



PACE Pressure Controllers and Indicators

FOR INDUSTRIAL MANUFACTURING APPLICATIONS





PRESSURE CONTROL IN MANUFACTURING

Low-cost pressure sensors are now being included in a wide variety of consumer products – from smart phones to personal health monitors to sports equipment. As such, accurately controlling and measuring pressure is a vital function in thousands of manufacturing applications today. When a pressure sensor is included in a product, it must be tested during the manufacturing process or during final product calibration. In fact, pressure is such an important parameter in the manufacturing process that it is sometimes referred to as the fourth utility after electricity, water and heat for manufacturing.

Manufacturing excellence requires speed and adherence to tight standards, especially during consumer products manufacturing. This means that your automated pressure control infrastructure must ensure excellent speed, accuracy, and reliability. Thankfully, GE's PACE series of pressure controllers delivers on all these requirements.



GE PRESSURE CONTROL CAPABILITIES

Manufacturers and builders of equipment for manufacturing lines demand the following criteria from their pressure infrastructure:

- **Speed and control stability.** The faster the pressure system can respond by achieving a new stable pressure point, the faster the manufacturing line will operate. Because today's manufacturing lines are constantly striving to increase output, GE's PACE system uses a bespoke pulse width modulation (PWM) valve technology to make it one of the fastest pressure controllers on the market today. Coupled with 10 ppm control stability, PACE technology offers market-leading pressure control capability.
- **Reliability.** When you need to run your lines 24/7 to maximize output and any downtime can cost millions, the pressure infrastructure is often a key part of the process. Because GE understands that failure in the pressure control system can stop the line, we build our pressure controllers to meet exacting quality standards. And our module design lets you keep the unit running while replacement pressure modules are switched in and out for calibration or service.
- **Accuracy.** Quality is another essential factor for manufacturing. Keeping variation to a minimum means lower cost and higher quality products. At the heart of GE's PACE system is an advanced technology pressure sensor manufactured in-house to ensure high quality and performance. Based on this innovative sensor technology, GE builds our high-performance PACE pressure control system that delivers accuracy up to 0.0016% Rgd (+0.0033% FS).

A HERITAGE OF QUALITY

When it comes to pressure sensing, measurement and calibration, GE has over 40 years of experience designing and manufacturing some of the most accurate and reliable pressure measurement solutions on the market today. With a long history of working with Oil & Gas, Aerospace, Automotive and many other industries, we know what matters in pressure measurement in key industries and we build this expertise into every product we make. We manufacture every stage of our pressure sensing and control systems ourselves, from etching the sensing element from raw silicon to building the final product. We believe only by controlling the entire sensing solution can we deliver the high accuracy and high stability customers need today.



CASE STUDY: REDUCING CALIBRATION TIME IN AUTO MANUFACTURING

When a top-tier automotive manufacturer was looking for ways to enhance speed and stability in its annual production of more than 6 million turbo-chargers, the company turned to GE's PACE 5000 pressure controller for a solution. By implementing

PACE technology in its production line, the company has reduced its average calibration time from 90 seconds down to 17 seconds – a savings of just over 121,000 hours a year.

ANNUALLY

+6M
TURBO-CHARGERS

.....
IMPLEMENTING
**PACE 5000 PRESSURE
CONTROLLER**
.....

REDUCED CALIBRATION

90 SECONDS
17 ←
SECONDS

saving over
121,000 HOURS a year

PRODUCT OVERVIEW: GE PACE range of Pressure Controllers and Indicators

GE's PACE product line is a modular pressure control system that brings together the latest pressure control and measurement technologies to offer an elegant, fast, flexible, and economical solution to pressure calibration, verification, and control. Our pressure controller's interchangeable control module translates to virtually zero downtime, as a replacement control module can be quickly fitted to allow pressure range change, calibration, or service. The controller incorporates full digital control using the latest generation of piezo-resistive and resonant silicon sensors delivering accuracy up to 0.0016% Rdg (+0.0033% FS), along with measuring capability down to 25 mbar (0.35 psi, 2.5k Pa). Another benefit is PACE's ability to control large volumes of gas giving it flexibility and power for a range of industrial applications.

The full PACE range:

- PACE 1000. This high precision and performance pressure indicator is available bench top or panel mounted, for test, monitoring, and calibration applications.
- PACE 1001. This high precision barometric indicator and recorder is designed for pressure monitoring in laboratories, airfields and other applications where atmospheric pressure must be measured with exceptional accuracy.
- PACE 5000/6000. This modular pressure control unit delivers high speed, high precision and cost effective control with single (PACE 5000) or dual channel (PACE 6000) output options for industrial pressure production, test, or calibration applications.



www.gemeasurement.com/test-calibration

*Trademark of General Electric Company.
©2017 General Electric Company. All rights reserved.

GEA33002

02/2017