

# High Power Decade Resistance Substituter

## HPRS Series

Economical high performance high power resistance for all laboratory, test, and calibration needs.

- Resistance from 1 mΩ to 10 MΩ
- 1 to 9 decades
- 0.5% or 1% accuracy
- 1000 V rating, higher available

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6 Decade Benchtop High Power Resistance Substituter

- Power of 225 W/decade, 250 W max. or higher
- Rack mounting available
- Special and custom configurations

## SPECIFICATIONS

Resistance per step	Decade Total (Ω)	Max. * Current per decade (A)	Max. * Power per step (W)	Temperature Coefficient (ppm/°C)
1 mΩ	0.009	6	0.036	50
10 mΩ	0.09	6	0.36	50
100 mΩ	0.09	6	3.6	20
1 Ω	9	5	25	50
10 Ω	90	1.5	25	50
100 Ω	900	0.5	25	50
1 kΩ	9k	0.15	25 <sup>†</sup>	50
10 kΩ	90k	0.05 <sup>†</sup>	25 <sup>†</sup>	50
100 kΩ	900 k	V limit <sup>†</sup>	V limit <sup>†</sup>	20
1 MΩ	9M	V limit <sup>†</sup>	V limit <sup>†</sup>	10

\* Subject to 250 W max. per unit.

<sup>†</sup> Subject to 1000 V (dc + ac peak) max.

Accuracy:

Option C: ±(0.5% + 20 mΩ) after zero subtraction; SI traceable.  
Option F: ±(1.0% + 20 mΩ) after zero subtraction; SI traceable.

Zero Resistance: <5 mΩ per decade, at dc.

Type of Resistor: Resistance wire for 0.1 Ω and under; film power resistors for 1 Ω to 100 kΩ steps; low inductance wirewound resistors for 1 MΩ steps.

Terminals: Two five-way binding posts and one ground post electrically connected to case.

Model	Dimensions	Weight
6 decades	43.9 cm W x 8.9 cm H x 10.2 cm D (17.3" x 3.5" x 4")	2.2 kg (4.8 lb)
7 decades		2.4 kg (5.3 lb)
8 decades		2.6 kg (5.7 lb)
9 decades	48.3 cm W x 17.8 cm H x 19.7 cm D (19.0 x 7.0 x 7.8")	5.1 kg (11.2 lb)

## ORDERING INFORMATION

Model* (1% Accuracy)	Total Resistance (Ω)	No. of Decades	Resolution (Ω)
HPRS-F-3-0.001	1	3	0.001
HPRS-F-3-0.01	10	3	0.01
HPRS-F-3-0.1	100	3	0.1
HPRS-F-3-1	1 k	3	10
HPRS-F-3-10	10 k	3	10
HPRS-F-3-100	100 k	3	100
HPRS-F-3-1K	1 M	3	1 k
HPRS-F-3-10K	10 M	3	10 k
HPRS-F-4-0.001	10	4	0.001
HPRS-F-4-0.01	100	4	0.01
HPRS-F-4-0.1	1 k	4	0.1
HPRS-F-4-1	10 k	4	1
HPRS-F-4-10	100 k	4	10
HPRS-F-4-100	1 M	4	100
HPRS-F-4-1K	10 M	4	1 k
HPRS-F-5-0.001	100	5	0.001
HPRS-F-5-0.01	1 k	5	0.01
HPRS-F-5-0.1	10 k	5	0.1

\*For 0.5% accuracy substitute "C" for "F" in the part number.

Model* (1% Accuracy)	Total Resistance (Ω)	No. of Decades	Resolution (Ω)
HPRS-F-5-1	100 k	5	1
HPRS-F-5-10	1 M	5	10
HPRS-F-5-100	10 M	5	100
HPRS-F-6-0.001	1 k	6	0.001
HPRS-F-6-0.01	10 k	6	0.01
HPRS-F-6-0.1	100 k	6	0.1
HPRS-F-6-1(HPRS-150)	1 M	6	1
HPRS-F-6-10	10 M	6	10
HPRS-F-7-0.001	10 k	7	0.001
HPRS-F-7-0.01	100 k	7	0.01
HPRS-F-7-0.1(HPRS-200)	1 M	7	0.1
HPRS-F-7-1	10 M	7	1
HPRS-F-8-0.001	100 k	8	0.001
HPRS-F-8-0.01	1 M	8	0.01
HPRS-F-8-0.1(HPRS-200W)	10 M	8	0.1
HPRS-F-9-0.001	1 M	9	0.001
HPRS-F-9-0.01	10 M	9	0.01

OPTIONS

- RM Rack mountable case for standard 19" rack  
Programmable Version See PRS data sheet (p. 17)