20KW HiPIMS-Power Supply hiP-V Opt-B

Technical Data

Output Data

Output Power: 20KW
Output Voltage: 0V to -1200V (Voltage for nominal pulse and DC-mode)
Output Current: 1000A (pulse peak), max. 50A DC, for <400V in DC-mode
Pulse frequency: 2kHz (at 1200V, 1000A), with lower energy pulses the frequency can be increased
Regulation: Voltage / Power / Current, peak/average reg.
Pulse width: 5µs to 1000µs or DC, Volt. reversal after each pulse
Duty cycle: <50% or DC 100%
Arc detection / handling: < 3µs
Arc level or dl/dU Voltage mode: Adjustable 50A - 2500A, dl/dU Voltage delta in % (absolute/delta)
Voltage stability: ±2.5%
Voltage ripple: <5%rms

Projected Applications

- HiPIMS, Uni-Polar / Bi-Polar / with Superimposed HiPIMS capability
- DC magnetron sputtering
- DC-pulse magnetron sputtering
- DC Bias
- DC-pulse Bias
- HiPIMS Bias- DC
- HiPIMS Bias DC-pulse Bi-Polar / Uni-Polar
- Positive Voltage Reversal (optional)
20KW HiPIMS-Power Supply **hiP-V** Opt-B

**Technical Data**

**Input Line**

Nominal voltage: 400Vac 3phase + neutral +/- 15%
Input nominal current: <42 Amps
Dielectric strength: 2500V – 50Hz – 1min.

**Environmental Conditions**

Ambient temperature: 0ºC to 40ºC
Temperature inside the box: 0ºC to 70ºC
Humidity: up to 90% (the equipment is designed with creepage distances as per EN-61010-1)
Maximum Height: 1200m

**Acoustic noise**

The equipment will produce an acoustic noise lower than 60dBA measured at a distance of 1 m.

**Case**

The unit is contained in a 19" rack module, other dimensions will be updated.
The weight will be updated.
The protection is IP20. It is not protected for water ingress; it is protected against ingress of parts bigger than 12mm. It is intended for indoor use in a laboratory.
The case is water-cooled and forced air ventilated; the air ingress is done by the front side and the exhaust by the rear side.
Reference Standards

The 10kW pulsed power supply described in this document is fully compliant, but not only, with the following railway 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 Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light industrial environments

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