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Fluke 744 Documenting Process Calibrator-HART

Measurement Accuracy

Voltage DC	110.000 mV	0.025%+0.015% *
	1.10000 V	0.025%+0.005% *
	11.0000 V	0.025%+0.005% *
	110.000 V	0.05%+0.005% *
	300.00 V	0.05%+0.005% *
Voltage AC	20 to 40 Hz	2% + 10
	40 to 500 Hz	0.5% + 5
	500 to 1 kHz	2% + 10
	1 kHz to 5 kHz	10% + 20
	Ranges:	1.1000, 11.000, 110.00, 300V
Current DC	30.000 mA	0.01% + 0.015% *
	110.00 mA	0.01% + 0.015% *
Resistance	11.000 Ω	0.05% + 50 mΩ
	110.00 Ω	0.05% + 50 mΩ
	1.1000 kΩ	0.05% + 500 mΩ
	11.000 kΩ	0.1% + 10 Ω
Frequency	1.00 to 109.99 Hz	0.05 Hz
	110.0 to 1099.9 Hz	0.5 Hz
	1.100 to 10.999 kHz	5 Hz
	11.00 to 50.00 kHz	50 Hz
Pressure	Accuracy from 0.025% of range using any of 29 pressure modules. Modules available for differential, gage, vacuum, absolute, dual and high pressure. (for detailed specifications refer to pressure modules in options and accessories)	
Note	* (% of reading + % of full scale)	

Source Accuracy

Voltage DC	110.000 mV	0.01%+0.005% *
	1.10000 V	0.01%+0.005% *
	15.0000 V	0.01%+0.005% *
Current DC	22.000 mA (Source)	0.01%+ 0.015% *
	22.000 mA (Simulate)	0.02% + 0.03% *
Resistance	11.000 Ω	0.01% + 20 mΩ
	110.00 Ω	0.01% + 40 mΩ
	1.1000 kΩ	0.02% + 500 mΩ
	11.000 kΩ	0.03% + 5Ω
Frequency	0.00 to 10.99 Hz	0.01 Hz
	11.00 to 109.99 Hz	0.1 Hz
	110.0 to 1099.9 Hz	0.1 Hz
	1100 to 21999 Hz	2 Hz
	22.000 to 50.000 kHz	5 Hz
Note	* (% of reading + % of full scale)	

RTDs and Thermocouples

Measure Accuracy:	10 Ω Cu (427):	2 °C
	100 Ω Pt	0.3 °C
	(3916):	
	100 Ω Pt	0.3 °C

	(3926): 100 Ω Pt (385): 0.3 °C 200 Ω Pt (385): 0.3 °C 500 Ω Pt (385): 0.3 °C 1000 Ω Pt 0.3 °C (385): 120 Ω Ni (672): 0.3 °C note: For 2-and 3-wire measurement, add 0.4°C E: 0.3 °C N: 0.5 °C J: 0.3 °C L: 0.3 °C K: 0.3 °C T: 0.3 °C U: 0.3 °C B: 0.9 °C R: 1.0 °C S: 0.9 °C C: 0.6 °C BP: 1.2 °C XK: 0.4 °C note: Accuracy with external cold junction, for internal junction add 0.2 °C
Source Accuracy:	10 Ω Cu (427): 1 °C 100 Ω Pt 0.1 °C (3916): 100 Ω Pt 0.1 °C (3926): 100 Ω Pt (385): 0.1 °C 200 Ω Pt (385): 0.1 °C 500 Ω Pt (385): 0.1 °C 1000 Ω Pt 0.1 °C (385): 120 Ω Ni (672): 0.1 °C note: For 2-and 3-wire simulation, add 0.4 °C E: 0.2 °C N: 0.3 °C J: 0.2 °C L: 0.2 °C K: 0.3 °C T: 0.3 °C U: 0.3 °C B: 0.8 °C R: 0.9 °C S: 0.9 °C C: 0.6 °C BP: 0.5 °C XK: 0.4 °C note: Accuracy with external cold junction, for internal junction add 0.2 °C

Technical Data	
Data Log Functions	Measure functions: Voltage, current, resistance, frequency, temperature, pressure Reading rate: 1, 2, 5, 10, 20, 30, or 60 readings/minute Maximum record length: 8000 readings (7980 for 30 or 60 readings/minute)
Ramp Functions	Source functions: Voltage, current, resistance, frequency, temperature Rate: 4 steps/second Trip detect: Continuity or voltage (continuity detection not available when sourcing current)
Loop Power Function	Voltage: Selectable, 24 V or 28 V Accuracy: 5% Maximum current: 22 mA, short circuit protected Maximum input voltage: 30 V DC
Step Functions	Source Functions Voltage, current, resistance, frequency, temperature Manual Step Selectable step, change with arrow buttons

	Autostep	Fully programmable for function, start delay, stepvalue, time per step, repeat
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Environmental Specifications	
Operating temperature	-10 °C to +50 °C -20 °C to +50 °C *
Storage temperature	-20 °C to +60 °C
Dust/water resistance	Meets IP52, IEC 529
Operating Altitude	2800 m
Note	* Except frequency and AC

Safety Specifications	
Agency Approvals	CAN/CSA C22.2 No 1010.1-92, ASNI/ISA S82.01-1994, UL3111, and EN610-1:1993

Mechanical & General Specifications	
Size	130 x 236 x 61 mm (5.1" x 9.3" x 2.4")
Weight	1.4 kg (3 lbs., 1oz.)
Batteries	NiMH: 7.2V, 3.5 Ah
Battery life	>10 hours typical
Battery Replacement	Via snap-shut door without opening calibrator; no tools required
Side port connections	Pressure module connector RS-232 connector for PC interface cable and for HART communication cable Connection for optional battery eliminator
Data storage capacity	1 week of calibration results
90 day specifications	The standard specification interval for the 744 is 1 and 2 years. Typical 90 day measurement and source accuracy can be estimated by dividing the one year "% of reading" or "%of output" specifications by 2. Floor specifications, expressed as "% of full scale" or "counts" or "ohms" remain constant.