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Data Sheet

July 31, 2026

YOKOGAWA

Yokogawa 2792A Standard Resistor

The Yokogawa 2792A Series comprises high-precision metal-foil standard resistors for accurate DC resistance measurement and calibration. Yokogawa documentation contrasts the 2792A metal-foil design with earlier winding-type 2792 resistors, citing substantially improved temperature coefficients that allow measurement and calibration in air without an oil bath. The series is intended for use with precision potentiometers, bridges, and related DC metrology equipment. The 2792A is used as a laboratory or production resistance standard for precision DC measurements, instrument calibration, and transfer comparisons. Typical applications include Wheatstone and double-bridge reference work, potentiometer setups, and general precision measurement where a stable, certified resistance artifact is required. The 2792A is used as a laboratory or production resistance standard for precision DC measurements, instrument calibration, and transfer comparisons. Typical applications include Wheatstone and double-bridge reference work, potentiometer setups, and general precision measurement where a stable, certified resistance artifact is required.



MODEL

Yokogawa 2792A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

2792A

LISTING

<https://aumictechlabs.com/products/2792a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Yokogawa 2792A Standard Resistor is a precision reference standard for DC resistance calibration and metrology applications. Engineered for laboratories and industrial environments requiring traceable electrical measurements, the 2792A delivers calibrated accuracy from ± 5 ppm

to ± 100 ppm across a resistance range of $0.001\ \Omega$ to $1\ \text{M}\Omega$. Metal foil and wire resistor elements ensure superior stability compared to older winding designs. Four-terminal construction ($0.001\ \Omega$ to $1\ \text{k}\Omega$) and three-terminal construction ($100\ \text{k}\Omega$, $1\ \text{M}\Omega$) minimize thermal EMF and contact resistance. The 2792A integrates directly with potentiometers and bridges for precise DC measurements.

Technical Specifications

Resistance Range: $0.001\ \Omega$ to $1\ \text{M}\Omega$ across 10 steps

Nominal Values: $0.001\ \Omega$, $0.01\ \Omega$, $0.1\ \Omega$, $1\ \Omega$, $10\ \Omega$, $100\ \Omega$, $1\ \text{k}\Omega$, $10\ \text{k}\Omega$

Element Material: Manganin wire ($0.001\ \Omega$ – $10\ \text{k}\Omega$); nickel and chromium wire ($100\ \text{k}\Omega$ – $1\ \text{M}\Omega$)

Calibrated Limit of Error: ± 10 ppm to ± 100 ppm; Testing (Calibrated) Accuracy: ± 5 ppm

Temperature Coefficient: -5 to $+15$ ppm/ $^{\circ}\text{C}$ (α_{20}); less than -0.7 ppm/ $^{\circ}\text{C}^2$ (β_{20})

Annual Drift: ± 100 ppm/year ($0.001\ \Omega$) to ± 30 ppm/year ($1\ \Omega$, $10\ \Omega$, $100\ \Omega$, $1\ \text{k}\Omega$)

Maximum Power: $3\ \text{W}$ at ± 100 ppm/W

Insulation Resistance: $>1000\ \text{M}\Omega$ @ $500\ \text{V}$

DC Dielectric Strength: $1.5\ \text{kV AC}$, 1 minute (terminal to case)

Dimensions: $\varnothing 104 \times 150\ \text{mm}$ (terminal width $\sim 174\ \text{mm}$); Weight: $1.2\ \text{kg}$

Case: Plastic with damage-resistant terminal block

Key Features

Four-terminal design (sub- $1\ \text{k}\Omega$ models) reduces lead resistance errors

Copper wire connections and reversed-current averaging suppress thermal EMF

Specific model accuracies: 2792A01 ($0.001\ \Omega$) ± 100 ppm; 2792A06 ($100\ \Omega$) $\pm 0.005\%$

Low annual drift ensures long recalibration intervals

Resistance change modeled by: $R_t = R_{20}[1 + \alpha_{20}(t - 20) + \beta(t - 20)^2]$

Typical Applications

Resistance bridge calibration and verification

Potentiometer reference standards

Electrical metrology in standards laboratories

Industrial precision resistance measurement traceability

Compatibility & Integration

The 2792A connects to standard precision bridges, potentiometers, and multi-function calibrators requiring DC resistance references. Terminal construction supports both 4-wire (lower values) and 3-wire (higher values) measurement configurations.

Features & description

From manufacturer datasheet

Features

- Metal-foil resistive element (improved vs. previous winding-type 2792)
- Eight models spanning 0.001 Ohm to 10 kOhm
- Test (calibrated) accuracy ± 5 ppm
- Resistance temperature coefficient as low as ± 2.5 ppm/C on mid/high-value models
- Four-terminal construction for accurate low-resistance measurement
- Maximum allowable power 3 W
- Operation without oil-bath temperature control for many calibration tasks
- Includes test certificate

2792A Characteristics / Specifications

PARAMETER	VALUE
Power Characteristics	+/-100 ppm/W
Insulation Resistance	More than 1000 MOhm at 500 V DC
Withstand Voltage	1.5 kV for one minute between measurement terminals and casing
Terminal Construction	4 terminals
Operating Temperature / Humidity	0 C to 50 C / 20% to 80% RH
Storage Temperature / Humidity	-20 C to 60 C / 20% to 80% RH
External Dimensions	Approximately diameter 104 mm x 150 mm height (current terminal width approximately 174 mm)
Weight	Approximately 1.2 kg
Accessories	User's Manual; one Test Certificate Temperature Coefficient Equation Resistance at temperature t is expressed as: $R_t = R_{23} \{1 + \alpha_{23} (t - 23) + \beta (t - 23)^2\}$ where R_t is resistance at t C, R_{23} is resistance at 23 C, α_{23} is the first temperature coefficient at 23 C, and β is the second temperature coefficient over 0 C to 50 C.
Storage temperature	/ Humidity: -20 C to 60 C / 20% to 80% RH
Operating temperature	/ Humidity: 0 C to 50 C / 20% to 80% RH
Humidity	0 C to 50 C / 20% to 80% RH

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	/ Humidity: -20 C to 60 C / 20% to 80% RH
Operating temperature	/ Humidity: 0 C to 50 C / 20% to 80% RH
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Operating Temperature / Humidity	0 C to 50 C / 20% to 80% RH
Storage Temperature / Humidity	-20 C to 60 C / 20% to 80% RH
External Dimensions	Approximately diameter 104 mm x 150 mm height (current terminal width approximately 174 mm)
Weight	Approximately 1.2 kg
Accessories	User's Manual; one Test Certificate Temperature Coefficient Equation Resistance at temperature is expressed as: $R_t = R_{23} \{1 + \alpha_{23} (t - 23) + \beta (t - 23)^2\}$ where R_t is resistance at t C, R_{23} is resistance at 23 C, α_{23} is the first temperature coefficient at 23 C, and β is the second temperature coefficient over 0 C to 50 C.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications Standard test conditions: DC current; temperature 23 C +/-2 C; power below 0.1 W (2792A01) and below 0.01 W (2792A02 through 2792A08). Model 2792A01 Nominal Value: 0.001 Ohm Accuracy at 23 C +/-2 C: +/-100 ppm Specifications <table><tr><th>PARAMETER</th><th>VALUE</th></tr><tr><td>Temperature Coefficient alpha 23</td><td>-5 to +/-15 ppm/C</td></tr><tr><td>Temperature Coefficient beta</td><td>Less than -0.1 ppm/C^2</td></tr><tr><td>Drift per Year</td><td>+/-100 ppm per year</td></tr><tr><td>Maximum Allowable Current</td><td>54.7 A</td></tr></table> Model 2792A02 Nominal Value: 0.01 Ohm Accuracy at 23 C +/-2 C: +/-75 ppm Specifications <table><tr><th>PARAMETER</th><th>VALUE</th></tr><tr><td>Temperature Coefficient alpha 23</td><td>+/-10 ppm/C</td></tr><tr><td>Temperature Coefficient beta</td><td>Less than -0.1 ppm/C^2</td></tr><tr><td>Drift per Year</td><td>+/-75 ppm per year</td></tr><tr><td>Maximum Allowable Current</td><td>17.3 A</td></tr></table> Model 2792A03 Nominal Value: 0.1 Ohm Accuracy at 23 C +/-2 C: +/-50 ppm Specifications <table><tr><th>PARAMETER</th><th>VALUE</th></tr><tr><td>Temperature Coefficient alpha 23</td><td>+/-5 ppm/C</td></tr><tr><td>Temperature Coefficient beta</td><td>Less than -0.1 ppm/C^2</td></tr><tr><td>Drift per Year</td><td>+/-50 ppm per year</td></tr><tr><td>Maximum Allowable Current</td><td>5.47 A</td></tr></table> Model 2792A04 Nominal Value: 1 Ohm Accuracy at 23 C +/-2 C: +/-30 ppm		PARAMETER	VALUE	Temperature Coefficient alpha 23	-5 to +/-15 ppm/C	Temperature Coefficient beta	Less than -0.1 ppm/C^2	Drift per Year	+/-100 ppm per year	Maximum Allowable Current	54.7 A	PARAMETER	VALUE	Temperature Coefficient alpha 23	+/-10 ppm/C	Temperature Coefficient beta	Less than -0.1 ppm/C^2	Drift per Year	+/-75 ppm per year	Maximum Allowable Current	17.3 A	PARAMETER	VALUE	Temperature Coefficient alpha 23	+/-5 ppm/C	Temperature Coefficient beta	Less than -0.1 ppm/C^2	Drift per Year	+/-50 ppm per year	Maximum Allowable Current	5.47 A
PARAMETER	VALUE																														
Temperature Coefficient alpha 23	-5 to +/-15 ppm/C																														
Temperature Coefficient beta	Less than -0.1 ppm/C^2																														
Drift per Year	+/-100 ppm per year																														
Maximum Allowable Current	54.7 A																														
PARAMETER	VALUE																														
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PARAMETER	VALUE																														
Temperature Coefficient alpha 23	+/-5 ppm/C																														
Temperature Coefficient beta	Less than -0.1 ppm/C^2																														
Drift per Year	+/-50 ppm per year																														
Maximum Allowable Current	5.47 A																														

Specifications

PARAMETER	VALUE
Temperature Coefficient alpha 23	+/-2.5 ppm/C
Temperature Coefficient beta	Less than -0.1 ppm/C^2
Drift per Year	+/-30 ppm per year
Maximum Allowable Current	1.73 A

Model 2792A05
Nominal Value: 10 Ohm
Accuracy at 23 C +/-2 C: +/-30 ppm

Specifications

PARAMETER	VALUE
Temperature Coefficient alpha 23	+/-2.5 ppm/C
Temperature Coefficient beta	Less than -0.1 ppm/C^2
Drift per Year	+/-30 ppm per year
Maximum Allowable Current	0.547 A

Model 2792A06
Nominal Value: 100 Ohm
Accuracy at 23 C +/-2 C: +/-30 ppm

Specifications

PARAMETER	VALUE
Temperature Coefficient alpha 23	+/-2.5 ppm/C
Temperature Coefficient beta	Less than -0.1 ppm/C^2
Drift per Year	+/-30 ppm per year
Maximum Allowable Current	0.173 A

Model 2792A07
Nominal Value: 1 kOhm
Accuracy at 23 C +/-2 C: +/-30 ppm

Specifications

PARAMETER	VALUE
Temperature Coefficient alpha 23	+/-2.5 ppm/C
Temperature Coefficient beta	Less than -0.1 ppm/C^2
Drift per Year	+/-30 ppm per year
Maximum Allowable Current	0.055 A

Model 2792A08
Nominal Value: 10 kOhm

Accuracy at 23 C +/-2 C: +/-30 ppm

Specifications

PARAMETER	VALUE
Temperature Coefficient alpha 23	+/-2.5 ppm/C
Temperature Coefficient beta	Less than -0.1 ppm/C^2
Drift per Year	+/-30 ppm per year
Maximum Allowable Current	0.017 A

Common Specifications

Common Specifications

PARAMETER	VALUE
Instrument Type	Precision DC Standard Resistor (metal foil)
Test (Calibrated) Accuracy	+/-5 ppm
Maximum Allowable Power	3 W
Power Characteristics	+/-100 ppm/W
Insulation Resistance	More than 1000 MOhm at 500 V DC
Withstand Voltage	1.5 kV for one minute between measurement terminals and casing
Terminal Construction	4 terminals
Operating Temperature / Humidity	0 C to 50 C / 20% to 80% RH
Storage Temperature / Humidity	-20 C to 60 C / 20% to 80% RH
External Dimensions	Approximately diameter 104 mm x 150 mm height (current terminal width approximately 174 mm)
Weight	Approximately 1.2 kg
Accessories	User's Manual; one Test Certificate

Temperature Coefficient Equation

Resistance at temperature is expressed as:

$$R_t = R_{23} \{1 + \alpha_{23} (t - 23) + \beta (t - 23)^2\}$$

where R_t is resistance at t C, R_{23} is resistance at 23 C, α_{23} is the first temperature coefficient at 23 C, and β is the second temperature coefficient over 0 C to 50 C.

Operational Notes

Use in stable ambient temperature environment or thermostatic chamber for best accuracy; compensate measured values using the temperature coefficients after accurately measuring ambient temperature. Keep applied current at or below the model maximum allowable current under standard test conditions; excess current can change resistance or damage the element. Minimize thermal EMF by using copper leads and averaging readings with reversed current direction. Avoid incomplete terminal contact (contact resistance and heating). Protect the unit from mechanical shock and vibration, which can distort resistive elements and shift the resistance value. Avoid rapid temperature changes during storage.

Notes

This manual OEM source was compiled primarily from Yokogawa Precision Measuring Instruments Bulletin 2700-E specifications for the 2792A Series metal-foil Standard Resistors, supplemented by Yokogawa 2792A product documentation describing use as low- to high-value DC resistance standards with potentiometers or bridges.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.