



## Model 2701A Transconductance Amplifier

*0 to 100 Amps - AC*  
*0 to  $\pm 100$  Amps - DC*  
*Voltage Compliance  $\pm 5$  Volts*  
*IEEE488 Interface*  
*Resistive, Capacitive, Inductive Loads*

### General Description:

The model 2701A was originally developed for use in the 2100 series of Power Calibration and DC Resistance Measurement Systems. Fully programmable, the model 2701A can be configured as part of a fully automatic current calibration system to optimize throughput and will drive resistive, capacitive and inductive loads.

When used as a Transconductance amplifier, the model 2701A converts a voltage signal applied to the input, into a high resolution output current whose value is directly proportional to the input signal level. It has 3 ranges of 5, 20, and 100 amps.

In the DC or source mode, the model 2701A is bipolar. The source voltage can be selected from the front panel or over the IEEE488 interface. The DC voltage is generated from a 16 bit DAC. The 2701A uses quick-disconnect high current female terminals for the DC output connections.

Outputs of 100 amps can be produced over a frequency range of DC to 1000 Hz.

A large vacuum florescent display indicates both source and amplifier modes. These modes are selected using the front panel keyboard. In the source or DC mode, the current selected is displayed.

The model 2701A is rack mountable in a standard 433 mm case. The outputs for the 2701A are located on the rear of the instrument. There are two separate outputs provided for AC, five way binding posts up to 20 amps and quick-disconnect high current female terminals from 20 to 100 amps.

Applications for the 2701A include measurements systems such Model 6010-100A Resistance Measurement System and model 2100A and 2100B Power Calibrations Systems. Other applications include the high current CCC being developed in many of the national laboratories.

# Model 2701A

**Specifications:**  
Revision 6

AC Operation					DC Operation	
Ranges		0 to 100 Amps @ 25 Siemens 0 to 20 Amps @ 4 Siemens 0 to 5 Amps @ 1 Siemens			Ranges	0 to ±5 Amps 5 to ±20 Amps 20 to ±100 Amps
Uncertainty	Hz	50/60 Hz	400 Hz	1k Hz	5A 20A 100A	±0.5% ±0.5% ±0.5%
	5A	±0.2%	±0.5%	1%		
	20A	±0.2%	±1%	2%		
	100A	±0.5%	±1%	3%		
Ratio of Input Voltage to Output Current		All Ranges 5 volts for FS Output			Resolution	16 Bits
Voltage Compliance		5A, 20A range = 5V RMS 100A range = 4V RMS			Voltage Compliance	5A, 20A range = ± 5V 100A range = ± 4V
Output Stability		± 100 ppm for 8 Hours			Output Stability	± 100 ppm + 1 Bit for 8 Hr.
DC Offset		< 5 mA			DC Offset	< 5 mA
Harmonic Distortion		<0.1% of the Fundamental at 100A RMS			Noise	< 1.5mA + 0.04% Output
Bandwidth		DC to 1kHz			DC	
Input Terminals		5 Way Binding Posts				
Output Terminals		Quick Disconnect				
Operating Environment					18 to 34°C, 10 to 80% RH	
Warranty					1 Year Parts & Labor	

**Dimensions:**  
545 x 435 x 221 mm

**Weight:**  
32 kg

**Shipping Weight:**  
40 kg

**Accessories:**

**Operating Power:**  
100, 120, 220, 240V - 50/60 Hz

**Distributed By:**

**How to Order:**

Model: 2701A - Transconductance Amplifier

Data Subject to Change

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