
WinDaq and the DI-730 Troubleshoot Hydraulic Systems

DATAQ Instruments

Think about the places hydraulics are used: cranes, backhoes, earthmoving equipment, lift gates and lifts of all kinds, amusement rides, your automobile. The list is almost endless. Behind the scenes of every hydraulic system are a host of pumps, motors, valves, seals, and other hardware that work as a system to achieve the goal of its designer. If one component fails, the whole system fails, causing serious down time, lost productivity, and lost profits. Our customer is a provider of hydraulic pumps and is tasked with the responsibility of providing field service for those pumps and other hydraulic components.

He chose the model DI-730 for its wide measurement range and isolation capability, since many measurements are taken from electric motors that drive the pumps. The DI-730 allows him to easily and safely measure source voltages that are typically 440V, and shunt voltages in the millivolt range. It's built-in isolation allows accurate measurements in off-ground situations without damage to either the equipment or computer.

Other transducer-based measurements are made at the same time. In hydraulic systems, these most often involve pressure and flow. The DI-75B backpack is populated with up to eight isolated amplifiers that provide both transducer excitation and signal conditioning. The high speed nature of the system, including WinDaq software for real time display, recording, and analysis, allows the service technician to view even the fastest hydraulic transients. Such flexibility is crucial for the swift resolution of hydraulic problems.

As a complete system, the service tech can view electric motor activity and instantly correlate this with hydraulic action in a manner that was virtually impossible before. Instrument portability is also a factor since a fair amount of air travel is involved. The DI-730 with the DI-75B backpack is no larger than the laptop PC used to view and record waveform data. Everything fits in an overnight bag with room to spare.