SECTION I

INTRODUCTION

1.1 DESCRIPTION

ESI Model RS 925D Resistance Standard is a wide-range, four-terminal decade resistor with four decades that can be trimmed to maintain high accuracy indefinitely. The use of trimmed decades, special ESI resistors, and multiple-contact low-resistance switches assures high accuracy and short-term accuracy of better than 2 parts per million.

1.2 SPECIFICATIONS

Resistance Range: 10^{-2} Ω to 1.2×10^{6} Ω

Resolution: 20 microhms

Accuracy after Adjustment of Trimmed Decades:

100 kΩ	±1.5 ppm
10 kΩ	±1.0 ppm
1 kΩ	±1.5 ppm
100 Ω	±2.0 ppm

Initial Accuracy of the Untrimmed Decades: ±(20 ppm + 0.001 Ω)

Stability after Adjustment: ±(20 ppm + 0.0005 Ω/year

Short Term Resistance Reset Repeatability: Better than 100 μΩ

Calibration Conditions: 4-terminal measurement
23°C ±1°C. 30% to 70% R.H.

Temperature Coefficient:

100 Ω/step and higher	±3 ppm/°C
10 Ω/step	±15 ppm/°C
1 Ω/step and lower	±20 ppm/°C
Wiring and Switches	±50 μΩ/°C

Power Coefficient of Resistance:

100 Ω/step and higher	±0.1 ppm/mW/step
10 Ω/step	±0.3 ppm/mW/step
1 Ω/step	±0.4 ppm/mW/step
(0.1 and 0.01 Ω/step	±1.0 ppm/mW/step
Wiring and Switches	+ 50 μΩ/W Total

Power Rating: 1.0 watt/step or 5.0 watts total, or 2.0 ampere maximum current.

Breakdown Voltage: 1500 V peak to case

Dimensions: Width 19 in. (48.25 cm), Height 7 in. (17.8 cm), Depth 8 in. (20.3 cm)

Weight: 14 lbs (6.4 kg)