

SPECIFICATION

ACW_n OPC INTERFACE
ACW_n v 1.3.1 on.

ACWn v 1.3.1 on - OPC Interface:

Modification Record

Draft: Data Location definitions from ACWn 1.3.7.	22/08/00
Draft 2 Updated screen images	01/09/04
Issue 1 Issued -given Procal Number	20/03/07

General Description

The OPC Interface enables OPC compliant software access to ACWn published data. It is compatible with OPC DA (Data Access) versions 1.0 and 2.0.

ACWn acts as an OPC Server, with Client read access to Channel data, State indicators and some Labels. The Server also allows write access to Derived Channels of External Type definition.

The Server allows an OPC client to browse for all valid Tags.

For all Channels only the live data is published.

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Detailed Description

Addressing

The OPC interface requires an OPC client to access the data. OPC Explorer from Matrikon was used to explore and generate the following screen shots to demonstrate the OPC capabilities.

The Server Name is "ACWN Calculation Engine OPC DataSvr"

The "Tags" are data access points, and each has an address. ACWn uses a tree structure of address names as follows.

System Tags addressed as (System Number).Item

Instrument Tags addressed as (System Number).(Instrument Number).Item

Channel Tags addressed as (System Number).(Instrument Number).(Channel Name).Item

Examples of each in use and the data returned is given below.

The screenshot shows the Matrikon OPC Explorer interface. The left pane displays a tree view of the OPC server hierarchy, including 'Localhost \\\PROCAL', 'ACWN Calculation Engine OPC DataSvr', and 'Test'. The right pane shows a table of data points for the 'Test' group.

Item ID	Status	Value	Timestamp	Go
8800480.8500790.AzMode	Active	0	21/08/2003 16:40:17	Go
8800480.8500790.Carbon Dioxide.Reading	Active	17.9961116059647	21/08/2003 17:00:32	Go
8800480.8500790.Connected	Active	1	21/08/2003 16:40:21	Go
8800480.8500790.DerChan6.RawReading	Active	10	21/08/2003 16:50:51	Go
8800480.8500790.Head Temperature.Reading	Active	24.9016236235574	21/08/2003 17:00:32	Go
8800480.8500790.SerialNumber	Active	1	21/08/2003 16:40:17	Go
8800480.AOU.Connected	Active	0	21/08/2003 16:40:17	Go
8800480.SysVer	Active	ACWn Version 1.3.7	21/08/2003 16:40:17	Go

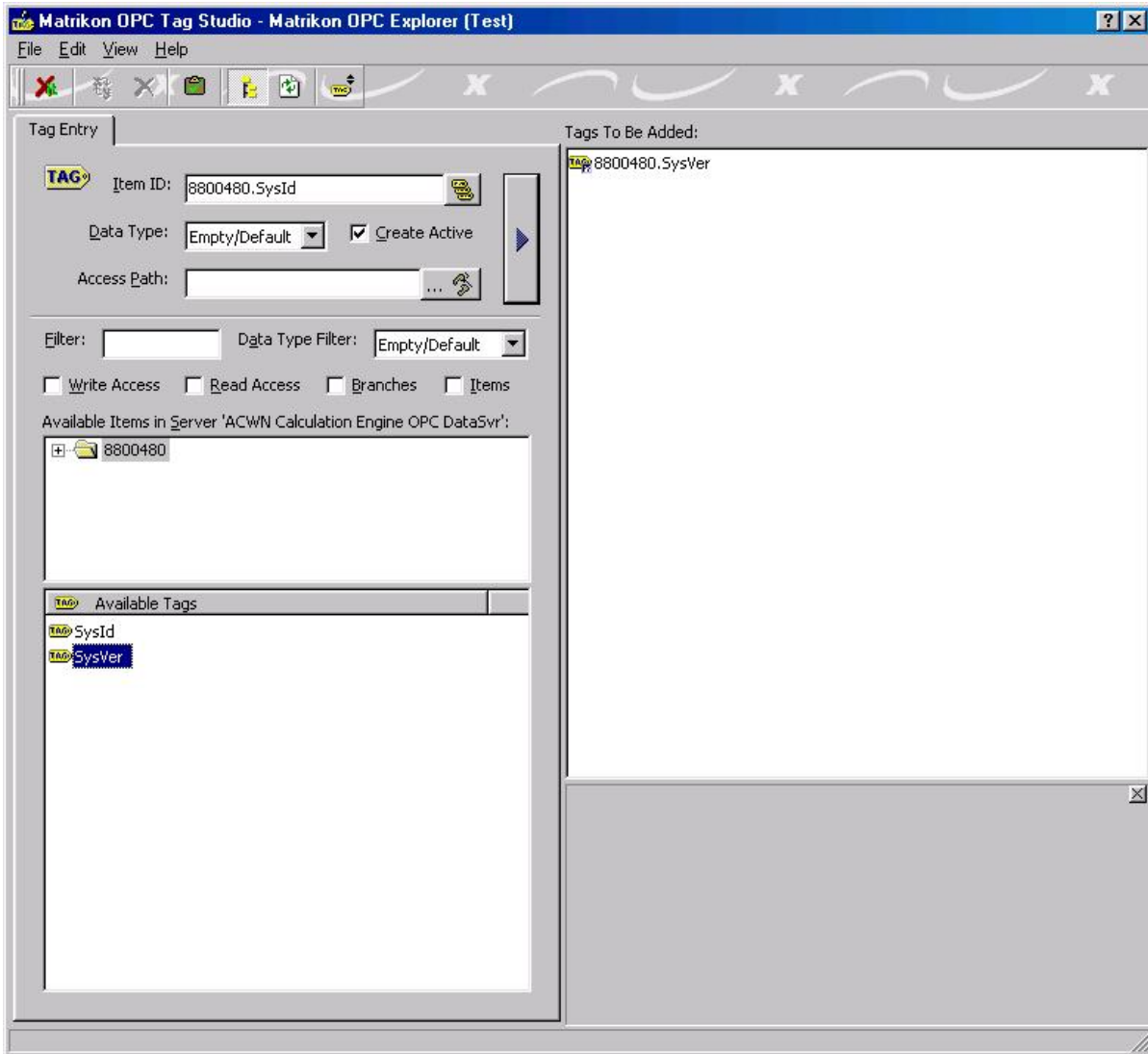
Server Info: Server: ACWN Calculation Engine OPC DataSvr, Connected: Yes, State: Running, Groups: 0, Current Local Time: 21/08/2003 17:00:34, Last Local Update Time: 21/08/2003 16:42:08, Bandwidth Usage: 0.

Group Info: Group: Test, Connected (Async I/O): Yes (2.0), Active: Yes, Items: 8, Current Update Rate: 1000 ms, Percent Deadband: 0.00%.

ACWn v 1.3.1 on - OPC Interface:

System Tags.

OPC Browse results for 8800480 system.



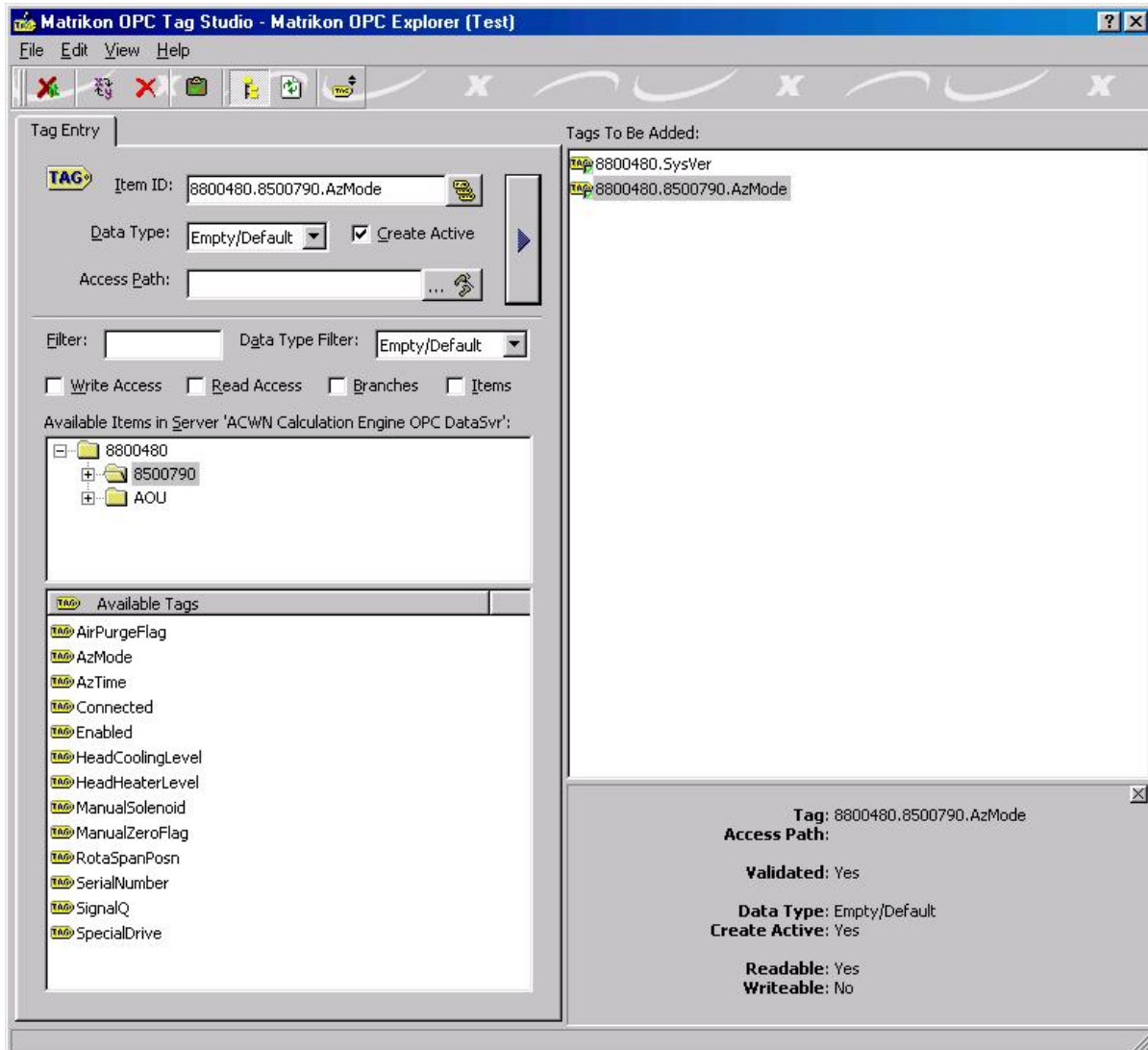
ACWn v 1.3.1 on - OPC Interface:

Instrument Tags.

OPC Browse results for 8500790 instrument.

Note this list is for a P200 and will change in a suitable manner for other types of instruments.

The other devices on this system are listed in the Available Items tree list.

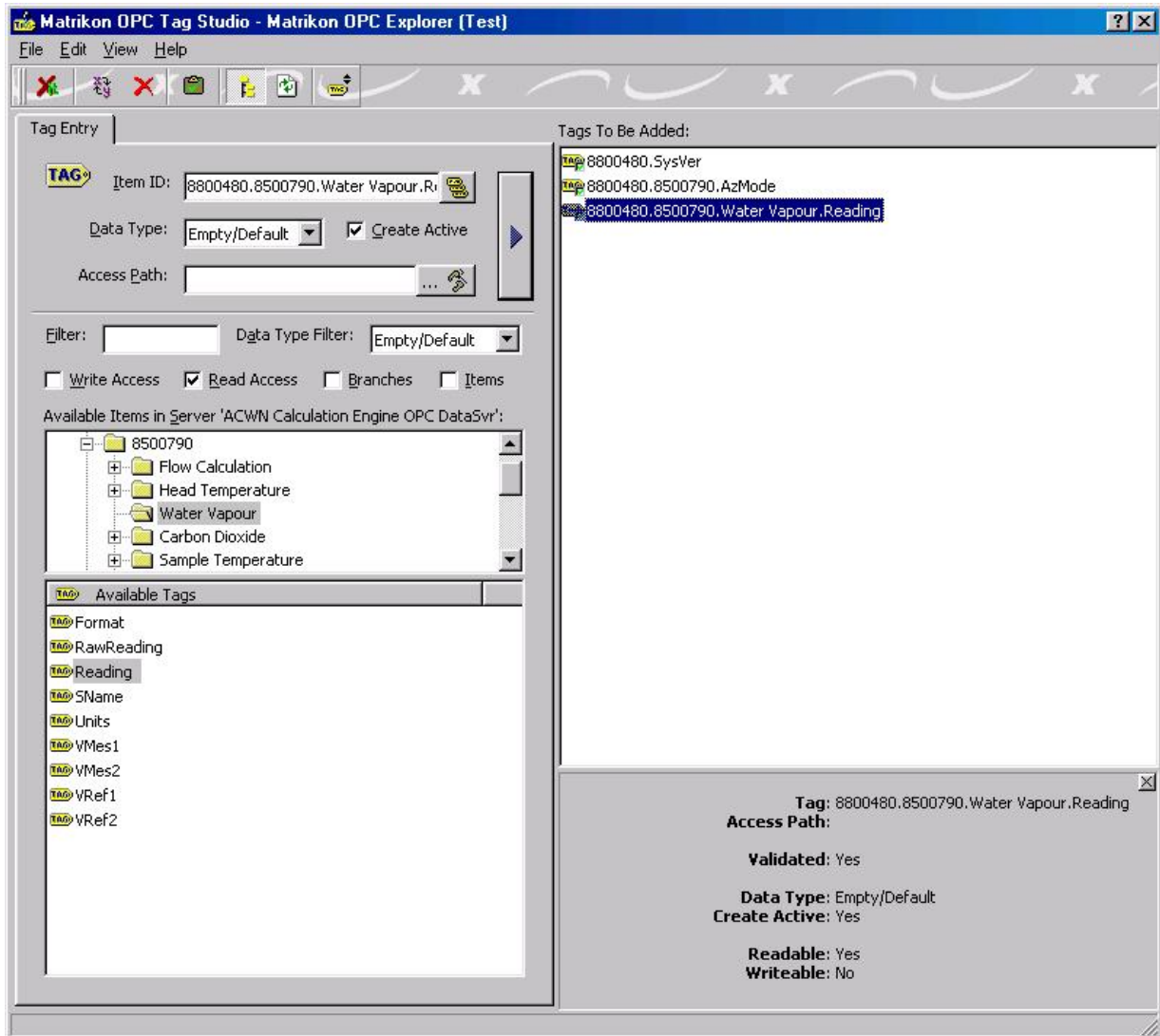


ACWn v 1.3.1 on - OPC Interface:

Measure Channel Tags

OPC Browse results for 8500790 instrument measure channels.

Note the Available Items list contains all the available channels.

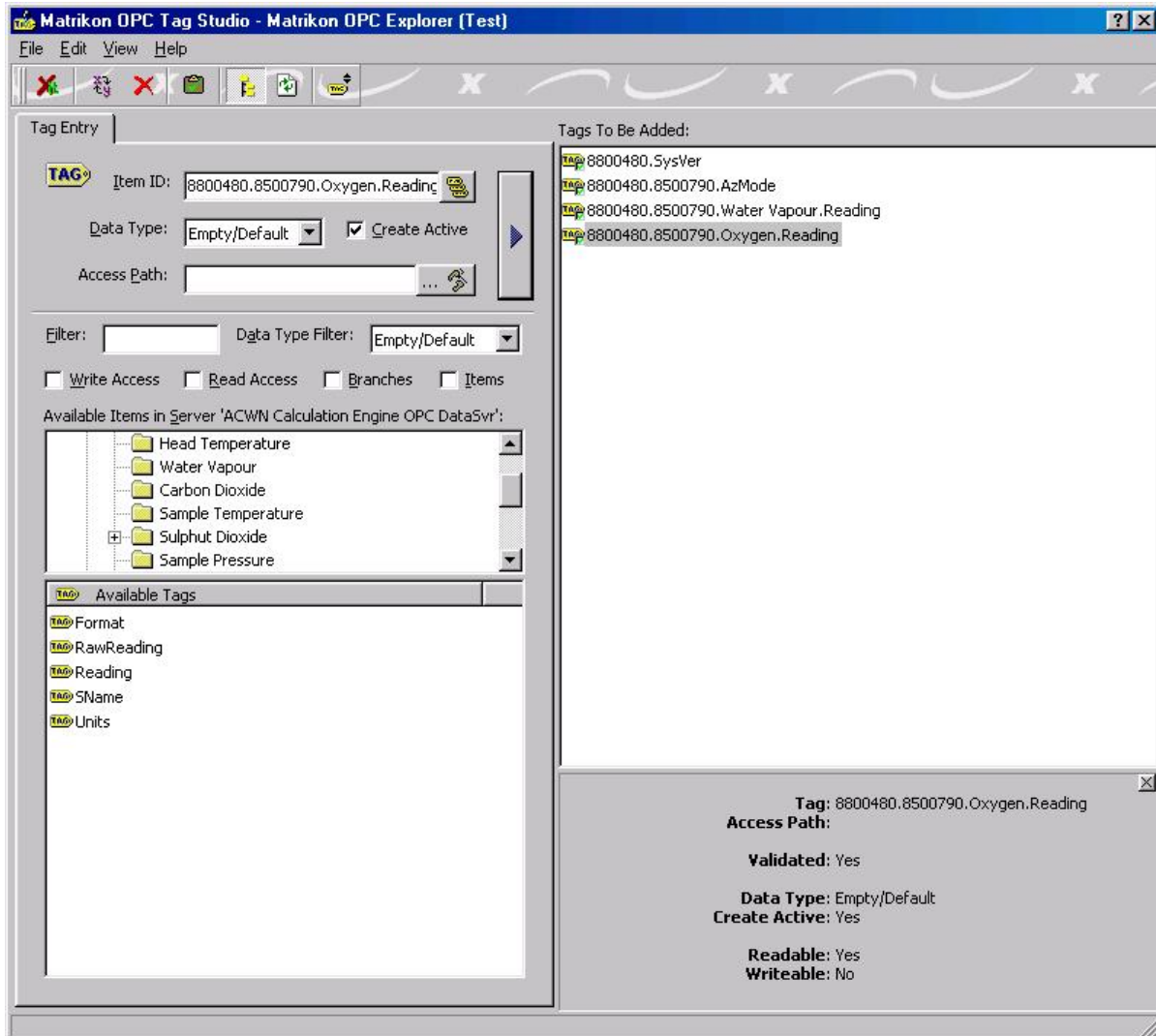


Note that "Reading" is the output tag, the "Rawreading tag and Vmes1 to Vref2 tags are for Procal use and are not likely to be of use to a user.

ACWn v 1.3.1 on - OPC Interface:

DC and Derived Channel Read Tags.

OPC Browse results for 8500790 instrument DC and Derived read channels.

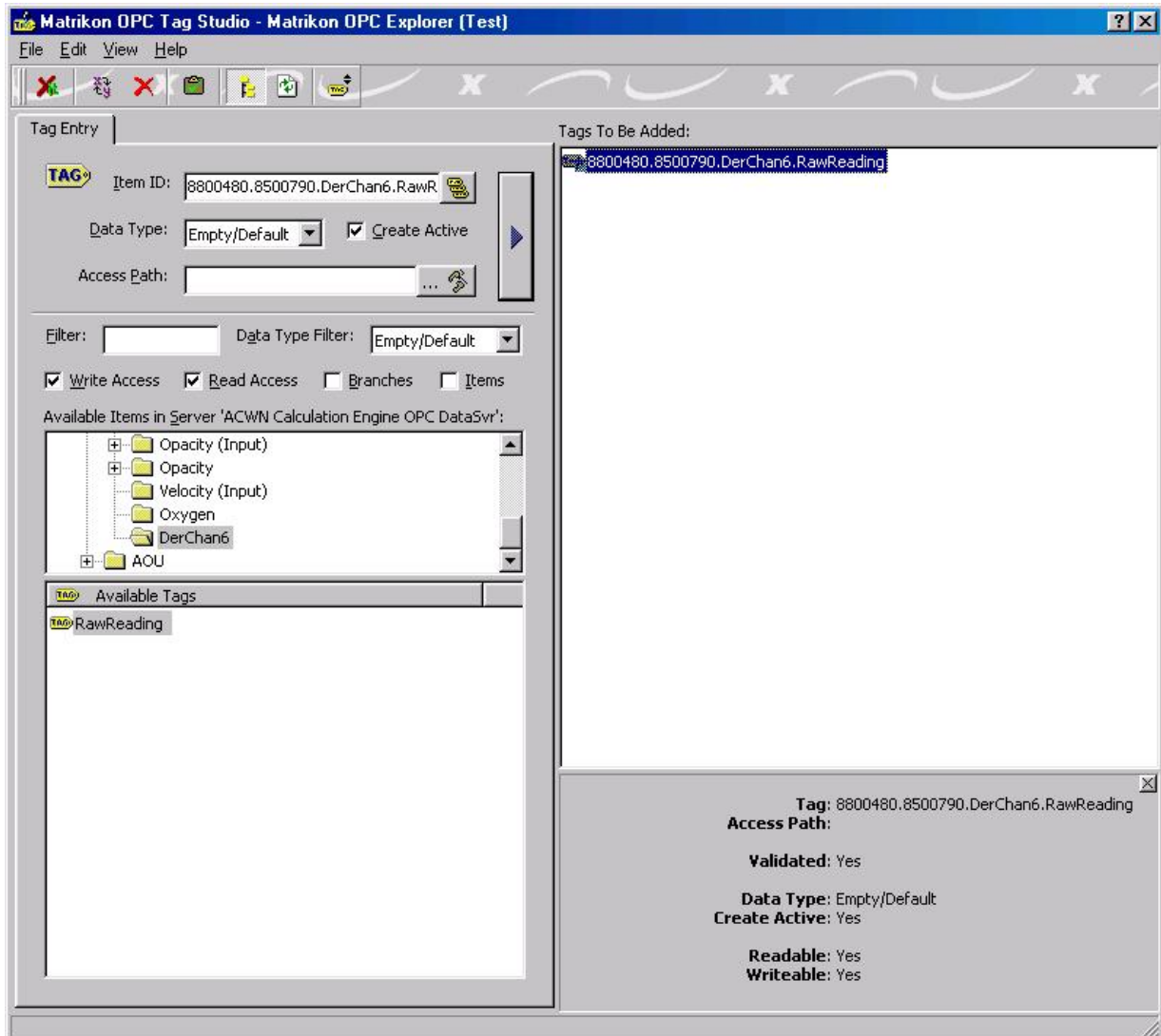


ACWn v 1.3.1 on - OPC Interface:

Derived Channel Write Tag

OPC Browse results for 8500790 instrument Derived read channels.

One type of Derived channel has an OPC write capability, to allow an OPC Client to enter a value which is then logged by ACWn.



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System Considerations

If ACWn is shut down while an OPC Client is connected the OPC Client needs to be able to handle the loss of a server connection automatically, and needs to automatically re-establish a connection when ACWn restarts, to preserve a continuous monitoring capability.

References

- 1) OPC Foundation – Source of OPC background information
Home web site; www.opcfoundation.org
Includes specifications of OPC DA 1.0 and 2.0.
- 2) Matrikon – Supplier of OPC Explorer used to demonstrate ACWn/OPC interface.
Home web site; www.matrikon.com .
OPC web address; www.matrikon.com/drivers/opc/index.asp