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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight SL1042A High Speed Analog Module

Agilent Keysight SL1042A Scienlab Dynamic DC Emulator The Keysight SL1042A Scienlab Dynamic DC Emulator (DCE) emulates batteries and DC sources/loads for automotive electrical-system test. OEM SL1042A data sheets list high-power series to 180 kW and extended configurations to 360 kW, options SL1042A-030 / 701 / 702, EtherCAT interface, and use with Scienlab measurement modules in EV/HEV, onboard-charger, and charging-station applications. Battery emulation for powertrain inverters, onboard chargers, DC-DC converters, and charging stations. The Keysight SL1042A Scienlab Dynamic DC Emulator (DCE) emulates batteries and DC sources/loads for automotive electrical-system test. OEM SL1042A data sheets list high-power series to 180 kW and extended configurations to 360 kW, options SL1042A-030 / 701 / 702, EtherCAT interface, and use with Scienlab measurement modules in EV/HEV, onboard-charger, and charging-station applications. Battery emulation for powertrain inverters, onboard chargers, DC-DC converters, and charging stations. Up to 180 kW high-power series (360 kW-class extended literature)



MODEL

**Agilent / Keysight
SL1042A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

SL1042A

LISTING

<https://aumictechlabs.com/products/sl1042a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight SL1042A is a Scienlab Dynamic DC Emulator (DCE) from the High-Power Series, designed for emulating batteries and other components within automotive applications. This system operates in a two-quadrant mode, functioning as both a power source and a regenerative electronic load, facilitating efficient testing of power electronic components in electric vehicles (EV) and electric vehicle supply equipment (EVSE). The SL1042A is noted as being discontinued.

Technical Specifications

Key Features:

- Bi-directional operation:** Functions as both a source and a load.
- Regenerative capability:** Returns energy normally consumed back to the grid, contributing to energy efficiency and reduced cooling/electricity costs.
- High dynamics:** Offers fast output speed and sub-millisecond command-processing time for precise control.
- Integrated battery model:** Capable of simulating battery characteristics with customer-settable parameters for nominal voltage, internal resistance, and RC link components.
- Parallelization:** Power can be increased through parallel connection of units.
- Voltage, Current, and Power Options:** The Scienlab Dynamic DC Emulator High-Power Series, including the SL1042A, is available with various voltage, current, and power configurations. Specific options include:
 - Voltage:** 50 to 600 V, 50 to 850 V, 50 to 1000 V.
 - Current:** Up to ± 600 A.
 - Power:** Available in 180 kW or 360 kW configurations, with individual stages capable of up to 360 kW. Specific power options for different voltage/current ranges include 250 kW, 300 kW, 330 kW, and 360 kW.
- Measurement and Control Unit (MCU):** The MCU provides real-time control of electrical output variables, includes an RLC simulation model, and features communication interfaces such as Ethernet.
- Software Control:** The SL1042A can be controlled using Scienlab Emulator Control software, which is included with the Machine Emulator position.
- Interfaces * Communication:** Ethernet.
- Physical * Modular Design:** The system is designed with a modular approach.
- Compatibility * Applications:** Ideal for testing power electronic components in electric vehicles (EV) and electric vehicle supply equipment (EVSE).
- Emulation:** Can emulate batteries and other automotive components.
- Control:** Can be controlled with Scienlab Emulator Control software.
- Replacement Product:** The SL1840A Scienlab Regenerative DC Emulator High-Power Series, 300 kW, and SL1830A DC Emulator, High-Power Series, 200 kW, Extendable are listed as replacement products.

Why Choose Aumictech for Agilent/Keysight SL1042A? At Aumictech, we specialize in supplying high-end power electronic testing equipment. Whether you need a reliable solution for EV component emulation, high-power DC source/load testing, or advanced regenerative energy feedback capabilities, our team ensures that the Agilent/Keysight SL1042A, where available, delivers maximum performance for your application.

Features & description

From manufacturer datasheet

High Power Series: up to 180 kW (SL1042A high-power series data sheet)

Extended Power Class: up to 360 kW in SL1042A high-power-series literature Option 030: listed SL1042A-030 Option 701: listed SL1042A-701 Option 702: listed SL1042A-702 Interface: EtherCAT (additional EtherCAT interface option listed) Application: automotive electrical system, HEV/EV ecosystem Target Dut: powertrain inverter, onboard charger, DC-DC, charging station Form Factor: cabinet high-power DC emulator Related: SL1020A, SL1040A, SL1045A 48 V series, SL1047A Accessories Class: R9001A-201/202, PS-XPS-100, HS0002A-100, base stand, rollers Documentation: Keysight SL1042A Scienlab Dynamic DC Emulator data sheets (180 kW and high-power series) Control: Scienlab automation and ESD-class software Energy: regenerative high-power DC path Safety: Scienlab safety disconnect class Operating Environment: automotive lab/end-of-line per SL1042A spec Calibration: voltage/current calibration per Scienlab DCE procedure Verification: exact V/I/kW combinational ratings are on the SL1042A option table Notes On Voltage: do not invent bus voltage; read the installed SL1042A-xxx code Use: battery and DC-bus emulation Communication: additional EtherCAT interface option Notes 180 kW (and 360 kW-class extended) high-power series, option codes 030/701/702, and EtherCAT from Keysight SL1042A Scienlab Dynamic DC Emulator data sheets. Channel voltage/current matrices are configuration-specific.

SL1042A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Dynamic DC emulator (battery emulator)
Series Family	Keysight Scienlab SL1042A / SL104xA
High Power Series	up to 180 kW (SL1042A high-power series data sheet)
Extended Power Class	up to 360 kW in SL1042A high-power-series literature
Interface	EtherCAT (additional EtherCAT interface option listed)
Application	automotive electrical system, HEV/EV ecosystem
Target Dut	powertrain inverter, onboard charger, DC-DC, charging station
Form Factor	cabinet high-power DC emulator
Related	SL1020A, SL1040A, SL1045A 48 V series, SL1047A
Accessories Class	R9001A-201/202, PS-XPS-100, HS0002A-100, base stand, rollers
Documentation	Keysight SL1042A Scienlab Dynamic DC Emulator data sheets (180 kW and high-power series)
Control	Scienlab automation and ESD-class software
Energy	regenerative high-power DC path
Safety	Scienlab safety disconnect class
Operating Environment	automotive lab/end-of-line per SL1042A spec
Calibration	voltage/current calibration per Scienlab DCE procedure
Verification	exact V/I/kW combinational ratings are on the SL1042A option table

SL1042A Specifications

PARAMETER	VALUE
Agilent Keysight SL1042A Scienlab Dynamic DC Emulator	Overview
EtherCAT automation interface	Options 030/701/702
Technical Specifications	Instrument Type: Dynamic DC emulator (battery emulator)

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Instrument Type	Dynamic DC emulator (battery emulator)
Series Family	Keysight Scienlab SL1042A / SL104xA
High Power Series	up to 180 kW (SL1042A high-power series data sheet)
Extended Power Class	up to 360 kW in SL1042A high-power-series literature

Option 030: listed SL1042A-030
Option 701: listed SL1042A-701
Option 702: listed SL1042A-702

Specifications

PARAMETER	VALUE
Interface	EtherCAT (additional EtherCAT interface option listed)
Application	automotive electrical system, HEV/EV ecosystem
Target Dut	powertrain inverter, onboard charger, DC-DC, charging station
Form Factor	cabinet high-power DC emulator
Related	SL1020A, SL1040A, SL1045A 48 V series, SL1047A
Accessories Class	R9001A-201/202, PS-XPS-100, HS0002A-100, base stand, rollers
Documentation	Keysight SL1042A Scienlab Dynamic DC Emulator data sheets (180 kW and high-power series)
Control	Scienlab automation and ESD-class software
Energy	regenerative high-power DC path
Safety	Scienlab safety disconnect class
Operating Environment	automotive lab/end-of-line per SL1042A spec
Calibration	voltage/current calibration per Scienlab DCE procedure
Verification	exact V/I/kW combinational ratings are on the SL1042A option table

Notes On Voltage: do not invent bus voltage; read the installed SL1042A-xxx code
Use: battery and DC-bus emulation
Communication: additional EtherCAT interface option

Notes
180 kW (and 360 kW-class extended) high-power series, option codes 030/701/702, and EtherCAT from Keysight

SL1042A Scienlab Dynamic DC Emulator data sheets. Channel voltage/current matrices are configuration-specific.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.