

Modulator PS2000系列固态调制器

PS2000 Series Solid-State Modulator



产品用途 Application

Modulator PS2000系列固态调制器是一种采用全固态开关与高变比脉冲变压器技术的高压脉冲电源，用于驱动脉冲速调管，可应用于医学放疗、工业无损检测、物品辐照加速器等领域。

Modulator PS2000系列固态调制器可以与电子枪电源、钛泵电源、聚焦电源、导向电源、具有AFC功能的加速器控制系统集成，为客户特定需求提供系统化解决方案。

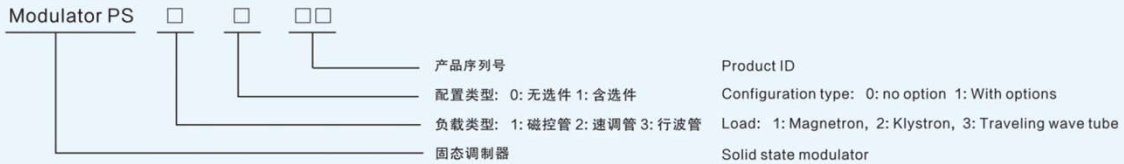
The PS2000 series solid state modulator are a high performance and high reliable pulse power source which adopt the solid state switch and high ratio pulse transformer technology, PS 2000 series solid state modulator are used to drive various klystron which used in the fields of the medical radiotherapy, industrial nondestructive testing, customs security monitoring and other application systems. The PS2000 series solid state modulator can be integrated with electron gun power supply, ion pump power supply, beam scanning and guiding power supply, power supply for klystron focusing magnetic field, accelerator control system with automatic frequency control function as the requirements of the customers.

产品特点 Product Features

- 波形校正技术：在负载阻抗变化情况下，高压输出波形可进行校正，满足用户应用需求
- 打火保护速度快，抗打火能力强
- 高可靠性：源于独特的脉冲调制技术、优异的系统设计和严格的质量控制
- 功能模块化和网络化：Modulator PS2000系列固态调制器和选件采用网络控制和功能模块化设计，容易按照用户的需求进行组装、调试和维护，满足用户特定要求
- 使用维护成本低

- Waveform correction technology: high voltage output waveform can be corrected to meet the requirement of customer when the load impedance is changed
- Less than 0.6 μ s responsive time to load arc, excellent protection ability to load arc
- Excellent reliability originate from distinctive pulse modulation, excellent system design and rigorous quality control of the PS2000 series modulator
- Function modularization and cyberization: function modularization and cyberization scheme is adopted in the PS2000 series modulator and its accessories, easy to assemble, install, and maintain as the different requirements
- Low operation and maintenance cost.

型号定义 Type Definition



规格参数 Specification Parameter

输入	
主回路电源	3AC360 ~ 420V 50/60Hz
控制电源	AC 200V ~ 240V, 50/60Hz
输出	
脉冲电压	50kV ~ 150kV
脉冲电流	50A ~ 100A
最大脉冲功率	15MW
最大平均功率	120kW
脉冲电压幅度不稳定性	<0.5%
电压调节精度	0.1%
脉冲宽度	5μs ~ 16μs, 调整步进 0.1μs
上升时间	<1μs (典型值)
下降时间	<1μs (典型值)
顶部过冲	<3% (典型值)
平顶降落	<2% (典型值)
重复频率	1Hz ~ 1000Hz, 调整步进1Hz
最大工作比	0.80%
灯丝电源	按照用户要求 (恒流限压)
灯丝电源不稳定性	<0.5%
其他	
选件	电子枪电源、钛泵电源、扫描电源、聚焦电源、导向电源、AFC、在线监控系统等
冷却方式	水冷
外形尺寸	可根据客户需求定制

备注: 客户需求如有不同, 可定制。

Input	
Main circuit power supply	3AC360 ~ 420V 50/60Hz
Control power supply	AC 200V ~ 240V, 50/60Hz
Output	
Pulse voltage	50kV ~ 150kV
Pulse current	50A ~ 100A
Maximum pulse power	15MW
Maximum average power	120kW
Pulse voltage amplitude instability	<0.5%
Voltage regulation accuracy	0.1%
Pulse width	5μs ~ 16μs, adjustment stepping 0.1μs
Rise time	<1μs (Typical)
Fall time	<1μs (Typical)
Top overshoot	<3% (Typical)
Flat top decline	<2% (Typical)
Repetition frequency	1Hz ~ 1000Hz, adjustment resolution 1Hz
Maximum working ratio	0.80%
Filament power supply	According to the user requirements, constant current and voltage limiting
Filament power supply instability	<0.5%
Other	
Options	Electron gun power supply, ion pump power supply, beam scanning power supply, beam focusing power supply, beam guiding power supply, automatic frequency control (AFC), online monitoring system, etc.
Cooling mode	Water-cooling
Dimensions	Could be customized according to customer requirements

Notes: If customer needs change, Can provide customized products.

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