

## 100-kV, 20-A Fast dc Switch and Mod-Anode Regulator

A complete fast dc switch and solid state mod-anode regulator system is utilized to provide all necessary support functions to operate 352-MHz, 1-MW CW klystrons. This system includes a heater power supply, two focus power supplies, one ion pump controller, a solid state mod-anode bias voltage regulator, and a fast series output switch capable of interrupting 100 kV at a current of 20 A within 1  $\mu$ sec in response to an open command or a system overload condition as an equipment protection interlock function. The system also provides all interlock functions necessary to protect itself and the klystron it is controlling against hardware damage caused by exceeding key operating parameters. The system can also be configured to operate the fast series switch as an output chopper to provide pulsed dc output power for testing of klystrons or other high-voltage components under high-power pulsed conditions.

### Examples of use:

- Provided calibrated heater power, mod-anode bias, and fast fault output interrupter
- Protection for klystrons under high-power test in the Advanced Photon Source 352-MHz rf test stand



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