

USER MANUAL

PIConect™

VERSION 1.1

OPC Real-Time Data Archival System

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PICONTROL SOLUTIONS COMPANY

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INTRODUCTION TO **PiCONTROL** AND **ARTCON**

PiControl Solutions Company (www.picontrolsolutions.com) is an industrial process control software technology development company. It is a wholly owned subsidiary of Artcon, Inc. (www.artcon.com).

Whereas **PiControl** specializes in innovative development of process control software technology, algorithms and products, **Artcon** specializes in turnkey process control consulting, advanced control implementation, plant startup/commissioning, and a complete array of process control services for the industry.

Artcon and PiControl have been providing products and services to the industry since 1992 and have operation worldwide in several countries.

Following is a list of PiControl Software products:

1. **PIBridge™** (OPC to OPC real-time data communication)
2. **PICONECT™** (OPC real-time data archival system)
3. **PILOGGER™** (OPC-based fast data logging for equipment fault diagnostics)
4. **PITOPS™** (Multivariable closed-loop transfer function identifier & PID optimizer)
5. **SIMCET™** (Real-time PID tuning simulator for training, grading and certification)
6. **APROMON™** (Online PID and advanced control quality performance monitor)
7. **TADPOLE™** (Online oscillation detection software with adaptive control)
8. **PROEVDIST™** (Distillation process simulator for training and design)
9. **PROCBAT™** (Process control computer-based training module)
10. **ACCSI™** (Advanced control instructor training slides)

All our products are very simple to use for any plant operator, control engineer, DCS/PLC technician or researcher.

Use of our products does not require deep academic knowledge of process control theory. User can configure and use our products in just a few minutes.

For more information on all these products, visit the website www.picontrolsolutions.com or send an email to info@picontrolsolutions.com.

PIConectTM User Manual

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PiConnect™ User Manual

1.0 Introduction

This manual specifies the hardware required to run PiConnect™ software. It also explains software installation procedure and how to start and use PiConnect™.

2.0 Software/Hardware Requirements and Installation

PiConnect™ runs on Windows XP, NT, Vista and other Windows operating systems.

To install PiConnect™, first send an email request to PiControl Solutions Company at info@picontrolsolutions.com. A web-link to download the program installation setup executable file from the PiControl Solutions website will be sent.

To start installation, double-click the PiConnect_Setup.exe file.

To complete installation, follow all the step-by-step installation instructions on the screen.

All PiConnect™ files will be installed to the specified program folder. A program Group "PiConnect" will be created with program icons "PiConnect", "PiConnect Help", "Readme First" and "License Agreement".

3.0 Create PiConnect.INI File for OPC Servers for the First Time

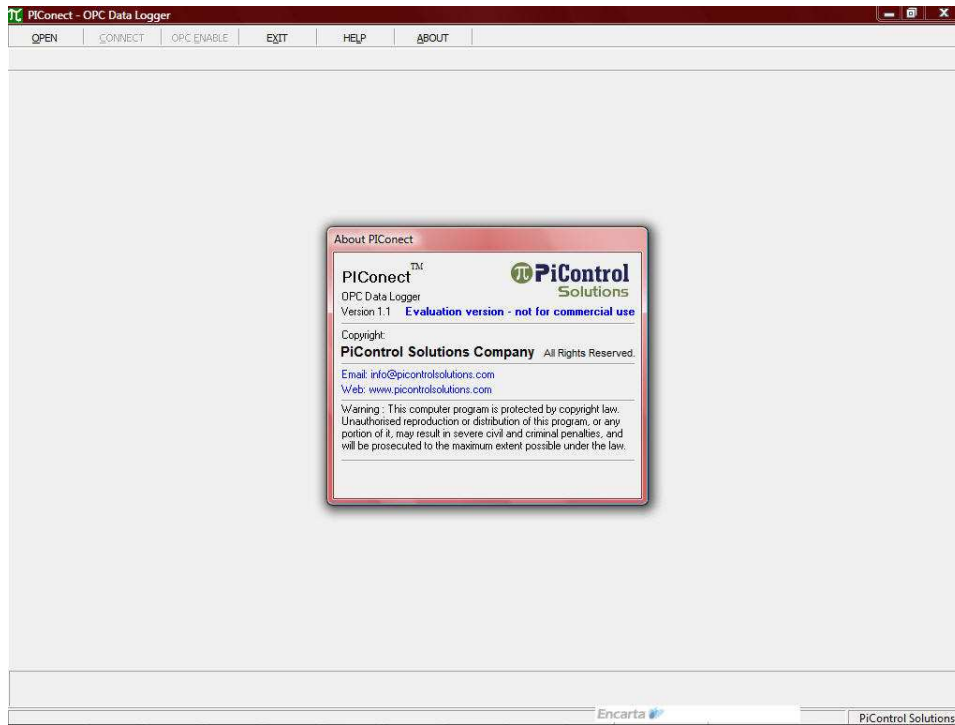
A configuration text file *PiConnect.INI* must be created first. A sample file named *PiConnect Sample.INI* is provided with the software. The configuration file structure is shown below in Section 4. Use this file as a start and then modify to customize to your needs. Procedure on how to configure the file is described below:

1. Edit *PiConnect.INI* file in a Text Editor. For OPC server, the *Computer Name* can be left blank and *Server Name* can be left as the default as shown in the file. *[OPCTags]* can also be left blank. Save and Close *PiConnect.INI* file.

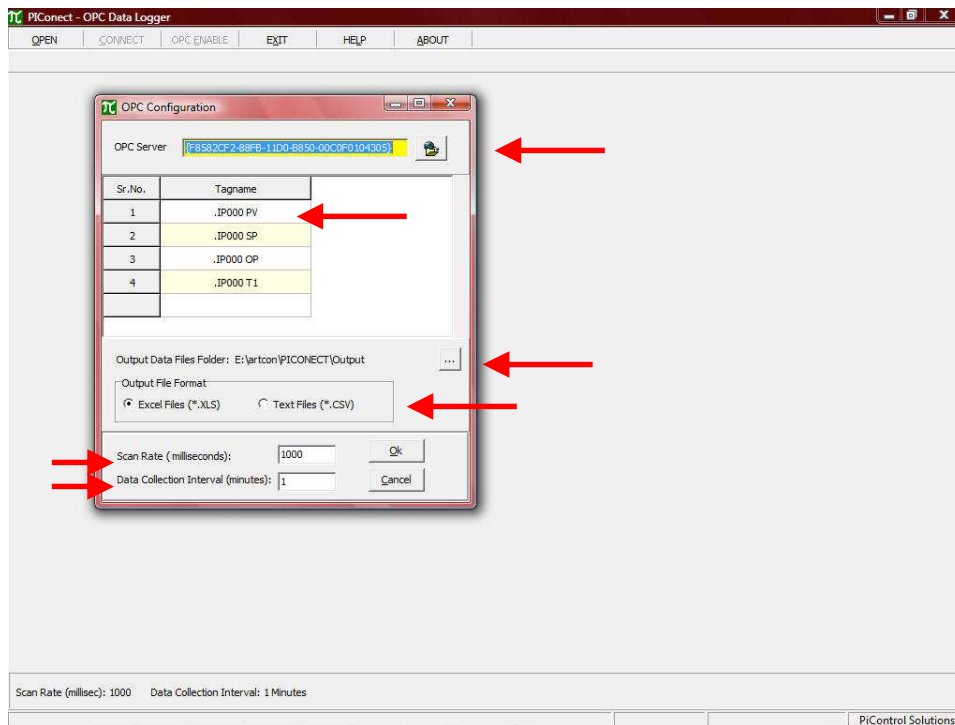
There are four input tagnames in the example provided. They are listed below:

- 1=.IP000 PV
- 2=.IP000 SP
- 3=.IP000 OP
- 4=.IP000 T1

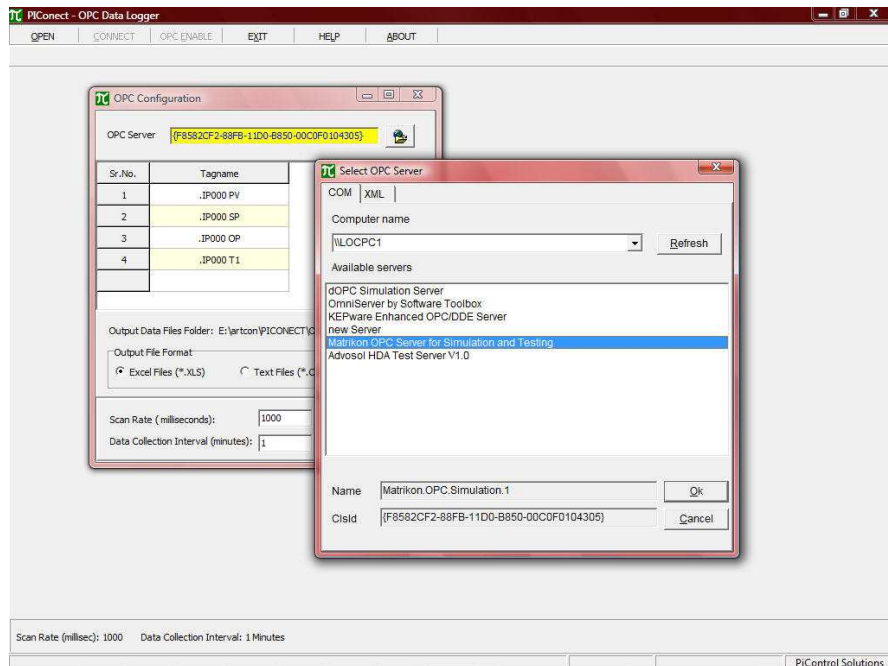
2. Start PIconnect program. You will see the initial PIconnect screen as shown below:



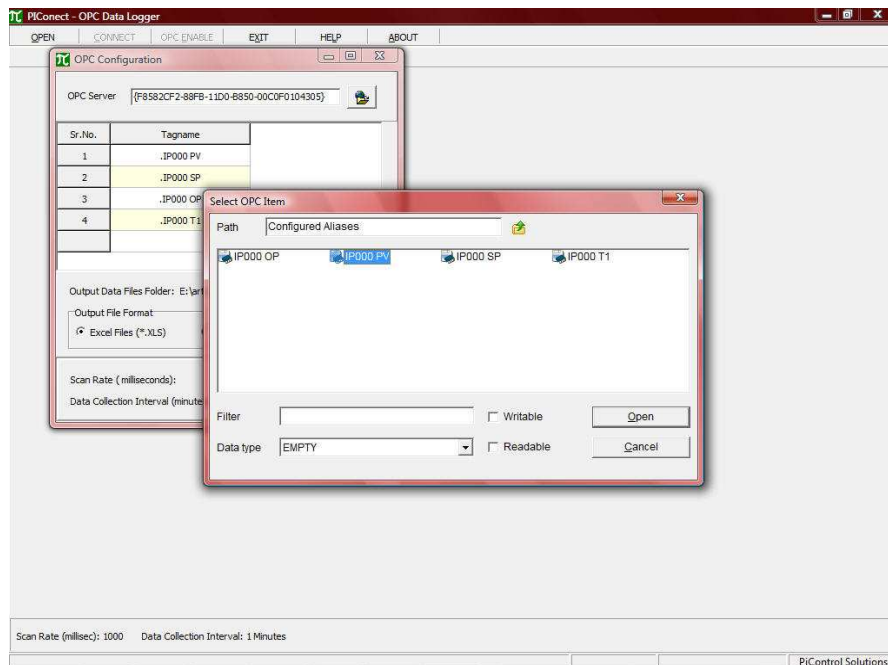
3. Click on **OPEN** to open OPC Configuration window.



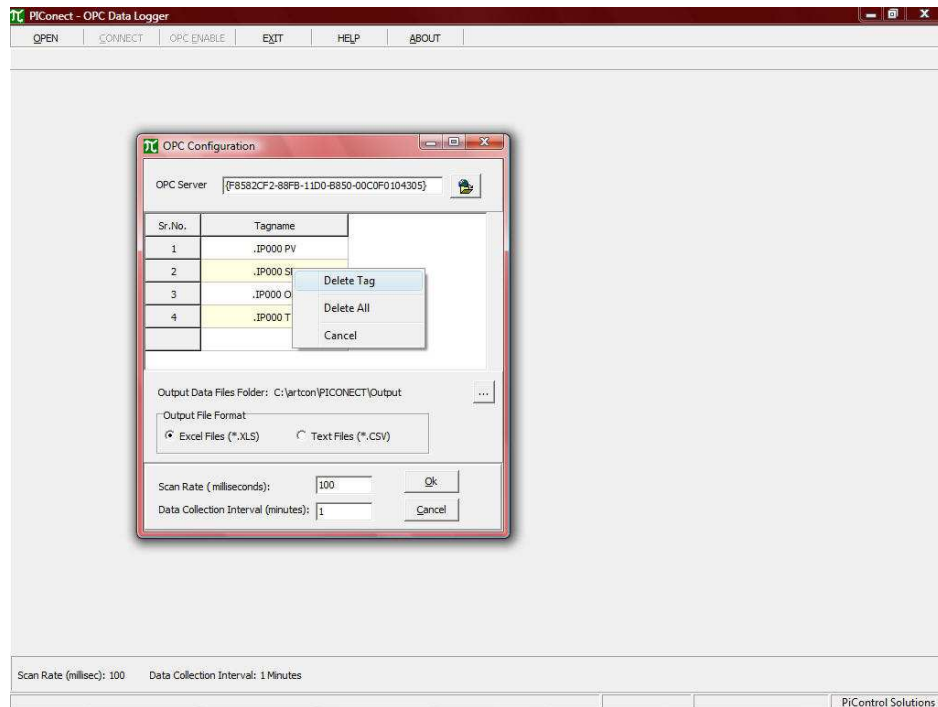
- Click the button next to the **OPC Server** button and select the appropriate computer name and OPC Server. See screen shot below.



- Tag names list from **PIConnect.INI** file will be seen under Tagname. To modify tags, click on tag name and **Select OPC Item** window will be seen. Select appropriate tag and click Open button. Similarly more tags can be added by clicking blank row under existing tag list. See screen shot below.

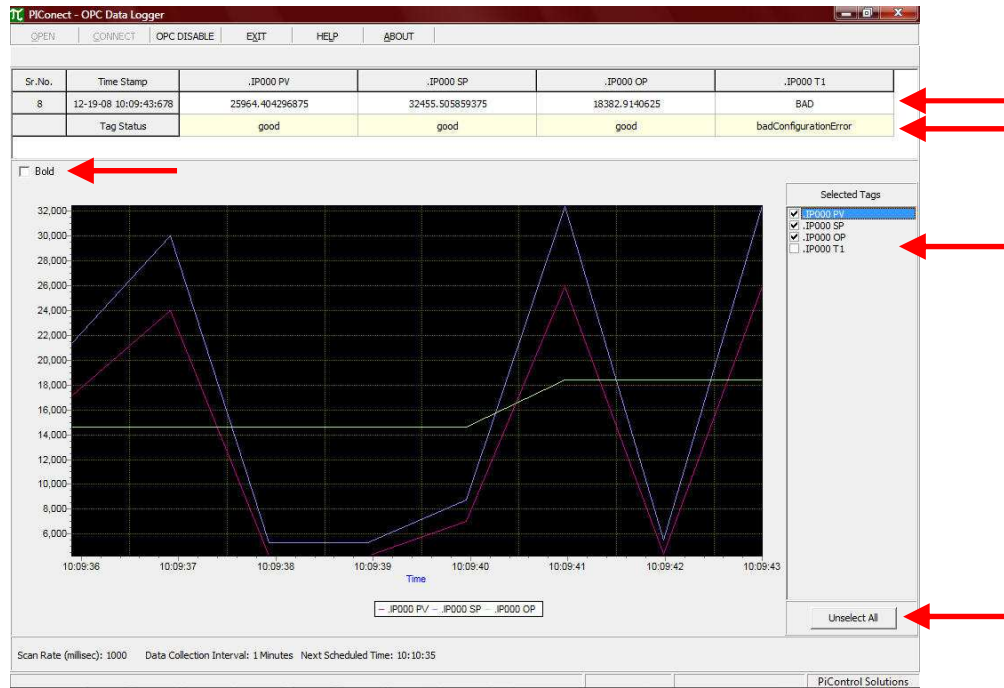


- To delete a tag, right click on tag name and select **Delete** from the popup menu. To delete all tags, right click and select **Delete All**. See screen shot below.



- Click button next to **Output Data Files folder**. From folder browser window, select appropriate folder to save data files. By default program saves data files in Output subfolder in PIConec program directory.
- In **Output File Format** section, select appropriate format for data files. PIConec can store data file in Microsoft Excel (XLS) and Comma Separated Values (CSV) text file formats.
- Enter value for **Scan Rate (milliseconds)** as shown in the above screen shot. Note that if the **Scan Rate** specified in PIConec is less than the update rate of the tag, then the **Value** and **Time Stamp** seen in PIConec of that tag will change only at the update rate of that tag.
- Enter value for **Data Collection Interval (minutes)** as shown in the above screen shot. Tag data will be dumped to data files at the end of every data collection interval and fresh data collection will begin.
- Click on **CONNECT** and **OPC ENABLE** buttons to establish OPC Server connection and start data read operation. This starts PIConec program which starts

the data collection from OPC server. Data values for each tag are shown below tag name. Tag Status row shows whether value is GOOD or BAD. See screen below.



12. PIConnect also shows Trends for tags selected in list shown at right hand side. The **Unselect All** button unselects all the selected tags from the tag list. Check the **Bold** button near the top left corner of screen, to see trends in bold.

13. If you need to stop PIConnect for any reason, then click on the **OPC DISABLE** button. This stops the data collection process. Click **OPC ENABLE** to resume.

4.0 Details and Structure of the File PIConnect.INI

Contents of PIConnect.INI File are as below. Some Help/Comments are in shown in blue/red color font.

[Header]	Do not modify this line
ID=PIConnect Config File	Do not modify this line
[OPC Server]	Do not modify this line
ComputerName=\\LOCPC1	Local/Network computer name
ServerName={F8582CF2-88FB-11D0-B850-00C0F0104305}	Input OPC Server
[ScanRate]	Do not modify this line
milliseconds=1000	Scan rate of reading tag values
[DataCollectionInterval]	Do not modify this line
Minutes=1	Data collection interval
[Dir]	Do not modify this line

OutputDir=E:\artcon\PIConect\Output
[OutputFileFormat]
FileFormat=XLS
[OPCTags]
1=.IP000 PV
2=.IP000 SP
3=.IP000 OP
4=.IP000 T1

Data files folder location
Do not modify this line
XLS = Excel File, CSV, Text File
Do not modify this line
Input tag #1
Input tag #2
Input tag #3
Input tag #4

5.0 How to test with an OPC simulation server

PIConect provides the capability to test easily with any standard OPC simulation server. This section describes a procedure for testing with a simulation server. This procedure and testing may be followed first to gain better understanding and ease of use with PIConect and also for training purposes.

1. Start the OPC simulation server.
2. In any simulation server, create Tags you have specified in PIConect.INI file. This will generate the simulation test tags required. Do not shut down this simulation server program.
3. Start PIConect program.
4. Click on **OPEN** to read the PIConect.INI file.
5. Click on the button next to **OPC Server** and select the appropriate computer and the OPC simulation server.
6. Select tags, Output Data Files folder, Output File format, enter values for Scan Rate and Data Collection Interval. Click Ok to close window.
7. Click **CONNECT** and **OPC ENABLE** button to start data collection.
8. At the end of data collection interval, collected tag data is saved to data file in output data files folder. The file name format is as below

[PIConectData_mm-dd-yy_hh-mm-ss.xls](#)

9. To stop PIConect, click on the **OPC DISABLE** button. This halts read operation.

6.0 OPC Core Components Redistributable Software and DCOM Configuration

Note that you may need to download and install "*OPC Core Components Redistributable*" software from the following link:

<http://opcfoundation.org/DownloadFile.aspx?CM=3&RI=385&CN=KEY&CI=286&CU=9>

Also, for the OPC connectivity to successfully take place, proper DCOM configuration is required. For more information on DCOM, the following link may be useful:

<http://www.opcsupport.com/ics/support/default.asp?deptID=4590>.

7.0 Technical Help and Support

For technical help on PIconect, please contact us via email at info@picontrolsolutions.com.
