

## Data Sheet

# Low Current High Resolution DC Power Supply, 30 V, 1 A Model 1739



The B&K Precision model 1739 is a high resolution, low current DC power source with excellent load regulation and low noise characteristics. Two 4-digit LED displays continuously monitor the output voltage and current. The power supplies can be operated locally from the front panel or remotely through the RS-232 interface. The mechanical configuration conserves bench space and allows for easy portability.

This power supply is well suited for electrical and electronics applications requiring precise levels of low current, including 4-20 mA current loop testing, calibration, or basic IC testing.

### Features and Benefits

- Low 1 mA settable current limit with 0.1 mA resolution
- Output on/off button
- Exceptionally low current ripple and noise (<0.4 mArms)
- Excellent regulation
- Constant voltage (CV) and constant current (CC) operation
- Two large, easy-to-read LED displays provide good visibility in bright or low light conditions
- CV and CC mode indicator
- Automatic recall of saved voltage and current settings upon power-up
- RS-232 interface
- Isolated output
- Overload protection
- Reverse polarity protection
- Power-on self test

### Low Current Precision Design

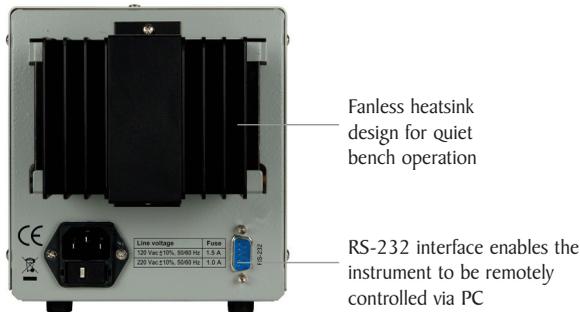
The 1739 is a low current precision power supply designed especially for small current applications that require a clean and precise source. Using a MOSFET circuit design and high quality components with very low temperature coefficients, the power supply is extremely stable and capable of outputting current as low as 1 mA with a 100 uA settable resolution. The power supply is also implemented with a high performance AC line filter to minimize noise on the power line before rectification, allowing for very low ripple and noise at the output.

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Model 1739

Front Panel

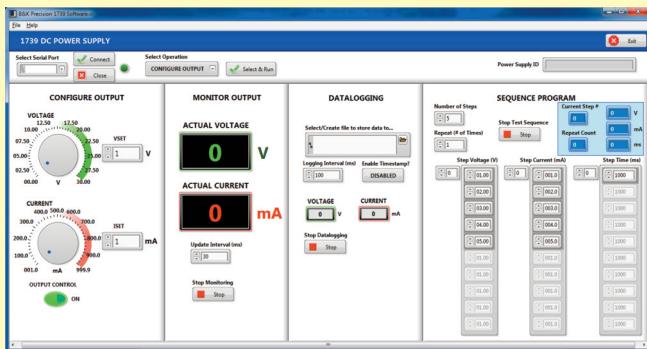


Rear Panel



PC Connectivity

Control your instrument via RS-232 interface through the application software\* or by sending programming commands. The application software provides a virtual front panel and a simple data logging function to store and log data to a text or CSV file.



\*Available for download at [www.bkprecision.com](http://www.bkprecision.com)

Specifications

| Model  | 1739  |
|--|---|
| <b>Output Ratings (0 °C~40 °C)</b>                         |   |
| Voltage  | 0-30 V                                      |
| Current  | 0-999.9 mA                                  |
| <b>Load Regulation ±(% of output+offset)</b>               |   |
| Voltage  | 0.04% + 1 mV                                |
| Current  | 0.4% + 0.1 mA                               |
| <b>Line Regulation ±(% of output+offset)</b>               |   |
| Voltage  | 0.1% + 3 mV                                 |
| Current  | 0.4% + 0.3 mA                               |
| <b>Ripple &amp; Noise (20 Hz ~ 20 MHz)</b>                 |   |
| Voltage  | < 1 mVrms                                   |
| Current  | ≤ 0.4 mArms                                 |
| Recovery Time  | ≤ 75 μs                                     |
| <b>Meter Resolution</b>                                    |   |
| Voltage  | 10 mV                                       |
| Current  | 0.1 mA                                      |
| <b>Meter Accuracy</b>                                      |   |
| Voltage  | 0.5% + 2 digits                             |
| Current  | 0.5% + 2 digits                             |
| <b>General</b>   |   |
| Power Requirements   | 110/220 VAC ±10%, 50/60 Hz                  |
| Power Consumption  | ≤ 70 VA                                     |
| Protection   | Reverse polarity, current limiting          |
| <b>Operating Environment</b>                               |   |
| Temperature  | 32 °F to 104 °F (0 °C to 40 °C)             |
| Humidity   | 75% R.H.                                    |
| Temperature coefficient (0 °C~35 °C) ±(% of output+offset) | 300 ppm/°C                                  |
| Storage Temperature  | 5 °F to 158 °F (-15° to +70° C)             |
| Storage Humidity   | 85% R.H.                                    |
| <b>Mechanical Specifications</b>                           |   |
| Weight   | 9 lbs (4 kg)                                |
| Dimensions (W x H x D)                                     | 5.5" x 6.2" x 12.5"<br>(140 x 158 x 318 mm) |
| <b>Three Year Warranty</b>                                 |   |
| Supplied Accessories                                       | Power cord, instruction manual, RS232 cable |

Note: All specifications apply to the unit after a temperature stabilization time of 30 minutes.

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