

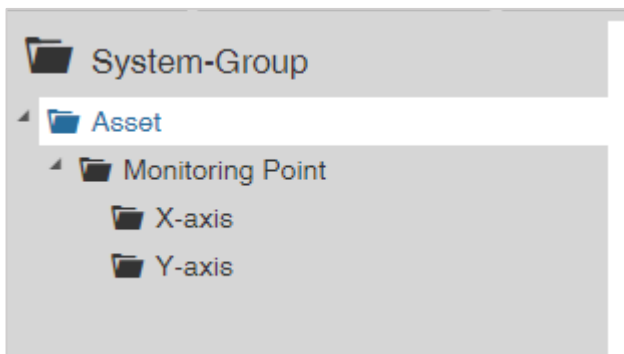
Smart Diagnostics® 3.7

September 11, 2018

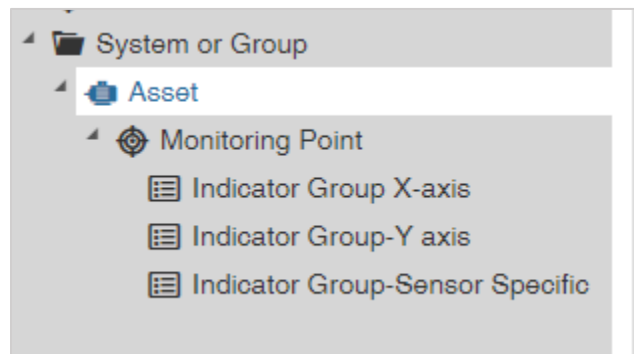
Major Feature Release: SmartDiagnostics Advanced Analytics

We've reorganized the system profile hierarchy to improve asset management, accommodate bearing analysis and improve clarity into the system structure. This means that some profile icons have changed, and some indicators may have been shuffled within the hierarchy. In the new architecture, a Monitoring Point may only contain one sensor assignment. If a folder had multiple sensor-assigned indicators within, the new structure will separate those sensors into new monitoring points.

Previous Structure / icons



New structure / icons



- **Groups** are simply folders for organization. SmartDiagnostics currently allows for 3 levels of groups.
- **Asset** level represents specific machines (pumps, fans, etc.).
- **Monitoring Points (MP)** are the positions on the asset where a sensor node is placed. Each asset may have several MPs, but a given MP can only have one sensor node assigned.
- **Indicator Groups** are the grouping of metrics reading from a sensor node on a Monitoring Point. Indicator Groups may be organized by X/Y axis and sensor health indicators.

You may see a new group under Monitoring Point, shown in this example as 'Indicator Group-Sensor Specific'. This grouping will contain indicators such as battery voltage, signal strength, wireless efficiency, and temperature. In the previous version, indicators often floated under a Monitoring point level without a grouping. The new architecture will group indicators for easier sensor health diagnostics. Any sensor related indicators within any group folder (commonly X-axis or Y-axis groupings) will remain in that folder as they were.

New Features

Advanced vibration analytic tools:

- Imbedded bearing database for easy and accurate bearing fault analysis. Easily search for and add bearings to analyze the spectrum plot.
- Color coded bearing fault frequency markers represent the bearing's FTF, BSP, BPFO, BPFI, Running speed (1x), and 2x electric line frequency (2xLF). Each clearly labeled marker can be turned on/off along with harmonics and sideband frequency markers.
- Sideband cursors: selectable by fault frequency, number of sidebands shown, and draggable to enable easy fault finding
- Harmonics: view for any fault frequencies, with draggable running speed harmonics for super fine-tuned adjustability
- Plot display: ability to view a one, two, or three plot display.
- Alarm / warning threshold lines are draggable on the trend plot (while in Edit mode).
- Simple system set up workflow: setting up new KCF Sensors has never been easier, with smarter sensor assignments and less work required to get the data you want.
- Updated trend graph colors reduce confusion and improve readability
- Additional graph zooming capability now includes mouse-wheel zoom
- Updated zoom 'drawer' with specific time/date on zoom display for better time range clarity
- Improved alarming icons: accurate system profile icon alarm states (red/yellow) enable alarm clarity

Hide All	Marker	Freq (Hz)	Amp (in/sec)
	1x	76.4	0.0009441
	BPFO	315.9	0.0001746
	BPFI	448.2	0.0001662
	B8F	428.1	0.0001685
	FTF	31.6	0.002558
	2xLF	120.0	0.0001549

Bearing
SKF 1080

Running Speed (Hz)
76.41

Of Sidebands: 3
Sideband Spacing: 31.6 (FTF)

NOTE: All templates previously created and saved will not function with the new system architecture. Remove all current templates and create new templates moving forward.

Hotkeys (when focused on the spectrum plot)

- "B" - Show/hide all markers in the fault frequency table
- Up Arrow - Selects previous **fault marker** in the fault frequency table (above)
- Down Arrow - Selects next **fault marker** in the fault frequency table (below)
- Right Arrow - Moves running speed (1x marker) forward to next point in spectrum graph
- Left Arrow - Moves running speed (1x marker) back to previous point in spectrum graph
- "L" - Show/hide the selected marker
- "H" - Show/hide harmonics of the selected marker
- "S" - Show/hide sidebands of the selected marker
- Spacebar - Toggles between CPM, Hz, or Orders units
- "<" ", " - Moves to previous point in **trend** graph (left caret/comma key)
- ">" ". " - Moves to next point in **trend** graph (right caret/period key)