High Voltage Power Supplies

PS300 Series — DC HVPSs to 20 kV

PS300 Series High Voltage Supplies

- **Up to 20 kV (PS375)**
- **1 volt resolution**
- **0.05 % accuracy**
- **Programmable limits and trips**
- **0.0015 % ripple**
- **0.001 % regulation**
- **GPIB interface**
- **RS-232 interface (10 W models)**

The PS300 Series High Voltage Power Supplies — rugged, compact, reliable instruments for just about any high voltage application.

With up to 20 kV output capability, a GPIB computer interface, and 0.001 % voltage regulation, these high voltage power supplies have become the industry standard.

There are several models to choose from, with outputs ranging from 1.25 kV to 20 kV.

Model	Output Voltage	Current
PS310	0 to ±1.25 kV	20 mA
PS325	0 to ±2.5 kV	10 mA
PS350	0 to ±5 kV	5 mA
PS355	0 to –10 kV	1 mA
PS365	0 to +10 kV	1 mA
PS370	0 to –20 kV	0.5 mA
PS375	0 to +20 kV	0.5 mA

The PS310, PS325 and PS350 are dual-polarity, 25 W supplies, while the PS355, PS365, PS370 and PS375 are single-polarity, 10 W supplies. All of the instruments are arc and short-circuit protected with separate programmable hard and soft current limits, making it possible to use them as constant current sources.

The Right Features

Whichever model you choose, you'll appreciate the convenience and versatility of the PS300 Series. Two large LED displays monitor the output voltage and current being delivered to your load. Overload reset, limit and trip status, local/remote state, and high voltage enable are also displayed, so you can monitor the instrument status at a glance. A highly visible red LED always indicates when the high voltage is on.

Easy to Use

Operation is simple — The parameter being adjusted or set is displayed separately and can be entered without affecting the actual output voltage. Up to nine instrument configurations can be stored and recalled at any time, making it easy to run multiple tests.

High voltage cables

Remote Programming

Both GPIB and RS-232 computer interfaces are standard on all 10 W supplies. GPIB is available as an option on the 25 W instruments. All parameters can be set and read via the computer interfaces.

PS370 Rear Panel

Analog Monitoring and Control

A rear-panel analog input allows the high voltage output to be programmed by a 0 to 10 VDC signal. Two rear-panel analog outputs provide output voltage and current monitoring capabilities. These outputs drive up to 10 mA of current and have 1Ω output impedance.

Performance and Value

The PS300 Series High Voltage Power Supplies are as useful in the R&D lab as they are in automated test applications. Wherever you are using them, the PS300 Series provide proven reliability and performance at a very affordable price.

Model	Output Voltage	Max. Current
PS310	±12 V to ± 1.25 kV	20 mA
PS325	± 25 V to ± 2.5 kV	10 mA
PS350	± 50 V to ± 5.0 kV	5 mA
PS355	−100 V to −10 kV	1 mA
PS365	+100 V to +10 kV	1 mA
PS370	−100 V to −20 kV	500 µA
PS375	+100 V to +20 kV	500 µA

Voltage Output

Voltage set accuracy	0.01 % + 0.05 % of full scale
Volt. display accuracy	Vset accuracy ± 1 V, typ. (± 2 V, max.)
Voltage resolution	1 V (set and display)
Voltage resettability	1 V
Voltage limit range	0 to 100 % of full scale
Voltage regulation	0.001 % for ±10 % line change 0.005 % for 100 % load change Specifications apply for >0.5 % (full load) to >1 % (no load) of full-scale voltage.
Output ripple (rms)	
(25 W models)	<0.002 % of full scale
(10 W models)	<0.01 % of full scale
Current limit range	0 to 105 % of full scale
Trip current	10 µA (min.)
Trip response time	<10 ms
Current set accuracy	
(25 W models)	0.01 % + 0.05 % of full scale
(10 W models)	1 % + 0.05 % of full scale
Current resolution	10 µA (PS310 and PS325) 1 µA (all other models)
Current display accuracy	±10 µA (typ.), ±20 µA (max.) (PS310 and PS325) ±1 µA (typ.), ±2 µA (max.) (all other models)
Stability	0.01 % per hr., <0.03 % per 8 hrs.
Temperature drift	50 ppm/°C, 0 to 50 °C (typ.)
Protection	Arc and short circuit protected (Programmable voltage limit, current limit, and current trip)
Recovery time	12 ms for 40 % step change in load current (typ.)
Discharge time	<6 s (to <1 % of full-scale voltage with no load, typ.)

Monitor Outputs

Output scale	0 to +10 V for 0 to full-scale output regardless of polarity
Current rating	10 mA (max.)
Output impedance	<1 Ω
Accuracy	0.2 % of full scale
Update rate	8 Hz

External Voltage Set

Input scale	0 to +10 V for 0 to full-scale output regardless of polarity
Input impedance	1 MΩ
Accuracy	0.2 % of full scale
Update rate	16 Hz
Output slew rate	<0.3 s for 0 to full scale under full load

Mechanical

HV connector	
PS310/325/350	Kings type 1704-1
PS355/365	Kings type 1064-1
PS370/375	Kings type 1764-1
Mating connector	
PS310/325/350	Kings type 1705-1
PS355/365	Kings type 1065-1
PS370/375	Kings type 1765-1
Dimensions, weight	8.1"×3.5"×16" (WHD), 8 lbs.
Pow	50 W, 100/120/220/240 VAC, 50 Hz/60 Hz
Warranty	One year parts and labor on defects in materials or workmanship

Ordering Information

PS310	±1.25 kV DC pwer supply
PS325	±2.5 kV DC pwer supply
PS350	±5.0 kV DC pwer supply
Option 01	GPIB interface (PS310/325/350)
PS355	−10 kV supply w/ GPIB & RS-232
PS365	+10 kV supply w/ GPIB & RS-232
PS370	−20 kV supply w/ GPIB & RS-232
PS375	+20 kV supply w/ GPIB & RS-232