

Fluke 725

Fluke 725 Multifunction Process Calibrator User Manual

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective use of the Fluke 725 Multifunction Process Calibrator. The Fluke 725 is a robust and user-friendly field calibrator designed for testing and calibrating a wide range of process parameters. It combines measurement and source functions to facilitate accurate calibration of transmitters and other industrial equipment.

Key capabilities include sourcing and simulating volts, mA, thermocouples, RTDs, frequency, ohms, and pressure. It also supports flow meter testing with frequency and CPM functions, offers fast linearity tests with auto-step and auto-ramp features, and can power transmitters using its loop supply while simultaneously measuring mA. The device is designed for durability and ease of use in various industrial environments.

2. SETUP

2.1 Unpacking and Inspection

Upon receiving your Fluke 725, carefully unpack the contents. The package should include the Multifunction Process Calibrator unit. Inspect the calibrator for any signs of damage that may have occurred during shipping. If any damage is observed, contact your supplier immediately.

2.2 Battery Installation

The Fluke 725 operates on four AA alkaline batteries, which are included. The battery compartment is located on the rear of the unit and features an easy-access door for convenient changes.

1. Locate the battery compartment door on the back of the calibrator.
2. Open the door by sliding or unlatching it according to the markings.
3. Insert four AA alkaline batteries, ensuring correct polarity as indicated inside the compartment.
4. Close the battery compartment door securely.

2.3 Initial Power On

Press the power button (typically marked with a circle and a vertical line) to turn on the calibrator. The display should illuminate, indicating the device is ready for operation.



Figure 1: Front view of the Fluke 725 Multifunction Process Calibrator, showing the display and control buttons.

3. OPERATING INSTRUCTIONS

The Fluke 725 allows simultaneous viewing of input and output on its easy-to-read measure/source screen.

3.1 Basic Measurement and Sourcing

The calibrator features dedicated buttons for various measurement and source functions. Use the 'MEAS' button to select measurement mode and the 'SOURCE' button to select source mode. Specific parameters can be selected using the corresponding function buttons (e.g., V mA, TC, RTD, Hz, Ohms).

3.2 Parameter Specific Operations

- **Voltage (V):** Measure 0 to 30V, Source 0 to 10V. Resolution up to 0.01V.
- **Current (mA):** Measure and Source 0 to 24 mA. Resolution 0.001 mA. Max load for source is 1000 ohm.
- **Thermocouples (TC):** Measure and Source mV (TC terminals) from -10.00 mV to 75.00 mV.
- **RTDs:** Measure and Source Resistance from 15 to 3200 ohm.
- **Frequency (Hz):** Measure and Source 2.0 to 1000.0 CPM, 1 to 1000 Hz, 1.0 to 10.0 kHz. For frequency source, the waveform is a 5V p-p squarewave with a -0.1V offset.
- **Ohms (Ω):** Measure and Source resistance.
- **Pressure:** Source pressure (requires external pressure modules, sold separately).

3.3 Advanced Features

- **Auto-Step and Auto-Ramp:** Perform fast linearity tests using these automated features. Consult the on-screen menu or specific function buttons for activation.
- **Loop Supply:** The calibrator provides a 24V DC loop supply to power transmitters during testing, with simultaneous mA measurement capability.
- **Backlight:** Activate the backlight for improved visibility in low-light conditions.
- **Store Test Setups:** Frequently used test configurations can be stored and recalled for efficiency.



Figure 2: A technician utilizing the Fluke 725 to connect and calibrate industrial process equipment.



Figure 3: The Fluke 725 calibrator connected to a pressure transmitter, demonstrating its application in process calibration.



Figure 4: A close-up view of the Fluke 725 calibrator held in hand, displaying measurement readings.

4. MAINTENANCE

4.1 Battery Replacement

When the battery indicator appears on the display, replace the four AA alkaline batteries promptly to ensure continued operation and accuracy. Refer to Section 2.2 for battery installation instructions.

4.2 Cleaning

To clean the calibrator, wipe the case with a damp cloth and a mild detergent. Do not use abrasive cleaners, solvents, or harsh chemicals. Ensure the device is powered off and disconnected from any circuits before cleaning.

4.3 Storage

Store the Fluke 725 within the specified storage temperature range of -40 °C to 71 °C (-40 °F to 160 °F). For prolonged storage, remove the batteries to prevent leakage.

5. TROUBLESHOOTING

If the Fluke 725 does not operate as expected, review the following general troubleshooting steps:

- **No Power:** Check battery installation and ensure batteries are fresh.
- **Incorrect Readings:** Verify test lead connections, ensure correct function selection, and check for proper calibration.
- **Display Issues:** If the display is dim, activate the backlight or replace batteries.
- **Function Not Responding:** Power cycle the unit (turn off, then on). If the issue persists, consult the manufacturer's support resources.

For specific error codes or advanced troubleshooting, refer to the official Fluke support documentation or contact Fluke customer service.

6. SPECIFICATIONS

Parameter	Range	Resolution	Accuracy
Voltage (Source)	0 to 10V	0.01V	0.02% Rdg + 2 LSD
Voltage (Measure)	0 to 30V	0.01V	0.02% Rdg + 2 LSD
Voltage (Measure)	0 to 100 mV	0.01 mV	0.02% Rdg + 2 LSD
Current (mA)	0 to 24 mA	0.001 mA	0.02% Rdg + 2 LSD
mV (TC terminals)	-10.00 mV to 75.00 mV	0.01 mV	0.025% of range + 1 LSD
Resistance	15 to 3200 ohm	0.01 to 0.1 ohm	0.10 to 1.0 ohm
Frequency (CPM)	2.0 to 1000.0 CPM	0.1 CPM	+/-0.05%
Frequency (Hz)	1 to 1000 Hz	1 Hz	+/-0.05%
Frequency (kHz)	1.0 to 10.0 kHz	0.1 kHz	+/-0.25%
Loop Supply	24V DC	N/A	10% accuracy

Environmental and Physical Specifications

- **Maximum Voltage:** 30V
- **Storage Temperature:** -40 °C to 71 °C (-40 °F to 160 °F)
- **Operating Temperature:** -10 °C to 55 °C (14 °F to 131 °F)
- **Relative Humidity:** 95% (10 to 35 °C), 75% (30 to 40 °C), 45% (40 to 50 °C), 35% (50 to 55 °C)
- **Shock:** 30g, 11ms, half-sine shock (or 1-meter drop test)
- **Vibration:** Random, 2g, 5-500 Hz
- **Safety:** CSA C22.2 No. 1010.1:1992
- **Batteries:** Four AA alkaline batteries (included)
- **Battery Life:** 25 hours typical
- **Product Dimensions:** 10 x 7.8 x 3.3 inches; 1 Pound

7. WARRANTY INFORMATION

The Fluke 725 Multifunction Process Calibrator comes with a three-year warranty from the date of purchase. This

warranty covers defects in materials and workmanship under normal use. For detailed warranty terms and conditions, please refer to the official Fluke warranty statement or contact Fluke customer support.

8. SUPPORT AND CONTACT





For technical assistance, service, or additional information regarding your Fluke 725 Multifunction Process Calibrator, please visit the official Fluke Corporation website or contact their customer support department. Contact details can typically be found on the Fluke website or in the product packaging.

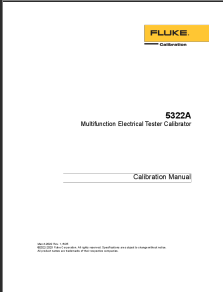
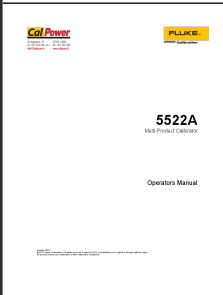
Manufacturer: Fluke Corporation



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Related Documents - 725

	<p>Fluke 725 Multifunction Process Calibrator User Manual</p> <p>User manual for the Fluke 725 Multifunction Process Calibrator, a handheld, battery-operated instrument for measuring and sourcing electrical and physical parameters. Details features, functions, and contact information for Fluke Corporation.</p>
	<p>Fluke 753 Documenting Process Calibrator: Technical Specifications, Features, and Overview</p> <p>Detailed technical specifications, key features, and product overview for the Fluke 753 Documenting Process Calibrator, a powerful multifunction tool for calibrating and troubleshooting process instruments.</p>
	<p>Fluke Process Tools 2025-2026 Selection Guide for Industrial Instrumentation and Electrical Technicians</p> <p>Explore the Fluke Process Tools 2025-2026 Selection Guide, featuring a comprehensive range of calibrators, pressure gauges, and accessories for industrial instrumentation and electrical technicians. Discover loop calibrators, pressure calibrators, temperature calibrators, multifunction calibrators, documenting calibrators, and more.</p>
	<p>Fluke 729/729 FC Automatic Pressure Calibrator Users Manual</p> <p>User manual for the Fluke 729 and 729 FC Automatic Pressure Calibrators, detailing features, operation, calibration tasks, maintenance, and specifications for these portable field calibration tools.</p>

	<p>Fluke 5322A Multifunction Electrical Tester Calibrator Calibration Manual</p> <p>Comprehensive calibration manual for the Fluke 5322A Multifunction Electrical Tester Calibrator, detailing adjustment, verification, and maintenance procedures for accurate electrical testing.</p>
	<p>Fluke 5522A Multi-Product Calibrator: Operator's Manual and Specifications</p> <p>This operator's manual provides detailed information on the Fluke 5522A Multi-Product Calibrator, including specifications, operation, safety, maintenance, and calibration options. Learn how to use and maintain your Fluke 5522A for accurate calibration tasks.</p>