



740 Series Documenting Process Calibrators

Calibrators as versatile as you need them to be.

The 740 series Documenting Process Calibrators are rugged, handheld tools for the calibration and troubleshooting of process control instrumentation. These calibrators:

- Calibrate temperature, pressure, voltage, current, resistance, and frequency
- Simultaneously measure and source
- Automatically capture calibration results
- Document procedures and results to meet ISO 9000, EPA, FDA, OSHA, and other government requirements
- Measure / simulate eleven types of thermocouples and eight RTDs
- Store up to 8,000 readings in data logging mode (743B +744 only)
- PC interface (743B +744 only)
- Operates in English, French, German, Italian, and Spanish
- Four types of built-in automated calibration procedures; linear transmitter, square root devices, one and two-point limit switches
- User entered values allow users to capture readings measured or sourced by other devices
- Custom units permit capturing data in measurement units not directly supported by the calibrator; e.g. ppm or rpm. Optional shunt supports mA/mA applications
- Built in calculator (four functions plus SQRT) permits readings to be recalled from the measurement function, or to store calculation results to a source function
- Handling of fast pulsed RTD transmitters and PLCs, with pulses as short as 1 ms.

741B: A complete documenting calibrator

The 741B is the economical choice for plants that don't use PCs or that require traditional paper forms. It has storage capacity for a day's calibration and measurement data. When you're back at the shop, recall the data on-screen to fill out calibration forms.

743B: More memory, plus a PC interface and data logging

The 743B has all the capabilities of the 741B plus a PC interface that lets you download procedures, lists, and instructions created with software—or upload data for printing, archiving, and analysis. With its expanded memory, the 743B can hold a full week of calibrations and procedures.

744: Get HART™-ability

The 744 offers all of the capabilities of the 743B, plus the ability to calibrate, maintain, and troubleshoot HART™ instrumentation with just one tool.

This rugged, reliable tool offers:

- Integrated HART communication functions, permitting you to monitor, control, and calibrate HART instrumentation.
- NiMH battery with 3500 mA hour life and battery indicator.

Instrumentation Management Software

The 743B and 744 are compatible with Fluke 700SW DPC/TRACK software and with software from Blue Mountain, Cornerstone, Fisher-Rosemont, Honeywell, Yokogawa, Prime Technologies and On Time Support.

Safety Conformance

All inputs are protected to EN61010-1 CAT II 300V. CSA listed.



Standard delivery:

- 741B / 743B / 744
- Industrial test leads (2 sets)
- Test clips (2 sets)
- Test probes (1 set)
- Battery pack
- Battery charger
- NIST Traceable calibration certificate
- Serial port cable (only 743B / 744)
- DPC/TRACK Sample Version with free PC communication utility software (only 743B / 744).
- Instruction manual

Accessories:

- Pressure modules (see page 56)



740 Series Documenting Process Calibrators

Specifications

Voltage DC		
Measure:	110.000 mV 300V	0.025 % 0.05 % + 0.015% 0.005%
Source:	110.000 mV 15.0000V	0.01 % + 0.005 %
Voltage AC (20 Hz 5 kHz)		
Measure:	1.1000 300V	0.5 % 10 % + 5 20
Current DC		
Measure:	30.000 mA / 110.00 mA	0.01 % + 0.015%
Source:	22.000 mA (Source) / 22.000 mA (simulieren)	0.01 % + 0.015 % / 0.02 % + 0.03 %*
Resistance		
Measure:	11.000 Ω 11.000 k Ω	0.05 % 0.1 % + 50 m Ω 10 Ω
Source:	11.000 Ω 11.000 k Ω	0.01 % 0.03 % + 20 m Ω 5 Ω
Frequency		
Measure:	1.00 Hz 50.00 kHz	0.05 Hz 50 Hz
Source:	0.00 Hz 50.000 kHz	0.01 Hz 5 Hz
Pressure	Accuracy from 0.025 % of range using any of 29 pressure modules. Modules available for differential, gauge, vacuum, absolute, dual and high pressure.	
RTDs		
Measure accuracy:	Cu 10, Pt 100, Pt 200, Pt 500, Pt 1000, CU 120 0.3°C 1,0°C For 2- and 3-wire measurement, add 0.4 °C	
Source accuracy:	Cu 10, Pt 100, Pt 200, Pt 500, Pt 1000, CU 120 0,1°C 1°C For 2- and 3-wire simulation, add 0.4 °C	
Thermocouples	E, N, J, L, KLT, U, B, R, S, C	
Measure accuracy:	0.3°C 2°C	
Source accuracy:	0.2°C 0.8°C Accuracy with external cold junction, for internal junction add 0.2 °C	
Ramp functions		
Source functions:	Voltage, current, resistance, frequency, temperature	
Rate:	4 steps / second	
Loop power function		
Voltage:	Selectable, 24V or 28V	
Maximum current:	22 mA, short circuit protected	
Maximum input voltage:	30V 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	
Operating temperature:	-10 °C to +50 °C (except frequency and AC), -20 °C to +50 °C (except frequency and AC)	
Storage temperature:	-20 °C to +60 °C	
Dust / water resistance:	Meets IP 52, IEC 529	
Dimensions:	236 x 130 x 61 mm	
Weight:	1.4 kg	
Power supply:	NiCd: 7.2V, 1.7 Ah (Nimh 744 only)	
Operating time:	~8 hours typical	
Side port connections:	Pressure module connector, connection for optional battery eliminator	
Data storage capacity:	1 day of calibration results	

* (% of reading + % of full scale)