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Data Sheet

July 31, 2026

YOKOGAWA

Yokogawa 2553A Small and Light Precision DC Calibrator

Improved voltage accuracy (e.g. 1 V range 1-year +/-75 ppm class headline vs +/-300 ppm)
Added 30 V and 30 mA ranges, Pt100/resistance generation, more TC types, 5.5-digit setting, USB/Ethernet Power cord, 366961 measurement lead, rubber feet, terminal plug, user's manual Model 2553A with version/temperature-unit and power-cord suffix codes (for example -VA with -UC or -UF temperature unit options and regional power plug suffixes). Added 30 V and 30 mA ranges, Pt100/resistance generation, more TC types, 5.5-digit setting, USB/Ethernet Power cord, 366961 measurement lead, rubber feet, terminal plug, user's manual Model 2553A with version/temperature-unit and power-cord suffix codes (for example -VA with -UC or -UF temperature unit options and regional power plug suffixes). This manual OEM source was compiled from the official Yokogawa 2553A Precision DC Calibrator Bulletin 2553A-01EN and Yokogawa 2553A product documentation.



MODEL

Yokogawa 2553A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

2553A

LISTING

<https://aumictechlabs.com/products/2553a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Yokogawa 2553A is a compact precision DC calibrator engineered for high-accuracy calibration of DC voltage, DC current, and resistance across multiple ranges. It simulates thermoelectromotive force and resistance for temperature sensor validation, supporting 10 IEC-

regulated thermocouple types, Pt100 RTDs, and user-defined calibration through temperature-voltage or temperature-resistance extrapolation. The instrument delivers 5.5-digit resolution ($\pm 120,000$ count) with intuitive operation via dedicated dials, switches, and seven-segment LED display.

Technical Specifications

DC Voltage Output Ranges: ± 10 mV, ± 100 mV, ± 1 V, ± 10 V, ± 30 V
Accuracy: ± 75 ppm (1 year) Stability: ± 15 ppm/h at $23 \pm 1^\circ\text{C}$ Noise: 2 μV rms
DC Current Output Ranges: ± 1 mA, ± 10 mA, ± 30 mA, ± 100 mA Accuracy: ± 120 ppm (1 year) Maximum output voltage: 30 V
Resistance Generation Range: 400 Ω Temperature Calibration Thermocouple types: 10 IEC-regulated (K, T, E, J included) RTD: Pt100 with user-defined calibration Reference junction compensation: Internal, external (Pt100), and manual modes Resolution & Warm-up Output resolution: 5.5 digits ($\pm 120,000$ count) Warm-up time: Approximately 30 minutes Operating Environment Temperature range: 5°C to 40°C Accuracy valid at: $23 \pm 5^\circ\text{C}$ Power consumption: Maximum 30 VA Power supply frequency: 48 to 63 Hz Withstand voltage: 1500 VAC (1 minute, power to case)

Key Features

Compact form factor: 213 × 132 × 300 mm, 3 kg USB 2.0 (High Speed/Full Speed) with mass storage drag-and-drop file transfer Ethernet connectivity: IEEE 802.3, 100 BASE-TX/10 BASE-T, 100 Mbps maximum Optional GP-IB interface (IEEE 488-1978, backward compatible with 2553) Low noise output suitable for precision metrology

Typical Applications

Calibration of digital multimeters and precision voltmeters Thermocouple and RTD sensor validation Current measurement equipment verification Temperature transmitter calibration Test laboratory and field service operations

Compatibility & Integration

USB and Ethernet interfaces enable integration into automated test systems. GP-IB option (optional) provides legacy instrument control compatibility. Internal memory supports file transfer via USB mass storage mode, facilitating offline configuration and data logging workflows.

Features & description

From manufacturer datasheet

Features

- High basic accuracy: DC voltage ± 75 ppm; DC current ± 120 ppm (1 year, headline) • High stability: ± 15 ppm/h • Low noise: 2 μ Vrms (representative, 100 mV/1 V class ranges) • High resolution: 5.5 digits, ± 120000 count output resolution • DC voltage ranges from 10 mV to 30 V (source up to ± 32.000 V) • DC current ranges from 1 mA to 100 mA (source up to ± 120.000 mA) • 10 IEC thermocouple types plus Pt100 RTD and 400 Ohm resistance generation • Internal, external, and manual reference junction compensation (RJC) • User-defined thermocouple and RTD via USB mass-storage text files • USB, Ethernet, and GP-IB interfaces; 2553-compatible command mode • Compact size: 213 × 132 × 300 mm; approximately 3 kg

2553A Characteristics / Specifications

PARAMETER	VALUE
Model	2553A
Instrument Type	Precision DC Calibrator
Display / Setting Resolution	5.5 digits, +/-120000 counts
Dimensions (WxHxD)	213 mm x 132 mm x 300 mm
Weight	Approximately 3 kg
Operating Environment	5 C to 40 C; 20% to 80% RH (20% to 70% RH at 30 C and above)
Storage Environment	-15 C to 60 C; 20% to 80% RH
Operating Height	2000 m or less
Power	100-120 VAC / 200-240 VAC, 50/60 Hz; max consumption 30 VA
Withstand Voltage	1500 VAC 1 min between power and case Voltage Generation
Ranges	10 mV, 100 mV, 1 V, 10 V, 30 V 10 mV: Source +/-12.0000 mV; resolution 100 nV; 1 h stability +/- (20 ppm of setting + 3 uV); 180-day accuracy +/- (40 ppm + 4 uV); 1-year accuracy +/- (60 ppm + 4 uV) 100 mV: Source +/-120.000 mV; resolution 1 uV; 1 h stability +/- (20 ppm + 3 uV); 180-day +/- (40 ppm + 4 uV); 1-year +/- (60 ppm + 4 uV)
Typical Max Output Current	100 mV less than or equal to 10 mA; 1 V and 10 V 120 mA; 30 V 30 mA
Output Resistance	Approximately 1 Ohm (10 mV); less than or equal to 10 mOhm (100 mV to 30 V)
CMRR (Voltage)	120 dB or more (DC, 50/60 Hz)
Typical Max Compliance	1 mA/10 mA/100 mA 15 V; 30 mA 30 V
Thermocouple Types (IEC)	R, S, B, J, T, E, K, N, C, A plus user-defined
Example Source Ranges	R/S -50 to 1768 C; B 0 to 1820 C; J -210 to 1200 C; T -270 to 400 C; E -270 to 1000 C; K/N -270 to 1300 C; C 0 to 2315 C; A 0 to 2500 C
Thermocouple Resolution	0.1 C; temperature scale ITS-90; output resistance approximately 1 Ohm
RTD	Pt100, -200.0 to 850.0 C; resolution 0.1 C; 180-day accuracy +/-0.1 C; 1-year +/-0.15 C; tempco +/-0.006 C/C; nominal excitation 0.5 to 2 mA; also user-defined RTD
Resistance Generation	400 Ohm range, 18.00 to 400.00 Ohm; resolution 0.01 Ohm; 180-day accuracy +/- (55 ppm of setting + 0.015 Ohm); 1-year +/- (75 ppm +

PARAMETER	VALUE
	0.015 Ohm); tempco +/-0.002 Ohm/C; nominal current 0.5 to 2 mA
RJC Modes	Internal (output-terminal temperature, measurement accuracy +/-0.3 C); External (sensor on RJ terminal, e.g. 257875 Pt100); Manual (entered compensation value) Accuracy Conditions 1-hour stability values apply at 23 C +/-1 C. Accuracy values apply at 23 C +/-5 C. Add temperature coefficient outside 18 C to 28 C within the 5 C to 40 C operating range. Thermocouple temperature accuracies apply without RJC and exclude thermocouple sensor error.
Smaller and lighter	approximately 3 kg and 213 × 132 × 300 mm vs approximately 8 kg and 228 × 149 × 365 mm Improved voltage accuracy (e.g. 1 V range 1-year +/-75 ppm class headline vs +/-300 ppm) Added 30 V and 30 mA ranges, Pt100/resistance generation, more TC types, 5.5-digit setting, USB/Ethernet
High basic accuracy	DC voltage +/-75 ppm; DC current +/-120 ppm (1 year, headline)
High stability	+/-15 ppm/h
Low noise	2 uVrms (representative, 100 mV/1 V class ranges)
High resolution	5.5 digits, +/-120000 count output resolution
Compact size	213 × 132 × 300 mm; approximately 3 kg
Warm-up time	Approximately 30 minutes

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

Specifications

PARAMETER	VALUE
Model	2553A
Instrument Type	Precision DC Calibrator
Display / Setting Resolution	5.5 digits, +/-120000 counts

Warm-up Time: Approximately 30 minutes

Specifications

PARAMETER	VALUE
Dimensions (WxHxD)	213 mm x 132 mm x 300 mm
Weight	Approximately 3 kg
Operating Environment	5 C to 40 C; 20% to 80% RH (20% to 70% RH at 30 C and above)
Storage Environment	-15 C to 60 C; 20% to 80% RH
Operating Height	2000 m or less
Power	100-120 VAC / 200-240 VAC, 50/60 Hz; max consumption 30 VA
Withstand Voltage	1500 VAC 1 min between power and case

Voltage Generation

Ranges: 10 mV, 100 mV, 1 V, 10 V, 30 V

10 mV: Source +/-12.0000 mV; resolution 100 nV; 1 h stability +/- (20 ppm of setting + 3 uV); 180-day accuracy +/- (40 ppm + 4 uV); 1-year accuracy +/- (60 ppm + 4 uV)

100 mV: Source +/-120.000 mV; resolution 1 uV; 1 h stability +/- (20 ppm + 3 uV); 180-day +/- (40 ppm + 4 uV); 1-year +/- (60 ppm + 4 uV)

1 V: Source +/-1.20000 V; resolution 10 uV; 1 h stability +/- (5 ppm + 10 uV); 180-day +/- (40 ppm + 10 uV); 1-year +/- (60 ppm + 15 uV)

10 V: Source +/-12.0000 V; resolution 100 uV; 1 h stability +/- (5 ppm + 100 uV); 180-day +/- (40 ppm + 100 uV); 1-year +/- (60 ppm + 150 uV)

30 V: Source +/-32.000 V; resolution 1 mV; 1 h stability +/- (5 ppm + 300 uV); 180-day +/- (40 ppm + 300 uV); 1-year +/- (60 ppm + 450 uV)

Typical Max Output Current: 100 mV less than or equal to 10 mA; 1 V and 10 V 120 mA; 30 V 30 mA

Output Resistance: Approximately 1 Ohm (10 mV); less than or equal to 10 mOhm (100 mV to 30 V)

Output Noise (100 mV / 1 V, 0.1-10 Hz): 2 uVrms typical class

CMRR (Voltage): 120 dB or more (DC, 50/60 Hz)

Transient Response (Voltage/Current, no load to +/-0.01%): Within 500 ms

Current Generation

Ranges: 1 mA, 10 mA, 30 mA, 100 mA

1 mA: Source +/-1.20000 mA; resolution 10 nA; 1 h stability +/- (5 ppm + 0.015 uA); 180-day +/- (50 ppm + 0.03 uA); 1-year +/- (80 ppm + 0.04 uA)

10 mA: Source +/-12.0000 mA; resolution 100 nA; 1 h stability +/- (5 ppm + 0.15 uA); 180-day +/- (70 ppm + 0.4 uA); 1-year +/- (100 ppm + 0.5 uA)

30 mA: Source +/-32.000 mA; resolution 1 uA; 1 h stability +/- (10 ppm + 0.9 uA); 180-day +/- (70 ppm + 1.2 uA); 1-year +/- (100 ppm + 1.5 uA); supports current sink for 4-20 mA transmitter simulation
100 mA: Source +/-120.000 mA; resolution 1 uA; 1 h stability +/- (10 ppm + 3 uA); 180-day +/- (70 ppm + 4 uA); 1-year +/- (100 ppm + 5 uA)
Typical Max Compliance: 1 mA/10 mA/100 mA 15 V; 30 mA 30 V
Note: Accuracy may be affected by internal temperature rise immediately after sinking over 30 mA.
Temperature And Resistance Generation

Specifications

PARAMETER	VALUE
Thermocouple Types (IEC)	R, S, B, J, T, E, K, N, C, A plus user-defined
Example Source Ranges	R/S -50 to 1768 C; B 0 to 1820 C; J -210 to 1200 C; T -270 to 400 C; E -270 to 1000 C; K/N -270 to 1300 C; C 0 to 2315 C; A 0 to 2500 C
Thermocouple Resolution	0.1 C; temperature scale ITS-90; output resistance approximately 1 Ohm

RTD: Pt100, -200.0 to 850.0 C; resolution 0.1 C; 180-day accuracy +/-0.1 C; 1-year +/-0.15 C; tempco +/-0.006 C/C; nominal excitation 0.5 to 2 mA; also user-defined RTD
Resistance Generation: 400 Ohm range, 18.00 to 400.00 Ohm; resolution 0.01 Ohm; 180-day accuracy +/- (55 ppm of setting + 0.015 Ohm); 1-year +/- (75 ppm + 0.015 Ohm); tempco +/-0.002 Ohm/C; nominal current 0.5 to 2 mA
RJC Modes: Internal (output-terminal temperature, measurement accuracy +/-0.3 C); External (sensor on RJ terminal, e.g. 257875 Pt100); Manual (entered compensation value)

Accuracy Conditions
1-hour stability values apply at 23 C +/-1 C. Accuracy values apply at 23 C +/-5 C. Add temperature coefficient outside 18 C to 28 C within the 5 C to 40 C operating range. Thermocouple temperature accuracies apply without RJC and exclude thermocouple sensor error.

Communication And Interfaces
USB (Type B, USB 2.0 High/Full Speed) for PC control and mass-storage file transfer
Ethernet (RJ-45, 10/100 BASE-T)
GP-IB (IEEE 488-1978)
Backward-compatible 2553 command mode for mixed/legacy systems (programs may need minor modifications)

Comparison Versus Previous 2553
Smaller and lighter: approximately 3 kg and 213 x 132 x 300 mm vs approximately 8 kg and 228 x 149 x 365 mm
Improved voltage accuracy (e.g. 1 V range 1-year +/-75 ppm class headline vs +/-300 ppm)
Added 30 V and 30 mA ranges, Pt100/resistance generation, more TC types, 5.5-digit setting, USB/Ethernet

Standard Accessories
Power cord, 366961 measurement lead, rubber feet, terminal plug, user's manual

Ordering Notes
Model 2553A with version/temperature-unit and power-cord suffix codes (for example -VA with -UC or -UF temperature unit options and regional power plug suffixes).

Notes
This manual OEM source was compiled from the official Yokogawa 2553A Precision DC Calibrator Bulletin 2553A-01EN and Yokogawa 2553A product documentation.

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
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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.