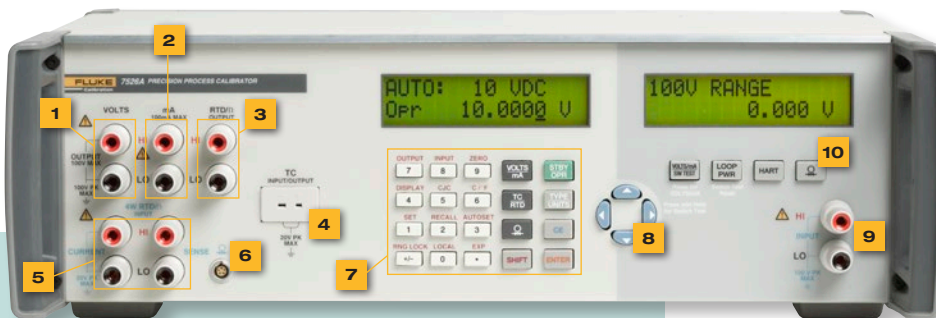


# 7526A Precision Process Calibrator

## Technical Data



### 7526A at a glance

- 1. DC voltage output terminals**  
0 mV to 100 V  
Accuracy: 30 ppm (+3  $\mu$ V\*), 1-year
- 2. DC current output terminals**  
0 mA to 100 mA  
Accuracy: 50 ppm, 1-year
- 3. RTD/ $\Omega$  output terminals (two-wire)**  
5  $\Omega$  to 4 k $\Omega$   
Accuracy:  $\pm$  0.05  $^{\circ}$ C,  $-200^{\circ}$ C to 630  $^{\circ}$ C, (Pt 385, 100  $\Omega$ ), 1-year
- 4. Thermocouple input/output terminal**  
Accuracy:  $\pm$  0.1  $^{\circ}$ C,  
 $-100^{\circ}$ C to 800  $^{\circ}$ C (type K), 1-year
- 5. Four-wire RTD/ $\Omega$  input terminals**  
Accuracy:  $\pm$  0.02  $^{\circ}$ C,  $-80^{\circ}$ C to 100  $^{\circ}$ C (Pt 385, 100  $\Omega$ ), 1-year
- 6. Isolated pressure module input.**  
Accuracy determined by the pressure modules
- 7. Primary input/output controls**
- 8. Cursor controls**
- 9. Isolated input terminals for dc voltage/current measurement, switch-test input and 24 V dc loop power supply**
- 10. Isolated input controls**

\*Floor specification increases with range. See Specifications for more information.

### Versatility, precision and value, combined into a single benchtop process calibration tool

The Fluke Calibration 7526A Precision Process Calibrator offers the best balance of economy and accuracy for benchtop calibration of temperature and pressure process instrumentation. Easily calibrate RTD and thermocouple readouts, pressure gauges, temperature transmitters, digital process simulators, data loggers, multimeters and more.

- Sources and measures dc voltage, current, resistance, RTDs and thermocouples
- Precision pressure measurement using Fluke 700 or 525A-P series pressure modules
- Includes 24 V dc transmitter loop power supply
- Measures 4–20 mA loop current
- Includes automated switch-test function
- Accepts ITS-90 coefficients for accurate SPRT measurements
- Compatible with MET/CAL<sup>®</sup> Calibration Software

### A “best fit” for your process calibration requirements

In today's competitive global markets with the need to continuously cut manufacturing costs, precise temperature and pressure process control is required to maintain product quality, reduce waste and ensure compliance to regulatory standards. Regular calibration of a wide variety of process measurement instrumentation is required to meet these standards. The 7526A Precision Process Calibrator puts all the necessary tools for process instrumentation calibration into one box. The 7526A simulates and measures nine RTD and thirteen thermocouple types, accurately measures pressure to within 0.008 % of reading when combined with Fluke 525A-P Series Pressure Modules, sources and measures dc voltage from 0 to 100 V to within 0.004 % of reading, sources dc current from 0 mA to 100 mA, accurately measures dc current to within 0.01 % from 0 mA to 50 mA and supplies 24 V dc loop power. Combined with MET/CAL<sup>®</sup> Calibration Software, the 7526A is an efficient, versatile and affordable calibrator that truly is a best fit for your process calibration requirements.

## Consolidated specifications

| DC voltage, output   |   |      |             |
|----------------------|---|------|-------------|
| Range <sup>[1]</sup> | Absolute Uncertainty, $\pm$ (ppm of output + $\mu$ V), 1-yr |      | Resolution  |
| 0 to 100 mV          | 30  | 3    | 1 $\mu$ V   |
| 0 to 1 V             | 30  | 10   | 10 $\mu$ V  |
| 0 to 10 V            | 30  | 100  | 100 $\mu$ V |
| 0 to 100 V           | 30  | 1 mV | 1 mV        |
| TC Output and Input  |   |      |             |
| -10 mV to 75 mV      | 30  | 2    | 10 $\Omega$ |

[1] All outputs are positive only unless otherwise noted

| DC voltage, isolated input |   |     |             |
|----------------------------|---|-----|-------------|
| Range                      | Absolute Uncertainty, $\pm$ (ppm of reading + mV), 1-yr |     | Resolution  |
| 0 to 10 V                  | 100   | 0.2 | 100 $\mu$ V |
| 10 V to 100 V              | 100   | 2.0 | 1 mV        |

| DC Current, output   |  |   |            |
|----------------------|--|---|------------|
| Range <sup>[1]</sup> | Absolute Uncertainty, $\pm$ (ppm of reading + $\mu$ A), 1-yr |   | Resolution |
| 0 to 100 mA          | 50   | 1 | 1 $\mu$ A  |

[1] For line voltages less than 95 V,  $\pm$ 100 ppm of reading

| DC current, isolated input                      |  |   |             |
|---|--|---|-------------|
| Range   | Absolute Uncertainty, $\pm$ (ppm of reading + $\mu$ A), 1-yr |   | Resolution  |
| 0 mA to 50 mA                                   | 100  | 1 | 0.1 $\mu$ A |
| 0 mA to 24 mA <sup>[1][2]</sup><br>(Loop Power) | 100  | 1 | 0.1 $\mu$ A |

[1] Loop Power: 24 V  $\pm$ 10% [2] HART Resistor: 250  $\Omega$   $\pm$  3%

| Resistance, output         |   |                |                     |
|----------------------------|---|----------------|---------------------|
| Range                      | Absolute Uncertainty, tcal $\pm$ 5 $^{\circ}$ C, $\pm$ Ohms, 1-yr | Resolution     | Nominal current     |
| 5 $\Omega$ to 400 $\Omega$ | 0.015   | 0.001 $\Omega$ | 1 to 3 mA           |
| 5 $\Omega$ to 4 k $\Omega$ | 0.3   | 0.01 $\Omega$  | 100 $\mu$ A to 1 mA |

| Resistance, input          |  |       |                |
|----------------------------|--|-------|----------------|
| Range                      | Absolute Uncertainty, $\pm$ (ppm of reading + $\Omega$ ), 1-yr |       | Resolution     |
| 0 $\Omega$ to 400 $\Omega$ | 20   | 0.004 | 0.001 $\Omega$ |
| 0 $\Omega$ to 4 k $\Omega$ | 20   | 0.04  | 0.01 $\Omega$  |

| Sample thermocouple accuracy, input/output<br>(does not include all available TC types) <sup>[1]</sup> |                                   |      |   |
|--|-----------------------------------|------|---|
| TC type  | Temperature Range ( $^{\circ}$ C) |      | Absolute Uncertainty, tcal $\pm$ 5 $^{\circ}$ C, $\pm$ ( $^{\circ}$ C), 1-yr <sup>[2]</sup> |
|  | Min                               | Max  |   |
| J  | -210                              | 1200 | 0.09  |
| K  | -250                              | 1372 | 0.1   |
| S  | -50                               | 1767 | 0.29  |
| T  | -250                              | 400  | 0.11  |

[1] See extended specifications for all TC types (B,C,E,J,K,L,N,R,S,T,U,XK,BP)

[2] Best accuracy within specified TC temperature range

| Sample RTD and thermistor, output<br>(does not include all available RTD types) <sup>[1]</sup> |                                   |     |  |
|--|-----------------------------------|-----|--|
| RTD Type   | Temperature Range ( $^{\circ}$ C) |     | Absolute Uncertainty, tcal $\pm$ 5 $^{\circ}$ C, $\pm$ ( $^{\circ}$ C), 1-yr |
|  | Min                               | Max |  |
| Pt 385, 100 $\Omega$   | -200                              | 630 | 0.05   |
| YSI 400  | 15                                | 50  | 0.007  |

[1] See extended specifications for all RTD types: Pt-100 (385, 3926, 3916), Pt-200, Pt-500, Pt-1000, Ni-120, Cu-427, SPRT

| Sample RTD and thermistor, input<br>(does not include all available RTD types) <sup>[1]</sup> |                                   |     |  |
|---|-----------------------------------|-----|--|
| RTD Type  | Temperature Range ( $^{\circ}$ C) |     | Absolute Uncertainty, tcal $\pm$ 5 $^{\circ}$ C, $\pm$ ( $^{\circ}$ C), 1-yr |
|   | Min                               | Max |  |
| Pt 385, 100 $\Omega$  | -80                               | 100 | 0.020  |
|   | 100                               | 300 | 0.024  |
| YSI 400   | 15                                | 50  | 0.007  |

[1] See extended specifications for all RTD types: Pt-100 (385, 3926, 3916), Pt-200, Pt-500, Pt-1000, Ni-120, Cu-427, SPRT

| General specifications        |  |                                     |
|-------------------------------|--|-------------------------------------|
| Standard interface            | RS-232, IEEE-488 (GPIB)  |                                     |
| Temperature performance       | Operating:   | 0 $^{\circ}$ C to 50 $^{\circ}$ C   |
|                               | Calibration (tcal):  | 18 $^{\circ}$ C to 28 $^{\circ}$ C  |
|                               | Storage:   | -20 $^{\circ}$ C to 70 $^{\circ}$ C |
| Electromagnetic compatibility | CE: Conforms to EN61326; operation in controlled EM environments   |                                     |
| Temperature coefficient       | Temperature coefficient for temperatures outside tcal 5 $^{\circ}$ C is 10% of the 90-day specification (or 1 year if applicable) per $^{\circ}$ C |                                     |
| Relative humidity             | Operating:   | <80% to 30 $^{\circ}$ C             |
|                               |  | <70% to 40 $^{\circ}$ C             |
|                               |  | <40% to 50 $^{\circ}$ C             |
| Altitude                      | Operating:   | 3,000 m (9,800 ft) max              |
|                               | Non-operating:   | 12,200 m (40,000 ft) max            |
| Safety                        | EN/IEC 61010-1:2010 3rd Edition, UL 61010-1:2012, CAN/CSA 22.2 No. 61010-1-12  |                                     |
| Analog low isolation          | 20 V   |                                     |
| Line power                    | 120 V~:  | 100 V to 120 V                      |
|                               | 240 V~:  | 220 V to 240 V                      |
| Line frequency                | 47 Hz to 63 Hz   |                                     |
| Line voltage variation        | $\pm$ 10 % about setting   |                                     |
| Power consumption             | 15 VA maximum  |                                     |
| Dimensions                    | Height:  | 14.6 cm (5.75 in)                   |
|                               | Width:   | 44.5 cm (17.5 in)                   |
|                               | Depth:   | 29.8 cm (11.75 in)                  |
| Weight (without options)      | 4.24 kg (9.35 lb)  |                                     |



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