Measurements International

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TRANSCONDUCTANCE AMPLIFIER **MODEL 2701A**

- 0 to 100 Amps – AC
- 0 to ± 100 Amps – DC
- Voltage Compliance ± 5 Volts
- IEEE-488 Interface
- Resistive, Capacitive, Inductive Loads

MODEL 2701A TRANSCONDUCTANCE AMPLIFIER

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 IEEE-488 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 fluorescent 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 483 mm (19 in) 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 as model 6010-100 A 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 and calibration of current transformers.

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Specifications: Rev 8

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**	**1 kHz**		
	5 A **20 A** **100 A**	± 0.2 % ± 0.2 % ± 0.5 %	± 0.5 % ± 1 % ± 1 %	± 1 % ± 2 % ± 3 %	**5 A** **20 A** **100 A**	± 0.5 % ± 0.5 % ± 0.5 %
Ratio of Input Voltage to Output Current		All ranges 5 Volts for full-scale output			**Resolution**	16-bit
Voltage Compliance		5 A, 20 A range = 5 V RMS 100 A range = 4 V RMS			**Voltage Compliance**	5 A, 20 A range = ± 5 V 100 A range = ± 4 V
Output Stability		± 100 ppm for 8 hours			**Output Stability**	± 100 ppm + 1-bit for 8 hours
DC Offset		< 5 mA			**DC Offset**	< 5 mA
Harmonic Distortion		< 0.1 % of the fundamental at 100 A RMS			**Noise**	< 1.5 mA + 0.04 % output
Bandwidth		DC to 1 kHz			DC	
Input Terminals		5-way binding posts				
Output Terminals		Quick disconnect				
Output Terminals					18 to 34 °C, 10 to 80 % RH	
Warranty					1 Year Parts & Labour	

How to Order

1. 2701A – Transconductance Amplifier

Dimensions (L × W × H):
545 × 435 × 221 (mm)

Weight:
32 kg

Shipping Weight:
40 kg

Main Power:
100, 120, 220, 240 V – 50/60 Hz

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