

# Additel/PCal

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## User Manual

**Additel Corporation**

[www.additel.com](http://www.additel.com)

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# **Introduction**

## **Overview**

Thank you for purchasing Additel/PCal from Additel Corporation which is one of the leading providers of process calibration instruments throughout the world.

Additel/PCal is a specially designed pressure calibration system for calibrating gauges and transmitters. It's a combination of our excellent know-how of experienced professionals and valuable suggestions from worldwide customers that can help users to highly increase calibration efficiency.

Additel/PCal is called PCal for short in the following document.

## **About this Manual**

The user of this document should be familiar with Windows environment and such terms as Clicking, Selecting, Double-clicking, Marking, using the secondary button of the mouse, Drag and drop, Resizing a window, etc.

This document will indicate how to use PCal software. Following is a brief introduction of all the sections in this document.

### **Introduction**

Basic information about PCal.

### **Installation**

Initial setup of PCal, system requirements and hardware setup.

### **Starting PCal**

Providing the "License Key" and explaining how to use it, how to start PCal and the general look and feel of PCal.

### **Basic Settings**

Information that should be used to get started

### **Calibration**

Explanation of how to calibrate gauges and provide as found and as left calibration results. This section also includes an introduction on how to view the calibration result from the certificate template in PCal.

### **Certificates**

Detail description of the calibration certificate. Useful information about how to manage and rework the certificate template.

### **Appendix**

This section includes common standard units, a list of certificate template tags used by PCal to store all useful information and some frequently asked questions.

## Installation

### System Requirements

#### Hardware Requirements

Computer: CPU-Intel Pentium II (or better)

Memory: 1GB (minimum)

Hard Disk free space: 60GB (minimum)

Hardware must have serial port

A Pressure Comparator: Additel pressure pump series are recommended

Reference: A Digital Pressure Gauge (ADT681), or A Digital Pressure Calibrator (ADT672) are recommended

#### Software Requirements

Operating System:

Windows XP/Windows 2003/Windows Vista/Windows7/Windows8

### Installation of PCal

Make sure you have an installation CD, if not, please contact Additel.

First, Insert the CD into the drive on your computer and the setup will run automatically. If the setup fails to start, please run the **Setup.exe** from the CD.

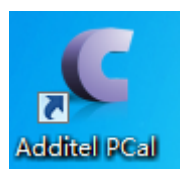
Second, Installation will detect whether the following items have been installed in system or not. If not, they will be installed automatically, if so, this step will be skipped.

- Windows Installer 3.1
- Windows Imaging Component
- Microsoft .NET Framework 4

Third, the setup Wizard will be displayed as shown in below picture. Follow the instructions in the setup to complete the installation.



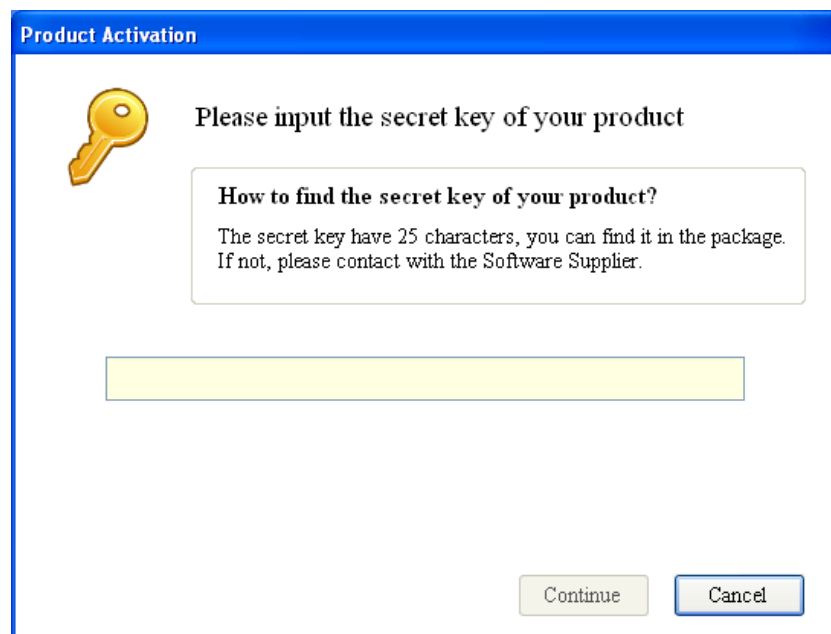
When the installation is completed, the following icon will be appeared on the desktop.



## Starting PCal

### License Key

The first time you run PCal after installation, a Product Activation interface will be shown as below. The license key is marked on the CD box. Please entering the key into the textbox, and click "Continue," then PCal will be activated and this dialog will not appeared again. If you unable to find the key or the key isn't effective, please contact us.



### Login

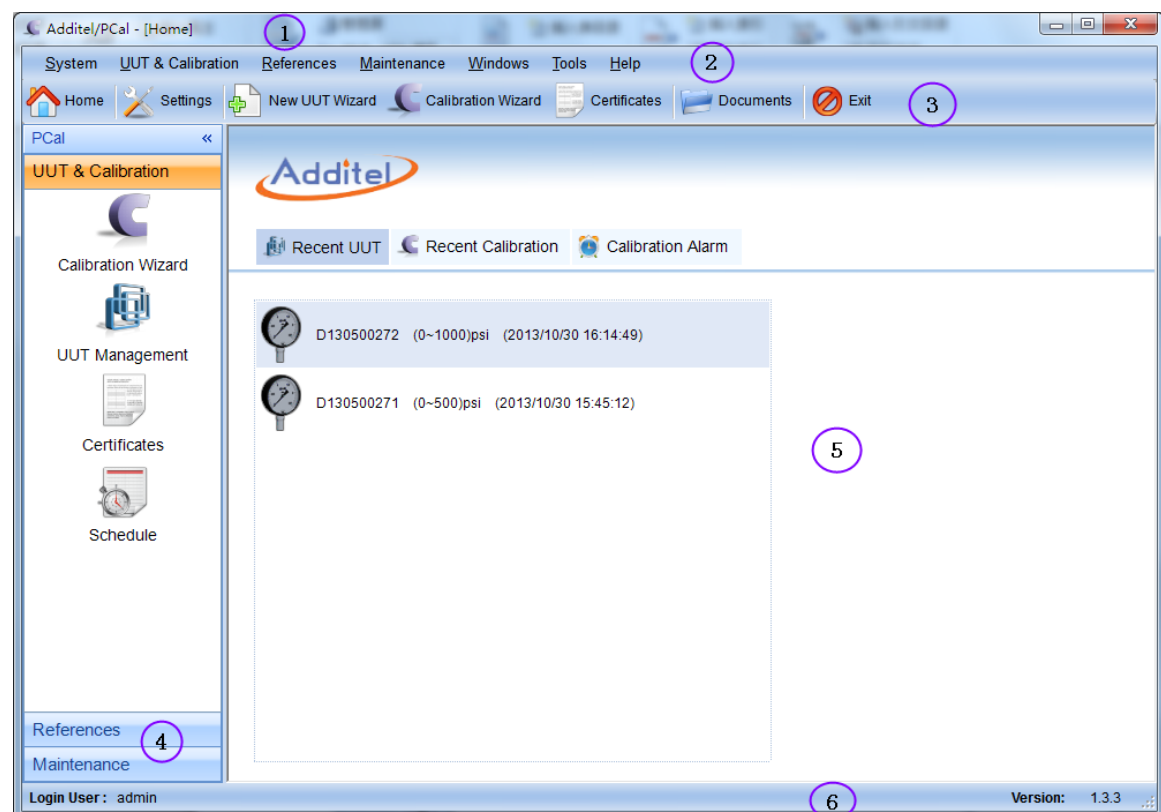


After the initial installation, PCal will prompt you for your username and password. Initially, you can enter Administrator's username and password. The Administrator's username is "admin", and the password is empty, it cannot be deleted. After login, you can create your own username and password in the **User Management** section or continue to use the administrator's password.

## General Presentation of PCal

When you start PCal, the Main screen will be shown as below. The Main Window includes following selections.

1. **Title Bar.** It contains the name of the software and occasionally additional information will be displayed.
2. **Menu Bar.** The Menu structure is presented in a subsequent chapter.
3. **Tool Bar.** The Toolbar structure is presented in a subsequent chapter.
4. **Navigation Bar.** To switch among the different program functions (UUT & Calibration, Reference, and Maintenance).
5. **Start Page.** Contains information of Recent UUT, Recent Calibration and Calibration Alarm. The Calibration Alarm shows upcoming calibrations for UUTs.
6. **Status Bar.** Shows the name of the currently logged user and the current software version.



## Basic Settings

Basic settings can be edited anytime. For a better experience we recommend you modify after your initial setup as it may help in making your daily use of PCAL more efficient.

## System

The System section allows you to define the following options:

- **User Management**

In this section you can manage username and password, such as creating, editing and deleting the user. When a user is logged in, the name of the user is displayed in the Status Bar at the bottom of the PCal main window.

**New:** creates a new user.

**Edit:** edits existing username, full name and password.

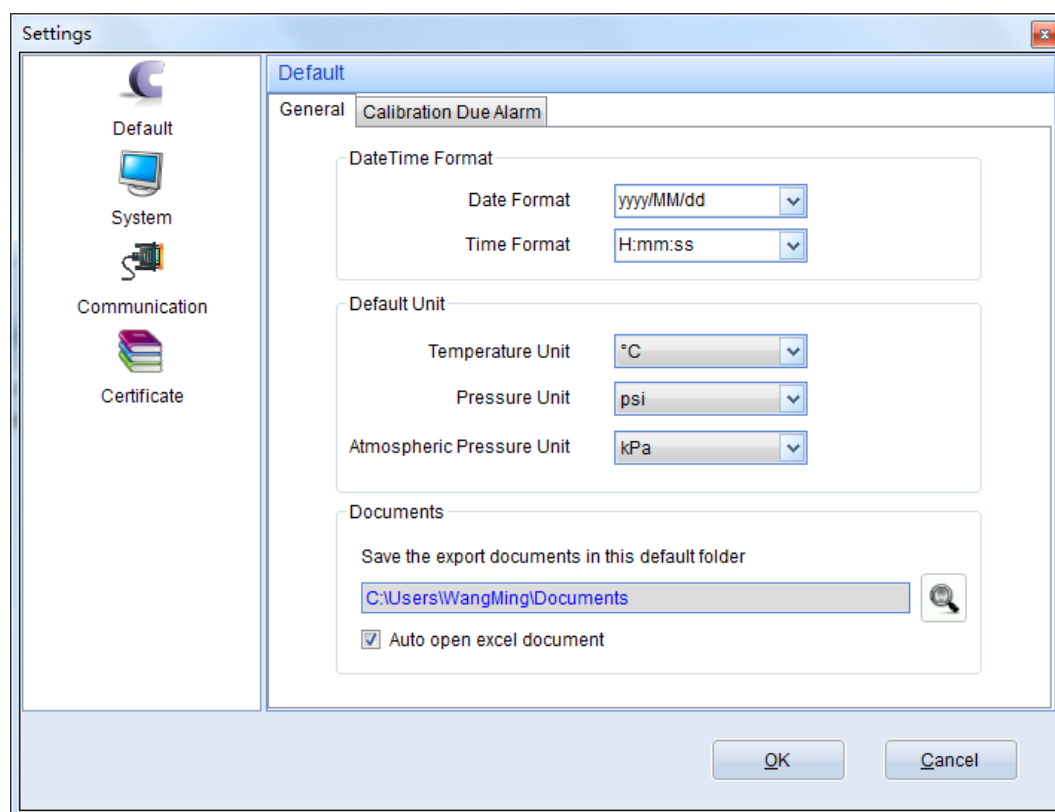
**Delete:** deletes existing user's information ("**Admin**" account can't be deleted).

- **Change User**

Clicking this menu button, you can change the current user.

- **Settings**

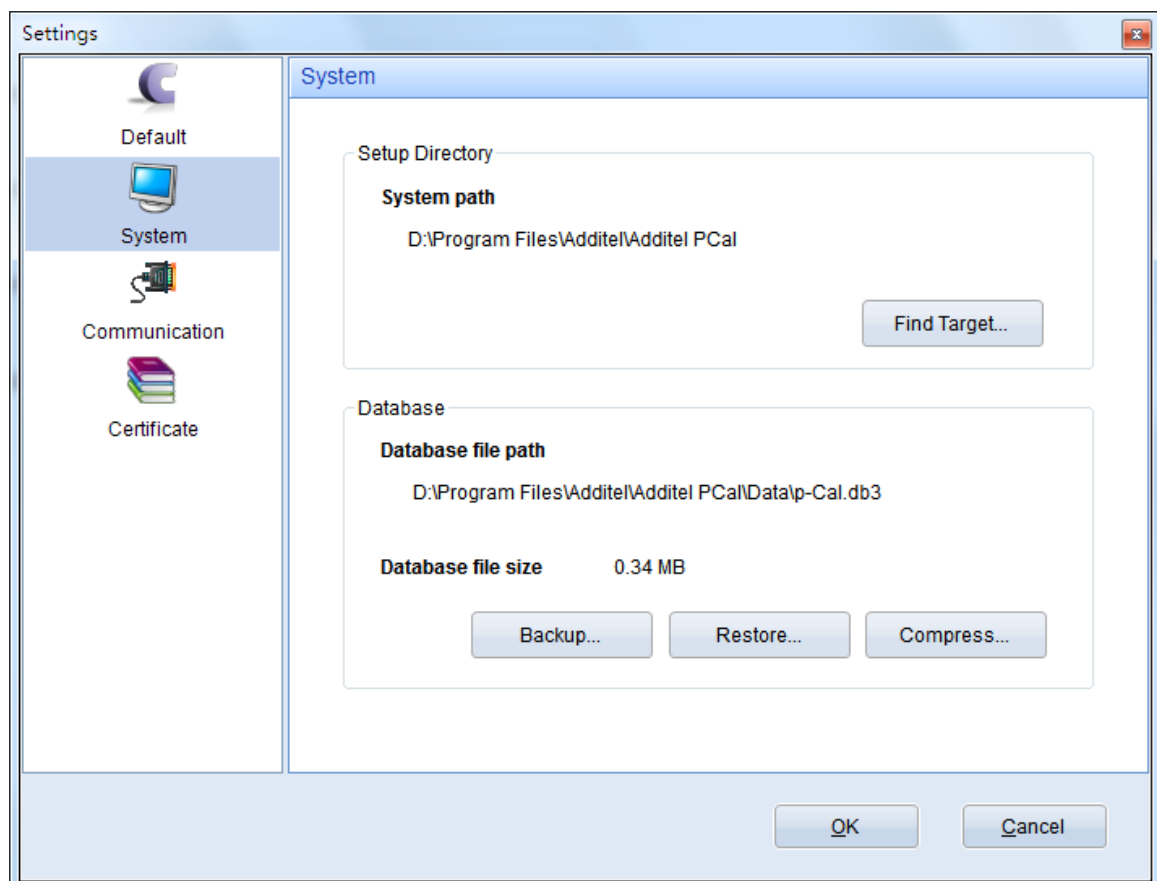
By clicking the Settings button, a new dialog interface will be displayed as pictured below; there are four editable items listed in left section.





**Default:** choose Date and Time Format, restore defaults, and change the location of exported documents. The “Auto open excel document” checkbox enable the excel-certificate to be opened automatically. The Calibration Due Alarm tab allows setting the UUT Due Alarm and Reference Due Alarm.

**System:** This Setup Directory is created after the PCal installation, you can find this directory by clicking the Find Target button. In this section the database file path and database file size are displayed. You can operate the database by clicking these three buttons (Backup, Restore and Compress) as below.

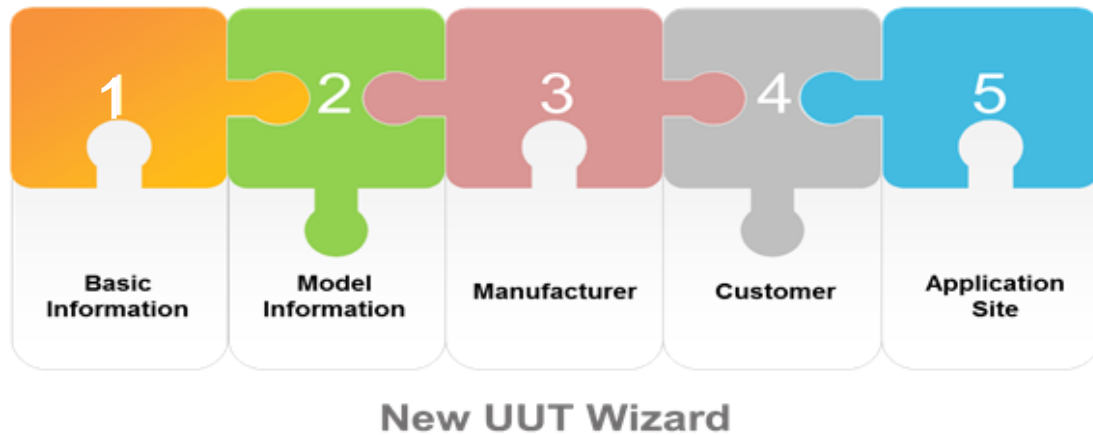


**Communication:** The Communication function specifies the DataBits, StopBits, Parity and Baudrate which PCal will look at to find the reference. Changing the Baudrate if your configuration requires it.

**Certificate:** Please consult the function of Certificates for Certificate Template.

## UUT

**Flow chart:** Below shows a flow chart of the UUT setup wizard.



**New UUT:** In UUT Management menu, users can create a new UUT. The below steps guide you through the setup process.

**First:** Accurately fill in the basic information for the UUT. (The symbol \* indicates a required field)

The screenshot shows the 'New UUT Wizard' dialog box, specifically the 'Basic Information(\*)' step. The dialog has a title bar with the text 'New UUT Wizard' and a close button. The main area contains several input fields with labels and asterisks indicating required fields:

- UUT Type(\*)**: A dropdown menu with 'Pressure Gauge' selected.
- UUT ID(\*)**: A text field containing 'D130500271'.
- Name**: A text field containing 'Dial Pressure Gauge'.
- Due Date(\*)**: A date picker showing '2013/10/30'.
- Status(\*)**: A dropdown menu with 'InService' selected.

At the bottom of the dialog, there are three buttons: '< Back', 'Next >', and 'Cancel'.

**Second:** Choose the model. (If you want to create a new model this can be done by selecting Maintenance under the UUT Management section)

New UUT Wizard

### Model Information(\*)

Model Name	BLD500PSI
Range	(0~500)psi
Accuracy	0.25%FS
Cal Interval	6 Months
As Found Profile	BLD500PSI
As Left Profile	BLD500PSI
Resolution	1 psi

Select...

< Back   Next >   Cancel

**Third:** Choose the Manufacturer

New UUT Wizard

### Manufacturer

Manufacturer

BLD

< Back   Next >   Cancel

**Fourth:** Choose the Customer

New UUT Wizard

## Customer

Customer

Refinery

< Back Next > Cancel

**Fifth:** Choose the Application Site

New UUT Wizard

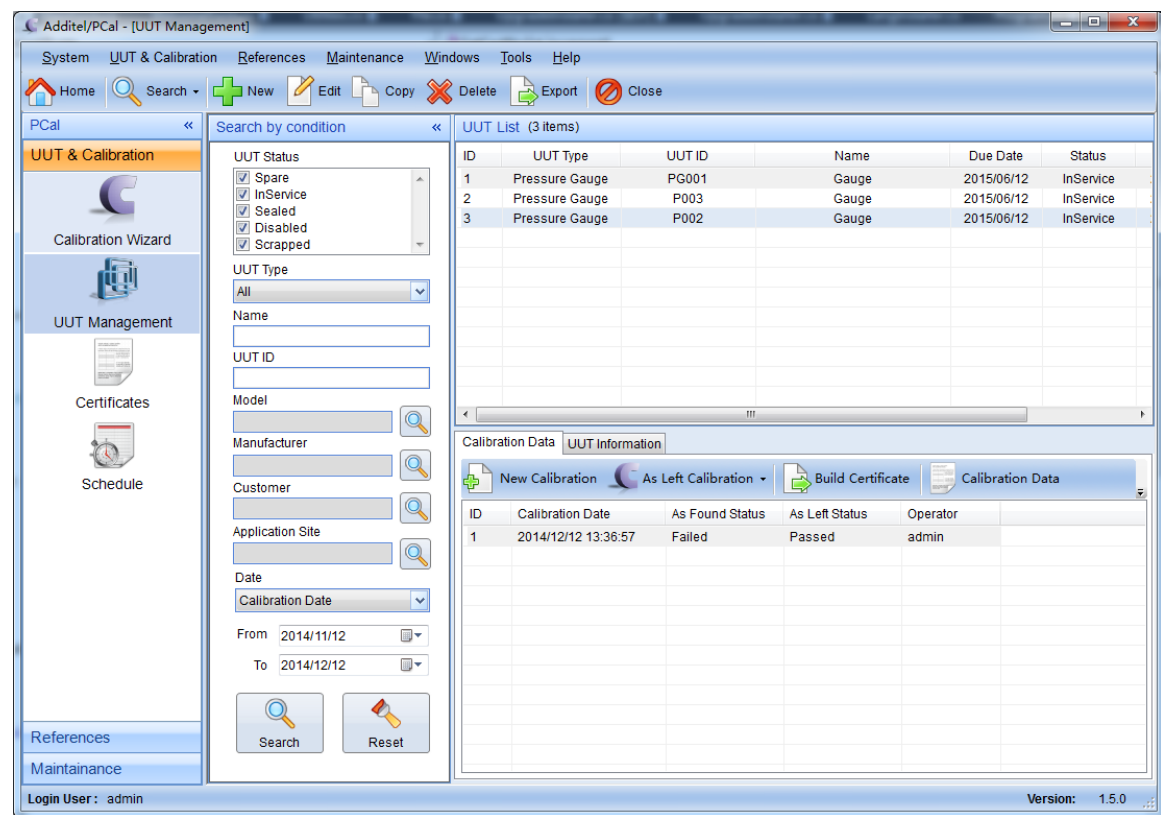
## Application Site

Application Site

No.203 Pipeline

< Back Finish Cancel

**UUT Management:** The UUT Management allows user creating, editing, copy, exporting and deleting the data associated with all gauges in the UUT Management List. You can search the Gauges by the gauge's properties from the search button. The UUT information and History Calibration Data are displayed under the UUT List.



The UUT Management also allows user to create new calibration procedures, start calibrations, building certificates, show calibration data and delete calibration data.

**New Calibration:** Please consult this function in Calibration Wizard section

**As Left Calibration:** You can execute a new As Left Calibration or load the As Found Calibration data. Refer to the As Found Calibration for the detailed information.

**Build Certificate:** Please see the function of Certificates for Build Certificate.

**Calibration Data:** Shows the Calibration Data selected.

**Delete Calibration Data:** You can delete the calibration data which you choose.

## References

A reference is the digital pressure gauge to which the gauge under test is compared during a calibration.

**Management:** The reference management allows user creating, editing, exporting and deleting the data associated with all references in the reference List. When creating a new reference, the Model, Certificate No., Reference No. and Accuracy are required.

**References**

Reference List

S/N: 211H12510001

Model: ADT681 (0~4)MPA

Certificate No.: C131000387

Calibration Date: 2013/10/30

Status: InService

Accuracy: 0.025%FS

Remark:

Auto Detect

Reference No.:

DueDate: 2014/10/30

Manufacturer: Additel

0 items

Login User: admin

Version: 1.3.3

**Schedule:** In this section, you can manage the references by schedule date. Due Date means the date the reference needs to be re-calibrated. The calibration interval indicates the frequency of calibration for the reference gauge.

**Reference Schedule**

Schedule Date

Week Schedule

Month Schedule

Year Schedule

Custom

2013/01/01

2013/12/31

Schedule List (1 item)

ID	S/N	Reference No.	Model	Certificate No.	Manufacturer	Calibration Date	Due Date
1	27312510038		ADT672 (0~1000)psi	C131000382	Additel	2013/10/30	2014/10/30

Login User: admin

Version: 1.3.3

## Maintenance

The Maintenance menu allows user to manage all the entered or acquired information stored in database. For management purposes, the Maintenance menu consists of five tables.

**Models:** The Models editor allows access to the data associated with all models stored in the database.

Enter the Model Name, Pressure Range, Accuracy and Resolution of the gauge.

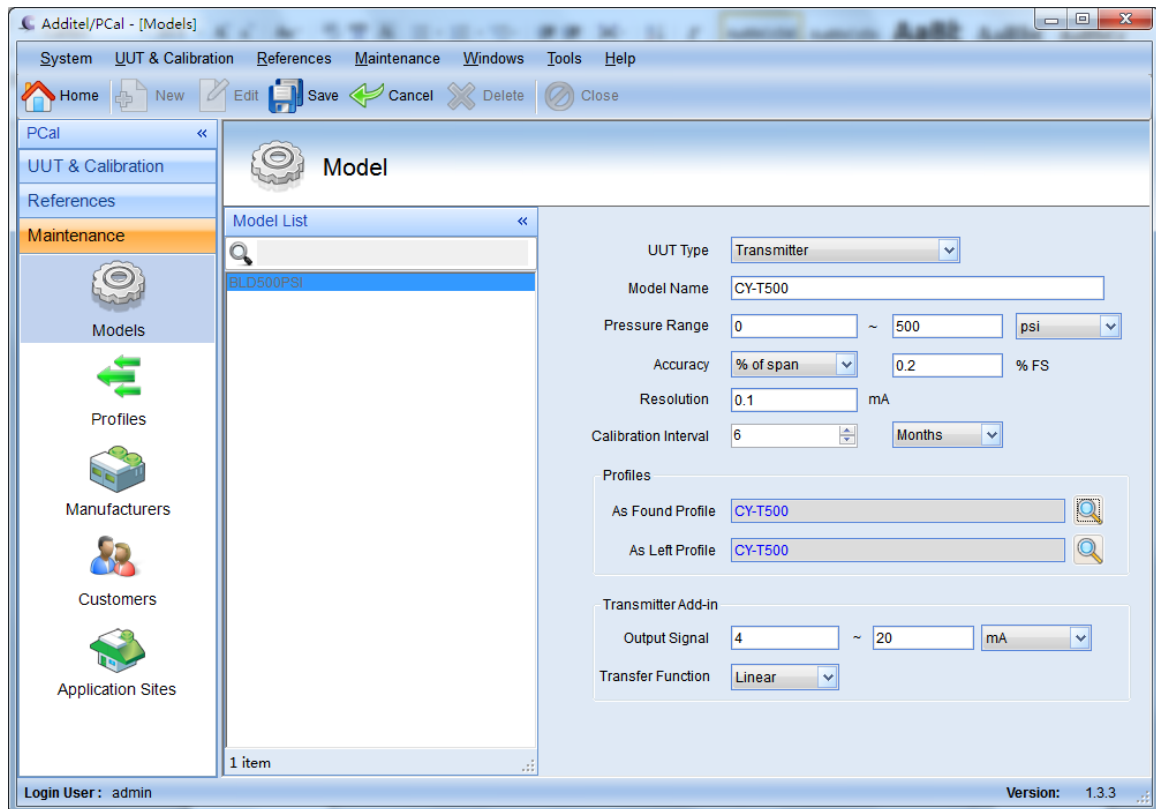
Select the Units of Pressure for this model from the pull-down lists.

Enter the Calibration Interval, in days (weeks or years), which will be used for calibration scheduling.

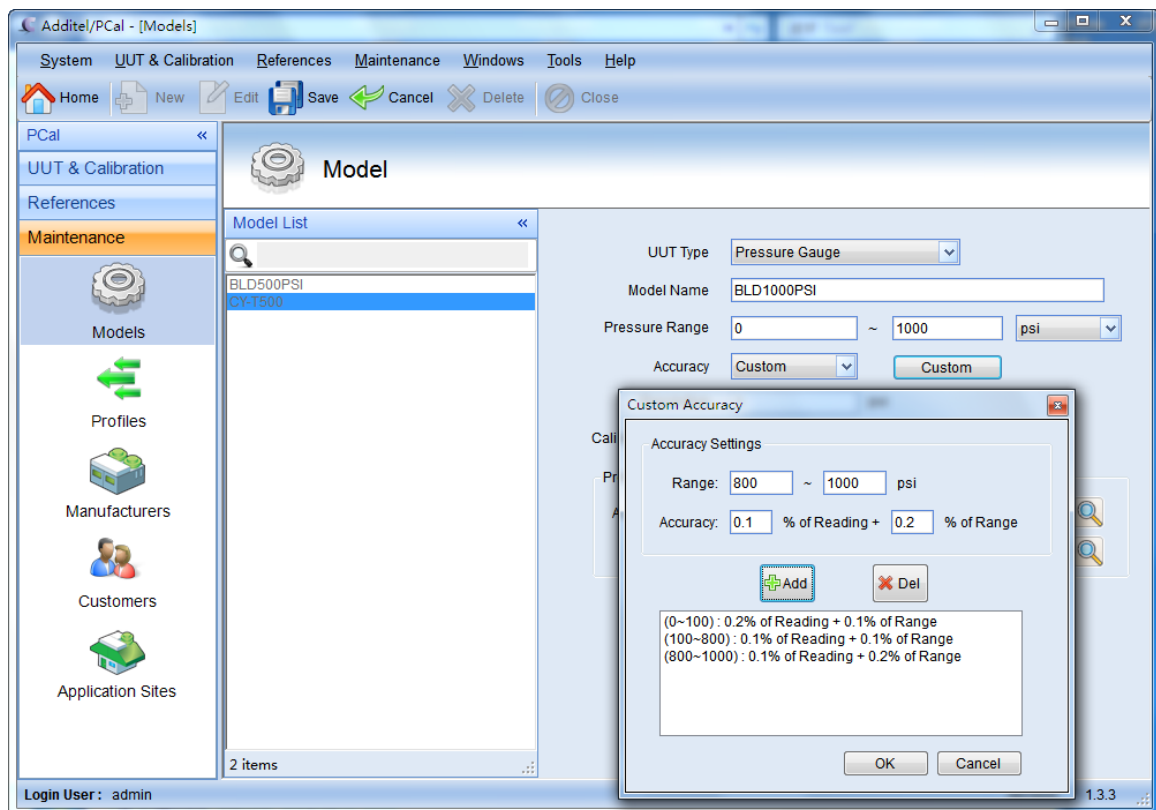
From the pull-down lists, select Profiles for As Found and As Left calibrations. Specify the number of runs through each profile, if the desired profile is not listed, click the “New” button to open a Profile editor.

The screenshot displays the 'Additel/PCal - [Models]' application window. The 'Maintenance' menu is selected in the top navigation bar. On the left sidebar, the 'Models' icon is highlighted. The main area is titled 'Model' and contains a 'Model List' table with one entry, 'BLD500PSI'. To the right of the table is a form for editing the selected model. The form includes fields for 'UUT Type' (set to 'Pressure Gauge'), 'Model Name' (set to 'BLD500PSI'), 'Pressure Range' (0 to 500 psi), 'Accuracy' (0.25 % FS), 'Resolution' (1 psi), and 'Calibration Interval' (6 Months). Below these fields is a 'Profiles' section with 'As Found Profile' and 'As Left Profile' both set to 'BLD500PSI'. The bottom status bar shows 'Login User: admin' and 'Version: 1.3.3'.

If the UUT Type is a transmitter, there is an additional section that contains the information about Output Signal and Transfer Function.



When selecting the accuracy, you can select a custom accuracy which the steps are outlined below. If the pressure range is (0 to 1000) psi, the accuracy window maybe has some subsections. For example: you can fill the range (0 to 200) psi, (200 to 800) psi and (800 to 1000) psi.





**Profiles:** The profile editor provides access to all test profiles stored in the database. The profile detail box is used to create a new profile when a new model is created using the new gauge wizard.

Specify the Pressure Range of the test profile. To create a uniform series of pressure points, click on Default Mode. Specify the number of Up/Down points and the Up/Down Cycles. The test points will be filled in automatically. To create a non-uniform series, click on Customer Mode. Any points that are already listed will remain. Selecting a point to delete or clicking the button to add (insert, edit) a point.

In this section, you can choose default mode or custom mode. In the default mode you can only change the number of points and number of cycles.

The screenshot shows the 'Profile' editor window. On the left is a 'Profile List' with three items: BLD1000PSI, BLD500PSI (selected), and CY-T500. The main area is titled 'Profile' and contains the following settings:

- UUT Type:** Pressure Gauge
- Profile Name:** BLD500PSI
- Pressure Range:** 0 ~ 500 psi
- Set Points:**
  - ☒ Default Mode
  - ☐ Custom Mode
  - Number of Points:**
    - Up Points: 5
    - Down Points: 5
  - Number of Cycles:**
    - Up Cycles: 1
    - Down Cycles: 1
  - ☐ Over range 5%

A table of set points is displayed on the right:

No.	SetPoint(psi)
1	0
2	125
3	250
4	375
5	500
6	375
7	250
8	125
9	0

Buttons for 'Add', 'Insert', 'Edit', and 'Delete' are located to the right of the table.

You can define the set points by your demand.

This screenshot shows the same 'Profile' editor window, but with 'Custom Mode' selected. The 'Number of Cycles' is set to 1. A 'Custom Point' dialog box is open in the foreground, showing a pressure value of 200 psi. The set points table is the same as in the previous screenshot.

The 'Custom Point' dialog box contains:

Pressure: 200 psi

Buttons: OK, Cancel

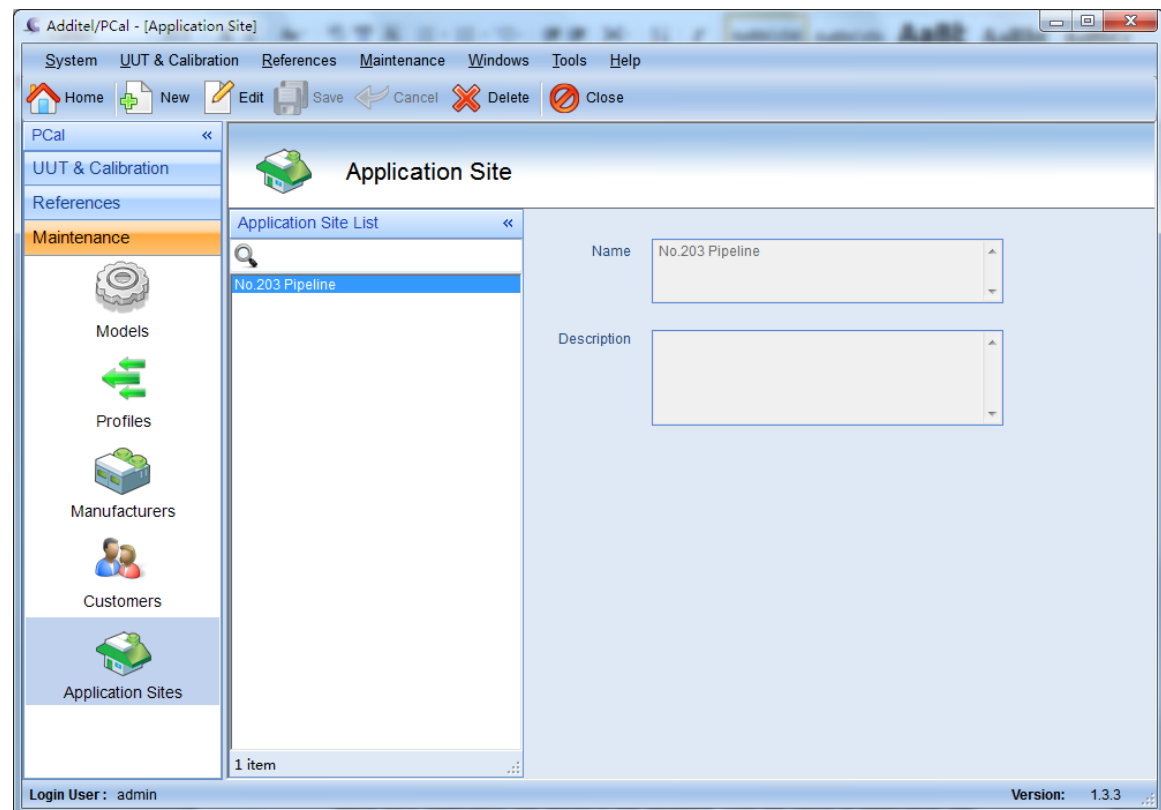
**Manufacturers:** The manufacturers editor allows access to the information about each manufacturer stored in the database. Only the manufacturer's name is required. The Address, Website, Telephone, Fax and Contact are optional fields that can be entered. Any additional comments or notes can be entered in the Remarks section.

The screenshot displays the 'Manufacturers' editor interface. The sidebar on the left includes a 'Maintenance' section with icons for Models, Profiles, Manufacturers, Customers, and Application Sites. The main panel shows a 'Manufacturer List' with two items: 'Additel' and 'BLD'. The 'Additel' item is highlighted, and its details are shown in the form on the right. The form fields are: Name (Additel), Address, Website, Contact Person, Telephone, Fax, and Remark. The bottom status bar indicates the user is 'admin' and the version is '1.3.3'.

**Customers:** The customers editor allows access to the information about each customer stored in the database. Only the name of customer is required. The Address, Email, Telephone, Fax and contact will help with contacting the customer if necessary. Any additional notes can be entered in the remark section.

The screenshot displays the 'Customers' editor interface. The sidebar on the left includes a 'Maintenance' section with icons for Models, Profiles, Manufacturers, Customers, and Application Sites. The main panel shows a 'Customer List' with one item: 'Branch1'. The 'Branch1' item is highlighted, and its details are shown in the form on the right. The form fields are: Name (Branch1), Address, Contact Person, Telephone, Fax, Email, and Remark. The bottom status bar indicates the user is 'admin' and the version is '1.3.3'.

**Application Site:** The application sites editor allows access to the information about each application site stored in the database. Only the name of application site is required.



## Windows

The windows menu allow for switching between open windows or closing all windows. All windows can also be closed by selecting F4. The Start Page provides a representation of the program and the current status of the program.

**Tools:** In this section, you have access to a calculator and pressure unit convertor.

**Help:** This menu provides system information about PCal and access to the user manual.

## Toolbar

**Home:** Displays the main page and current status of any running program.

**Settings:** Refer to the System-Settings section.

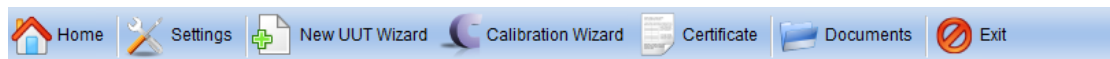
**New UUT Wizard:** Create a new UUT.

**Calibration Wizard:** Create a new calibration.

**Certificate:** Refer to the Certificates section.

**Documents:** Opens the default folder for exported documents.

**Exit:** Exit the program and close the software.

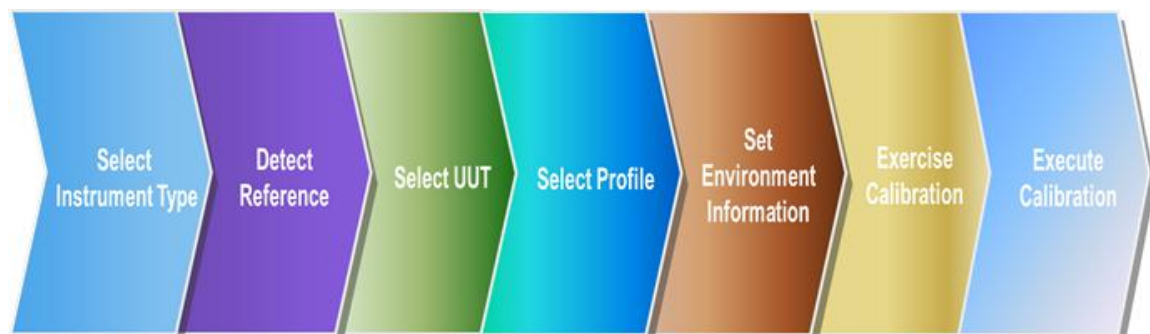


## Calibration

### Calibration Wizard

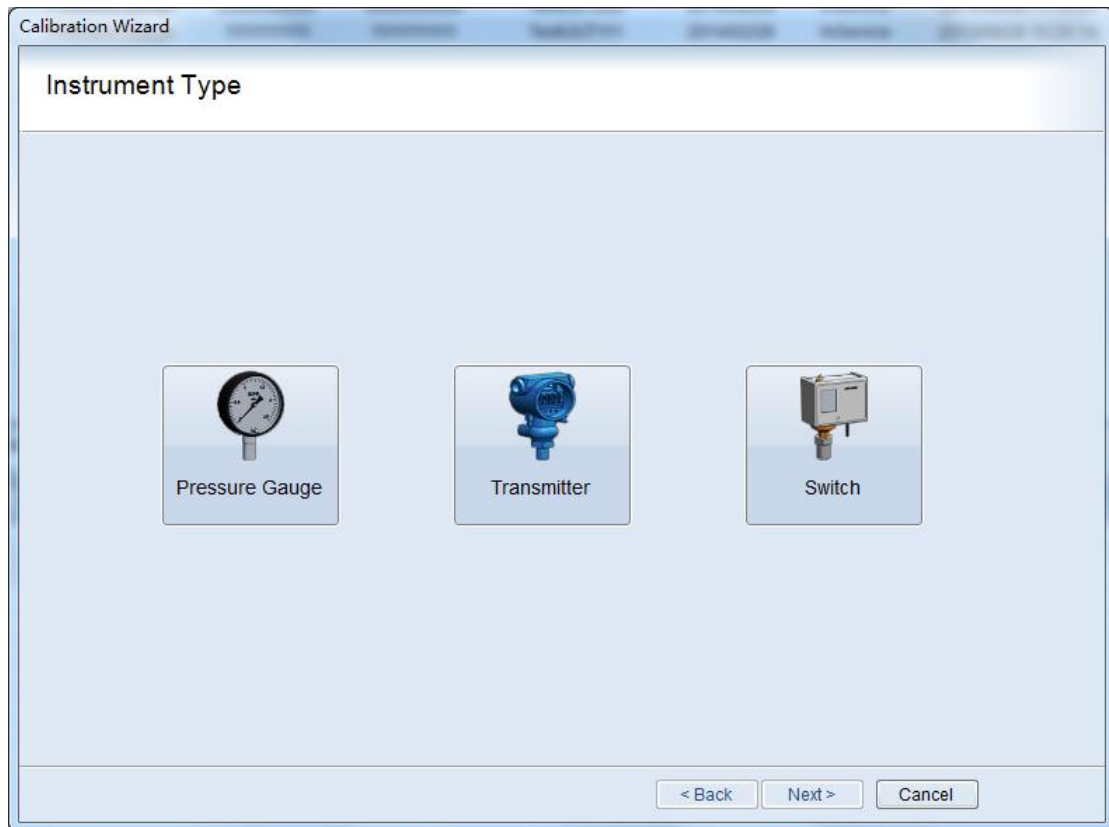
**Calibration Wizard:** The Calibration Wizard provides a step-by-step guide to set up and complete a calibration.

**Flow chart:** The flow chart below describes the calibration wizard process.

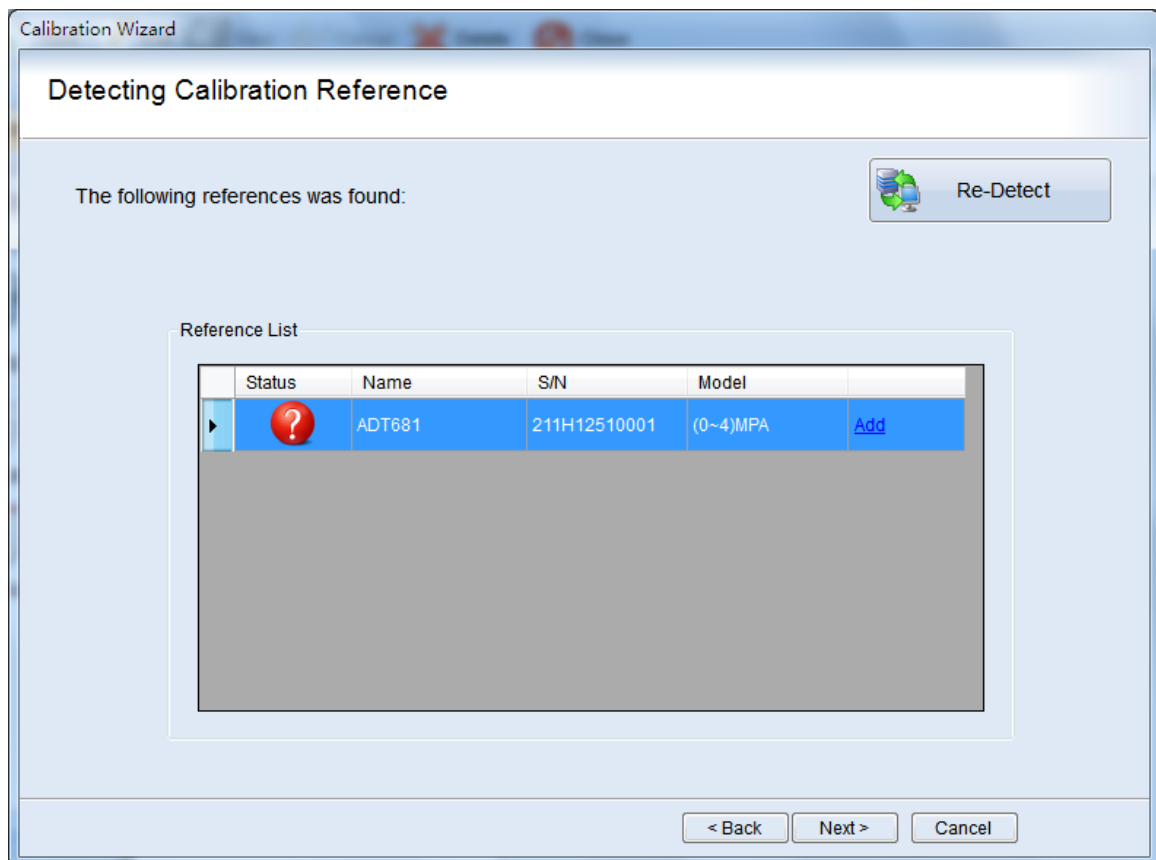


### Calibration Wizard

**First:** Choose the instrument type



**Second:** The software will attempt to auto detect the calibration reference. If the reference is a non-supported gauge then the information can manually be entered.



Reference gauge information is entered and then saved.

References

New Edit Save Cancel Delete Export Close

### References

Reference List

Search

InService

211H12510002

27312510038

2 items

S/N: 211H12510001

Model: ADT681 (0~4)MPA

Certificate No.: C131000387 Reference No.:

Calibration Date: 2013/10/30 DueDate: 2014/10/30

Status: InService Manufacturer: Additel

Accuracy: 0.025%FS

Remark:

Calibration Wizard

### Detecting Calibration Reference

The following references was found:

Re-Detect

Reference List

Status	Name	S/N	Model	
✓	ADT681	211H12510001	(0~4)MPA	Edit

< Back Next > Cancel

Account: If the reference is a supported item it may also be edited.

**Third:** Choosing the UUT.

Calibration Wizard

### Unit Under Test

UUT List

ID	UUT ID	Name
1	D93248	Dial Pressure Gauge
2	27311440023	27311440023
3	G02	G02
4	G10-01	
5	G003	
6	G002	
7	G001	
8	27311440025	27311440025
9	27311440024	27311440024

UUT Information

**Basic Information**

UUT Type	Pressure Gauge
UUT ID	D93248
Name	Dial Pressure Gauge
Due Date	2013/10/28
UUT Status	InService
Manufacturer	Additel
Customer	Refinery
Application Site	Oil Pipeline
Create Date	2013/10/28 14:01:17
Last update date	2013/10/28 14:16:25
Operator	admin

**Model Information**

Model Name	G (0 to 500)psi 0.25%
Range	(0~500)psi
Accuracy	0.25%FS
Cal Interval	6 Months
As Found Profile	G(0 to 500)psi 9Up+5Down 2C
As Left Profile	G(0 to 500)psi 9Up+5Down 2C
Resolution	0.1 psi

Edit New... Delete

< Back Next > Cancel

**Fourth:** Calibration Profile

Account: You can choose the existing profile or create a new profile by yourself.

Calibration Wizard

### Calibration Profile

**Profile Information**

Profile Name	BLD500PSI
Number of Points	9
Number of Cycles	1

**SetPoints Information**

ID	Set Point(psi)
1	0
2	125
3	250
4	375
5	500
6	375
7	250
8	125
9	0

Select...

< Back Next > Cancel

If you want to create a new profile, please see Maintenance section.

**Fifth:** Enter the environmental conditions

Calibration Wizard

### Calibration Environment

Environment

Temperature  °C

Humidity  %

Atmospheric Pressure  kPa


< Back   Execute   Cancel

**Sixth:** Exercise Calibration

Calibration Wizard

### Exercise

Exercise Status

Target Pressure (psi)	
	500
	0


ExerciseTimes 0

Reference

psi

Model  
ADT681 (0~1)MPA

S/N  
21113030024

 Re-Exercise

Back   Finish   Cancel

**Seventh:** Execute Calibration



Gauge Calibration

**As Found Calibration** Cycle 1/1

**Set Point**

VENT

Unit: **psi**

**Reference**

0.02

☐ Manual input mode

S/N: 211H12510001

**Gauge**

N/A

UUT ID: D130500271

Range: (0~500)psi

Calibration Data

	Set Point	Reference	Gauge	Tolerance	Deviation	%Error	P/F
▶	0	0.02	0.0	1.25	-0.02	0.00	✓
	125	125.04	125.0	1.25	-0.04	-0.01	✓
	250	249.87	250.0	1.25	0.13	0.03	✓
	375	375.21	375.0	1.25	-0.21	-0.04	✓
	500	500.05	500.0	1.25	-0.05	-0.01	✓
	375	374.97	375.0	1.25	0.03	0.01	✓
	250	250.18	250.0	1.25	-0.18	-0.04	✓
	125	125.12	125.0	1.25	-0.12	-0.02	✓
	0	0.00	0.0	1.25	0.00	0.00	✓

◀ Previous Point
Next Point ▶

Finish Cancel

There are two methods that can be selected while calibrating a gauge or a transmitter.

**Reverse Calibration** means to match the UUT reading to the target Pressure. Applying a pressure to hit a nominal reading on the pressure gauge, and then record the reading from the reference. Matching the gauge allows for much faster calibration since the Gauge value and the Reference value does not have to be entered.

**Observe Calibration** means to match the reference to the Target Pressure. Handle the pressure pump until the Reference reaches the Target Pressure, and then enter the reading value of the pressure gauge in the text box.

The first method is easier than the other one and PCal uses this method by default.

**When performing transmitter calibration**, a transmitter is required. PCal uses the mA or V range value from the model information to compute the pressure from the measured signals.

Transmitter Calibration

Execute Calibration

Cycle 1/1

Set Point (MPa)

P VENT

Reference

P 0.0000

E 4.000

Manual input mode

S/N: 27311440023

Transmitter

E N/A

Manual input mode

UUT No.: transmitter2-4

Range: (0~0.25)MPa

Output: (4~20)V

Calibration Data

	Set Point <MPa>	Reference <MPa>	Nominal <V>	Reference <V>	Tolerance <V>	Deviation <V>	Error <%>	P/F
▶	0	0.0000	4.000	4.000	0.160	0.000	0.00	✓
	0.06	0.0604	7.866	7.840	0.160	-0.026	-0.16	✓
	0.12	0.1216	11.782	11.680	0.160	-0.102	-0.64	✓
	0.18	0.1717	14.989	15.520	0.160	0.531	3.32	✗
	0.25	0.2496	19.974	20.000	0.160	0.026	0.16	✓
	0.18	0.1795	15.488	15.520	0.160	0.032	0.20	✓
	0.12	0.1201	11.686	11.680	0.160	-0.006	-0.04	✓
	0.06	0.0643	8.115	7.840	0.160	-0.275	-1.72	✗
	0	0.0000	4.000	4.000	0.160	0.000	0.00	✓

Previous Point

Next Point

Finish

Cancel

When performing pressure switch calibrations, a pressure switch is required. You can validate the accuracy of pressure switch by the P/F from the window.

Switch Calibration

Execute Calibration

Point 1/2

Set Point

50

Unit: kPa

Reference

50.68

S/N: 27311440023

Switch Status

OFF

Gauge No.: switch1

Range: (0~250)kPa

Calibration Data

Title	FirstCycle	SecondCycle	ThirdCycle
SetPoint	50 kPa		
SetPoint Type	Low		
Deadband Min	1		
Deadband Max	6		
Set (ON to OFF)	49.86 kPa		
Reset (OFF to ON)	51.63 kPa		
Tolerance	1.25 kPa		
SetPoint Error	0.14 kPa		
Deadband	1.77		
Deadband Error	0.00		
P/F	✓		

Previous Cycle

Next Cycle

Next Point

Finish

Cancel

Note:

1. Before calibrating the data, please make sure that the switch status is an original status.

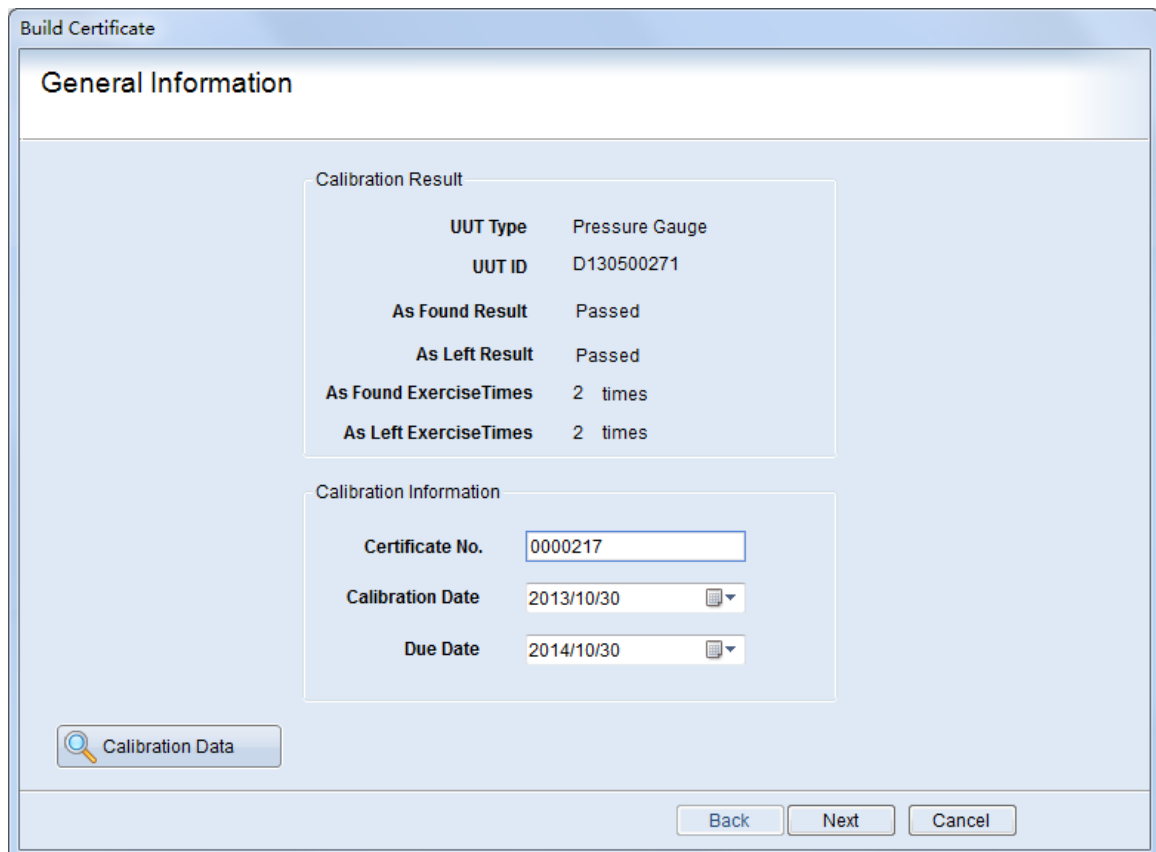
2. Please click "Previous Cycle" button for calibrating the previous cycle data again, if the result isn't as good as you wish.

## Certificates

### Build Certificate

In this section, you can build certificate.

**First:** General Information



The image shows a software window titled "Build Certificate" with a tab labeled "General Information". The window contains two main sections: "Calibration Result" and "Calibration Information".

**Calibration Result**

UUT Type	Pressure Gauge
UUT ID	D130500271
As Found Result	Passed
As Left Result	Passed
As Found ExerciseTimes	2 times
As Left ExerciseTimes	2 times

**Calibration Information**

Certificate No.	0000217
Calibration Date	2013/10/30
Due Date	2014/10/30

At the bottom left, there is a button with a magnifying glass icon labeled "Calibration Data". At the bottom right, there are three buttons: "Back", "Next", and "Cancel".


**Second:** Choose the reference.

Build Certificate

## References

Reference1

Serial Number	211H12510001
Reference No.	
Model	ADT681 (0~4)MPA
Certificate No.	C131000387
Manufacturer	Additel
Accuracy	0.025%FS
Status	InService
Calibration Date	2013/10/30
Due Date	2014/10/30
Remark	

 Select...

< Back   Next >   Cancel

**Third:** enter the environmental conditions.

Build Certificate

## Calibration Environment

As Found Environment

Temperature	25	°C
Humidity	45	%
Atmospheric Pressure	101	kPa

As Left Environment

Temperature	25	°C
Humidity	45	%
Atmospheric Pressure	101	kPa

< Back   Finish   Cancel

## Certificate Management

Certificates are the documents that record the calibration of gauges. The certificate templates of PCal are excel .xls or .xlsx format documents. When as found and as left calibrations have been completed, the certificate can be created, viewed and printed. Since all of the data for the certificate is retained in the database, the certificate can be recreated depend on your need at any time.

**Search:** First select the UUT types (gauge or transmitter). Then enter into the Certificate No., UUT Type or UUT No. The date search information will need to be set before searching for the certificate.

**Reset:** Select to reset the search condition.








**Export Certificate:** If you want to generate a certificate and view the detailed information of the certificate, please click the Export Certificate button. It will create the certificate and open it in Excel or PDF. The Microsoft Office (2007 or later) and the Save as PDF or XPS subassembly are both required prior to exporting the certificate. You can install the Save as PDF or XPS subassembly which is provided in the “Toolkit” folder of the CD.

**Print Certificate:** Print certificate by clicking the Print Certificate button. The Microsoft Office (2003 or later) is required.

**Delete Certificate:** If you do not want the certificate, you can delete the certificate by clicking the Delete button.

**Close:** Close the window by clicking the close button.

Certificate No.	<input type="text"/>	UUT ID	<input type="text"/>	Operator	<input type="text"/>
UUT Type	<input type="text" value="All"/>	Date	<input type="text" value="Build Date"/>	<input type="text" value="2013/09/28"/>	<input type="text" value="2013/10/28"/>

 Search  Reset  Excel  PDF  Print  Delete  Close

**Certificates:** In the Section, you can generate, view and print certificates, Refer to the discussion of Certificate Management in Certificates for detailed information about managing certificates.

Additel/PCal - [Certificates]

System UUT & Calibration References Maintenance Windows Tools Help

Home Search Reset Excel PDF Print Delete Close

PCal << Certificates (1 item)

UUT & Calibration

Calibration Wizard

UUT Management

Certificates

Schedule

References

Maintenance

Login User: admin Version: 1.3.3

Certificate No. UUT ID Operator

UUT Type All Date Build Date 2013/09/30 ~ 2013/10/30

ID	Certificate No.	UUT Type	UUT ID	Build Date	Calibration Date	Due Date	As Found Status	As Left S
1	0000001	Pressure Gauge	D130500271	2013/10/30	2013/10/30	2014/04/30	Passed	Pass

**Schedule:** In this section, you can manage the gauges by schedule date. Use the search button to view a list of Gauges. "Due Date" means the date the gauge needs to be re-calibrated. When a calibration has been completed and a certificate created, this date is updated automatically using the calibration interval specified for the model.

Additel/PCal - [UUT Schedule]

System UUT & Calibration References Maintenance Windows Tools Help

Home Search Reset Export Close

PCal << Search << Schedule List (1 item)

UUT & Calibration

Calibration Wizard

UUT Management

Certificates

Schedule

References

Maintenance

Login User: admin Version: 1.3.3

**Schedule Date**

☐ Week Schedule

☐ Month Schedule

☒ Year Schedule

☐ Custom

2013/01/01

2013/12/31

UUT Type

All

Customer

All

Application Site

All

ID	UUT Type	UUT ID	Name	Pressure Range	Accura
1	Pressure Gauge	D130500272	Dial Pressure Gauge	(0~1000)psi	0

## Certificate Template

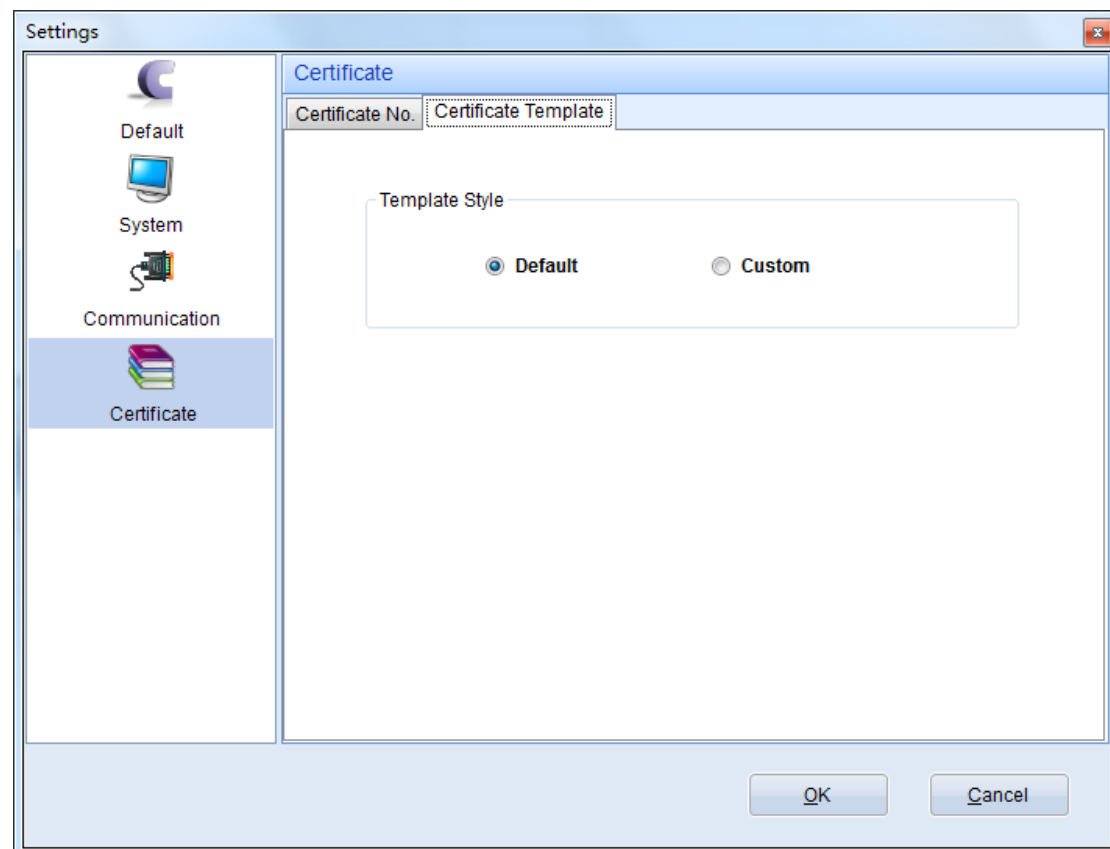
PCAL allows for the ability to create customer certificates using excel. These certificates can be fully customized, including the form of the certificate and languages. PCal creates certificates by replacing tags in the excel template. PCal does a search-and-replace operation in each worksheet by filling with the calibration data. Refer to Excel Template Tags for a list of tags that can be included in the certificate templates.

Some standard templates are provided with the PCal software. These templates can be copied and edited to create any number of different templates.

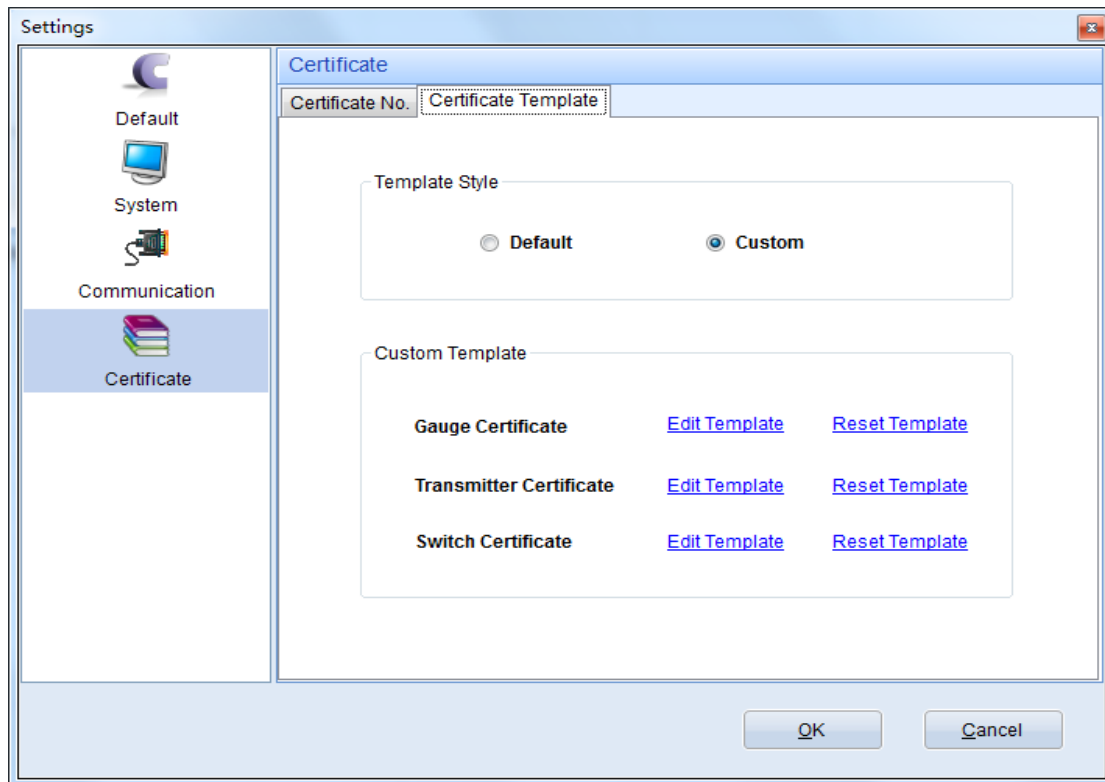
### Excel-Template Instruction

The Certificate Template Style has two modes.

Default: PCal has provided the default template. These include Gauge Certificate, Transmitter Certificate and switch Certificate.



Custom: Customize your own certificate by selecting the Custom radio button.



Now you can edit or reset the template by selecting the appropriate links Please refer to the following steps:

1. Clicking the Edit Template. Then PCal will open the template for you .This workbook has three worksheets. The names of these worksheets are “Cert”, “As Found” and “As Left”. These worksheets can’t be renamed.

2. The “Cert” worksheet is the first page of the certificate. The summary information will be displayed in this worksheet. The “As Found” worksheet and “As Left” worksheet have detailed information about As Found Calibration and As Left Calibration. Each Calibration data contains three “Cycle” maximum and the number of the “Point” data belongs to “Cycle” maximum.

A list of excel template tags used by PCal to create certificates using search-and-replace operations is shown in the Appendix. You can display further information about the calibration by screening the tags. Tags are included within “#tag#” and they can occur anywhere within a template worksheet. Whatever you want to change in the Excel Template is allowed except recomposing the cells which have relations with “#tag#”. You can change the logo, the title and the position of the tags, etc.

Some of the tags have a number sign as part of the tag. This is to support multiple references or data points which are included in the certificate. In the As Found worksheet or the As Left worksheet, PCal will empty all unused fields. For example, if the template contains 10 data points, but the profile only contains 5 data points, only the first 5 data points will be placed in the certificate. 3. When you finish the new template, save it. Then PCal will create certificates by using this new template.

Now you can rework the certificate template to meet your actual demand.



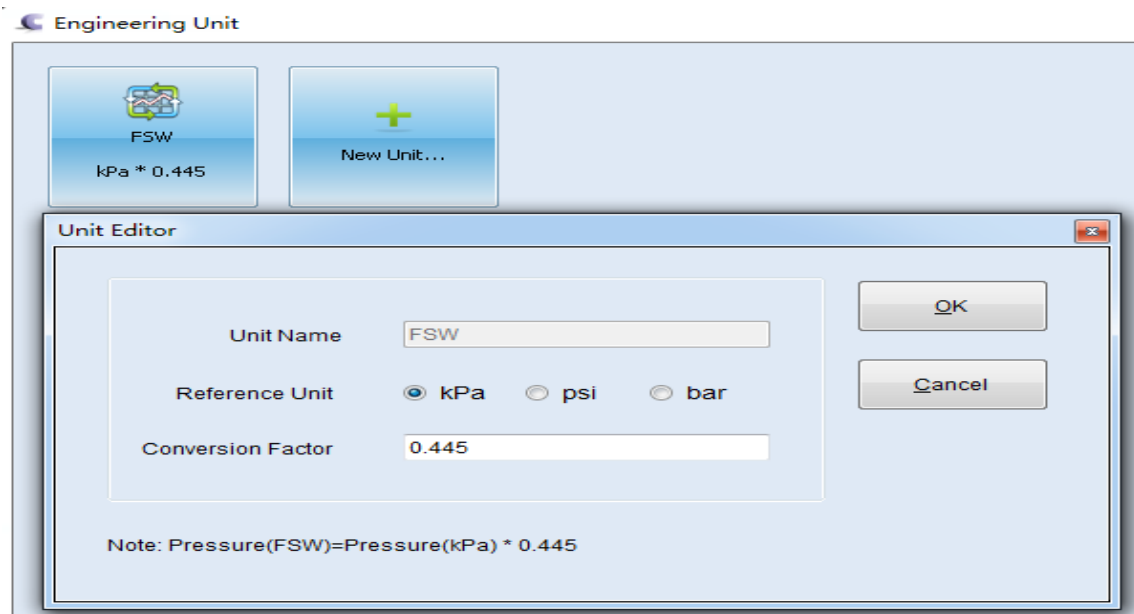
## Appendix

### PCal Pressure Units

PCal uses the following standard units and associated conversion factors from kPa. All conversion factors use a gravity constant of 9.80665 m/sec<sup>2</sup>

1000	.....	Pa
1	.....	kPa
0.001	.....	MPa
0.1450377	.....	PSI
0.01	.....	Bar
10	.....	Mbar
0.2952998	.....	inHg 0°C
7.500615758	.....	mmHg 0°C
4.01463	.....	inH <sub>2</sub> O 4°C
101.9716213	.....	mmH <sub>2</sub> O 4°C
0.010197	.....	kgf/cm <sup>2</sup>

Users can define engineering unit by clicking “Engineering Unit” on tool menu. There is a field for users to define engineering unit by themselves. The Reference Unit can be kPa , PSI or Bar.



## Excel Template Tags

Tag Name	Description
<b>Certificate</b>	
#Cert_No#	Certificate Number
#Cert_BuildDate#	Certificate Build Date
#Cert_ExpireDate#	Certificate Expire Date
#Cert_Status#	Certificate Status
#Cert_CreateUser#	Certificate Create User
#PrintDate#	Certificate Print Date
#CalibrationDate#	Calibration Date
<b>UUT</b>	
#UUT_No#	UUT ID
# UUT_Type#	UUT Type
# UUT_Name#	UUT Name
# UUT_DueDate#	UUT Due Date
# UUT_Status#	UUT Status
# UUT_CreateDate#	UUT Created Date
# UUT_UpdateDate#	UUT Updated Date
<b>Model</b>	
#Model#	Model Name
#Model_PressureMin#	Model Min Pressure
#Model_PressureMax#	Model Max Pressure
#PressureUnit#	Model Pressure Unit
#Model_Accuracy#	Model Accuracy
#Model_CalibrationInterval#	Model Calibration Interval
#Model_CalibrationIntervalType#	Model Calibration Interval Type
#Model_Range#	Model Range
#Model_Resolution#	Model Resolution
#Model_XmitOutputLow#	Model Transmitter Low Output
#Model_XmitOutputHigh#	Model Transmitter High Output
#XmitUnit#	Model Transmitter Unit
#Model_TransferFunction#	Model Transmitter Transfer Function
<b>AsFound Calibration</b>	
#AsFound_Result#	AsFound Result
#AFMaxError#	AsFound Max Error
#AsFound_ExecuteDate#	AsFound Execute Date
#AsFound_LastUpdateUser#	AsFound Last Update User
#AFTemperature#	AsFound Temperature
#AFHumidity#	AsFound Humidity

#AFAtmospheric#	AsFound Atmospheric Pressure
#AsFound_ExerciseTimes#	AsFound Exercise Times

#### **AsLeft Calibration**

#AsLeft_Result#	AsLeft Result
#ALMaxError#	AsLeft Max Error
#AsLeft_ExecuteDate#	AsLeft Execute Date
#AsLeft_LastUpdateUser#	AsLeft Last Update User
#ALTemperature#	AsLeft Temperature
#ALHumidity#	AsLeft Humidity
#ALAtmospheric#	AsLeft Atmospheric Pressure
#AsLeft_ExerciseTimes#	AsLeft Exercise Times

#AsTotal_ExerciseTimes#	TotalExerciseCount
-------------------------	--------------------

#### **Reference {0}=1, 2, 3**

#Reference{0}SN#	{0} =1, 2, 3 Reference{0} Serial Number
#Reference{0}No#	Reference{0} Number
#Reference{0}Model#	Reference{0} Model
#Reference{0}Cert#	Reference{0} Certificate
#Reference{0}Accuracy#	Reference{0} Accuracy
#Reference{0}Resolution#	Reference{0} Resolution
#Reference{0}CalibrationDate#	Reference{0} Calibration Date
#Reference{0}Due#	Reference{0} Due Date
#Reference{0}Status#	Reference{0} Status
#Reference{0}Mfr#	Reference{0} Manufacturer

#### **UUT Manufacturer**

# UUT_Manufacturer#	UUT Manufacturer Name
# UUT_Manufacturer_Address#	UUT Manufacturer Address
# UUT_Manufacturer_Website#	UUT Manufacturer Website
# UUT_Manufacturer_Telephone#	UUT Manufacturer Telephone
# UUT_Manufacturer_Fax#	UUT Manufacturer Fax
# UUT_Manufacturer_ContactPerson#	UUT Manufacturer Linkman
# UUT_Manufacturer_Remark#	UUT Manufacturer Remark

#### **UUT Customer**

#UUT_Customer#	UUT Customer Name
# UUT_Customer_Address#	UUT Customer Address
# UUT_Customer_Email#	UUT Customer Email
# UUT_Customer_Teplephone#	UUT Customer Telephone
# UUT_Customer_Fax#	UUT Customer Fax
# UUT_Customer_ContactPerson#	UUT Customer Linkman
# UUT_Customer_Remark#	UUT Customer Remark

**UUT Application Site**

# UUT_Location#	UUT Application Site Name
# UUT_Location_Address#	UUT Application Site Address
# UUT_Location_Email#	UUT Application Site Email
# UUT_Location_Telephone#	UUT Application Site Telephone
# UUT_Location_Fax#	UUT Application Site Fax
# UUT_Location_ContactPerson#	UUT Application Site Contact Person
# UUT_Location_Remark#	UUT Application Site Remark

**Frequently Asked Questions**

Be sure that the serial cable connectors are properly seated and that the reference has been turned on. If the software still does not detect the reference, check the number of the serial port on the computer. And please make sure that the Baud Rate in the System Settings is consistent with the reference.