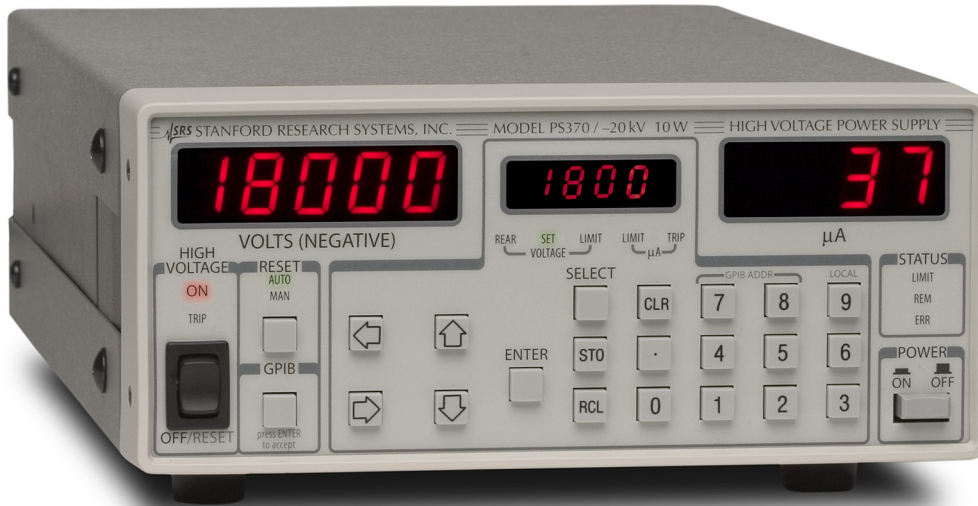


High Voltage Power Supplies

PS300 Series — DC high voltage power supplies to 20 kV



PS300 Series High Voltage Supplies

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

- **PS310 ... \$1495**
- **PS325 ... \$1595**
- **PS350 ... \$1695**
- **PS355, PS365, PS370, PS375 ... \$2795**

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 | ±12 V to ±1.25 kV | 20 mA |
| PS325 | ±25 V to ±2.5 kV | 10 mA |
| PS350 | ±100 V to ±5 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 | 0.5 mA |
| PS375 | +100 V 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.



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 1 Ω 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.



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

PS310, PS325 & PS350 Specifications

| Model | Output Voltage | Max. Current |
|-------|--------------------|--------------|
| PS310 | ±12 V to ±1.25 kV | 20 mA |
| PS325 | ± 25 V to ±2.5 kV | 10 mA |
| PS350 | ± 100 V to ±5.0 kV | 5 mA |

Output

| | |
|--------------------------|--|
| Voltage set accuracy | 0.01% + 0.05% of full scale, typ |
| 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 |
| Output ripple (rms) | <0.002% of full scale |
| Current limit range | 0 to 105% of full scale |
| Trip current range | 10 µA to 105% of full scale |
| Trip response time | <10 µs (excluding stored output charge) |
| Current set accuracy | 0.01% + 0.05% of full scale |
| Current resolution | 10 µA (PS310 and PS325) 1 µA (PS350) |
| Current display accuracy | ±10 µA (typ.), ±20 µA (max.) (PS310 and PS325) ±1 µA (typ.), ±2 µA (max.) (PS350) |

General

| | |
|-------------------|--|
| Stability | 0.01% per hr., <0.03% per 8 hrs. |
| Temperature drift | 50 ppm/°C, 10 to 40 °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 (full load) |

Mechanical

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

(*) Regulation specification applies for $V_{out} > 0.5\%$ full scale (typ.) for full load & $V_{out} > 1\%$ full scale (typ.) for no load. Below these values the unit may not regulate correctly.

All performance specifications apply after a one hour warm-up period, and are restricted to the specified voltage range for each model.

PS355, PS365, PS370 & PS375 Specifications

| Model | Output Voltage | Max. Current |
|-------|------------------|--------------|
| PS355 | -100 V to -10 kV | 1 mA |
| PS365 | +100 V to +10 kV | 1 mA |
| PS370 | -100 V to -20 kV | 500 μ A |
| PS375 | +100 V to +20 kV | 500 μ A |

Output

| | |
|------------------------|--|
| Voltage set accuracy | 0.06% of full scale |
| Volt. display accuracy | Vset accuracy ± 1 V, typ. (± 2 V, max.) |
| Voltage resolution | 1 V (set and display) |
| Voltage limit range | 0 to 100% of full scale |
| Voltage regulation | 0.001% for ± 10 % line change 0.04% for 100% load change |
| Output ripple (rms) | <0.01% of full scale (300 Hz to 300 kHz) |
| Current limit range | 0 to 105% of full scale |
| Current trip range | 10 μ A to 105% of full scale |
| Trip response time | <10 ms (excluding stored output charge) |
| Output stored charge | <20 μ C max (PS355 and PS365) <40 μ C max (PS370 and PS375) |
| Current set accuracy | 0.5% of full scale |
| Current resolution | ± 1 μ A |
| Current display acc. | ± 1 μ A (typ.), ± 2 μ A (max.) |

General

| | |
|---------------------|--|
| Temperature drift | 50 ppm/ $^{\circ}$ C, 10 to 40 $^{\circ}$ C (typ.) |
| Protection | Arc and short circuit protected (Programmable voltage limit, current limit, and current trip) |
| HV output slew rate | 7,000 V/s typ (PS355 and PS365) 14,000 V/s typ (PS370 and PS375) |
| 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 | <100 Ω |
| Accuracy | ± 0.2 % of full scale |
| Update rate | 87.5 Hz |

External Voltage Set

| | |
|-----------------|--|
| Input scale | 0 to +10 V for 0 to full-scale output regardless of polarity |
| Input impedance | 1 M Ω |
| Accuracy | ± 0.2 % of full scale |
| Update rate | 87.5 Hz |

Mechanical

| | |
|--------------------|---|
| HV connector | PS355/365 Kings type 1064-1 PS370/375 Kings type 1764-1 |
| Mating connector | PS355/365 Kings type 1065-1 PS370/375 Kings type 1765-1 |
| Dimensions, weight | 8.1" \times 3.5" \times 14" (WHD), 8 lbs. |
| Power | 75 W, 100-240 VAC, 50 Hz to 60 Hz |
| Warranty | One year parts and labor on defects in materials or workmanship |

All performance specifications apply after a one hour warm-up period, and are restricted to the specified voltage range for each model.

Ordering Information

| | | |
|-----------|--------------------------------------|--------|
| PS310 | ± 1.25 kV DC power supply | \$1495 |
| PS325 | ± 2.5 kV DC power supply | \$1595 |
| PS350 | ± 5.0 kV DC power supply | \$1695 |
| Option 01 | GPIB interface | \$595 |
| /2D | Double rack mount kit | \$100 |
| /2S | Single rack mount kit | \$100 |
| /3A | SHV to SHV cable, 10 ft. | \$150 |
| /3B | SHV to MHV cable, 10 ft. | \$150 |
| PS355 | -10 kV supply w/ GPIB & RS-232 | \$2795 |
| PS365 | +10 kV supply w/ GPIB & RS-232 | \$2795 |
| /3C | 10 kV-SHV to open cable, 10 ft. | \$495 |
| /3D | 10 kV-SHV to 10 kV-SHV cable, 10 ft. | \$695 |
| O300RMS | Single rack mount kit | \$100 |
| O300RMD | Double rack mount kit | \$100 |
| PS370 | -20 kV supply w/ GPIB & RS-232 | \$2795 |
| PS375 | +20 kV supply w/ GPIB & RS-232 | \$2795 |
| /3E | 20 kV-SHV to open cable, 10 ft. | \$795 |
| /3F | 20 kV-SHV to 20 kV-SHV cable, 10 ft. | \$895 |
| O300RMS | Single rack mount kit | \$100 |
| O300RMD | Double rack mount kit | \$100 |