

Process Calibrators

701/702 Documenting Process Calibrators



Fluke 702

The Fluke 701 and 702 are easy-to-use field calibrators designed specifically for use on control instrumentation in process plants. Rugged packaging allows the calibrators to perform dependably despite rough handling and hostile plant environments, while automatic documentation capabilities save time and ensure accurate results. Because the 701/702 are multipurpose tools, you can use them for troubleshooting and maintenance as well as calibration.

- One light, compact, rugged tool replaces several other 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, PDA, OSHA and other requirements
- Measure/simulate eleven types of thermocouples and eight RTDs
- Store up to 8,000 readings in data logging mode (702 only)
- Operate at temperatures from -10°C to 50°C
- Protected against dirt, dust, and moisture; unaffected by vibration
- PC interface available (702 only)
- Easy-to-read graphical LCD: on-screen information available in English, French, German, Italian, and Spanish
- One- and two-year calibration cycles
- Three-year warranty (one year for pressure modules)

Easy to Use

The 701/702 calibrators feature a simple front panel, with an easy-to-read graphical LCD and handy grouping of dedicated keys. The user interface is the same for all functions, minimizing training time. Learning time is further reduced by the simple menu structure, use of operator prompts, and built-in, pre-programmed procedures.

701: A Complete Documenting Calibrator

The 701 is the economical choice for plants that don't use PCs or require traditional paper forms. It has enough storage capacity to hold more than a day's calibration and measurement data. When you're back at the shop, you can recall the data on screen to fill out calibration forms.

702: More Memory, Plus a PC Interface

The 702 has all the capabilities of the 701 plus a PC interface that lets you load procedures, lists, and instructions created with DPC/TRACK software - or unload data for printing, archiving, and analysis. With its expanded memory, the 702 can hold a full week of calibrations and procedures. The 702 also offers improved accuracy compared to the 701.

DPC/TRACK Software for Instrumentation Management

Manage your instruments and your calibration data with this easy-to-use instrumentation management database. Create calibration procedures, lists, and instructions on your PC and load them to the 702. Unload your calibration data back to your PC. Print reports or export data in standard ASCII format.

The 702 is also supported by popular instrumentation management software to our Cornerstone, Honeywell Loveland, Sand Cove, and others.

Pressure Modules

An optional set of external pressure modules provides pressure calibration and measurement capabilities. Twenty-one modules are compatible with the 701 and 702, with total uncertainty specs to 0.05%. Ranges start at 0-10" H₂O (0-2.5 kPa) and go to 0-10,000 psi (0-70,000 kPa).

Process Calibrators

FLUKE.

701/702 Documenting Process Calibrators



Fluke 702

The Fluke 701 and 702 are easy-to-use field calibrators designed specifically for use on control instrumentation in process plants. Rugged packaging allows the calibrators to perform dependably despite rough handling and hostile plant environments, while automatic documentation capabilities save time and ensure accurate results. Because the 701/702 are multipurpose tools, you can use them for troubleshooting and maintenance as well as calibration.

- One light, compact, rugged tool replaces several other 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 requirements
- Measure/simulate eleven types of thermocouples and eight RTDs
- Store up to 8,000 readings in data logging mode (702 only)
- Operate at temperatures from -10°C to 80°C
- Protected against dirt, dust, and moisture; unaffected by vibration
- PC interface available (702 only)
- Easy-to-read graphical LCD; on-screen information available in English, French, German, Italian, and Spanish
- One- and two-year calibration cycles
- Three-year warranty (one year for pressure modules)

Easy to Use

The 701/702 calibrators feature a simple front panel, with an easy-to-read graphical LCD and handy grouping of dedicated keys. The user interface is the same for all functions, minimizing training time. Learning time is further reduced by the simple menu structure, use of operator prompts, and built-in, pre-programmed procedures.

701: A Complete Documenting Calibrator

The 701 is the economical choice for plants that don't use PCs or require traditional paper forms. It has enough storage capacity to hold more than a day's calibration and measurement data. When you're back at the shop, you can recall the data on screen to fill out calibration forms.

702: More Memory, Plus a PC Interface

The 702 has all the capabilities of the 701 plus a PC interface that lets you load procedures, lists, and instructions created with DPC/TRACK software - or unload data for printing, archiving, and analysis. With its expanded memory, the 702 can hold a full week of calibrations and procedures. The 702 also offers improved accuracy compared to the 701.

DPC/TRACK Software for Instrumentation Management

Manage your instruments and your calibration data with this easy-to-use instrumentation management database. Create calibration procedures, lists, and instructions on your PC and load them to the 702. Upload your calibration data back to your PC. Print reports or export data in standard ASCII format.

The 702 is also supported by popular instrumentation management software to our Cornerstone, Honeywell Loveland, Sand Cove, and others.

Pressure Modules

An optional set of external pressure modules provides pressure calibration and measurement capabilities. Twenty-one modules are compatible with the 701 and 702, with total uncertainty specs to 0.05%. Ranges start at 0-10" H₂O (0-2.5 kPa) and go to 0-10,000 psi (0-70,000 kPa).

General Specifications

Size: 130 x 236 x 61 mm (5.1 x 9.3 x 2.4 in)

Weight: 1.4 kg (3 lb 1 oz)

Internal Battery Pack: NiCd, 7.2V, 1700 mAh

Battery Life: Typically over eight hours

Battery Replacement: Via snap-shut door without opening calibrator; no tools required

Summary Accuracy Specifications (Model 702 for 1 Year)

Measure	Source		
Range (full scale)	Accuracy (% of reading ± % of full scale)	Range (full scale)	Accuracy (% of reading ± % of full scale)
110.000 mV dc	0.025% + 0.015%	110.000 mV	0.01% + 0.005%
1.10000V dc	0.025% + 0.005%	1.10000V	0.01% + 0.005%
11.0000V dc	0.025% + 0.005%	11.0000V	0.01% + 0.005%
110.000V dc	0.05% + 0.005%		
300.00V dc	0.05% + 0.005%		
Vac, 20 to 40 Hz	2% + 10 counts		
Vac, 40 to 500 Hz	0.5% + 5		
Vac, 500 to 1 kHz	2% + 10		
Vac, 1 kHz to 5 kHz	10% + 20		
30.000 mA dc	0.025% + 0.025%	Source 22.000 mA	0.01% + 0.04%
110.00 mA dc	0.05% + 0.05%	Simulate 22.000 mA	0.25% + 0.05%
11.000Ω	0.08% + 50 mΩ	11.000Ω	0.01% + 20 mΩ
1.1000 kΩ	0.05% + 50 mΩ	1.1000 kΩ	0.01% + 40 mΩ
11.000 kΩ	0.1% + 100	11.000 kΩ	0.02% + 0.5Ω
1.00 to 109.99 Hz	0.05 Hz	2.00 to 109.99 Hz	0.01 Hz
110.0 to 1099.9 Hz	0.5 Hz	110.0 to 1099 Hz	1 Hz
1.100 to 10.999 kHz	5 kHz	1.1 to 10.9 Hz	0.1 kHz
11.00 to 50.00 kHz	50 kHz	1 to 50 kHz	2 kHz

Ordering Information

Models

Fluke 701 Documenting Process Calibrator

Fluke 702 Documenting Process Calibrator

Fluke-700SW DPC/TRACK Software

Included with Instrument

Every Fluke 701 and 702 comes with two sets of TL24 industrial test leads, two sets of AC20 test clips, one set of TP20 test probes, a BP7217 battery pack, a BC7210 battery charger, and an instruction manual.

DPC/TRACK software includes software disks, an instruction manual, a serial port cable, and a DB9 to DB25 (9-pin to 25-pin) adapter.

Accessories

Fluke-700-Pxx Pressure Modules

Fluke-700-IV Current Shunt

Fluke-700PCK Pressure Calibration Kit

Fluke-700PMP Pressure Pump

Fluke-700TC1 Thermocouple Connector Kit

Fluke-700TC2 Thermocouple Connector Kit

C700 Hard Carrying Case

C789 Soft Carrying Case

C781 Soft Carrying Case

C75 Test Lead Case

BE9005 Battery Eliminator

BP7217 NiCd Battery Pack

BC7210 Battery Charger

SOCJ-M Mini Thermocouple Connector, Type J

SOKK-M Mini Thermocouple Connector, Type K

SOPK-1 Type K Bead Thermocouple Probe

SOPK-2A Type K Immersion Probe

SOPK-3A Type K Surface Probe

SOPK-IR Infrared Temperature Probe

SOT-IR Infrared Temperature Probe

SOT-150U Universal Temperature Module

SOT-500s Clamp-on AC Current Probe

SOT-1000s Clamp-on AC Current Probe

I-410 Clamp-on AC/DC Current Probe

I-1010 Clamp-on AC/DC Current Probe

Resolution: 0.1°C, except 1°C for 100 Cu. Best case, mid-range accuracies. Sensor inaccuracies not included. For 2-wire and 3-wire RTD measurements, add 0.4°C. Thermocouple accuracies with external cold junction; for internal junction add 0.2°C.

Temperature, RTDs and Thermocouples

Device	Measure Accuracy	Source Accuracy
100 Cu 427I	2°C	1°C
1000 Pt 3916I	0.3°C	0.1°C
1000 Pt 3926I	0.3°C	0.1°C
100 Pt 395I	0.3°C	0.1°C
2000 Pt 385I	0.3°C	0.1°C
5000 Pt 385I	0.3°C	0.1°C
10000 Pt 385I	0.3°C	0.1°C
12000 Ni 672I	0.3°C	0.1°C
E	0.3°C	0.2°C
N	0.5°C	0.3°C
J	0.3°C	0.2°C
L	0.3°C	0.2°C
K	0.3°C	0.3°C
T	0.3°C	0.3°C
U	0.3°C	0.3°C
R	1.0°C	0.8°C
S	0.3°C	0.9°C
C	0.6°C	0.8°C

Data Log	Measure V, mA, ohms, frequency, temperature, pressure 1 to 60 readings per minute, 8000 readings max
Ramp	Source V, mA, Ω, frequency, temperature 4 steps/second; trip detect on continuity or voltage
Loop Power	Selectable, 24V or 28V; 22 mA max
Environmental	201/702 specifications apply from +10°C to +28°C Operating Temperature, -10°C to 50°C (Typical specs to -20°C) Storage Temperature, -20°C to 60°C Pressure modules are totally compensated and specs apply 0° to 50°C Enclosure designed to meet IEC 529 IP52 (normal operating vacuum for dust)

Visit Fluke on the world wide web at:
<http://www.fluke.com>