### Ordering Information

#### Models
- 6270A-NPT: Modular Pressure Controller Chassis, NPT Manifold
- 6270A-BSP: Modular Pressure Controller Chassis, BSP Manifold
- 6270A-7/16: Modular Pressure Controller Chassis, SAE 7/16-20 Manifold

#### Control modules
- PCM-STD-20M: Pressure Control Module, Standard Turndown

#### Pressure modules
- Please refer to the Summary Specifications for details about the pressure measurement modules.

#### Accessories
- RMK-XX70: Rack Mount Kit, 19 in width, 2U
- CASE-6270: Shipping Case, 6270A
- CATN-7/16: Lines and Fittings Kit, 6270A NPT
- KIT-PMM-CAL-40M: Pressure Measurement Module Calibration Kit, 40 MPa (6000 psi)
- CPS-40M-HO40: Contamination Prevention System, 40 MPa (6000 psi) with HO40 Test Port and hand tight adaptors
- TST-40M-HO40: Test Station, 40 MPa (6000 psi) with HO40 Test Port and hand tight adaptors
- VA-PCC/MPC-REF-110: Vacuum Pump Package, 110 V
- VA-PCC/MPC-REF-220: Vacuum Pump Package, 220 V
- CDG-REF-1TORR: Capacitance Diaphragm Gauge for zeroing of absolute mode PM500 modules
- PK-PMM-ZERO: Interconnection Kit for zeroing of Absolute mode PM500 modules

Visit [www.flukecal.com](http://www.flukecal.com) for more information about Fluke Calibration products and services.
6270A features at a glance

- Calibrate a wide range of gauges and sensors with a single instrument
- Modular configuration makes this a versatile and economical solution
- Easy to operate
- Easy to maintain
- Wide measurement range—vacuum to 20 MPa (3000 psi)
- Three levels of accuracy let you balance accuracy and budget
- High speed, stable pressure control
- Localized graphical user interface in choice of nine languages
- Can be fully automated with COMPASS® for Pressure software
- Optional contamination prevention system helps keep valves clean and free from debris

The 6270A is ideal for pressure sensor manufacturers who want to avoid downtime on the production line and need a pressure source that performs both quickly and accurately. Its modular design makes it easy to maintain; its high-speed control and accuracy over a wide range give them the throughput they require.

Managers and technicians in calibration laboratories and instrument shops appreciate the 6270A calibrator's control precision and accuracy over a wide pressure range, which enables them to calibrate a wide range of devices with a single calibrator. They also like the contamination prevention option that provides an important safeguard against that pervasive hazard.

The 6270A is easy to learn and use, thanks to a graphical user interface and an intuitive hardware design.

Calibrate a wide workload—quickly, accurately, dependably

The 6270A features pressure ranges from low differential pressure to 20 MPa (3000 psi), which covers the requirements of most gauges and sensors. Three levels of accuracy, 0.02 % FS, 0.01 % reading from 50 % to 100 % of span or 0.01 % reading from 30 % to 100 % of span, let you balance your need for accuracy with the limits of your budget.

Thanks to its modular design, the 6270A is flexible enough that you can install modules with different accuracy classes within the same chassis. You can buy the highest level of accuracy for the pressure ranges that require it and a lower, more economical level of accuracy for everything else.

The 6270A’s accuracy specifications are provided in full and supported by a Technical Note that details its measurement uncertainty, so you know exactly what you are getting. The Technical Note is available for download on the flukecal.com website. As with all Fluke Calibration instruments, these specifications are conservative, complete, and dependable.

Wide rangingly assures wide workload coverage

The Pressure Control Module can handle a wide range of pressures. The 6270A features pulse-width-modulated control, a proven technology that enables it to deliver wide rangingly, the ratio of the maximum to the minimum specified measured value at which the instrument performs correctly. A wide rangingly is what enables you to calibrate a wide workload.

Cutting edge technology and performance

Three families of pressure measurement modules provide three levels of performance that let you set up a system that matches your needs for accuracy and value.

<table>
<thead>
<tr>
<th>Good, P4000 pressure measurement modules</th>
<th>Better, P5000 pressure measurement modules</th>
<th>Best, P6000 pressure measurement modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.02 % FS specification makes it ideal for calibrating or testing pressure dial gauges and pressure switches</td>
<td>Highly characterized and linearized silicon pressure sensor provides an economical way of making accurate pressure measurements</td>
<td>Fluke Calibration Quartz Reference Pressure Transducer (Q-RPT) technology provides precise pressure measurement with long term stability</td>
</tr>
<tr>
<td>Rugged, silicon pressure sensor design allows for faster pressure control</td>
<td>0.01 % reading measurement uncertainty from 62 % to 120 % for most ranges allows for a wide workload coverage</td>
<td>0.01 % reading measurement uncertainty from 30 % to 100 % of the modules’ span allows for extremely wide workload coverage</td>
</tr>
<tr>
<td>Economic price point helps facilitate the purchase of back-up modules</td>
<td>More than 45 ranges, from low differential pressure up to 20 MPa (3000 psi)</td>
<td>Onboard barometer included with absolute pressure measurement that allows them to be used in both absolute and gauge mode</td>
</tr>
</tbody>
</table>

Safety features protect operators and instruments

Each measurement and control module, as well as the main chassis, has pressure relief valves to protect the instrument and its operators from accidental overpressure. The 6270A has been designed using Sound Engineering Practices (SEP). With the internal relief valves, user-settable pressure limits, and emergency abort button, safety is the highest priority.

Preventing contamination

If your workload includes devices that contain different substances like water, oil, and gas, you could be at risk for contamination—something getting into your system that isn’t supposed to be there. Contamination can clog a calibrator’s valves, wear out its parts, and make it difficult to maintain pressure. If the contamination gets into the sensor, it can actually change the calibrator’s behavior and throw off your readings. If contamination is a concern for you, order the optional 6270A Contamination Prevention System (CPS) to help keep the calibrator’s valves clean and free from debris.

The CPS provides an unprecedented level of protection by maintaining uni-directional flow away from the controller, a gravity sump system, and a two-stage filtering system.

Create an automated piston gauge system

The 6270A is a flexible workhorse on its own, but you can also use it as the first step in creating an automated piston gauge system. Use the 6270A with a Fluke Calibration P76001 or P7200 Piston Gauge to automate the flotation of the piston. Add a P7000-AMH Automated Mass Handler for P7000 Piston Gauges to complete the automated system.
Modular configuration gives you almost unlimited flexibility

Install up to five pressure modules in a single 6270A chassis, mixing and matching module types and ranges to get the combination that best suits your needs. Buy just what you need to calibrate the pressure ranges in your current workload. Add modules later as your workload grows and changes.

Modules snap in and out quickly and easily; just slide each one into a specially designed track and tighten the knob until you hear it click into place. The click tells you that the module is safely in place; a special “anti-torque” guard on the knob prevents over-tightening. You never have to wonder if you tightened it too much or not enough.

Modules are installed and uninstalled through the front of the chassis. You can easily install and remove both the measurement modules and the control module from the chassis, even if the 6270A is installed in a rack mount. Each module uses an enhanced face-seal design that has been leak tested to pressures that are three times higher than the maximum working pressure. You don’t have to worry about a leak in the system affecting your ability to measure and control pressure.

So easy to maintain, you can do it in house

We designed the 6270A to be easy to maintain, making your cost of ownership very reasonable. We publish a Service and Calibration Manual with detailed instructions on how to replace valves and components. An on-board screen capture routine provides troubleshooting help.

Control and measurement modules are separate, allowing for quick and easy repair. Just pull out the module and replace it; no autotuning required. You can change the pressure ranges just as easily by installing a new module and possibly changing the supply pressure. No need to send the 6270A back to the factory.

The modules can be calibrated inside or outside of the chassis using the optional PMM Calibrator Kit. Once calibrated, you can use them in any 6270A chassis without affecting the uncertainty of your measurements. Modules can be removed and replaced, easily; no specialized tools required.

Every component in the system is designed for simple, modular replacement, from the front panel to the rear pressure connections. Internal components, like the main CPU, are designed to be easily replaced.

The pressure connectors on the back of the 6270A are made from anodized aluminum, a robust material that stands up well to normal usage. However, if threads are stripped or there is galling from metal connectors sliding against it, you can easily remove the block without having to open the chassis. Simply remove the screws holding it in place and pull it out. The block does not have any items attached to it, so replacement is simple and low cost.

The removable rear manifold makes it easy to remove the 6270A from a rack-mounted system. Simply vent the test and supply ports and disconnect the connection manifold from the back of the chassis. You won’t need to question which pressure line is the supply port and which one is the test port; they stay connected to the manifold, and the manifold can only be connected one way. Three types of manifolds—NPT, BSF, and 3/16-20—are available to meet the needs of different geographic regions. The isolation valves on the main manifolds are easily removed from the top of the 6270A chassis.

Automation, training and support

Automate with COMPASS® software for improved consistency and throughput

Fluke Calibration COMPASS for Pressure software is designed specifically for pressure calibration. It enables you to automate the 6270A and run complete pressure calibration sequences on single or multiple devices under test (DUTs). COMPASS software removes the unknowns often associated with getting automated systems online.

The 6270A features a full remote interface that enables you to use it with custom software or other data acquisition equipment. Refer to the 6270A User Manual for details about the interface.

If you need support, we’re here to help

Fluke Calibration’s testing, repair and calibration services are dedicated to filling your needs quickly and at a fair cost while maintaining the unmatched level of quality that is our trademark. Our pressure calibration laboratories are accredited for conformance to ISO Guide 17025. We maintain global calibration and repair facilities to help you keep your hardware in top working order.

CarePlans help you manage cost of ownership

Reduce downtime and control your cost of ownership with a CarePlan. Fluke Calibration offers one-year, three-year and five-year Priority Gold CarePlans, which feature an annual standard or accredited calibration of your 6270A calibrator with guaranteed six-day in-house turnaround, plus free repairs with guaranteed ten-day in-house repair (includes calibration).

A range of training options get you up and running quickly

We sponsor a range of pressure and flow calibration courses in our Phoenix, Arizona facility in the United States. We also host periodic web seminars at no charge on a wide variety of pressure calibration topics. If you need service or maintenance training to help you maintain your fleet of pressure controllers, we can help you there, too.

Gold CarePlan

Annual calibration

Free repairs with guaranteed turnaround time

Pre-paid priority freight on return of instrument

Free product updates

Discounts on product upgrades

Discounts on training

1 Six-day in-house turnaround not available in all countries; contact your local Fluke Calibration representative for details. Priority shipping times vary by country.
The touch screen display in choice of ten languages features an easy-to-read, intuitive menu structure that lets you access any feature within four button presses or less.

Make minor adjustments to the pressure using the Jog Wheel, ideal for calibration of analog dial gauges.

A simple, calculator-style keyboard makes it easy to enter values quickly.

Real time graph makes it easy to see pressure stability or procedure status.

Front panel abort button allows for fast venting in emergency situations.

The large main display enables you to easily view and edit important information.

Real time graph makes it easy to see pressure stability or procedure status.

Built-in leak testing simplifies the process for validating system integrity.

User-selectable choice of languages.

An optional rack-mount kit enables the 6270A to be installed in a standard 19-inch rack.

All pressure connections are located on a single, easily replaceable manifold block. Connectors in NPT, R1P, or 7/16-20 SAE enable you to choose the most popular fitting type for your region.

Switch Testing—6270A has built-in ability to read the state of a pressure switch allowing for closed loop testing of pressure switches.

System mode allows multiple units to be connected together, providing the ultimate in rangeability.

External valve drivers enable users to create fully automated custom systems and operate accessories like the optional Contamination Prevention System (CPS).

USB Connection

Ethernet

GPIB

RS-232

To access the measurement and control modules, simply open the front panel. Modules are easy to replace, even when the 6270A is rack-mounted.
The performance specifications describe the complete instrumental uncertainty of the Product. The specifications include all relevant error components (linearity, hysteresis, repeatability, resolution, reference standard measurement uncertainty, 1-year drift, and temperature effects). The specifications are provided at a level of confidence of 95 %, k=2, normally distributed. Precision uncertainty includes linearity, hysteresis, repeatability, resolution, and temperature effects.
Summary and performance specifications

Table 3. PM500 module measurement specifications (continued)

<table>
<thead>
<tr>
<th>Model</th>
<th>Range (50 units)</th>
<th>Range (1000 units)</th>
<th>Measurement mode*</th>
<th>1-year instrumental uncertainty [% (FS) + % of reading]</th>
<th>1-year zero-stability drift [% FS, 0.5% FS with 1-year instrumental uncertainty]</th>
<th>Precision uncertainty [% of reading or % FS, whichever is greater]</th>
</tr>
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<tbody>
<tr>
<td>PM500-BG60K</td>
<td>-15 psi to 1000 psi</td>
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<td>bi-directional gauge</td>
<td>0.01 or 0.005</td>
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<tr>
<td>PM500-BG2M</td>
<td>-15 psi to 1000 psi</td>
<td>-15 psi to 1500 psi</td>
<td>bi-directional gauge</td>
<td>0.01 or 0.005</td>
<td>0.01 or 0.005</td>
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<tr>
<td>PM500-BG700K</td>
<td>-15 psi to 1000 psi</td>
<td>-15 psi to 1500 psi</td>
<td>bi-directional gauge</td>
<td>0.01 or 0.005</td>
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PM500 modules

Specifications are valid from 15 °C to 35 °C.

Table 3. PM500 module measurement specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Absolute range (50 units)</th>
<th>Absolute range (500 units)</th>
<th>Gauge range (± 50 units)</th>
<th>Gauge range (± 1000 units)</th>
<th>1-year instrumental uncertainty [% (FS) + % of reading]</th>
<th>1-year zero-stability drift [% FS, 0.5% FS with 1-year instrumental uncertainty]</th>
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</tr>
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</table>

Notes:

1. Precision uncertainty is specified with a zeroing technique in the Operators Manual. If not adhered to the 1-year instrumental uncertainty is:

\[ \text{uncertainty} = \left( \frac{\text{FS} \times 0.01}{1 + 0.01 + \left( \frac{\text{reading}}{100 \text{ psi}} \right) \times 0.01} \right) \]

2. PM500 gauge is bi-directional and contains support absolute mode measurement when sent with a certificate reference blank. Instrumental uncertainty for gauge mode involves all error sources of the gauge mode module as well as a blank with uncertainty for the blank. Reference blank module. Issued by gauge module contains a zeroing technique in which a blank is determined blank with uncertainty.

3. The PM500 absolute mode accuracy is ±0.01 % (FS) ±0.01 % of span, whichever is greater.

The PM500 absolute mode accuracy is ±0.01 % (FS) ±0.005 % of span, whichever is greater.