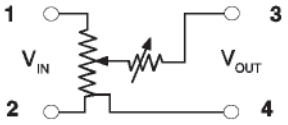
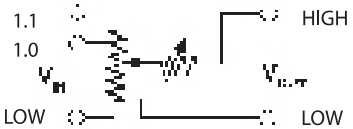
esi RV722 Decade Voltage Divider

This standards grade Kelvin-Varley voltage divider is highly accurate, stable, and linear instrument for use in many applications requiring accurately known voltage or current ratios. In particular, the RV722 is especially appropriate for use in bridge circuits, providing two arms of a bridge with a very well known ratio. Applications include linearity determination, the measurement of voltage and resistance, and the calibration of voltage, current, and resistance.

Equivalent circuit: A Kelvin-Varley voltage divider may be thought of as being equivalent to a digital potentiometer. However, it has an additional, but variable, resistance in series with the wiper arm, which goes to zero at the full scale and zero settings. This series resistance has no effect in balanced bridge type applications, where these dividers are often used.





SPECIFICATIONS

RATIO RANGE:	0 to 1.0 of input.
RESOLUTION:	0.1 ppm with 7 decades.
ABSOLUTE LINEARITY: $[V_{OUT}/V_{IN}]$-S WHERE S IS THE DIAL SETTING.	±0.5 ppm at mid-scale, improving at zero and end settings
SHORT-TERM LINEARITY STABILITY	0.2 ppm/30 days under standard laboratory conditions and V_{IN} <100 V.
LONG-TERM LINEARITY STABILITY:	±1.0 ppm of input/year at mid-scale. improving at zero and end settings
TEMPERATURE COEFFICIENT OF LINEARITY:	<±0.2 ppm/°C.
POWER COEFFICIENT OF LINEARITY:	±1 ppm/watt improving at zero and end settings.
MAXIMUM INPUT POWER:	2.5 watts; 5 watts intermittent.
MAXIMUM INPUT VOLTAGE:	700 V rms for 100 kΩ
BREAKDOWN VOLTAGE:	1000 V peak to case
INPUT RESISTANCE:	100 kΩ ±50 ppm.
MAXIMUM OUTPUT RESISTANCE:	66 kΩ, determined by shorting across the input and measuring the resistance across the output terminals
TERMINAL LINEARITY	(Relative to Input Terminals) Same as absolute linearity except for end voltage drops not exceeding 0.05 ppm for 100 kΩ divider
COMPENSATED TERMINAL LINEARITY	(Relative to Output Common Terminal) Same as terminal linearity except that voltage drop at zero setting is compensated to ± 0.002 ppm for 100 kΩ divider
SWITCH CONTACT & WIRING RESISTANCE VARIATIONS	Less than ± 0.004 ppm for 100 kΩ divider
CALIBRATION DATA	ISO-17025 Accredited Certified test report supplied with the unit gives calibration data accurate to ± 0.2 ppm linearity. (at the time of final inspection). Calibration presented in form suitable for interpolation calibration of correction at any dial setting.
TERMINALS:	High quality low thermal emf gold plated tellurium copper binding posts.
DIMENSIONS:	48.3 cm W x 13.3 cm H x 21.3 cm D (19.0" x 5.25" x 8.4").
WEIGHT:	5.7 kg (12.5 lb).