



Application of High Power DC source in Semiconductor Laser Field

Semiconductor laser is the laser made by semiconductor materials which is also called semiconductor laser diode. It has advantages like small size, low weight and selectable waveform. It is widely applied in medical, manufacturing, military, automobile, RD, information technology and so on. To guarantee the reliability of semiconductor laser, it is necessary to have a standard test in advance. Due to the character of semiconductor laser, there are several requirements to DC source which used to test semiconductor laser as below: DC should operate in CC mode. Voltage should be able to self adaptive.

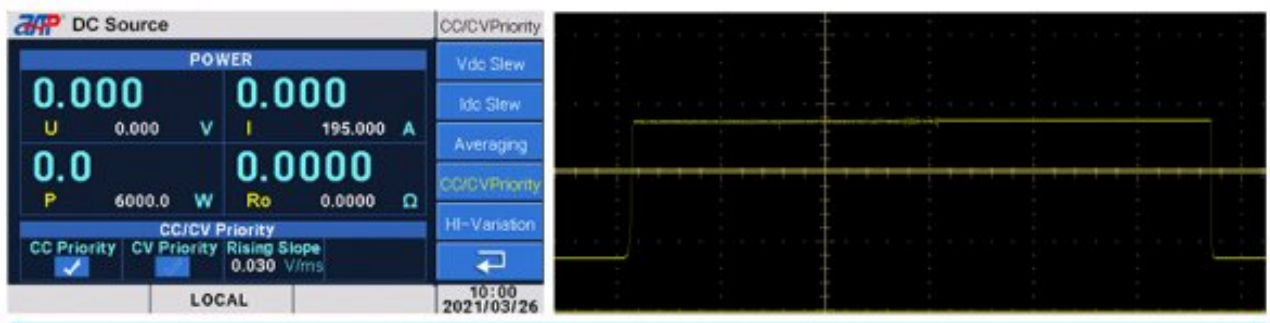
Current must not overshoot.

Once operation mode of power source change, from CC to CV, power source must shut down to protect DUT.

Recently, a famous domestic high power semiconductor laser manufacture use power source from multiple brands to test their product which include APM SP-3U/6U series SP250VDC18000W DC source. APM is recognized to be the better one in performance after comprehensive comparison. When operate in CC mode, voltage will decrease to realize self-adaptive.

APM high power DC source is equipped with CC & CV priority select function which could select output in high speed voltage mode or no overshoot current mode.

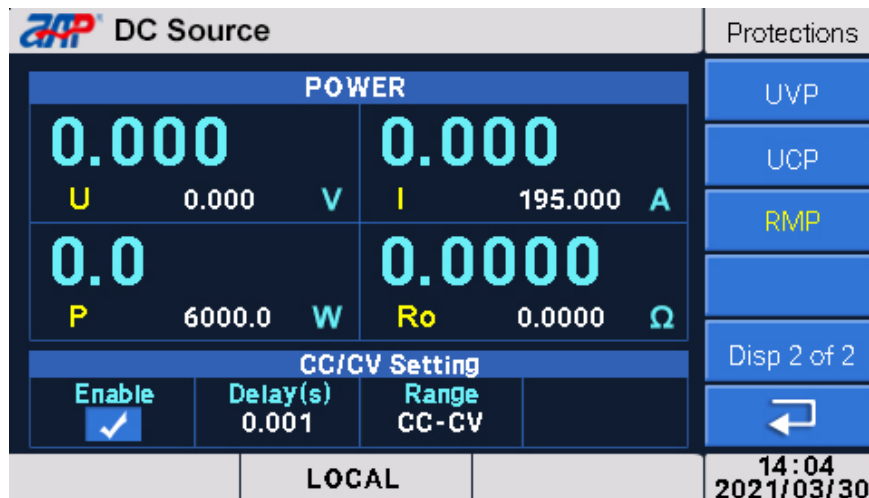
For semiconductor laser, selecting CC priority could realize no overshoot current.





During the test to laser, it normally series connect multiple DUTs. Power range could reach to 15KW.

There is a test phenomenon existed during test: when one of the lasers break down and melt off, test loop will disconnect and then connect in no time. Because of the character of switch power supply, there will be overshoot current once test loop is connect; To prevent damage to other lasers, power supply should shut down output once test loop is disconnect. APM power source internal built-in Fold back protection function could solve this problem. Power source will be in CC mode during normal operation and automatically switch to CV mode once loop disconnection; Once CC mode turn to CV mode protection in Fold Back protection is activated, protection will be trigger. Power source will alarm and shut down output once operation mode of power supply is change. Power source could continue output once remove the alarm.



APM products could be applied in test of various fields which match the standard requirement. It make customer approve the proven technology and superior performance of APM products.