

# AVL CELL TESTER™ 50A

High performance bi-directional multi-channel DC power supply to test, diagnose and validate high-capacity battery cells.

## THE CHALLENGE

To ensure affordable and durable battery packs for electric vehicles, it is vital for you to master the electrochemical processes occurring within the cell. To achieve this goal, it is crucial for you to conduct precise, reliable and accelerated cell testing while minimizing the operation of your testbed.

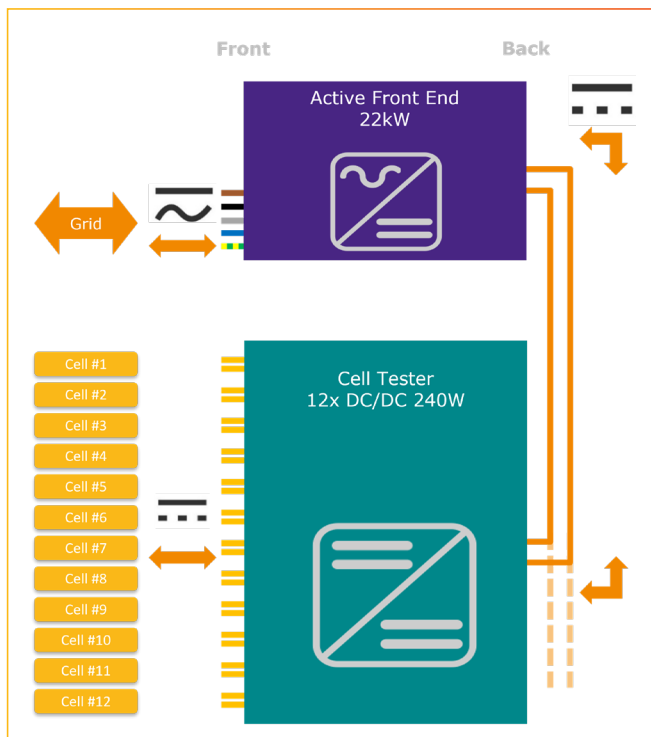
## AVL SOLUTION

The AVL CELL TESTER™ 50A is a bi-directional, multi-channel DC power supply that tests, characterizes and validates battery cells requiring mid-current. Indeed, it achieves an output current of  $\pm 50$  A up to 5 V (at the cell tabs). It uses gallium nitride (GaN) switching technology in a specific topology to provide the most dynamic and customizable output control. In addition, its unique measurement system guarantees the highest level of accuracy and precision.

## THE ADDED VALUE

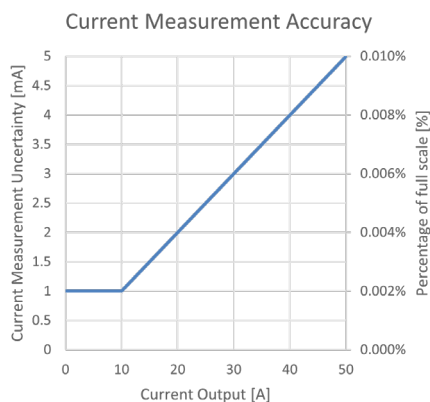
- Unrivaled accuracy proportional to output using one single current measurement range
- Highest dynamic performances
- Ultra-low DC ripple
- Most compact high current cell cyclers
- High bi-directional efficiency
- Optional advanced diagnostic functionalities:
  - EIS and ripple emulation up to 10 kHz
  - Battery cell model identification

The AVL CELL TESTER™ 50A accelerates and enhances the Li-ion cell development and/or validation. It will also reduce future investments thanks to its future proof capabilities.



Example of AC/DC and CELL TESTER combination

The AVL CELL TESTER™ 50A works in conjunction with a 22 kW active front end which is a bi-directional AC/DC converter. The separation of these two power electronics building blocks enable different configurations to fit multiple needs.



Moreover, the AVL CELL TESTER™ 50A uses a unique current measurement technique which provides accuracy proportional to the output. In addition to avoiding the complexity of range switching this unique feature enables to test capacity with the same proportional error each time.

## TECHNICAL DETAILS

### AVL CELL TESTER 50A DC Output Characteristics

Max. DC current output	± 50 A
Max. DC voltage output	5 V (@ Cell)
Max. DC power output	± 250 W
Current accuracy	Max. [1 mA; 0.01% AV]
Current ranges	Single range, proportional accuracy
Current rise & fall time	< 0.5 ms (10 % to 90 % at any step)
Voltage accuracy	0.01 % FS typ., 0.025 % FS max.
DC ripple	0.01 % FS (RMS)
Ripple emulation & EIS	Optional: Up to 10 kHz

### Active Front End AC Input Characteristics

AC input voltage	360 VAC to 528 VAC, 3 phases
AC input frequency	50 Hz to 60 Hz
AC input efficiency	> 96 %

### General Characteristics

Cooling	Liquid cooled, AVL solution available if cooling media is not available onsite
Cell Tester dimensions	WxHxD = 145 x 6HU x 500 mm
AC/DC dimensions	WxHxD = 19" x 3HU x 422mm
Operating temperature	10 °C to 35 °C
Operating humidity	Max. 75 %
Operating noise	< 45 dB
Protection Class	IP31

FS = Full Scale  
AV = Measured Value

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## FIND OUT MORE

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