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Knowledge Base Article

Product Category: Microlog Analyzer
Product: CMXA80 AX; CMXA75 GX;
Version: 4.03

Abstract

It appears as though manual entries from an SKF Microlog Analyzer get altered when data is uploaded to SKF @ptitude software. In the software hierarchy, the RPM value [Figure 1] is clearly different than the manual entry value [Figure 2] in the SKF Microlog Analyzer.

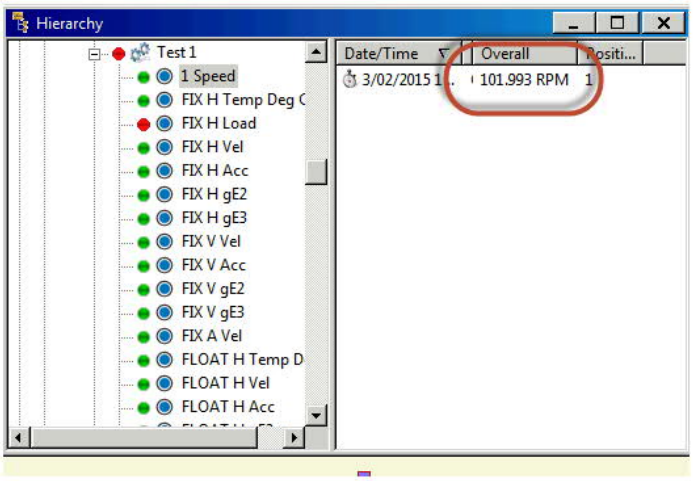

Figure 1. RPM value shown as 101.993 in software

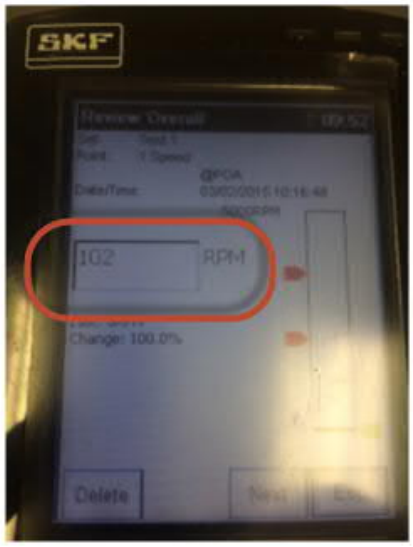

Figure 2. Manually-entered RPM value as 102 in Microlog Analyzer

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Overview

Unfortunately, this is a limitation of the current Microlog Analyzer CMXA series hardware when using a Microlog Analyzer > Vibration > Tach > RPM measurement with manually-entered speed values. It is caused by the Microlog Analyzer CMXA series using scaled integer data to represent all values, including process/overall values.

- If the RPM is 102 then this is stored as a signed 16-bit value with an FSR of 500. In other words a value of 500 RPM would be represented by 32767, which means 102 is represented by 32767 * 102 /500 = 6684.468 which gets rounded to 6684. When we convert this back, we get 6684 * 500 / 32767 = 101.99285.

These rounding errors are inevitable with the current database structure. As a rule, the errors are tiny compared to the measurement, and the only place where it becomes noticeable as a rule is with typed-in values, and due to the way the values are encoded, these are most noticeable with RPM values.

Even though it is very unlikely this design limitation of the database structure used in the Microlog will be changed it in the foreseeable future, there are couple of work-arounds that can be used to correct this:

Work-around #1

1. Right-click on the measurement in the right-hand pane, then select Properties as shown in Figure 3 below.

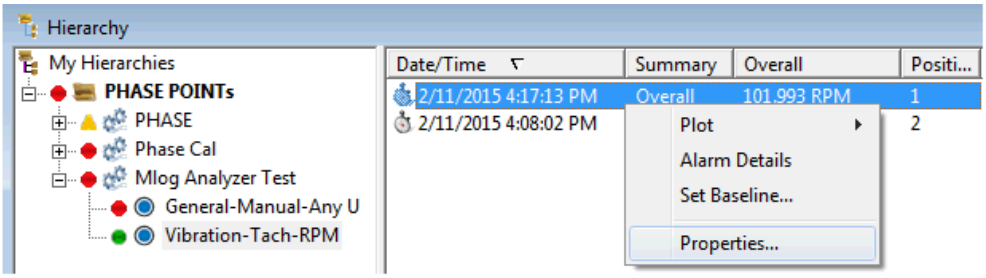

Figure 3. Right-click measurement to open Properties

2. Select the "rounded" value and change it to the absolute value.

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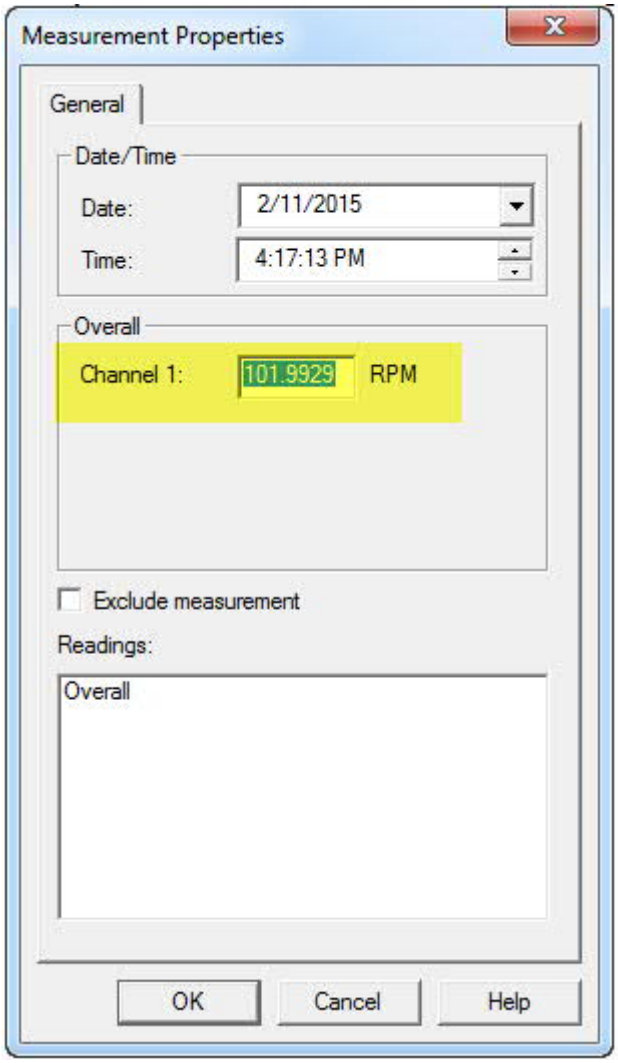

Figure 4. Change the rounded value to the absolute value

Work-around #2

Replace the existing @ptitude Analyst Microlog Analyzer > Vibration > Tach > RPM measurement with an @ptitude Analyst Microlog Analyzer > General > Manual > Any Units measurement. This would create a completely new POINT. With this particular measurement, the “rounding” errors will not be present.

For further assistance, please contact the Technical Support Group by phone at 1-858-496-3627, or by e-mail at TSG-CMC@skf.com.