

# TechNote #CM3 VIBSCANNER®

## Orbit measurement with the signal adapter VIB 8.747 and the automatic channel switch VIB 5.446\*

### Brief description

This technical note describes how VIBSCANNER can record the relative shaft vibration (orbit) of an aggregate (here: gas turbine) using the signal adapter VIB 8.747. The sensor signal is measured on the buffered outputs of a Bently Nevada machine protection system (3300 series).

### Advantages

Quick and easy check of the turbine condition using an orbit measurement. This provides the maintenance staff with accurate information on which to base further maintenance decisions.

### Measurement object

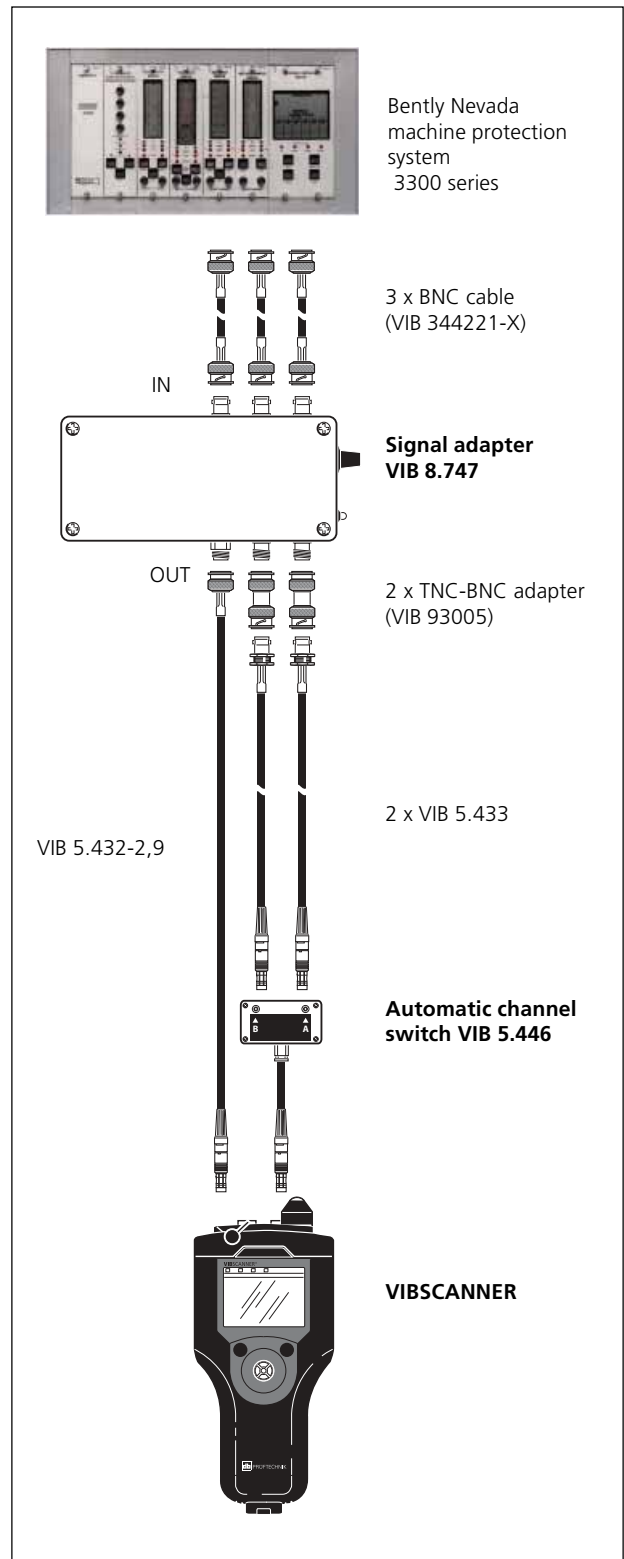
Gas turbine: Type GE Frame 6  
 Output: 38 MW  
 Site: Combined cycle co-generation site

### Measurement configuration

The sensors and machine protection system have already been installed.

**Signal adapter IN:**  
 Connect 3 BNC cables to the Bently Nevada measurement amplifier (3300 series).  
 One channel for the trigger signal, two channels for the signals of the shaft vibration sensors.

**Signal adapter OUT:**  
 Connect the trigger cable (VIB 5.432-2,9) to the VIBSCANNER digital input.  
 Connect two adapters (TNC-BNC, VIB 93055) with two VIBSCANNER cables for small signal voltage (VIB 5.433) to the channel switch (VIB 5.446). Connect the channel switch to the analog VIBSCANNER measurement channel.



\* Application with manual channel switch (VIB 5.445) is described in TechNote CM5.

## Measurement

Select orbit measurement, and open the sensor setup.

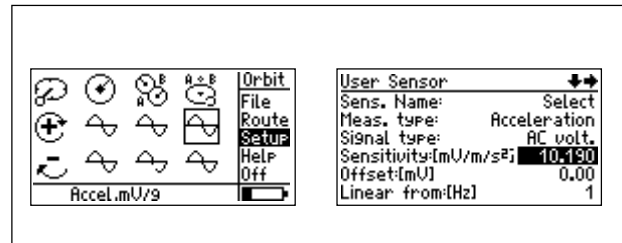
Select user-defined (voltage) sensor, and enter the parameters for sensitivity, frequency range, and offset. Note the specification of the signal adapter and measurement amplifier.

Start measurement:

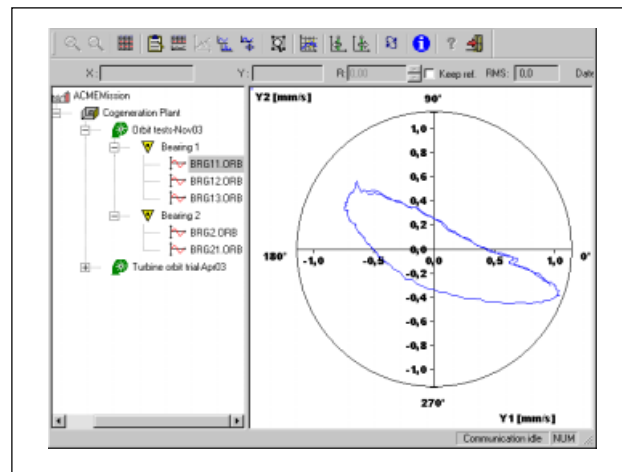
- RPM measurement and stability check via the trigger channel.
- First signal measurement via channel A.
- Measurement channel is changed
- RPM is checked.
- Second signal measurement via channel B.

Save the measurement and load the result in OMNI-TREND using 'Multimode-Import'.

The following example shows a typical shaft movement (orbit) of the gas turbine mentioned above.



Settings in VIBSCANNER



Evaluation in OMNI-TREND



Combined cycle co-generation site



Gas turbine