

Technical Note



How to Fetch Daily and Hourly Archives

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Purpose of Tech Note:

This Tech Note has been designed to provide a sample of how to fetch daily and hourly archives from an MVI56E-AFC or MVI69E-AFC module. This tech note assumes that the reader has at least moderate knowledge of how to use RSLogix5000 or RSStudio5000, and that the user already has an active AFC card with at least one enabled meter from which archives may be fetched. For the sake of example we will be fetching the archives from a DifferentialGas meter, but the same process applies for the other meter types.

Required Components:

To complete this tech note you will need at least one of the following:

- A MVI69E-AFC or MVI56E-AFC running in the appropriate Rockwell PLC rack.
- An active, enabled, meter, providing process inputs which are being calculated.
- RSLogix5000 or RSStudio5000

Step 1: Locate and expand your Meter's Archive tag

Navigate to your Controller Tags and locate the meter specific tag. Although the name may have been altered, especially if you have multiple cards in the same rack, the default name is AFCMeterXXTypeofMeter where XX is the meter number from which we will be fetching the archive. In our example we've added an extra under score to the tag name but otherwise maintained this style to show that the name doesn't matter as long as the tag is correct:

<input type="checkbox"/>	- AFC_Meter01DifferentialGas
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Control
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Status
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.ProcessVariables
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Analysis
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Alarm
<input checked="" type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Write
<input type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive.Fetch
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Daily
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Hourly
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Profile
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.Calibration
<input type="checkbox"/>	+ AFC_Meter01DifferentialGas.BackplaneReturn

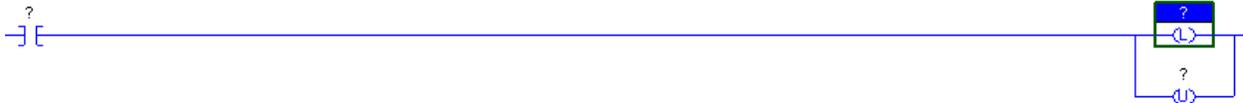
For this example we will be getting the Archives from Meter 1, which in this example is a DifferentialGas meter, but the naming convention will be the same if it is DifferentialLiquid, LinearGas, or LinearLiquid.

Step 2: Expand the Fetch sub tag, and then expand both Daily and Hourly (if you wish to fetch both)

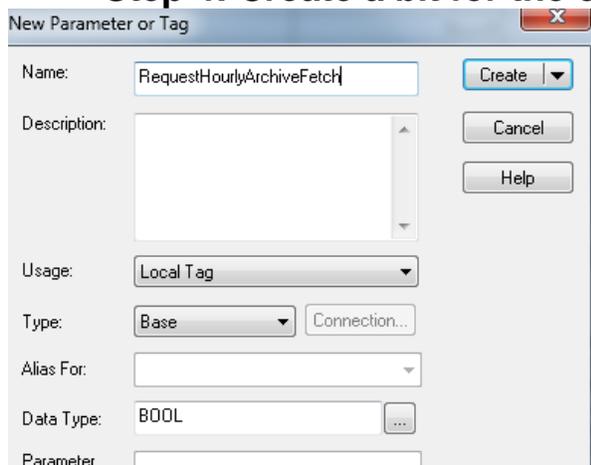
Take note of the full name for the Trigger tag for each as we will be using it later.

<input type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive	{...}
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Write	{...}
<input type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive.Fetch	{...}
<input type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive.Fetch.Daily	{...}
<input type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Trigger	0
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Age	0
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Error	{...}
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default	{...}
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Raw	{...}
<input type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive.Fetch.Hourly	{...}
<input type="checkbox"/>	- AFC_Meter01DifferentialGas.Archive.Fetch.Hourly.Trigger	0
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Hourly.Age	0
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Hourly.Error	{...}
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Hourly.Default	{...}
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Archive.Fetch.Hourly.Raw	{...}
<input checked="" type="checkbox"/>	+ AFC_Meter01DifferentialGas.Profile	{...}

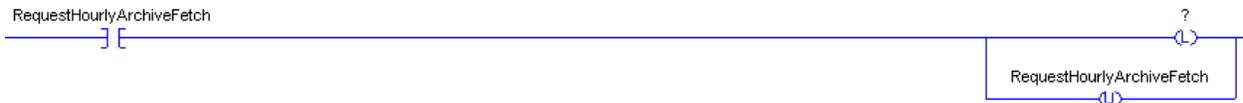
Step 3: Find a rung within an active routine where you can put the archive fetch ladder and add an examine on, followed by a latch, and then a branch with an unlatch in the style demonstrated below.



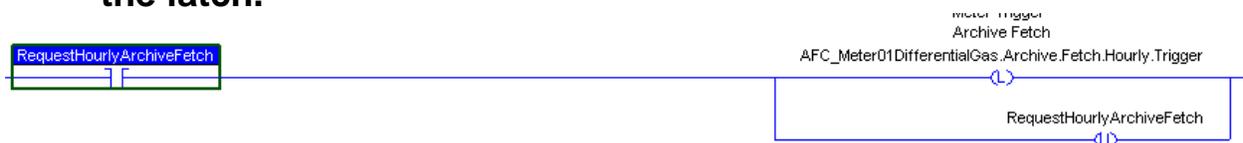
Step 4: Create a bit for the examine on.



Step 5: Add this bit to the Unlatch as well.



Step 6: Add the trigger for the first fetch you wish to perform to the latch.

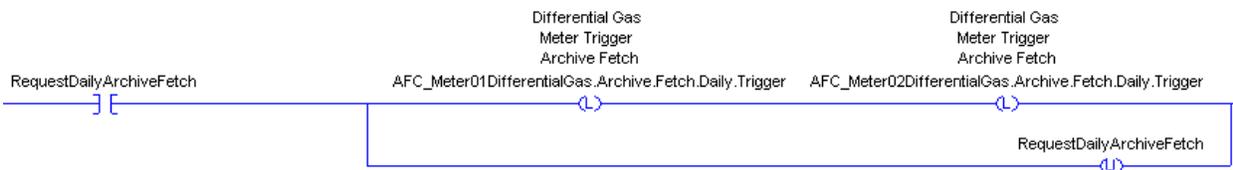


Step 7: Repeat steps 3 through 6 for each additional groupings of fetches you wish to perform.



In this example we wanted to keep the Hourly and Daily separated since we will only need to fetch the Daily at most once per day.

Step 8: Add additional latches to the upper branch for every additional Meter you wish to trigger with that particular rungs fetch.



IMPORTANT: It is important that you both use a latch, instead of an energize, and that you do NOT unlatch the triggers. The trigger bits will unlatch themselves once the fetch is complete, unlatching or de-energizing the trigger too soon can result in your Archive Fetch not completing.

Step 9: At the timing you wish the Archives to be fetched, set the age bit for the Archive you would like to fetch and latch the respective Examine On bit.

Doing so will cause all the trigger bits to latch, then the lower branch will unlatch your archive fetch request. In this example we wanted a snap shot of the currently generating Daily Archive so we left the age at 0 and put a 1 into RequestDailyArchiveFetch. Once the fetch completed, the Default and Raw sections populated and the Trigger unlatched.

-	AFC_Meter01DifferentialGas.Archive.Fetch	{...}
-	AFC_Meter01DifferentialGas.Archive.Fetch.Daily	{...}
-	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Trigger	0
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Age	0
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Error	{...}
-	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default	{...}
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.ClosingTimestamp	883678969
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.CumulativeActiveStreams	2#0000_0000_0000...
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.CurrentActiveStream	1
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.MeterStatus	2#0011_1000
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.FlowingPeriod	3442
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.PeriodDuration	3442
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.AccumulatorTotalizer	815
-	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.AccumulatorResidue	0.35317218
+	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.MeterAlarms	16#2000_0000
-	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.PrimaryInput	1.9191794
-	AFC_Meter01DifferentialGas.Archive.Fetch.Daily.Default.Temperature	24.000475