

710 Series Process Calibrators

Technical Data



Compact, lightweight, and easy to carry

The Fluke 710 Series Process Calibrators offer a clear new choice in single-function calibrators. These handheld calibrators deliver outstanding performance, durability and reliability. Offered in the rugged Fluke 80 Series DMM package, the calibrators are compact, lightweight, and easy to carry. With a push-button interface similar to the multifunction Fluke 740 Series Documenting Process Calibrators, the 710s are easy to use. Each calibrator is EMI tolerant, dust and splash-resistant, and features a removable battery door for quick battery changes.

General features

- Compact and lightweight
- Simple controls
- Clear, 5-digit, display
- Operating temperature: 10°C to 55°C
- Safety: CSA C22.2 No. 1010.1:1992
- Three-year warranty
- Included:
 - Fluke 710 Process Calibrator
 - Protective yellow holster with test lead holder
 - Test leads and alligator clips (excluding Model 714)
- Single 9V alkaline battery (two in 718)
- Instructions (14 languages)

712 RTD Calibrator

- Measure temperature from RTD output
- Simulate RTD output
- Rosemount pulsed RTD transmitter compatible
- Operates with seven types of RTDs
- Measure additional RTDs using Ohms measurement function

- Simulate additional RTDs using Ohms source function
- °F or °C selectable
- Four shrouded banana jacks

714 Thermocouple Calibrator

- Measure temperature from TC output
- Simulate TC output
- Operable with nine types of thermocouples
- Calibrate linear TC transmitter with mV source function
- Selectable °F or °C
- Thermocouple mini-jack termination
- Available as accessories:
 - Fluke 700 TC1 and TC2
 - Thermocouple Mini-plug Kits

715 Volt/mA Calibrator

- Measure loop current (0–20 mA, 4–20 mA) signals with 0.01 % accuracy and 0.001 mA resolution
- Measure voltage output process signals from PLCs, transmitters
- Source or simulate 24 mA loop current
- Source voltage to 100 mV or 10V
- 24V loop supply with simultaneous current measurement

717-30G and 717-100G Pressure Calibrator

- Measure pressure, 0.05 % of full scale with internal 30 psig or 100 psig sensor
- 1/8 NPT pressure fitting
- Compatible with non-corrosive gasses and liquids
- Measure pressure to 10,000 psi/69 mPa using one of 27 Fluke 700Pxx Pressure Modules
- Measure mA with 0.025 % accuracy and 0.001 mA resolution, while sourcing 24 V loop power
- Pressure switch test

718-30G and 718-100G Pressure Calibrator

Intrinsically safe version available

- Built-in pressure / vacuum hand pump, with vernier and bleed valve
- Pressure measurement to 0.05 % of full span, using an internal pressure sensor
- Pressure measurement to 10,000 psi/700 bar using any of the Fluke 700Pxx Pressure Modules
- Wide range of selectable measurement units for pressure
- Current measurement with 0.025 % accuracy and 0.001 mA resolution
- Pressure switch test
- 24 volt loop power supply
- Min-Max Hold functions
- Compact size and weight
- Simple, push-button user interface

- Rugged and reliable, ideal for field use 716 Pressure Calibrator
- Measure Pressure to 10,000 psi/69 mPa using one of 29 Fluke 700Pxx Pressure Modules
- Measure mA with 0.025 % accuracy and 0.001 µA resolution, while sourcing 24V loop power
- Calibrate P/I or I/P transmitter with simultaneous pressure and current measurement
- Select from 11 different engineering units
- Zero, min, max, and hold functions

Ordering Information

- Fluke-712 RTD Calibrator
- Fluke-714 Thermocouple Calibrator
- Fluke-715 Volt/mA Calibrator
- Fluke-717 30G or 100G Pressure Calibrator
- Fluke-718 30G or 100G Pressure Calibrator
- Fluke-718Ex-30G or 100G Intrinsically Safe Pressure Calibrator

General Specifications

Maximum voltage: 30 volts: Non-operating temperature: -4 0 °C to 60 °C
Operating temperature: -10 °C to 55° C
Relative humidity: 95 % (10 °C to 30 °C); 75 % (30 °C to 40 °C); 45 % (40 °C to 50 °C); 35 % (50 °C to 55 °C)
Operating altitude: 3,000m max
Shock: 1m drop test
Vibration: Random, 2g, 5-500 Hz
Safety: CSA C22.2 No. 1010.1:1992
EMC: EN50082-1:1992 and EN55022:1994 Class B
Size/weight, (712-717 with holster): 201mm L x 98 mm W x 52 mm D (7.93 in L x 3.86 in W x 2.06 in D) 600g (21 oz)
Size/weight (718): 210 mm L x 83 mm W x 62 mm D (8.25 in L x 3.27 in W x 2.44 in D) 737g (26 oz)
Size/weight, (718 with holster): 216 mm L x 94 mm W x 66 mm D (8.50 in L x 3.72 in W x 2.60 in D) 992g (35 oz)
Power: 9V battery ANSI/NEDA 1604A or IEC 6LR619V alkaline; two batteries in 718
Battery Life: 4 to 20 hours, typical, depending on functions used
Warranty: Three years (one year on pressure pump in Fluke 718)

Specifications (19 ° to 28 °C, one year)

	712	714	715	717 30G	717 100G	718 30G	718 100G	Function	Range	Resolution	Accuracy	Notes
Pressure				•		•		Measure Pressure* (internal sensor) Over pressure 3xFS	0-30 psi (207 kPa)	0.001 psi (0.01 kPa)	0.05 % FS	Gasses/liquids (non-corrosive, 717) (Dry air only , 718)
					•		•	Measure Pressure* (internal sensor) Over pressure 2xFS	0-100 psi (690 kPa)	0.01 psi (0.1kPa)	0.05 % FS	Gasses/liquids (non-corrosive) Zero, Min, Max, Hold, Damp
				•	•	•	•	Measure Pressure* (with Pressure Modules) Over pressure per pressure module specs	29 Pressure Modules, 10 in. H ₂ O/ 2.5 kPa to 10,000 psi/69 MPa	To 0.0001 psi, per Pressure Module specs	To 0.05 % of full span, per Pressure Module Specs	Media compatibility per Pressure Module Specs Zero, Min, Max, Hold, Damp
						•	•	Source Pressure, built-in pump	-11 psig to full scale	N/ A	N/A	
				•	•	•	•	Measure mA	0 to 24 mA	0.001 mA	0.025 % + 1 count	
				•	•	•	•	Loop supply	24 V dc	N/A	± 10 %	Drive; 20 mA into 1000 Ω for battery > 6.8 V; 700 Ω for battery 5.8 to 6.8 V
RTD	•							Measure/simulate RTD	-200 to 800 °C (Pt 100)	0.1 °C, 0.1 °F	0.33 °C, 0.6 °F (Pt 100)	Pt; 100 200 500 1000 (385); Pt 100 (392); Pt 100 (392) JIS; Ni120 (672)
	•							Measure/simulate resistance	15 Ω to 3200 Ω	0.1 Ω	0.1 Ω to 1Ω	
TC		•						Measure/simulate thermocouple	-200 to 1800 °C, depending on type (K,-200 to 1370 °C)	0.1 °C or °F (1 °C or °F; BRS)	0.3 °C + 10V	9 types; J K T E R S B per NIST 5 and ITS-90 L U per DIN 43710 and IPTS-68
		•						Measure/simulate mV	-10 to 75 mV	0.01 mV	0.025 % + 1 count	
Volt/mA			•					Measure/simulate mA/% of span	0 to 24 mA (-25 % to 125 %)	0.001 mA	0.01 % + 2 counts	Sink (simulate transmitter) display mA or % of span
			•					Measure/simulate mV	0 to 100 mV	0.01 mV	0.015 % + 2 counts	
			•					Measure/simulate V	0 to 10 V	0.001 V	0.015 % + 2 counts	

* Supported Pressure Units; psi, in. H₂O (4 °C), in. H₂O (20 °C), cm H₂O (4 °C), cm H₂O (20 °C), bar, mbar, kPa, inHg, mmHg, kg/cm²