



2110 Monitoring System Configured for Turbine-Generator Sets Manufactured by Turbo Power and Marine Systems Division of Pratt and Whitney^(a)

Background

Vitec, Inc. is the original equipment manufacturer of a special three channel Series 3000 vibration monitor designed specifically for use on Turbo Power and Marine (United Technologies) turbine generator sets.

The Vitec three channel monitor supplied for this application contained many features designed specifically for the turbine being monitored. The demanding requirements set forth by the turbine manufacturer included open transducer circuits, special filtering, defined relay operation, etc.

Problem

Many of these monitors are reaching the end of their design life, and their operating and design features are so special that a standard vibration monitoring system cannot be used as a replacement, what can be done to assure SAFE, RELIABLE and ACCURATE protection of the turbines?

Solution

Vitec, the company that manufactured the original OEM monitor for this specific application, has specially configured its latest monitoring system, the 2110, to meet the requirements of the original monitor and to supply additional features.

Product Features

The 2110 has the key features of the original three channel vibration monitor as well as additional features including:

Vibration monitoring measured in the MILS mode, with input from charge output acceleration transducers.

Special 40Hz to 300Hz bandpass filtering.

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(a) Power Packs and Twin Packs using the FT4 and FT4A gas turbines.



A quantity of six relays, which are Customer-configurable to meet specific alarm and trip requirements.

Indicating LED's for Open Transducer, 1st Out, Alarm and Trip.

A 4 to 20 mADC analog output corresponding to full scale deflection.

A 2:1 start up attenuation circuit.

Individual bargraph display of vibration level, alarm and trip setpoint level, as well as alarm, trip and OK to indicate when all transducers are operating properly.

A relay inhibit function that disables relays to prevent the turbine from being shut down.

Additional Hardware

In addition to the monitor itself, Vitec also manufactures the acceleration transducers and cable assemblies used on the turbine generator sets. In the early 1970's, TP&M did use some accelerometers from other manufacturers, but the transducers listed below can be used to replace the accelerometers manufactured by others.

The following additional hardware is also available from Vitec:

Model 4060 Acceleration Transducer rated at 400F

Model 4064 Acceleration Transducer rated at 550F

Accelerometer cable assemblies rated at either 400F or 500F