

Fluke 721 and 721Ex Precision Pressure Calibrators

Technical Data

Pressure calibration and temperature measurement for custody transfer applications

The Fluke 721 and 721Ex Precision Pressure Calibrators with dual isolated pressure sensors are the ideal tool for gas custody transfer applications allowing you to take simultaneous static and differential pressure measurements with a single tool.



Product highlights

The 721 and 721Ex can be configured by selecting either a 16 PSI (1.1 bar) or 36 psi (2.48 bar) low pressure sensor then add any of 7 high pressure ranges including 100, 300, 500, 1000, 1500, 3000 or 5000 psi (6.9, 20, 24.5, 69, 103.4, 200, 345 bar).

- Intrinsically Safe (721Ex version only) – IECEx and Atex Ex ia IIB T3 Gb (Zone 1)
- Ideal for gas flow calibration (custody transfer) applications
- Two isolated, stainless steel, pressure sensors with 0.025 % accuracy
- Switch test on both pressure inputs
- Pressure displayed in the user's choice of 19 engineering units
- Pt100 RTD input for temperature measurement, (probe optional)
- Measures 4 to 20 mA signals
- Internal 24 V loop power supply can power a transmitter under test (721 models only)
- Measure up to 30 V dc, check 24 V loop power supplies (721 models only)
- Extend pressure measurement range with connection to one of 50 external 750 series pressure modules from 0 to 1 inH₂O to 10,000 psi (2.5 mBar to 690 bar) (721 models only)
- Large backlit graphic display can display up to three inputs simultaneously
- Store five instrument setups for recall and use

Specifications 1-year

		Low pressure sensor			High pressure sensor		
Model	Description	Range sensor 1	Resolution sensor 1	Accuracy sensor 1	Range sensor 2	Resolution sensor 2	Accuracy sensor 2
Fluke-721-1601 Fluke-721Ex-1601	Dual Sensor Pressure Calibrator, 16 PSIG, 100 PSIG	-14 psi to +16 psi -0.97 bar to 1.1 bar	0.001 psi, 0.0001 bar	0.025 % of full scale	-12 psi to +100 psi -0.83 bar to 6.9 bar	0.01 psi 0.0001 bar	0.025 % of full scale
Fluke-721-1603 Fluke-721Ex-1603	Dual Sensor Pressure Calibrator, 16 PSIG, 300 PSIG				-12 psi to +300 psi -0.83 bar to 20 bar	0.01 psi 0.001 bar	
Fluke-721-1605 Fluke-721Ex-1605	Dual Sensor Pressure Calibrator, 16 PSIG, 500 PSIG				-12 psi to +500 psi -0.83 bar to 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-1610 Fluke-721Ex-1610	Dual Sensor Pressure Calibrator, 16 PSIG, 1000 PSIG				0 psi to +1000 psi 0.00 bar to 69 bar	0.1 psi 0.001 bar	
Fluke-721-1615 Fluke-721Ex-1615	Dual Sensor Pressure Calibrator, 16 PSIG, 1500 PSIG				0 psi to +1500 psi 0.00 bar to 103.4 bar	0.1 psi 0.001 bar	
Fluke-721-1630 Fluke-721Ex-1630	Dual Sensor Pressure Calibrator, 16 PSIG, 3000 PSIG				0 psi to +3000 psi 0.00 bar to 200 bar	0.1 psi 0.01 bar	
Fluke-721-1650 Fluke-721Ex-1650	Dual Sensor Pressure Calibrator, 16 PSIG, 5000 PSIG				0 psi to +5000 psi 0.00 bar to 345 bar	0.1 psi 0.01 bar	0.035 % of full scale
Fluke-721-3601 Fluke-721Ex-3601	Dual Sensor Pressure Calibrator, 36 PSIG, 100 PSIG	-14 psi to +36 psi -0.97 bar to 2.48 bar	0.001 psi, 0.0001 bar	0.025 % of full scale	-12 to +100 psi -0.83 bar to 6.9 bar	.01 psi 0.0001 bar	0.025% of full scale
Fluke-721-3603 Fluke-721Ex-3603	Dual Sensor Pressure Calibrator, 36 PSIG, 300 PSIG				-12 psi to +300 psi -0.83 bar to 20 bar	0.01 psi 0.001 bar	
Fluke-721-3605 Fluke-721Ex-3605	Dual Sensor Pressure Calibrator, 36 PSIG, 500 PSIG				-12 psi to +500 psi -0.83 bar to 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-3610 Fluke-721Ex-3610	Dual Sensor Pressure Calibrator, 36 PSIG, 1000 PSIG				0 psi to +1000 psi 0.00 bar to 69 bar	0.1 psi 0.001 bar	
Fluke-721-3615 Fluke-721Ex-3615	Dual Sensor Pressure Calibrator, 36 PSIG, 1500 PSIG				0 psi to +1500 psi 0.00 bar to 103.4 bar	0.1 psi 0.01 bar	
Fluke-721-3630 Fluke-721Ex-3630	Dual Sensor Pressure Calibrator, 36 PSIG, 3000 PSIG				0 psi to +3000 psi 0.00 bar to 200 bar	0.1 psi 0.01 bar	
Fluke-721-3650 Fluke-721Ex-3650	Dual Sensor Pressure Calibrator, 36 PSIG, 5000 PSIG				0 psi to +5000 psi 0.00 bar to 345 bar	0.1 psi 0.01 bar	0.035 % of full scale

General specifications	
Instrument setup recall	Last used on power-up
Environmental	Operating temperature -10 °C to +50 °C (Fluke 721) Operating temperature -10 °C to +45 °C (Fluke 721Ex) Storage temperature (without batteries) -20 °C to +60 °C
Altitude	2,000 meters
Ingress protection	IP-40
Power requirements	6.0 v dc
Battery life	>35 hours, typical usage
Batteries required	(4) Standard AA cells
Dimensions (HxWxD)	7.9" X 4.3" X 2.3" (20 cm X 11 cm X 5.8 cm)
Weight	0.3539 kg (1 lb 3 oz)
Connectors/ports pressure	Two, 1/8 in NPT, 750P Series Pressure Module (721 models only); RTD Probe

Electrical and temperature measurement 1-year			
Function	Range	Resolution	Accuracy
mA measure	0 to 24 mA	0.001 mA	±0.015% of rdg ±0.002mA
VDC measure**	0 to 30 VDC	0.001V	±0.015% of rdg ±0.002V
*Temperature measurement (RTD/Ohms)	-40 °C to 150 °C (-40 °F to 302 °F)	0.01 °C, 0.01 °F	±0.015% of rdg ±0.02 ohms; ±0.1°C (±0.2°F) ±0.25 degC (±0.45 degF) combined uncertainty when using 720 RTD probe accessory
Loop power supply**	24V	N/A	24 mA @ 24V
*Temperature measurement requires optional Fluke-720RTD Pt-100 RTD probe available as an accessory **721 models only			

Temperature effect	
No effect on accuracy on all functions from 15 °C to 35 °C	
Add ± 0.002 % F.S./°C for temps outside of 15 °C to 35 °C	

Ordering information

Fluke-721-1601 Fluke-721Ex-1601	Dual Sensor Pressure Calibrator 16 PSIG, 100 PSIG
Fluke-721-1603 Fluke-721Ex-1603	Dual Sensor Pressure Calibrator 16 PSIG, 300 PSIG
Fluke-721-1605 Fluke-721Ex-1605	Dual Sensor Pressure Calibrator 16 PSIG, 500 PSIG
Fluke-721-1610 Fluke-721Ex-1610	Dual Sensor Pressure Calibrator 16 PSIG, 1000 PSIG
Fluke-721-1615 Fluke-721Ex-1615	Dual Sensor Pressure Calibrator 16 PSIG, 1500 PSIG
Fluke-721-1630 Fluke-721Ex-1630	Dual Sensor Pressure Calibrator 16 PSIG, 3000 PSIG
Fluke-721-1650 Fluke-721Ex-1650	Dual Sensor Pressure Calibrator 16 PSIG, 5000 PSIG
Fluke-721-3601 Fluke-721Ex-3601	Dual Sensor Pressure Calibrator 36 PSIG, 100 PSIG
Fluke-721-3603 Fluke-721Ex-3603	Dual Sensor Pressure Calibrator 36 PSIG, 300 PSIG
Fluke-721-3605 Fluke-721Ex-3605	Dual Sensor Pressure Calibrator 36 PSIG, 500 PSIG
Fluke-721-3610 Fluke-721Ex-3610	Dual Sensor Pressure Calibrator 36 PSIG, 1000 PSIG
Fluke-721-3615 Fluke-721Ex-3615	Dual Sensor Pressure Calibrator 36 PSIG, 1500 PSIG
Fluke-721-3630 Fluke-721Ex-3630	Dual Sensor Pressure Calibrator 36 PSIG, 3000 PSIG
Fluke-721-3650 Fluke-721Ex-3650	Dual Sensor Pressure Calibrator 36 PSIG, 5000 PSIG
Fluke-720RTD	RTD Probe for Fluke-721, 721Ex and 719Pro
Fluke-720URTD	Universal RTD adapter for Fluke-721, 721Ex and 719Pro

Included:

- Soft case
- Four (4) AA batteries
- Manual
- Traceable calibration certificate
- Test leads

721Ex Approval Details

ATEX	Ex ia IIB T3 Gb (Ta= -10... +45 °C)
	KEMA 10 ATEX 0168X
IECEX	Ex ia IIB T3 Gb (Ta= -10...+45 °C)
	II 2 G IECEX CSA 10.0013X

User selectable pressure engineering units

psi, bar, mbar, kPa, kgcm², cmH₂O@4°C, cmH₂O@20°C,
mH₂O@4°C, mH₂O@20°C, inH₂O@4°C, inH₂O@20°C,
inH₂O@60°F, mmHg@0°C, inHg@0°C, ftH₂O@4°C,
ftH₂O@20°C, ftH₂O@60°F