



Vacuum Equipment - Coatings - Optics

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End Hall Ion Source Power Supply IPS3500.2



Our budgetary low cost power supply IPS3500.2 is intended to power End Hall ion sources and also may be used with other electro physical devices.

Power supply IPS3500.2 has two independent channels - to power ion source discharge circuit (anode) and to power ion source cathode filament circuit. Each channel voltage, current, and power limits are adjustable independently. Cathode filament channel has two independent switchable outputs. Output voltage is supplied only to one of them selected by user. This option allows power ion sources with two (one spare) cathodes.

Power supply IPS3500.2 works either in manual, or in automation mode.

Power supply IPS3500.2 integrates into OEM automation system via standard RS232 or RS485 interface. The interface type and speed of communication (9600, 19200, 3840, or 115 200 bps) is choosing automatically.

Current limits protection provides effective short circuit and arc management. Built-in CLC filter effectively suppresses unwanted discharge plasma oscillations. Additionally, power supply IPS3500.2 monitors and gets output voltages out of output terminals in case of:

- Power line deterioration (phases imbalance or one phase absence);
- Ambient air temperature reaches 45°C or converter heat sink temperature reaches 60°C;

- Cathode filament channel load resistance increases to at least 10 Ohm (Filament burnt or broken);
- External interlock status changed.

Power supply IPS3500.2 provides the following settings and indications on the front panel display:

Settings:

- Anode voltage limit
- Anode current limit
- Anode power limit.
- Cathode filament current limit.
- Cathode filament voltage limit.
- Cathode filament power limit
- Anode voltage ramp time.
- Filament voltage ramp time.
- Anode voltage turn on delay (only for automatic operation mode)
- Number of powered cathode filament output
- Cathode filament work time counter.
- Power supply address if RS485 is used

Indicating: All listed above setting parameters and:

- Anode current
- Anode voltage

- Anode power
- Cathode filament current
- Cathode filament voltage
- Cathode filament current
- Cathode filament emission current
- Status flag.

Parameters are displayed page by page.

There are 5 pages available for user, some of them are programmable.

SPECIFICATIONS

Number of output channels	2
Channels control	Independent
Start-up time, s, no more than	10
Time of continuous operation, hours, no less than	16
Remote control	RS232 or RS485, selected automatically
Data exchange rate, bps	9600, 19200, 38400, 115200, selected automatically
Power	3 Ph, 120/208 ^{+10%} _{-15%} VAC, 45-65 Hz, 4 kW
Overall dimensions, mm	19" unit, 482x515x133
Weight, kg	20
Channel 1	
Output voltage control range, V	+20 ...+350
Output voltage control step, V	1.0
Output current control range, A	1 ... 10
Output current control step, A	0.1
Output power control range, W	200 ... 3000
Output power control step, W	1.0
Open circuit voltage, V, no less than	700
Output parameters ramp time control range, s	0 ... 200
Output parameters ramp time control step, s	0.1
Channel turning on delay time control range, s	0 ... 200
Channel turning on delay time control step, s	0.1
Stabilization mode (depending on a load)	Voltage Current Power
Preset parameters stabilization accuracy, %	2%
Channel 2	
Output voltage	AC
Output voltage frequency, kHz	1.0
Output voltage control range, V	1 ... 20
Output voltage control step, V	1.0
Output current control range, A	1 ... 30
Output current control step, A	0.1
Output power control range, W	100 ... 600
Output power control step, W	1.0
Output parameters ramp time control range, s	0 ... 200
Output parameters ramp time control step, s	0.1
Stabilization mode (depending on a load)	Voltage Current Power
Preset parameters stabilization accuracy, %	2%