



## CONTROL

Electrical Measurement Solutions

## Electrical Measurement Solutions for Battery Applications

As electrification becomes more prevalent across many different classes and types of vehicles, the technology that drives its backbone of systems and components continues to advance. This is especially true with batteries, where gains in efficiency, size, charge time, and capacity seem to be ever moving.

To continue to push these gains with battery technology, companies have been looking to raise the bar with DC voltage levels seen within these energy storage systems. This is largely due to the continued trend for increased motor power in electric vehicles. Without higher voltages, to increase motor power, the current would have to rise.

This would cause system losses and create the need for additional copper to carry this current, ultimately resulting in heavier vehicles. And as battery voltage continues to rise, so does the importance associated with measuring it, and doing so in a safe way. This is where product solutions from Knick Interface have proven to bring real value. Knick's voltage transducers perform in applications upward of 4800 VDC, both from standpoints of measurement and electrical isolation capability.

Further information on Knick Interface's range of electrical measurement solutions can be found by visiting:

[www.knick-interface.com](http://www.knick-interface.com)

Applications for Knick Interface electrical measurement solutions associated with battery-based environments have proven to be diverse. Some of the use cases include:

- Battery charge and discharge level confirmation
- Calculations within test stands
- Control of systems on high battery potential
- DC-to-DC converters
- Measurements within charging systems/stations
- Inverter DC link voltage
- Safety detection of "power-off" status

Quality is brought with the following:

- **Accuracy:**  
Measurement error < 0.10 % of measured value with most products
- **Safety:**  
Complete electrical isolation (working voltage) up to 4800 VDC, and tested up to 18 kVAC
- **Speed:**  
Cutoff frequencies to > 10kHz and response time (T90) to < 60  $\mu$ s
- **Flexibility:**  
Configurable input/output ranges and universal power supply (20-253 VAC/DC)





### Interface Technology

- High Voltage Transducers
- Isolated Signal Conditioners
- Sensor Transmitters
- Signal Duplication Devices
- Power Supplies
- Digital Indicators

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