



## How does an ITECH IT6000C bidirectional DC power supply



## help on the LV123&LV148 standard conformity test of vehicles

### Background

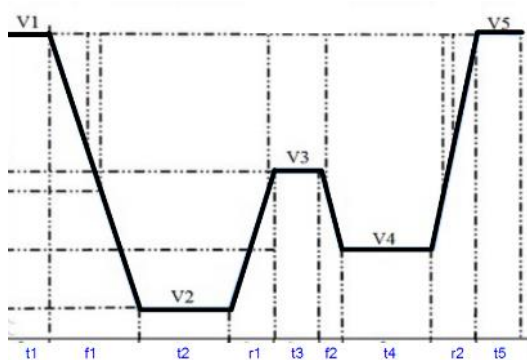
As countries around the world vigorously develop electric vehicles, auto makers and various standardization organizations have begun to establish technical development standards and define various EV tests.

### Test solution

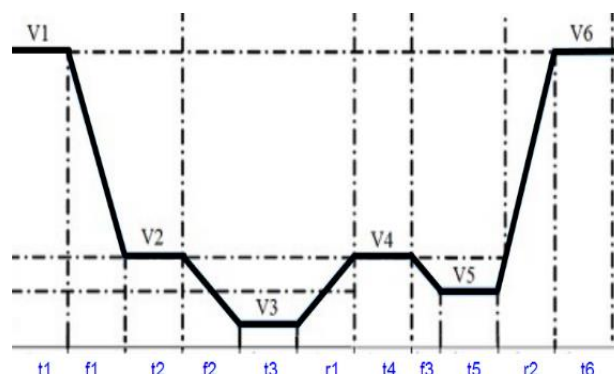
In addition to the previous built-in automotive test standard curves, such as DIN40839, ISO-16750-2, SAEJ1113-11, ITECH's IT6000C bidirectional DC power supply and IT6000B regenerative power system also have increased LV123 and LV148 standard test waveforms which are especially important in the test of electric vehicles. The advantage of ITECH's bidirectional DC power supply is the 'built-in' waveform. Without any software, engineers can directly recall the built-in waveform accordingly to complete the test. Simple and fast.

LV123 is a test standard for the electrical characteristics of electric vehicles compiled by major European auto makers. It is to verify the safety and electrical parameters of automotive medium and high voltage components, such as DC/DC, OBC, inverter, batteries, etc. LV123 not only facilitates system testing by manufacturers, but also clearly displays the advantages of parameters, which is convenient for comparison between different EVs in the market. European EV manufacturers must comply with this standard. ITECH IT6000C bidirectional DC power supply provides high-speed CV dynamic response slope up to 200 V/ms, which can meet the requirements of LV123 testing. According to the LV123 standard, IT6000C/B provides the following test items:

Regulation	Waveform
Range of unlimited operating capability	HV_1、HV_2a、HV_2b、HV_3
Range of upper limited operating capability	HV_1、HV_2a、HV_2b、HV_3
Range of lower limited operating capability	HV_1、HV_2a、HV_2b、HV_3
Range of highly limited operating capability	HV_1、HV_2a、HV_2b



Highly-limited



Lower-limited

At present, several top European auto makers have jointly launched the 48V system. At the same time, they also set out to formulate the LV148 standard, which includes the testing of electrical and electronic components of the 48V system. ITECH IT6000C/B bidirectional DC power supply, a single 3U height unit can output 80V/450A/15kW. It can not only be used to test the environmental reliability of the lights, wipers, audio and other parts inside vehicle, but also can simulate the whole power system. The design of Auto range output can meet various test items specified by LV148, including:

LV 148	Test item
E48-01a	Long-term overvoltage test
E48-02	Transient overvoltage
E48-03	Transient undervoltage
E48-04	Jumpstart resp Recuperation
E48-06a	Slow decrease and increase of the supply voltage
E48-08	Reset behavior
E48-15	Operation in the range without function restriction
E48-16	Operation in the upper range with function limitation
E48-18	Overvoltage range
E48-10	Start Pulse

## Related information

- [IT6000C bidirectional DC power supply](#)