

## Application Note

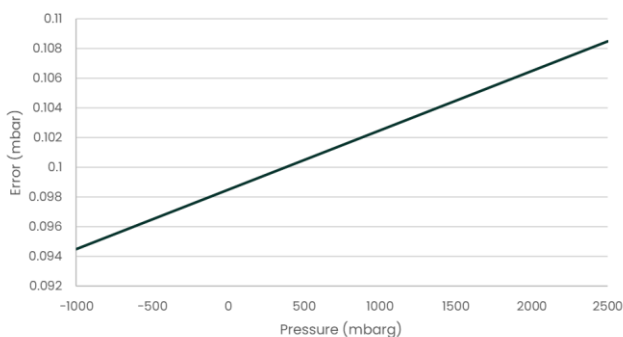
# Utilising your Druck PACE CM3 as a pressure calibration standard

The majority of portable pressure calibrators or lab-based pressure controllers & indicators require a periodic calibration to guarantee their performance matches the manufacturer datasheet specification. This often causes a highly costly and logistical headache for any company trying to manage a fleet of 10s or 100s of pressure instruments as these usually require scheduling for calibration with a 3<sup>rd</sup> party laboratory. With the latest advancements in Druck's TERPS sensor technology it is now possible to bring this procedure in-house with a PACE CM3 pneumatic pressure controller. This opens up the opportunity for huge time and cost savings for your business. Combining a CM3 with Druck's 4sight2 calibration management software further strengthens this offering by providing the ability to fully automate your pressure calibrations and typically results in at least a **40% efficiency improvement**. Additionally, when factoring in PACEs superior speed to setpoint an impressive **100% return on investment (ROI)** can be achieved for your controller in as little as several weeks.

### PACE CM3 quoted performance.

- Precision: 0.001%FS / 10ppmFS
- 1-year accuracy: 0.0004%rdg + 0.0027%FS (4ppmRDG + 27ppmFS)

PACE 3.5bara CM3 error (vs 2.5mbar for a 0.1% instrument)



Take a typical portable calibrator used widely in the industrial market. This may have a 1-year accuracy (expanded uncertainty) specification of around 0.1%FS (1000ppmFS). It is widely accepted within the industry that this device should be calibrated by an instrument with an accuracy 4 times greater than its own published specification. For a well-matched pressure range you can see that a **CM3 is 25x more accurate** than a typical industrial sensor or instrument. This gives the flexibility to use a single CM3 module to calibrate ranges down to approximately 1/6<sup>th</sup> of its own pressure range whilst still maintaining that desired 4:1 ratio. This provides the opportunity to reduce the number of required calibrators and in-turn recognise further cost savings. Add to this the peace of mind a customer can expect from the whitepaper demonstrated long-term stability of TERPS technology and you end up with an **unrivalled combination of accuracy, stability and reliability**.

In summary it can be seen that a Druck CM3 presents the optimum cost-effective solution as a portable calibration reference for a variety of pressure sensors and instruments from low accuracy through to CM2 levels of instrumentation. A more detailed list of performance benefits can be seen on the right-hand side. Contact your Druck sales representative today to discuss further or arrange a quotation.



Further details on Druck's flagship technology available by scanning the QR code above.

### Lower overall cost of ownership

- Lower product cost than a typical dead weight tester (DWT)
- Minimal servicing required (no cleaning of pistons etc)
- Automated software vs experienced and well-trained manual operators
- Reduced shipping costs for calibration
- Less "real estate" required for physical product.

### Performance Benefits

- Guaranteed drift specs from Druck, no need for costly early recalibrations or cumbersome "zeroing" procedures
- Improved "time to setpoint" vs switching of mass sets
- Guaranteed uncertainty budget (e.g. no induced errors due to poor piston cleanliness)
- Lower risk of errors during use (automated software vs user error)
- No effects of physical quantities to impact error budget (e.g. local gravity / density of the media)
- Easy setup and operation over a wide temperature range
- Lower risk of damage during use/transportation (robust sensor vs pistons, mass sets etc)