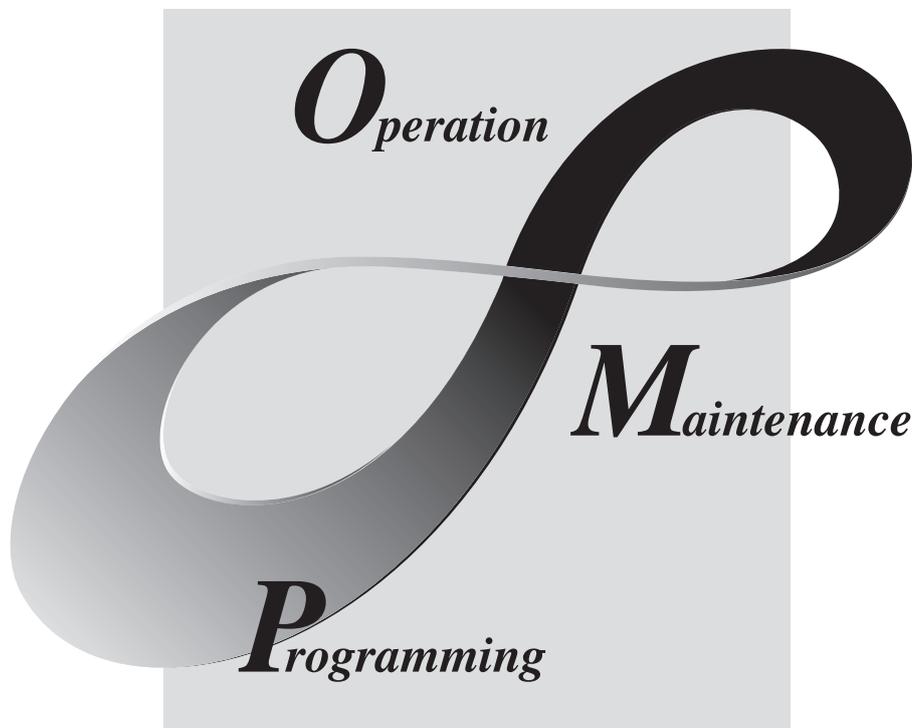


PX Developer Version 1

Operating Manual

(SCADA Interaction)

mitsubishi



MELSOFT
Integrated FA Software

SW1D5C-FBDQ-E

• SAFETY PRECAUTIONS •

(Always read these instructions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.

The instructions given in this manual are concerned with this product. For the safety instructions of the programmable controller system, please read the CPU module user's manual.

In this manual, the safety instructions are ranked as "DANGER" and "CAUTION".



DANGER

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



CAUTION

Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Note that the CAUTION level may lead to a serious consequence according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

[Startup and Maintenance Precautions]

CAUTION

- Always read this manual carefully and ensure safety before online operation.
Failure to do so may cause incorrect operation, resulting in damage to a machine or an accident.

REVISIONS

*The manual number is given on the bottom left of the back cover.

Print Date	* Manual Number	Revision
Jun., 2008	SH(NA)-080773ENG-A	First edition
Jun., 2008	SH(NA)-080773ENG-B	<div style="border: 1px solid black; display: inline-block; padding: 2px;">Partial corrections</div> Appendix 3.1

Japanese Manual Version SH-080747-A

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INTRODUCTION

Thank you for choosing the Mitsubishi MELSOFT series Integrated FA software.
Read this manual and make sure you understand the functions and performance of MELSOFT series thoroughly in advance to ensure correct use.

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MANUALS

The following manuals are also related to this product.
Refer to the following table for ordering a manual.

Related manuals

Manual name	Manual number (model code)
PX Developer Operating Manual (Programming Tool) Explains FBD language programming, compilation, online operations, and debug methods with PX Developer. (Sold separately.)	SH-080369E (13JU38)
PX Developer Operating Manual (Monitor Tool) Explains the operation methods of the monitor tool and methods for monitoring and controlling DDC processing with tag FB. (Sold separately.)	SH-080370E (13JU39)
PX Developer Programming Manual Explains details of programming with PX Developer, lists of FB parts, and the PID instructions. (Sold separately.)	SH-080371E (13JW00)

CAUTION

- Please note that we do not guarantee commercially available software compatible with Microsoft® Windows® Operating System introduced in this manual.
- The software copyright of this product belongs to Mitsubishi Electric Corporation.
- No contents in this manual can be reproduced or duplicated in any form or by any means without permission.
- Although we make utmost efforts, this manual may not completely follow the revisions of the software and hardware.
- In principle, this software should be purchased by one set per personal computer or by license purchase.
- This product (including this manual) can only be used under the software license agreement.
- Please note that we are not responsible for any influence resulting from operating this product (including this manual).
- The contents of this manual are subject to change without notice.

HOW TO USE THIS MANUAL

 **PURPOSE**
Purpose of operations explained in each chapter or section

 **Setting with InTouch WindowMaker**
Explains operating procedures.

3.2 Operation to Communicate with InTouch using the Process Control Tag Name of PX Developer

 **PURPOSE**
To register a tag variable using the process control tag name defined with PX Developer and read/write the process control tag data in the monitor tool with InTouch.

 **Setting with InTouch WindowMaker**

Procedure 1) Register an access name for communicating with the PX Developer monitor tool. (Section 3.2.1) *1

↓

Procedure 2) Create a tag variable. (Section 3.2.2)

↓

Procedure 3) Define a tag source in the Tag Browser. (Section 3.2.2) *1

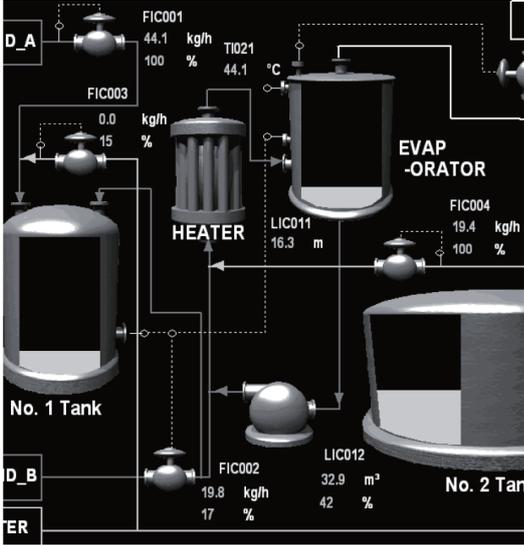
↓

Procedure 4) Refer/select a tag name in the Tag Browser. (Section 3.2.3)

*1: Required only when first using InTouch application.

 **Execution with InTouch WindowViewer**

The process control tag data can be read/written by executing WindowViewer after starting the monitor tool.



<Example of the InTouch WindowViewer monitor screen>

 **Execution with InTouch WindowViewer**
Explains functions to be executed.

There are also the following types of explanations.



BASIC OPERATION

Explains operation methods.



DISPLAY/SETTING SCREEN

Screen to display/set items.



DISPLAY/SETTING DATA

Explains items in DISPLAY/SETTING SCREEN.

POINT	
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Informs items to be noted and useful functions relevant to the contents in the chapter or section.

The following table explains symbols in this manual and their description.

Symbol	Description
[]	Expresses an item in a window or dialog box, or a menu on the menu bar. [] → [] expresses the drop-down menu. Example: [Special] → [Configure]
()	Expresses a corresponding button. Example: "Define Tag Source" button (...)
" "	Expresses a command button. Example: "OK" button
<< >>	Expresses dialog box tab. Example: <<General>> tab

MANUAL ORGANIZATION

This manual consists of four chapters and APPENDICES.

This manual is organized assuming that the interaction function of the PX Developer monitor tool and SCADA software are utilized in the following procedure.

< Procedure for leveraging the interaction function with InTouch >

Operating procedure 1: Using the tag name reference function, assign the process control tag of PX Developer to tag variable with InTouch WindowMaker.	Reference
• Set an access name.	Section 3.2
• Assign the process control tag with reference to the tag name.	



Operating procedure 2: Paste a faceplate control of PX Developer monitor tool with InTouch WindowMaker.	Reference
• Install ActiveX control.	Section 3.3 • PX Developer Operating Manual (Monitor Tool)
• Paste/set a faceplate control.	



Operating procedure 3: Make settings so that alarms and event information of the PX Developer monitor tool may be displayed on the Alarm Viewer control of InTouch WindowMaker.	Reference
• Paste/set Alarm Viewer control.	Section 3.4.1



Operating procedure 4: Execute InTouch WindowViewer.
--

*For operating procedures and setting items, refer to the manual of InTouch.

GENERIC TERMS, ABBREVIATIONS, AND TERMS

The following table shows the generic terms, abbreviations, and terms in this manual.

Generic term/abbreviation	Description
PX Developer	Abbreviation for PX Developer Version 1 (SW1D5C-FBDQ-E)
Programming tool	Abbreviation for PX Developer programming tool
Monitor tool	Abbreviation for PX Developer monitor tool
InTouch	Abbreviation for Wonderware® InTouch® Version 10.0
Windows Vista®	Generic term for Microsoft® Windows Vista® Home Basic Operating System, Microsoft® Windows Vista® Home Premium Operating System, Microsoft® Windows Vista® Business Operating System, Microsoft® Windows Vista® Ultimate Operating System, and Microsoft® Windows Vista® Enterprise Operating System
Personal computer	Generic term for IBM-PC/AT-compatible personal computer

Term	Description
WindowMaker	Development environment of InTouch
WindowViewer	Execution environment of InTouch
I/O server	Communication driver for Wonderware®
DDE	Abbreviation for Dynamic Data Exchange Windows® standard communication protocol to communicate between applications
DDC	Abbreviation for Direct Digital Control This designates control that fulfills controller's functions with digital device.
FBD	Function Block Diagram language specified in IEC61131-3 Programs are made by wiring specifically processed blocks, variables, and constants so that they can follow a flow of data signal.
FB	Abbreviation for Function Block This designates function block unit in a program.
Tag	Identification symbol attached to each DDC processing defined by JIS This can be likened to a tag attached to process control equipment.
Tag data	Summarizes data attached to DDC processing indicated with a tag (process condition data/process status data). Accessing the tag data can monitor status and set conditions of the relevant DDC.
Tag data item	Each data item that makes up tag data
Tag FB	Function block works as a controller and indicator including tag data
Faceplate	Gauge window on which such as a controller is displayed in image format Tag data values can be operated on this window.
SV	Set value
PV	Process value
MV	Manipulated variable
Assignment information database	"*.mdb" file created when compilation is executed with the programming tool This file stores assignment information of variables for storing such as tag data and device information of the CPU module.

1 OVERVIEW

1

1.1 Overview

Using the interaction function of the PX Developer monitor tool and InTouch (SCADA software manufactured by Invensys Systems, Inc.) enables a monitor tool to utilize characteristics of InTouch, friendly and great development/monitor environments, adding to the basic monitor function of itself.

This function supports the following four interaction functions.

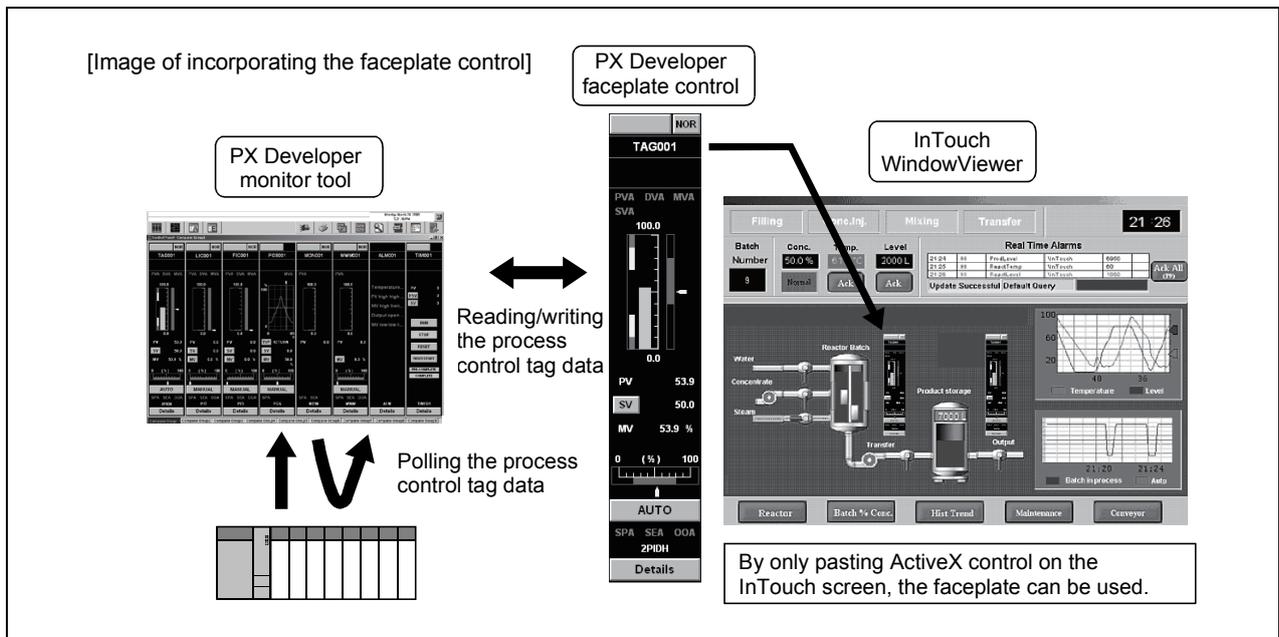
- (1) Incorporating a faceplate control
- (2) Communication function with process control tag name
- (3) Tag name reference function of PX Developer
- (4) Alarm consolidation function

1.2 Features

This section explains the main features of the four interaction functions.

- (1) Using the faceplate control shortens development time taken for the monitor screen

By only pasting the faceplate control of PX Developer (ActiveX control) on the monitor screen of InTouch, the faceplate can be easily used on InTouch. This permits shortening development time taken for the monitor screen and tuning screen for the process control tag data on InTouch.

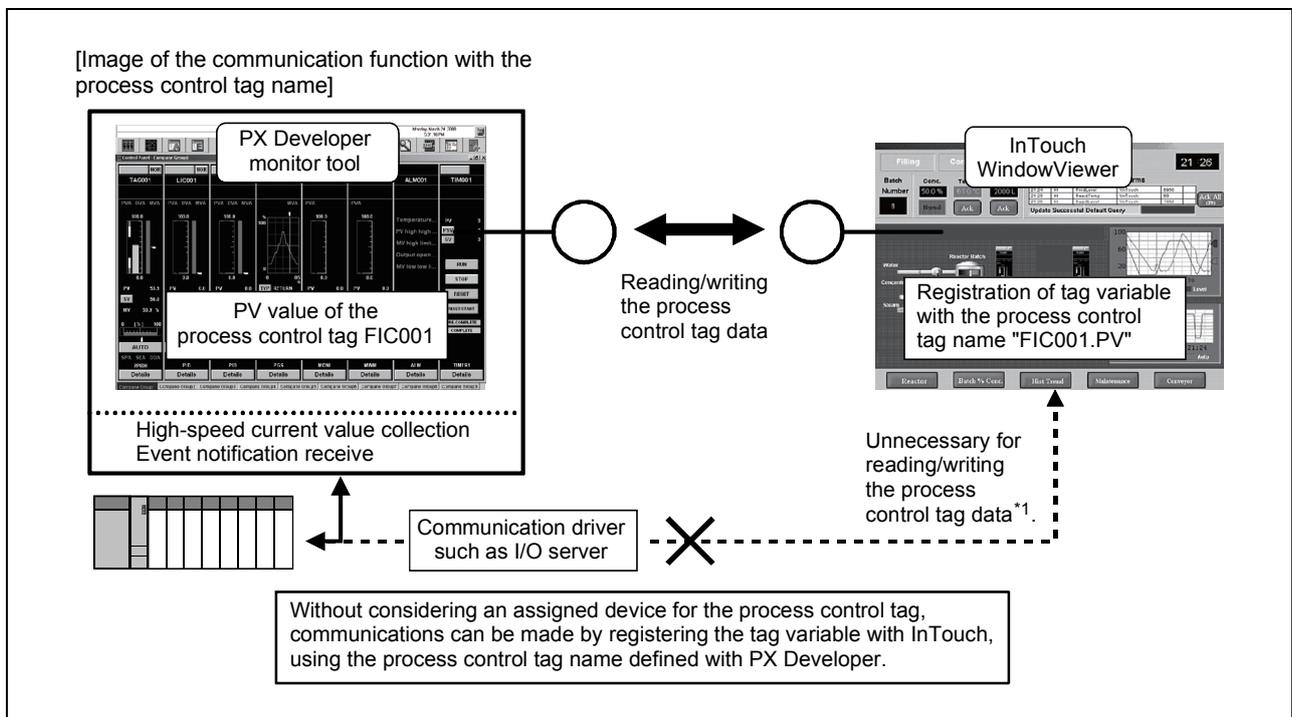


(2) Without considering an assigned device, communications can be made with the process control tag name in InTouch

When a tag variable is registered with InTouch, the process control tag name of PX Developer can be used as an item name, and the process control tag data in the monitor tool can be read from/written to in InTouch.

This eliminates the need for managing the assigned device and communicating through a communication driver such as I/O server to read/write the process control tag data.

Besides, high-speed response by the event notification receive function and the high-speed current value collection function of the monitor tool can be utilized in InTouch.

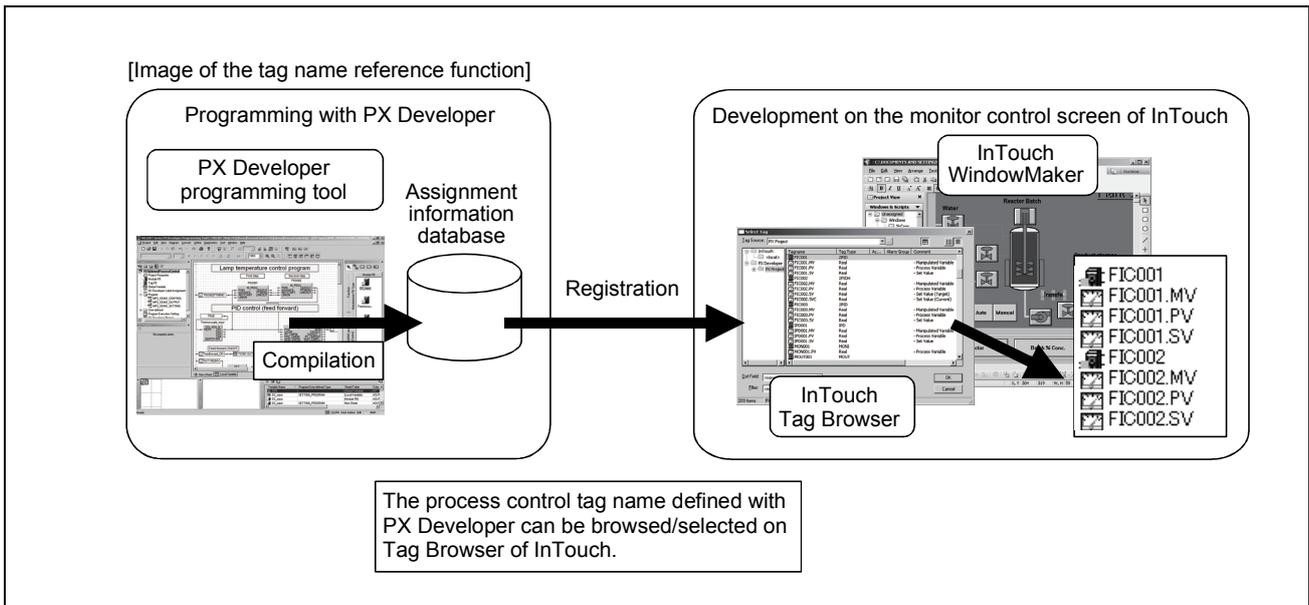


*1: When reading/writing device data except the process control tag with InTouch, a communication driver such as I/O server is required.

(3) The process control tag name can be selected easily from InTouch

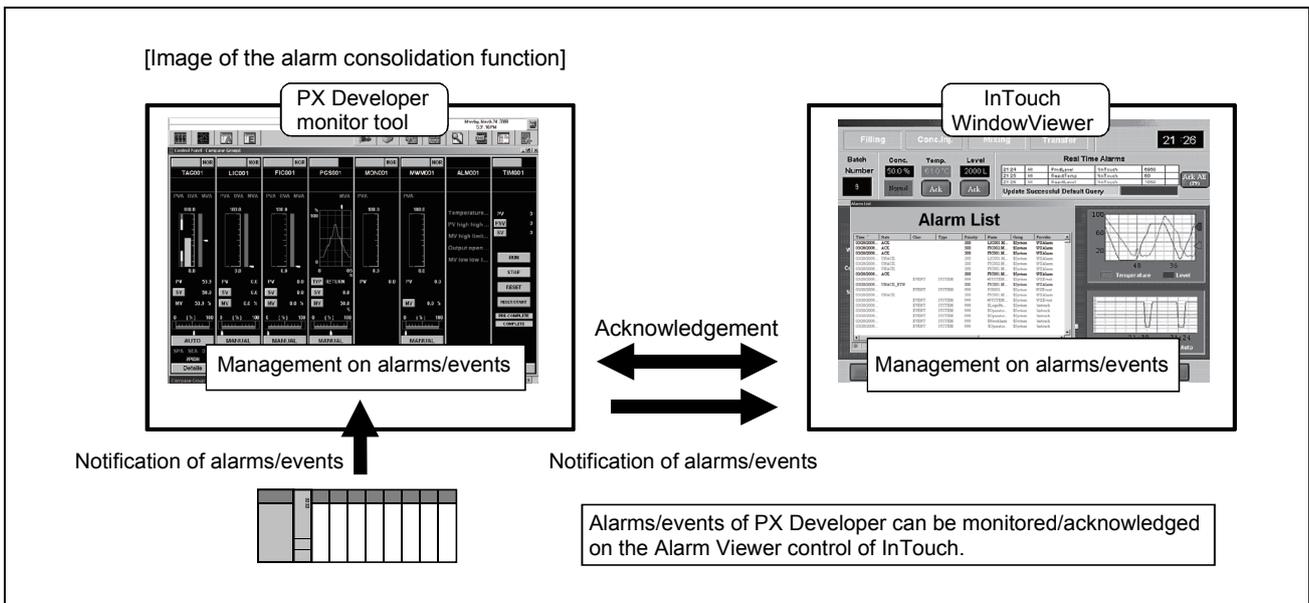
When using the communication function with the aforementioned process control tag name, using the tag name reference function permits easily browsing/selecting the process control tag name of PX Developer on Tag Browser of InTouch.

This helps to reduce work for key input and typing errors, resulting in improvement in work efficiency.



(4) Alarms/events of the PX Developer monitor tool can be monitored/acknowledged with InTouch

By using the alarm consolidation function, alarms/event information of the monitor tool can be displayed/monitored/acknowledged in the same list with alarms/event information of InTouch on the Alarm Viewer control of InTouch.



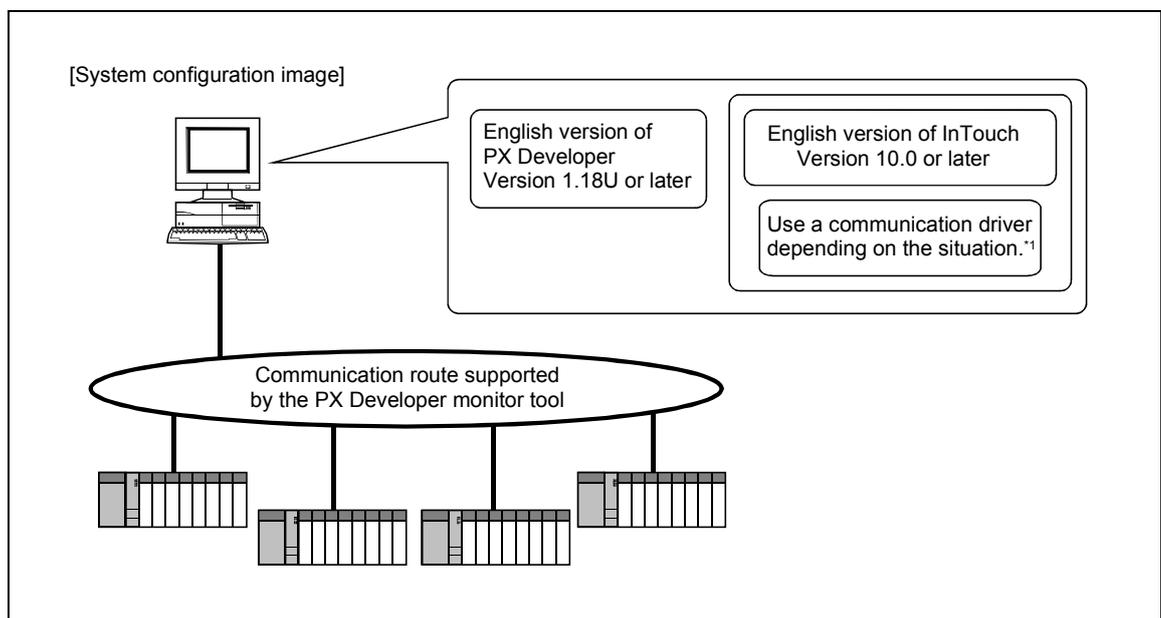
2 SYSTEM CONFIGURATION

2.1 System Configuration

This section explains system configuration when using the interaction function of PX Developer and InTouch.

For communication routes supported by PX Developer, refer to "SYSTEM CONFIGURATION" in "PX Developer Operating Manual (Monitor Tool)".

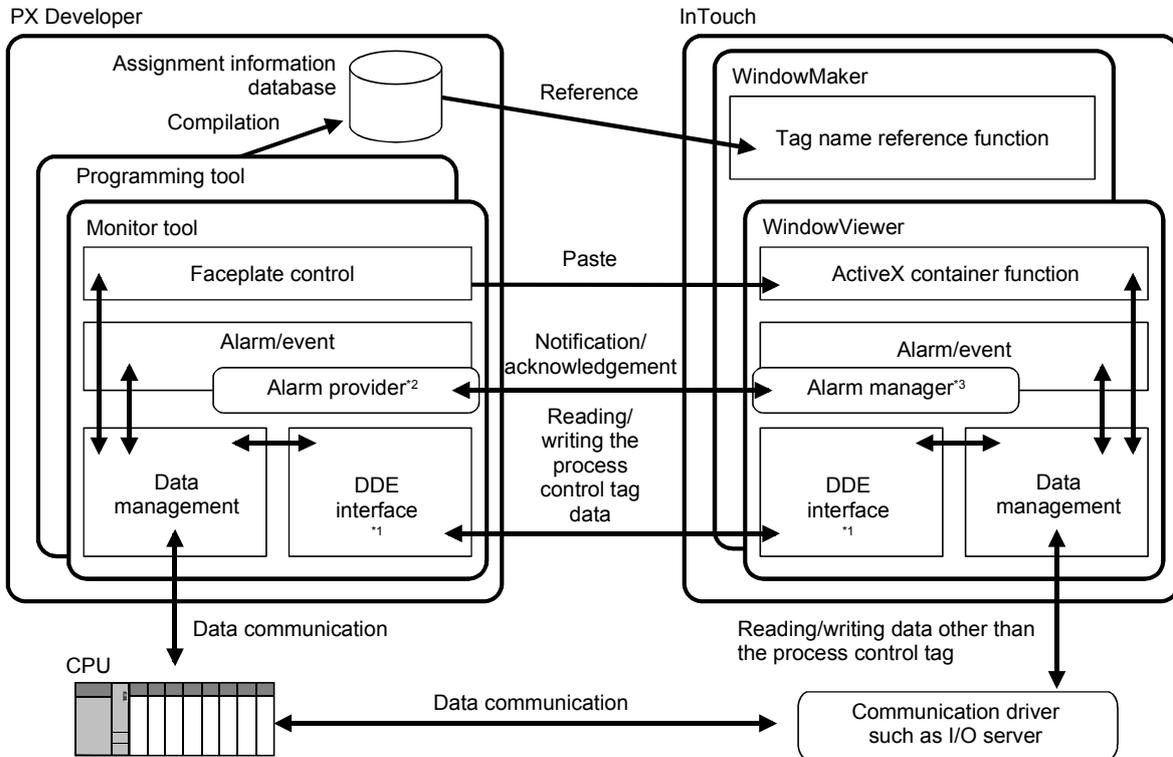
To use the interaction function, install PX Developer and InTouch to the same personal computer. If installed to different personal computers, the interaction function cannot be used.



*1: When reading/writing device data except the process control tag with InTouch, a communication driver such as I/O server is required.

2.2 Software Configuration

This section explains software configuration when using the interaction function of PX Developer and InTouch.



- *1: InTouch reads/writes the process control tag data in the monitor tool through DDE interface.
- *2: The alarm provider is an alarm function supplied by Invensys Systems, Inc. This function enables the monitor tool to notify/acknowledge alarms and events to the alarm manager of InTouch, and to receive a request for acknowledging corresponding alarm from InTouch Alarm Viewer control.
- *3: The alarm manager is an application that manages information on alarms and events to the alarm system of InTouch.

2.3 Operating Environment

PX Developer Version 1.18U or later and InTouch Version 10.0 or later are required for interacting themselves.

For operating environment of PX Developer, refer to "Operating Environment" in "PX Developer Operating Manual (Monitor Tool)".

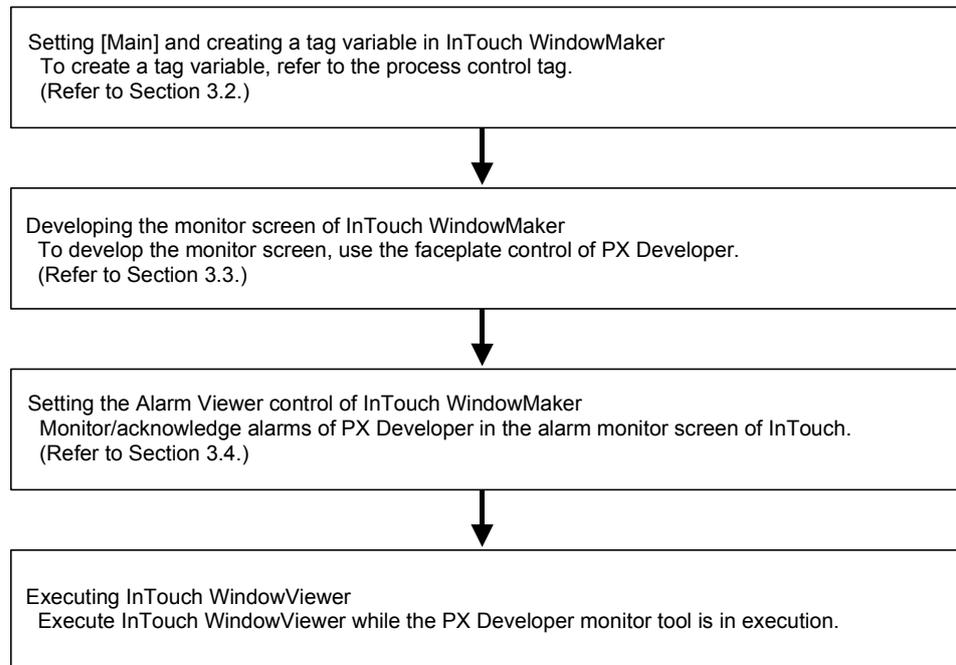
For operating environment of InTouch, refer to "ReadMe" in InTouch installer.

POINT
To execute InTouch in Windows Vista [®] , disable the user account control (UAC) in Windows Vista [®] .

3 BASIC OPERATION

3.1 Operating Procedures for Monitoring on InTouch

This section explains procedures for monitoring on InTouch.



POINT

- To monitor on InTouch WindowViewer using the faceplate control or alarm consolidation function, or by communications with the process control tag name, execute InTouch WindowViewer after starting the monitor tool.
- For basic operations of InTouch, refer to the manual of InTouch.

3.2 Operation to Communicate with InTouch using the Process Control Tag Name of PX Developer



PURPOSE

To register a tag variable using the process control tag name defined with PX Developer and read/write the process control tag data in the monitor tool with InTouch.



Setting with InTouch WindowMaker

Procedure 1) Register an access name for communicating with the PX Developer monitor tool. (Section 3.2.1) *1



Procedure 2) Create a tag variable. (Section 3.2.2)



Procedure 3) Define a tag source in the Tag Browser. (Section 3.2.2) *1



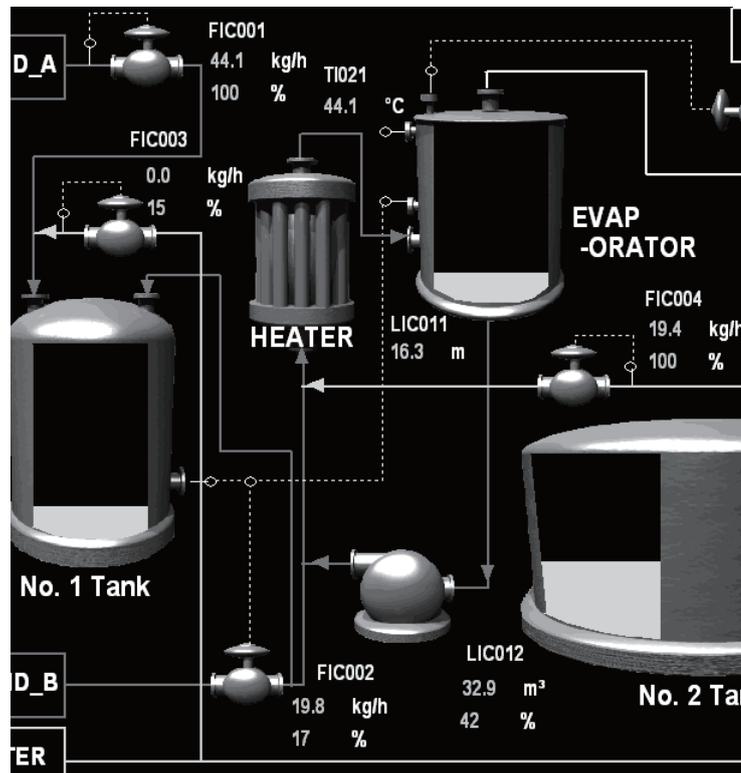
Procedure 4) Refer/select a tag name in the Tag Browser. (Section 3.2.3)

*1: Required only when first using InTouch application.



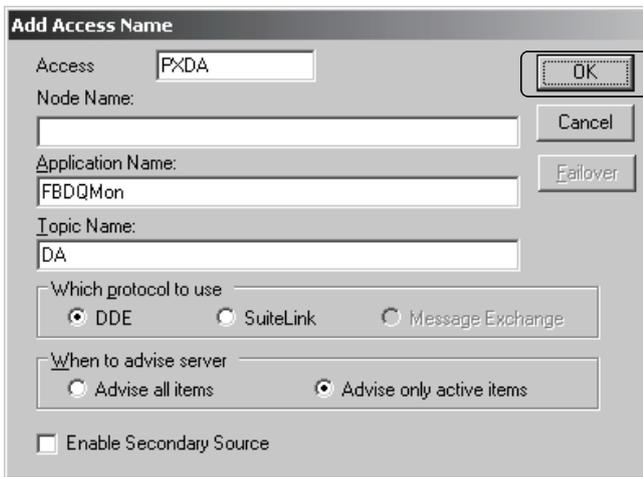
Execution with InTouch WindowViewer

The process control tag data can be read/written by executing WindowViewer after starting the monitor tool.



<Example of the InTouch WindowViewer monitor screen>

3.2.1 Registering access name



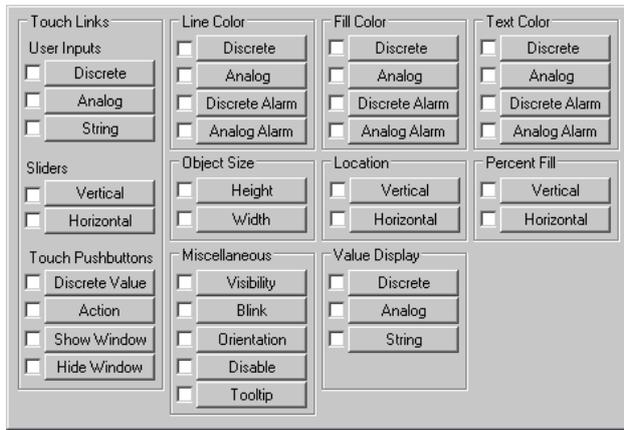
1. Click [Special] → [Access Names...] in the menu of WindowMaker.
2. The Access Names dialog box appears. Click the "Add..." button.

3. The Add Access Name dialog box appears. Set the following items and click the "OK" button.
 - Access : Any specific name
 - Node Name : Blank
 - Application Name : FBDQMon
 - Topic Name : DA
 - Which protocol to use : DDE
 - When to advise server : Advise only active items
 - Enable Secondary Source : Without check (Check when using the backup server.)

4. Check if the set access name has been added to the Access Names dialog box.

3.2.2 Defining tag source

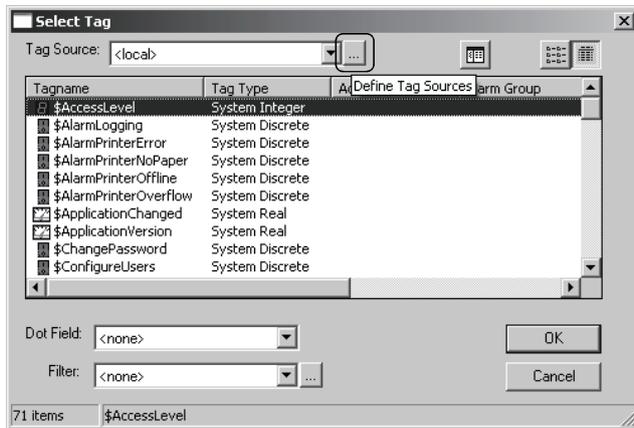
(1) Creating a tag variable/setting a tag source



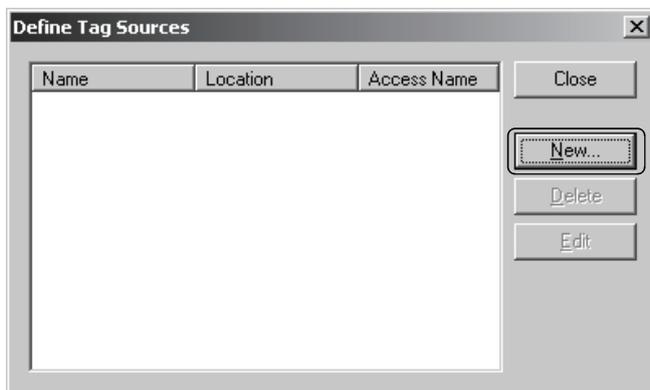
1. The Animation Links dialog box shown on the left appears after creating an object, double-clicking or right-clicking the object and selecting [Animation Links] on WindowMaker. Select a tag variable type to be assigned for the object.



2. The tag variable setting screen appears. Double-click the input field of [Expression].



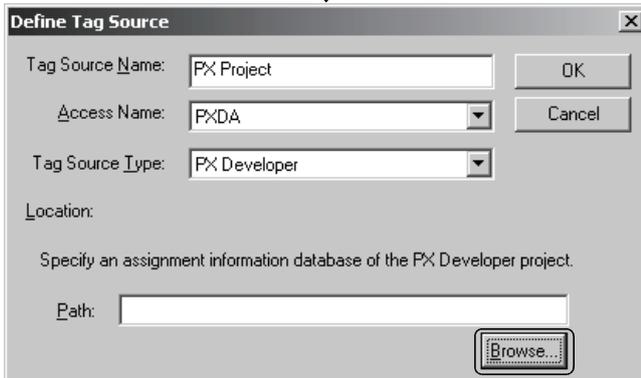
3. The Tag Browser appears. Click the "Define Tag Sources" button (...).



4. The Define Tag Sources dialog box appears. Click the "New..." button.

(To the next page)

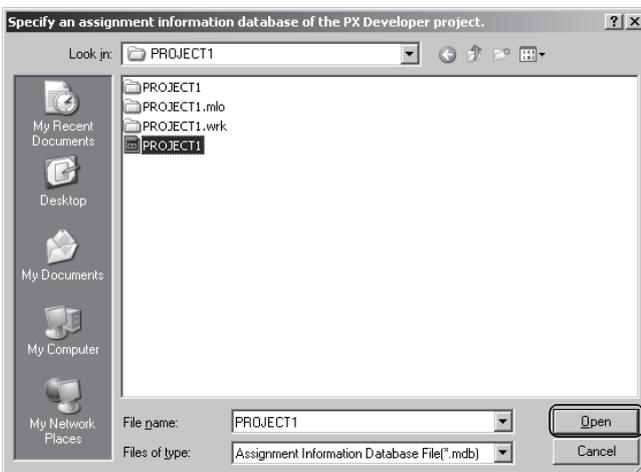
(From the previous page)



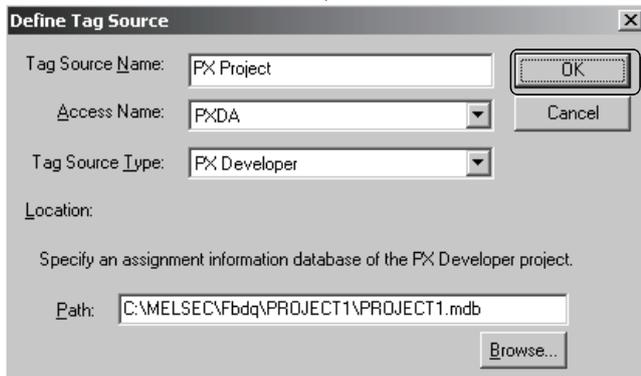
5. The Define Tag Source dialog box appears. Set the following items and click the "Browse..." button.

- Tag Source Name : Any specific name
- Access Name : Set access name (Refer to Section 3.2.1.)
- Tag Source Type : PX Developer

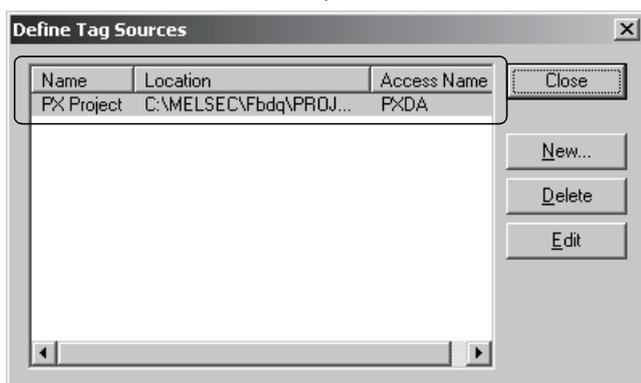
* For details of the setting screen, refer to (2) in this section.



6. Select assignment information database of PX Developer project to be referenced (project name with .mdb extension), and click the "Open" button.



7. After settings, the path for the selected project is stored to the Path field. Click the "OK" button to close the Define Tag Source dialog box.

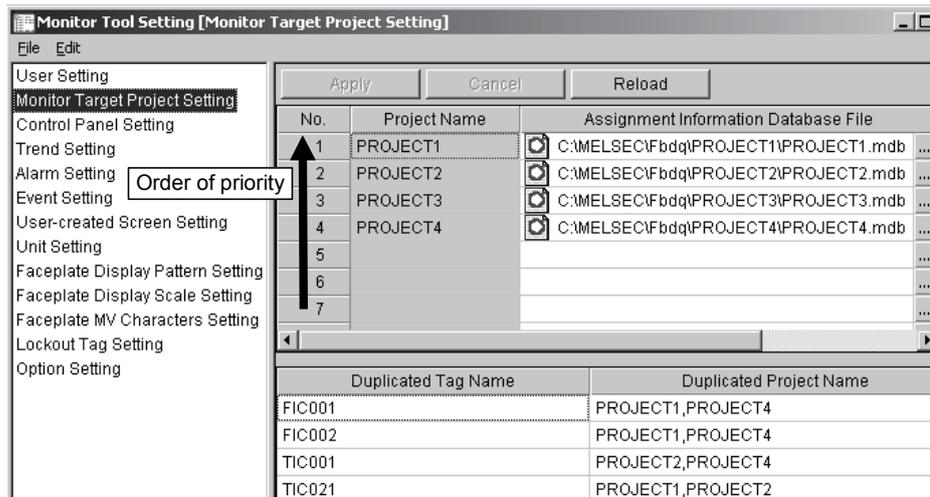


8. Close the screen after checking that the set tag source is displayed on the Define Tag Sources dialog box.

POINT

- When registering a tag variable using the process control tag declared with the same process control tag name with multiple projects with InTouch, the process control tag data of the highest priority^{*1} project are read/written. Whether the same process control tag name has been declared or not can be checked on the Monitor Target Project Setting screen of the monitor tool.

*1: The more the number at [No.] field on the Monitor Target Project Setting screen is small, the more the priority of its project becomes high.



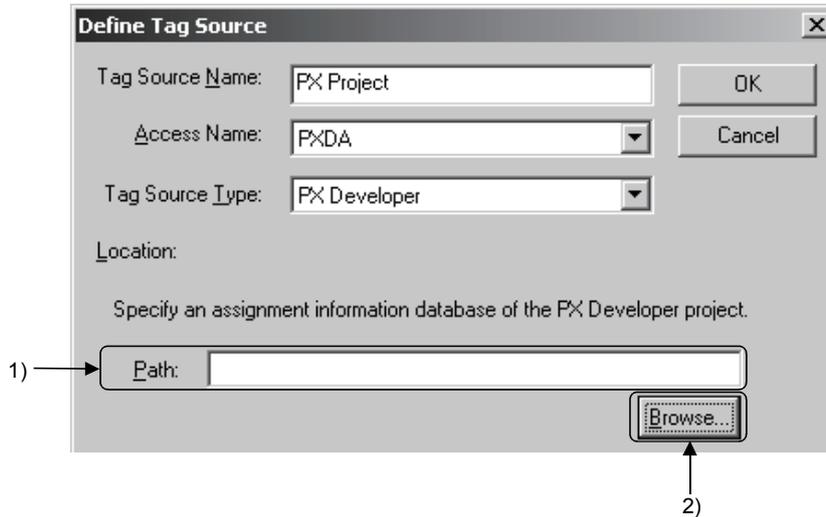
<Example of the Monitor Target Project Setting screen of the PX Developer monitor tool>

- The assignment information database created with PX Developer Version 1.02C or later can be used for the tag name reference function. If the database is created Version 1.01B or earlier, convert it with the programming tool Version 1.02C or later. For details of the conversion, refer to "Precautions for the assignment information database" in "PX Developer Operating Manual (Programming Tool)"
- To uninstall PX Developer, delete a tag source for reference of the PX Developer project beforehand.

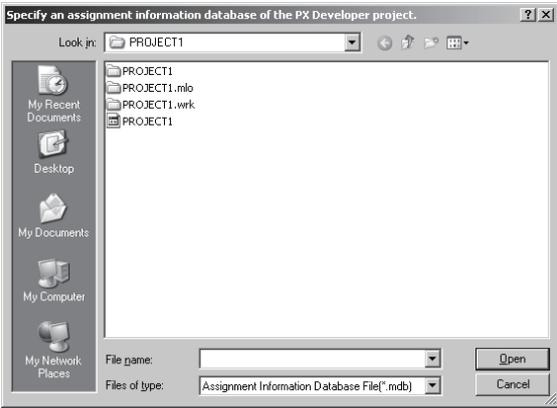
(2) Specifications of the Define Tag Source screen

The following shows display items and setting items when "PX Developer" is selected at [Tag Source Type] in the Define Tag Source dialog box of InTouch.

 **DISPLAY/SETTING SCREEN**

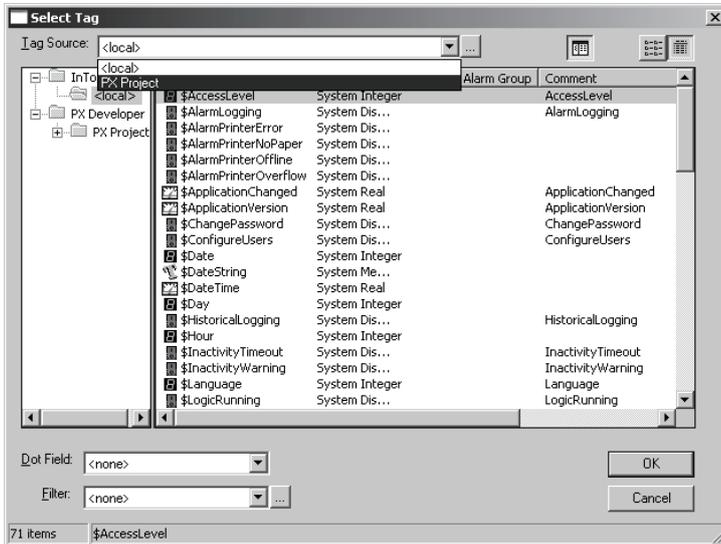


 **DISPLAY/SETTING DATA**

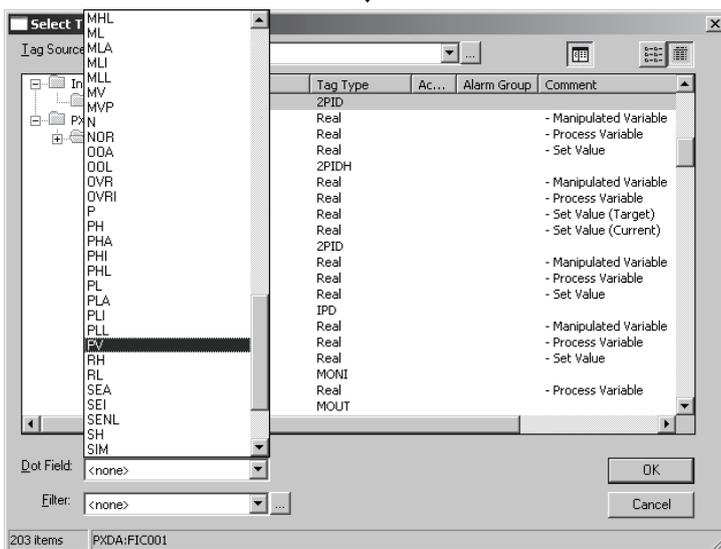
No.	Item	Description	Restrictions
1)	Path edit box	Input an absolute path to the assignment information database of a PX Developer project to be referenced (path to the target mdb file of the project).The specified assignment information database is stored as a tag source.	Maximum 260 characters can be input.
2)	"Browse..." button	Displays a dialog box for selecting a file.  The specified path in the dialog box is displayed at 1).	—

3.2.3 Referring/selecting tag name

 OPERATION



1. Select a set tag source from a list in [Tag Source] of the Tag Browser.



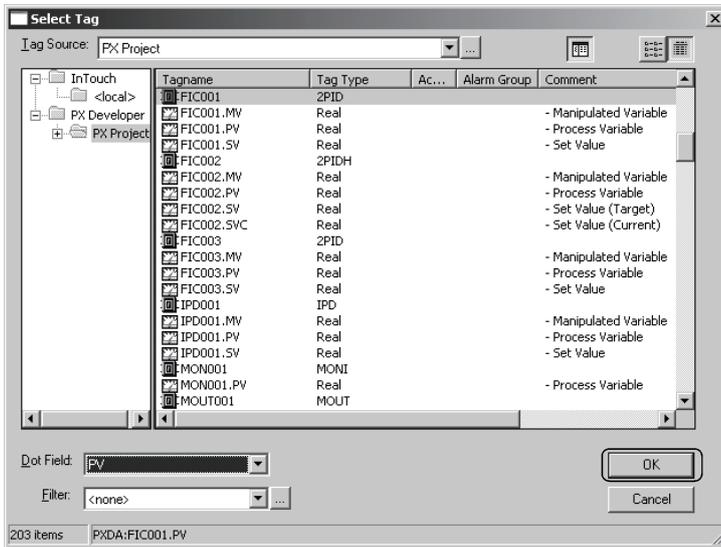
2. The process control tags and their main tag items (refer to Appendix 2.) are displayed on the list.^{*1}

To access a tag item except for the main tag items, select a process control tag name, and then select a tag item corresponding to the process control tag type from [Dot Field] (refer to Appendix 1).

↓
(To the next page)

*1: For a comment of the main tag item, explanation on the tag item is displayed after "- " (a hyphen and a space).

(From the previous page)



3. Select a tag item to be registered and click the "OK" button.



4. A tag name is automatically created at [Expression] of the tag variable setting screen. A format of the created tag name is "Access name:Process control tag name.Tag item".*1

*1: The reference method is referred to as remote reference. For details, refer to the manual of InTouch.

POINT

- If changing the tag FB information of PX Developer project and recompile it after selecting a tag source and opening the list on the Tag Browser of InTouch WindowMaker, the information is not reflected to the screen. To refer the latest tag FB, select a tag source again.
- If the tag FB variable name has been set except alphanumeric characters or underscore (_), InTouch cannot recognize the name. (The corresponding tag is not displayed in the tag list of the Tag Browser.)

3.3 Operation to Use the Faceplate of PX Developer in InTouch



PURPOSE

To use the faceplate control of PX Developer when developing the process control monitor screen on InTouch for shortening development time.



Setting with InTouch WindowMaker

Procedure 1) Install ActiveX control. (Section 3.3.1) *1



Procedure 2) Check that the installation is successful on the wizard menu. (Section 3.3.2)



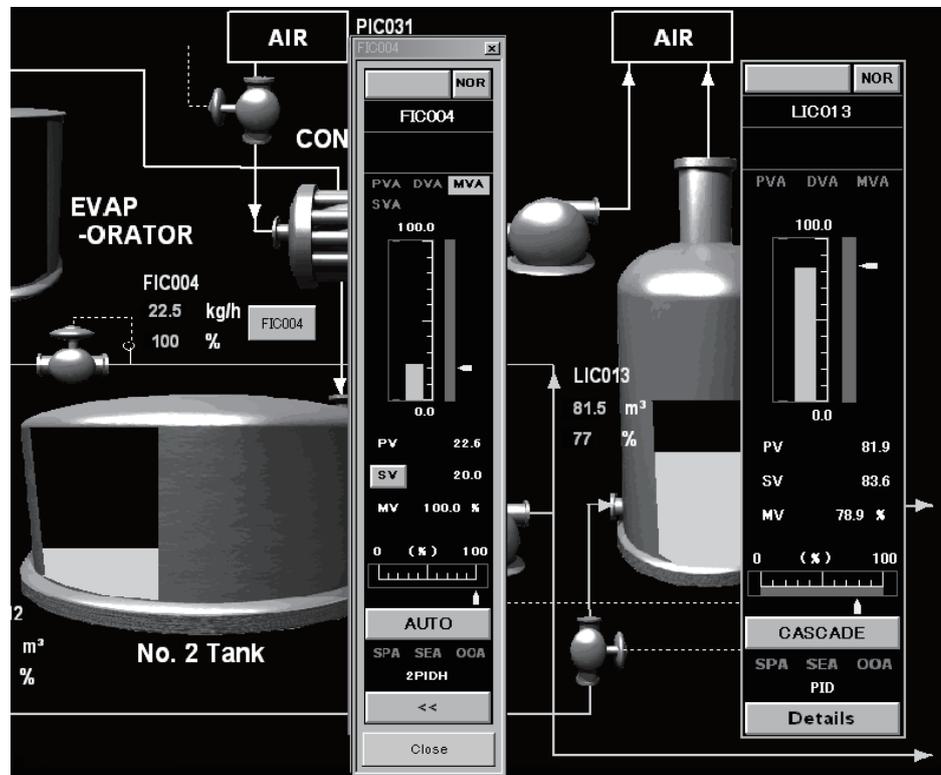
Procedure 3) Paste a faceplate control and make setting for it. (Section 3.3.3)

*1: Required only when first using InTouch application.



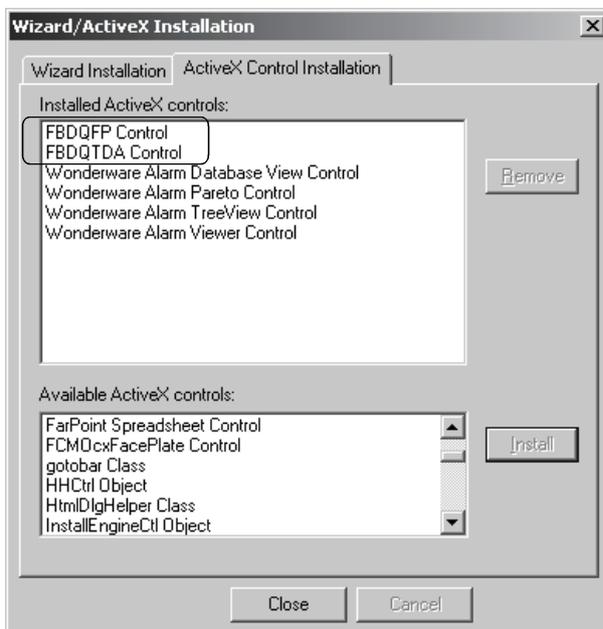
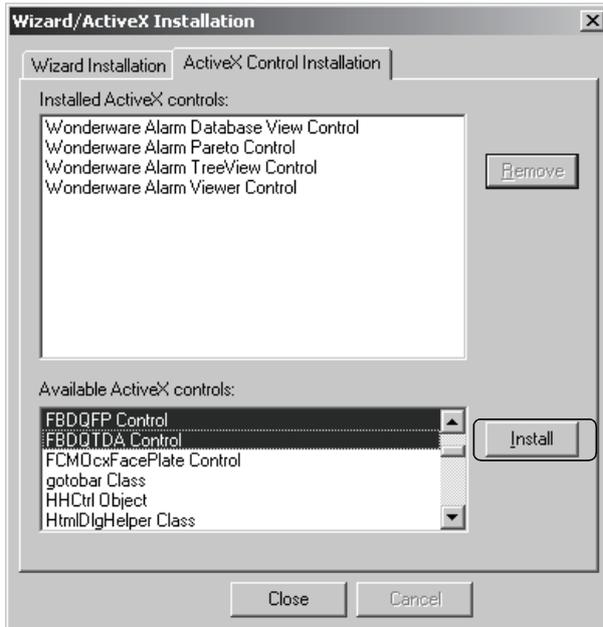
Execution with InTouch WindowViewer

By executing WindowViewer after starting the monitor tool, a faceplate can be used, the process control data can be monitored, and the process control parameter can be tuned.



<Example of the faceplate control screen of InTouch WindowViewer>

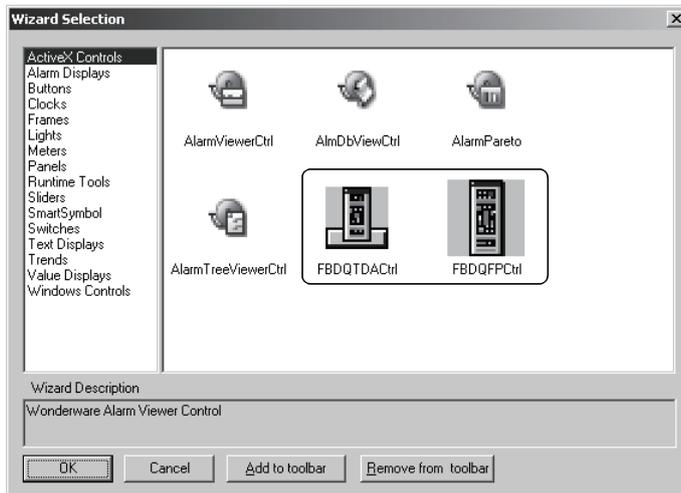
3.3.1 Installing ActiveX control



1. Select [Special] → [Configure] → [Wizard/ActiveX Installation...] on the WindowMaker menu.
2. The Wizard/ActiveX Installation dialog box appears. Click the <<ActiveX Control Installation>> tab.
3. Select "FBDQFP Control" and "FBDQTDA Control" from the list in [Available ActiveX controls] and click the "Install" button.

4. After installation, "FBDQFP Control" and "FBDQTDA Control" have been added to the list in [Installed ActiveX controls].

3.3.2 Checking installation



1. Click the "Wizard" button () of WindowMaker.
2. The Wizard Selection dialog box appears. Check that "FBDQTDACtrl" and "FBDQFFCtrl" icons have been added to the list in [ActiveX Controls].

POINT

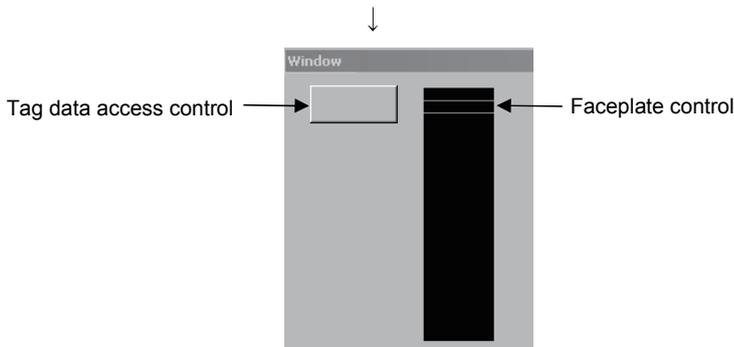
- "FBDQFFCtrl" can be pasted on the InTouch screen directly using the faceplate control.
- "FBDQTDACtrl" can read/write the process control tag data set to the tag data access control. Also, clicking the button can display the pop-up faceplate screen.

For details of each control, refer to "ActiveX control" of "PX Developer Operating Manual (Monitor Tool)".

3.3.3 Setting/pasting faceplate control

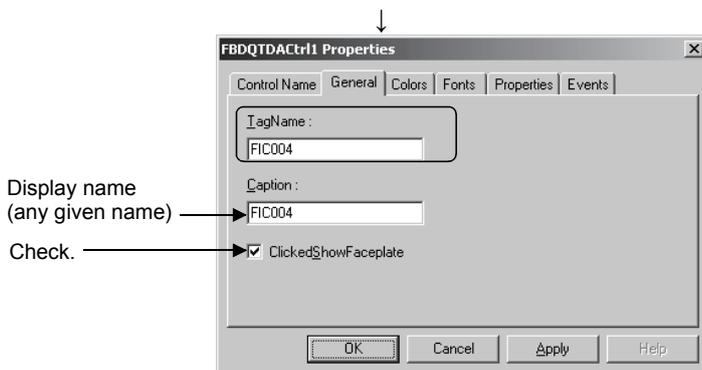


1. Select "FBDQTDACtrl" or "FBDQFFCtrl" from the list in [ActiveX Controls] of the Wizard Selection dialog box and click the "OK" button.



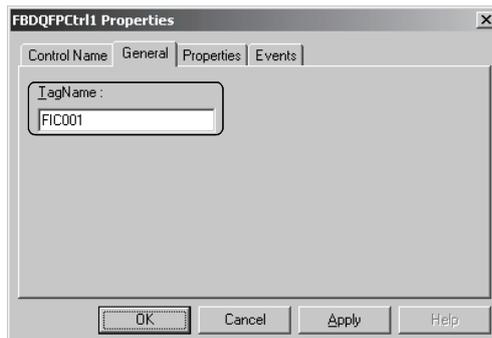
2. The cursor changes to  on InTouch. Click a position where the faceplate control is to be pasted and adjust the control size by dragging the icon.
3. Double-click the control to display the property screen.

<Example of the InTouch WindowMaker screen>



4. Click the <<General>> tab and set the process control tag name of PX Developer at [TagName].

<Example of the property screen of the tag data access control>



<Example of the property screen of the faceplate control>

POINT

If InTouch application is edited, overwritten, and saved after PX Developer is uninstalled, take care that contents of the faceplate control and tag data access control originally set (such as a tag name) are deleted when PX Developer is reinstalled.

3.4 Operation to Display the Alarm Information of PX Developer on Alarm Viewer control of InTouch



PURPOSE

To display alarms and event information of the monitor tool on the Alarm Viewer control of InTouch and to monitor/acknowledge them in the same list with alarms/event information of InTouch.



OVERVIEW OF ALARM

[Summary alarms and historical alarms of InTouch]

<Summary alarms>

The summary alarms are an alarm list where records of current alarms and unacknowledged alarms are displayed. On the summary alarms, alarms can be acknowledged with a comment.

<Historical alarms>

The historical alarms are an alarm list where records of occurred/recovered/acknowledged alarms and occurred events. On the historical alarms, alarm acknowledgement operations are unavailable.



Setting with InTouch WindowMaker

Procedure 1) Paste the Alarm Viewer control. (Section 3.4.1)



Procedure 2) Set the Alarm Query of the Alarm Viewer control. (Section 3.4.2)



Execution with InTouch WindowViewer

Alarms of PX Developer can be monitored/acknowledged on the Alarm Viewer control of InTouch by executing InTouch WindowViewer after starting the monitor tool.

When the Alarm Viewer control type is summary alarms, only the alarm information can be acknowledged. When the Alarm Viewer control type is historical alarms, alarm information and event information can be monitored.

POINT
<ul style="list-style-type: none"> Alarms and events can be stored to the historical alarm buffer of InTouch, secured for PX Developer, up to 6,000 and 2,000, respectively. When capacity of the historical alarm buffer is full, stored alarm/event information is deleted from the oldest to store the latest information. Alarm Viewer control of InTouch displays only alarms/event information of PX Developer occurred while the monitor tool is in execution. Therefore, histories of alarms/events occurred before starting the monitor tool is not reflected to the alarms on InTouch. After exiting the monitor tool, the alarm/event information on PX Developer displayed on the Alarm Viewer control of InTouch are all deleted from the summary alarms and historical alarms. To display the alarm information on InTouch even after exiting the monitor tool, logging alarms with AlarmPrinter^{*1} or accumulating the database with Alarm DB Logger Manager^{*1} beforehand is necessary. <p>^{*1}: For details, refer to the manual of InTouch.</p>

The following shows interlock operation of alarms and events.
 For operation method of InTouch, refer to the manual of InTouch.

(1) Operating the alarm monitor screen

The following shows the Alarm List screen of the monitor tool and the summary alarms screen of InTouch.

No.	Confirm	Tag	Alarm Contents	Occurrence Date	Recovered Date
1	<input checked="" type="checkbox"/>	LIC001	PHA	3/28/2008 1:49:36 PM	
2	<input type="checkbox"/>	LIC002	PHA	3/28/2008 1:49:01 PM	3/28/2008 1:49:07 PM
3	<input type="checkbox"/>	LIC002	MHA	3/28/2008 1:48:47 PM	3/28/2008 1:48:52 PM
4	<input type="checkbox"/>	LIC001	MHA	3/28/2008 12:59:25 PM	3/28/2008 1:28:07 PM
5	<input type="checkbox"/>	#SYSTEM	Communication Open Error : PROJECT1 Specified connection ta	3/28/2008 12:58:24 PM	3/28/2008 12:58:31 PM
6	<input type="checkbox"/>	#SYSTEM	Communication Reading Error : PROJECT1 Specified connecto	3/28/2008 12:58:22 PM	3/28/2008 12:58:31 PM
7	<input type="checkbox"/>	#SYSTEM	Project ID Code Inconsistency : PROJECT1	3/28/2008 12:58:10 PM	3/28/2008 12:58:31 PM

<Example of the Alarm List screen of the PX Developer monitor tool>

State	Name	Time	Priority	Value
UNACK	LIC002.PHA Tank 2 water level	03/28/2008 01:49:36 PM	500	81.5
UNACK_RTN	LIC002.PHA Tank 2 water level	03/28/2008 01:49:07 PM	500	91.0
UNACK_RTN	LIC002.MHA Tank 2 water level	03/28/2008 01:48:52 PM	500	100.0%
UNACK_RTN	LIC001.MHA Tank 1 water level	03/28/2008 01:28:07 PM	500	100.0%
UNACK_RTN	#SYSTEM.Communication Open Error : PROJECT1 Specified connection target	03/28/2008 12:58:31 PM	100	
UNACK_RTN	#SYSTEM.Communication Reading Error : PROJECT1 Specified connection target	03/28/2008 12:58:31 PM	100	
UNACK_RTN	#SYSTEM.Project ID Code Inconsistency : PROJECT1	03/28/2008 12:58:31 PM	100	

<Example of the summary alarms screen of InTouch WindowViewer>

InTouch receives alarm notification/alarm acknowledgement notification from the monitor tool and displays them.

However, system alarms of InTouch itself (SCADA interaction function error) are not notified to InTouch.

[Operation from the monitor tool that interlocks with the alarms of InTouch]

- Executing "Delete Recovered Alarms" deletes the corresponding alarms of InTouch.
- Executing "Confirm All" checks all corresponding alarms of InTouch.
- Checking "Confirm" check box checks corresponding alarm of InTouch.
- Deselecting "Confirm" check box of ongoing alarm ingenerates corresponding alarm of InTouch.
- When alarms exceed 2,000 in the Alarm List screen of the monitor tool, old alarm is deleted. If corresponding alarm of InTouch exists in the summary alarms, the alarm is also deleted.

[Operation from InTouch that interlocks with the monitor tool]

- Acknowledging an alarm from InTouch checks "Confirm" check box for corresponding alarm on the Alarm List screen of the monitor tool.

POINT

For correspondence table of the alarm items notified by the monitor tool to InTouch, refer to Appendix 3.1.

(2) Operating the event monitor screen

The following shows the Event List screen of the monitor tool and the historical alarms screen of InTouch.

On InTouch, alarms and events are displayed on the historical alarms screen.

No.	Confirm	Tag	Tag Comment	Event Message	Occurrence Date	Status	Set Value	User
1		LIC002	Tank 2 water level	SV	3/28/2008 3:15:38 PM		81.8	admin
2		LIC002	Tank 2 water level	SV	3/28/2008 3:15:35 PM		81.9	admin
3		TIC002	Heat pump 2 temperature		3/28/2008 3:14:22 PM	SIM		
4		TIC002	Heat pump 2 temperature		3/28/2008 3:14:19 PM		SIM	admin
5		TIC001	Heat pump 1 temperature		3/28/2008 3:14:16 PM	AUT		
6		TIC001	Heat pump 1 temperature		3/28/2008 3:14:13 PM		AUT	admin
7		TIC001	Heat pump 1 temperature		3/28/2008 3:14:10 PM	SIM		
8		TIC001	Heat pump 1 temperature	SV	3/28/2008 3:14:04 PM		50.0	admin
9		TIC001	Heat pump 1 temperature		3/28/2008 3:14:01 PM		SIM	admin
10		LIC003	Tank 3 water level	SV	3/28/2008 3:13:58 PM		80.1	admin
11		LIC003	Tank 3 water level	SV	3/28/2008 3:13:55 PM		80.0	admin

<Example of the Event List screen of the PX Developer monitor tool>

State	Name	Time	Priority	Operator
	LIC002.SV Tank 2 water level	03/28/2008 03:15:38 PM	81.8	admin
	LIC002.SV Tank 2 water level	03/28/2008 03:15:35 PM	81.9	admin
	TIC002 Heat pump 2 temperature	03/28/2008 03:14:22 PM	SIM	
	TIC002 Heat pump 2 temperature	03/28/2008 03:14:19 PM	SIM	admin
	TIC001 Heat pump 1 temperature	03/28/2008 03:14:16 PM	AUT	
	TIC001 Heat pump 1 temperature	03/28/2008 03:14:13 PM	AUT	admin
	TIC001 Heat pump 1 temperature	03/28/2008 03:14:10 PM	SIM	
	TIC001.SV Heat pump 1 temperature	03/28/2008 03:14:04 PM	50.0	admin
	TIC001 Heat pump 1 temperature	03/28/2008 03:14:01 PM	SIM	admin
	LIC003.SV Tank 3 water level	03/28/2008 03:13:58 PM	80.1	admin
	LIC003.SV Tank 3 water level	03/28/2008 03:13:55 PM	80.0	admin
	LIC003 Tank 3 water level	03/28/2008 03:13:52 PM	SIM	admin

<Example of the historical alarms screen of InTouch WindowViewer>

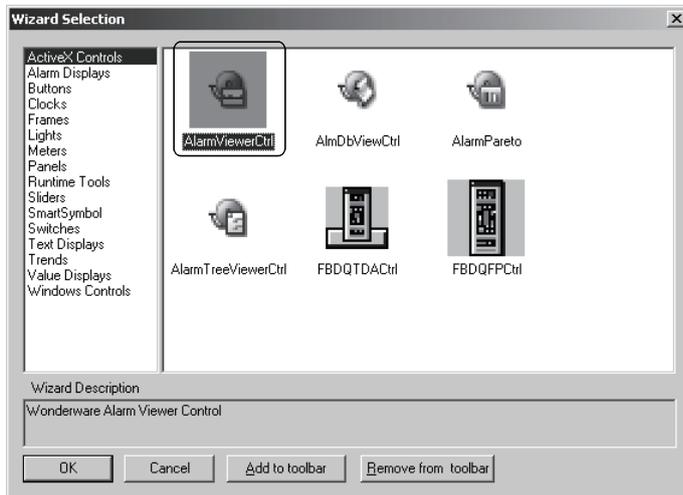
InTouch receives event notification from the monitor tool and displays it.

POINT

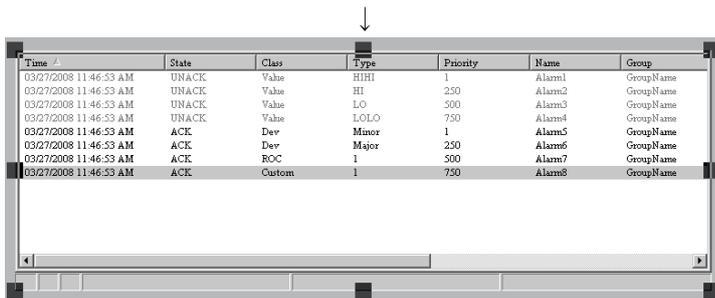
- For correspondence table of the event items notified by the monitor tool to InTouch, refer to Appendix 3.2.
- Acknowledgement operation can be made from the Event List screen of the monitor tool to an event on the message tag. However, whether an event on the message tag is acknowledged or not is not displayed on the historical alarms of InTouch.

3.4.1 Pasting Alarm Viewer control

 OPERATION



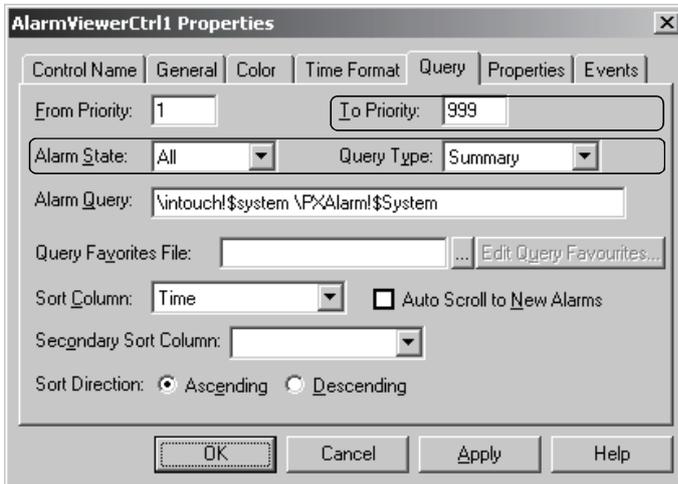
1. Click the "Wizard" button () of WindowMaker.
2. The Wizard Selection dialog box appears. Select "AlarmViewerCtrl" from the list in [ActiveX Controls] and click the "OK" button.



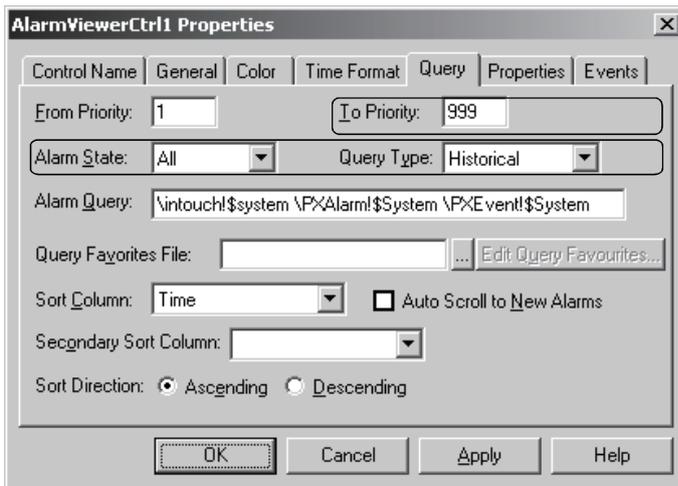
<Example of InTouch WindowMaker screen>

3. The cursor changes to  on InTouch. Click a position where the faceplate control is to be pasted and adjust the control size by dragging the icon.

3.4.2 Setting Alarm Query



<Setting example of summary alarms>



<Setting example of historical alarms>

1. Double-click the Alarm Viewer control to display the property screen.
2. Double-click the <<Query>> tab, input a space after "\intouch!\$system", and input "\PXAlarm!\$System" to interact the alarm information or "\PXEvent!\$System" to interact the event information at [Alarm Query] field. Inputting both of them allows alarm/event information to be consolidated. However, the event information is stored only to the historical alarms.

Consolidated contents	Added alarm query	Valid query type
Alarm	\PXAlarm!\$System	Both summary and history
Event	\PXEvent!\$System	History only

POINT
<ul style="list-style-type: none"> • To register multiple alarm query items, separate each item with a space. • The alarm query is not case-sensitive. • By setting alarm query in the same way at "Distributed Alarm", included in WindowMaker wizard, the alarm consolidation function can be used. For details, refer to the manual of InTouch.

4 TROUBLESHOOTING

(1) Troubleshooting on the communication function with the process control tag name

This chapter explains the troubles regarding the communication function with the process control tag name that may occur, and corrective actions/references for them.

Trouble	Cause/corrective action	Reference
<p>While WindowViewer is in execution, the monitor data remains 0.</p> <hr/> <p>Although the process control tag data in PX Developer has been changed while WindowViewer is in execution, the monitor data do not change.</p>	<p>"Expression" may not be set correctly in InTouch or the monitor tool may not be started. Check the following and make correct setting.</p> <ul style="list-style-type: none"> • Check if a format of "Expression" is "Access name:Process control tag name.Tag item". • Check if the access name has been set correctly. • Check if the process control tag name exists in the target project of the monitor tool. • Check if the monitor tool is in execution. • If the tag variable has been changed in WindowMaker while WindowViewer is in execution, restart WindowViewer. <p>For cases other than above, refer to "Error list" in "ActiveX control", "Setting Tagname property", and "Calling or Setting Tagname property" of "PX Developer Operating Manual (Monitor Tool)".</p>	<p>Section 3.2</p>

(2) Troubleshooting on incorporating a faceplate control

For the troubles that may occur regarding the incorporation function of a faceplate, and corrective actions/references for them, refer to "Error list" in "ActiveX control" of "PX Developer Operating Manual (Monitor Tool)".

(3) Troubleshooting on the alarm consolidation function

This section explains troubles that may occur regarding the alarm consolidation function, and corrective actions/references for them.

Trouble	Cause/corrective action	Reference
<p>While WindowViewer is in execution, alarms of the monitor tool are not displayed on the Alarm Viewer control of InTouch.</p>	<p>The monitor tool may not be executed or the Alarm Query may not be set correctly.</p> <p>Check the following.</p> <p>Right-click on the Alarm Viewer control of WindowViewer and check if the Alarm Query is set as shown below in the [Stats] menu.</p> <p>When the setting is correct and the execution rate of the Alarm Query (the number is displayed at the area displayed as 100 on the screen below) is 0, check if the monitor tool has been started.</p> <div data-bbox="491 790 1262 1227" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> </div> <p style="text-align: center;"><Alarm Statistics screen of InTouch WindowViewer></p>	<p>Section 3.4</p>

APPENDICES

Appendix 1 Details of Dot Field Name in the Tag Name Reference Function

For lists of the tag items of the process control tag that can be specified on the Tag Browser (tag item that can be specified on the Dot Field when the process control tag is selected), refer to "List of Various Tag Type/Tag Data" in "PX Developer Programming Manual".

The following table shows the data types and icons in InTouch corresponding to the data types of each tag item in PX Developer.

Data type in PX Developer	Data type in InTouch	Icon
BOOL	Discrete	
INT, DINT, WORD, DWORD	Integer	
REAL	Real	
Tag FB	-	

Appendix 2 Main Tag Items

Main tag items of each process control tag displayed on the Tag Browser is the tag items whose current values are to be corrected.

The following table shows the tag items whose current values are to be corrected.

Tag FB name	Current value correction tag		Tag FB name	Current value correction tag	
PID, 2PID, PIDP, SPI, IPD, BPI, R, ONF2, ONF3	PV	Process value	MWM	PV	Process value
	MV	Manipulated variable		MV	Manipulated variable
	SV	Set value	SEL	PV	Process value
2PIDH	PV	Process value		MV	Manipulated variable
	MV	Manipulated variable		SLNO	Selection No.
	SVC	Set value (current)	BC	PV	Process value
	SV	Set value (target)		SV1	Set value 1
PGS	MV	Manipulated variable		SV2	Set value 2
	SV	Set value	SV	Set value	
	TYP	Operation type	PSUM	PV	Process value
PGS2	SV	Set value	NREV, REV, MVAL1, MVAL2	DIM	Monitor input buffer
	STC	Executing step No.		TIMER1, TIMER2, COUNT1, COUNT2	PV
	T	Time in the step	PSV		Set value
	PV	Process value	SV		Set value
	TYP	Operation type	DIM		Monitor input buffer
SV0C	Start point (current)	ALM, MSG	No corresponding current value correction tags.		
MOUT	MV		Manipulated variable		
MONI	PV	Process value			



Appendix 3 Correspondence Table of Items of the Monitor Tool and InTouch

Appendix 3.1 Correspondence table of alarm items

The following shows the correspondence table of the alarm items notified by the monitor tool to InTouch.

In the alarm screen of InTouch, a display name, item, and display format can be selected in the Properties of the Alarm Viewer control.

For details, refer to the manual of InTouch.

PX Developer monitor tool		InTouch	
Alarm item	Expression	Alarm item	Expression
Confirm check	ON/OFF	State	ACK/UNACK
Tag	FIC001	Name	Format: "Tag.Alarm contents Tag comment" ^{*3} Example) FIC001.MHA Tank 1 water level
Alarm Contents	MHA		
Tag Comment	Tank 1 water level		
Occurrence Date	The format depends on the setting of OS.	Time ^{*1}	Depends on setting of time format in the Alarm Viewer control.
Recovered Date			
Level	Minor/major	Priority ^{*2}	Minor: 500, major: 100
Measured Value	100%	Value	100%
No correspondence		Provider	\\PXAlarm
		Group	\$System
		Limit	Blank
		Class	Blank
		Type	Blank
		Tag Comment	Blank
		Operator	Blank
		Operator Domain	Blank
		Operator Node	Blank
		Operator Full Name	Blank
		Alarm Comment	At alarm acknowledgement: Acknowledgement comment
		User1, 2	0
		User3	PX Developer project name

*1: For summary alarms, occurrence date is displayed during alarm and recovered date is displayed after an alarm is recovered. For historical alarms, occurrence and recovery are displayed on another record.

*2: The alarm level of InTouch is expressed by priority from 1 to 999. The more the number is close to 1, the more priority becomes high.

*3: If there is no tag comment, the format will be "Tag.Alarm contents".

Appendix 3.2 Correspondence table of event items

The following shows the correspondence table of the event items notified by the monitor tool to InTouch.

In the alarm screen of InTouch, a display name, item, and display format can be selected in the Properties of the Alarm Viewer control.

For details, refer to the manual of InTouch.

PX Developer monitor tool		InTouch	
Event item	Expression	Event item	Expression
Confirm check	ON/OFF	No correspondence (State is left blank.)	
Tag	FIC001	Name	Format: "Tag.Event message Tag comment" *1 Example) FIC001.SV Valve flow
Event Message	SV		
Tag Comment	Valve flow		
Occurrence Date	The format depends on the setting of OS.	Time	Depends on setting of time format in the Alarm Viewer control.
Status	CAS	Value	CAS
Set Value	90.0		90.0
User	admin	Operator	admin
No correspondence		Provider	\PXEvent
		Group	\$System
		Limit	Blank
		Class	EVENT
		Type	"OPR/SYS" *2
		Priority	999
		Tag Comment	Blank
		Operator Domain	Blank
		Operator Node	Blank
		Operator Full Name	Blank
		Alarm Comment	Blank
		User1,2	0
		User3	PX Developer project name

*1: If there is no event message, the format will be "Tag Tag comment".

*2: "OPR" is displayed when the setting has been changed by user, and "SYS" is displayed when the status has changed.

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PX Developer Version 1

Operating Manual (SCADA Interaction)

MODEL	SW1D5C-FBDQ-O-SCDA-E
MODEL CODE	13JU62
SH(NA)-080773ENG-B(0806)MEE	



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