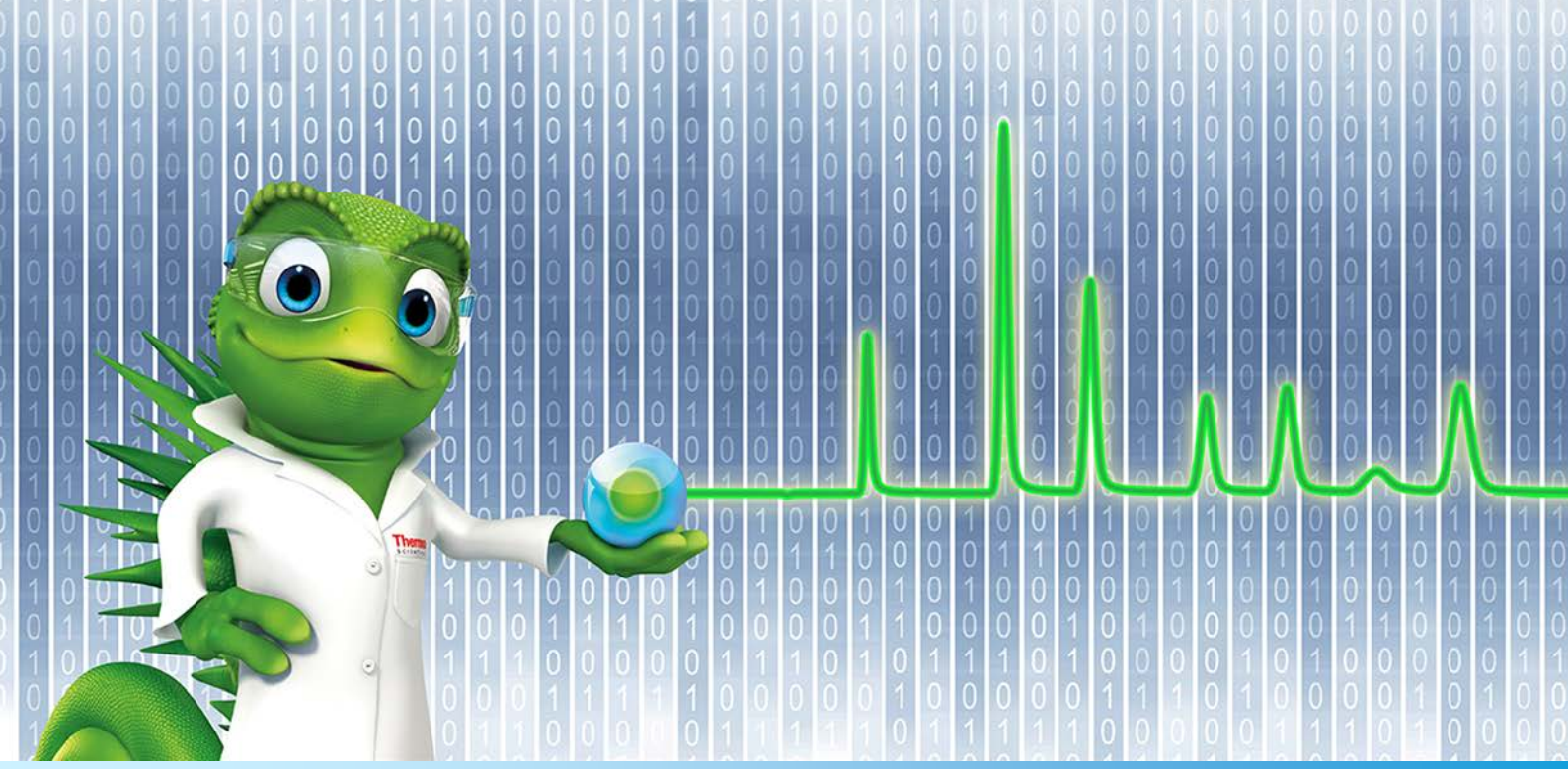

Release Notes

SII for Empower 1.1 • July 2019

thermoscientific

Copyright

Copyright © 2019 Thermo Fisher Scientific Inc. All rights reserved.

Table of Contents

1 Introduction 3
2 Abbreviations 4
3 Scope of this Document / Other Resources 5
4 Product Features 6
4.1 Drivers 6
4.1.1 TRACE 1300 GC Instrument [46900] 6
4.1.2 TriPlus 500 Headspace Sampler [29118] 6
4.1.3 AI/AS1310 Autosampler [46908] 6
4.1.4 Integrion HPIC [46908] 6
4.2 General 6
4.2.1 Block usage of Manual Inject command [50060] 6
4.2.2 Support Overlapped Sample Sequence creation [51537] 6
4.3 Drivers 6
4.3.1 Thermo Scientific Instruments – AI/AS1310 [46908] 6
4.4 Compatibility 7
4.4.1 Waters Empower [CM-10711] 7
4.4.2 Chromeleon 7 [CM-10711] 7
4.4.3 Microsoft Windows [CM-17037] 7
4.4.4 Citrix XenApp [28350] 7
4.4.5 LAC/E box [63141] 7
4.4.6 Non-English Empower 7
5 Resolved Issues 8
6 Known Limitations 9
6.1 Instrument Control 9
6.1.1 Configuring Trays (Plate Types) 9
6.1.2 Missing vials with AI/AS1300 9
6.1.3 Spurious warning in Message Centre 9
6.1.4 Other Module-specific Limitations 9
6.2 Data Acquisition and Storage 9
6.2.1 Instrument Methods 9
6.2.2 Empty instrument method 10
6.2.3 Single Module Support 10
6.2.4 Monitor Baseline/Setup Method 10
6.2.5 TRACE 1300 GC Monitor Baseline 10
6.2.6 Sample Functions 10
6.2.7 TRACE 1300 GC Shutdown Method not Downloaded 10
6.2.8 Error after running Shutdown Method 10

6.3 Non-English language versions of Empower 10
6.3.1 Error when reviewing data on non-English Empower/Windows 10 [64436] 10
6.4 Method Import from DII for Empower 11
6.5 Instrument IQ and OQ 11

1 Introduction

Thermo Scientific™ Standard Instrument Integration (SII) for Empower™ is an interface driver for controlling Thermo Scientific chromatography instruments[1] within Waters™ Empower™ software.

SII for Empower is built on the modern Thermo Scientific™ Chromeleon™ 7 Chromatography Data System framework. It is meant to serve as a replacement for DII for Empower™ as this product is based on Chromeleon 6 technology which will shortly reach its end-of-life.

Due to its new technology, SII for Empower also greatly enhances the usability of the system via a modern UI for online instrument control and instrument method editing.

[1] See List of Supported Instruments for currently supported modules.

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.
DII	Dionex Instrument Integration – Driver interface framework that allows control of supported Thermo Scientific™ chromatography modules under various software environments, using the Chromeleon 6.8 framework.
SWFR-xxxx	Chromeleon and SII for Empower software feature request tracking ID
xxxxxx	Chromeleon and SII for Empower issue tracking ID
LTSB	Long Term Support Branch (referring to releases of Windows Enterprise Operating Systems)
LAC/E	Laboratory Acquisition and Control / Environment
DAD	Diode array detector
PMT	Photo multiplier tube

3 Scope of this Document / Other Resources

The Release Notes describe the main features, list supported instruments and compatibility with Waters Empower and Windows operating systems for SII for Empower. 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 Empower. Provides details of module specific limitations.
Installation Guide	Gives step-by-step instructions for installing and configuring Thermo Scientific SII for Empower, and describes all the requirements for installing SII for Empower (for example, PC and operating system requirements).
Quick Start Guide	Describes the basic operation of SII for Empower. Provides step-by-step instructions on how to control instruments and acquire data from HPLC and IC modules supported by SII for Empower via the Empower software.
SII for Empower Online Help	Provides information and help regarding the various options in SII for Empower which are specific to SII for Empower. Contains a section on troubleshooting helping to minimize the downtime of the instrument.
Certificate of Validation	Declaration that the product has been developed and tested according to the specification and appropriate standards.

Tip: The SII for Empower PDF documents are available on the SII for Empower installation disk in the folder Documents and also from the Windows start menu via Start -> Thermo SII for Empower -> Documents.

Chromeleon 7 Installation Guide	Components shared with Chromeleon 7 are automatically installed as part of the installation of SII for Empower, so no specific installation steps are required.
Chromeleon 7 Quick Start Guide	Describes the basic operation of Chromeleon 7. Functionality that is shared with SII for Empower is the Instrument Configuration Manager, the Instrument Method Wizard/Editor and the Instrument View.
Chromeleon 7 Online Help	Provides general information and help regarding the various options in SII for Empower which are shared with Chromeleon 7.

Tip: The Chromeleon 7 PDF documents are available from the Windows start menu via Start -> Thermo Chromeleon 7 -> Documents.

4 Product Features

SII for Empower 1.1 provides support for new chromatography instrumentation and improves on usability, features, and performance over Dionex Instrument Integration for Empower 1.16. The new modules/instruments and features are listed in this section.

SII for Empower replaces the former integration product DII for Empower and is recommended to be used for new installations. This ensures customers use the newest functionality and provides up to date integration into the existing IT infrastructure, e.g. Windows 10.

4.1 Drivers

All new modules are supported with Empower panels.

4.1.1 TRACE 1300 GC Instrument [46900]

This release adds support for the TRACE 1300/1310 GC, and all supported injectors plus detectors. This includes support via Empower Mini Panels for ease of use.

4.1.2 TriPlus 500 Headspace Sampler [29118]

The release adds support for the new TriPlus 500 Headspace Autosampler.

4.1.3 AI/AS1310 Autosampler [46908]

This release adds support for the AI/AS1310 (also known as AI/AS3000) GC samplers.

4.1.4 Integrion HPIC [46908]

This release adds support for the Integrion HPIC system.

4.2 General

4.2.1 Block usage of Manual Inject command [50060]

SII for Empower 1.1 introduces a new security feature which disables Manual Injections being performed on instruments controlled through SII for Empower. Any attempt to perform a manual injection will be blocked and will be recorded in the Empower Message Centre.

4.2.2 Support Overlapped Sample Sequence creation [51537]

For instruments which support overlapped sample preparation (e.g. Thermo Scientific TriPlus 500), SII for Empower 1.1 now enables the creation and acquisition of sequences containing samples whose preparation will be overlapped, thereby reducing injection cycle time.

Note: All injections using the overlapping feature must have the same Instrument Method

4.3 Drivers

4.3.1 Thermo Scientific Instruments – AI/AS1310 [46908]

This release adds support for the AI/AS1310 (also known as AI/AS3000) GC samplers.

4.4 Compatibility

4.4.1 Waters Empower [CM-10711]

Version 1.1 of SII for Empower has been validated for use with the following versions of Waters Empower 3:

- Feature Release 2 Service Release 2 on Windows 7*
- Feature Release 3 on Windows 7*
- Feature Release 4 on Windows 10
- Service Release 3 on Windows 10
- Feature Release 5 on Windows 10

*This will be the last release to support Empower versions with Windows 7.

It supports all Empower installation types, i.e. Empower Personal Workstation, Empower Workgroup and Enterprise client/server.

When migrating from DII for Empower to SII for Empower it is suggested to keep an independent installation of DII for Empower for full reporting functionality. While reports on chromatographic results previously gathered with DII for Empower can still be retrieved, some reporting functionality (e.g. instrument method content) is limited.

4.4.2 Chromeleon 7 [CM-10711]

Version 1.1 of SII for Empower is based on Chromeleon 7.2.10 technology.

4.4.3 Microsoft Windows [CM-17037]

Version 1.1 of SII for Empower is compatible with Windows 10 Build 1803 and 1809 (Pro + Enterprise x64 English), Windows Server 2012 R2 (x64 English), and Windows Server 2016 (x64 English).

4.4.4 Citrix XenApp [28350]

Version 1.1 of SII for Empower has been tested and validated to be compatible with Citrix XenApp 7.6 installed on Windows Server 2012 R2 (x64 English) and Citrix XenApp 7.15 installed on Windows Server 2016 (x64 English).

4.4.5 LAC/E box [63141]

Version 1.1 of SII for Empower has been tested and validated to be compatible with the following models of LAC/e box:

- eLAC/E 16 on Windows 10 Enterprise 2016 LTSB x64 and Windows 7 Professional SP1 x64
- cLAC/E 16 on Windows 10 Enterprise 2016 LTSB x64

4.4.6 Non-English Empower

Version 1.1 of SII for Empower has been tested and validated to be compatible with the following non-English language versions of Empower:

- Empower 3 Japanese edition [52683]
- Empower 3 Chinese version

5 Resolved Issues

This chapter describes all issues that have been resolved with the release of SII for Empower. 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
35768	SII Empower: LC Drivers: Vanquish VWD: Performing Method Setup on a VF-D40-A (Vanquish F VWD) resulted in an Instrument Failure error message in Empower.
36917	Installation and Setup: Start Menu items have been changed from "Chromeleon" to "Thermo Scientific Instruments".
45884	Data Integration Scale: By default, all data signals acquired using SII for Empower will be displayed with the unit µV*sec with an integration scale of 10-6. However some instruments, e.g. ESA CAD, use an integration scale of 10-4. Advanced users can therefore override the default integration scale by use of a registry setting: For 32bit OS HKLM\Software\Thermo\SII Empower\ScalingFactors For 64bit OS HKLM\Software\Wow6432Node\Thermo\SII Empower\ScalingFactors (for 64bit OS) Example Registry STRING value: “UV_VIS_1”= “0.001” “Temperature”=”1” Warning: Serious problems might occur if you modify the registry incorrectly by using Registry Editor or by using another method. These problems might require that you reinstall the operating system. Thermo Fisher Scientific cannot guarantee that these problems can be solved. Modifications to the registry should only be performed by experienced users, and always with caution.
47846	Data Acquisition: In some cases, when acquiring long (>60 min) injections on lower specification computers (<8GB RAM), data acquisition could end prematurely.
50770	Installation and Setup: SII for Empower 1.0 installation kit would fail on Non-English versions of Empower.
53921	UltiMate 3000: Under certain circumstances, if a USB instrument module has been disconnected, a method 'Setup' performed, and then the USB module reconnected, the next sequence would fail to start.

6 Known Limitations

Currently, Thermo Scientific Standard Instrument Integration for Empower version 1.1 has the following limitations:

6.1 Instrument Control

The SII for Empower workstation must be in the domain and have access to the DNS, and the user working with the client component must be a domain user. Without domain name resolution, the Instrument View will take very long (several minutes) to launch.

Internal reference: [54161]

6.1.1 Configuring Trays (Plate Types)

The layout of your HPLC autosampler and the location of your samples must be defined in Empower. This requires the operator to select plate types or trays used in the autosampler for sample injection. The plate type defines both the overall plate dimensions and the number and dimensions of the sample wells the plate contains. Currently, Thermo Scientific Standard Instrument Integration for Empower cannot automatically add the different Thermo Scientific autosampler trays to the list of Plate Types in Empower. Instructions describing how to manually configure the plates/trays are provided in the SII for Empower help and Quick Start Guide.

Note: Once you create plate types, they are available to all projects.

Note: 10 and 22 Prep Vial trays are currently not supported.

Note: 10 ml Poly Vials are currently not supported.

6.1.2 Missing vials with AI/AS1300

In Chromeleon, the AI/AS1310 has two options for handling missing vials: “Abort Sequence”, “Skip injection, continue sequence”. By design, when the AI/AS1300 is controlled by SII for Empower, the skip option is not supported, and therefore all missing vials will cause acquisition of the current sequence to be aborted.

Internal reference: [62012]

6.1.3 Spurious warning in Message Centre

If the user creates a new instrument method with SII for Empower using default values, selects the method, and then clicks on the “Setup” button, the message centre will show the spurious warning: “Device = 'SamplerModule.Sampler': Missing Inject command."

Internal reference: [47645]

6.1.4 Other Module-specific Limitations

For limitations specific to a module please refer to the List of Supported Instruments.

6.2 Data Acquisition and Storage

6.2.1 Instrument Methods

Avoid using the ‘Remove Equilibration Stage’ button on the pump gradient page of the Instrument Method Editor. Methods without this stage will fail when executing Monitor Baseline and/or Setup Method. More details are available in the online help.

6.2.2 Empty instrument method

If the user starts to create an instrument method, and immediately saves this (empty) method, attempted usage of this method via the Run Samples and Setup workflow, a warning message will appear in the message centre stating: "Value cannot be null. Parameter name: s"

Internal reference: [47960]

6.2.3 Single Module Support

When operating the Corona Veo alongside Acquity modules some controls in the Instrument Method Editor will not be shown – thus leading to all channels being acquired.

Internal reference: [35679]

6.2.4 Monitor Baseline/Setup Method

During Monitor Baseline, 3D data are not acquired.

6.2.5 TRACE 1300 GC Monitor Baseline

It is not possible to monitor the baseline when using a TRACE 1300 GC instrument.

Internal reference: [61874]

6.2.6 Sample Functions

The Empower sample functions 'Equilibrate', 'Condition Column', 'Inject Immediate Standards' and 'Inject Immediate Samples' must not be used when using an SII Detector configuration, for example a Thermo Scientific Corona Veo in combination with a Waters HPLC. More details are available in the online help.

6.2.7 TRACE 1300 GC Shutdown Method not Downloaded

If using a shutdown method for a TRACE 1300 GC combined with a TriPlus 500 Autosampler, this will not be downloaded to the instrument.

Internal reference: [66246]

6.2.8 Error after running Shutdown Method

If you run a sequence with a shutdown method at the end, the shutdown method parameters get sent to the instrument, but the Status of the modules (in the mini-panels) go to Error, and the Message Center shows Error messages.

Internal reference: [63013]

6.3 Non-English language versions of Empower

6.3.1 Error when reviewing data on non-English Empower/Windows 10 [64436]

When data is reviewed in Empower by double-clicking, pressing review button, or right-click and selecting review on the channel data or result data, an error message is raised. The message, in Japanese/Chinese characters, says "Failed to start application (Review)".

The error can be worked-around in one of the following ways:

- Double-click while holding down the "SHIFT" key, the error will not occur and the data will open normally
- Using the "QuickStart" mode instead of "Professional" mode will open the data without the error

6.4 Method Import from DII for Empower

SII for Empower does not provide means for importing instrument methods which were created with DII for Empower.

6.5 Instrument IQ and OQ

The instrument IQ and OQ for modules controlled through SII cannot be done within Waters Empower.

For an SII System (all modules controlled within SII) the instrument IQ/OQ can be executed within Chromeleon. A Chromeleon installation and license is needed.

For an SII Detector (a single module controlled within SII), instrument IQ/OQ is not supported.

www.thermofisher.com

Thermo Fisher Scientific Inc.
168 Third Avenue
Waltham, MA 02451
USA

ThermoFisher SCIENTIFIC