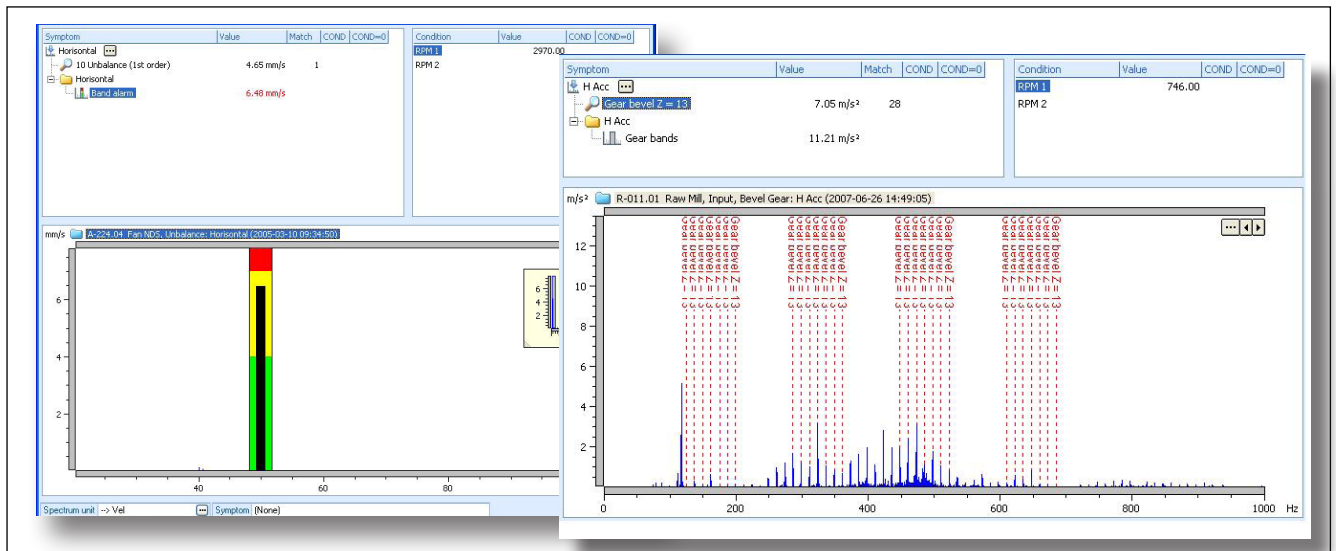


Condmaster® Nova - FFT with symptoms



FFT Spectrum with Symptoms is a vibration analysis function offered with Leonova and Intellinova, for either limited or unlimited use. It is a reduced form of EVAM (Evaluated Vibration Analysis Method), lacking the statistical evaluation by means of criteria (described in TD sheet TD-237).

This function generates three sets of machine condition data:

- Condition parameters, which are measured and calculated values from the time domain, describing various aspects of machine vibration.
- Vibration spectra where significant line patterns are found, highlighted and evaluated with the help of pre-set fault symptoms.
- Trending of symptom values. Alarm levels are manually set for evaluation in green-yellow-red.

For each measuring point, users can make an individual selection and define the type of data best suited for the surveillance of an individual machine. Alternatives include:

- FFT
- enveloping
- time synchronous averaging
- band alarms and averaging of measurement results for improved alarm reliability. Random high readings caused by resonance or other sources of disturbance are filtered out, minimizing the number of false alarms.

Condition parameters

Condition parameters are measured for a selected frequency range. They can be individually activated and are shown in measuring result tables and as diagrams. Available are:

- VEL RMS value of vibration velocity
- ACC RMS value of vibration acceleration
- DISP RMS value of vibration displacement

- CREST Crest value, difference between peak and RMS
- KURT Kurtosis, the amount of transients in the vibration signal
- SKEW Skewness, the asymmetry of the vibration signal
- NL1 - 4 Noise level in the four quarters of the frequency range.

Peak and peak-to-peak values are shown in the unit selected for the time signal.

Spectrum analysis with symptoms

For easy pattern recognition in spectra, a range of ready made 'fault symptoms' are available in Condmaster. These are instructions to highlight a spectrum line pattern and display the sum of the lines' RMS values as a symptom parameter (which can be trended).

Most symptoms are automatically configured by using the rpm as a variable, for some an input is needed, e. g. the number of vanes on a rotor.

Phase measurement

A phase is a time delay expressed in degrees of rotation. Leonova Infinity or Intellinova calculates the time delay between the passage of the tachometer pulse and the peak of the frequency component of interest from the vibration transducer at the speed of rotation. The value presented is a relative angle, not an absolute, because there is no compensation for phase lag in the transducer or the electronic circuits.

Ordering numbers

- MOD134 FFT with symptoms, unlimited use
- MOD234 FFT with symptoms, limited use

