

Technical Data

Fluke 729 Pro

Automatic Pressure Calibrator

Portable pressure calibrator with replaceable module



Key features

Fluke 729 Pro

- **Automatic pressure generation and regulation to 7MPa**
- **Replaceable pressure control modules**
- **Weight <5kg**
- **Built-in test template, one-key calibration**
- **HART communication**
- **Pressure leakage testing**
- **Automatic fine-pressure adjustment, automatic pressure stabilization**
- **Quick replaceable Li-ion battery**
- **Quick relief valve with muffler**
- **Extend measurement range with 750P Series pressure modules**
- **Measure temperature with 720RTD probe**
- **Bright dual-three-channel /color graphic display**
- **Rugged and portable design with standard 3-year warranty**

The Fluke 729 Pro Automatic Pressure Calibrator is designed specifically for process technicians to simplify the pressure calibration process and provide faster, more accurate test results.

With an automatic internal electric pump, a target pressure can be set in 729 Pro. The calibrator will automatically pump to the desired set-point. Then, internal fine adjustment control automatically stabilizes the pressure at the required value.

The Fluke 729 Pro can also automatically test multiple pressure test points and automatically document the results. Calibration is as easy as typing in the starting and ending pressure and the number of test points and tolerance level. The 729 does the rest.

Built-in HART communication capabilities enable HART transmitter mA adjustments, light HART configuration and the ability to adjust to applied 0 % and 100 % pressure values.

Fluke 729 Pro achieves 7MPa automatic pressure calibration with excellent portability of less than 5kg. Engineers are no longer restricted by the environment and can perform efficient calibration at will. The 729 Pro can be widely used in electric power, petroleum, chemical, pharmaceutical, metrology, metallurgy, biology, food, transportation and automobile manufacturing.

Automatic pressure generation and regulation to 7MPa (70 bar, 1000psi). Enter a pressure up to 7 MPa and the 729 Pro will automatically pump to the desired pressure. The 729 Pro can also output changing pressure in step values or a linear ramp.

Easy calibration documentation using well-defined templates for transmitters and switches. Type in the starting and ending test pressures and number of test points, the 729 Pro does the rest by documenting the applied pressure, measured mA and % error for each test point. The bright color graphical display will flag test results that are out of tolerance in red.

Plug-in replaceable pressure control modules. Freely switch the pressure output range to achieve range matching without having to buy a complete new calibrator.

No tools required replaceable Li-ion battery. The lithium battery equipped can be charged separately or with the device, along with a capacity indicator to confirm the power before installation. It is easy to replace the battery without any tools.

HART communication enables mA output trim, which can be trimmed to applied values, and pressure zero trimming of HART pressure transmitters. It makes configuration tasks much easier, such as changing a transmitter tag, measurement units and ranges. Other supported HART commands include setting fixed mA outputs for troubleshooting, reading device configuration parameters and reading device diagnostics.

Key parameters

| | 729Pro 7M | 729Pro 4M |
|---|--|--|
| Key parameters | | |
| Pressure control range | (-13 to 1000) psi (-90 to 7000) kPa (-0.90 to 70) bar | (-13 to 600) psi (-90 to 4000) kPa (-0.90 to 40) bar |
| Pressure type | Gauge/absolute (Depends on the type of pressure module) | |
| Control stability | 0.005% of FS, minimum | |
| Built-in replaceable pressure control modules | Yes, 6 modules | Yes, 4 modules |
| External pressure measurement modules | 750 Series pressure modules, 50 models ranging from 0 to 1 in H2O, 2.5 mbar, 250 Pa to 10,000 psi, 70 bar, 7 MPa | |
| mA sourcing/measurement | Yes | |
| Voltage measurement | Yes | |
| Loop power | 24 V dc | |
| One-key calibration | Task templates make documented automatic calibrations easy. | |
| Pressure switch testing | Yes | |
| Pressure leakage testing | Yes | |
| HART | Yes | |
| Autostep / auto ramp | Yes (with customizable speed, mode and style) | |
| Log function | Yes | |
| Software | DPCTrack2 Calibration and Asset Management Software | |
| One-key pressure-relief | Yes (muffler) | |
| Battery | Rechargeable lithium battery with capacity indication (charged with the instrument or separately) | |
| Language | Simplified Chinese/English | |

Pressure module selection table

| Pressure module | Pressure type | Range | Resolution ^[3] | Overall uncertainty | 729Pro 4M | 729Pro 7M |
|-------------------------------|---------------|---|--|---------------------------|-----------|-----------|
| FLK-PMM-200K ^[1] | Gauge | (-15 to 30) psi (-100 to 200) kPa (-1 to 2) bar | 0.0001 psi 0.001 kPa 0.00001 bar | 0.02 % FS / year, maximum | • | • |
| FLK-PMM-200KA ^[2] | Absolute | (0 to 30) psi (0 to 200) kPa (0 to 2) bar | 0.0001 psi 0.001 kPa 0.00001 bar | 0.05 % FS / year, maximum | • | • |
| FLK-PMM-2000K ^[1] | Gauge | (-14 to 300) psi (-95 to 2000) kPa (-0.95 to 20) bar | 0.001 psi 0.01 kPa 0.0001 bar | 0.02 % FS / year, maximum | • | • |
| FLK-PMM-4000K ^[1] | Gauge | (-14 to 600) psi (-95 to 4000) kPa (-0.95 to 40) bar | 0.01 psi 0.01 kPa 0.0001 bar | 0.02 % FS / year, maximum | • | • |
| FLK-PMM-7000K ^[1] | Gauge | (-14 to 1000) psi (-95 to 7000) kPa (-0.95 to 70) bar | 0.01 psi 0.01 kPa 0.0001 bar | 0.02 % FS / year, maximum | | • |
| FLK-PMM-7000KA ^[2] | Absolute | (0 to 1000) psi (0 to 7000) kPa (0 to 70) bar | 0.01 psi 0.01 kPa 0.0001 bar | 0.02 % FS / year, maximum | | • |

[1] Measurement reference

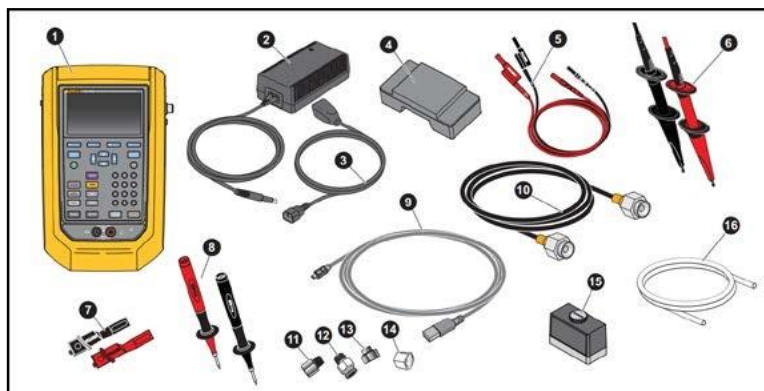
[2] Absolute reference

[3] Dry air or non-corrosive gases only / 15 °C to 35 °C

Specifications

| | 729Pro 7M | 729Pro 4M |
|--|--|-----------|
| Pressure specifications (See User Manual for detail specifications) | | |
| 1-year specifications | 0.02% of FS | |
| Control specifications | 0.005% of FS, minimum | |
| Electrical specifications (*All specifications are valid to 110 % of range, except 24 mA sourcing and simulating which are valid to 100 % of range) | | |
| mA measure, source and simulate | 0 mA to 24 mA (resolution of 1 μ A) | |
| Volts dc measurement | 0 V dc to 30 V dc (resolution of 1 mV) | |
| Accuracy | 0.01% FS \pm 2 LSD (23 $^{\circ}$ C \pm 5 $^{\circ}$ C) | |
| Stability | 20 ppm FS/ $^{\circ}$ C (-10 $^{\circ}$ C to +18 $^{\circ}$ C and 28 $^{\circ}$ C to 50 $^{\circ}$ C) | |
| Loop compliance voltage | 24 V dc @ 20 mA | |
| mA simulation working voltage | 12 V dc to 30 V dc | |
| Temperature measurement, 100 Ω Pt (385) RTD | -50 $^{\circ}$ C to +150 $^{\circ}$ C | |
| Temperature resolution | 0.01 $^{\circ}$ C | |
| Temperature accuracy | \pm 0.1 $^{\circ}$ C \pm 0.25 $^{\circ}$ C combined uncertainty when using 720 RTD probe (optional accessory) | |
| Drive capability (mA Source) | 1200 Ω (without HART resistor), 950 Ω (with internal HART resistor) | |
| Mechanical specifications | | |
| Dimensions (H x W x L) | 290 mm x 215 mm x 100 mm | |
| Weight | 4.9kg | |
| Environmental specifications | | |
| Operating temperature | -10 $^{\circ}$ C to 50 $^{\circ}$ C | |
| Pressure control | 0 $^{\circ}$ C to 50 $^{\circ}$ C | |
| Battery Charging | 0 $^{\circ}$ C to 40 $^{\circ}$ C | |
| Storage temperature | -20 $^{\circ}$ C to 60 $^{\circ}$ C | |
| Operating altitude | <3000 m | |
| Storage altitude | <13000 m | |
| Operating humidity | Non-condensing (<10 $^{\circ}$ C) \leq 90 % RH (10 $^{\circ}$ C to 30 $^{\circ}$ C) \leq 75 % RH (30 $^{\circ}$ C to 40 $^{\circ}$ C) \leq 45 % RH (40 $^{\circ}$ C to 50 $^{\circ}$ C) | |
| Safety | | |
| General | IEC 61010-1, pollution degree 2 | |
| Lithium battery | IEC 62133, UN 38.3; 14.4 V, 6.7Ah, 97Wh, 4ICR19/66-2 (4s2p) Charge input 19.5 V, 1.6 A | |





Product Kit

| Item | Description |
|-----------|---|
| 1 | 729 Pro Automatic Pressure Calibrator |
| 2 | AC/DC converter |
| 3 | Power cord |
| 4 | Rechargeable Li-ion battery |
| 5 | Stackable test lead set |
| 6 | AC280 Sure Grip hook set (red and black) |
| 7 | Alligator clips (red and black) |
| 8 | One set of TP220 test probes (red and black) |
| 9 | USB communication cable: Type-A for PC to Mini-B for the device, 1 m (3 ft) |
| 10 | Flexible hose, 2 mm diameter , 1.5 m (5 ft) length |
| 11 | Fitting, 1/8 in NPT-Female x 1/4 in NPT-Female |
| 12 | Fitting, 1/8 in NPT-Male x 1/4 in NPT-Male |
| 13 | Fitting, 1/8 in NPT-Female x M20 Female |
| 14 | Fitting, 1/4 in BSP-Female x 1/8 in NPT-Female |
| 15 | Pressure Measurement Module (PMM) |
| 16 | Hose for draining condensed water generated inside the Product. 1/8 in diameter, 1 ft length |
| Not shown | Adjustable quick-release strap for hanging the product, Safety Information, Traceable calibration report with data, PTFE tape |

Ordering Information

| Model | Description | Fluke P/N |
|----------------|--|-----------|
| FLK-729Pro 4M | Fluke 729 Pro Automatic Pressure calibrator, 4Mpa | 5300476 |
| FLK-729Pro 7M | Fluke 729 Pro Automatic Pressure Calibrator, 7Mpa | 5300483 |
| FLK-PMM-200K | Replaceable pressure module, (-15 to 30) psi, (-100 to 200) kPa, (-1 to 2) bar | 5299928 |
| FLK-PMM-2000K | Replaceable pressure module, (-14 to 300) psi, (-95 to 2000) kPa, (-0.95 to 20) bar | 5299955 |
| FLK-PMM-7000KA | Replaceable pressure module, absolute, (0 to 1000) psi, (0~7000) kPa, (0 to 70) bar | 5299962 |
| FLK-PMM-200KA | Replaceable pressure module, absolute, (0 to 30) psi, (0 to 200) kPa, (0 to 2) bar | 5299970 |
| FLK-PMM-7000K | Replaceable pressure module, (-14 to 1000) psi, (-95 to 7000) kPa, (-0.95 to 70) bar | 5299996 |
| FLK-PMM-4000K | Replaceable pressure module, (-14 to 600) psi, (-95 to 4000) kPa, (-0.95 to 40) bar | 5300006 |

Optional Accessories

| Description | Quantity | Fluke P/N |
|---|----------|-----------|
| BP729, Rechargeable Li-ion battery | 1 | 4817068 |
| AC power supply/ battery charger | 1 | 4878453 |
| International AC Adapter (except China) | 1 | 2441372 |
| Power cord, patch cord (except China) | 1 | 4542113 |
| Power cord (China only) | 1 | 2716592 |
| USB cable assembly | 1 | 4499448 |
| AC280, Suregrip hook set | 1 | 1610115 |
| Alligator clip set | 1 | 3765923 |
| Lead assembly, stackable test lead set | 1 | 3669716 |
| TP220, test probe, red | 1 | 3971276 |

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