



Description

Modular architecture Pulsed Power Supplies for deep water applications.

CUTTING EDGE PULSED POWER TECHNOLOGY

The Mega-Spark 6 & 16 kJ are revolutionary high voltage (HV) power supplies based on cutting-edge 'pulsed power' technology. The systems use an extremely reliable, state-of-the-art thyristor switch that can generate very short (100 - 200 μ s) high voltage pulses of up to 20 kA (6 kJ) / 45 kA (16 kJ) at -5.6 kV.

NEGATIVE ELECTRIC DISCHARGE PULSE

There is no other unit commercially available that allows you to generate a negative high voltage pulse with such a high dI/dt ratio.

NO ELECTRICAL OSCILLATIONS

The pulse output has NO electrical oscillations, which affect the acoustic signature. The integrated capacitor banks contain 12 (6 kJ) or 32 (16 kJ) indestructible 32 μ F capacitors rated for more than 200 million discharges.

For example, a one second discharge rate would give continuous work for six YEARS.

QUALITY BUILT TO LAST

The pulsed power supplies are built to last, electronically and mechanically. The housing and frame consist of anodised aluminum and stainless steel 316. Rubber shock absorbers support all the vibration-sensitive components inside the housing.

Operational Features

→ 6 kJ module: typically used with Geo-Source 800 sparker in water depths from 2 to 2500 m both in combination with multi-channel or single channel data acquisition.

→ 16 kJ module: designed for the Geo-Source 1600 mega-sparker with proven operation in water depth of 5000 m.

→ Both PPS models can also power all smaller sparkers models, including the Geo-Source 200 and 400 freshwater sparkers.

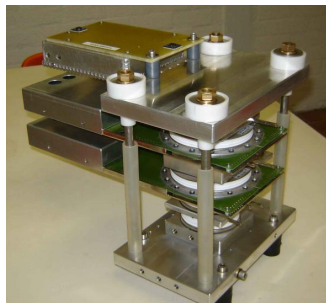
→ Selectable operating voltage (from -2000 V to -5600 V) and capacitance (6 kJ: selectable from 64 μ F to 384 μ F / 16 kJ: selectable from 64 μ F to 1024 μ F).

→ No electrical oscillations.

→ User-friendly & 100% safe.

→ All subunits can be hand-carried.

HIGH VOLTAGE POWER SUPPLIES



LCD Display and controls.



The 6 kJ unit.

User Interface

SAFE AND INTUITIVE OPERATION

All connections, command buttons, switches and status LEDs are front-mounted to ensure direct safe access and intuitive operation.

Other remarkable features

MODULAR ARCHITECTURE

The systems comprise four main types of modules, configured to customer's needs:

- control unit, containing the thyristor stack and
- main control system;
- low voltage pulse unit;
- high voltage transformer/rectifier unit;
- 6 kJ: 3 capacitor banks of 2×64 μ F each
- 16 kJ: 8 capacitor banks of 2×64 μ F each.

TRIGGERING

Remote triggering of the unit is implemented by a TTL pulse, which is internally converted into a fibre-optic signal to the thyristor trigger device. There is no need for any external opto-isolator on the trigger line. During standby between survey lines, the unit will NOT trip - it will slowly bleed off but will remain ready for the next line.

LOW POWER CONSUMPTION

The Geo-Spark 6 kJ & 16 kJ systems can be operated from a 380 V/32 A mains socket or from a 380 V/10 kVA generator, and do not draw excessive peak currents.

Specification

Mains Power	20 - 240 VAC (16A) / 5.5 kVA generator 380 - 440 VAC (3P+N+G) / 15 kVA generator
Energy output	selectable from 100 to 16000 J
Operational depth	up to 5000 m
HV charging capability	5000 J / sec
Other remarkable features	<ul style="list-style-type: none"> - Indestructible 25 kA -5.6 kV discharge Thyristor - Very high di/dt, NO electrical oscillations - Fully ground-referenced, 100 % safe - Humidity and Temperature protection - State-of-the-art micro-processor based control and monitoring system

Recommended source

[Geo-Source 800](#)

We are always pushing for improvements, so equipment specifications can change without notice. Please keep in contact with support to stay in tune with the developments.