

# Sales Guide

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## 6270A Modular Pressure Controller/Calibrator



## 2. Product Positioning

The 6270A is a pneumatic pressure controller/calibrator available in pressure ranges covering vacuum to 20 MPa (3000 psi). The 6270A utilizes a fully modular design allowing for easy maintenance, maximum uptime, and extreme flexibility in usage.

With its choice of both high performance measurement modules and low cost measurement modules, the 6270A fulfills multiple price points in the pressure controller/calibrator market. Its wide pressure range and high speed control make it an ideal solution for pressure sensor manufacturing applications, as well as for traditional calibration applications. For most applications, the 6270A slots in at a lower price and performance level than the 7250 series and the PPC4 premium class.

## 3. Value Proposition

Sensor Manufacturers:

The 6270A is the Pressure Controller/Calibrator preferred by pressure device manufacturers because it provides reliability, maintainability, and accuracy over a wide range.

Lower Tier Instrument Shops:

The 6270A is the Pressure Controller/Calibrator preferred by Tier 4 Instrument Shops because it provides contamination prevention, rangeability, and ease of use necessary for calibrating a wide range of devices coming from the field.

Calibration Laboratories:

The 6270A is the Pressure Controller/Calibrator preferred by Tier 3 Calibration Laboratories because it provides control precision and accuracy over a wide range, allowing for a single instrument to be able to calibrate more devices.

## 4. Key Selling Point

| Fluke Cal Product Features   | Fluke Cal Advantages   | Fluke Cal Benefits   |
|--|--|--|
| <ul style="list-style-type: none"> <li>• Measurement uncertainty of 0.02% range or 0.01% reading</li> <li>• Control performance of 0.001% range with fast control</li> <li>• Plug and play measurement and control modules</li> <li>• Localized, touchscreen user interface</li> </ul> | <ul style="list-style-type: none"> <li>• Better pressure control</li> <li>• Modular pressure control</li> <li>• 5 pressure modules in 1 chassis</li> </ul> | <ul style="list-style-type: none"> <li>• Easy and cost effective to maintain</li> <li>• Reliable</li> <li>• Wide rangeability for calibrating many different types of sensors</li> </ul> |

## 5. Target Customer

Pressure Sensor Manufacturers

Applications include:

- Research and development
- Characterization
- Final Calibration
- Quality Assurance

Calibration Laboratory & Instrument Shops

Including third party calibration labs and internal labs/shops at power generation, process plants, pharmaceutical, and oil and gas. The 6270A is appropriate for benchtop applications as well as scenarios where it is installed into a transportable cart.

Where the 6270A is not appropriate

- Requirements for uncertainties better than 0.01% reading (customer should consider 7250 series or PPC4 premium)
- High line differential pressure applications

## 6. Who Do I Call

- Metrologists
- Calibration Laboratory Supervisors
- Manufacturing Engineers
- System Integrators
- Calibration Technicians

## 7. Typical Applications

**Pressure sensor characterization** – During the production of pressure sensors/devices, it is often necessary to characterize the product at different temperatures and pressures. A pressure controller like the 6270A would be used in conjunction with an oven, data acquisition device, and software to perform this task.

**Calibration of portable calibrators** – The PM600 module provides sufficient accuracy to calibrate a number of portable calibrators and test tools that are available on the market. Examples include the Crystal 33 pressure calibrator and Fluke 721 Precision Pressure Calibrator. These types of devices, which have two separate pressure



measurement channels, are of particular interest. A common configuration is for one channel to be 3000 psi (20 MPa) and the other to be 36 psi (250 kPa). The 6270A can be configured to allow for calibration of both channels. Competitors' products are not capable of doing this. Without the 6270A, two separate reference standards would be required. Often, the reference standard used for the higher range will be a hydraulic deadweight tester or similar. This has its own set of challenges, such as oil contamination of the DUT and inefficient, non-automated operation. The 6270A overcomes these challenges, providing a method for a clean, automated calibration.

**Calibration of lower-end devices** – The PM200 modules have sufficient accuracy to calibrate a wide range of devices, including dial gauges (industrial dial gauges as well as precision test gauges) as well as lower accuracy pressure sensors found in process plants, pharmaceutical, oil and gas, and aerospace. In addition, lower accuracy devices like these are the most likely to be contaminated. Thus, the Contamination Prevention System is of most importance to these types of customers.





An early example of a “Success Story” with this application is United Airlines. United Airlines chose the 6270A to replace a fleet of Druck DPI 320 Portable High-Pressure Pneumatic Calibrators. These calibrators were used at numerous maintenance facilities. After reviewing their application, they realized that they didn’t need the extreme portability of a DPI 320 solution, but instead found the robust, transportable nature of the 6270A to be sufficient. By configuring the 6270A with four PM200 modules and the CPS, they were able to create complete pressure calibration systems for each of their facilities.








**Pressure Switch Testing** – Pressure switches are normally tested by slowly increasing the pressure until the switch changes state. This requires being able to simultaneously control/measure the pressure and measure the state of the switch. The 6270A includes the ability to do exactly this.

## 8. Vintage Products

| Manufacturer | Model     | Picture  |
|--------------|-----------|--|
| GE/Druck     | DPI 510   |    |
| GE/Druck     | DPI 515   |    |
| GE/Druck     | PACE 5000 |    |
| GE/Druck     | PACE 6000 |   |
| Wika/Mensor  | PCS400    |  |
| Wika/Mensor  | CPC3000   |  |
| Wika/Mensor  | CPC6000   |  |

|              |             |  |
|--------------|-------------|--|
| <b>DHI</b>   | <b>PPC2</b> |  |
| <b>Ruska</b> | <b>6010</b> |  |

## 9. Competitive Comparison

| Make/Model                   |   | Max Pressure Range | Uncertainty  | Control Performance | Control Speed           | Remote Interfaces              | User Interface                     | Measurement Modularity                           | Control Modularity                               |
|------------------------------|---|--------------------|--|---------------------|-------------------------|--------------------------------|------------------------------------|--|--|
| Fluke 6270A<br>0.02% Range   |  | 20 MPa (3000 psi)  | 0.02% Range  | 0.001% Range        | 20 seconds to 0.005%    | USB, RS232, IEEE-488, ethernet | touchscreen, keypad, and jog wheel | Plug and Play, no tools required                 | Yes  |
| Fluke 6270A<br>0.01% Reading |  | 20 MPa (3000 psi)  | 0.01% Rdg (30% Threshold)  | 0.001% Range        | 35-55 seconds to 0.005% | USB, RS232, IEEE-488, ethernet | touchscreen, keypad, and jog wheel | Plug and Play, no tools required                 | Yes  |
| Mensor CPC 3000              |  | 7 MPa (1000 psi)   | 0.025% FS  | 0.003% Range        | 3 seconds to 0.025%     | USB, RS232, IEEE-488, ethernet | touchscreen only                   | None   | No   |
| Mensor CPC 6000              |  | 10 MPa (1500 psi)  | 0.01 Rdg (50 % Threshold) or 0.01% Span                                      | 0.003% Range        | 10-15 seconds           | RS232, IEEE-488, ethernet      | touchscreen only                   | Plug and Play, tools required                    | No   |
| Mensor CPC 8000              |  | 40 MPa (6000 psi)  | 0.008% Rdg (33% or 50% threshold) or 0.01% Rdg (50% threshold) or 0.01% Span | 0.002% Range        | 60 seconds              | USB, RS232, IEEE-488, ethernet | touchscreen only                   | Plug and Play, tools required                    | No   |
| GE PACE 5000/6000 CM2        |  | 20 MPa (3000 psi)  | 0.005% Rdg + 0.005% FS + 0.01% Rdg (Long Term Stability)                     | 0.001% Range        | Not Specified           | USB, RS232, IEEE-488, ethernet | touchscreen only                   | Measurement and Control together, tools required | Measurement and Control together, tools required |
| GE PACE 5000/6000 CM1        |  | 20 MPa (3000 psi)  | 0.01% Rdg + 0.01% FS + 0.01 % Rdg (Long Term Stability)                      | 0.003% Range        | Not Specified           | USB, RS232, IEEE-488, ethernet | touchscreen only                   | Measurement and Control together, tools required | Measurement and Control together, tools required |

## Differentiation versus the Mensor/Wika CPC 6000

- 1) **Pressure range** – the 6270A has a full scale of 20 MPa (3000 psi) compared to 10 MPa (1000 psi) for the CPC 6000. Even if a user doesn't need 20 MPa today, choosing the 6270A gives him ability to grow (with no negative repercussions on lower pressure performance) if his requirements change in the future. If he were to choose the CPC 6000 and then see a change in his requirements, he would have to start all over with a new controller.
- 2) **Accuracy** – While both the 6270A and the CPC 6000 nominally provide 0.01% reading, the 6270A provides it over a wider range. The CPC 6000 is only from 50 – 100% of the range. The 6270A is from 30 – 100% of the range. It would take two Mensor modules to match the performance of one PM600 module, resulting in higher cost of ownership. It is imperative that we work closely with a customer to determine his true accuracy requirements. The 6270A allows for extreme flexibility of module selection. We can make use of this flexibility to determine a product configuration that matches the customer's true needs. If we are simply given a CPC 6000 configuration and told to "match it," we will often times find ourselves at an unacceptable price point.
- 3) **Control Module Selection** – The 6270A uses the same control module for all pressure ranges. This simplifies the initial configuration and ordering of the unit. It also allows for future expansion. The customer can purchase a 6270A now to cover one range and then double the range later by simply adding a measurement module. The same control module will work with the new range.
- 4) **Modularity** – The CPC 6000 can hold a maximum of four main measurement modules plus a barometer (now modular on the newer units). The 6270A can hold five modules, one of which can be a barometer or a main module. This provides more flexibility in usage. The Mensor literature describes their control architecture as modular, but it does not truly meet the definition. Changing the control pressure range requires reconfiguration of the entire instrument at the factory. The 6270A is entirely modular with regards to control or measurement. To change the control pressure range, simply install a new measurement module.
- 5) **Control Precision** – CPC 6000 control precision specification is 0.003% of active range. 6270A specification is 0.001% of active range.
- 6) **Calibration Interval** – The specification for the lower range modules on the CPC 6000 is based off of a 180 day calibration interval. All specifications on the 6270A are based on a 1 year calibration interval.
- 7) **Software Support** – COMPASS allows auto-detect of the 6270A, making it easy to fully automate a calibration using the 6270A.
- 8) **Contamination Prevention** – The 6270A provides the highest level of contamination prevention with the optional CPS. Users can calibrate oil or water filled gauges without fear of damaging their reference standard.



## Differentiation versus the Mensor/Wika CPC 8000

- 1) **Rangeability** – The CPC 8000 is limited to only three measurement modules. In addition, the lowest range cannot be less than 10% of the highest range. This becomes unworkable in some applications. For example, the above application of calibrating dual channel portable calibrators would not be feasible.
- 2) **Control Precision** – The CPC 8000 has a control precision specification of 0.002% range. The 6270A is twice as good, 0.001% range. This additional control noise can result in measurement difficulties and operator error.
- 3) **Time to Setpoint** – The CPC 8000 has a time to setpoint specification of 60 seconds. The 6270A has a typical specification of 20 seconds for the PM200 and up to 35 seconds for the PM600 (the “typical” specification here means that there are configurations or circumstances where the time to setpoint will be greater than 20 seconds but that for many applications, a time to setpoint of 20 seconds will be achieved).
- 4) **Software Support** – COMPASS allows auto-detect of the 6270A, making it easy to fully automate a calibration using the 6270A.
- 5) **Contamination Prevention** – The 6270A provides the highest level of contamination prevention with the optional CPS. Users can calibrate oil or water filled gauges (especially common at the higher pressures seen by the 6270A and CPC 8000) without fear of damaging their reference standard.
- 6) **Modularity** – While the CPC 8000 does support modularity for measurement, it has shortcomings. Removal and Installation of modules requires tools and must be properly tightened to insure no leaks. Without the torque limiting feature of the 6270A modules, the user has increased potential for incorrect installation. In addition, 6270A modules can be installed in any slot, regardless of pressure. CPC 8000 modules must be installed in specific slots based upon their relative pressures. The superior modular design of the 6270A eliminates potential for operator error insuring proper operation and measurement performance.

## Differentiation versus the GE/Druck PACE 5000/6000

- 1) **Modularity** – While the PACE controller products are marketed as “modular”, they really aren’t. The control and measurement functions are both included in the same module. This represents 80% of the functionality of a pressure controller, as well as 80% of the price. As a result, it’s not economical to keep extra modules on the shelf to provide additional rangeability or back up.
- 2) **Module Installation** – Modules on the PACE products are installed from the back of the unit. Removal/installation of a module requires venting supply pressure and then making and breaking all connections to the controller (test port, supply port, and vacuum pump). This has the potential of introducing leaks into the system. The process is especially difficult when the pressure controller is installed in a rack system. Conversely, the 6270A modules are removed/installed from the front of the controller. All modules (measurement and control) can be removed and installed with supply pressure connected to the system. The test pressure will automatically vent, allowing for removal/installation of the modules without affecting any fittings on the test port (assuming that the user’s test system is rated to the new module’s pressure range).
- 3) **Measurement Performance** – The PACE 5000/6000 specifications can be misleading when looking at measurement performance. Unlike both Mensor and Fluke, GE does not provide an “all-up” measurement uncertainty number. Instead, they provide the components that go into the determination of measurement uncertainty without any guidance on how those components are to be combined (which components are correlated/uncorrelated, are they normal or rectangular distribution, etc). It is important that customer’s compare like-to-like when looking at specifications. If the customer looks at just the PACE precision (linearity, hysteresis, and repeatability) compared to our overall uncertainty specification for PM200 modules, the PACE product will look superior (0.005% rdg + 0.005% FS compared to 0.02% FS). But, to have a fair comparison, additional components need to be included for the PACE product, such as long-term stability (0.01% reading). When all components are included, the PM200 modules are comparable and the PM600 modules far surpass the performance of the PACE products.
- 4) **Software Support** – COMPASS allows auto-detect of the 6270A, making it easy to fully automate a calibration using the 6270A.
- 5) **Contamination Prevention** – The 6270A provides the highest level of contamination prevention with the optional CPS. Users can calibrate oil or water filled gauges without fear of damaging their reference standard.
- 6) **User Interface** – The PACE controllers lack a keypad and rotary wheel. This adds difficulty in certain applications, such as calibration of analog dial gauges. This challenging UI is made even more difficult with the PACE 5000 where the touchscreen is extremely small.

## 10. Common Objections

**Comparative Pricing** – The 6270A is priced at a premium position in the market place. Pricing is such that with an acceptable workload the customer will see a solid return on investment. In situations where a customer is comparing the price of a 6270A directly against a competitor product the 6270A will initially appear at a disadvantage. Certain steps must be taken:

- 1) The previous pages detail the ways that the 6270A is advantageous over the Mensor and GE offerings. Customers need to be educated on these points so that the decision is not left to price alone but is a valid view of the overall performance.
- 2) The overall price of a system is extremely dependent upon the configuration. The most advantageous scenario is one where the configuration is based strictly off of the customer's actual needs and not the competitor's configuration. It's possible that the competitor has convinced the customer that his full needs do not or cannot be met. By looking at the full needs, we may be able to provide a solution where the competitor can't, thus locking them out of the opportunity. There may also be a scenario where the competitor's offering is overkill for the customer's actual application. With the wide price and performance difference between the PM200 and PM600, a review of the customer's true needs may allow the use of the PM200 whereas trying to match the competitor's offering may require the use of the PM600 modules.

**Need for Premium Q-RPT Specification** – The 6270A supports the standard Q-RPT specification through the PM600 modules. The premium Q-RPT specification is not supported. If a customer requires the premium level specification then the PPC4 should be recommended. The real value of the premium Q-RPT is the rangeability provided by autoranging. The 6270A allows for this rangeability through being able to support 5 internal modules whereas the PPC4 only supports 2.

**Calibration at the Module Level** – Some customers/auditors will question the validity of performing calibrations on the module level. An application note will be made available fully exploring this question. There are many steps taken to convert the pressure physically impacting the pressure sensor into a value shown on the display. The design of the 6270A is such that the steps that affect the calibration all take place in the module. The only steps performed by the chassis is a measurement unit conversion and the actual displaying of the pressure. The unit conversion has been validated to insure that it is correctly performed. The displaying of the measurement only impacts the overall uncertainty through the displayed resolution. This can be selected by the user and does not alter the calibration (calibration is performed with maximum resolution). Therefore, it is appropriate to perform the calibration on the modular level.

## 11. Placement in Product Portfolio

There are three main products in the Fluke Calibration Product Portfolio for pneumatic pressure calibration for 20 MPa (3000 psi) and below ranges:

- 7250 Series Pressure Controller/Calibrator
- PPC4 Pressure Controller/Calibrator (including PPCH-G for 20 applications above 14 MPa)
- 6270A Pressure Controller/Calibrator

These three products have their own unique application space and provide solutions for our customers.

6270A – As discussed elsewhere in this document, the 6270A is uniquely useful for those customers who value the benefits of modularity. With the PM600 and PM200 modules it can handle medium and lower level accuracy requirements.

7250 Series (including 7250i, 7250xi, 7252, 7252i) – The 7250 provides the ultimate overall measurement performance of the Quartz Bourdon Tube. Example applications:

- Low draft range pressure measurement/control – While the 6270A includes measurement modules, the 7250LP provides superior performance at these ranges. For customers whose primary requirement is Low Draft Range calibration and not a wide pressure range coverage, the 7250LP is recommended.
- High-end pressure sensor characterization – The QBT provides superior performance to the 6270A and PPC4 with regards to linearity and hysteresis. This is especially important for characterization processes when manufacturing pressure sensors and has made the 7250 series very popular with certain sensor manufacturers. Those customers who are currently buying the 7250 and are happy with its performance in applications like this should continue buying the 7250.
- The PPC4 continues to offer the premium Q-RPT specification. For those that require this high level of overall measurement uncertainty performance and extreme rangeability, the PPC4 is preferable over the 6270A.

## 12. Product Demonstration

If the demo unit is shipped with the measurement modules installed, open the front panel and ensure that the modules are completely screwed in (turn the knob until the torque limiting feature is engaged).

Things to highlight:

- 1) How simple it is to control a pressure. Turn the unit on, apply supply pressure, and connect the test port to a DUT (or plug it). Click on the setpoint on the main screen, enter a value, press enter, and then press control. The controller should quickly go to the setpoint. Do not go through every menu item (especially not prior to controlling a pressure). You do not want to give the customer the impression that he needs to do a lot of configuration and setup to use the product.

- 2) Highlight how easy it is to change out a measurement module. With supply pressure connected, and the unit turned on, open the front panel and pull out a measurement module. If the customer normally installs their controllers in a rack mount system, make sure he realizes that he can change out modules without having to get to the back of the rack to remove supply pressure or turn off power to the unit. Pass the module around the room and let everyone “feel” the robustness and quality of the module design.
- 3) Cover only those features on the UI that will be of interest to the user.
  - a. If the user asks if a particular pressure unit is included, then click on the pressure unit and show the user that it is present (assuming it is one of the ones supported).
  - b. Show the user the uncertainty calculation in the top right corner and how it can help protect them against improper measurements.
  - c. If the users’ native language is different from English, then switch the UI to their native language prior to arriving at the users’ facility (whenever possible).

## 13. Ordering Information

A complete system consists of a chassis, control module, and at least one measurement module.

### Main Chassis

There are three main chassis to choose from. The only difference between each is the fitting connection type. Connection type is normally a function of regional preference (US = NPT, Europe = BSP, etc.). The 7/16-20 chassis provides backwards compatibility with the Mensor CPC 6000.

| Item    | Model Noun | Description   |
|---------|------------|---|
| 4427608 | 6270A-NPT  | Modular Pressure Controller Chassis, NPT Manifold     |
| 4427703 | 6270A-BSP  | Modular Pressure Controller Chassis, BSP Manifold     |
| 4471999 | 6270A-7/16 | Modular Pressure Controller Chassis, 7/16-20 Manifold |

### Pressure Control Module (PCM)

Selection of a PCM is simple, as only one is available. The PCM-STD-20M works with all measurement modules, regardless of measurement class or pressure range. If the instrument’s configuration includes measurement modules where the lowest range is less than 10% of the highest range, then the user needs to be advised that he will need to reduce his supply pressure when using the lower range module. Sensor manufacturers or other large quantity users who are especially concerned with down time should consider buying spare control modules.

| Item    | Model Noun  | Description                                |
|---------|-------------|--|
| 4428630 | PCM-STD-20M | Pressure Control Module, Standard Turndown |

### PM200 Pressure Measurement Modules

See the brochure or Extended Specifications document for exact specifications. Modules with a G or BG in the suffix operate natively in gauge mode. To operate in absolute mode, a barometric reference module needs to be included in the system. The PM200-A100K or BRM600-A100K can be used as the barometric reference module, depending upon the accuracy required. Five modules can be installed at any one time. There is no limit to the overall number of modules that can be used with a system (customer could buy six modules and swap one out depending upon usage needs).

| Item    | Model Noun   | Description  |
|---------|--------------|--|
| 4363844 | PM200-BG2.5K | Pressure Measurement Module,-2.5 to 2.5 kPa (-10 to 10 inH <sub>2</sub> O) |
| 4363859 | PM200-BG35K  | Pressure Measurement Module,-35 to 35 kPa (-5 to 5 psi) gauge              |
| 4380037 | PM200-BG40K  | Pressure Measurement Module,-40 to 40 kPa (-6 to 6 psi) gauge              |
| 4363867 | PM200-A100K  | Pressure Measurement Module,100 kPa (15 psi) abs                           |
| 4363871 | PM200-BG100K | Pressure Measurement Module,-100 to 100 kPa(-15 to 15 psi)gauge            |
| 4363880 | PM200-A200K  | Pressure Measurement Module,200 kPa (30 psi) abs                           |
| 4363898 | PM200-BG200K | Pressure Measurement Module,-100 to 200 kPa(-15 to 30 psi)gauge            |
| 4380055 | PM200-BG250K | Pressure Measurement Module,-100 to 250 kPa(-15 to 36 psi)gauge            |
| 4363906 | PM200-G400K  | Pressure Measurement Module,0 to 400 kPa (0 to 60 psi) gauge               |
| 4363914 | PM200-G700K  | Pressure Measurement Module,0 to 700 kPa (0 to 100 psi) gauge              |
| 4380062 | PM200-G1M    | Pressure Measurement Module,0 to 1 MPa (0 to 150 psi) gauge                |
| 4363923 | PM200-G1.4M  | Pressure Measurement Module,0 to 1.4 MPa (0 to 200 psi) gauge              |
| 4363938 | PM200-G2M    | Pressure Measurement Module,0 to 2 MPa (0 to 300 psi) gauge                |
| 4380070 | PM200-G2.5M  | Pressure Measurement Module,0 to 2.5 MPa (0 to 360 psi) gauge              |
| 4363945 | PM200-G3.5M  | Pressure Measurement Module,0 to 3.5 MPa (0 to 500 psi) gauge              |
| 4380081 | PM200-G4M    | Pressure Measurement Module,0 to 4 MPa (0 to 580 psi) gauge                |
| 4363950 | PM200-G7M    | Pressure Measurement Module,0 to 7 MPa (0 to 1000 psi) gauge               |
| 4363961 | PM200-G10M   | Pressure Measurement Module,0 to 10 MPa (0 to 1500 psi) gauge              |

|         |            |   |
|---------|------------|---|
| 4363977 | PM200-G14M | Pressure Measurement Module,0 to 14 MPa (0 to 2000 psi) gauge |
| 4363989 | PM200-G20M | Pressure Measurement Module,0 to 20 MPa (0 to 3000 psi) gauge |

### PM600 Pressure Measurement Modules

See brochure or Extended Specifications document for exact specifications. Modules with an A in the suffix operate in both gauge and absolute mode.

| Item    | Model Noun    | Description   |
|---------|---------------|---|
| 4456523 | PM600-BG15K   | Pressure Measurement Module,-15 to 15 kPa(-2.2 to 2.2 psi)gauge |
| 4456538 | PM600-A100K   | Pressure Measurement Module,100 kPa (15 psi) absolute           |
| 4456545 | PM600-G100K   | Pressure Measurement Module,0 to 100 kPa (0 to 15 psi) gauge    |
| 4456550 | PM600-G200K   | Pressure Measurement Module,0 to 200 kPa (0 to 30 psi) gauge    |
| 4456561 | PM600-A200K   | Pressure Measurement Module,200 kPa (30 psi) absolute           |
| 4472004 | PM600-A350K   | Pressure Measurement Module,350 kPa (50 psi) absolute           |
| 4456577 | PM600-A700K   | Pressure Measurement Module,700 kPa(100 psi)absolute            |
| 4456589 | PM600-A1.4M   | Pressure Measurement Module,1.4 MPa(200 psi)absolute            |
| 4456592 | PM600-A2M     | Pressure Measurement Module,2 MPa (300 psi) absolute            |
| 4456605 | PM600-A3.5M   | Pressure Measurement Module,3.5 MPa (500 psi) absolute          |
| 4456610 | PM600-A7M     | Pressure Measurement Module,7 MPa (1000 psi) absolute           |
| 4456622 | PM600-A10M    | Pressure Measurement Module,10 MPa (1500 psi)absolute           |
| 4429854 | PM600-A14M    | Pressure Measurement Module,14 MPa (2000 psi) absolute          |
| 4429665 | PM600-A20M    | Pressure Measurement Module,20 MPa (3000 psi) absolute          |
| 4456721 | BRM600-BA100K | Barometric Reference Module                                     |

### Accessories

The following accessories are available for use with the 6270A.

| Item    | Model Noun         | Description   |
|---------|--------------------|---|
| 4456631 | Y6270              | Rack Mount Kit, 19 IN WIDTH, 3U                                   |
| 4456646 | CASE-6270          | Shipping Case, 6270A  |
| 4456654 | CASE-PMM           | Shipping Case, 3 PMM Modules                                      |
| 4456668 | PK-6270-NPT        | Lines and Fittings Kit, 6270A NPT                                 |
| 4456679 | PK-6270-BSP        | Lines and Fittings Kit, 6270A BSP                                 |
| 4472019 | PK-6270-7/16       | Lines and Fittings Kit, 6270A 7/16-20                             |
| 4456687 | PMM-CAL-KIT-20M    | Pressure Measurement Module Calibration Kit, 20 MPa (3000 psi)    |
| 4456693 | CPS-20M            | Contamination Prevention System 20 MPa (3000 psi)                 |
| 4456700 | TST-20M            | Test Station, 20 MPa (3000 psi)                                   |
| 4579115 | 6270-SYS-CBL       | 6270 System Cable Kit   |
| 4581266 | PK-VALVE-20M       | ISOLATION VALVE 20 MPA (3000 PSI)                                 |
| 3584473 | VA-PPC/MPC-REF-110 | Vacuum Pump Package,110V  |
| 3584486 | VA-PPC/MPC-REF-220 | Vacuum Pump Package,220V  |
| 3070389 | PK-PPC-BG-DVU      | Dual Volume Unit (ONLY USE ON SYSTEMS WITH MWP <= 2 MPa, 300 psi) |



## Sample Configurations

### Recommended Demo Configuration (NPT regions)

| Item    | Model Noun   | Description   |
|---------|--------------|---|
| 4427608 | 6270A-NPT    | Modular Pressure Controller Chassis, NPT Manifold               |
| 4428630 | PCM-STD-20M  | Pressure Control Module, Standard Turndown                      |
| 4363898 | PM200-BG200K | Pressure Measurement Module,-100 to 200 kPa(-15 to 30 psi)gauge |
| 4363938 | PM200-G2M    | Pressure Measurement Module,0 to 2 MPa (0 to 300 psi) gauge     |
| 4363867 | PM200-A100K  | Pressure Measurement Module,100 kPa (15 psi) abs                |
| 4456646 | CASE-6270    | Shipping Case, 6270A  |
| 4456668 | PK-6270-NPT  | Lines and Fittings Kit, 6270A NPT                               |

### Recommended Demo Configuration (BSP regions)

| Item    | Model Noun   | Description   |
|---------|--------------|---|
| 4427703 | 6270A-BSP    | Modular Pressure Controller Chassis, BSP Manifold               |
| 4428630 | PCM-STD-20M  | Pressure Control Module, Standard Turndown                      |
| 4363898 | PM200-BG200K | Pressure Measurement Module,-100 to 200 kPa(-15 to 30 psi)gauge |
| 4363938 | PM200-G2M    | Pressure Measurement Module,0 to 2 MPa (0 to 300 psi) gauge     |
| 4363867 | PM200-A100K  | Pressure Measurement Module,100 kPa (15 psi) abs                |
| 4456646 | CASE-6270    | Shipping Case, 6270A  |
| 4456668 | PK-6270-NPT  | Lines and Fittings Kit, 6270A NPT                               |

### Calibration of Dual Channel Pressure Calibrators

| Item    | Model Noun  | Description  |
|---------|-------------|--|
| 4427608 | 6270A-NPT   | Modular Pressure Controller Chassis, NPT Manifold      |
| 4428630 | PCM-STD-20M | Pressure Control Module, Standard Turndown             |
| 4472004 | PM600-A350K | Pressure Measurement Module,350 kPa (50 psi) absolute  |
| 4429665 | PM600-A20M  | Pressure Measurement Module,20 MPa (3000 psi) absolute |

If BSP fittings are preferred, then change 6270A-NPT to 6270A-BSP

Adjust PMM ranges as necessary

### Calibration of Wide Variety of Low Accuracy Devices

| Item    | Model Noun  | Description   |
|---------|-------------|---|
| 4427608 | 6270A-NPT   | Modular Pressure Controller Chassis, NPT Manifold             |
| 4428630 | PCM-STD-20M | Pressure Control Module, Standard Turndown                    |
| 4363938 | PM200-G2M   | Pressure Measurement Module,0 to 2 MPa (0 to 300 psi) gauge   |
| 4363867 | PM200-A100K | Pressure Measurement Module,100 kPa (15 psi) abs              |
| 4363945 | PM200-G3.5M | Pressure Measurement Module,0 to 3.5 MPa (0 to 500 psi) gauge |

|         |            |  |
|---------|------------|--|
| 4363950 | PM200-G7M  | Pressure Measurement Module, 0 to 7 MPa (0 to 1000 psi) gauge  |
| 4363977 | PM200-G14M | Pressure Measurement Module, 0 to 14 MPa (0 to 2000 psi) gauge |
| 4363989 | PM200-G20M | Pressure Measurement Module, 0 to 20 MPa (0 to 3000 psi) gauge |
| 4456693 | CPS-20M    | Contamination Prevention System 20 MPa (3000 psi)              |

If BSP fittings are preferred, then change 6270A-NPT to 6270A-BSP

Adjust PMM ranges as necessary

## 14. Schedule

At launch, the product will be on an 8-10 week lead time. We will proactively keep the sales channel informed of improvements as we move to a 4-5 week lead time.

## 15. Sales and Marketing Documents

For a complete list of available Sales and Marketing Documents, please see the 6270A Launch Page found <http://eu.flukecal.com/6270A-Launch-EMEA>

## 16. FAQs

### Does COMPASS support the 6270A?

A release of COMPASS is scheduled for Q2 of 2015 that will include auto-detect support for the 6270A and the PM200/PM600 Measurement modules (when used with the PMM Calibration Kit)

### Can I trade in my PPC2/PPC3/PPC4 Q-RPT's for use in this product?

Trade in of older Q-RPT's is not supported at this time. Support for this is expected no sooner than Q4 2015.

### Can the 6270A be used as an AutoGen component to float a PG7000 piston?

Piston flotation is currently not supported with the 6270A.

### Which models/when will emulation be available?

The 6270A supports emulation of the following controllers:

- DHI PP2, PPC2+, PPC3, PPC4
- Druck DPI 510
- Mensor CPC6000 and CPC8000
- Ruska 6000 and 7000 Series

### Can any module be used in any slot?

Yes. All slots are identical, allowing for any PMM (including barometers) to be used on any slot.

### Can I add higher pressure later?

Yes. All chassis and control modules are rated for 20 MPa (3000 psi), even if they are only purchased with lower range modules. To expand the range of the unit, simply purchase a new measurement module.

**Do I need a DVU for low differential pressure control?**

It is not strictly mandatory to use a DVU for low differential pressure control but it will provide better performance.

**When might premium sensors be available?**

There are no plans to support premium sensors in the 6270A at this time. For customers requiring better measurement performance than what is provided with the PM600, we recommend they use the 7250 series or the PPC4.

**When will the PPC4E be made obsolete?**

The expected obsolescence date for the PPC4E is October 2015.

**What is included in the lines and fittings kit?**

Each lines and fittings kit includes the lines and fittings necessary to connect to supply pressure (terminating in male ¼ NPT, ¼ BSP, or 7/16-20 depending upon kit), test system (terminating in male ¼ NPT, ¼ BSP, or 7/16-20 depending upon kit), and vacuum supply.

**Can we do screen shots?**

The 6270A has a built in feature for capturing screen shots. Simply hold down the “SAVE” button and the screen will be saved. The image file can then be retrieved over the USB interface.