

Process Plugins™ Solutions for Wind Turbines

The image below shows the AF structure at the root of an individual WTG that captures important elements of each turbine for use later in calculation and rollup:

The screenshot displays the PI System Explorer interface. On the left, a tree view shows the AF structure for WTG001, including various PPI elements like PPI_WriteToPInvalid1 through PPI_WriteToPInvalid19, SiteCalcs, and WTGs. The right pane shows the 'Attributes' tab for WTG001, which contains a table of attributes and their values.

Name	Value
_MVExTmp	19 °C
_MVGnTmp1	68 °C
_MVGnTmpBrg2	68 °C
_MVHz	60 Hz
_MVIntlTmp	20 °C
_MVSpd	1437.393 RPM
_MVSpdCCU	1445.8 RPM
_MVWdSpd	9.579126 m/s
_MVWdSpd10m	9.161265 m/s
_StVpStFlt	2
_WYEstAa	1132 A
_WYEstAb	1136 A
_WYEstAc	1142 A
_WYEstPhVa	345 V
_WYEstPhVb	347 V
_WYEstPhVc	346 V
_WYEVAr	-46 kVAR
_WYEVArProd	0 kVARh
_WYEVArProd	88500 kVARh
_WYEW	1162 kW
Capacity	1500 kW
DisplayHeader	Fenton WTG 1 - GEWE 1.5
TableRecord	FENT001
WTGavailable	0 na
WTGmaintenance	0 na
WTGon	1 na
WTGoperating	1 na
WTGrunup	0 na
WTGunavailable	0 na
WTGutility	0 na
WTGweather	0 na

On the right side of the attribute table, there are configuration options for the 'Capacity' attribute:

- Name: Capacity
- Description:
- Configuration Item:
- Categories:
- UOM: kW
- Value Type: Int16
- Value: 1500 kW
- Data Reference: Table Lookup

Below these options is a SQL query: `SELECT Capacity FROM WTGs WHERE Record = @TableRecord`

At the bottom of the window, the status bar shows: WTG001 Modified:7/21/2010 4:31:55 PM. Version: 1/1/1970 12:00:00 AM, Revision 1

The image below shows the Process Plugins calculation which counts the number of WTGs running, while filtering out bad data:

The screenshot displays the PI System Explorer interface. The left pane shows a tree view of elements, with 'PPI_FilterNumOn' selected under the 'WTGs' category. The main pane shows the configuration for 'PPI_FilterNumOn', including a table of filter tags and their values.

Name	Value
OMed1Avg2Sum	2
Default	0
DependencyHierarchy	0
HighAlarm	1E+09
HighLimit	1E+12
LowAlarm	0
LowLimit	0
MultiState	1
Pitag001	1
Pitag002	0
Pitag003	0
Pitag004	0
Pitag005	0
Pitag006	0
Pitag007	0
Pitag008	0
Pitag009	0
Pitag010	1
Pitag011	0
Pitag012	0
Pitag013	0
Pitag014	1
Pitag015	1
Pitag016	1
Pitag017	0
Pitag018	1
Pitag019	1
Pitag020	0
Pitag021	0
Pitag022	0
Pitag023	1
Pitag024	0
Pitag025	0
Pitag026	1
Pitag027	0
Pitag028	0
Pitag029	0
Pitag030	1
Pitag031	1
Pitag032	1
Pitag033	1
Pitag034	1
Pitag035	1
Pitag036	1

The right pane shows the configuration for the selected element 'Pitag001', including fields for Name, Description, Configuration Item, Categories, UOM, Value Type, Value, and Data Reference. The Data Reference is set to 'Formula'.

At the bottom of the window, the status bar indicates: PPI_FilterNumOn Modified:6/16/2010 3:34:49 PM. Version: 1/1/1970 12:00:00 AM, Revision 2



Below is a rolled up Process Book display of fleet data note that all of the rollup is done by Process