

High Resistance Decade Substituter

Replacement for
Biddle Megadek Series

HRRS Series

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

- High accuracy - up to .01%
- High stability - up to 10 ppm/yr
- Excellent TC - as low as 5 ppm/°C
- High voltage versions available

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- One to ten decades up to >1 TΩ
- Low voltage coefficient - as low as 0.2 ppm/V



6 Decade HRRS High Resistance Substituter

SPECIFICATIONS

Resistance Per Step	Decade Resistance	Accuracy Option			Max Voltage (Per Step)	Maximum Voltage (V)	Temp. Coefficient ±ppm/°C	Voltage Coefficient ±ppm/V	Stability ±ppm/year
		Q	B	F					
10 Ω	100 Ω	±0.01%	±0.03%	±0.1%	2.5 V	25	15	0	10
100 Ω	1 kΩ	±0.01%	±0.03%	±0.1%	8 V	80	5	0	10
1 kΩ	10 kΩ	±0.01%	±0.03%	±0.1%	23 V	230	5	0	10
10 kΩ	100 kΩ	±0.01%	±0.03%	±0.1%	70 V	700	5	0	10
100 kΩ	1 MΩ	±0.01%	±0.03%	±0.1%	230 V*	2000	5	0	10
1 MΩ	10 MΩ	±0.03%	±0.1%	±1%	1000 V*	2000	5	0.2	10
10 MΩ	100 MΩ	±0.03%	±0.1%	±1%	1000 V*	2000	15	0.2	50
100 MΩ	1 GΩ	±0.1%	±0.2%	±1%	1000 V*	2000	25	0.2	100
1 GΩ	10 GΩ	±0.2%	±0.5%	±1%	1000 V*	2000	50	1	500
10 GΩ	100 GΩ	±0.5%	±1%	±1%	1000 V*	2000	50	1	500
100 GΩ	1 TΩ	±0.5%	±1%	±3%	1000 V*	2000	200	5	500

* Subject to maximum of 2000 V (dc + ac peak);
See **HRRS-5KV** Series (p. 20) for higher voltage.

Zero Resistance: <3 mΩ per decade at dc.

Operating Conditions: 10°C to 40°C; <50% RH.

Terminals: Two five-way binding posts on 2 special, low leakage Kel-F insulating sockets and one metal ground post, for shielding, electrically connected to the case.

Model	Dimensions	Weight
3 decades	31.2 cm W x 8.9 cm H x 10.2 cm D (12.3" x 3.5" x 4.0")	1.4 kg (3.0 lb)
4 decades	37.5 cm W x 8.9 cm H x 10.2 cm D (14.8" x 3.5" x 4.0")	1.6 kg (3.5 lb)
5 decades		1.9 kg (4.0 lb)
6 and 7 decades	43.9 cm W x 8.9 cm H x 10.2 cm D (17.3" x 3.5" x 4.0")	2.0 kg (4.5 lb)

ORDERING INFORMATION

Model*	Total Resistance (Ω)	No. of Decades	Resolution (Ω)
HRRS-F-1-100G-5KV**	1 T	1	100 G
HRRS-B-2-1M	110 M	2	1 M
HRRS-B-2-10M	1.1 G	2	10 M
HRRS-B-2-100M	11 G	2	100 M
HRRS-B-2-1G	110 G	2	1 G
HRRS-B-2-10G-5KV**	1.1 T	2	10 G
HRRS-B-3-100K	111 M	3	100 k
HRRS-B-3-1M	1.11 G	3	1 M
HRRS-B-3-10M	11.1 G	3	10 M
HRRS-B-3-100M	111 G	3	100 M
HRRS-B-3-1G-5KV**	1.11 T	3	1 G
HRRS-B-4-10K	111.1 M	4	10 k
HRRS-B-4-100K	1.111 G	4	100 k
HRRS-B-4-1M	11.11 G	4	1 M
HRRS-B-4-10M	111.1 G	4	10 M
HRRS-B-4-100M-5KV**	1.111 T	4	100 M

* Replace "B" with "Q" for higher grade accuracy;
replace "B" with "F" for 1% accuracy.

**See HRRS-5KV (p. 20) Series for units with 1 TΩ maximum.

Model*	Total Resistance (Ω)	No. of Decades	Resolution (Ω)
HRRS-B-5-1K	111.11 M	5	1 k
HRRS-B-5-10K	1.1111 G	5	10 k
HRRS-B-5-100K	11.111 G	5	100 k
HRRS-B-5-1M	111.11 G	5	1 M
HRRS-B-5-10M-5KV**	1.1111 T	5	10 M
HRRS-B-6-10	11.1111 M	6	10
HRRS-B-6-100	111.111 M	6	100
HRRS-B-6-1K	1.11111 G	6	1 k
HRRS-B-6-10K	11.1111 G	6	10 k
HRRS-B-6-100K	111.111 G	6	100 k
HRRS-B-6-1M-5KV**	1.11111 T	6	1 M
HRRS-B-7-10	111.1111 M	7	10
HRRS-B-7-100	1.111111 G	7	100
HRRS-B-7-1K	11.11111 G	7	1 k
HRRS-B-7-10K	111.1111 G	7	10 k
HRRS-B-7-100K-5KV**	1.111111 T	7	100 k

Single Decade Version See HARS-X data sheet (p. 16)
OPTIONS:

- RM Rack mountable case for standard 19" rack
- K Kelvin type 4-terminal binding posts
- RO Rear outputs

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