



The USR series is an ultra stable standard resistor which is an enhanced ASR series developed by our long-term technology experience and further pursuing superior stability. The ultra stable resistive element utilizes metal foil technology developed by Alpha Electronics and is based on using a proprietary Ni/Cr alloy. This results in extremely low temperature coefficients of () $\pm 0.1\text{ppm/}^\circ\text{C}$ and () $\pm 0.01\text{ppm/}^\circ\text{C}^2$ or smaller for the primary and secondary, respectively over the temperature range of 23 ± 5 . This performance is unique to Alpha Electronics throughout the world.

The resistive element is hermetically sealed, designed to protect from humidity so that a typical stability is realized at less than 0.5ppm/year.

Furthermore, Alpha's non-wirewound construction metal foil technology provides better AC characteristics performance than other standard resistors.

The USR, with its extreme long-term stability and low temperature coefficient, can be used in air without oil bath or critical environmental temperature control eliminating added expense and maintenance problems.

The resistive elements are mounted in a compact sturdy box with cover whose construction is designed to protect the resistor and terminals from any damages.

FEATURES

Excellent long-term stability of resistance, less than 1ppm/year
 Low temperature coefficient, less than 0.1 ppm/°C with predictable linear characteristics.

The resistance values are available at 1, 100, 10k, suitable for reference of measurement system.

Excellent AC characteristics due to non-wirewound technology

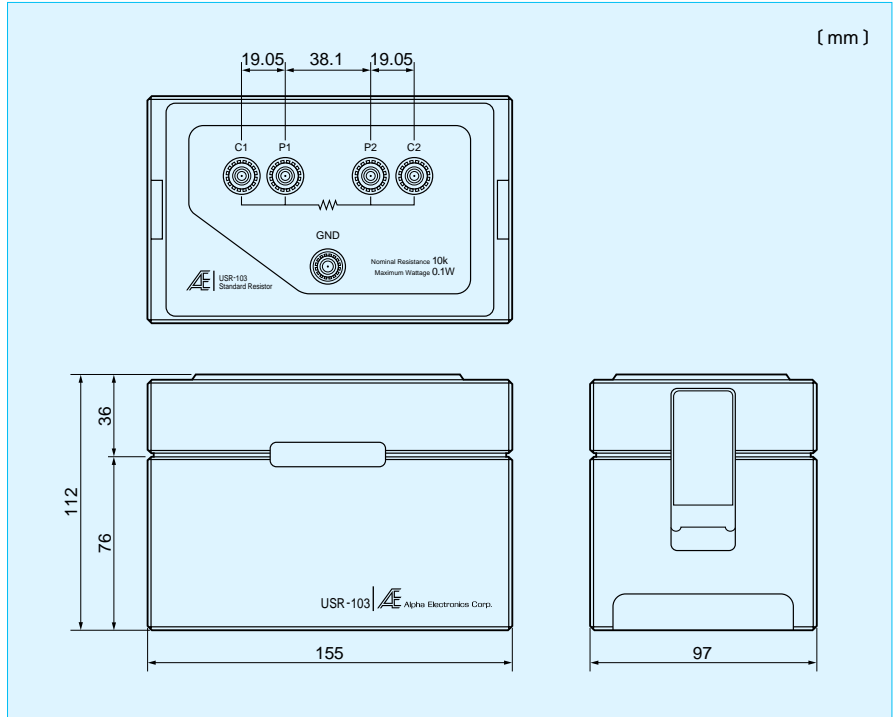
Compact and sturdy construction designed for easy operation and storage
 Certificate of Calibration and Inspection sheets traceable to NMIJ (*) are provided at shipment.

*NMIJ : National Metrology Institute of Japan

WEIGHT

2.5kg (5.5 lbs)

CONFIGURATION



SPECIFICATIONS

Series	Nominal value	Accuracy	Uncertainty of calibration	Temperature coefficient	Temperature retrace	Stability	Power rating	Power coefficient	Max. working temperature	Max. working current	Max. working voltage	Operating temperature range	Storage temperature range	Number of terminals
		ppm	ppm	ppm/°C	ppm	ppm/year	W	ppm/power						
USR-1R0	1	± 2	± 2.5 @ 23	± 0.1 @ 23 ± 5	± 1 @ 23 ± 5	± 1	0.5	± 5	50	707	0.70	18 ~ 28	0 ~ 50	5
USR-101	100						0.1	± 1						
USR-103	10k						0.1	± 1						

Power=Power rating