PowerMod™
High Voltage Power Supplies

PowerMod high voltage power supplies offer advanced high voltage power conditioning for demanding research and manufacturing applications. DTI incorporates the latest advances in solid-state switching technology into efficient, compact, inverter, and buck regulator designs. High efficiency and a small footprint allow DTI power supplies to significantly reduce facility and utility costs.

PowerMod high voltage power supplies are ideal for applications such as magnetron heating, lasers, electron beams, and RF transmitters. They offer typical voltage regulation to ± 0.1% and maximum voltage ripple of <0.1%. Regulation to 0.01% and ripple <.001% are available, if required. Supplies are available up to 200 kW average power, at voltages up to 200 kV, and can be paralleled for higher output.

When combined with a DTI solid-state switch, the power supply system offers very fast response to arcs, limiting arc energy while the power supply remains at full voltage. Power can be restored immediately after the arc clears, or, if the arc clears quickly enough, operation will continue uninterrupted.

DTI power supplies use front panel controls and rear panel connectors that enable running under full local or remote control with internal overcurrent, overvoltage, and fault protection. All control systems are fully isolated from the EM effects of high voltage switching via noise-immune fiber-optic interfaces. Component inputs and outputs are fully protected against overvoltages, fast transients, and short circuits.

DTI's buck regulator power supplies employ the company's patented series IGBT design.
DTI pioneered the scaling of active regulator topology to high power. PowerMod buck regulator and boost regulator power supplies eliminate large, low frequency, step-up and step-down transformers for high voltage, high power, DC-DC conversion needs. Conceptually similar to low power buck regulators, they employ DTI’s patented high-speed solid-state opening switches to deliver voltages of 50-200 kV and average DC power of 250 kW-5 MW.

PowerMod buck regulator power supplies are highly reliable. Isolated switch module failures do not force the power supply to shutdown because the solid-state components have full soft-fail capability; even in the extremely unlikely scenario that 20% of the switch modules in a power supply were to fail, operation would continue without reducing power supply operation below full specification.

All PowerMod power supplies are available in custom configurations to meet your specific system requirements. Integrate your PowerMod power supply with a DTI PowerMod Pulse Modulator for the best choice in complete pulse power systems.

Diversified Technologies, Inc.

Drawing on decades of experience and expertise with high power technologies in applications ranging from radar transmitters to particle accelerators, DTI produces systems recognized globally for:

- Efficiency. >90% power conversion.
- Durability. Rugged design for years of reliable operation.
- Safety. Redundant failsafes and total internal arc protection.
- Compatibility. DTI’s systems are fully customizable to fit a customer’s need and seamlessly integrate into existing systems.