

m1 Calibration Reference

AN-002 APPLICATION NOTE

If adjustment is required, we recommend returning the **m1** gauge to the factory. Factory service offers benefits you won't find anywhere else. We have the facilities to test your gauge at a variety of temperatures utilizing NIST traceable standards, resulting in calibration certificates that provide performance data over temperature. Furthermore, updates may be available to add or enhance operating features. We designed the product to last, and we support it so that you can get the most from your investment.










Under normal operating conditions, we recommend the **m1** be calibrated on an annual basis. Your quality system may require more or less frequent calibration, or your experience with the gauge or operating environment may require longer or shorter intervals.

Although we prefer that you return the **m1** to Crystal Engineering for calibration, ordinary recertification and/or adjustment may be performed by any qualified personnel with ap-

propriate training and equipment. The following instructions are ONLY intended for such qualified personnel with appropriate test equipment. We recommend that the calibration standards used have a minimum rated accuracy of 0.05% of reading, or equivalent in terms of percent of full scale. This level of accuracy requires the use of a Crystal Engineering Model 30 Series Pressure Calibrator (see it at www.crystalengineering.net), piston (deadweight) gauges, or very high performance pressure controllers.

There are no internal potentiometers. The **m1** contains a "span" factor or multiplier, set to approximately 1 (as shipped from the factory). As components age this may need to be changed to a value slightly higher or lower, to slightly increase or decrease all readings.

"Zero" the **m1**, then record the displayed pressure for two or more pressure points. Determine if the **m1** would benefit from an overall increase or decrease of the indicated pressures.

To change the span factor from the keypad, **turn off** the **m1**, then press the Power  and Enter  buttons simultaneously. The firmware version will be displayed. Press the Setup  button once to move to the CAL (calibration) mode. Press the Next  button to display the actual span factor value. The span factor may be adjusted by pressing either the Next  button to increase the value, or the Power  button to decrease the value. The value changes are in 0.0001 increments. Press the Enter  button to store the new value in memory, or the Setup  button to cancel the change. If canceling, this will move you to the firmware version listing described at the beginning of this paragraph. If at any time you would like to return to normal gauge operation, simply press the Enter  button.

1 Access firmware version. (firmware version shown)



2 Access calibration setup.



3 View span factor.



4 Modify span factor. (in 0.0001 increments)



5a Enter span factor, or...



5b Cancel span factor.

