`

Knowledge Base Article

Product Group: Software
Product: CMSW7300, CMSW7400 - @ptitude Analyst; CMSW7200 - @ptitude Inspector
Version: All

Abstract

Sometimes, after setting up Derived POINTs for the first time, nothing happens when new data comes in. This is often due to a critical part of the process not being initiated. This article describes the steps necessary to properly set up Derived POINTs so they automatically calculate when new data comes in.

Overview

Calculation of Derived POINT expression is a background task of the skfMonitor.exe application. If this component is not set up to run on a server machine (a machine that is left on all the time), then Derived POINTs will not automatically calculate.

Things to check if a Derived POINT is not calculating:

- Is the Derived POINT Sensor Type set for “Calculate” or “MARLIN/Microlog Inspector”?
- Is Monitor running?
- Has Monitor’s Derived POINT calculation been turned on?
- Are all the variables linked to actual POINTs? (Note, the POINT Setup will generate a warning if there are unassigned variables, but it is still possible to save a Derived POINT with this condition.)
- Are all the variable POINTs collected and the timestamps within the Evaluation time?
- Has it been verified that these are the actual assigned POINTs for the Derived POINT?

`

Calculated vs MARLIN/Microlog Inspector Sensor type

There are two types of Derived POINTs: Calculated Sensor Type and MARLIN/Microlog Inspector Sensor Type. The type of Derived POINT is selected when the POINT is created. [Figure 1]

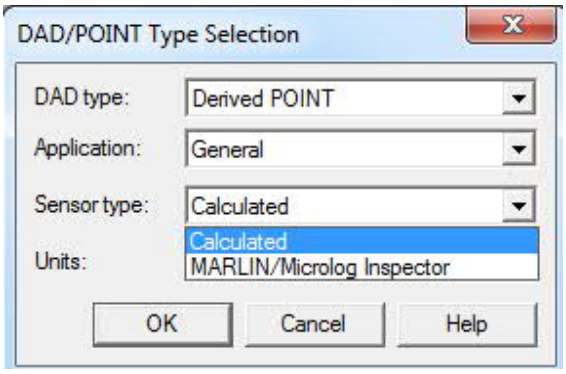

Figure 1. Derived POINT creation options

- MARLIN/Microlog Inspector Derived POINTs get downloaded as part of a ROUTE and are calculated by the handheld as the Operator takes his rounds.
- Calculated Derived POINTs require the skfMonitor application to perform the calculation. Monitor looks for new measurements (regardless of what device creates those measurements) and performs the calculations as appropriate.

Start Monitor and verify that the Derived POINT calculation is active

After starting Monitor, go to Tools > Preferences and click on the Archive tab. Near the bottom, there is a control for "Enable derived point calculation." [Figure 2] Ensure that this is active (checked) and close the dialog.

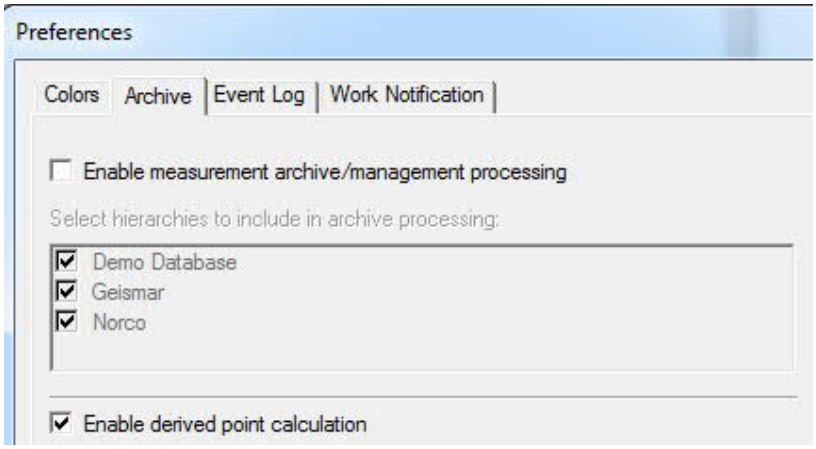

Figure 2. Monitor's enable derived POINT calculation option

Understanding Evaluation Time

In the Derived POINT properties dialog, there is a setting for "Evaluation" time on the Setup tab. [Figure 3] This variable controls if the Derived POINT will calculate if the expression consists of multiple variables.

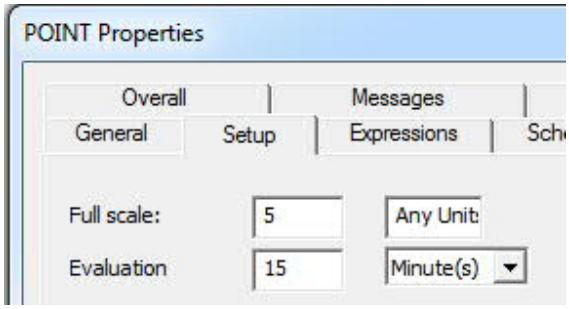

Figure 3. Derived POINT Evaluation variable

As a practical example:

A Derived POINT could be setup to calculate "Delta Pressure" of a pump. It consists of measuring the Inlet Pressure as one variable (InletP) and Output Pressure as another variable (OutletP) and setting the expression to (InletP – OutletP).

Operating situations can change over time. A calculation of change of pressure could be rendered useless if the InletP is taken in the morning and the OutletP is taken in the afternoon.

To ensure that the result is meaningful, an evaluation time of 5 minutes is set. The would result in the Derived POINT calculation for that POINT only recording a result if the InletP measurement and the OutletP measurement were taken 5 minutes apart or less.

`

Verifying with a Derived POINT test case

The easiest way to test if the automatic Derived POINT functionality is active is to run this simple test:

a. Create a Manual Entry POINT (DAD: Manual; Application: General; Sensor Type: DC; Units: F).

   i. In the POINT Properties > General Tab, change the Name to "Input POINT" and hit the OK button.

b. Create a Derived POINT (DAD: Derived POINT; Application: General; Sensor type: Calculated; Units: Any Units)

   i. In the General tab, change the Name to "Derived POINT."

   ii. In the Expressions tab, type "X * X" in the Expression formula section. [Figure 4]

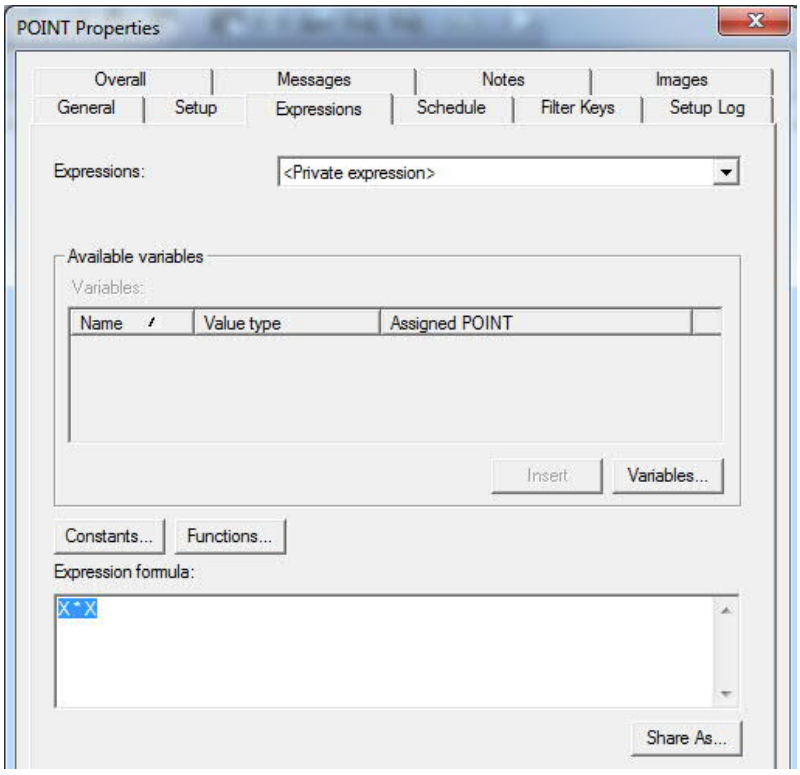

Figure 4. Expression = X*X

iii. Press the Variables button. In the Variables dialog, press the Add button. Change the name of the variable to "X". Make sure the Value type is set to "Overall-Trend". Choose the 'Select POINT assignment' option and select the Input POINT created in step 4a above. [Figure 5]

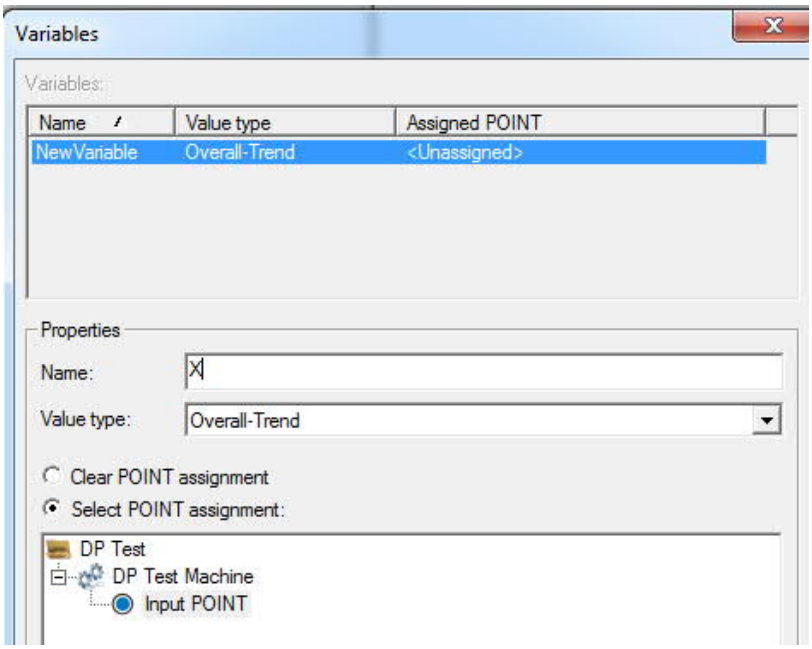

Figure 5. Creating a variable

iv. After pressing Save, the variable will show up in the Variables list showing the Name (X); Value type (Overall-Trend) and Assigned POINT (Input POINT). [Figure 6]

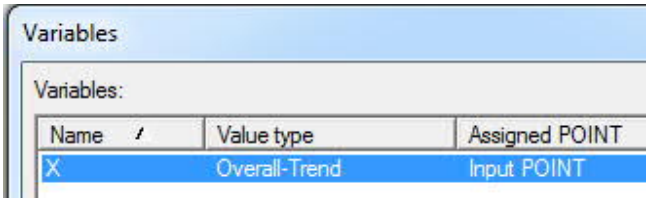

Figure 6. Variable List showing completed variable definition

v. Press the Close button to dismiss the Variables dialog; Verify that the variable is properly listed in the Expressions tab Variables table and press the OK button to save the POINT.

`

c. Use Insert > Manual Entry to set a value (for example "3") for the Input POINT.

d. After a short time (typically 30 seconds or less) a new value will appear for the Derived POINT (if 3 was entered for Input POINT, then 9 should show up (3 * 3) for the Derived POINT).

For further assistance, please contact the Technical Support Group by phone at 1-800-523-7514 option 8, or by e-mail at TSG-CMC@skf.com.