Operating modes

Scope mode

- Quick look
- Automated analysis
- Default alarm zones
- Store adhoc data

Baseline mode

- Reference condition
- Store baselines
- Multivariate analysis
- Reference alarm zones

Monitor mode

- Trends from baseline
- Multivariate analysis
- Store VI, PSD, alarms
- Store predictive alarms

Modes

The system can be set to one of a number of operating modes that allow it to be used in a very wide range of applications.

Scope mode – health assessment

Scope mode is used to take a quick look at the condition of the equipment. It is typically used at the start of an analysis project, but is also used for fault investigation when this is required. Default settings can be used to get a condition summary simply by clicking the Start button. Measured data is automatically stored at the end of the measurement so that it can be recalled later for detailed analysis. Any faults are identified immediately, and fault description sheets can then be selected to provide detailed fault information and advice on best actions. An automated report can then be created in .docx format by clicking the Report button.

Scope mode measures incipient faults against the levels expected from healthy equipment in order to provide a snapshot of equipment condition.

Baseline mode – reference health assessment

After running Scope mode tests on a number of items of equipment it is often found that the condition of one requires ongoing monitoring over the next few days or weeks to assess the rate of deterioration. In order to do this, it is necessary to set a baseline against which changes can be assessed. The configuration for measurement of this reference condition is carried out by switching to Scope mode, setting the number of measurement cycles required and pressing Start measurement.

For equipment that operates in a range of frequencies and loads it is also necessary to define the number and ranges of operating points so that the system can use the baseline that matches the present operating state as closely as possible.

Baseline mode takes a set of individual measurements and uses them to learn the reference equipment condition at different equipment operating points. It then builds a grid of baselines that are used as reference measurements in Monitor mode.

Monitor mode – equipment health monitoring

Once a baseline (or set of baselines) has been established in Baseline mode, the system switches to Monitor mode to make continuous measurements and automatically assess each one against the

reference baseline so that deterioration of any fault can be clearly and simply assessed. Individual fault alerts and overall alerts are presented at the end of each measurement cycle, and trends can be displayed.

Monitor mode takes continuous measurements, comparing each one with the appropriate baseline in order to show changes in condition over time. In this mode, future fault levels are predicted and presented both as alarm indicators and in the Condition chart. This allows the system to display not only present condition, but also future condition based on statistical analysis of past measurements. Present and future faults are clearly identified, and diagnostic description sheets present fault information and recommendations for actions. Automated .docx reports can be produced in the same way as in Scope mode, but with enhanced trend and predictive information.

The system answers three key questions:

- Does this equipment have a problem now, or will it have one in the near future?

  If so:

  - What is the problem?
  - What should I do?
  - How soon do I need to take action?