

How to Deal with a Nonstandard Fault Diagnosis from the Fluke 810 Vibration Tester

Application Note



Is it really a nonstandard fault, or is it just the setup? Find out how to tell the difference and how to fix common setup issues.

The onboard diagnostic engine of the Fluke 810 Vibration Tester relies on correct setup and data collection to deliver an accurate diagnosis.

What is a nonstandard fault?

With proper setup and data collection, the Fluke 810 Vibration Tester can detect, locate, and assess the severity of four standard mechanical conditions, or faults: bearing condition, misalignment, imbalance, and looseness. These standard faults cause most of the mechanical problems in equipment with rotating parts at a typical manufacturing or commercial facility. Under certain conditions, however, the Fluke 810 may identify a nonstandard fault.

A nonstandard fault diagnosis is usually caused by one of three conditions:

- 1. Incorrect or incomplete machine setup.** Information about drivetrain components was not completely or accurately entered during setup of the Fluke 810.
- 2. Incorrect or insufficient data collection.** The running speed of the machine under test was not accurately entered and/or the minimum data collection requirements were not met.
- 3. Vibration condition other than one of the four standard faults.** One or more other faults (mechanical and/or electrical) are affecting

the equipment's vibration signature. The Fluke 810 recognizes these readings and diagnoses them as nonstandard faults. (See the sidebar Nonstandard Faults for the Fluke 810 Vibration Tester for a list of possible nonstandard fault conditions.)

What should you do if you get a nonstandard fault diagnosis?

If confronted with a nonstandard fault diagnosis during a normal testing procedure, take the measurements again and see if you get a second nonstandard fault diagnosis. If you don't, the diagnosis was probably caused by an isolated vibration event or a data collection error. If you do get another nonstandard fault diagnosis, take the following steps to eliminate the most probable causes:

- 1. Double-check the machine setup in the Fluke 810.**
 - Has all of the required information about the driver, transmission, and driven component been entered?
 - Are the component types correctly described in the setup? For example, was an ac motor improperly described as dc? Was a screw compressor entered as a piston compressor?

