

High-Accuracy, High-Stability Resistance Standards

SRL Series

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Extremely high accuracy & stability, sealed, on-site resistance standards requiring no oil or temperature bath. The SRL Series is available in a wide range of off-the-shelf and custom values and combinations.

- Very high stability
- Very low temperature coefficient
- No need for stabilization in a temperature-controlled bath

- Wide choice of values and custom values - 1 m Ω to 10 T Ω
- Combination units available
- Calibration report at 3 temperatures
 - Temperature chart and α and β provided
- Very low hysteresis
- Direct plug-in unit for most DMM's
 - Fluke, Keysight, and others



SRL-10 k Ω High-Accuracy Resistance Standard

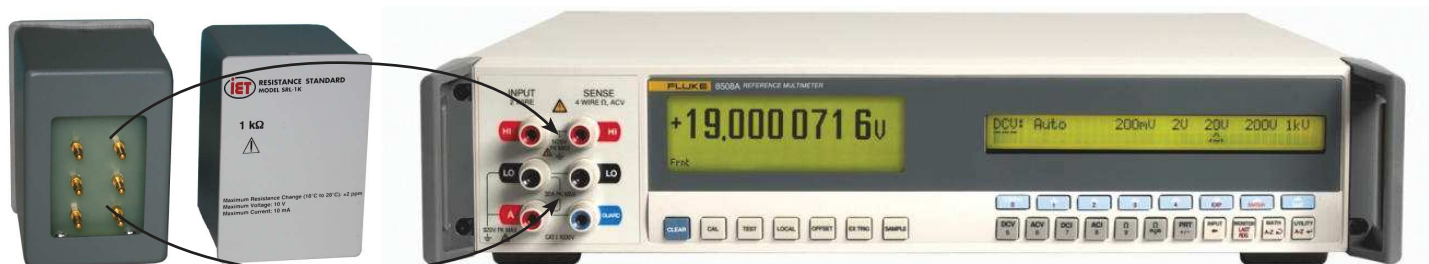
AVAILABLE UNITS



SRL-10G Ω High-Accuracy Resistance Standard



SRL-Series High-Accuracy Resistance Standard Combination Unit



SRL-DMM Version: Available in any value as a direct plug-in for most DMM's; this avoids external leads and noise pickup. (Part number SRL-XXX-DMM Model, e.g. SRL-10K-8508)

SPECIFICATIONS

Retrace:

1 Ω to 19 M Ω : Permanent shift in resistance value is <2 ppm for 23°C to 0°C to 23°C cycle, and 23°C to 40°C to 23°C cycle

Calibration Report:

Initial SI traceable calibration data provided in 0.5°C increments for temperature range of 18°C to 28°C.

Operating Temperature:

Temperature range of 18°C to 28°C

Calibration Conditions:

At 23°C, low power, traceable to SI
<1 M Ω : Five-wire
1 M Ω - 20 M Ω : Three-wire
≥100 M Ω : Two-wire plus Guard

Terminals:

Gold-plated, tellurium-copper, low-thermal-emf binding posts on standard 3/4 inch spacing. A **GROUND** terminal is provided on all units.

Dimensions:

for 1 m Ω : 16 cm H x 9 cm Dia (6.3" x 3.55")

10 m Ω to 20 M Ω :

8.6 cm H x 10.5 cm W x 12.7 cm D (3.4" x 4.15" x 5")

100 M Ω and higher:

10.5 cm H x 18 cm W x 10.5 cm D (4.15" x 7.1" x 4.15")

SRL-DMM:

12 cm H x 8.6 cm W x 9.5 cm D (4.75" x 3.4" x 3.75")

Weight:

for 1 m Ω : 0.9 kg (2 lbs)

all others: 0.73 kg (1.6 lb)

Other available terminals:

- DMM direct input compatibles
- BNC, Triax, and custom connectors

Transit Case:

(see page 3)



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www.ietlabs.com
TEL: (516) 334-5959 • EMAIL: info@ietlabs.com
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SPECIFICATIONS

Nominal Value	Model Number	Adjustment to Nominal	Stability per year (max change)	Max Resistance Change 18-28°C from 23 °C	Max Applied Power			Typical change at 1 kHz	Terminals
					0 ppm change*	1 ppm change**	3 ppm change**		
1 mΩ	SRL-0.001	±100 ppm	±50 ppm	25 ppm/°C				<100 ppm	4 bp's + gnd
10 mΩ	SRL-0.01	±5 ppm	±15 ppm	5 ppm/°C	25 mW	50 mW	200 mW		4 bp's + gnd
19 mΩ	SRL-0.019	±5 ppm	±15 ppm	5 ppm/°C	25 mW	50 mW	200 mW		4 bp's + gnd
20 mΩ	SRL-0.02	±5 ppm	±15 ppm	5 ppm/°C	25 mW	50 mW	200 mW		4 bp's + gnd
100 mΩ	SRL-0.1	±5 ppm	±12 ppm	2 ppm/°C	50 mW	100 mW	250 mW		4 bp's + gnd
190 mΩ	SRL-0.19	±5 ppm	±12 ppm	2 ppm/°C	50 mW	100 mW	250 mW		4 bp's + gnd
200 mΩ	SRL-0.2	±5 ppm	±12 ppm	2 ppm/°C	50 mW	100 mW	250 mW		4 bp's + gnd
1 Ω	SRL-1	±2 ppm	±8 ppm	3 ppm tot	175 mW	350 mW	850 mW		4 bp's + gnd
1.9 Ω	SRL-1.9	±2 ppm	±8 ppm	3 ppm tot	175 mW	350 mW	850 mW		4 bp's + gnd
2 Ω	SRL-2	±2 ppm	±8 ppm	3 ppm tot	175 mW	350 mW	850 mW		4 bp's + gnd
10 Ω	SRL-10	±2 ppm	±8 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
19 Ω	SRL-19	±2 ppm	±8 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
20 Ω	SRL-20	±2 ppm	±8 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
25 Ω	SRL-25	±2 ppm	±8 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
30 Ω	SRL-30	±2 ppm	±8 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
50 Ω	SRL-50	±2 ppm	±8 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
100 Ω	SRL-100	±2 ppm	±6 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
190 Ω	SRL-190	±2 ppm	±6 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
200 Ω	SRL-200	±2 ppm	±6 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
350 Ω	SRL-350	±2 ppm	±6 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
400 Ω	SRL-400	±2 ppm	±6 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
1 kΩ	SRL-1K	±2 ppm	±6 ppm	3 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
1 kΩ	SRL-1K-TC	±2 ppm	±6 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
1.9 kΩ	SRL-1.9K	±2 ppm	±6 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
2 kΩ	SRL-2K	±2 ppm	±6 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
4 kΩ	SRL-4K	±2 ppm	±4 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
10 kΩ	SRL-10K	±2 ppm	±4 ppm	1.5 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
19 kΩ	SRL-19K	±2 ppm	±4 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
20 kΩ	SRL-20K	±2 ppm	±4 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
100 kΩ	SRL-100K	±2 ppm	±6 ppm	2 ppm tot	100 mW	200 mW	500 mW	<200 ppm	4 bp's + gnd
190 kΩ	SRL-190K	±2 ppm	±8 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
200 kΩ	SRL-200K	±2 ppm	±8 ppm	2 ppm tot	100 mW	200 mW	500 mW		4 bp's + gnd
1 MΩ	SRL-1M	±2 ppm	±8 ppm	2 ppm tot	100 mW	200 mW	500 mW	<1000 ppm	2 bp's + gnd
1.9 MΩ	SRL-1.9M	±2 ppm	±9 ppm	3 ppm tot	100 mW	200 mW	500 mW		2 bp's + gnd
2 MΩ	SRL-2M	±2 ppm	±9 ppm	3 ppm tot	100 mW	200 mW	500 mW	<2 %	2 bp's + gnd
10 MΩ	SRL-10M	±2 ppm	±9 ppm	3 ppm tot	500 V	1000 V	2500 V		2 bp's + gnd
19 MΩ	SRL-19M	±2 ppm	±10 ppm	4 ppm tot	1000 V	2000 V	5000 V	NA	2 bp's + gnd
20 MΩ	SRL-20M	±2 ppm	±10 ppm	4 ppm tot	1000 V	2000 V	5000 V		2 bp's + gnd
100 MΩ	SRL-100M	±10 ppm	±20 ppm	5 ppm/°C	2000 V	4000 V	5000 V		2 bp's + gnd + guard
190 MΩ	SRL-190M	±10 ppm	±20 ppm	5 ppm/°C	2000 V	5000 V			2 bp's + gnd + guard
200 MΩ	SRL-200M	±10 ppm	±20 ppm	5 ppm/°C	5000 V				2 bp's + gnd + guard
1 GΩ	SRL-1G	±0.1%	±200 ppm	23 ppm/°C	5000 V				2 bp's + gnd + guard
1.9 GΩ	SRL-1.9G	±0.1%	±200 ppm	23 ppm/°C	5000 V				2 bp's + gnd + guard
2 GΩ	SRL-2G	±0.1%	±200 ppm	23 ppm/°C	5000 V				2 bp's + gnd + guard
10 GΩ	SRL-10G	±0.1%	±500 ppm	25 ppm/°C	5000 V				2 bp's + gnd + guard
19 GΩ	SRL-19G	±0.1%	±500 ppm	25 ppm/°C	5000 V				2 bp's + gnd + guard
20 GΩ	SRL-20G	±0.1%	±500 ppm	25 ppm/°C	5000 V				2 bp's + gnd + guard
100 GΩ	SRL-100G	±0.3%	±500 ppm	25 ppm/°C	5000 V				2 bp's + gnd + guard
190 GΩ	SRL-190G	±0.3%	±500 ppm	25 ppm/°C	5000 V				2 bp's + gnd + guard
200 GΩ	SRL-200G	±0.3%	±500 ppm	25 ppm/°C	5000 V				2 bp's + gnd + guard
1 TΩ	SRL-1T	±0.5%	±500 ppm	50 ppm/°C	5000 V				2 bp's + gnd + guard
1.9 TΩ	SRL-1.9T	±0.7%	±1000 ppm	100 ppm/°C	5000 V				2 bp's + gnd + guard
2 TΩ	SRL-2T	±0.7%	±1000 ppm	100 ppm/°C	5000 V				2 bp's + gnd + guard
XXX Ω	SRL-XXX	customer-selected value and power specifications							

* negligible effect of self-heating; do not exceed voltage limits where given.

** non-permanent self-heating change; exceeding power given for 3 ppm change may cause a permanent change in the resistance. Please contact IET for high power ratings or for use of the SRL above the power listed in the 3 ppm change column.

ORDERING INFORMATION

Standard model Select from table above
 Custom value SRL-XXX
 DMM direct plug-in Add -DMM at the end of part number
 Transit case for SRL units SRC-100, for 2 units
 SRC-10-n, for n units

-N Option

Dual N-type terminal connections with ground terminal to fully shielded metal case. Inner enclosure can be separately driven with guard voltage.



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TRANSIT CASES

Optional **Model SRC-100 or SRC-10-n** lightweight transit cases provides mechanical protection and insulation from temperature

changes during transportation or shipping. It is suitable for transporting and storing two or more units.



***SRC-100** Transit Case
for 2 units*



***SRC-10-n** Transit Case
for n units (5 units shown)*

