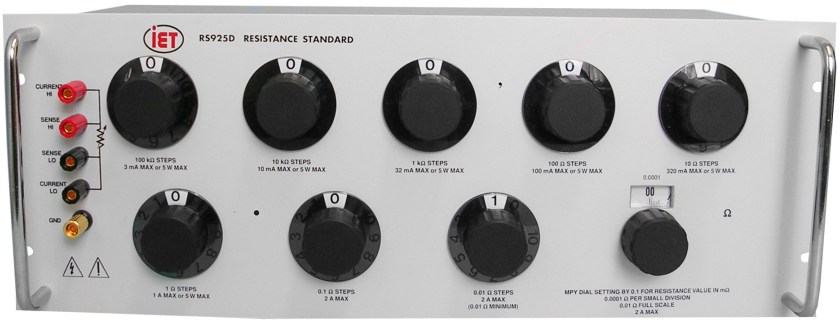
RS925D

Features:

- High accuracy - 20 ppm
- High stability - 5 ppm/yr
- Low temperature coefficient - as low as 3 ppm/°C
- High-performance, solid silver contact switches
- Resistance from 10 mΩ to over 1.21 MΩ
- 20 µΩ resolution rheostat
- Hermetically sealed, low inductance resistors
- Precise fixed minimum resistance



The IET (esi) RS925D is a four-terminal, continuously variable decade resistor for the most exacting calibration and test applications.

SPECIFICATIONS

Resistance per step	Total decade resistance	Max current	Max power	Temperature coefficient (±ppm/ºC)	Power coefficient (±ppm/mW)	Stability (±ppm/yr)	Decade positions	Resistor type
		whichever applies first						
100 µΩ division 20 µΩ resolution	10 mΩ	2 A	NA	20	1	20 ppm+0.5 mΩ	Continuous	Rheostat
10 mΩ	100 mΩ	2 A	NA	20	1		10 positions "1"-"10" (10 mΩ minimum reading	Resistance wire
100 mΩ	1 Ω	2 A	NA	20	1		11 positions "0"-"10"	
1 Ω	10 Ω	1 A	5 W	20	0.4			Wirewound hermetically sealed low-inductance
10 Ω	100 Ω	0.33 A	5 W	10	0.3			
100 Ω	1 kΩ	0.1 A	5 W	3	0.1			
1 kΩ	10 kΩ	33 mA	5 W	3	0.1	10 ppm (<5 ppm typical)		
10 kΩ	100 kΩ	10 mA	5 W	3	0.1			
100 kΩ	1 MΩ	3 mA	2,000 V peak	3	0.1		12 positions "0"-"11"	
Wiring and switch resistance		NA		50 µΩ/ºC	0.2 µΩ/W	NA		

Accuracy:
±(20 ppm+0.5 mΩ)
At 23°C "true ohm" measurement,
30-70% RH, absolute reading, SI traceable
No zero subtraction required

Minimum resistance:
10 mΩ ± 0.5 mΩ; determined by the lowest settable position, "1", of the 10 mΩ/step decade

Resistance repeatability:
Better than 100 µΩ, short-term, average value

Leakage Resistance:
>10 GΩ

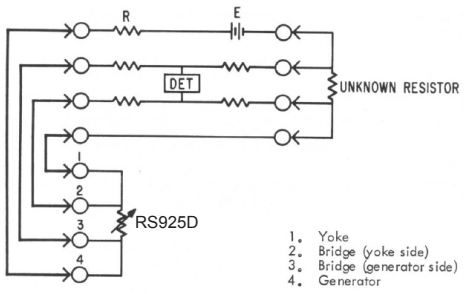
Environmental Conditions:
Operating Temperature: 0°C to 55°C
Storage Temperature: -40°C to 70°C

Switch Type:
Multiple solid silver contacts; dust-tight diallyl-phthalate body.
To allow continuous rotation, a blank position is added on most decades.

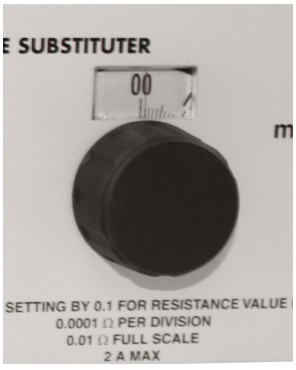
Terminals:
Four, 5-way, gold-plated, tellurium-copper binding posts with low thermal emf and low resistance, for four-terminal Kelvin measurements, plus one binding post connected to case for shielding. Rear outputs are available as an option.

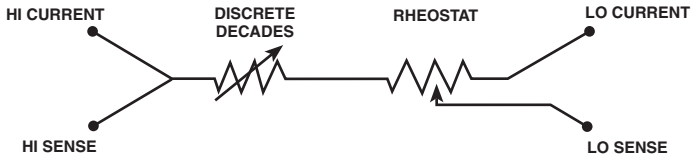
Mechanical Information:
Dimensions: 48.3 cm W x 17.8 cm H x 19.7 cm D (19" W x 7" H x 7.8" D)
Weight: 5.1 kg (11 lb)

KELVIN BRIDGE MEASUREMENT



RHEOSTAT





For high-resolution applications, a 10 mΩ rheostat is used for the lowest step. It is a 20 µΩ resolution "decade". In order to eliminate contact resistance and thermal emf, the **RD925D** integrates the rheostat as shown. In this way, the wiper is in the low potential circuit, which is the high impedance lead. As a result, voltage and contact resistance effects are removed by being effectively added to the input impedance of the measuring instrument.