

# Calibration Instruments

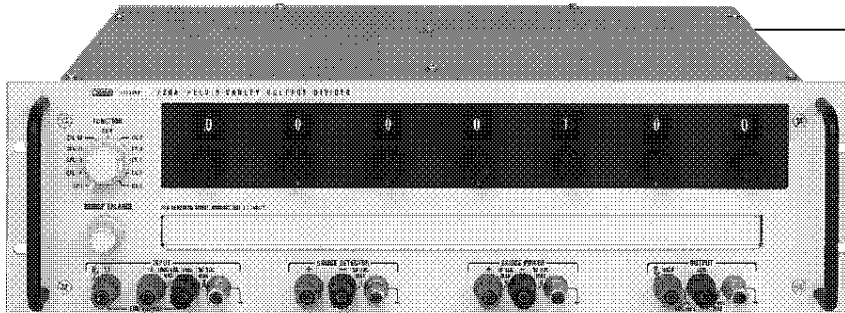
## 720A Kelvin-Varley Divider

0.1 ppm Resolution, Seven Decades

0.1 ppm of Input Absolute Linearity

Built-in Self Calibration Bridge

Front Panel Self-Calibration



720A

Model 720A Kelvin-Varley Divider is a high-resolution primary ratio standard with absolute linearity of 0.1 ppm, temperature coefficient of linearity of 0.1 ppm/°C, and self-calibration capability.

### Specifications

**Ratio Range:** 0 to 1.0 (1.0 input tap) and 0 to 1.1 (1.1 input tap)

**Resolution:** 0.1 ppm of input with seven decades

**Absolute Linearity:** (At calibration temperature and without the use of a correct chart)  $\pm 0.1$  ppm of input at dial settings of 1.1 to 0.1,  $\pm 0.1 (10S)^{1/3}$  of input at dial settings (S) of 0.1 to 0

**Absolute Linearity Stability:** (Without self-calibration)  $\pm 1.0$  ppm of input/yr at dial settings of 1.1 to 0.1,  $\pm 1.0 (10S)^{1/3}$  ppm of input/yr at dial setting (S) of 0.1 to 0

NOTE: Absolute linearity is defined as the linearity between max and min output voltages. The self-calibration procedure may be used at any time to reset absolute linearity to  $\pm 0.1$  ppm of input.

**Temperature Coefficient of Linearity:**  $\pm 0.1$  ppm of input/°C maximum at dial settings of 1.1 to 0.1

**Short-Term Linearity Stability:** Under typical conditions in a standards laboratory environment (temperature maintained within  $\pm 1^\circ\text{C}$ ) and with an applied voltage of up to 100V, stability of linearity is 0.1 ppm/30 days

**Power Coefficient of Linearity:**  $\pm 0.2$  ppm of input/W max at dial settings of 1.1 to 0.1;  $\pm 0.2 (10S)^2$  ppm of input/W max at dial settings (S) of 0.1 to 0

**Maximum End Errors:** Zero error at output low; 0.004 ppm of input. Zero error at input low; 0.05 ppm of input. Full-scale error: 0.05 ppm of input

**Maximum Input Voltage:** 1000V on 1.0 input terminal, 1100V on 1.1 input terminal

**Thermal Voltages:**  $\pm 0.5$   $\mu\text{V}$  max

**Input Resistance:** 100 k $\Omega$   $\pm 0.005\%$  at 1.0 input terminal at 25°C; 110 k $\Omega$   $\pm 0.005\%$  at 1.1 input terminal at 25°C

**Temperature Coefficient of Input**

**Resistance:**  $\pm 1$  ppm per °C max

**Size:** 14 cm H  $\times$  48.2 cm W  $\times$  33 cm D, rack mounted (5.5 in H  $\times$  19 in W  $\times$  13 in D)

**Weight:** 8.16 kg (18 lb)

### Ordering Information

#### Model

720A Kelvin-Varley Voltage Divider

#### Included with Instrument

Instruction manual.

### Customer Support Services

#### Factory Warranty

One-year product warranty.

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