



PI-41700 DC Bias Card

Features:

- ± 8 Volt Output
- ± 100 mA Output Current
- Programmable Current Limit
- Fully Programmable

Applications:

- Device Characterization
- CMOS Testing
- FPA Testing
- Test Instrumentation
- Test Systems

Introduction:

The Pulse Instruments PI-41700 DC Bias Card, along with other stimulus cards, is designed for the modular instrument platform CompactPCI®. This card is a 6U Eurocard size that will plug directly into the CompactPCI® chassis.

As a test or design engineer you must have state-of-the-art tools to test, characterize and verify your complex semiconductor devices and circuit boards. The PI-41700 DC Bias Card is one of the high performance, low-cost test instrumentation tools being developed by Pulse Instruments.

Instrument Description:

The PI-41700 is a dual channel bipolar DC Bias supply that can provide an output current up to 100 mA per channel. The output voltage ranges from -8 V to +8 V and features programmable current limits with LED indicators and software interrupt to show/alert the user if the channel is in current limit. The PI-41700 also has voltage and current sense for remote measurement of the voltage and current levels. This sense circuitry is accessed via banana jacks on the front board flange. The voltage and current can also be sensed with an 8-bit A/D converter and sent over the bus. This A/D sense circuitry is meant for measurements not requiring high precision. The output connectors are SMA.

Specifications:

Output Voltage: -8.188 V to +8.188 V

Resolution: 4 mV

Accuracy: 0.1% of programmed value
 ± 10 mV

Output Current: ± 100 mA maximum

Current Limit: Three decade ranges:
Range/Accuracy:

100 mA -3% of programmed value ± 3 mA

10 mA - 3% of programmed value ± 300 μ A

1 mA - 3% of programmed value ± 30 μ A

Output Resistance: 75 milliohms
for $I_o = 100$ mA

Output Noise:

1Hz	2.5 μ V/rt.Hz
10 Hz	750 nV/rt.Hz
100 Hz	500 nV/rt.Hz
1 kHz	750 nV/rt.Hz
10 kHz	100 nV/rt.Hz

Voltage Sense: 0.2% of reading ± 5 mV

Current Sense: Three decade ranges:

Range/Accuracy: 100 mA -0.3% of reading ± 200 μ A

10 mA - 0.3% of reading ± 20 μ A

1 mA - 0.3% of reading ± 2 μ A



Limit Indicator: Red LED limits or Disconnect indicator

Range/Accuracy: Three decade ranges:
100 mA - 3% of programmed value ± 7 ma
10 mA - 3% of programmed value $\pm 700\mu\text{A}$
1 mA- 3% of programmed value $\pm 70 \mu\text{A}$

Voltage ADC Sense: 1 V to 8.188 V, not specified below 1 volt
Accuracy: 1% ± 50 mV

Current ADC Sense: Measurement Available - Not Specified

Power Consumption:

<u>Pwr. Supply</u>	<u>Min</u>	<u>Typical</u>	<u>Max.</u>
5.0 V $\pm 5\%$		0.40 Amps	
3.3 V $\pm 5\%$		0.50 Amps	
12 V $\pm 5\%$		0.45 Amps	
-12 V $\pm 5\%$		0.40 Amps	

Mechanical:

- Size 6U Eurocard
- Dimensions 6.30" x 9.18" (160.00mm x 233.35mm)
- One card slot

Ordering Information:

Contact Pulse Instruments Sales at (310) 515-5330 or by email at sales@pulseinstruments.com

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