TECHNICAL CHARACTERISTICS

**Output Data**

- **Output power**: 6kW.
- **Output voltage**: 0V to -1200V (voltage for nominal pulse and DC-mode).
- **Output Current**: 500A (pulse peak) maximum. 12A average current for <400V.
- **Pulse frequency**: 10Hz-1kHz at 1000/1200V, 500A, with lower energy pulses the frequency can be increased (3kW max at 2kHz).
- **Regulation**: Voltage / Power / Current
- **Pulse width**: 5μs to 1000μs or DC.
- **Duty cycle**: <50% or DC 100%.
- **Arc detection / handling**: <3us.
- **Arc current level**: Adjustable 15A to 500A.
- **dI/dt arc trip level (Delta in %)**: 5% (less restrictive) to 95% (more restrictive).
- **Voltage stability**: ±2.5%.
- **Voltage ripple**: <5% rms.

**Projected Applications**

- HiPIMS, Uni-Polar / Bi-Polar (optional) / Dual Magnetron (optional)
- DC magnetron sputtering
- DC-pulse magnetron sputtering
- DC Bias
- DC-pulse Bias
- HiPIMS Bias- DC
- HiPIMS Bias DC-pulse Uni-Polar / Bi-Polar (optional)
- hiPlus (Positive Voltage Reversal, optional)
6W HiPIMS-Power Supply hiP-V

Technical Data

**Input Line**

Nominal voltage: 400Vac 3ph ±10% (no neutral required).
Input: nominal current < 12 A.
Dielectric strength: 2500V, 50Hz, 1 minute.

**Cooling Data (Air & Water)**

Force ventilated air cooling Front - air inlet, rear - air outlet.
Water cooling 8 litres/minute.

**Interface Data**

USB connection Standard USB cable type B.
Profibus Optional.
EtherCAT Optional.
Ethernet Optional.

**Adjustable positive Voltage (not yet released)**

Pulse voltage: 50V to 400V regulated, or no pulse -> Upp
Pulse current: 50Amp max
Pulse length: 5us to 50us -> ton
Delay: 5us to 50us (from end of negative pulse to start positive pulse)
Power: 1kw at 1kHz,
Output Connection Data

Power connection  M6 screws.
Cable type  Triax cable recommended, coaxial, or twisted screen cable.

Input Connection Data

Input connection  3-phase wires 2,5mm2 cross-section.
Protection  earth connection type 2.5mm2 cross-section.
Internal main 16A circuit breaker.
Interlock 24V DC (required for operation).

Environmental Conditions

Operation Ambient temperature: 0ºC to 40ºC.
Temperature inside the box 0ºC to 70ºC.
Humidity up to 90% (creepage distances as per EN-61010-1).
Maximum Height 1200m.
Protection IP20.
Not protected for water ingress. Protected against ingress of parts bigger than12mm. It is intended for indoor use.

Acoustic Noise

The equipment will produce an acoustic noise lower than 73dBA measured at 1 meter distance.

Case

The unit is contained in a 19" rack module, 760mm deep and 9U high (405mm approx.).
The weight is 86kg. Refer to drawing P-005124.
REFERENCE STANDARDS

The 6kW pulsed power supply described in this document is fully compliant, but not only, with the following standards:

EN 61000-3-12-2006
Electromagnetic compatibility (EMC) part 3-12: limits for harmonic currents produced by equipment connected to public low-voltage systems with input current greater than 16 a and equal to or less than 75 a per phase.

EN 61010-1:2002
Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements.

MIL STD 217
Reliability Prediction of Electronic Equipment.

EN 61204-3-2002
Low voltage power supplies, d.c. output - Part 3: Electromagnetic compatibility (EMC).

EN 61000-6-3-2006

EN 61000-6-2-2006
Electromagnetic compatibility (EMC) -- Part 6-2: Generic standards - Immunity for industrial environments.