Read Values from Protection Part in Condition Monitoring Part Via Internal Communication with SKF @ptitude Observer

Introduction

The procedure in this application note shows how to set up an internal modbus to send values from a protection part directly to a condition monitoring (CM) part. This only applies for overall values. With this, values that cannot be processed by the CM part, like temperature coming from RTD sensors, absolute shaft vibration and complementary differentian expansion that are calculated in the protection part, can be presented and analyzed in SKF @ptitude Observer.

Procedure

1 Protection part:

- Set up each channel with the SKF Multilog IMx Configurator depending on your specific needs.
- Remember the scale you use; alarm and danger settings could be the same in SKF @ptitude Observer due to the alarm's status being transferred to the CM part via the internal modbus.
- Set the digital channels, relays, modbus (external) and power according to your needs.
- Update the configuration on the IO board.

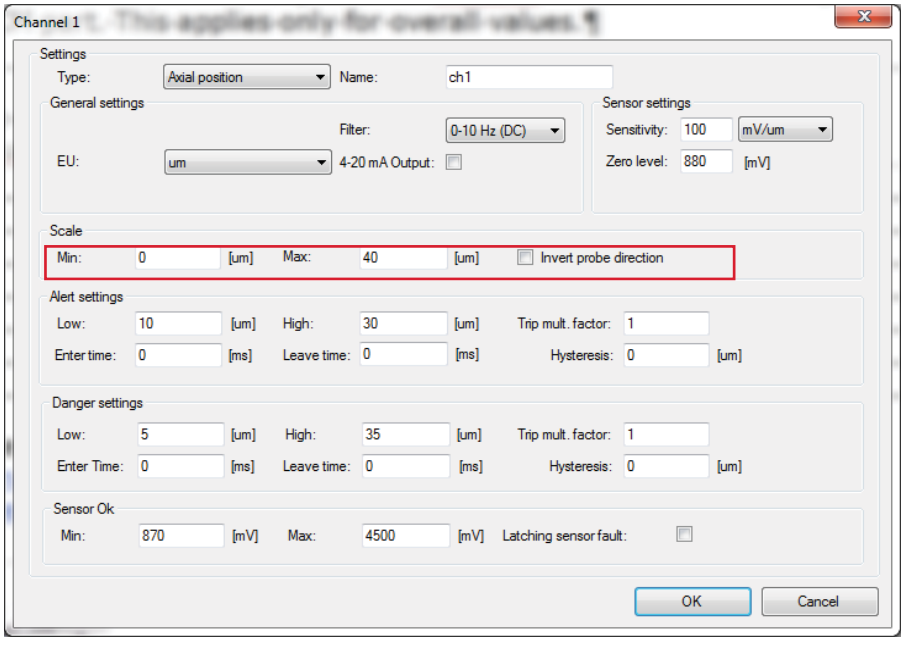

Fig. 1. Channel set up.

2 Condition monitoring part:

- When configuring the SKF Multilog IMx-M unit, select the **External communication** type as "Protection".

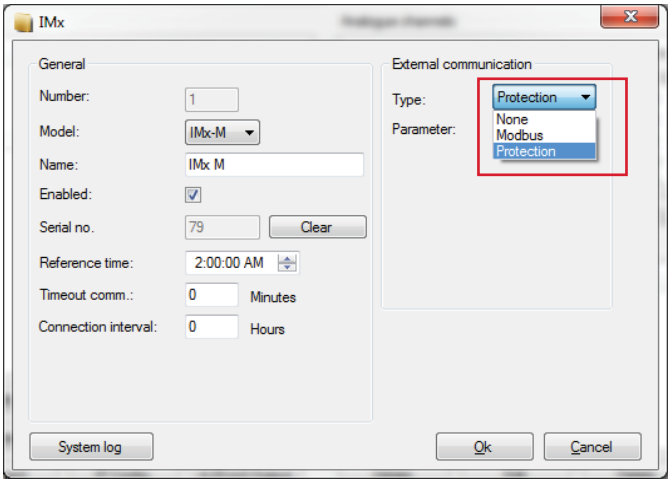

Fig. 2. Select "Protection" for external communication.

3 Condition monitoring part:

- Initiate an analogue channel using channels from numbers 101 to 116. These channels are virtual channels and will read the information directly from analogue channels 1 to 16, respectively, in the protection part.
- Set the **Name** and **E.U.**
- For sensitivity calculation, it is necessary to use the scale used for protection configuration, being careful to set it symmetrical. In the example, protection was set as 0 to 40 µm, so in SKF @ptitude Observer it needs to be set as –40 to 40 µm. When it is set as a non-symmetrical scale in protection as –10 to 25 µm, you should set it in SKF @ptitude Observer as –25 to 25 µm (using the highest absolute value).
- **LSB** should be from –32768 to 32767.
- Click **Calculate**.

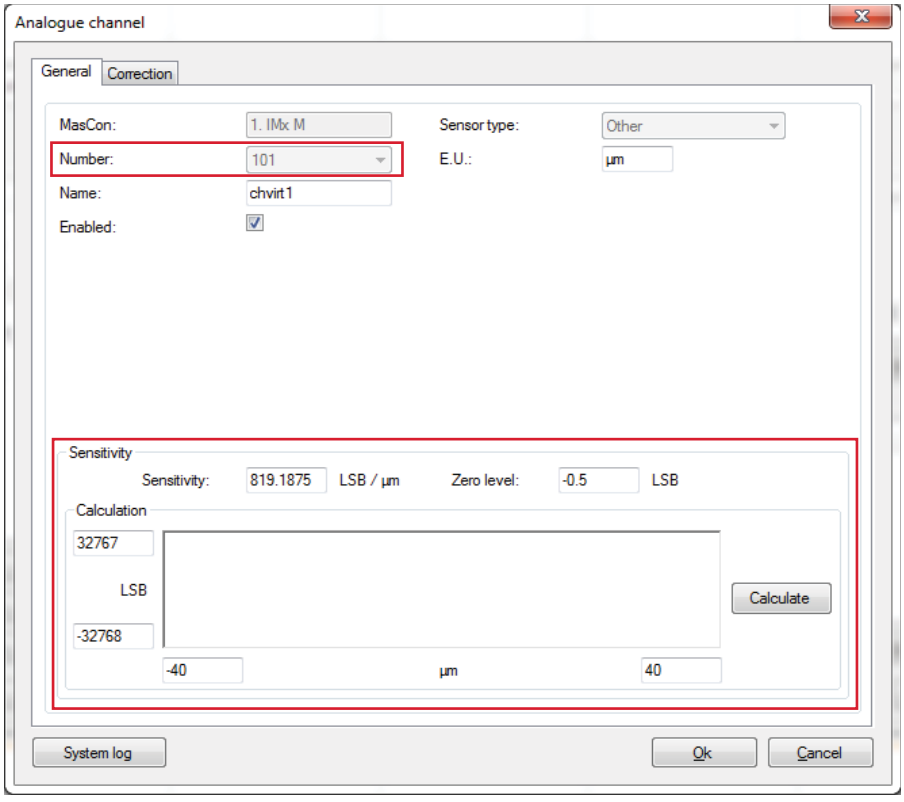

Fig. 3. Analogue Channel's General tab.

4 Condition monitoring part:

- Add a "Process" measurement point.
- Select the **IMx unit** and virtual **Channel**.
- It is not needed to set the alarms in these process points due to the alarm status is transferred from the protection part via the internal modbus. In some cases it is used to set a lower alarm value than in the protection part in order to have an early alert in SKF @ptitude Observer.

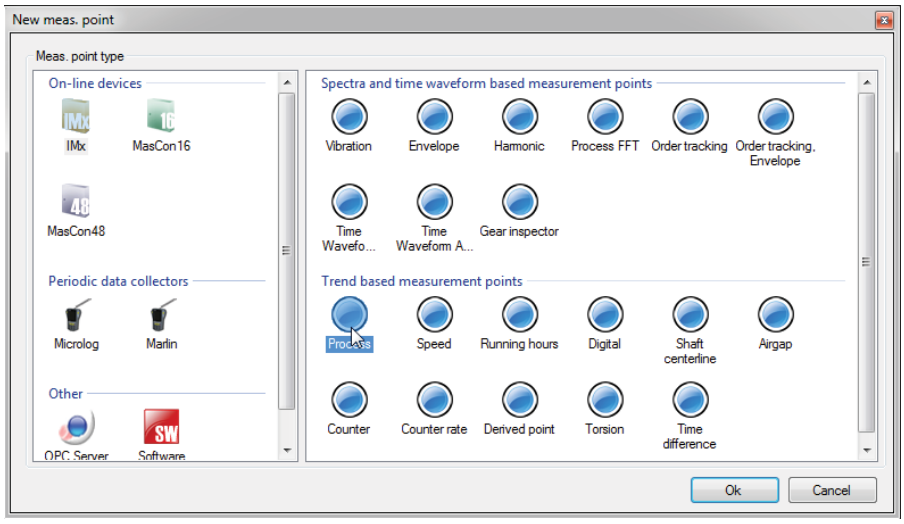

Fig. 4. New Measurement Point window.

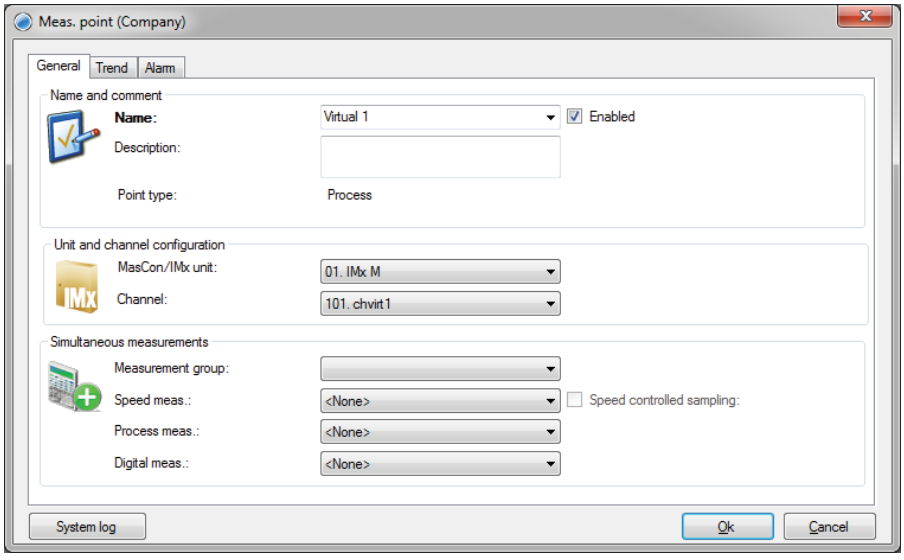

Fig. 5. Measurement Point's General tab.

5 Check that the information in the protection part (external modbus or display) and condition monitoring part (SKF @ptitude Observer) are the same.

Fig. 6. Danger status for channel 1 shown in the SKF Multilog IMx-M display compared with danger status shown for the correspondent virtual channel in SKF @ptitude Observer.

Fig. 7. Change in the status of channel 1 to Normal shown in the SKF Multilog IMx-M display compared with normal status shown for the correspondent virtual channel in SKF @ptitude Observer.

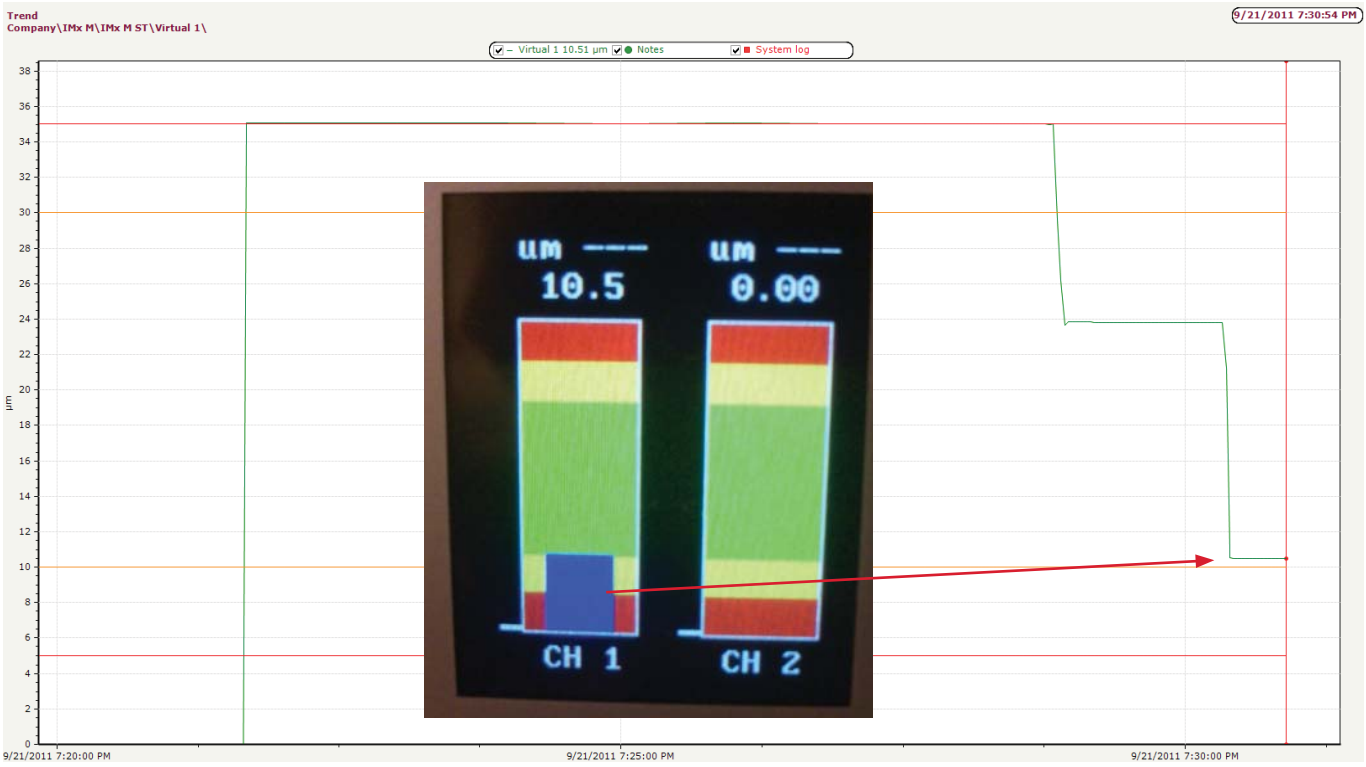

Fig. 8. Change in the vibration level of channel 1 shown in the SKF Multilog IMx-M display compared with the correspondent virtual channel.

6 If needed, virtual analogue channels 117 to 132 can be used to read the DC gap or BIAS voltage for analogue channels 1 to 16, respectively. For these virtual channels, the sensitivity shall be set as 1 LSB/mV.

7 If needed, virtual digital channels 101 to 108 can be used to read speed values for digital channels 1 to 8, respectively. For these virtual channels, the scale factor shall be set as 1, and the expected measurement units in the speed measurement point is RPM.

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