

# TDI-Series Pseudospark Switches



- Commercially available and cost effective replacement of mercury ignitrons, triggered spark gaps, vacuum and pressurized switches
- No dangerous, no toxic substances
- No heated cathode
- Anode voltage in the range of 3 to 150 kV
- Maximum Anode Current Rise Rate up to  $10^{12}$  A/sec
- Low inductance < 5 nH
- Jitter < 3 ns
- Switches without permanent hydrogen reservoir heating are available on request
- Pulse repetition rates up to 300 Hz
- Hollow anode models for underdamped current form applications
- Trigger and heater units are available from the Manufacturer

The TDI-series of cold-cathode grounded grid thyratrons provides a unique high current, high charge transfer capability with superior time stability and is currently employed for emerging pulsed power applications with peak power up to hundreds of megawatt due to easy assembling in parallel layout.

- **Plasma fusion**
- **Plasma focus, plasma lens**
- **Shock Wave generation (including medical lithotripters, hydroelectropulse technology)**
- **High-power pulsed electromagnetic fields generation for particle accelerators, electromagnetic pulse technology**
- **High power pulsed lasers**
- **High intensity electron beams for material processing**
- **Crowbar protection etc.**

## Absolute (Maximums/Nonsimultaneous) Ratings

Standard models	Peak Forward Anode Voltage, kV	Peak Forward Anode Current, kA	Anode Current Pulse Duration, $\mu$ sec	Peak energy per shot, J	Overall dimensions, $\varnothing$ xH, mm
TDI1-50k/16	20	70	100	2000	65x100
TDI1-50k/35	45	70	100	2000	65x160
TDI1-50k/25	25	100	100	15000	125x135
TDI1-50k/50	50	100	100	15000	125x148
TDI1-200k/25	25	200	500	40000	150x111
TDI4-100k/45	45	150	100	20000	152x136
TDI4-150k/50	50	200	500	40000	176x145
TDI4-100k/75	75	100	100	15000	152x160
TDI1-100k/150	150	100	100	15000	152x250

**Notes:**

- a. All the models are available in standard, hollow anode, double-ended and no-permanent-reservoir-heating packages.  
b. Upon request models with pulse repetition rate up to 1000 Hz are available  
c. All data and specifications are subject to change without notice