

18 CHANNELS CELL SIMULATION TESTER



OVERVIEW

The 18 Channels Cell Simulator is a battery simulator module with 18 isolated cells used to simulate battery features. The voltage of each cell can be adjusted through Standard CAN, Ethernet TCP and USB-C, as well as getting the voltage and the current measurements.

A single module can be used or several in series according to the requirements (based on how many cells are needed). Also, the module can be used independently or in a mountable rack system.

ART logics also offer an application tool to use it easily or Labview vi for users to program easily.

KEY FEATURES

- 18 independent and isolated cells in total.
- Extendable number of cells by adding more modules in series.
- Suitable for rack mounted bench.
- Each cell has an adjustable output voltage of 0 V to 7 V with a precision of 0.5 mV.
- The current sourcing of each cell is up to 1 A.
- Voltage measurement with a precision of 0.4 mV.
- Current measurement with a precision of 0.4 mA.
- Optional integrated 8 NTC simulation channels.
- Controllable by CAN ISO 11898-2, Ethernet TCP and USB-C.

DIMENSION

L*W*H = 454mm*310mm*110mm

OPERATING TEMPERATURE

-20 °C ~ +60 °C

POWER REQUIREMENT

DC power supply: 24 VDC, 6A

DETAILED SPECIFICATIONS:

Cell Voltage Output	Value	Unit
Range	0 to 7	V
Stability Precision	500	μ V
Setting Precision	500	μ V
Isolation Voltage	1500, Tested for 1 minute and 1mA max	V

Cell Discharge Current	Value	Unit
Range	0 to 1	A

Cell Charge Current	Value	Unit
Range	500	mA

Cell Voltage Measurement	Value	Unit
Range	-7 to 7	V
Resolution	16	bit
Precision	400	μ V

Low Cell Current Measurement	Value	Unit
Range	-1 to 1	mA
Resolution	16	bit
Precision	20	μ A

High Cell Current Measurement	Value	Unit
Range	-1000 to 1000	mA
Resolution	16	bit
Precision	1	mA

SERIES

Item	18 Cell Simulator CS 31-1-18	Standalone 18 Cell Simulator CS 31-1-18	18 Channels Cell Simulator (2U Rack) CS 31-1-18	18 Channels Cell Simulator (2U Rack) CSNTC 31-1- 18/4	12 Channels Cell Simulator (2U Rack) CSNTC 31-1- 12/4
18 independent cell output 0 to 7V	✓	✓	✓	✓	✓
Charge / Discharge mode	✓	✓	✓	✓	✓
Voltage and current independent measurement @each channel	✓	✓	✓	✓	✓
Sleep current measurement @each channel	✓	✓	✓	✓	✓
NTC simulation - 4ch (with current measurement @each channel)	OPTIONAL	OPTIONAL	OPTIONAL	✓	✓
Debugging monitoring panel	✓	✓	OPTIONAL	OPTIONAL	OPTIONAL
Embedded script running	✓	✓	✓	✓	✓
Off line mode	✓	✓	OPTIONAL	OPTIONAL	OPTIONAL
LAN/USB/CAN Control	✓	✓	✓	✓	✓
Application software	✓	✓	✓	✓	✓
Battery curve simulation	✓	✓	✓	✓	✓

APPLICATION EXAMPLE

- New energy vehicles/drones/energy storage BMS (battery management system), battery protection board test.
- Development and testing of portable consumer electronics products, such as mobile phones, Bluetooth headsets, smart watches.
- Power tools production test, such as electric screwdriver, etc.
- Battery powered, small power supply such as DC-DC, wireless charging and other product testing.
- Battery maintenance equipment class test.



ENVIRONMENTAL

The Cells Simulation module is intended for indoor use only but may be used outdoors if installed in a suitable enclosure. Refer to the manual for more information about meeting these specifications.

Operating temperature

-40°C--+55°C

Storage temperature

-40°C--+85°C

Ingress protection (IP code)

None

Operating humidity

10-90% RH non condensing

Storage humidity

5-95% RH non condensing

SUPPORT AND SERVICES

Calibration

ART logics measurement hardware is calibrated to ensure measurement accuracy and verify that the device meets its published specifications. To ensure the ongoing accuracy of the measurement hardware, ART logics offers basic or detailed recalibration service.

DIMENSION

L*W*H = 454mm*310mm*110mm



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