

One of the fastest growing worldwide energy industries is wind power. In the United States alone, the wind industry has an average annual growth over 25% over the last 10 years. Wind farms, consisting of multiple wind turbines, are becoming an important source of renewable energy, reducing the reliance on fossil fuels.



Wind turbines take kinetic energy created from rotating blades, and converts the energy to electrical power. They are built in areas of steady winds, and many times are monitored and controlled by hydraulic systems.

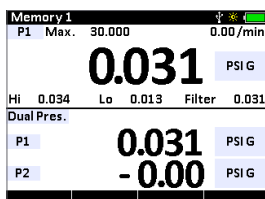
Hydraulic systems play a crucial role in turbine efficiency by controlling a variety of factors with pressure transducers and pressure switches. One example is the turbine blade angle, which is pitched at a specific angle in order to optimize its power output at any given wind speed. Leading wind turbine manufacturers use hydraulic pitch control because a hydraulic system uses fewer components than a mechanical system, making it easier to maintain.

Some of the most common hydraulic applications include:

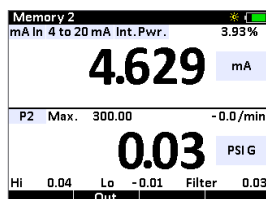
Pitch control • Yaw control • Blade Parking Brakes

CALIBRATION IS CRITICAL

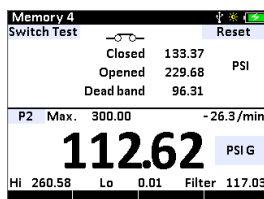
In order for these hydraulic systems to properly control and maintain the efficiency of the turbines, their sensors and switches must be calibrated. Calibrating on site, where temperatures could vary significantly, is essential. AMETEK Test & Calibration Instrument's HPC40 Series Handheld Pressure Calibrators are small, lightweight instruments, that can quickly and easily adapt to the various tests required. They are also fully temperature compensated from -20 to 50°C, so the varying temperatures will not affect accuracy.



To test a sensor without an electrical output, set the HPC40 Series to a pressure only screen with an accuracy of 0.035% of reading.



To test a transducer with an electrical output, set the HPC40 Series upper window to measure mA, and the lower window to measure pressure.



To test a switch, the HPC40 Series has a dedicated screen that will display the open, close, and dead band values of the switch. The lower screen will always show the live pressure.

