

1-2 channels 500A – 100V Pulsed Power Supply

Powering Laser Diode from AC with up to 100V/2x500A or 1x1000A



Digital Power Supplies Experts

- ✦ Universal AC input : 115-230V_{AC} / 50-60Hz
- ✦ Diode voltage : 0 to 100V
- ✦ Current diode : 0 to 500A
- ✦ 2 channels option, independent (2x500A) or paralleled (1x1000A)
- ✦ Pulse duration : 20µs to 3ms
- ✦ Average power : 1000W
- ✦ Output overvoltage, overcurrent, short-circuit, open circuit protection
- ✦ Can be parallelized for higher operation current

Power Supply	
Input voltage	85V _{AC} to 265V _{AC} / 45-65Hz (Universal AC)
Load output	
Diode IR voltage	10-100V floating
Output peak current	0 to 500A
Output peak power	50kW
Output average power	1000W
Pulse energy	150J max
Pulse duration	20 to 3000µs, limited by pulse energy
Current rise time (10% - 90%)	10µs typical (depending on cabling), no current overshoot
Current fall time (90% - 10%)	10µs typical (depending on cabling)
Pulse repetition frequency	0 to 500Hz (limited by pulse duration and average power)
Pulse to pulse stability	<0,10%
Jitter	<100ns
Input - Output insulation	2500V _{AC}
Output - chassis insulation	1500V _{DC}
Interface	
Communication protocol	CAN, I2C, SPI
Synchronisation	Internal or external
Pulse mode	Single or repetition
Control mode	Remote or local
Internal Protections	
Permanent short circuit	
Over load protection	
Reverse polarity (programmable overvoltage protection)	
Open circuit	
Crowbar 110V +/-5V	
Temperature protection	
External Protections	
Security loop on back panel	
Front panel emergency stop	
Display	
Front LEDs	Ready (Green), Laser on (Orange), Error (Red)
Control elements	
Keys	Switch button On/Off
Emergency stop key	Instantaneously cuts all power circuits
Options	
Display	Touch screen on front panel

Additional load output	<ul style="list-style-type: none"> - Additional output identical to #1 (0-500A, 10-100V) - Same pulse characteristics - Not isolated from #1 (common reference) - Independent control (voltage and current) - Internal or external synchronisation - Total pulse energy is kept at 150J (shared between the two outputs)
Housing	
Dimensions	482 x 133 x 465 mm (19" rack, 3U)
Weight	12kg typical
Chassis material	Aluminium
Temperature range	0 to +40°C
Storage temperature	-20 to +70°C
Cooling	Forced air (fan)
Others	
Output connector	Screwed connector
MTBF	>250 000 hours
Norms	
Compliance to EN55011/22 Conducted Noise, Class B	
AC to DC conversion approved to UL, CSA	
CE marked	

Bloc diagram:

