

HRRS-10kV Series

High-voltage, high-performance, high-resistance decade substituter for all laboratory, test, and calibration needs.

- High accuracy - to .01%
- High stability - to 10 ppm/yr
- Excellent TC - as low as 5 ppm/°C
- Low current solid silver alloy contact switches
- One to seven decades up to 10 TΩ
- Low voltage coefficient - as low as 0.2 ppm/V

See also:

- High-power: [HPRS Series](#)
- Higher-accuracy: [HARS-X](#) and [HARS-LX Series](#)
- 5 kV version: [HRRS-5kV Series](#)
- Economical version: [HRRS Series](#)
- RTD simulators: [RTD Series](#)
- Programmable models: [PRS Series](#)



9 Decade HRRS-10kV High-Resistance Substituter

Specifications

Resistance per step	Total decade resistance	Accuracy			Max voltage per step (V)	Maximum Voltage (V)	Temperature coefficient (±ppm/°C)	Voltage coefficient (±ppm/V)	Stability (±ppm/yr)	Resistor Type
		Q	B	F						
10 Ω	100 Ω	0.01%	0.03%	0.1%	2.5	25	15	0	10	Wirewound, non-inductive
100 Ω	1 kΩ	0.01%	0.03%	0.1%	8	80	5	0	10	Wirewound, non-inductive
1 kΩ	10 kΩ	0.01%	0.03%	0.1%	23	230	5	0	10	Wirewound, non-inductive
10 kΩ	100 kΩ	0.01%	0.03%	0.1%	70	700	5	0	10	Wirewound, non-inductive
100 kΩ	1 MΩ	0.01%	0.03%	0.1%	230	2300	5	0	10	Wirewound, non-inductive
1 MΩ	10 MΩ	0.01%	0.03%	0.1%	1000	10,000	15	0.2	25	Wirewound, non-inductive
10 MΩ	100 MΩ	0.03%	0.1%	1%	5000 (10,000*)	10,000	25	0.2	50	High-voltage film
100 MΩ	1 GΩ	0.1%	0.2%	1%	10,000	10,000	25	1.5	100	High-voltage film
1 GΩ	10 GΩ	0.2%	0.5%	1%	10,000	10,000	25	5	500	High-voltage film
10 GΩ	100 GΩ	0.5%	1%	1%	10,000	10,000	25	5	500	High-voltage film
100 GΩ	1 TΩ	0.5%	1%	1%	10,000	10,000	100	5	500	High-voltage film
1 TΩ	10 TΩ	3%	5%	10%	10,000	10,000	300	5	500	High-voltage film

*To apply up to 10 kV at 10 MΩ, set the 1 MΩ decade to its "10" position.

Zero Resistance

<3 mΩ per decade

Environmental Conditions

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

Storage Conditions: -40°C to 70°C

Terminals

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



HRRS-10kV High-Resistance Substituter with binding posts; standard and custom configurations are available



Single-decade HRRS-10kV High-Resistance Substituter with binding posts; standard and custom configurations are available



Mechanical Specifications

Model	Dimensions	Weight
3-4 Decade Units	43.2 cm W x 14.2 cm H x 13.5 cm D (17" x 5.6" x 5.3")	3.4 kg (7.5 lbs)
5-7 Decade Units	48.2 cm W x 22.2 cm H x 33 cm D (19" x 8.75" x 13")	5 kg (11 lbs)
8-9 Decade Units	43.7 cm W x 30.7 cm H x 20.3 cm D (17.2" x 12.1" x 8")	7.7 kg (17 lbs)

Ordering Information

Model	Total Resistance	Number of Decades	Resolution
HRRS-*-3-100k-10kV	111 MΩ	3	100 kΩ
HRRS-*-3-1M-10kV	1.11 GΩ	3	1 MΩ
HRRS-*-3-10M-10kV	11.1 GΩ	3	10 MΩ
HRRS-*-3-100M-10kV	111 GΩ	3	100 MΩ
HRRS-*-3-1G-10kV	1.11 TΩ	3	1 GΩ
HRRS-*-3-10G-10kV	11.1 TΩ	3	10 GΩ
HRRS-*-4-10k-10kV	111.1 MΩ	4	10 kΩ
HRRS-*-4-100k-10kV	1.111 GΩ	4	100 kΩ
HRRS-*-4-1M-10kV	11.11 GΩ	4	1 MΩ
HRRS-*-4-10M-10kV	111.1 GΩ	4	10 MΩ
HRRS-*-4-100M-10kV	1.111 TΩ	4	100 MΩ
HRRS-*-4-1G-10kV	11.11 TΩ	4	1 GΩ
HRRS-*-5-1k-10kV	111.11 MΩ	5	1 kΩ
HRRS-*-5-10k-10kV	1.111 GΩ	5	10 kΩ
HRRS-*-5-100k-10kV	11.111 GΩ	5	100 kΩ
HRRS-*-5-1M-10kV	111.11 GΩ	5	1 MΩ
HRRS-*-5-10M-10kV	1.111 TΩ	5	10 MΩ
HRRS-*-5-100M-10kV	11.111 TΩ	5	100 MΩ
HRRS-*-6-10-10kV	11.111 MΩ	6	10 Ω
HRRS-*-6-100-10kV	111.111 MΩ	6	100 Ω
HRRS-*-6-1k-10kV	1.111 GΩ	6	1 kΩ
HRRS-*-6-10k-10kV	11.111 GΩ	6	10 kΩ
HRRS-*-6-100k-10kV	111.111 GΩ	6	100 kΩ
HRRS-*-6-1M-10kV	1.111 TΩ	6	1 MΩ
HRRS-*-6-10M-10kV	11.111 TΩ	6	10 MΩ

Model	Total Resistance	Number of Decades	Resolution
HRRS-*-7-10-10kV	111.111 MΩ	7	10 Ω
HRRS-*-7-100-10kV	1.111 GΩ	7	100 Ω
HRRS-*-7-1k-10kV	11.111 GΩ	7	1 kΩ
HRRS-*-7-10k-10kV	111.111 GΩ	7	10 kΩ
HRRS-*-7-100k-10kV	1.111 TΩ	7	100 kΩ
HRRS-*-7-1M-10kV	11.111 TΩ	7	1 MΩ
HRRS-*-8-10-10kV	1,111.111 MΩ	8	10 Ω
HRRS-*-8-100-10kV	11.111 GΩ	8	100 Ω
HRRS-*-8-1k-10kV	111.111 GΩ	8	1 kΩ
HRRS-*-8-10k-10kV	1,111.111 GΩ	8	10 kΩ
HRRS-*-8-100k-10kV	11.111 TΩ	8	100 kΩ
HRRS-*-9-10-10kV	11,111.111 MΩ	9	10 Ω
HRRS-*-9-100-10kV	111.111 GΩ	9	100 Ω
HRRS-*-9-1k-10kV	1,111.111 GΩ	9	1 kΩ
HRRS-*-9-10k-10kV	11,111.111 GΩ	9	10 kΩ

**To specify accuracy, replace * with "Q," "B," or "F" as required.*

Options

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

