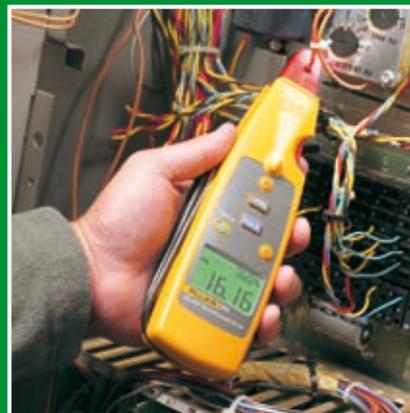


Field Calibrators

Fluke process calibration tools include a full range of calibrators and troubleshooting tools for instrument technicians working in the process industries. The range of process calibrators include: Documenting Process Calibrators, Multifunction Process Calibrators, single function and multifunction temperature calibrators, a variety of mA loop calibrators and a range of intrinsically safe products.



Field Calibrator Selection Guide

Model	Documenting Process Calibrators			Multifunction Process Calibrator		Temperature Calibrators			Pressure Calibrators			Loop Calibrators			ProcessMeters		
	744	743B	741B	725/725Ex	726	724	714	712	718/718Ex	717	719	715	707/707Ex	771	705	789	787
Measure																	
Voltage DC	300 V	300 V	300 V	30 V	30 V	30 V	75 mV				10 V	28 V			1000 V	1000 V	1000 V
Voltage AC (true RMS)	300 V	300 V	300 V	3200 Ω	4000 Ω	3200 Ω									1000 V	1000 V	1000 V
Resistance	11 kΩ	11 kΩ	11 kΩ	24 mA	24 mA	24 mA									40 MΩ	40 MΩ	40 MΩ
Current DC	110 mA	110 mA	110 mA								24 mA	24 mA	24 mA	99.9 mA	24 mA	30 mA, 1 A	30 mA, 1 A
Current AC																	
Frequency	50 kHz	50 kHz	50 kHz	10 kHz	15 kHz												
Pressure	●	●	●	●	●				68.9 mbar to 20 bar / 2 to 7 bar ¹	68.9 mbar to 345 bar ¹	2 bar to 7 bar ¹				●	●	20 kHz
Temperature: RTD types	8	8	8	7	8	7	7										
Temperature: TC types	11	11	11	12	12	12	9										
Source/Simulate																	
Voltage DC	15 V	15 V	15 V	10 V	20 V	10 V	75 mV				10 V						
Resistance	11 kΩ	11 kΩ	11 kΩ	3200 Ω	4000 Ω	3200 Ω											
mA DC/% scale	22 mA	22 mA	22 mA	24 mA	24 mA	24 mA					24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA
mA source; auto step, auto ramp	●	●	●	●	●	●					●	●	●	●	●	●	●
Frequency	50 kHz	50 kHz	50 kHz	10 kHz	15 kHz												
Temperature: RTD types	8	8	8	7	8	7	7										
Temperature: TC types	11	11	11	10	10	10	9										
Record																	
Min/Max	●	●	●														
Hold																	
As Found/As Left results	●	●	●														
Log data	●	●	●														
Upload data to PC	●	●	●														
Remote operation				●/-	●												
Features																	
Loop supply	24 V	24 V	24 V	24 V/12 V	24 V	24 V			24 V/-	24 V	24 V	24 V	24 V	24 V	24 V	24 V	24 V
Hart communication	●																
Integrated hand pressure pump																	
Electric Pump																	
Intrinsically safe (ATEX)				725Ex					718Ex				707Ex				
NIST traceable certification	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Warranty in years	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
See catalog page	85	85	85	86	86	87	88	88	90	90	91	91	91	92	93	93	93

¹ Fluke 700 pressure modules required

² Ranges for the internal sensor.

Ranges for use of Fluke 700 pressure modules, see page 94.

740 Series Documenting Process Calibrators

FLUKE®



Fluke 744



Fluke 743B



Fluke 741B



Calibrators as versatile as you are

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)
- Protected against dirt, dust, and moisture; unaffected by vibration
- PC interface (743B +744 only)
- Operates in English, French, German, Italian, and Spanish
- One and two-year calibration cycles
- Four types of built-in automated calibration procedures; linear transmitter, square root devices, one and two-point limit switches

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

Included Accessories

Fluke 741B/743B: TL224 Industrial Test Leads (2 sets), AC220 Test Clips (2 sets), TP220 Test Probes (1 set), BP7217 Battery Pack, BC7217 Battery Charger, Instruction Manual, NIST Traceable calibration certificate and data, three-year warranty, serial port cable (743B only), DPC/TRACK Sample Version with free PC communication utility software (743B only).
Fluke 744: TL224 Industrial Test Leads (2 sets), AC220 Test Clips (2 sets), TP220 Test Probes (1 set), BP7235 NiMH Battery Pack, BC7217 Battery Charger, serial port cable, HART communications cable, DPC/TRACK Sample Version with free PC communication utility software, Instruction Manual, HART Users Manual, NIST Traceable calibration certificate and data.

Ordering Information

Fluke 741B Documenting Process Calibrator
 Fluke 743B Documenting Process Calibrator
 Fluke 744 Documenting Process Calibrator
 700SW DPC/Track Software

Specifications

(Check the Fluke web for detailed specifications)

Function	Measure	Sourcing
Voltage DC	0.025% reading + 0.005% full scale	0.01% output + 0.005% full scale
Current DC	0.01% reading + 0.015% full scale	0.01% output + 0.015% full scale
Resistance	0.05% reading + 50mΩ	0.01% output + 40mΩ
Frequency	0.05%	0.01%
Thermocouples	0.3°C	0.2°C
RTDs	0.3°C	0.1°C
Pressure	To 0.05% of full scale. See Pressure Module specifications.	

Operating temperature: -10° C to 50° C

Safety: CAT II 300V

Battery Life: Typically over eight hours

Internal Battery Pack: NiCd, 7.2V, 1700 mAh

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

Weight: 1.4 kg

Size (HxWxD): 236 mm x 130 mm x 61 mm

Three Year Warranty

Recommended Accessories



C789
See page 106



TL220
See page 100



80PK-8
See page 104



80PK-25
See page 104



700P27
See page 94

725/725Ex/726 Multifunction Process Calibrators

FLUKE®



Fluke 726



Fluke 725



Fluke 725Ex



More calibration power!

725/725Ex/726 Multifunction Process Calibrators

- Two separate channels; measure, source and view process signals simultaneously
- Measure volts, mA, RTDs, thermocouples, frequency, and resistance to test sensors and transmitters
- Source/simulate volts, mA, thermocouples, RTDs, frequency, and pressure to calibrate transmitters
- Measure or *source pressure using any of 29 Fluke 700Pxx Pressure Modules
- Source mA with simultaneous pressure measurement to conduct valve and I/P tests
- Perform fast linearity tests with auto step and auto ramp features
- Power transmitters during test using 24 V loop supply and simultaneous mA measurement
- Store frequently-used test setups for later use
- For 725Ex version see also page 96 and 97

*Pressure pump required

726 Precision Multifunction Process Calibrator

- Additional features:
- More precise measurement and calibration source performance, accuracies of 0.01%
 - Transmitter error% calculation
 - Memory storage for up to 8 calibration results
 - Frequency totalizer and frequency pulse train source mode for enhanced flowmeter testing
 - HART mode inserts 250 ohm resistor in mA measure and source for compatibility with HART instrumentation
 - Integrated pressure switch test allows you to capture the set, reset and deadband of a switch
 - Custom RTD curves, add calibration constants for certified RTD probes for enhanced temperature measurement

Features

Simultaneous Function Capability	Channel A	Channel B
24.000 mA DC	M	M or S
24.000 mA DC with 24 V loop supply	M	M or S
100.00 mV DC		M or S
30.000V DC measure	M	M or S
20.000V DC Measure		M or S
10.000V DC Source		M or S
20.000V DC Source		M or S
15 to 3200 Ohms		M or S
5 to 4000 Ohms		M or S
Thermocouple J, K, T, E, R, S, B, M, L, U, N, XK, BP		M or S
RTD Cu 10 , Ni120; Pt100 (392); Pt100 (JIS); Pt100, 200, 500, 1000 (385)		M or S
Pressure (requires Fluke 700 PXX Modules)	M	M used as S
Frequency; 10 kHz; (15 kHz)		M or S

M = Measure S = Source/Simulate
 Unique 726 features are **in bold**
 725Ex: ATEX certified
 (Ex ATEX II IG EEX 1a IIB 171°C)

Specifications

Unique 726 features are **in bold**

Function Measure or Source	Range or Type	Resolution	Accuracy	Notes
Voltage	0 to 100 mV 725: 0 to 10V (source) 0 to 20V (source) 725/726: 0 to 30V (measure)	0.01 mV 0.001 V 0.001 V 0.001 V	0.01% 0.02% Rdg + 2 LSD	Max load, 1 mA
mA	0 to 24	0.001 mA	0.01% ; 0.02% Rdg + 2 LSD	Max load, 725/726: 1000Ω 725Ex: 500Ω
mV (TC terminals)	-10.00 mV to +75.00 mV	0.01 mV	0.01% 0.02% of range + 1 LSD	
Ohms	15Ω to 3200Ω 5Ω to 4000Ω	0.01Ω to 0.1Ω	0.10Ω to 1.0Ω 0.015%	
Hz - CPM	2.0 to 1000 CPM 1 to 1100 Hz 1.0 to 10.0 kHz 10.0 to 15.0 kHz	0.1 CPM 1 Hz 0.1 kHz 0.1 kHz	±0.05% ±0.05% ±0.25% ±0.05%	Source; 5V p-p 1V - 20 V p-p squarewave, -0.1 V offset
Loop Supply	725/726: 24 V DC 725Ex: 12 V DC	N/A	10%	
T/C	J, K, T, E, L, N, U, XK	0.1 °C, 0.1 °F	to 0.7 °C to 0.2 °C	
T/C	B, R, S, BP	1 °C, 1 °F	to 1.7 °C to 1.2 °C	
RTDs	Cu (10) , Ni 120 (672) Pt 100, 200, 500, 1000 (385) Pt 100 (3916), Pt 100 (3926)	0.01 °C 0.01 °F	to 0.15 °C	
		0.1 °C, 0.1 °F	to 0.2 °C	

Maximum voltage: 30V
Operating temperature: 10°C to 55°C
Safety: CSA C22.2 No. 1010.1:1992
 EMC: EN50082-1:1992 and EN55022:
 1994 Class B

Size (HxWxD): 200 mm x 96 mm x 47 mm
Weight: 0.65 kg
Battery: Four AA alkaline batteries.
Battery life: 25 hours typical; battery door
Warranty: Three years

Included Accessories

TL75 Test Leads, AC72 Test Clips, one pair of stackable test leads, user's Manuals on CD-ROM (725Ex also includes CGD control drawing, Statement of Quality Assurance Practices, NIST Traceable calibration certificate)

Ordering Information

Fluke 725 Multifunction Process Calibrator
 Fluke 725Ex Intrinsic Safe Multifunction Process Calibrator
 Fluke 726 Precision Multifunction Process Calibrator

Recommended Accessories

(Not for hazardous zones)



C125
See page 106



TL220
See page 100



80PK-27
See page 104



TPAK
See page 109



700P27
See page 94

724 Temperature Calibrator



Fluke 724



The temperature solution

The Fluke 724 Temperature Calibrator is a powerful yet easy-to-use calibrator. Use the measure and source functions to test and calibrate almost any temperature instrument.

- Easy to read dual display lets you view input and output simultaneously
- Measure RTDs, thermocouples, ohms, and volts to test sensors and transmitters
- Source/simulate thermocouples, RTDs, volts, and ohms to calibrate transmitters
- Perform fast linearity tests with 25% and 100% steps

- Execute remote tests with auto step and auto ramp
- Power transmitters during test using loop power supply with simultaneous mA measurement
- Store frequently-used test setups for later use

Features

Simultaneous Function Capability	Channel A	Channel B
24.000 mA DC	M	
24.000 mA DC with 24V loop supply	M	
100.00 mV DC		M or S
30.000V DC Measure	M	
20.000V DC Measure 10.000V DC Source		M or S
0 to 3200 Ohms		M or S
Thermocouple J, K, T, E, R, S, B, L, U, N		M or S
RTD Ni120; Pt100 (3926); Pt100 (JIS); Pt100, 200, 500, 1000 (385)		M or S

M = Measure S = Source/Simulate

Specifications

Function Measure or Source	Range	Resolution	Accuracy	Notes
Voltage	0 to 100 mV 0 to 10V (source) 0 to 30V (measure)	0.01 mV 0.001 V 0.001 V	0.02% Rdg + 2 LSD	Max load, 1 mA
mA (measure)	0 to 24 mA	0.001 mA	0.02% Rdg + 2 LSD	Max load, 1000Ω
mV	-10.00 mV to +75.00 mV	0.01 mV	0.025% of range + 1 LSD	
Resistance	0Ω to 3200Ω (measure) 15Ω to 3200Ω (source)	0.01Ω to 0.1Ω	0.10Ω to 1.0Ω	
Loop Supply	24V DC	N/A	10%	
Thermocouples	J, K, T, E, L, N, U	0.1 °C	to 0.7 °C	
Thermocouples	B, R, S	1 °C	to 1.4 °C	
RTDs	Ni120 (672) Pt 100, 200, 500, 1000 (385) Pt 100 (3916) Pt 100 (3926)	0.1 °C	to 0.2 °C	

Maximum voltage: 30V
Operating temperature: -10°C to 55°C
Safety: CSA C22.2 No. 1010.1:1992
 EMC: EN50082-1:1992 and EN55022:1994 Class B

Size (HxWxD): 200 mm x 96 mm x 47 mm
Weight: 0.65 kg
Battery: Four AA alkaline batteries
Battery life: 25 hours typical; battery door
Three Year Warranty

Included Accessories

TL75 Test Leads, AC72 Test Clips, one pair of stackable test leads.

Ordering Information

Fluke 724 Temperature Calibrator

Recommended Accessories



C25
See page 106



TL220
See page 100



TL81A
See page 99



80PK-25
See page 104



80PK-3A
See page 104

712/714 Temperature Calibrators



Fluke 714



Fluke 712

The clear choice

The Fluke 710 Series Process Calibrators offer clear new choices in single-function calibrators. Whatever you want to measure - temperature, pressure or basic electrical parameters - you'll find one of these easy-to-carry handheld tools gives you exactly the functions you need. They combine the rugged, ready-for-action package of the proven Fluke 80 Series DMMs with the easy-to-use pushbutton operation of the multifunction Fluke 740 Series Documenting Process Calibrators. These calibrators are EMI tolerant, dust and splash resistant, and have a removable battery door for quick battery changes.

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

Specifications

Model	Function	Range	Resolution	Accuracy	Notes
Fluke 712	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 (3926); Pt 100 (3916) JIS; Ni 120 (672)
	Measure/simulate Resistance	15 Ω to 3200 Ω	0.1 Ω	0.1 Ω to 1 Ω	
Fluke 714	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 to 10 μV	9 TC types: J K T E R S B per NIST 175 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	



Included Accessories

Yellow Holster (H80M excl. TPAK), TL75 Test Leads and AC72 Alligator Clips (excluding model 714), single 9V alkaline battery and Instruction Sheet (14 languages)

Ordering Information

Fluke 712 RTD Calibrator
Fluke 714 Thermocouple Calibrator

Maximum voltage: 30 V
Operating temperature: -10°C to 55°C
Safety: CSA C22.2 No. 1010.1:1992
EMC: EN50082-1:1992 and EN55022:1994 Class B

Size (HxWxD): 201mm x 98 mm x 52 mm
Weight: 0.6kg
Battery: 9V alkaline
Battery Life: 4 to 20 hours, typical, depending on functions used
Three Year Warranty

Recommended Accessories



C25
See page 106



C55
See page 106



TL970
See page 99



TL220 (714)
See page 100



80PK-24 (714)
See page 104

9140 Series Field Metrology Wells 4180 Series Infrared Calibrators

FLUKE®



Fluke 9142/9143/9144

Field Metrology Wells and infrared calibration targets

9142, 9143, 9144

Field temperature calibration with precision and speed

The Fluke 9140 series Field Metrology Wells extend high performance portable temperature calibration to the industrial process environment by maximizing portability, speed, and functionality with little compromise to metrology performance.

Offering a broad temperature covered by three models you can easily cover varied contact temperature probe workloads between -25 °C to 660 °C.

They are quick to reach temperature set points, yet they are stable, uniform, and accurate. These industrial temperature calibrators are perfect for performing transmitter loop calibrations, comparison calibrations, or simple checks of thermocouple sensors.

Adding the process option means there is no need to carry additional tools into the field. The optional built-in two-channel readout measures resistance, voltage, and 4-20 mA current with 24V loop power.

- Lightweight, portable, and fast
- Cool to -25 °C in 15 minutes and heat to 660 °C in 15 minutes
- Built-in two-channel readout for PRT, RTD, thermocouple, 4-20 mA current
- On-board automation and documentation
- Metrology performance in accuracy, stability, uniformity, and loading

4180/4181 IR Calibrators

True metrology solution for infrared Calibration

Now it's easy to increase your IR temperature measurement accuracy in the lab or the field with the new 4180/81 Precision Infrared Calibrators from Fluke's Hart Scientific division.

Their accredited calibrations from Hart's IR laboratory help to ensure traceable, consistent measurements accurate to +0.25 °C. Select from eight preconfigured Fluke thermometer settings or set up your own.

The large 152 mm (6 inch) target helps eliminate errors. So whether you're measuring from -15 °C to 120 °C (4180) or from 35 °C to 500 °C (4181) you'll get a 4:1 TUR.

- High performance, designed for industrial use
- Guaranteed accuracy specifications
- Excellent stability and uniformity
- Large 152 mm targets capture peripheral vision of IR thermometer
- Portability and speed for field use - including convenient bail handle
- Simulates individual IR thermometer emissivity settings
- No difficult infrared calculations
- Fluke and Raytek thermometer calibration points can be loaded directly into the calibrator for convenience
- Calibrated in accredited infrared laboratory by Hart Scientific, the experts in temperature calibration
- At least 4 times more accurate than most IR thermometers
- Calibration includes uncertainties from surface heat loss and emissivity



Fluke 4180/4181

Included Accessories

914x: 9930 Interface-it Software, Report of Calibration, Test leads (P Version Only), 6-pin DIN Connector for Reference Probe (P Version Only)

Ordering Information

Fluke 4180	Precision Infrared Calibrator, -15 °C to 120 °C
Fluke 4181	Precision Infrared Calibrator, 35 °C to 500 °C
Fluke 4180-CASE	Carrying Case, 4180, 4181
Fluke 4180-DCAS	Carrying Case with wheels, 4180, 4181
Fluke 9142-X	Field Metrology Well, Low Temp
Fluke 9143-X	Field Metrology Well, Mid Temp
Fluke 9144-X	Field Metrology Well, High Temp

Add -P to order optional Process option (914X-X-P). X represents insert type, A, B, C, D, E or F

Specifications

	9142	9143	9144	4180	4181
Temp Range	-25 °C to 150 °C	33 °C to 350 °C	50 °C to 660 °C	-15 °C to 120 °C	35 °C to 500 °C
Stability	±0.01 °C Full Range	±0.02 °C at 33 °C ±0.02 °C at 200 °C ±0.03 °C at 350 °C	±0.03 °C at 50 °C ±0.04 °C at 420 °C ±0.05 °C at 660 °C	±0.05 °C at 0 °C	±0.2 °C at 250 °C
Uniformity	±0.01 °C Full Range	±0.01 °C at 33 °C ±0.015 °C at 200 °C ±0.02 °C at 350 °C	±0.02 °C at 50 °C ±0.05 °C at 420 °C ±0.15 °C at 660 °C	±0.1 °C at 0 °C	±0.1 °C at 35 °C
Target Size diameter	N/A	N/A	N/A	152.4 mm diameter	152.4 mm
Emissivity Range	N/A	N/A	N/A	Preset to 0.95	Preset to 0.95
NIST Accredited Calibration	YES	YES	YES	YES	YES

9142/9143/9144:

Size (HxWxD): 290 x 185 x 295 mm
Weight: 9142: 8.2 kg, 9143: 7.3 kg, 9144: 7.7 kg
One Year Warranty

4180/4181

Size (HxWxD): 241 x 356 x 241 mm
Weight: 4180: 9.1 kg, 4181: 9.5 kg
One Year Warranty

For the complete line of Fluke heat sources check the Fluke web at www.fluke.eu

717/718/718Ex/719 Pressure Calibrators

FLUKE®

New



Fluke 719



Fluke 717



Fluke 718Ex



Fluke 718



Included Accessories

Fluke 717, 718, 718Ex and 719:

Yellow Holster (718Ex red holster), TL75 Test leads, AC72 Alligator Clips, Single 9V alkaline battery (two 9V batteries in 718 and 719), User manual on CD ROM.

719 also includes: Push fit connectors, Translucent test hose.

Ordering Information

Fluke 719 30G	Electric Pressure Calibrator
Fluke 719 100G	Electric Pressure Calibrator
Fluke 718 1G	Pressure Calibrator
Fluke 718 30G	Pressure Calibrator
Fluke 718 100G	Pressure Calibrator
Fluke 718 300G	Pressure Calibrator
Fluke 717 1G	Pressure Calibrator
Fluke 717 30G	Pressure Calibrator
Fluke 717 100G	Pressure Calibrator
Fluke 717 300G	Pressure Calibrator
Fluke 717 500G	Pressure Calibrator
Fluke 717 1000G	Pressure Calibrator
Fluke 717 1500G	Pressure Calibrator
Fluke 717 3000G	Pressure Calibrator
Fluke 717 5000G	Pressure Calibrator

Pump up the pressure

717 Pressure Calibrators

- Measure pressure, 0.05% of full scale with internal sensor
 - 1/8 NPT pressure fitting
 - Compatible with non-corrosive gasses and liquids
- Pressure measurement to 700 bar using any of the Fluke-700Pxx Pressure Modules
- Wide range of selectable measurement units for pressure
- Current measurement with 0.015% accuracy and 0.001mA resolution
- Simultaneous pressure and current measurement for easy P/I testing
- 24 volt loop power supply
- Zero, Min-Max, Hold and Damping functions
- Pressure switch test captures set, reset and deadband values

718 Pressure Calibrators

Same features as Fluke 717 plus:

- Newly designed built-in pressure/vacuum hand pump with vernier and bleed valve helps protect the pump from damage and is easier to clean

For 718Ex Intrinsically Safe Pressure Calibrator see chapter on Ex products in this catalog.

719 Electric Pressure Calibrator

Same features as Fluke 717 plus:

- Electric pump for one handed operation
- mA source for calibrating I/P devices and 4-20 mA I/O
- Best in class pressure measurement accuracy of 0.025%

Specifications

Model	Range	Resolution	Over Pressure
719 30G	-850 mbar to 2.4 bar	0.1 mbar	Over pressure 2xFS
719 100G	-850 mbar to 8 bar	1 mbar	Over Pressure 2xFS
718 1G	-68.9 mbar to 68.9 mbar	0.001 mbar	Over Pressure 5xFS
718 30G	-850 mbar to 2 bar	0.1 mbar	Over Pressure 2xFS
718 100G	-850 mbar to 7 bar	0.1 mbar	Over Pressure 2xFS
718 300G	-850 mbar to 20 bar	1 mbar	Over Pressure 375 PSI, 25 bar
717 1G	-68.9 mbar to 68.9 mbar	0.001 mbar	Over Pressure 5xFS
717 30G	-850 mbar to 2 bar	0.1 mbar	Over Pressure 2xFS
717 100G	-850 mbar to 7 bar	0.1 mbar	Over Pressure 2xFS
717 300G	-850 mbar to 20 bar	1 mbar	Over Pressure 375 PSI, 25 bar
717 500G	0 mbar to 34.5 bar	1 mbar	Over Pressure 2xFS
717 1000G	0 mbar to 69 bar	1 mbar	Over Pressure 2xFS
717 1500G	0 bar to 103.4 bar	0.01 bar	Over Pressure 2xFS
717 3000G	0 bar to 207 bar	0.01 bar	Over Pressure 2xFS
717 5000G	0 bar to 345 bar	0.01 bar	Over Pressure 2xFS

For Fluke 717/718/719 models: 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

Functions: Zero, Min, Max, Hold, Damp functions

Max. Voltage: 30 V

Operating temperature: -10°C to 55°C

Safety: CSA C22.2 No. 1010.1:1992

EMC: EN50082-1:1992 and EN55022:1994 Class B

Fluke 717: For use with non corrosive gasses and liquids

Fluke 718/719: For use with non corrosive gasses

717

Size (HxWxD): 201 mm x 98 mm x 52 mm

Weight: 0.6 kg

Three Year Warranty

718/718Ex

Size (HxWxD): 216 mm x 94 mm x 66 mm

Weight: 0.992 kg

Warranty: Three years

719

Size (HxWxD): 210 mm x 87 mm x 60 mm

Weight: 0.912 kg

Three Year Warranty (Pump one year)

Recommended Accessories

(Not for hazardous zones)



C43 (718)
See page 106



C125 (717)
See page 106



TL220
See page 10



700P27
See page 94



700 LTP-1
See page 94

705/707/707Ex/715 Loop Calibrators

FLUKE®



Fluke 705



Fluke 715



Fluke 707



Fluke 707Ex



4-20 mA, source, measure, simulate

705 Loop Calibrator

- Simultaneous mA and %
- mA accuracy of 0.02%
- Measure, source and simulate mA
- Push button 25% steps for fast, easy linearity checks
- “Span Check” for fast confirmation of zero and span
- Selectable slow ramp, fast ramp, and step function
- 24 volt internal loop supply
- 0 - 20 mA or 4 - 20 mA default start up modes

707 Loop Calibrator

- Features of the Fluke 705
- “Quick Click” detented rotary knob for one handed operation
- Higher accuracy: 0.015%
- Mains Voltage Input protection
- 250 Ohm loop resistance for with Hart instrumentation

715 Volt/mA Calibrator

- Measure loop current (0-20 mA, 4-20 mA) signals with 0.015% 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 10 V
- 24 V loop supply with simultaneous current measurement

707Ex Intrinsically Safe Loop Calibrator

- Same features as Fluke 707
- For use in explosion endangered areas
- ATEX certified (II 2 G Eex ia IIC T4)

Specifications

Functions	705/707/707 Ex	715
Voltage measurement		
Range	0-28 V DC	0-200 mV, 0-20 V
Resolution	1 mV	10 µV 1 mV
Accuracy	705: 0.025% Rdg + 2 LSD 707/707Ex: 0.015% Rdg + 2 LSD	0.01% Rdg + 2 LSD
Current measurement		
Range	0-24 mA	0-24 mA
Resolution	0.001 mA	0.001 mA
Accuracy	705: 0.025% Rdg + 2 LSD 707/707Ex: 0.015% Rdg + 2 LSD	0.015%
Current sourcing		
Range	0-20 mA or 4-20 mA ¹	0-20 mA or 4-20 mA ¹
Accuracy	705: 0.025% Rdg + 2 LSD 707/707Ex: 0.015% Rdg + 2 LSD	0.015% + 2 LSD
Drive capability	705: 1000 Ω @ 24 mA 707: 1200 Ω @ 24 mA 707Ex: 700 Ω @ 20 mA	1000 Ω @ 24 mA
Loop power while measuring mA	24 V	24 V
Voltage sourcing	N/A	0-100 mV or 0-10 V
Display current and % of span	Yes	mA or %
Auto step, auto ramp	Yes	Yes
Span Check	Yes	Yes

¹ will over-range to 24 mA

Fluke 705, 707, 707Ex

Maximum voltage: 30 V (28 V - 707Ex)
Operating temperature: -10 to 55°C
Safety: CSA C22.2 No. 1010.1: 1992
 EMC: EN50082-1:1992 and EN55022: 1994 Class B
Size (HxWxD): 164 mm x 75 mm x 47 mm;
Weight: 0.35 kg
Battery: One 9 V alkaline
Battery life: 18 hours typical, at 12 mA
Three Year Warranty

715

Size (HxWxD): 201 mm x 98 mm x 52 mm
Weight: 0.6 kg
Battery: One 9V alkaline
Battery life: 4 to 20 hours
Three Year Warranty

Included Accessories

Fluke 705/707: C10 Yellow Holster, TL75 Test Leads, AC72 Alligator Clips, Single 9V alkaline battery, Instruction Sheet

Fluke 707Ex: Red Ex-holster, Fluke TL75 Test Leads, AC72 Alligator Clips, Single 9V alkaline battery, Instruction Sheet

Fluke 715: Yellow Holster (H80M excl. TPAK), TL75 Test Leads and AC72 Alligator Clips, Single 9V alkaline battery, Instruction Sheet

Ordering Information

Fluke 705 Loop Calibrator
 Fluke 707 Loop Calibrator
 Fluke 707Ex Intrinsically Safe Loop Calibrator
 Fluke 715 Volt/mA Calibrator



C12A (705/707)
See page 106



C25 (715)
See page 106



TL220
See page 100



TP920
See page 99



T PAK (715)
See page 109

771 mA Process Clamp Meter



Fluke 771

Measure 4-20 mA signals without breaking the loop

With the Fluke 771 you no longer need to lift a wire from a terminal (break the loop) to measure 4-20 mA which has a direct impact on your maintenance time. With the Fluke 771 there is no need to call a control room to override the control of a process loop when breaking the loop and you save time when testing analog I/O on a PLC if you do not need to check measurements on a console. In addition, the Fluke 771 can have another impact on your overall cost by eliminating catastrophic plant outage caused by accidentally opening a critical loop.

- Measure 10-50 mA signals in older control systems using the 99.9 mA range
- Automatic battery savings features
 - Power, 15 minutes automatic power down
 - Backlight, 2 minutes, automatic off
 - Spotlight, 2 minutes, automatic off

Automatic battery saving features can be disabled if desired.

- Measure mA signals for PLC and control system analog I/O
- Measure 4-20 mA output signals from transmitters without breaking the loop
- Best in class 0.2% accuracy
- Resolution and sensitivity to 0.01 mA
- Hold function captures and displays changing measurements
- Dual backlit display with both mA measurement and percent of 4-20 mA span
- Measurement Spotlight illuminates hard to see wires in dark enclosures
- Detachable clamp with extension cable for measurements in tight locations

Specifications

Function	Range	Resolution	Accuracy	Features
Measuring and troubleshooting 4-20 mA signals	-20.99 to +20.99 mA	0.01 mA	0.2% or reading + 5 counts	Zero, Hold, backlight, measurement spotlight
Measuring and troubleshooting 10-50 mA signals	-21.0 to -99.9 mA +21.0 to +99.9 mA	0.1 mA	1% reading + 5 counts	Zero, Hold, backlight, measurement spotlight



Included Accessories

Soft carrying case, users manual

Ordering Information

Fluke 771 Milliamp Process Clamp Meter

Operating Temperature: -10 to 55 °C

Storage Temperature: -25 to 70 °C

Operating Humidity: < 95% @ <30 °C, < 75% @ 30 to 55 °C

Operating Altitude: 0 to 2000 m

IP Rating: IP 40

Size (HxWxD): 212 mm x 59 mm x 38 mm

Weight: 0.26 kg

Vibration: Random 2g, 5 to 500 Hz

Shock: 1 meter drop test (except the jaw)

Safety: EMI, RFI, EMC - Meets EN61326-1

Temperature Coefficients: 0.01% / °C

Battery: AA 1.5 V Alkaline (2), IEC LR6

Battery Life: 20 hours typical

Warranty: Three-years, electronics, 1-year for clamp cable assembly

787/789 ProcessMeters



Fluke 787



Fluke 789



True RMS

Double your power

The Fluke 787 and 789 ProcessMeters combine a Digital Multimeter and a Loop Calibrator in one rugged handheld tool, giving process technicians double the power.

The Fluke 789 has a built-in 24 V loop supply which reduces the need for taking a separate power supply when doing offline transmitter testing. The IR communication port of the Fluke 789 allows data to be logged to optional

FlukeView Software for graphical analysis and reporting.

Features

	787	789
DMM and Loop Calibrator in one tool	●	●
Precision 1000 V, 440 mA True RMS Digital Multimeter	●	●
DC current source and Loop Calibrator	●	●
24 V Loop power supply		●
Min/Max / Average / Hold / Relative Modes	●	●
Diode Test and Continuity Beeper	●	●
Manual Step (100%, 25%, Coarse, Fine) plus Auto Step and Auto Ramp	●	●
Simultaneous mA and % of scale read-out	●	●
Externally accessible battery / fuses	●/-	●/●
HART mode setting with loop power and a built-in 250 Ω resistor		●
0% and 100% buttons to toggle between 4 and 20 mA sourcing for a quick span check		●
Infrared I/O serial port		●

Specifications

	787	789
Voltage measurements		
Range	0-1000 V AC or DC	0-1000 V AC or DC
Resolution	0.1 mV to 1.0 V	0.1 mV to 1.0 V
Accuracy	0.1% Rdg+1 LSD (V DC)	0.1% Rdg+1 LSD (V DC)
Current measurement		
Range	0-1 A 0-30 mA	0-1 A 0-30 mA
Resolution	1 mA 0.001 mA	1 mA 0.001 mA
Accuracy	0.2%+2 LSD 0.05%+2 LSD	0.2%+2 LSD 0.05%+2 LSD
Current Sourcing		
Range	0-20 mA or 4-24 mA	0-20 mA or 4-24 mA
Accuracy	0.05% of span	0.05% of span
Other specifications		
Max drive capability	500 Ω	1200 Ω
Loop power	N/A	24 V
Resistance measurement	To 40 MΩ, 0.2%+1 LSD	To 40 MΩ, 0.2%+1 LSD
Frequency	To 19.999 kHz, 0.005%+1 LSD	To 19.999 kHz, 0.005%+ LSD
Continuity	Beeps for resistance < 100 Ω	Beeps for resistance < 100 Ω
Span Check	No	Yes

Maximum voltage: 1000 V
Operating temperature: -20 to 55°C

787
Size (HxWxD): 201 mm x 98 mm x 52 mm
Weight: 0.642 kg
Battery: One 9 V alkaline
Battery life: 12 to 50 hours typical
Three Year Warranty

789
Size (HxWxD): 203 mm x 100 mm x 50 mm
Weight: 0.6 kg
Battery: Four AA alkaline batteries
Battery life: 14 to 140 hours typical
Three Year Warranty

Included Accessories

787: Yellow Holster (H80M excl. TPAK), TL75 Hard Point Test Lead Set plus AC72 Alligator Clips, one 9V battery, user manual
 789: TL71 Test Lead Set plus AC72 Alligator Clips, four 9V AA alkaline batteries, user manual and quick reference guide.

Ordering Information

Fluke 787 ProcessMeter
 Fluke 789 ProcessMeter
 FVF-SC2 FlukeView Forms Software including interface cable

Recommended Accessories



C125
See page 106



TL220
See page 100



80T-150U
See page 104



i400
See page 102



i410
See page 103

Field Calibrator Accessories



Fluke 700 Series Pressure Modules

- Ranges from 2.5 mbar to 700 bar.
- Gage, differential, dual (compound), absolute and vacuum modules
- Very high accuracy: up to 0.025% FS
- Full-accuracy performance for 0°C to 50°C
- Pressure readings update twice per second, and may be displayed in up to 11 different units
- Compatible with Fluke 717, 718, 725 and 74x series.
- Rugged cases protect the modules from harsh environments
- All modules include NIST traceable certificate and test data
- ATEX certified Ex versions available (Ex II 1 Eex ia IIB T4)

Model		Range (approx.)	Resolution uncertainty (23 ± 3°C) (FS)	Reference	High side media	Low side media	Fitting material	Max overpressure ²⁾
Differential								
700P00		2.5 mbar	0.001 mbar	0.3 %	Dry ¹⁾	Dry	316 SS	30x
700P01/700P01Ex	Ex	25 mbar	0.01 mbar	0.2 %	Dry	Dry	316 SS	3x
700P02		70 mbar	0.007 mbar	0.15 %	Dry	Dry	316 SS	3x
700P22		70 mbar	0.007 mbar	0.1 %	316 SS	Dry	316 SS	3x
700P03		340 mbar	0.01 mbar	0.05 %	Dry	Dry	316 SS	3x
700P23		340 mbar	0.01 mbar	0.025 %	316 SS	Dry	316 SS	3x
700P04		1000 mbar	0.1 mbar	0.025 %	Dry	Dry	316 SS	3x
700P24/700P24Ex	Ex	1001 mbar	0.1 mbar	0.025 %	316 SS	Dry	316 SS	3x
Gage								
700P05/700P05Ex	Ex	2 bar	0.1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P06/700P06Ex	Ex	7 bar	0.7 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P27/700P27Ex	Ex	20 bar	1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P07		34 bar	1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P08		70 bar	7 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P09/700P09Ex	Ex	100 bar	10 mbar	0.025 %	316 SS	N/A	316 SS	2x
Absolute								
700PA3		340 mbar	0.01 mbar	0.05 %	316 SS	N/A	316 SS	3x
700PA4/700PA4Ex	Ex	1000 mbar	0.1 mbar	0.05 %	316 SS	N/A	316 SS	3x
700PA5		2 bar	0.1 mbar	0.05 %	316 SS	N/A	316 SS	3x
700PA6		7 bar	0.7 mbar	0.05 %	316 SS	N/A	316 SS	3x
Vacuum								
700PV3		-340 mbar	0.01 mbar	0.04 %	316 SS	Dry	316 SS	3x
700PV4		-1000 mbar	0.1 mbar	0.04 %	316 SS	Dry	316 SS	3x
Dual								
700PD2		± 70 mbar	0.007 mbar	0.15 %	316 SS	Dry	316 SS	3x
700PD3		± 340 mbar	0.01 mbar	0.04 %	316 SS	Dry	316 SS	3x
700PD4		±1000 mbar	0.1 mbar	0.025 %	316 SS	Dry	316 SS	3x
700PD5		-1000/+2000 mbar	0.1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700PD6		-1000 mbar/+6.9 bar	1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700PD7		-1000 mbar/+13.8 bar	1 mbar	0.04 %	316 SS	N/A	316 SS	3x
High								
700P29/700P29Ex	Ex	200 bar	0.01 bar	0.05 %	C276	N/A	C276	2x
700P30		340 bar	0.01 bar	0.05 %	C276	N/A	C276	2x
700P31		700 bar	0.07 bar	0.05 %	C276	N/A	C276	1.5x

¹⁾"Dry" indicates dry air or non-corrosive gas as compatible media. "316 S S" indicates media compatible with Type 316 Stainless Steel. "C276" indicates media compatible with Hastelloy C276.
²⁾Maximum overpressure specification includes common mode pressure.

Other accessories



Fluke 700LTP-1

Fluke 700PTP-1

700LTP-1 Low-pressure Test Pump

- For low pressure applications
- Vacuum to -13 psi / -.90 bar
- Pressure to 100 psi / 6.9 bar
- With fine-control, adjustable relief valve and slow bleed capability

700PTP-1 Pneumatic Test Pump-1

- Handheld pressure pump
- Pressures up to 600 psi, 40 bar

700HTP-1 Hydraulic Test Pump

- Pressures up to 10,000 psi/690 bar.

700PRV-1 Pressure Relief Valve

- Pressure relief valve for 700HTP-1
- Adjustable from 725 to 5800 PSI (50 to 200 bar)

700HTH-1 Hydraulic Test Hose

- Hydraulic test hose is a 10,000 psi, 690 bar

700ILF In-Line Filter for the Fluke 718

700PCK Pressure Module Calibration Kit

BP7235 NiMH Battery Pack

BE9005 Battery Eliminator