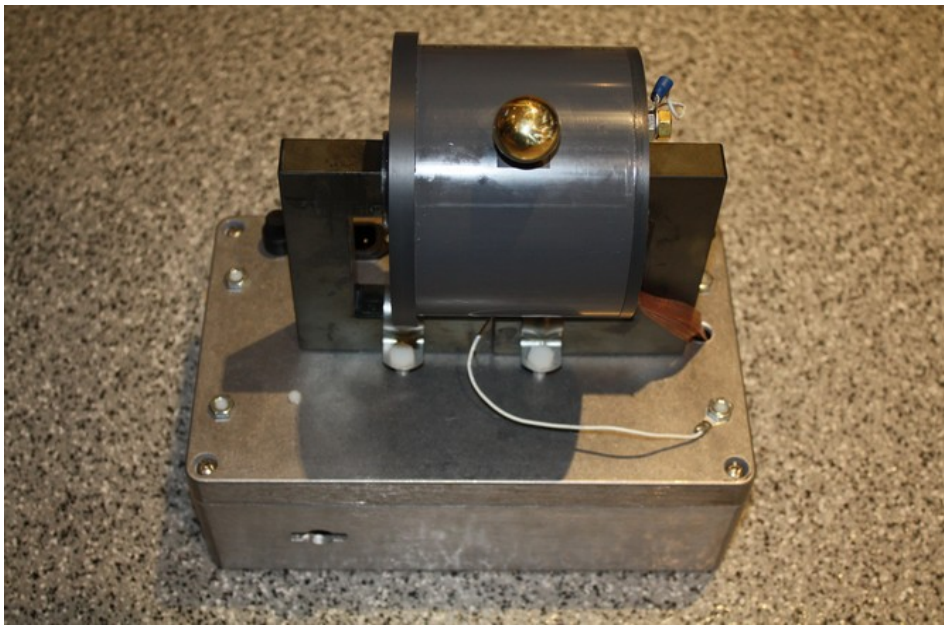
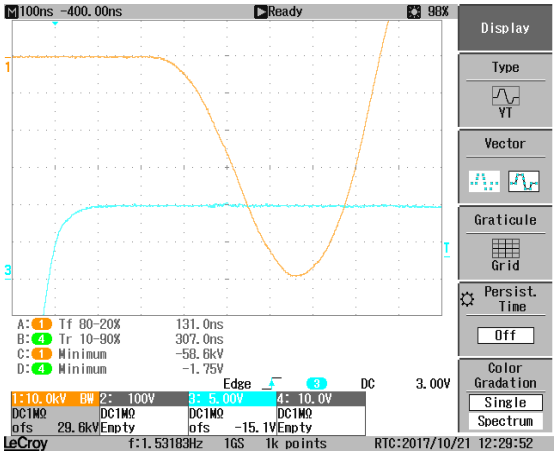
NORTH STAR
HIGH VOLTAGE

Spark Gap Trigger Systems



Despite the many advances in technologies ranging from IGBTs to magnetic switching, there is simply nothing else that can achieve the “speed” of the pulse from a spark gap-switched system. North Star High Voltage offer spark gap trigger systems for general purpose use. These units consist of a fast-risetime transformer and solid state switch combination.



Typical 55 kV output for negative polarity.

The driver system is designed for use with “midplane” gaps such as those used in Marx generators and also for use with“trigatron style” spark gaps. The units provide risetimes in the 200-300 ns range (<200 ns 20-80). Such risetimes are desirable to achieve multiple gap switching in Marx generators and low jitter triggering with other spark gap switches. Superior noise isolation is provided by fiber optic triggering. The triggers are all supplied with passive BNC/fiber converters and fiber optic cables in order to eliminate spurious triggering. A monitor fiber which lights when charged is also provided for convenience.

Parameter:	35 kV Unit	55 kV Unit
Peak Voltage	35 kV (<15 pf load capacitance)	55 kV (<20 pf load cap) 20/80
Risetime	<150 ns	<130 ns,
Jitter	<10 ns (2 sigma total spread)	<7 ns (2 sigma total spread)
Dimensions		9" X 4" X 9.5" high
DC Isolation of Sec Coil	~ 20 kV	~ 25 kV
Trigger	Fiber Optic	Fiber Optic
Supplied Fiber	10 meters	10 meters
BNC/Fiber Adapter	Supplied (uses 5V/10-20 mA)	Supplied (uses 5V/10-20 mA)
Power Input	110/220 Switchable	110/220 Switchable