INTERNAL SHORT CIRCUIT FAQ

KULR Technology Group Inc.
Tel.: +1 858 866 8478
www.kulrtechnology.com

What is ISC?

KULR Technology's patented Internal Short Circuit Device (ISC) is an industry-tested thermal runaway (TR) triggering method for lithium-ion cells originally developed by NASA and NREL. By using a cell with ISC implanted, thermal runaway events can be triggered that are much closer to a field failure than is provided by nail- or heater- driven TR events.

What can the ISC cell be used for?

These cells, and battery packs, can be tested for failure modes and safety issues, once the ISC device has been intentionally triggered on demand. This is a valuable tool for research institutes, battery manufacturers, and OEMs looking to improve the performance and safety of their Li-ion batteries.

What cell formats are available with the ISC feature? Could it come in a customized size for my product?

KULR currently offers ISC cells in 18650 and 21700 cells. Custom cell implementation can be done upon request by contacting a KULR Sales Representative.

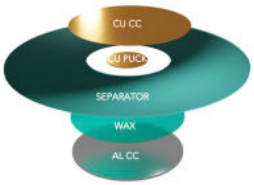
Can the ISC feature be installed in a cell of my choice?

The ISC device that is the core element of the ISC cell can be implanted in cylindrical, pouch, or prismatic cells at the time of manufacture with cooperation of the cell manufacturer.

What does it mean to "trigger" a cell?

Triggering a cell means inducing by artificial means conditions within a cell that send it into a thermal runaway condition wherein the contents of the cell react violently with one another. Common methods include:

- Physical trauma (nail penetration or crushing)
- Overheating
- Overcharging
- ISC activation



In what environment/conditions can the ISC cell operate?

The ISC cell operates in the environmental conditions of the regular cell up to 50°C and is designed to trigger thermal runaway at 55-60°C.

Can ISC be inserted into a product? And if so, what types of product can it be inserted into?

Since an ISC cell is intended to create a thermal runaway event, it is for destructive testing only and should never be installed in a product.