**LP5393**

**LP5393 Specifications**

1. **Output voltage:** +12V to +15V
2. **Voltage setting range:** +10V ± 1% when adjuster turned all the way to right; +3V ± 1% when adjuster turned all the way to left.
3. **Voltage setting method:** Set with the front panel adjuster.
4. **Maximum current:** 1.5 A.
5. **Output connectors:** Set with the front panel switch.
6. **Output monitor:** Set with the MONITOR terminals on the front panel.
7. **Input voltage:** AC 100, 120, 220 and 240 V (selector switch) ±10%.
8. **Frequency:** 50 Hz/60 Hz ±2 Hz.
9. **Input voltage:** However, AC 250 V or lower.
10. **Input regulation:** ±10 ppm/°C typ.
11. **Output voltage:**
    - ±12 V: ±1 % when adjuster turned all the way to left
    - ±15 V: ±1 % when adjuster turned all the way to right
12. **Input power:** ±10/50 Hz when adjuster turned all the way to left.
13. **Input power:** Between output GND and chassis: ±42 Vpk (DC + AC peak).
14. **Output noise:** 10 μVrms or lower (typ).
15. **Output voltage regulation:** Within ±10 mV (load 0 % reference for load 0 to 100 %).
16. **Input regulation:** ±20 ppm/°C (typ.)

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**DC POWER SUPPLY for R&D**

**LOW NOISE DC POWER SUPPLY**

**LP series**

- Extremely Low Noise
- Low Drift

**Output Noise**

10 μVrms or lower typ. (Bandwidth: 10 Hz to 20 MHz)

**Output Voltage Stability**

±10 ppm/°C typ.

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**Note:** The contents of this catalog are current as of June 29, 2015. The technical specifications and specifications are subject to change without notice. Always refer to the latest specifications, price and delivery dates.
Ultra low noise DC power supply for demanding low noise precision measurement applications

Utilizing our proprietary circuit design technology, the LP series of ultra-low noise DC power supplies provides output voltage with extremely low levels of noise. The main unit is shielded and shielded connectors and cables are used to prevent the emission of internal noise as well as prevent external noise from affecting the signal. The combination of all these technologies results in a DC power supply that produces output with a superior level of low noise.

The LP series is suitable for high-precision measurement applications such as sensor preamp power supplies and DC bias power supplies used in advanced device research, analysis devices, and medical equipment.

**LP5394**

The output noise voltage is at most 10 μVrms. This represents the highest standard of low-noise DC power supplies, yet we are able to offer the LP series at reasonable prices. Additionally, we have incorporated low-noise and highly stable reference voltage sources to achieve a level of temperature stability higher than conventional DC power supplies by a factor of 5 to 10. By eliminating wasted time in efforts to reduce noise, the LP series is perfect for research and development environments that use batteries or internally developed power supplies to prevent power supply noise from affecting device characteristics.

Our power supplies have the capability to provide stable and reliable power for extended periods of time.

- **Low Noise:** Output Noise: 10 μVrms or lower (typ.) (10 Hz to 20 MHz bandwidth)
- **Low Drift:** Output Voltage Stability: ±10 ppm/°C (typ.)
- **Output Voltage:** 0 to ±15 V  
- **Output Current:** 0.1 A max.
- **Voltage Setting Range:** 3 V, 5 V, 10 V or 15 V F.S.
- **Precisely adjusts the output voltage using the 10-turn potentiometer**
- **1/4-rack sized for easy integration into multi-channel rack systems**
**DC POWER SUPPLY for R&D**

**LOW NOISE DC POWER SUPPLY**

**LP series**

- **Extremely Low Noise**
- **Low Noise**
- **Low Drift**

**Output Noise** 10 μVrms or lower typ.
(Bandwidth: 10 Hz to 20 MHz)

**Output Voltage Stability** ±10 ppm/°C typ.

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**Specifications**

**LP5309**

- **Output voltage**: ±15 V (±1 % when adjuster turned all the way to the right, ±12 V ±1 % when adjuster turned all the way to the left)
- **Output monitor**: Set with the MONITOR terminal on the front panel.
- **Overcurrent protection**: Between output GND and chassis ±42 Vpk (DC + AC peak)
- **Overheat status indication**: Output is turned off at an internal temperature of approx. 75°C
- **Overheat protection**: By the front panel +OCP LED and -OCP LED
- **Overcurrent status indication**: Drooping characteristic (approx. 0.15 A) self-recovery type
- **Drooping characteristic**: (approx. 0.15 A) self-recovery type
- **Overvoltage category**: Class 2.5, 15 V with POLARITY switch
- **Power consumption**: 25 VA or lower
- **Input regulation**: Within ±3.5 mV (for power supply ±10 %)
- **Output monitor**: Set with the MONITOR terminal on the front panel (Zout=1 kΩ)
- **Max. current**: ±0.1 A
- **Input range**: AC 100, 120, 220 and 240 V (selector switch) ±10 %
- **Load regulation**: Within ±15 mV (load 0 %, reference for load 0 to 100 %)
- **Ripple noise**: 10 μVrms or lower (typ.)
- **Line regulation**: ±40 ppm (typ.) (8 hours after warm-up)
- **Temperature coefficient**: ±10 ppm/°C typ.
- **Setting range**: 0 to ±20 mV in dial setting 0
- **Temperature range**: 0 to +50 °C (day's average temperature 40 °C or lower)
- **Relative humidity range**: 5 to 95 %RH
- **Pollution degree**: 2 (pollution degree)

**LP5306**

- **Output voltage**: ±12 V ±1 % when adjuster turned all the way to the right, ±10 V ±1 % when adjuster turned all the way to the left
- **Output monitor**: Set with the MONITOR terminal on the front panel.
- **Overcurrent protection**: Between output GND and chassis ±42 Vpk (DC + AC peak)
- **Overheat status indication**: Output is turned off at an internal temperature of approx. 75°C
- **Overheat protection**: By the front panel +OCP LED and -OCP LED
- **Overcurrent status indication**: Drooping characteristic (approx. 0.15 A) self-recovery type
- **Drooping characteristic**: (approx. 0.15 A) self-recovery type
- **Overvoltage category**: Class 2.5, full-scale 15 V with POLARITY switch
- **Power consumption**: 5 VA or lower
- **Input regulation**: Within ±3.5 mV (load 0 %, reference for load 0 to 100 %)
- **Ripple noise**: 10 μVrms or lower (typ.)
- **Line regulation**: ±40 ppm (typ.) (8 hours after warm-up)
- **Temperature coefficient**: ±10 ppm/°C typ.
- **Setting range**: 0 to ±20 mV in dial setting 0
- **Temperature range**: 0 to +50 °C (day's average temperature 40 °C or lower)
- **Relative humidity range**: 5 to 95 %RH
- **Pollution degree**: 2 (pollution degree)

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**Accessories**

- Power cord set (φ5.2 x 20 mm), Fuse (100 V/120 V: 0.315 A or 220 V/240 V: 0.15 A) (Time-lag, φ5.2 x 20 mm), Instruction manual
- Power cord set (3 pole, 2 m), Fuse (100 V/120 V: 0.315 A or 220 V/240 V: 0.15 A) (Time-lag, φ5.2 x 20 mm)

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