SIEMENS

SIMATIC

**PCS 7/505
Symbols and Faceplates**

Manual

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Safety Guidelines

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring to property damage only have no safety alert symbol. The notices shown below are graded according to the degree of danger.

Danger

indicates that death or severe personal injury **will** result if proper precautions are not taken.

Warning

indicates that death or severe personal injury **may** result if proper precautions are not taken.

Caution

with a safety alert symbol indicates that minor personal injury can result if proper precautions are not taken.

Caution

without a safety alert symbol indicates that property damage can result if proper precautions are not taken.

Notice

indicates that an unintended result or situation can occur if the corresponding notice is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel.** Within the context of the safety notices in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Prescribed Usage

Note the following:

Warning

This device and its components may only be used for the applications described in the catalog or the technical description, and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens.
Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

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The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Preface

Purpose of the Manual

This manual provides the information necessary to use the PCS 7/505 OS Symbols and Faceplates.

Required Basic Knowledge

Readers are presumed to be knowledgeable in the use of PCS 7.

Where is this Manual valid?

This manual is valid for the software package PCS 7/505 OS Option for V6.1.

Training Centers

Siemens Technical Training Center provides extensive training for all levels of plant personnel to ensure optimal performance from PCS 7 control systems. Classes include extensive hands-on activities using appropriate equipment, making the training directly and immediately applicable.

On-line information is available: http://www.sea.siemens.com/sitrain

Siemens also offers a number of training courses to familiarize you with the SIMATIC S7 automation system. Please contact your regional training center or our central training center in D 90327 Nuremberg, Germany for details:

Telephone: +49 (911) 895-3200.

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http://www.siemens.com/automation/service&support		
The languages of the SIMATIC Hotlines and the authorization hotline are generally German and English.		

Contents

1 Common HMI Elements

1.1 Common Faceplate Elements

The @CommonElements.pdl file contains a generic discrete I/O button and a generic analog I/O edit field. These objects can be manually copied to any user graphic. If the tag to be edited is part of a tag structure, then standard PCS 7 user authorization will be enforced. If the tag to be edited is a single tag (not part of a tag structure), no PCS 7 user authorization will be enforced since a single tag cannot be assigned to a process area for user authorization enforcement.

At runtime, the discrete I/O button provides the ability to edit any existing BOOL type tag. All changes to the BOOL tag are recorded in the WinCC operators log. The tag, along with "On" and "Off" messages, and "On" and "Off" button text are configured from the object properties dialog in Graphics Designer.

At runtime, the analog I/O field provides the ability to edit any existing analog tag. All changes to the analog tag are recorded in the WinCC operators log. The tag, along with range limits, and display format are configured from the object properties dialog in Graphics Designer.

The @CommonElements.pdl file also contains an example of a button that allows a trend group created with the PCS 7 Online Trend Configuration Utility to be opened up directly by name instead of selecting it from a list. The trend group name and the monitor to display the trend group on are configurable. Use the properties dialog box to configure the Mouse Action for the object.

Faceplate Overview Window
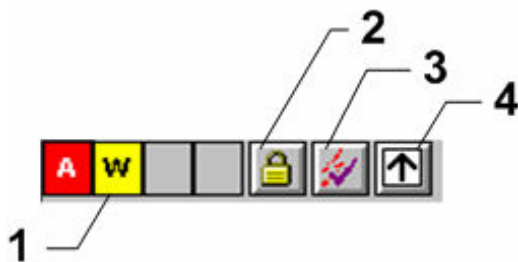
| Key	Description
1	Alarm Group Display
2	Lock/unlock messages button
3	Alarm ACK button
4	Go to primary graphic button (display function block's primary graphic)

Faceplate Frame
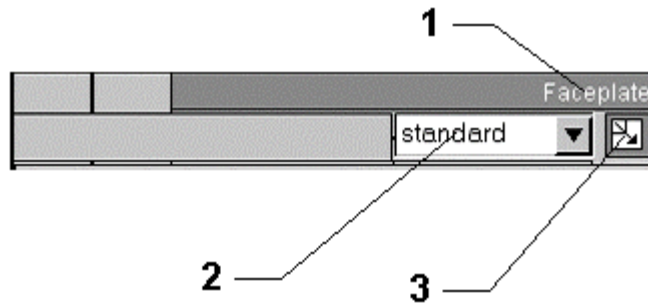
Key	Description
1	Current tagname
2	Pulldown view-selector list
3	Go to loop display mode (all faceplate views, with the option of selecting a large trend display)

Faceplate View List

The drop-down faceplate view list provides the names of the available faceplate views. Clicking a name selects a view.
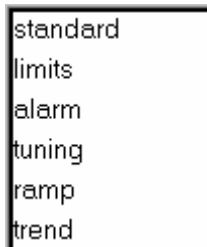
1.2   Analog Edit Dialog Box

An analog edit dialog box is displayed whenever you click a user-editable analog value. Variable Min and Max values are enforced.

To enter a value, you can:

- edit the value directly in the edit field

- type in a value using the physical keyboard

- type in a value using the electronic keyboard

- use the slider control, or

- click any of the four incremental buttons

File Name: @Common_AnalogInput.PDL
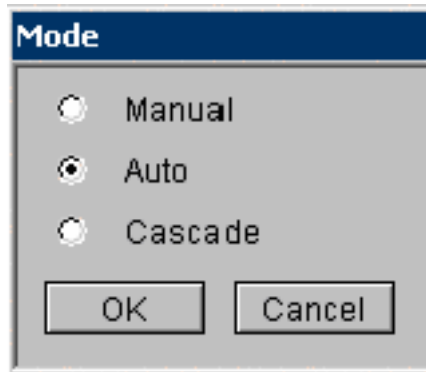
1.3   Discrete Edit Dialog Box

A discrete edit dialog box is displayed whenever you click on a user-editable discrete value. There are three versions (2 state, 3 state, and 4 state). The number of possible variable states determines which box is displayed. Examples are shown below:

2 State Edit Box:
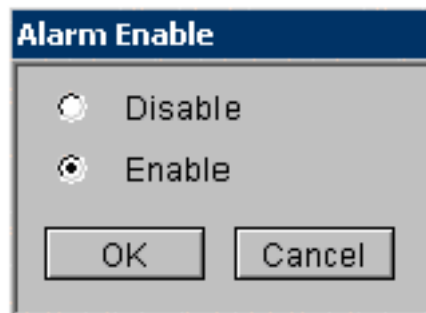
File Name: @Common_MultipleDiscreteInput.PDL

3 State Edit Box:

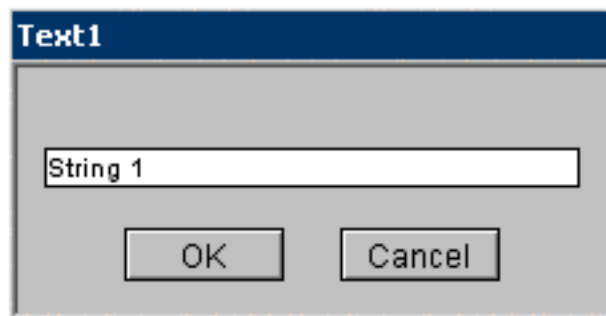
File Name: @Common_DiscreteInput3State.PDL

4 State Edit Box:

File Name: @Common_DiscreteInput4State.PDL

1.4 Text Edit Dialog Box

A text edit box is displayed whenever you click on a user-editable text value.

File Name: @Common_TextInput.PDL

1.5   PCS 7 External Tag Count

A single 505 tag is mapped into a PCS 7 tag structure. The PCS 7 tag structure consists of a collection of internal and external tags. PCS 7 is licensed based on the external tag count. For estimation purposes, the following table documents the relationship between a 505 tag type, and the number of external PCS 7 tags that will be created.

| 505 Tag Type	PCS 7 Tag Structure	Number of external tags per PCS 7 tag structure
AI	505_AI	16
AO	505_AO	5
DI	505_DI	4
DI10	505_DI10	5
DO	505_DO	5
DO10	505_DO10	15
VLV1	505_VLV1	10
VLV2	505_VLV2	10
RMTR	505_RMTR	10
MTR1	505_MTR1	10
MTR2	505_MTR2	10
CALC	505_CALC	5
IVAR	505_IVAR	5
TMR	505_TMR	5
CTR	505_CTR	4
LOOP	505_LOOP	21
TEXT	505_TEXT	4
PLC	505_PLC	8

1.6   Operator Change Confirmation

DBA adds a **ConfirmChange** extended attribute for each function block instance (See the DBA help file for details). This controls whether operator actions require a confirmation step or not.

If **ConfirmChange** is FALSE (its default value) then any type of discrete operator change (for example, Auto/Manual, Start Motor, Open Valve, etc.) is immediately made without further confirmation requirements.

If **ConfirmChange** is TRUE, then any type of discrete operator change displays either the **Discrete Input Dialog** box or a **Confirmation** box, and requires the operator to select and/or confirm the request. Similarly, any floating-point operator change can only be made via the Analog Input Dialog, and confirmed with its OK button.

In either case, an entry in the operator's log is always made for any operation that involves a write to the controller.

In addition, if **ConfirmChange** is FALSE, any faceplate bargraph that is editable by the user also includes a set of four quick-change buttons to make immediate step changes to the bargraph value. These make step changes of either -5%, -1%, 1%, or 5% of configured span. The quick-change buttons are not displayed if **ConfirmChange** is TRUE.
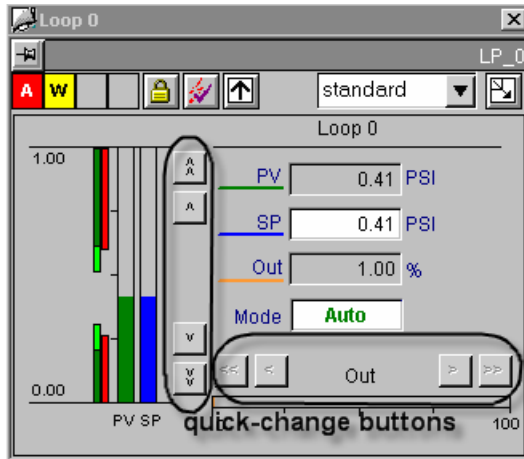
1.7 Synchronization and Persistance of HMI Tag Values

A feature of the PCS 7 HMI is the ability to synchronize and persist arbitrary internal WinCC tag values.

The synchronization feature will guarantee that internal tag values remain consistent between redundant server partners in a redundant OS server architecture.

The persistence feature will preserve tag values through a restart of the WinCC runtime, or a reboot of the OS server.   Without this feature, internal tag values are always initialized to their configured "start value". This feature can be used on single station nodes, single OS server nodes, or redundant OS server nodes.

The synchronization and persistence features are not required for external tag values since those tag values are already persisted in the controller.

The synchronization and persistence configuration is stored in a CSV file (**SyncPersistTags.csv**) in the **RuntimeFramework** directory in the WinCC project directory.

CSV File Format

The CSV file format allows blank lines and comment lines which are designated by a leading semicolon (;). The CSV file must have a header with a leading ":TAG"(case does not matter) and at least another column with PERSIST or SYNC (case does not matter). If the option column is missing, then none of the tags will be processed for that option. For example, if the PERSIST column exists, but the SYNC column does NOT, then the tags will only be processed for PERSIST. The TAG column should contain the full WinCC tagname. The option columns should have the value of 0, or 1. Any other value including a blank will ENABLE the option for that tag.

Here is an example:

; This is a comment

: Tag , PERSIST, SYNC

Tag1

Tag2, 1, 0

Tag3, 0, 1

Tag4, 1, 1

In this example:

Tag1 will be persisted and synchronized.

Tag2 will be persisted.

Tag3 will be synchronized.

Tag4 will be persisted and synchronized.

1.8 Disabled Alarm List

A disabled alarm list is available that displays all disabled and locked alarms in the system.

|	Date	Time	Priori	Source	Event	Status	Info	C
1	30/08/05	15:47:11.359	0	SL	Descriptor Low Low Alarm Disabled	C		
2	30/08/05	15:47:12.406	0	SL	Descriptor High Alarm Disabled	C		
3	30/08/05	15:47:13.671	0	SL	Descriptor High High Alarm Disabled	C		
4	30/08/05	15:47:20.093	0	BV1OUT	Descriptor Valve Feedback Failure Alarm Disabled	C		
5	30/08/05	15:47:24.796	0	DA	Descriptor Discrete Alarm Disabled	C		
6	30/08/05	15:47:32.453	0	M1OUT	Descriptor Motor Feedback Failure Alarm Locked	C		
7	30/08/05	15:47:35.406	0	MALM	Failure to start Alarm Locked	C		
8	30/08/05	15:47:35.406	0	MALM	Failure to stop Alarm Locked	C		
9	30/08/05	15:47:35.406	0	MALM	Uncommanded stop or rejected start command (due to	C		
▶ 10	30/08/05	15:47:35.406	0	MALM	Discrete Alarm Locked	C		

It is displayed by clicking the **disabled alarm list** button on the PCS 7 alarm logging status bar.

2 Symbols

2.1 Symbols

Each tag structure and faceplate has an associated symbol. You can place these symbols on your process graphics to represent a control object. At runtime, when you click on the symbol, the associated faceplate is displayed and tied to the corresponding instance of the 505 object.

The PCS 7/505 OS Option symbols are shown in the picture below:
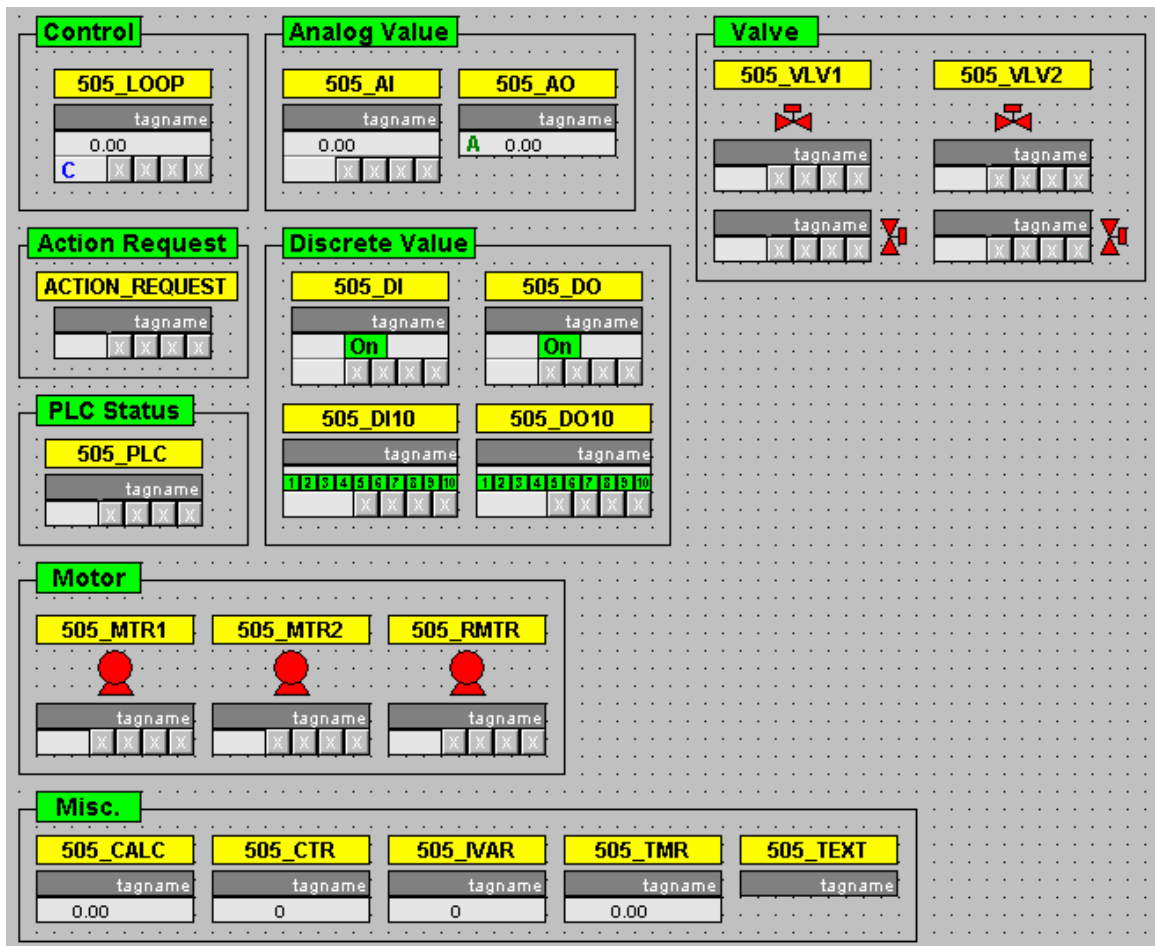
The 505 symbols are provided on picture "@@505Typicals.pdl". PCS 7/505 DBA uses these symbols as shown to create instances associated with the type found in the 505. The symbols on this picture can be considered "master" symbols. These symbols use a naming convention of @505_AI/1. When DBA creates an instance of this symbol on a picture, the symbol name is set equal to the tagname of the 505 tag. DBA manages these symbol names and they should not be edited.

When a symbol is copied or cut and then pasted onto the same picture or another picture, the Graphics Designer changes the name of the symbol. For example @505_AI becomes 505_AI1; if another instance is pasted, the name becomes 505_AI2. It is important that the symbol names of symbol instances created by DBA not be changed. DBA manages the creation and deletion of the symbol instances that it creates. If you cut and paste a symbol instance onto the same picture created by DBA, the next time DBA runs it adds another instance of this symbol. If you need to move a symbol, drag and drop it to ensure that the name does not change.

3　Tag Structures and Faceplates

3.1　Tag Structures and Faceplates

Tag structures are the interface between PCS 7 OS and the outside world. Each tag structure is closely modeled after the attributes of the appropriate 505 tags. In addition, several tags in each tag structure have been added to support general PCS 7 OS functions (EventState, EventRaw, EventTrans, etc.).

The table below lists the 505 tag names with their descriptions and their corresponding tag structures in PCS 7 OS.

505 Tag Name	Description	PCS 7 Tag Structure
AI	Analog Input	505_AI
AO	Analog Output	505_AO
CALC	Calc Variable	505_CALC
CTR	Counter	505_CTR
DI	Digital Input (including 1 bit and multiple bit)	505_DI
DI10	10 bit Discrete Input	505_DI10
DO	Discrete Output	505_DO
DO10	10 Bit Discrete Output	505_DO10
IVAR	Integer Variable	505_IVAR
LOOP	Loop	505_LOOP
MTR1	Non-reversible Motor	505_MTR1
MTR2	Two Speed Motor	505_MTR2
RMTR	Reversible Motor	505_RMTR
TEXT	Three text strings	505_TEXT
TMR	Timer	505_TMR
VLV1	Single Feedback Valve	505_VLV1
VLV2	Dual Feedback Valve	505_VLV2
N/A	505 PLC	505_PLC
N/A	Action Request	ACTION_REQUEST

Each tag structure in PCS 7 OS is represented by a faceplate that displays the appropriate attributes for that tag. Faceplates that include live analog values also include a trend display with pre-configured online trend variables that require no further user configuration. Multiple faceplates can be viewed simultaneously.

3.2   505_AI

Standard View

The standard view for the 505_AI faceplate displays information on PV, Target, and alarm limits.
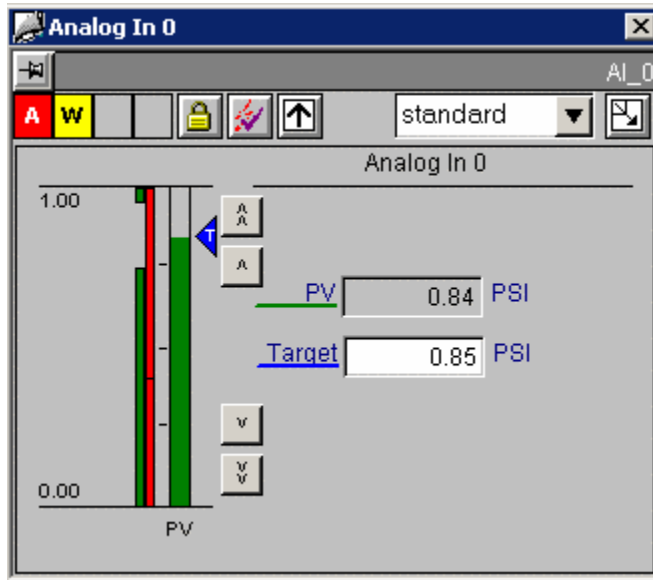
Description	Type	Tag
Description	Static Text	.#comment
PV Value	Customized Object	.PV
PV Units	Static Text	.PV#unit
Target Value	Customized Object	.Target
Target Units	Static Text	.PV#unit
Alarm Bar Graphs	Customized Object	.HD_Lim, .LD_Lim, .HH_Lim, .H_Lim, .L_Lim, .LL_Lim,
PV Target Bar Graphs	Customized Object	.PV, .Target

File Name: @PG_505_AI_STANDARD.PDL

Limits View

The limits view for the 505_AI faceplate displays information on alarm limits.

Description	Type	Tag
High High Alarm Enable	Customized Object	.DisableRaw
High High Alarm Limit	Customized Object	.HH_Lim
High High Alarm Units	Static Text	.PV#unit
High Alarm Enable	Customized Object	.DisableRaw
High Alarm Limit	Customized Object	.H_Lim
High Alarm Units	Static Text	.PV#unit
Low Alarm Enable	Customized Object	.DisableRaw
Low Alarm Limit	Customized Object	.L_Lim
Low Alarm Units	Static Text	.PV#unit
Low Low Alarm Enable	Customized Object	.DisableRaw
Low Low Alarm Limit	Customized Object	.LL_Lim
Low Low Alarm Units	Static Text	.PV#unit
High Deviation Alarm Enable	Customized Object	.DisableRaw
High Deviation Alarm Limit	Customized Object	.HD_Lim
High Deviation Alarm Units	Static Text	.PV#unit
Low Deviation Alarm Enable	Customized Object	.DisableRaw
Low Deviation Alarm Limit	Customized Object	.LD_Lim
Low Deviation Alarm Units	Static Text	.PV#unit
Rate Of Change Alarm Enable	Customized Object	.DisableRaw
Rate Of Change Alarm Limit	Customized Object	.ROC_Lim
Rate Of Change Alarm Units	Static Text	.PV#unit
Bad Transmitter Alarm	Customized Object	.DisableRaw

File Name: @PCS7_505_ALARM_CONFIG.PDL

Alarm View

The alarm view for the 505_AI faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.
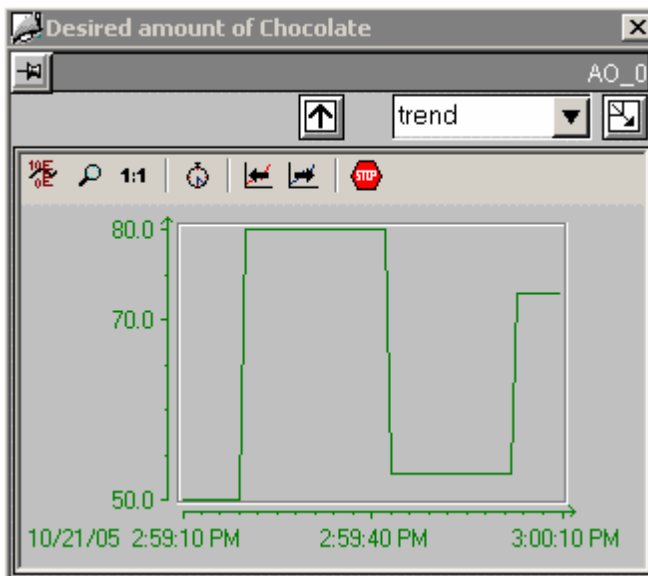

File Name: @PCS7_ALARM.PDL

Trend View

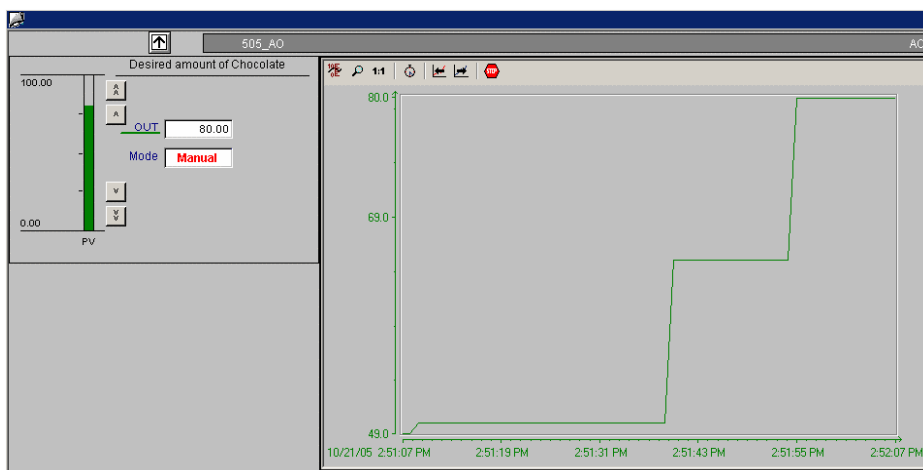The trend view for the 505_AI faceplate displays information in graph form on PV and Target.

The trend view is the standard view for displaying trends for the function block. For the 505_AI function block the trend view displays the process value (PV), and target (Target). Only one trend window is needed for each function block type. A script assigns proper tags to the trend control at runtime.

The trend control itself is actually the standard PCS 7 OS Trend Control. See the PCS 7 OS User Documentation for details on its operation.
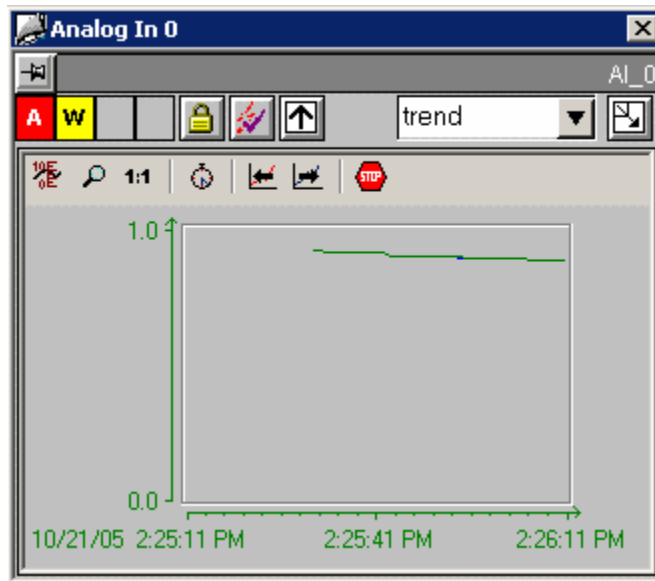
File Name: @PCS7_505_TREND_PV_TARGET.PDL
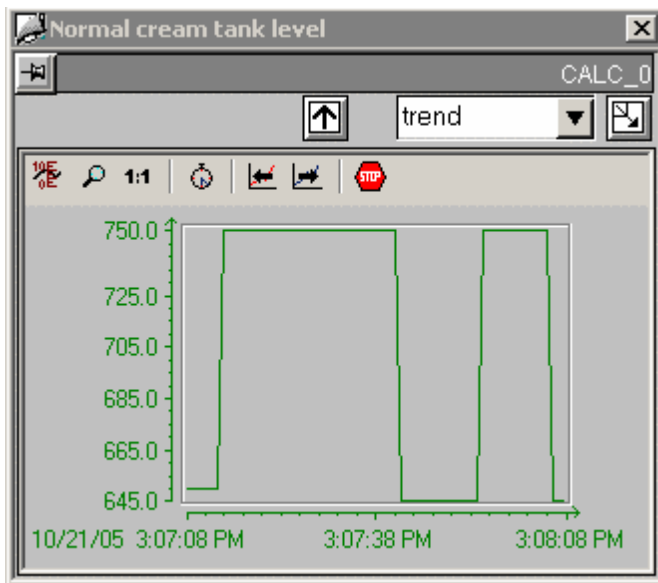
Loop Display (Small Trend)
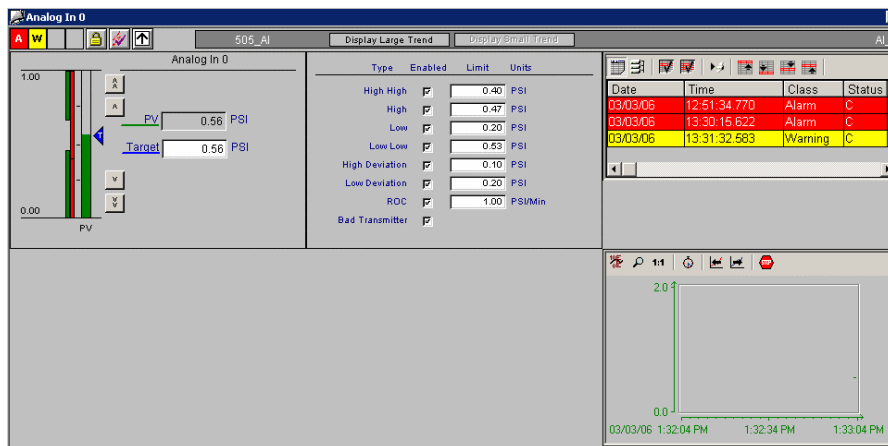
Loop Display (Large Trend)
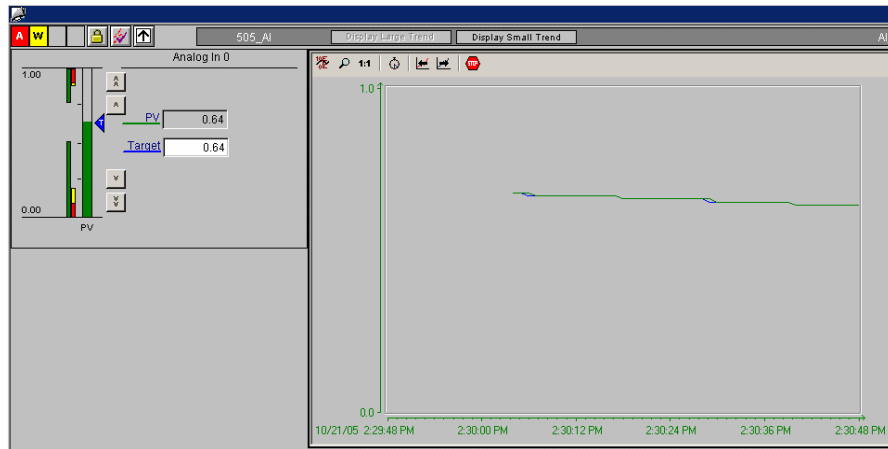
3.3   505_AO

Standard View

The standard view for the 505_AO faceplate displays information on Out and Mode.
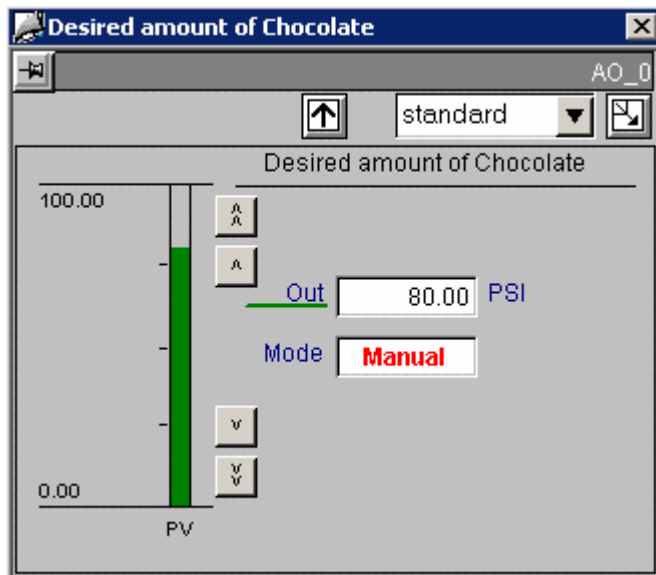
Description	Type	Tag
Description	Static Text	.#comment
Out Value	Customized Object	.Out
Out Units	Static Text	.Out#unit
Mode	Customized Object	.Mode
Out Bar Graph	Customized Object	.Out

File Name: @PG_505_AO_STANDARD.PDL

Trend View

> The trend view for the 505_AO faceplate displays information in graph form on Out.
>
> The trend view is the standard view for displaying trends for the function block. For the 505_AO function block the trend view displays the Out value (Out). Only one trend window is needed for each function block type. A script assigns proper tags to the trend control at runtime.
>
> The trend control itself is actually the standard PCS 7 OS Trend Control. See the PCS 7 OS User Documentation for details on its operation.



> File Name: @PCS7_505_TREND_OUT.PDL

Loop Display

3.4   505_CALC

Standard View

The standard view for the 505_CALC faceplate displays information on Value.
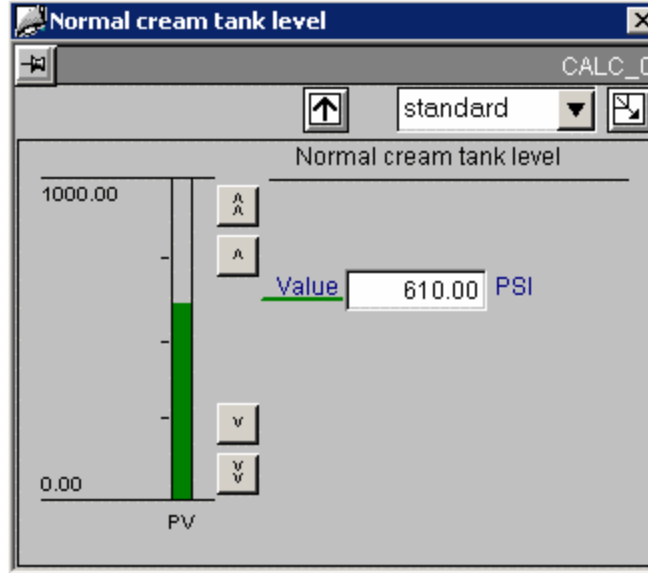
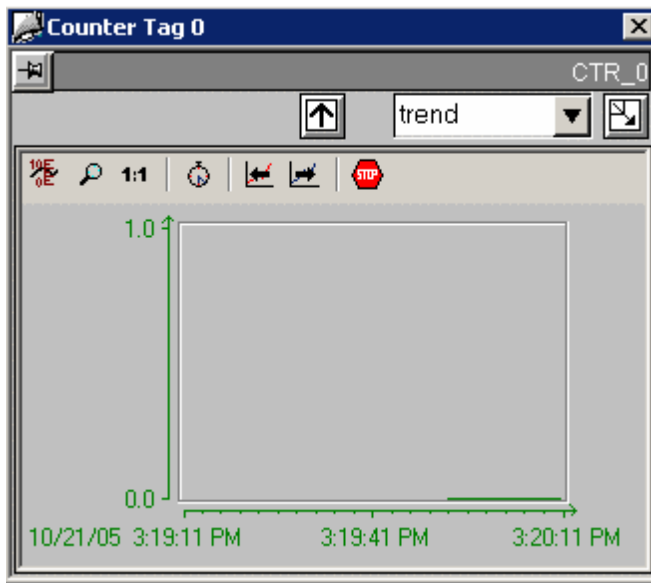| Description	Type	Tag
Description	Static Text	.#comment
Value	Customized Object	.Value
Value Units	Static Text	.Value#unit
Value Bar Graph	Customized Object	.Value

File Name: @PG_505_CALC_STANDARD.PDL

Trend View

The trend view for the 505_CALC faceplate displays information in graph form on Value.

The trend view is the standard view for displaying trends for the function block. For the 505_CALC function block the trend view displays the Value tag (Value). Only one trend window is needed for each function block type. A script assigns proper tags to the trend control at runtime.

The trend control itself is actually the standard PCS 7 OS Trend Control. See the PCS 7 OS User Documentation for details on its operation.

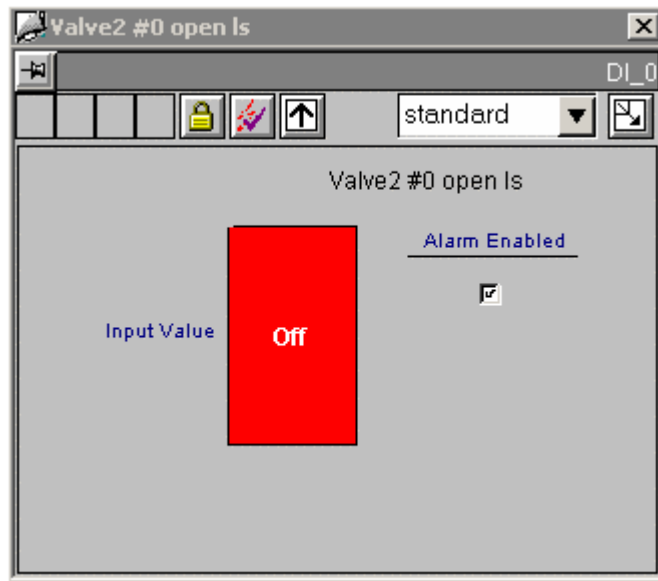

File Name: @PCS7_505_TREND_VALUE.PDL

Loop Display
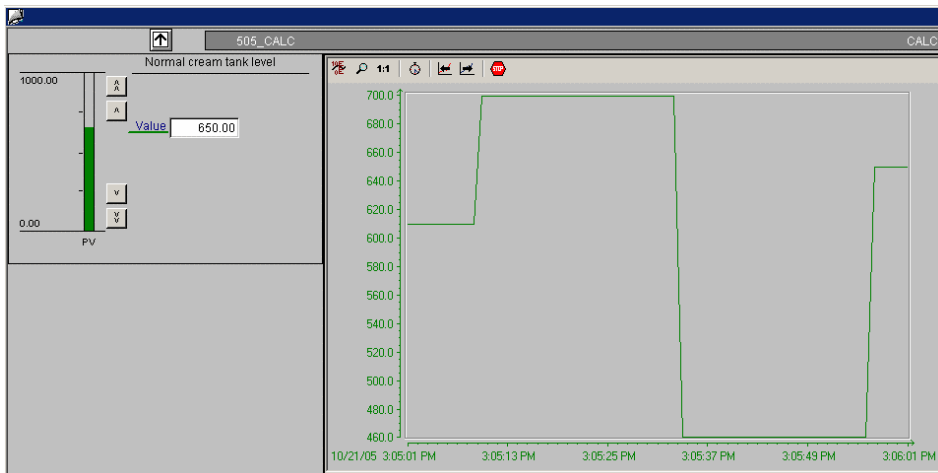
3.5   505_CTR

Standard View

The standard view for the 505_CTR faceplate displays information on Value and Preset.
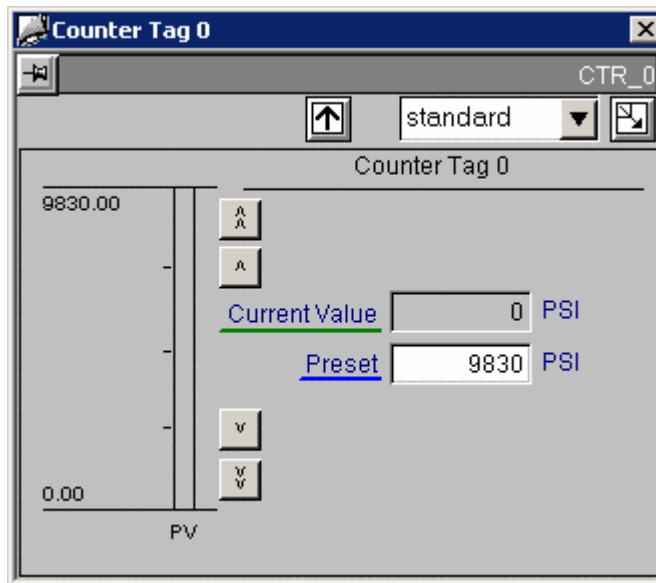
Description	Type	Tag
Description	Static Text	.#comment
Value	Customized Object	.Value
Value Units	Static Text	.Value#unit
Preset	Customized Object	.Value_EUMax
Preset Units	Static Text	.Value#unit
Value Bar Graph	Customized Object	.Value

File Name: @PG_505_CTR_STANDARD.PDL

Trend View

The trend view for the 505_CTR faceplate displays information in graph form on Value.

The trend view is the standard view for displaying trends for the function block. For the 505_CTR function block the trend view displays the Value tag (Value). Only one trend window is needed for each function block type. A script assigns proper tags to the trend control at runtime.

The trend control itself is actually the standard PCS 7 OS Trend Control. See the PCS 7 OS User Documentation for details on its operation.

File Name: @PCS7_505_TREND_VALUE.PDL

Loop Display
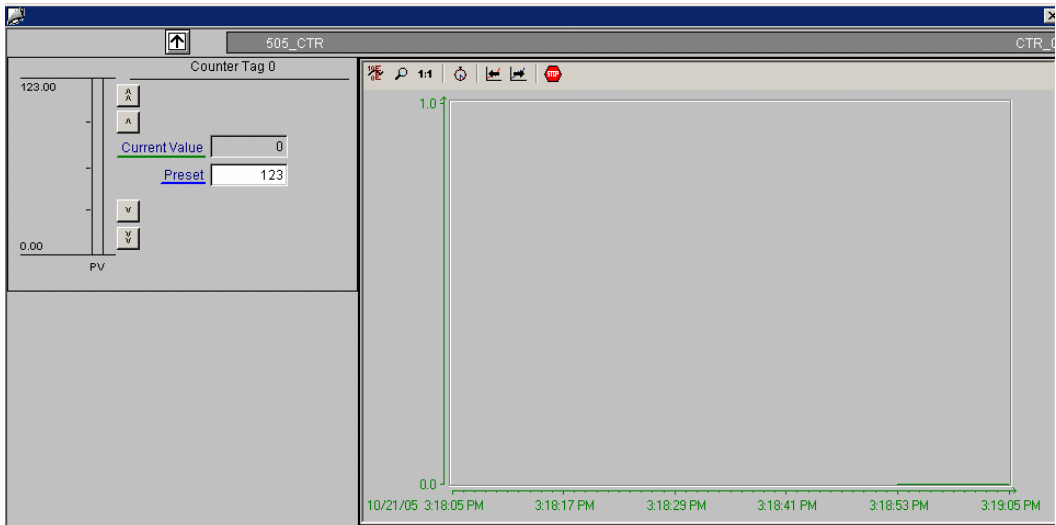
3.6   505_DI

Standard View

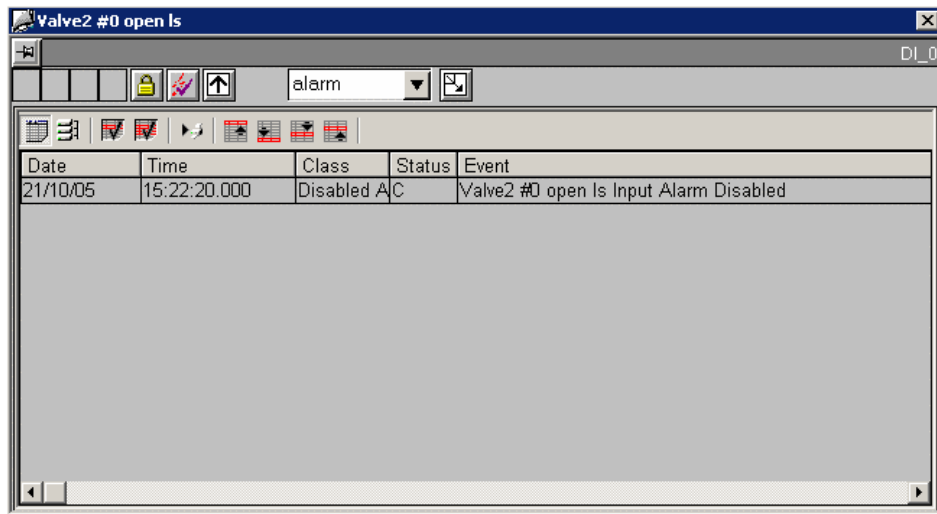The standard view for the 505_DI faceplate displays information on Input Value and alarm settings.

Description	Type	Tag
Description	Static Text	.#comment
DI	Static Text	.EventRaw#1
Alarm Enable	Customized Object	.DisableRaw

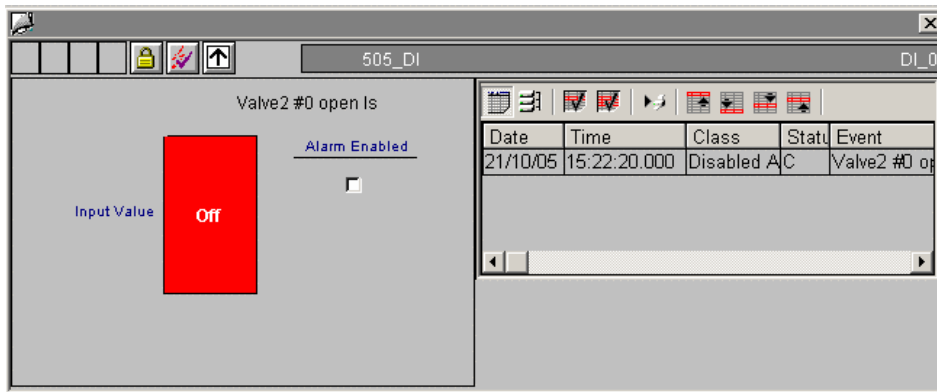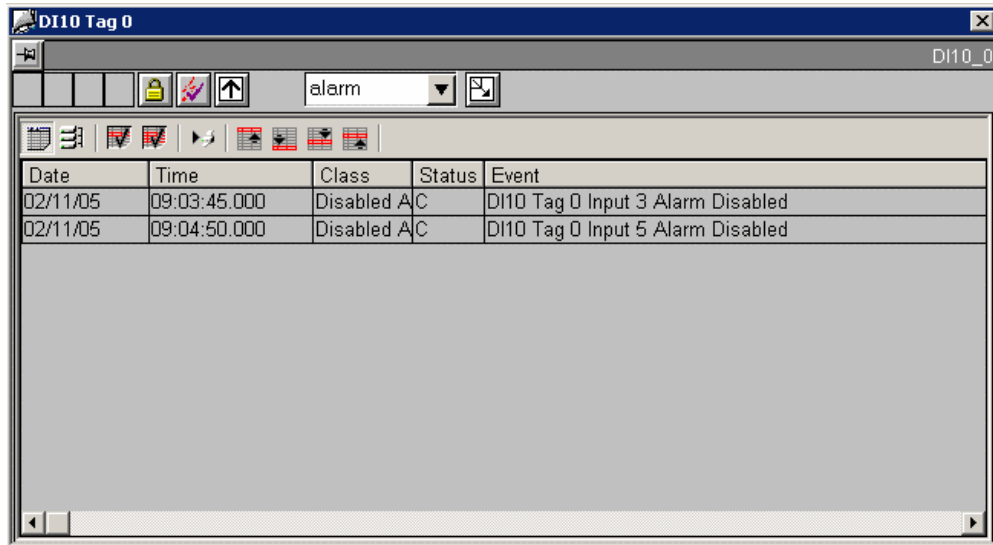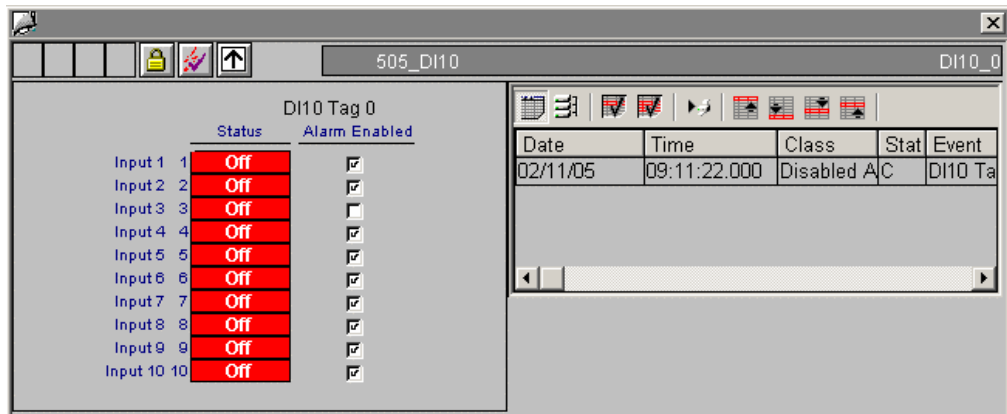File Name: @PG_505_DI_STANDARD.PDL

Alarm View

The alarm view for the 505_DI faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.
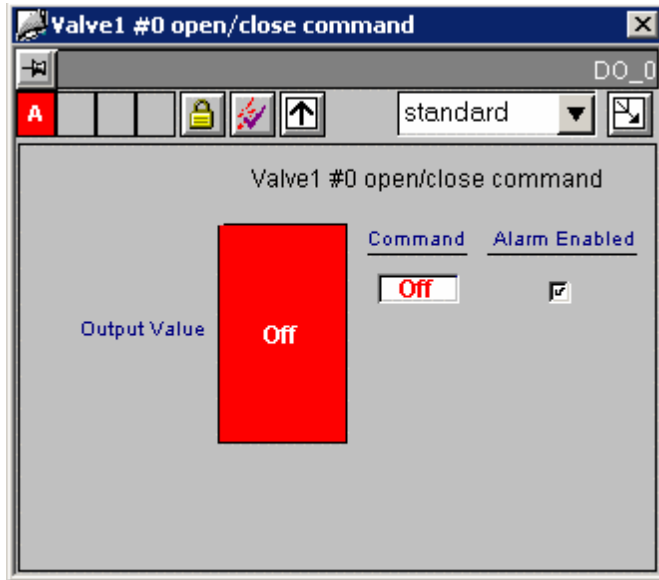
File Name: @PCS7_ALARM.PDL

Loop Display

3.7 505_DI10

Standard View

The standard view for the 505_DI10 faceplate displays information on Inputs and alarm settings.
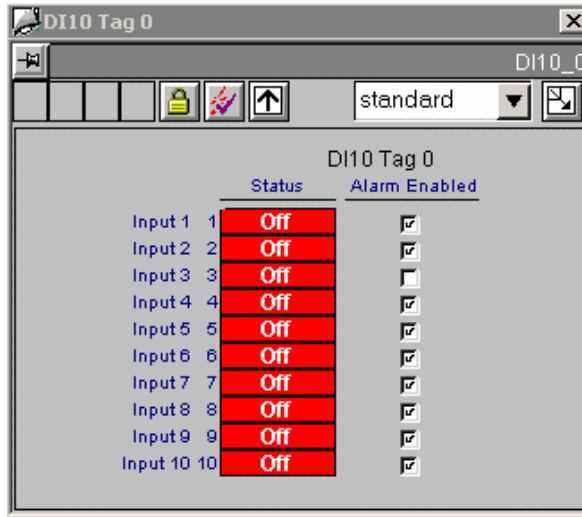
Description	Type	Tag
Description	Static Text	.#comment
DI1	Static Text	.EventRaw#1
DI2	Static Text	.EventRaw#1
DI3	Static Text	.EventRaw#1
DI4	Static Text	.EventRaw#1
DI5	Static Text	.EventRaw#1
DI6	Static Text	.EventRaw#1
DI7	Static Text	.EventRaw#1
DI8	Static Text	.EventRaw#1
DI9	Static Text	.EventRaw#1
DI10	Static Text	.EventRaw#1
Alarm Enable1	Customized Object	.DisableRaw
Alarm Enable2	Customized Object	.DisableRaw
Alarm Enable3	Customized Object	.DisableRaw
Alarm Enable4	Customized Object	.DisableRaw
Alarm Enable5	Customized Object	.DisableRaw
Alarm Enable6	Customized Object	.DisableRaw
Alarm Enable7	Customized Object	.DisableRaw
Alarm Enable8	Customized Object	.DisableRaw
Alarm Enable9	Customized Object	.DisableRaw
Alarm Enable10	Customized Object	.DisableRaw

File Name: @PG_505_DI10_STANDARD.PDL

Alarm View

The alarm view for the 505_DI10 faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.

File Name: @PCS7_ALARM.PDL

Loop Display

3.8   505_DO

Standard View

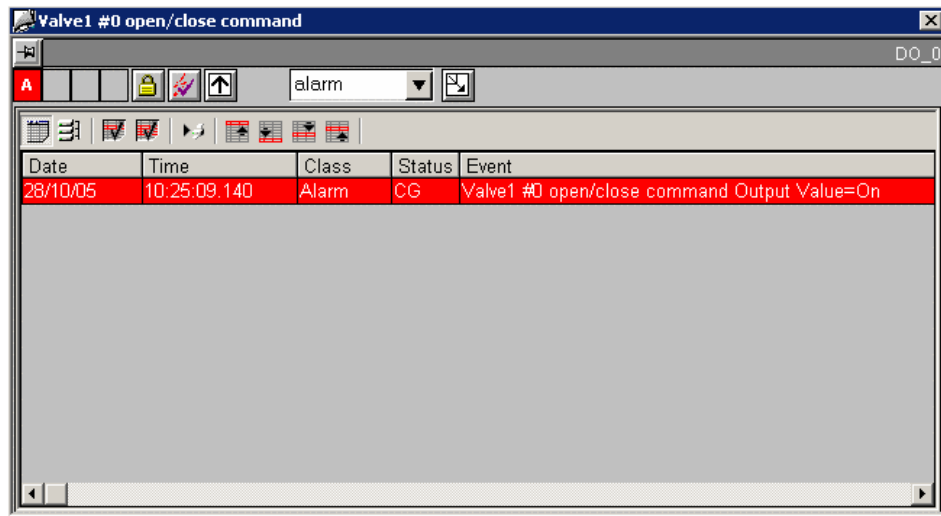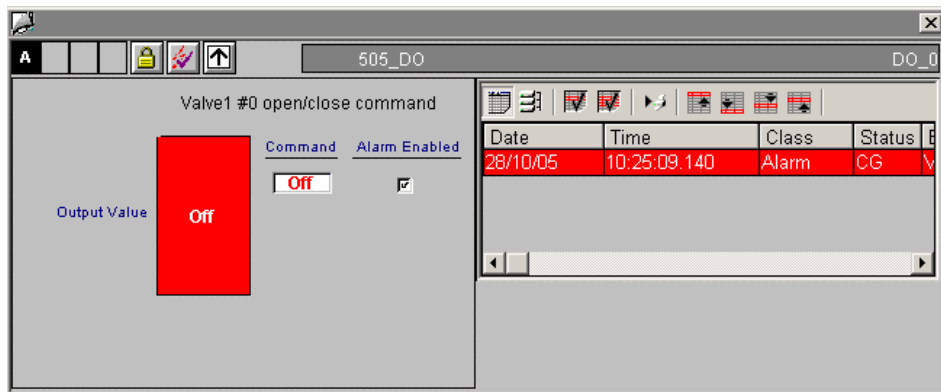The standard view for the 505_DO faceplate displays information on Output Value and alarm settings.

Description	Type	Tag
Description	Static Text	.#comment
DO (status)	Static Text	.EventRaw#1
DO (command)	Customized Object	.DO
Alarm Enable	Customized Object	.DisableRaw

File Name: @PG_505_DO_STANDARD.PDL

Alarm View

The alarm view for the 505_DO faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.

File Name: @PCS7_ALARM.PDL

Loop Display

3.9   505_DO10

Standard View

The standard view for the 505_DO10 faceplate displays information on Outputs and alarm settings.
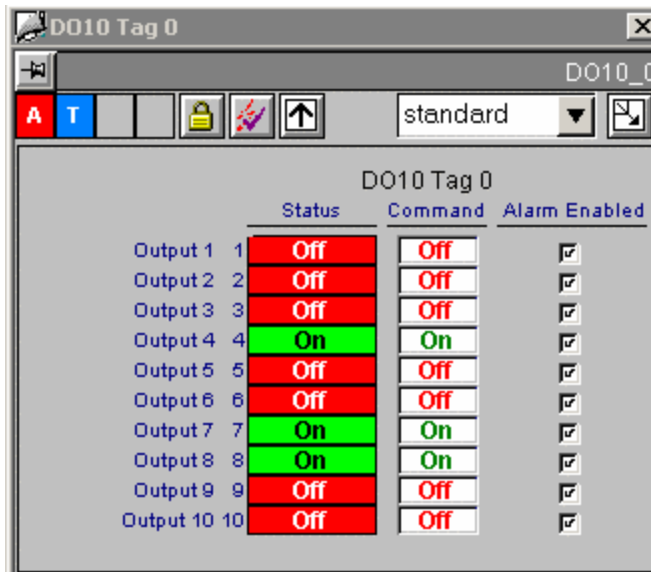
Description	Type	Tag
Description	Static Text	.#comment
DO1 (status)	Static Text	.EventRaw#1
DO2 (status)	Static Text	.EventRaw#1
DO3 (status)	Static Text	.EventRaw#1
DO4 (status)	Static Text	.EventRaw#1
DO5 (status)	Static Text	.EventRaw#1
DO6 (status)	Static Text	.EventRaw#1
DO7 (status)	Static Text	.EventRaw#1
DO8 (status)	Static Text	.EventRaw#1
DO9 (status)	Static Text	.EventRaw#1
DO10 (status)	Static Text	.EventRaw#1
DO1 (command)	Customized Object	.DO1
DO2 (command)	Customized Object	.DO2
DO3 (command)	Customized Object	.DO3
DO4 (command)	Customized Object	.DO4
DO5 (command)	Customized Object	.DO5
DO6 (command)	Customized Object	.DO6
DO7 (command)	Customized Object	.DO7
DO8 (command)	Customized Object	.DO8
DO9 (command)	Customized Object	.DO9

DO10 (command)	Customized Object	.DO10
Alarm Enable1	Customized Object	.DisableRaw
Alarm Enable2	Customized Object	.DisableRaw
Alarm Enable3	Customized Object	.DisableRaw
Alarm Enable4	Customized Object	.DisableRaw
Alarm Enable5	Customized Object	.DisableRaw
Alarm Enable6	Customized Object	.DisableRaw
Alarm Enable7	Customized Object	.DisableRaw
Alarm Enable8	Customized Object	.DisableRaw
Alarm Enable9	Customized Object	.DisableRaw
Alarm Enable10	Customized Object	.DisableRaw

File Name: @PG_505_DO10_STANDARD.PDL

Alarm View

The alarm view for the 505_DO10 faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.

File Name: @PCS7_ALARM.PDL

Loop Display

3.10   505_IVAR

Standard View

The standard view for the 505_IVAR faceplate displays information on Value.
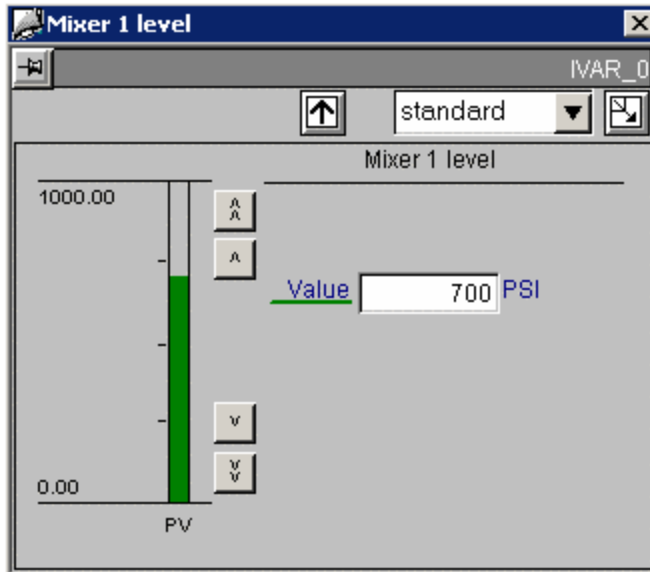
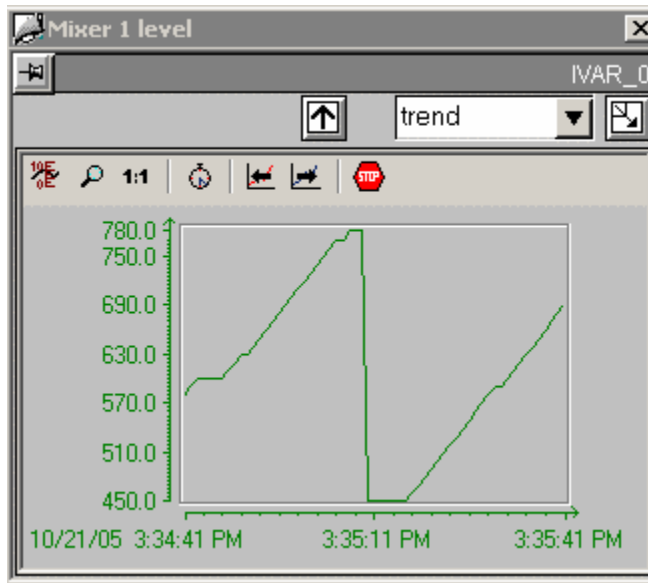| Description	Type	Tag
Description	Static Text	.#comment
Value	Customized Object	.Value
Value Units	Static Text	.Value#unit
Value Bar Graph	Customized Object	.Value

File Name: @PG_505_IVAR_STANDARD.PDL

Trend View

The trend view for the 505_IVAR faceplate displays information in graph form on Value.

The trend view is the standard view for displaying trends for the function block. For the 505_IVAR function block the trend view displays the Value tag (Value). Only one trend window is needed for each function block type. A script assigns proper tags to the trend control at runtime.

The trend control itself is actually the standard PCS 7 OS Trend Control. See the PCS 7 OS User Documentation for details on its operation.

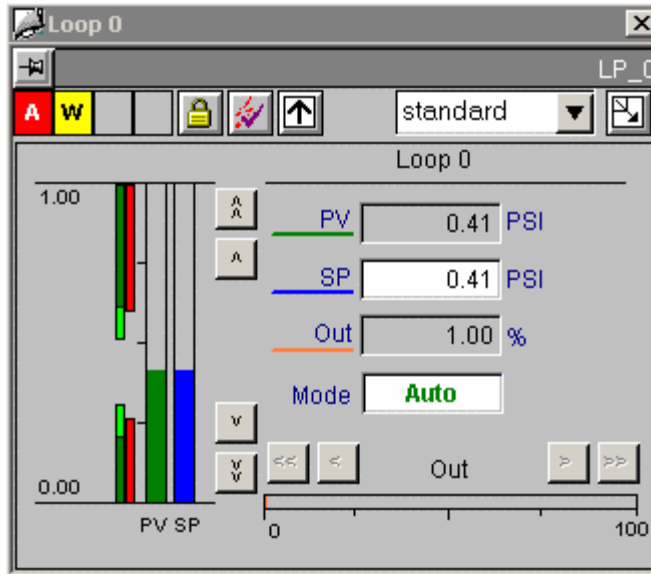

File Name: @PCS7_505_TREND_VALUE.PDL
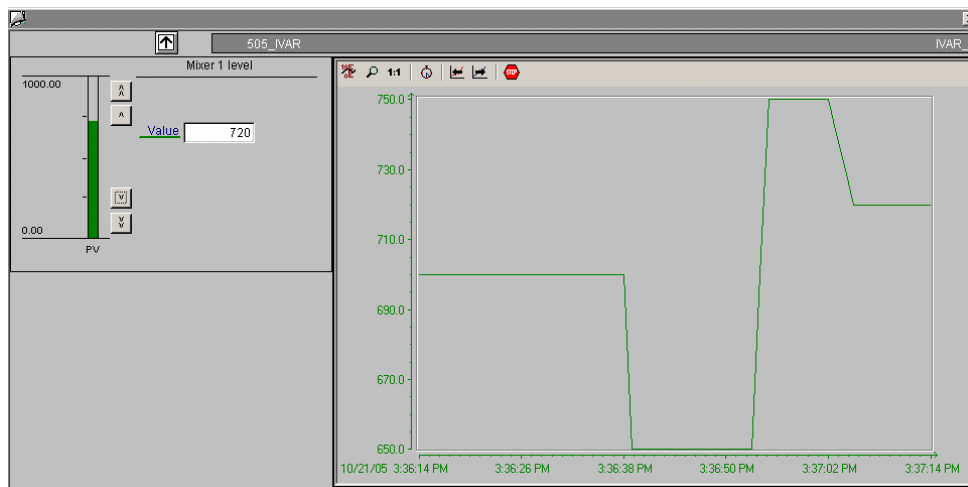
Loop Display

3.11 505_LOOP

Standard View

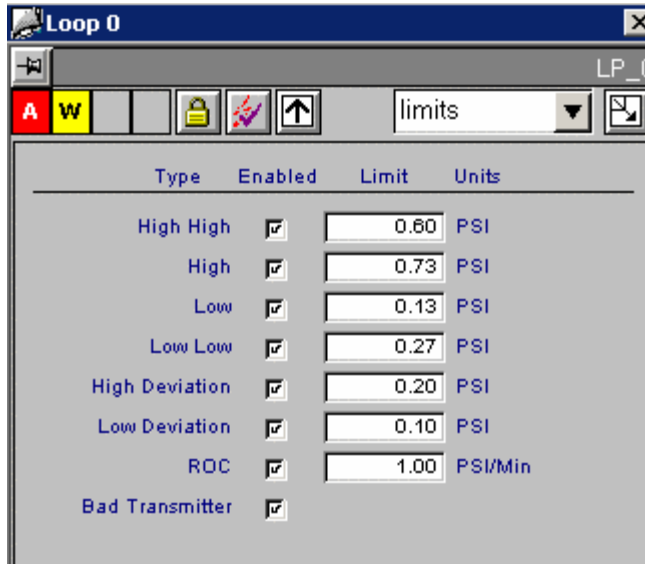The standard view for the 505_LOOP faceplate displays information on PV, SP, Out, Mode, and alarm limits.

Description	Type	Tag
Description	Static Text	.#comment
PV Value	Customized Object	.PV
PV Units	Static Text	.PV#unit
SP Value	Customized Object	.SP
SP Units	Static Text	.PV#unit
Out Value	Customized Object	.Out
Out Units	Static Text	.Out#unit
Mode	Customized Object	.Mode
Out Bar Graph	Customized Object	.Out
Alarm Bar Graphs	Customized Object	.HD_Lim, .LD_Lim, .HH_Lim, .H_Lim, .L_Lim, .LL_Lim,
PV SP Bar Graphs	Customized Object	.PV, .SP

File Name: @PG_505_LOOP_STANDARD.PDL

Limits View

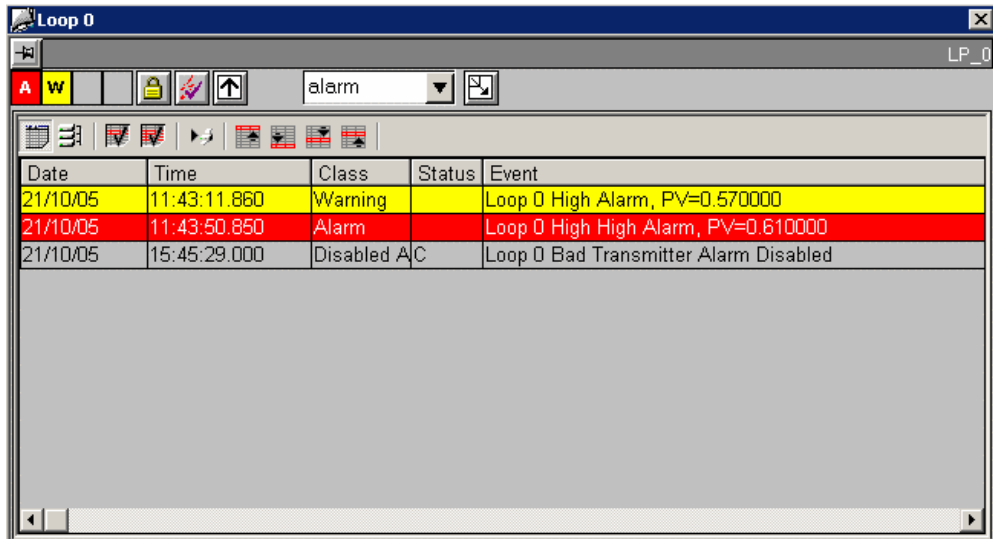The limits view for the 505_LOOP faceplate displays information on alarm limits.

Description	Type	Tag
High High Alarm Enable	Customized Object	.DisableRaw
High High Alarm Limit	Customized Object	.HH_Lim
High High Alarm Units	Static Text	.PV#unit
High Alarm Enable	Customized Object	.DisableRaw
High Alarm Limit	Customized Object	.H_Lim
High Alarm Units	Static Text	.PV#unit
Low Alarm Enable	Customized Object	.DisableRaw
Low Alarm Limit	Customized Object	.L_Lim
Low Alarm Units	Static Text	.PV#unit
Low Low Alarm Enable	Customized Object	.DisableRaw
Low Low Alarm Limit	Customized Object	.LL_Lim
Low Low Alarm Units	Static Text	.PV#unit
High Deviation Alarm Enable	Customized Object	.DisableRaw
High Deviation Alarm Limit	Customized Object	.HD_Lim
High Deviation Alarm Units	Static Text	.PV#unit
Low Deviation Alarm Enable	Customized Object	.DisableRaw
Low Deviation Alarm Limit	Customized Object	.LD_Lim
Low Deviation Alarm Units	Static Text	.PV#unit
Rate Of Change Alarm Enable	Customized Object	.DisableRaw
Rate Of Change Alarm Limit	Customized Object	.ROC_Lim
Rate Of Change Alarm Units	Static Text	.PV#unit
Bad Transmitter Alarm	Customized Object	.DisableRaw

File Name: @PCS7_505_ALARM_CONFIG.PDL

Alarm View

The alarm view for the 505_LOOP faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.

Date	Time	Class	Status	Event
21/10/05	11:43:11.860	Warning		Loop 0 High Alarm, PV=0.570000
21/10/05	11:43:50.850	Alarm		Loop 0 High High Alarm, PV=0.610000
21/10/05	15:45:29.000	Disabled A	C	Loop 0 Bad Transmitter Alarm Disabled

File Name: @PCS7_ALARM.PDL

Tuning View

The tuning view for the 505_LOOP faceplate displays information on tuning parameters.
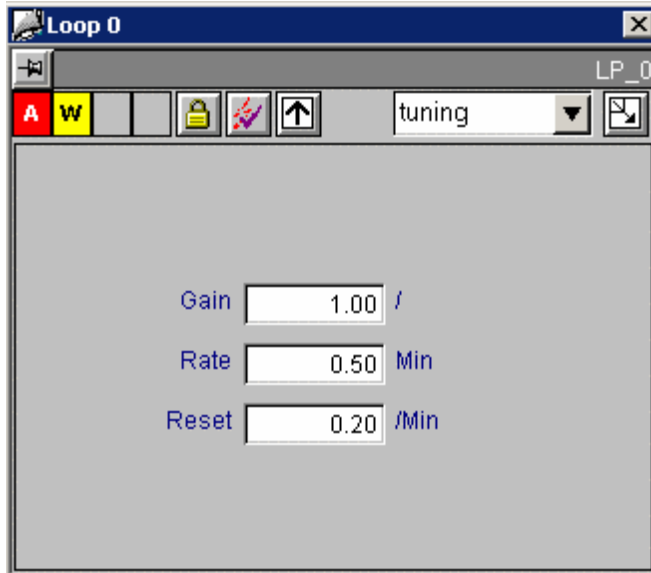
Description	Type	Tag
Gain	Customized Object	.Gain
Gain Units	Static Text	.Gain#unit
Rate	Customized Object	.Rate
Rate Units	Static Text	.Rate#unit
Reset	Customized Object	.Reset
Reset Units	Static Text	.Reset#unit

File Name: @PG_505_LOOP_ TUNING.PDL

Trend View

The trend view for the 505_LOOP faceplate displays information in graph form on PV, SP, and Out.

The trend view is the standard view for displaying trends for the function block. For the 505_LOOP function block the trend view displays the process value (PV), setpoint (SP), and output value (Out). Only one trend window is needed for each function block type. A script assigns proper tags to the trend control at runtime.

The trend control itself is actually the standard PCS 7 OS Trend Control. See the PCS 7 OS User documentation for details on its operation.
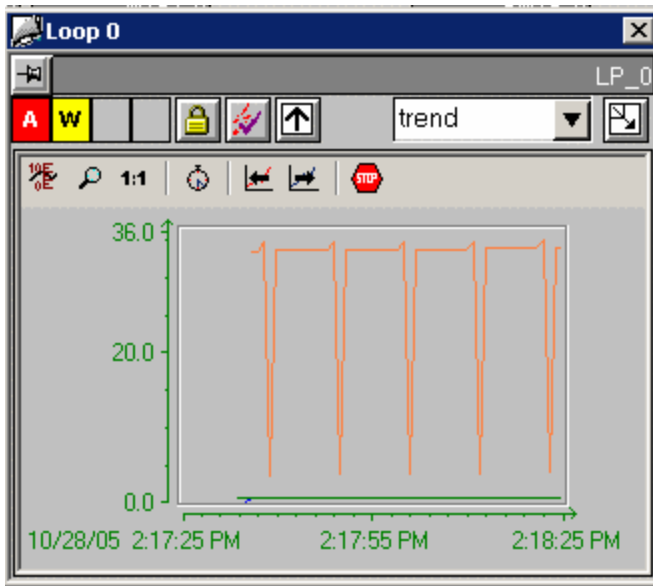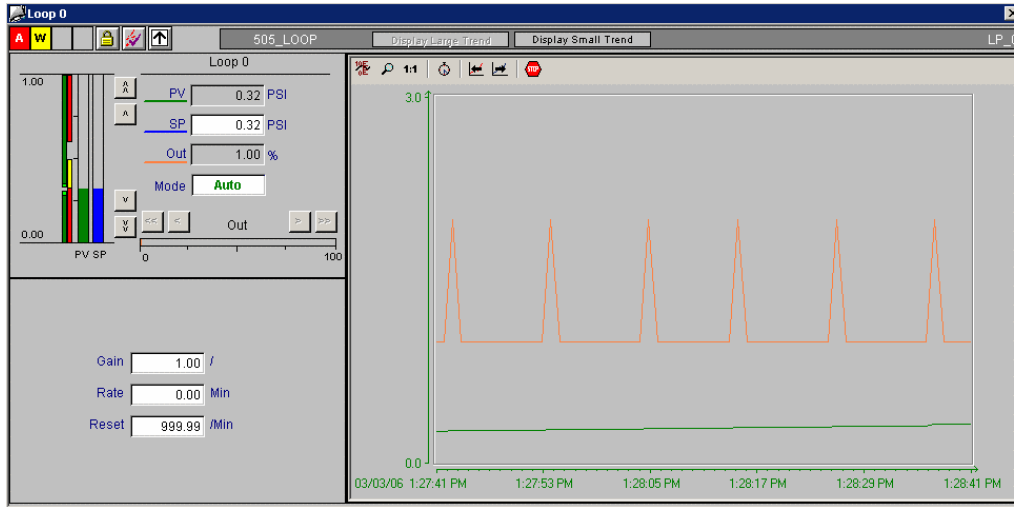

File Name: @PCS7_505_TREND_PV_SP_OUT.PDL
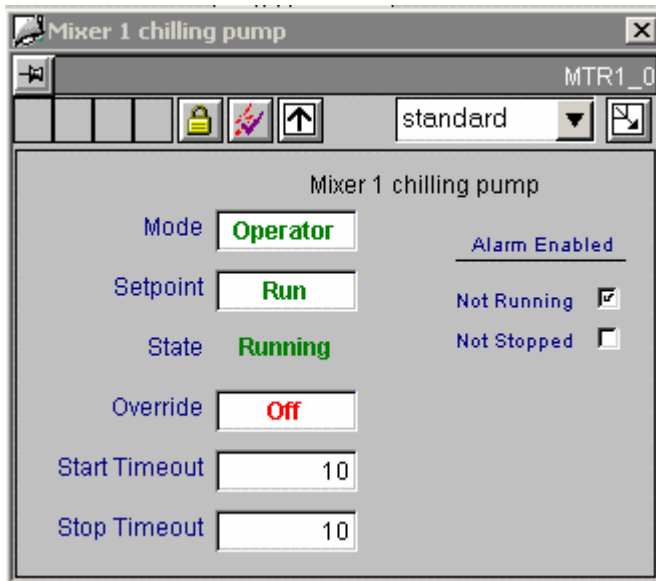
Loop Display (Small Trend)

PCS 7/505 Symbols and Faceplates
A5E00767202-01
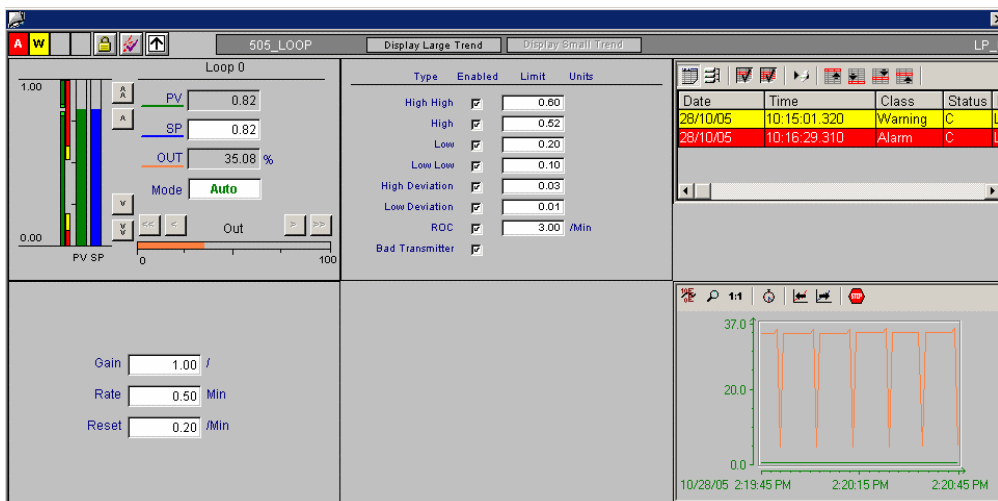
Loop Display (Large Trend)

3.12   505_MTR1

Standard View

The standard view for the 505_MTR1 faceplate displays information on Mode, Setpoint, Status, Override, and alarm settings.


Description	Type	Tag
Description	Static Text	.#comment
Mode	Customized Object	.Mode
Setpoint	Customized Object	.Setpoint
State	Customized Object	.EventRaw#1
Override	Customized Object	.Override
Start Timeout	Customized Object	.Timeout1
Stop Timeout	Customized Object	.Timeout2
Not Running Alarm Enable	Customized Object	.DisableRaw
Not Stopped Alarm Enable	Customized Object	.DisableRaw

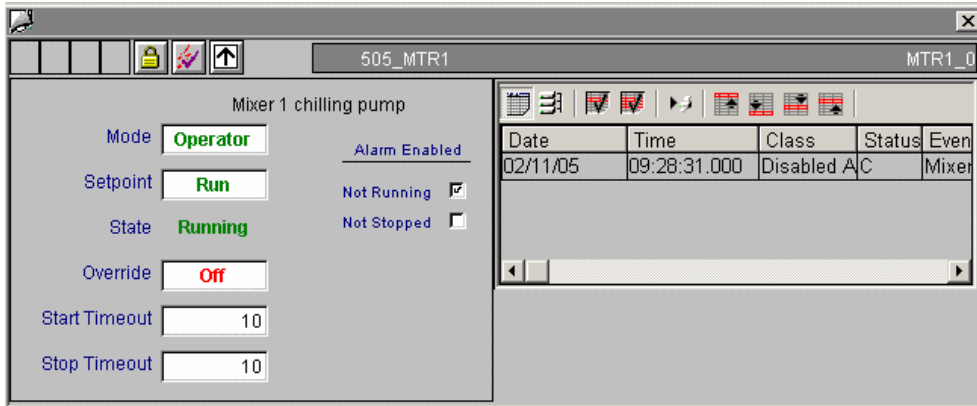File Name: @PG_505_MTR1_STANDARD.PDL

Alarm View

The alarm view for the 505_MTR1 faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.
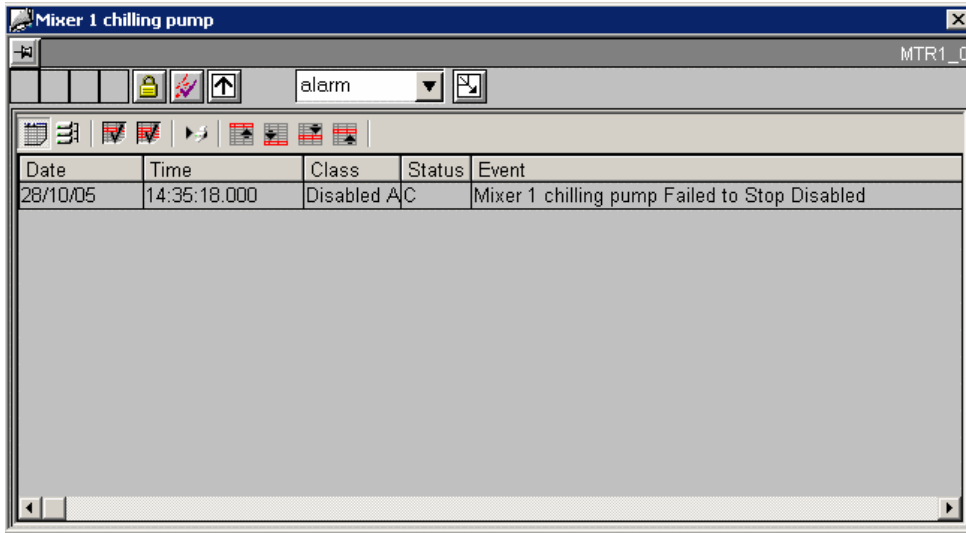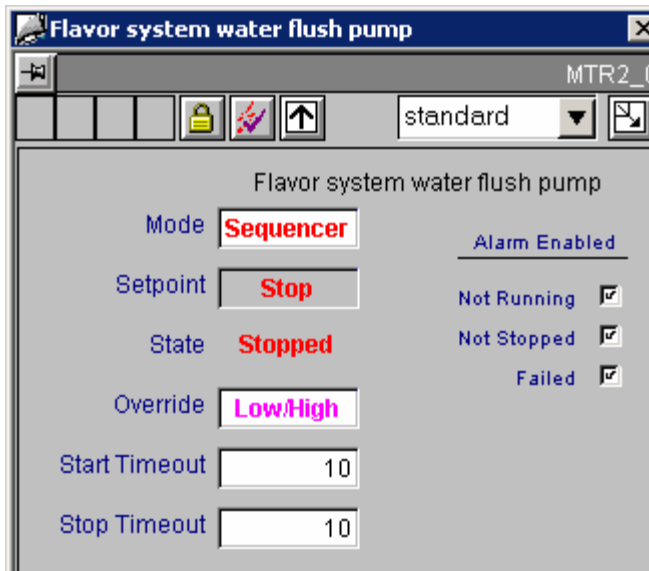

File Name: @PCS7_ALARM.PDL

Loop Display

3.13   505_MTR2

The 505_MTR2 faceplate is identical to the 505_MTR1 faceplate in all respects except filenames, and the fact that the Setpoint value has 3 possible states instead of just 2, the Override value has 4 possible states instead of just 2, and there are 3 alarms to disable instead of just 2.


3.14   505_RMTR

The 505_RMTR faceplate is identical to the 505_MTR1 faceplate in all respects except filenames, and the fact that the Setpoint value has 3 possible states instead of just 2, the Override value has 4 possible states instead of just 2, and there are 3 alarms to disable instead of just 2.
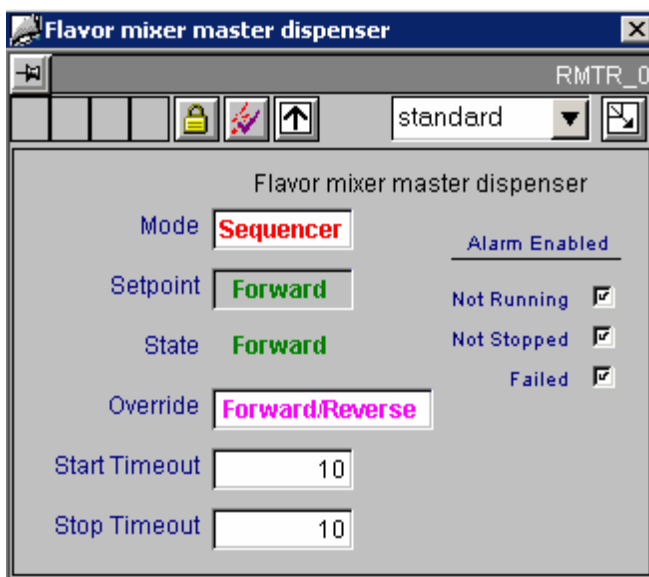
3.15   505_PLC

Standard View

The standard view for the 505_PLC faceplate displays information on State, Scan, MainConnStat, AltConnStat, and alarm settings.
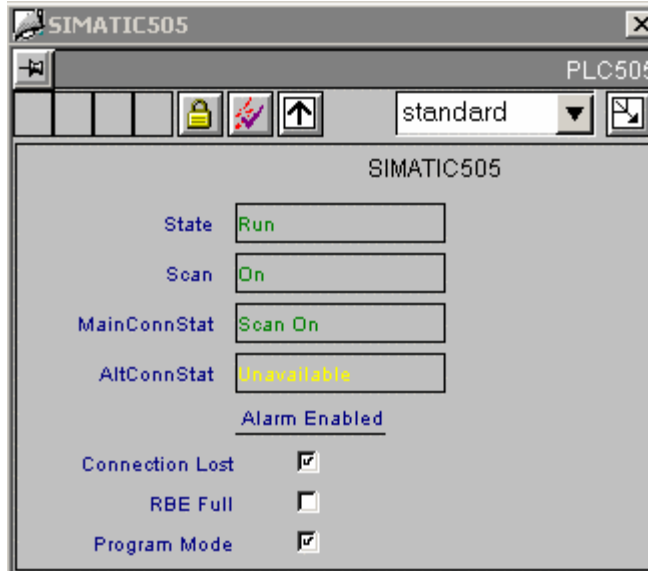
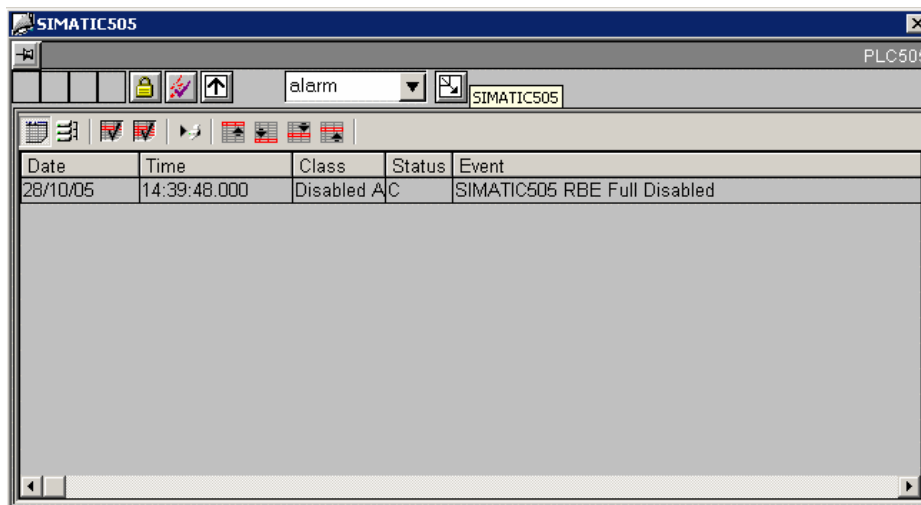| Description	Type	Tag
Description	Static Text	.#comment
State	Static Text	.State
Scan	Static Text	.Scan
Main Connection Status	Static Text	.MainConn
Alt Connection Status	Static Text	.AltConn
Connection Lost Alarm Enable	Customized Object	.DisableRaw
RBE Full Alarm Enable	Customized Object	.DisableRaw
Program Mode Alarm Enable	Customized Object	.DisableRaw

File Name: @PG_505_PLC_STANDARD.PDL

Status text will be colorized according to the following table:

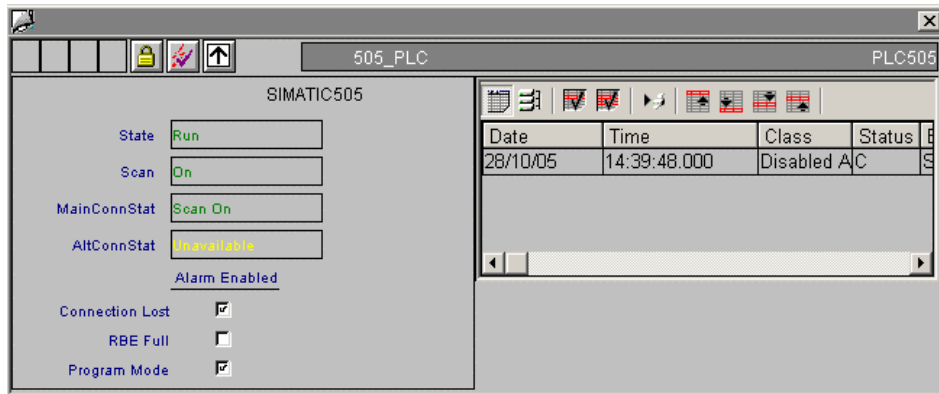| Tag	Value	Color
State	Unknown	Magenta
	Run	Green
	Program	Yellow
	Fault	Red
Scan	Off	Red
	On	Green
MainConn	Unavailable	Yellow
	Available	Green
	Scan On	Green
	Fail	Red
AltConn	Unavailable	Yellow
	Available	Green
	Scan On	Green
	Fail	Red

Alarm View

The alarm view for the 505_PLC faceplate displays alarm messages.
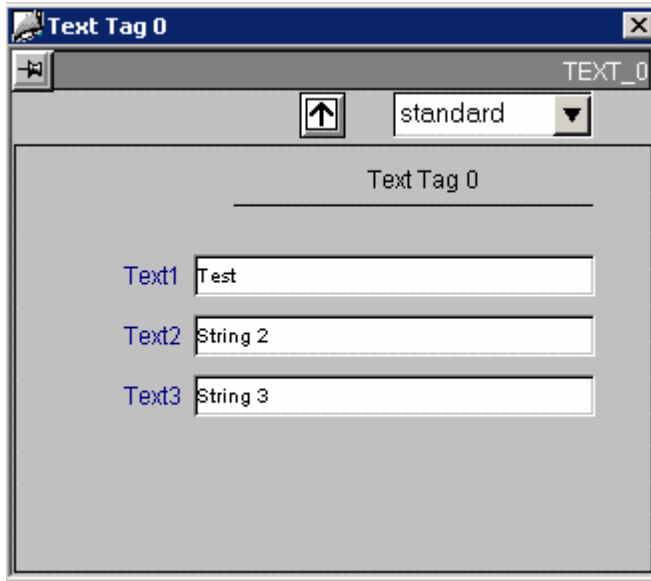

File Name: @PCS7_ALARM.PDL

Loop Display

3.16   505_TEXT

Standard View

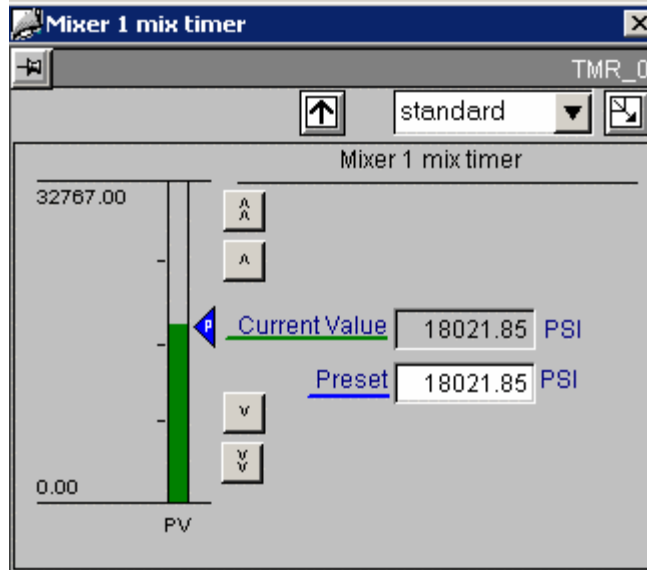The standard view for the 505_TEXT faceplate displays information on the three text values.

Description	Type	Tag
Description	Static Text	.#comment
Text1	Customized Object	.Text1
Text2	Customized Object	.Text2
Text3	Customized Object	.Text3

File Name: @PG_505_TEXT_STANDARD.PDL

3.17   505_TMR

Standard View

The standard view for the 505_TMR faceplate displays information on Value and Preset.

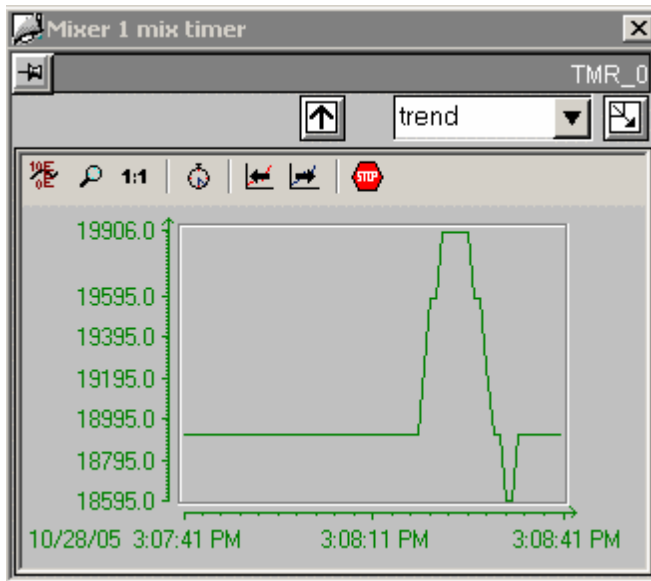| Description	Type	Tag
Description	Static Text	.#comment
Value	Customized Object	.Value
Value Units	Static Text	.Value#unit
Preset	Customized Object	.Preset
Preset Units	Static Text	.Value#unit
Value, Preset Bar Graph	Customized Object	.Value, .Preset

File Name: @PG_505_TMR_STANDARD.PDL

Trend View

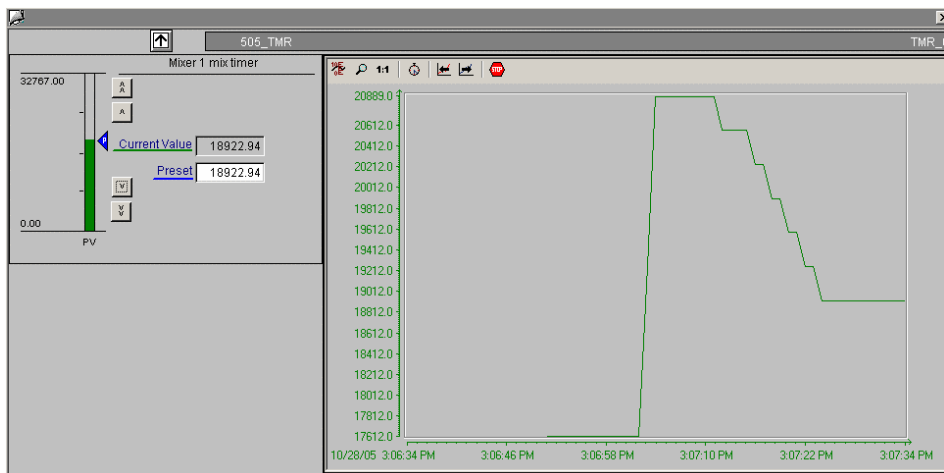The trend view for the 505_TMR faceplate displays information in graph form on Value.

The trend view is the standard view for displaying trends for the function block. For the 505_TMR function block the trend view displays the Value tag (Value). Only one trend window is needed for each function block type. A script assigns proper tags to the trend control at runtime.

The trend control itself is actually the standard PCS 7 OS Trend Control. See the PCS 7 OS User Documentation for details on its operation.
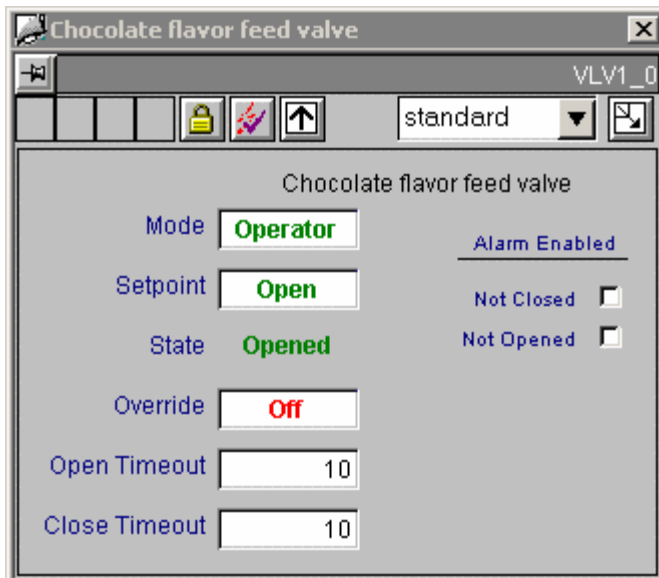

File Name: @PCS7_505_TREND_VALUE.PDL

Loop Display

3.18   505_VLV1

Standard View

The standard view for the 505_VLV1 faceplate displays information on Mode, Setpoint, Status, Override, and alarm settings.


| Description	Type	Tag
Description	Static Text	.#comment
Mode	Customized Object	.Mode
Setpoint	Customized Object	.Setpoint
State	Customized Object	.EventRaw#1
Override	Customized Object	.Override
Open Timeout	Customized Object	.Timeout1
Close Timeout	Customized Object	.Timeout2
Not Closed Alarm Enable	Customized Object	.DisableRaw
Not Opened Alarm Enable	Customized Object	.DisableRaw

File Name: @PG_505_VLV1_STANDARD.PDL

Alarm View

The alarm view for the 505_VLV1 faceplate displays alarm messages.

The alarm view uses a standard WinCC Active X control. No modifications were made to it for the PCS 7 OS option.
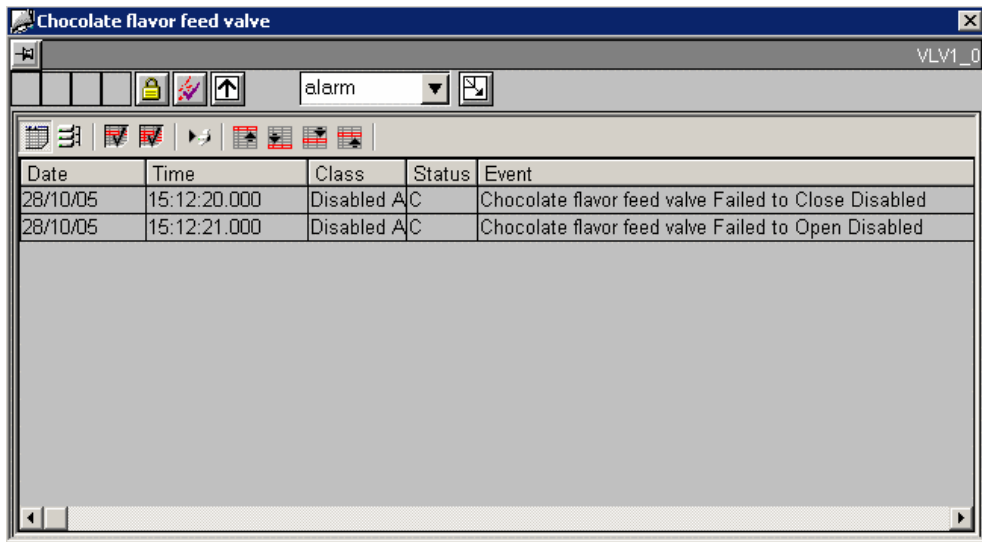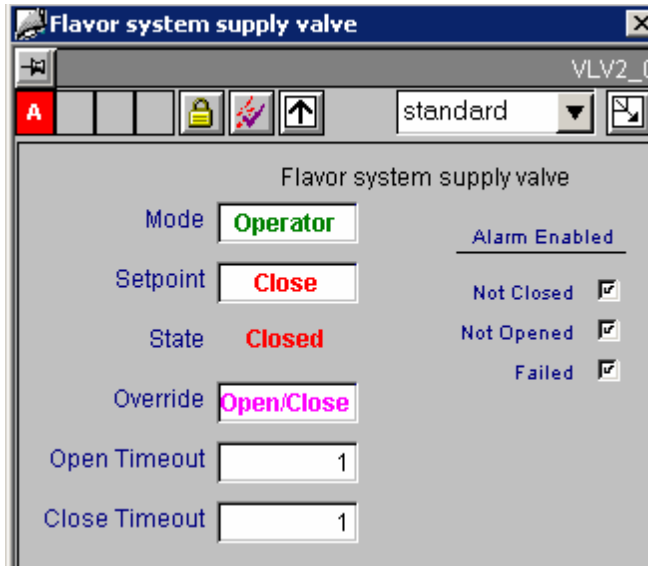

File Name: @PCS7_ALARM.PDL

Loop Display
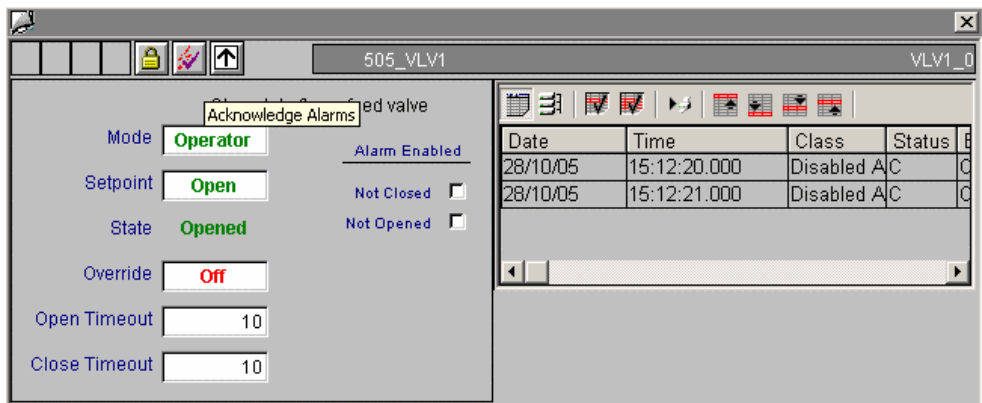
3.19   505_VLV2

The 505_VLV2 faceplate is identical to the 505_VLV1 faceplate in all respects except filenames, and the fact that the Override value has 4 possible states instead of just 2, and there are 3 alarms to disable instead of just 2.

4 Action Requests

4.1 Overview of Action Requests

An Action Request consists of a configuration mechanism to annunciate an event, and a procedure that you must perform to clear the event.

The ACTION_REQUEST faceplate displays basic information about the Action Request. This information varies based on the AnswerFormat that was configured for the Action Request. There are six types of AnswerFormat:

- **Acknowledge:** The user enters a comment and presses the **Commit** button.

- **View:** The Action Request is automatically acknowledged simply by displaying the faceplate. No further user action is required.

- **Event Log**: A message is automatically entered into the alarm logging system when the Action Request is triggered. No further annunciation is made to the user, and no user action is required from the faceplate.

- **Enter Value:** The user enters a value to be written to the AnswerTag, enters a comment, and presses the **Commit** button.

- **Multiple Choice:** The user selects a value to be written to the AnswerTag from the pre-configured list, enters a comment, and presses the **Commit** button.

- **Multiple Choice (OSx Style):** The user selects a value to be written to the AnswerTag from the pre-configured list, enters a comment, and presses the Commit button. The text displayed in the list is for informational purposes only.

Fixed values are always written to the AnswerTag according to the following table:

- Choice 1: 0x1000

- Choice 2: 0x2000

- Choice 3: 0x4000

- Choice 4: 0x8000

Note

The 505 PLC must be configured such that a write to the Action Request's reset tag will clear the trigger tag. In a system architecture that has redundant PCS 7 OS Servers, the Action Request status will not be cleared on the redundant server until the trigger tag is cleared. If there is a delay between the writing of the reset tag and a clearing of the trigger tag, the Action Request status on the redundant PCS 7 OS Server will not agree during this delay period.

4.2 ACTION_REQUEST

Standard View

The standard view for the ACTION_REQUEST faceplate displays information on current value, new value, and answer format.
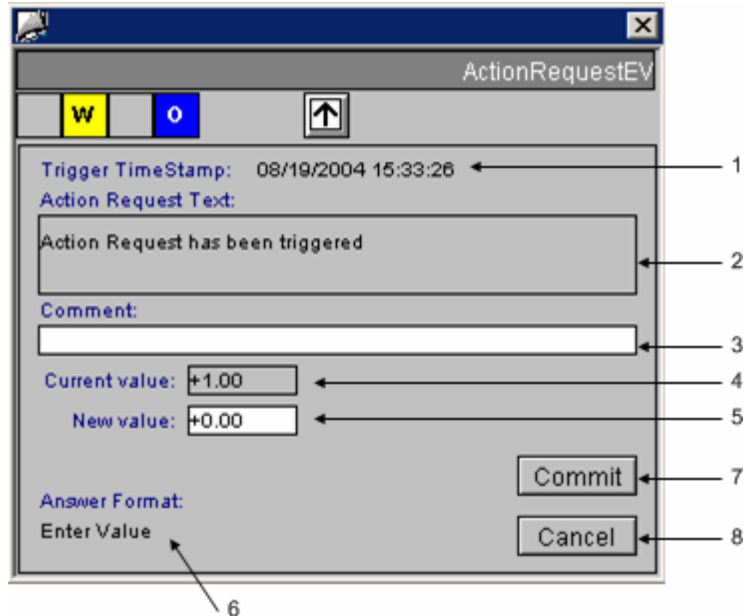
Key	Type	Description	Tag
1	Static Text	Time	.TimeStamp
2	Static Text	Description	.Message
3	Static Text	Comment	.Comment
4	Customized Object	Answer Tag Current Value (Shown only for "EnterValue" and "Multi-choice" AnswerFormats)	.AnswerTag
5	Customized Object	Answer Tag New Value (Shown only for "EnterValue"AnswerFormat. "Multi-choice" AnswerFormat displays 4 radio buttons)	.AnswerTag
6	Static Text	Answer Format	.AnswerFormat
7	Button	Commit Button	N/A
8	Button	Cancel Button	N/A

The radio buttons are only displayed in the Multiple Choice case. The Enter Value I/O field is only displayed in the Enter Value case.

- To confirm the Action Request, you enter a comment and select (or enter) a value to be written to the AnswerTag, if configured.

- When you click the Commit button, the following actions take place:

  - The chosen value is written to the AnswerTag.

  - The configured ResetTag is reset.

  - The Action Request is acknowledged (ACKed), clearing the alarm annunciators.

  - A record of the action is written to the Operator Log.

File Name: @PG_ ACTION_REQUEST_STANDARD.PDL