

## Fluke 725Ex Intrinsically Safe Multifunction Process Calibrator

**Simply powerful intrinsically safe calibration tool**



The new Fluke 725Ex Intrinsically Safe Multifunction Process Calibrator is powerful yet easy-to-use. Combined with the new Fluke 700PEX Pressure Modules, the 725Ex is able to calibrate almost any process instrument likely to need service in an area where explosive gasses may be present. The Fluke 725Ex Intrinsically Safe Calibrator is a powerful, new intrinsically safe, multifunction calibration solution that offers:

- ATEX ⚡ II 1G EEx ia IIB 171 °C KEMA 04ATEX 1303X
- I.S. Class I, Division 1 Groups B-D, 171 °C compliance
- Measure volts dc, mA, RTDs, thermocouples, frequency and ohms
- Source or simulate volts dc, mA, RTDs, thermocouples, frequency and ohms
- Two channel simultaneous source and measure capability for calibration of transmitters
- Power transmitters with internal loop supply
- Store frequently-used test setups for later use
- Pressure measurement to 3,000 psi/200 bar using any of the 8 intrinsically safe Fluke 700PEX Pressure Modules
- Pressure switch test function to capture set, reset and deadband values
- Compact size and weight
- Simple, push-button user interface
- Rugged and reliable, for field use

### Summary specifications

(18 °C to 28 °C for one year)

### ATEX Compliant

Function Measure or Source	Range	Resolution	Accuracy	Notes
Voltage	0 to 100 mV 0 to 10 V (source) 0 to 30 V (measure)	0.01 mV 0.001 V 0.001 V	0.02 % Rdg + 2 LSD	Max load, 1 mA
mA	0 to 24	0.001 mA	0.02 % Rdg + 2 LSD	Max load, 500 W @ 20 mA
mV (TC terminals)	-10.00 mV to +75.00 mV	0.01 mV	0.025 % or range + 1 LSD	
Resistance	15 Ω to 3200 Ω (source)	0.01 Ω to 0.1 Ω	0.10 Ω to 1.0 Ω	
Frequency	2.0 to 1000.0 CPM 1 to 1000 Hz 1 to 10.0 kHz	0.1 CPM 1 Hz 0.1 kHz	± 0.05 % ± 0.05 % ± 0.25 %	For frequency source, waveform is 5 V p-p squarewave, -0.1 V offset
Loop supply	12 V	N/A	10 %	

Temperature coefficient: -10 °C to 18 °C, 28 °C to 55 °C, ± .005 % of range per °C

## Features



Simultaneous Function Capability	Channel A	Channel B
24.000 mA DC	M	M or S
24.000 mA DC with loop supply	M	
100.00 mV DC		M or S
30.000 V DC Measure	M	
20.000 V DC Measure		M or S
10.000 V DC Source		
15 to 3200 Ohms		M or S
Thermocouple J, K, T, E, R, S, B, L, U, N		M or S
RTD Ni120; Pt100 (392); Pt100 (JIS); Pt100, 200, 500, 1000 (385)		M or S
Pressure (using Fluke 700PEX modules)	M	M used as S
Frequency; Squarewave, 1 CPM to 10 kHz; fixed amplitude 5V p-p		M or S

M = Measure S = Source/Simulate

## General Specifications

Maximum voltage	30 V
Temperature	-40 °C to 71 °C (storage), 10 °C to 55 °C (operating)
Relative humidity	95 % (10 to 30 °C); 75 % (30 to 40 °C); 45 % (40 to 50 °C); 35 % (50 to 55 °C)
Shock	30 g, 11 ms, half-sine shock (or 1 meter drop test)
Vibration	Random, 2 g, 5-500 Hz
Size (HxWxD)	200 x 96 x 47 mm
Weight	650 g
Battery	Four AA alkaline batteries. Battery life: 25 hours typical
Safety	ATEX ( II 1G EEx ia IIB) 171 °C KEMA O4ATEX 1303X I.S. Class I, Div 1 Groups B-D, 171 °C compliant
EMC	EN50082-1:1992 abd EN55022:1994 Class B
Warranty	One year

## Thermocouple accuracy specifications

Thermocouple	Measure or Source	
J	-200 to 0 °C	1.0 °C
	0 to 1200 °C	0.7 °C
K	-200 to 0 °C	1.2 °C
	0 to 1370 °C	0.78 °C
T	-200 to 0 °C	1.0 °C
	0 to 400 °C	0.8 °C
E	-200 to 0 °C	0.9 °C
	0 to 950 °C	0.7 °C
R	-20 to 0 °C	2.5 °C
	0 to 500 °C	1.8 °C
	500 to 1750 °C	1.4 °C
S	-20 to 0 °C	2.5 °C
	0 to 500 °C	1.8 °C
	500 to 1750 °C	1.5 °C
B	600 to 800 °C	2.2 °C
	800 to 1000 °C	1.8 °C
	1000 to 1800 °C	1.4 °C
L	-200 to 0 °C	0.85 °C
	0 to 900 °C	0.7 °C
U	-200 to 0 °C	1.1 °C
	0 to 400 °C	0.75 °C
N	200 to 0 °C	1.5 °C
	0 to 400 °C	0.9 °C
<b>Resolution</b>		
J, K, T, E, L, N, U	0.1 °C, 0.1 °F	
B, R, S	1 °C, 1 °F	
<b>Notes</b>		
Accuracy specifications include 0.2 °C cold junction uncertainty		

## RTD Types, Ranges and Accuracies

		Measure (4 wire)	Source
Ni 120	-80 °C to 260 °C	0.2 °C	0.2 °C
Pt 100 - 385	-200 °C to 800 °C	0.33 °C	0.33 °C
Pt 100 - 3926	-200 °C to 630 °C	0.3 °C	0.3 °C
Pt 100 - 3916 (JIS)	-200 °C to 630 °C	0.3 °C	0.3 °C
Pt 200 - 385	-200 °C to 250 °C	0.2 °C	0.2 °C
	250 °C to 630 °C	0.8 °C	0.8 °C
Pt 500 - 385	-200 °C to 500 °C	0.3 °C	0.3 °C
	500 °C to 630 °C	0.4 °C	0.4 °C
Pt 1000 - 385	-200 °C to 100 °C	0.2 °C	0.2 °C
	100 °C to 630 °C	0.3 °C	0.2 °C
<b>Resolution</b>			
RTD	0.1 °F, 0.1 °F		

## Ordering Information

### Fluke-725Ex Intrinsically Safe Multifunction Process Calibrator


#### Each calibrator includes:

Protective red holster, TL 75 test leads, AC 72 test clips, one pair of stackable test leads, CD users manuals (English, French, German, Spanish, Italian, Dutch, Norwegian, Danish, Swedish, Finnish, Portuguese, Korean, Chinese, Japanese), 725Ex CCD control drawing, Statement of Quality Assurance Practices, NIST traceable calibration certificate

# Fluke 700Ex Intrinsically Safe Pressure Modules



To measure a wide range of pressure in an explosive endangered area the range of pressure modules is extended with 8 ATEX compliant models. These models are compatible with the Fluke 725Ex intrinsically safe pressure calibrator.

- ATEX  II 1G EEx ia IIC T4 Compliant
- Ranges from 2.5 mbar to 200 bar
- Choice of gage, differential and absolute modules
- Very high accuracy up to 0.025%
- Compatible with Fluke 725Ex and 718Ex
- Rugged cases protect the modules in harsh environments

## Pressure Module Specifications

## ATEX Compliant


700Ex

Model	Range (approx)	Resolution	Reference Uncertainty (23 ± 3 °C)	High Side media	Low side media	Fitting material	Max overpressure <sup>2)</sup>
<b>Differential</b>							
Fluke-700P01Ex	25 mbar	0.01 mbar	0.2%	Dry <sup>1)</sup>	Dry	316 SS	3x
Fluke-700P24Ex	1001 mbar	0.1 mbar	0.025%	316 SS	Dry	316 SS	3x
<b>Gage</b>							
Fluke-700P05Ex	2 bar	0.1 mbar	0.025%	316 SS	N/A	316 SS	3x
Fluke-700P06Ex	7 bar	0.7 mbar	0.025%	316 SS	N/A	316 SS	3x
Fluke-700P27Ex	20 bar	1 mbar	0.025%	316 SS	N/A	316 SS	3x
Fluke-700P09Ex	100 bar	10 mbar	0.025%	316 SS	N/A	316 SS	2x
<b>Absolute</b>							
Fluke-700PA4Ex	1000 mbar	0.1 mbar	0.05%	316 SS	N/A	316 SS	3x
<b>High</b>							
Fluke-700P29Ex	200 bar	0.01 bar	0.05%	C276	N/A	C276	2x

1) "Dry" indicates dry air or non-corrosive gas as compatible media. "316 SS" indicates media compatible with Type 316 Stainless Steel. "C276" indicates media compatible with Hastelloy C276.

2) Maximum overpressure specification includes common mode pressure.

## General Specifications

Pressure module output	LEMO connector
Operating temperature	-10 °C to 55 °C
Non-operating temperature	-40 °C to 60 °C
Relative humidity	95 % (10 to 30 °C)
(%RH operating without condensation)	75 % (30 to 40 °C)
	45 % (40 to 50 °C)
	35 % (50 to 55 °C)
Vibration	Random, 2g, 5-500 Hz
Shock	1 Meter Drop test
Safety	ATEX  II 1G EEx ia IIC T4 Compliant
	CSA Certification I.S. Class I, Div 1 Groups A-D, T4
Warranty	1 year

## Ordering Information

Fluke-700P01Ex Pressure Module (25 mbar)  
 Fluke-700P24Ex Pressure Module (1001 mbar)  
 Fluke-700P05Ex Pressure Module (2 bar)  
 Fluke-700P06Ex Pressure Module (7 bar)  
 Fluke-700P27Ex Pressure Module (20 bar)

Fluke-700P09Ex Pressure Module (100 bar)  
 Fluke-700PA4Ex Pressure Module (1000 mbar)  
 Fluke-700P29Ex Pressure Module (200 bar)

# FLUKE®

## Process Tools Family

The Fluke range of process tools give you all the choice you need to maintain and calibrate virtually all types of sensors and transmitters.

Whether you want all the required functionality in just one tool, or a dedicated tool for temperature or pressure only, the choice is yours. Whatever the environment, these tools have the ruggedness and reliability that has made Fluke the brand of choice for maintenance professionals around the world.

Only Fluke covers your troubleshooting and calibration needs with such a complete line of handheld test tools. Check the range for yourself, and see how they will help to keep your world up and running.



**Fluke.** *Keeping your world up and running.*

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