

Solutions for Lithium Batteries as Air Freight



CTE Provides Solutions to meet the New Regulation from IATA

Lithium batteries are widely used in our daily life, from cellphone, laptop and electronic devices we are using every day to high tech electric vehicles. However, lithium batteries bring us not only convenience, but also risks. The lithium batteries have caused several aviation accidents in the past several years. The aircraft manufacturer Boeing has warned that lithium batteries as air freight in a pressurized cabin can cause fires or even explosion due to its instability. The test by U.S. Federal Aviation Administration (FAA) over the past years has found that it emits hydrogen and other flammable gases when the batteries short-circuit. The International Civil Aviation Organization (ICAO) has banned the lithium batteries as air freight on passenger aircraft. However, a new regulation from International Air Transport Association (IATA) for lithium batteries as air freight is effective since April 1, 2016. According to this regulation, lithium-ion cells and batteries must be offered for transport at a state of charge (SOC) not exceeding 30% of their rated design capacity.

To meet the new regulation from IATA, the manufacturers have to make sure that the SOC of their batteries is not over 30% of their rated design capacity before shipments. We have created a solution for customers to meet the new regulation. With a built-in SOC setting feature in our iBest battery test software, the SOC of the battery can be set to 30%. To reach this status, first we need to measure the capacity of the battery, and there are two ways to calculate the capacity: discharge the battery to 0% and then charge to 100% or charge to 100% and then discharge to 0%. Once we know the capacity of the battery, we can set the SOC rate to 30% as the program cutoff condition for the battery on the basis of this data, and the process will stop automatically when the SOC of the battery is below 30%. This solution is not only for single cells but also for battery packs. For the battery pack, the SOC data can be retrieved directly from BMS or Gas Gauge, with a gas gauge data collector that connects to the battery pack. According to this information, we can set the SOC below 30% as program cutoff condition without having to calculate the capacity.

Our battery test equipment is able to support the SOC Setting: The MCL Series, MCL2 Series, MCF Lite Series and GBT 1000 Series for battery cells. For battery pack test equipment, the MCF Plus-20L, MCF Plus-60L and PBT 1000 Series, with the GDA 300 Series, the BMS/Gas Gauge Data Collector.



▲ MCF-Lite



▲ PBT 1000



▲ MCL2

We are one of the professional and leading suppliers in the field of battery test industry in Taiwan for more than 30 years, and our high-quality products are provided to global customers with competitive price. Our clients include famous battery manufacturers in Japan and research institutes in the U.S. We can also customize different specifications and programs for our customers depending on their requirement. For further information and questions please don't hesitate to contact us.

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