**List of Supported
Instruments -
SII for Empower 1.3**

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Document History

Revision: 1.0, original document

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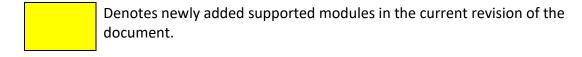
1 Introduction

This document lists all the modules/instruments that are supported for use with SII for Empower. The following information is included:

- *System/Family*: Lists the name of the module's system or family.

- *Category*: Lists the separation methodology.

- *Type*: Shows the type of module (e.g. Pump, Diode Array Detector).

- *Model*: Provides the model number of the module.

- *Firmware*: Please Note that firmware versions included with this release can be obtained from the Chromeleon 7.3.1 List of Supported Instruments also delivered with this release.

- *Interface Type*: Describes the type of connection used between the module and the PC.

Denotes newly added supported modules in the current revision of the document.

2   Thermo Scientific Chromatography Modules Supported Under SII for Empower 1.2

System/Family	Category	Type	Model	Interface Type
Dionex – Aquion	Ion Chromatography	IC System	Aquion [10]	USB 1.1 & self-powered hub
Dionex – Aquion	Ion Chromatography	IC System	Aquion RFIC [10]	USB 1.1 & self-powered hub
Dionex – Integrion	Ion Chromatography	IC System	Integrion HPIC System	USB 2.0 & self-powered hub
Dionex – Integrion	Ion Chromatography	IC System	Integrion HPIC Pump (Wellness)	USB 1.1 & self-powered hub
Dionex – VWD	Variable Wavelength Detector	VWD	ICS VWD	USB 1.1
Dionex - ICS-6000				
Dionex – ICS-6000	Ion Chromatography	Chromatography Compartment	DC Detector / Chromatography Compartment	USB 2.0, with bus-powered hub
Dionex – ICS-6000	Ion Chromatography	Pump	DP Dual Pump	USB 1.1, with bus-powered hub
Dionex – ICS-6000	Ion Chromatography	Pump	SP Single Pump	USB 1.1, with bus-powered hub
Dionex – ICS-6000	Ion Chromatography	Eluent Generator	EG Eluent Generator	USB 2.0, with self-powered hub
Dionex – ICS-6000	Ion Chromatography	Conductivity Detector	CD	USB 2.0, with self-powered hub
Dionex – ICS-6000	Ion Chromatography	Electrochemical Detector	ED	USB 2.0, with self-powered hub

System/Family	Category	Type	Model	Interface Type
Dionex – ICS-6000	Ion Chromatography	Consumable Device Monitor	CDM	USB 2.0, with self-powered hub
Dionex – AS-AP	Ion Chromatography	IC Well Plate Autosampler	AS-AP [1] [8]	USB 1.1, with self-powered hub
Dionex – AS-DV	Ion Chromatography	IC Autosampler	AS-DV	USB 1.1
Dionex - ICS-5000				
Dionex – ICS-5000	Ion Chromatography	Chromatography Compartment	DC Detector / Chromatography Compartment	USB 2.0, with bus-powered hub
Dionex – ICS-5000	Ion Chromatography	Pump	DP Dual Pump	USB 1.1, with bus-powered hub
Dionex – ICS-5000	Ion Chromatography	Pump	SP Single Pump	USB 1.1, with bus-powered hub
Dionex – ICS-5000	Ion Chromatography	Eluent Generator	EG Eluent Generator	USB 2.0, with self-powered hub
Dionex – ICS-5000	Ion Chromatography	Conductivity Detector	CD	USB 2.0, with self-powered hub
Dionex – ICS-5000	Ion Chromatography	Electrochemical Detector	ED-DC Amp	USB 2.0, with self-powered hub
Dionex – ICS-5000	Ion Chromatography	Electrochemical Detector	ED-Int Amp	USB 2.0, with self-powered hub
Dionex – UltiMate 3000				
Dionex – UltiMate 3000	UHPLC	Nano/Cap/Mic Pulled-Loop WP Autosampler, Biocompatible	WPS-3000BPL [8] [9]	USB 1.1, with self-powered hub

System/Family	Category	Type	Model	Interface Type
Dionex – UltiMate 3000	UHPLC	Nano/Cap/Mic Pulled-Loop WP Autosampler	WPS-3000PL [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Nano/Cap/Mic Pulled-Loop WP Autosampler	WPS-3000PL Micro Fraction Collection Option [1] [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Split-Loop WP Autosampler	WPS-3000RS [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Split-Loop WP Autosampler	WPS-3000SL [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Pulled-Loop WP Autosampler and Fraction Collector, Thermostatted, Biocompatible	WPS-3000TBFC [1] [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Nano/Cap/Mic Pulled-Loop WP Autosampler, Thermostatted, Biocompatible	WPS-3000TBPL [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Analytical Pulled-Loop WP Autosampler, Thermostatted, Biocompatible	WPS-3000TBPL Analytical [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Pulled-Loop WP Autosampler and Fraction Collector, Thermostatted	WPS-3000TFC [1] [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Nano/Cap/Mic Pulled-Loop WP Autosampler, Thermostatted	WPS-3000TPL [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Split-Loop WP Autosampler, Thermostatted	WPS-3000TRS [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Split-Loop WP Autosampler, Thermostatted	WPS-3000TSL [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Biocompatible Rapid Separation (Split Loop) WP Autosampler, Thermostatted	WPS-3000TBRS [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Split-Loop WP Autosampler, Thermostatted, Biocompatible	WPS-3000TBSL [8] [9]	USB 1.1, with self-powered hub

System/Family	Category	Type	Model	Interface Type
Dionex – UltiMate 3000	UHPLC	1250 bar Split-Loop WP Autosampler, Thermostatted	WPS-3000TXRS [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Autosampler Column Compartment	ACC-3000 [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Autosampler (Thermostatted) Column Compartment	ACC-3000T [8] [9]	USB 1.1, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Dual Gradient Pump	DGP-3600RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Dual Gradient Pump, Biocompatible	DGP-3600BM	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Dual Gradient Pump	DGP-3600SD	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Dual Gradient Pump	DGP-3600SDN	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	High Pressure Gradient Pump	HPG-3200RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	High Pressure Gradient Pump	HPG-3200SD	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	High Pressure Gradient Pump, Biocompatible	HPG-3200BX	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	High Pressure Gradient Pump	HPG-3400RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	High Pressure Gradient Pump	HPG-3400SD	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Low Pressure Gradient Pump	LPG-3400RS	USB 2.0, with self-powered hub

System/Family	Category	Type	Model	Interface Type
Dionex – UltiMate 3000	UHPLC	Low Pressure Gradient Pump, Biocompatible	LPG-3400BM	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Low Pressure Gradient Pump	LPG-3400SD	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Low Pressure Gradient Pump	LPG-3400SDN	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Isocratic Pump, Biocompatible	ISO-3100BM	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Isocratic Pump	ISO-3100SD	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	Nano LC	Nano / Cap Pump	NCP-3200RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	Nano LC	Nano / Cap Pump (support for ProFlow flow meter)	NCP-3200RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	Nano LC	Nano Pump / Capillary Loading Pump	NCS-3500RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	Nano LC	Nano Pump / Capillary Loading Pump (extended pressure range for loading pump)	NCS-3500RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	Nano LC	Nano Pump / Capillary Loading Pump (extended pressure range for loading pump, support for ProFlow flow meter)	NCS-3500RS	USB 2.0, with self-powered hub
Dionex – UltiMate 3000	UHPLC	Thermostatted Column Compartment (+ user installable valves)	TCC-3000RS	USB 1.1
Dionex – UltiMate 3000	UHPLC	Thermostatted Column Compartment (+ user installable valves)	TCC-3000SD	USB 1.1
Dionex – UltiMate 3000	UHPLC	Diode Array Detector	DAD-3000 [2] [4]	USB 2.0

System/Family	Category	Type	Model	Interface Type
Dionex – UltiMate 3000	UHPLC	Diode Array Detector	DAD-3000RS [2] [4]	USB 2.0
Dionex – UltiMate 3000	UHPLC	Multiple Wavelength Detector	MWD-3000	USB 2.0
Dionex – UltiMate 3000	UHPLC	Multiple Wavelength Detector	MWD-3000RS	USB 2.0
Dionex – UltiMate 3000	UHPLC	Variable Wavelength Detector	VWD-3100 [3]	USB 1.1
Dionex – UltiMate 3000	UHPLC	Variable Wavelength Detector	VWD-3400RS [3]	USB 1.1
Dionex – UltiMate 3000	UHPLC	Fluorescence Detector	FLD-3100 [3]	USB 2.0
Dionex – UltiMate 3000	UHPLC	Fluorescence Detector	FLD-3400RS [3]	USB 2.0
Dionex – UltiMate 3000	UHPLC	Charged Aerosol Detector	Corona Veo SD [5] [6]	USB 2.0
Dionex – UltiMate 3000	UHPLC	Charged Aerosol Detector	Corona Veo RS [5] [6]	USB 2.0
Dionex – UltiMate 3000	UHPLC	Charged Aerosol Detector	Corona Ultra RS [5] [6]	USB 2.0
Dionex – UltiMate 3000	UHPLC	pH and Conductivity Monitor	PCM-3000	internal
Thermo Scientific - Vanquish				

System/Family	Category	Type	Model	Interface Type
Thermo Scientific - Vanquish	UHPLC	Split Sampler HT	VH-A10-A [9]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Split Sampler FT	VF-A10-A [9]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Dual Split Sampler HT	VH-A40-A [9]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Dual Split Sampler FT	VF-A40-A [9]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Split Sampler CT	VC-A12-A [10]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Split Sampler C	VC-A13-A [10]	USB 2.0
Thermo Scientific Vanquish	(U)HPLC	Charger	VH-A90-A [11]	RS232 over USB
Thermo Scientific - Vanquish	UHPLC	Binary Pump H	VH-P10-A	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Quaternary Pump F	VF-P20-A	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Binary Pump F	VF-P10-A	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Dual Pump F	VF-P32-A	USB 2.0
Thermo Scientific - Vanquish	HPLC	Binary Pump C	VC-P10-A [10]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Quaternary Pump C	VC-P20-A [10]	USB 2.0

System/Family	Category	Type	Model	Interface Type
Thermo Scientific - Vanquish	HPLC	Quaternary Pump CN	VC-P21-A [10]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Dual Pump C	VC-P32-A [10]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Dual Pump CN	VC-P33-A [10]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Isocratic Pump C	VC-P40-A [10]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Column Compartment	VH-C10-A	USB 2.0
Thermo Scientific - Vanquish	HPLC	Column Compartment	VC-C10-A [10]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Charged Aerosol Detector F	VF-D20-A [7]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Charged Aerosol Detector H	VH-D20-A [7]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Diode Array Detector HL	VH-D10-A [2] [4]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Diode Array Detector FG	VF-D11-A [2] [4]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Diode Array Detector CG	VC-D11-A [2] [4] [10]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Multiple Wavelength Detector CG	VC-D12-A [10]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Variable Wavelength Detector F	VF-D40-A [3]	USB 2.0

System/Family	Category	Type	Model	Interface Type
Thermo Scientific - Vanquish	HPLC	Variable Wavelength Detector C	VC-D40-A [3] [10]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Fluorescence Detector F	VF-D50-A [3]	USB 2.0
Thermo Scientific - Vanquish	UHPLC	Fluorescence Detector F with Dual-PMT	VF-D51-A [3]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Fluorescence Detector C	VC-D50-A [3] [10]	USB 2.0
Thermo Scientific - Vanquish	HPLC	Fluorescence Detector C with Dual-PMT	VC-D51-A [3] [10]	USB 2.0
Thermo Scientific - Vanquish	(U)HPLC	Solvent Monitor	n.a. [10]	USB 2.0
Thermo Scientific – TRACE1300 GC				
Thermo Scientific – TRACE 1300 Series	GC	GC Main	TRACE1300 / 1310	LAN
Thermo Scientific – TRACE 1300 Series	GC Main	TRACE1300E	TRACE1300E	LAN
Thermo Scientific – TRACE 1300 Series	GC Oven	TRACE1300 / 1310	TRACE1300 / 1310	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Auxiliary	Auxiliary Oven	Auxiliary Oven	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Inlet	Split/Splitless with and without backflush	Split/Splitless with and without backflush	(via GC)

System/Family	Category	Type	Model	Interface Type
Thermo Scientific – TRACE 1300 Series	GC Inlet	Helium Saver Split/Splitless inlet	Helium Saver Split/Splitless inlet	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Inlet	GSV Split/Splitless inlet	GSV Split/Splitless inlet	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Inlet	Programmable Temperature Vaporization (PTV) with and without backflush	Programmable Temperature Vaporization (PTV) with and without backflush	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Flame Ionization Detector (FID)	Flame Ionization Detector (FID)	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Flame Ionization Detector (FID) 600 Hz	Flame Ionization Detector (FID) 600 Hz	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Thermal Conductivity Detector (TCD)	Thermal Conductivity Detector (TCD)	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Nitrogen Phosphorus Detector (NPD)	Nitrogen Phosphorus Detector (NPD)	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Electron Capture Detector (ECD)	Electron Capture Detector (ECD)	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Flame Photometric Detector (FPD)	Flame Photometric Detector (FPD)	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Pulse Discharge Detector (PDD)	Pulse Discharge Detector (PDD)	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Detector	Generic Detector Interface (GDI)	Generic Detector Interface (GDI)	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Auxiliary	Auxiliary Carrier Module	Auxiliary Carrier Module	(via GC)
Thermo Scientific – TRACE 1300 Series	GC Auxiliary	Auxiliary Gas Module for TRACE 1300E	Auxiliary Gas Module for TRACE 1300E	(via GC)

System/Family	Category	Type	Model	Interface Type
Thermo Scientific – TRACE 1300 Series	GC Auxiliary	Auxiliary Temperature Module	Auxiliary Temperature Module	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Main	TRACE1360 / 1610	TRACE1360 / 1610	LAN
Thermo Scientific - TRACE 1600 Series	GC Oven	TRACE1300 / 1310	TRACE1300 / 1310	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Auxiliary	Auxiliary Oven	Auxiliary Oven	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Inlet	Split/Splitless with and without backflush	Split/Splitless with and without backflush	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Inlet	Helium Saver Split/Splitless inlet	Helium Saver Split/Splitless inlet	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Inlet	GSV Split/Splitless inlet	GSV Split/Splitless inlet	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Inlet	Programmable Temperature Vaporization (PTV) with and without backflush	Programmable Temperature Vaporization (PTV) with and without backflush	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Detector	Flame Ionization Detector (FID)	Flame Ionization Detector (FID)	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Detector	Thermal Conductivity Detector (TCD)	Thermal Conductivity Detector (TCD)	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Detector	Nitrogen Phosphorus Detector (NPD)	Nitrogen Phosphorus Detector (NPD)	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Detector	Electron Capture Detector (ECD)	Electron Capture Detector (ECD)	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Detector	Flame Photometric Detector (FPD)	Flame Photometric Detector (FPD)	(via GC)

System/Family	Category	Type	Model	Interface Type
Thermo Scientific - TRACE 1600 Series	GC Detector	Pulse Discharge Detector (PDD)	Pulse Discharge Detector (PDD)	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Detector	Generic Detector Interface (GDI)	Generic Detector Interface (GDI)	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Auxiliary	Auxiliary Carrier Module	Auxiliary Carrier Module	(via GC)
Thermo Scientific - TRACE 1600 Series	GC Auxiliary	Auxiliary Temperature Module	Auxiliary Temperature Module	(via GC)
Thermo Scientific – GC Samplers				
Thermo Scientific – AI/AS3000	GC	GC Autosampler	AS3000, AI3000	RS232
Thermo Scientific – AI/AS1310	GC	GC Autosampler	AS1310, AI1310	RS232
Thermo Scientific – AI/AS1610	GC	GC Autosampler	AS1610, AI1610	RS232
Thermo Scientific – TriPlus Autosampler family				
Thermo Scientific – TriPlus 500 HS	GC	GC Autosampler	TriPlus 500 HS	LAN
Thermo Scientific – TriPlus RSH	GC	GC Autosampler	TriPlus RSH [10]	LAN

System/Family	Category	Type	Model	Interface Type
Thermo Scientific – TriPlus 100 LS	GC	GC Autosampler	TriPlus 100 LS [10]	LAN
Thermo Scientific - Other				
Thermo Scientific – A2D Converter	Analog to digital converter	Dual-Channel A2D (Serial numbers > 015000)	Thermo.A2D	USB 2.0

[1] Fraction collection is not supported.
[2] 3D data are limited to 100 Hz.
[3] Scan data are not supported.
[4] Only one device per Empower node is supported.
[5] When used as a standalone detector an inject synchronization cable is required (see online help for more information).
[6] 2D data are limited to 50 Hz, even if the UI allows higher values to be set.
[7] Vanquish CAD detectors are not compatible with modules from outside the Vanquish portfolio. For use with non-Vanquish modules, the Thermo Scientific Corona™ Veo is recommended.
[8] It is not possible to share an AS-AP, WPS, or ACC autosampler between two instruments due to a limitation in Empower.
[9] 10 and 22 Prep Vial trays are currently not supported due to a limitation in Empower.
[10] Only supported from Empower 3 Feature Release 5 onwards
[11] The Vanquish Charger is only supported with Vanquish Autosamplers with temperature control

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