



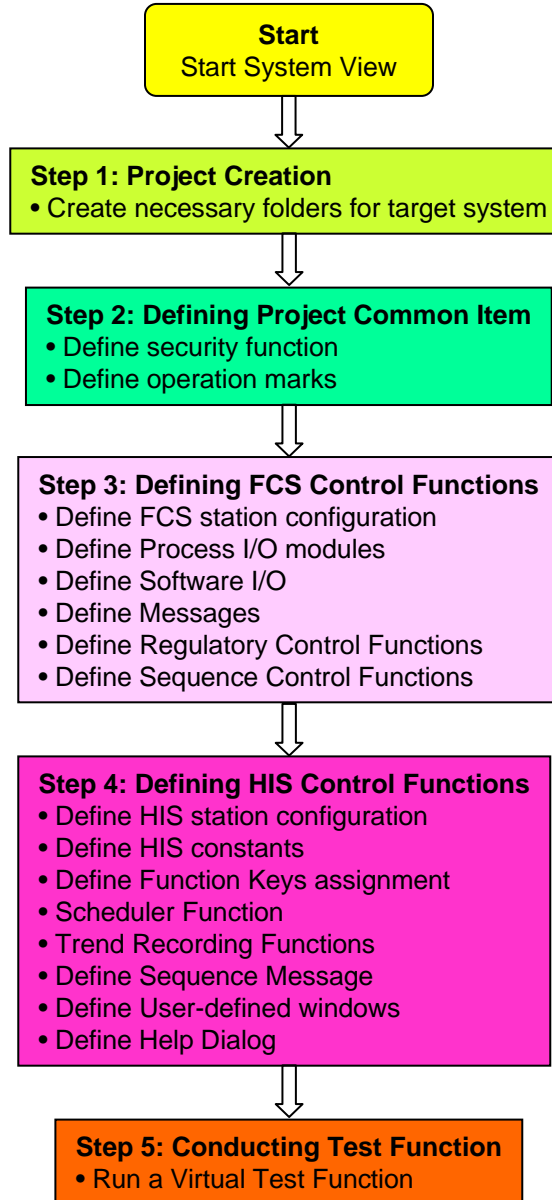
Engineering Course



CREATING NEW PROJECT



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Specification Review

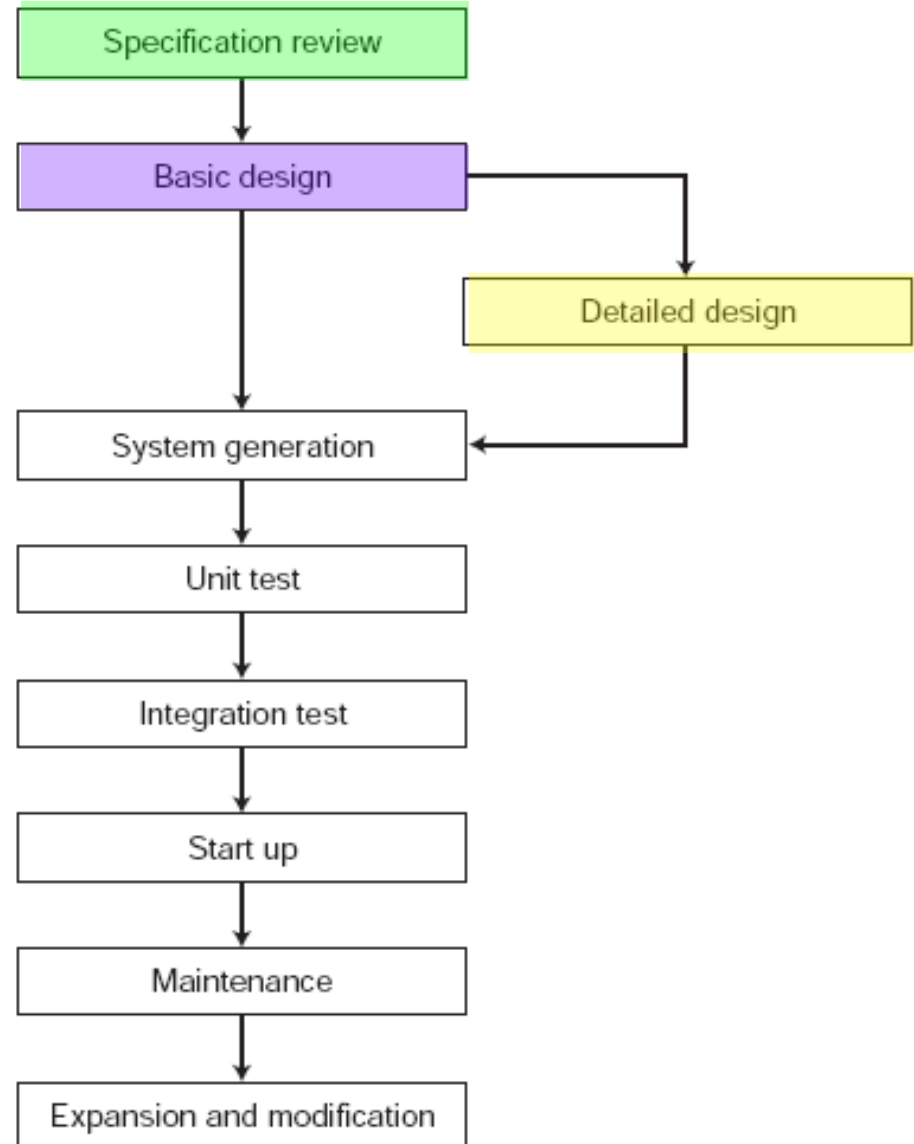
Review the I/O list, process control methods and necessary hardware.

Basic Design

Using organized and structured windows to realize the desired control functions (regulatory control, sequence control and unit supervision) and the operation and monitoring functions.

Detailed Design

Design detailed items (program configuration, creation of data list) for the regulatory control, sequence control, unit supervision and the operation and monitoring windows according to the basic design.



System Generation

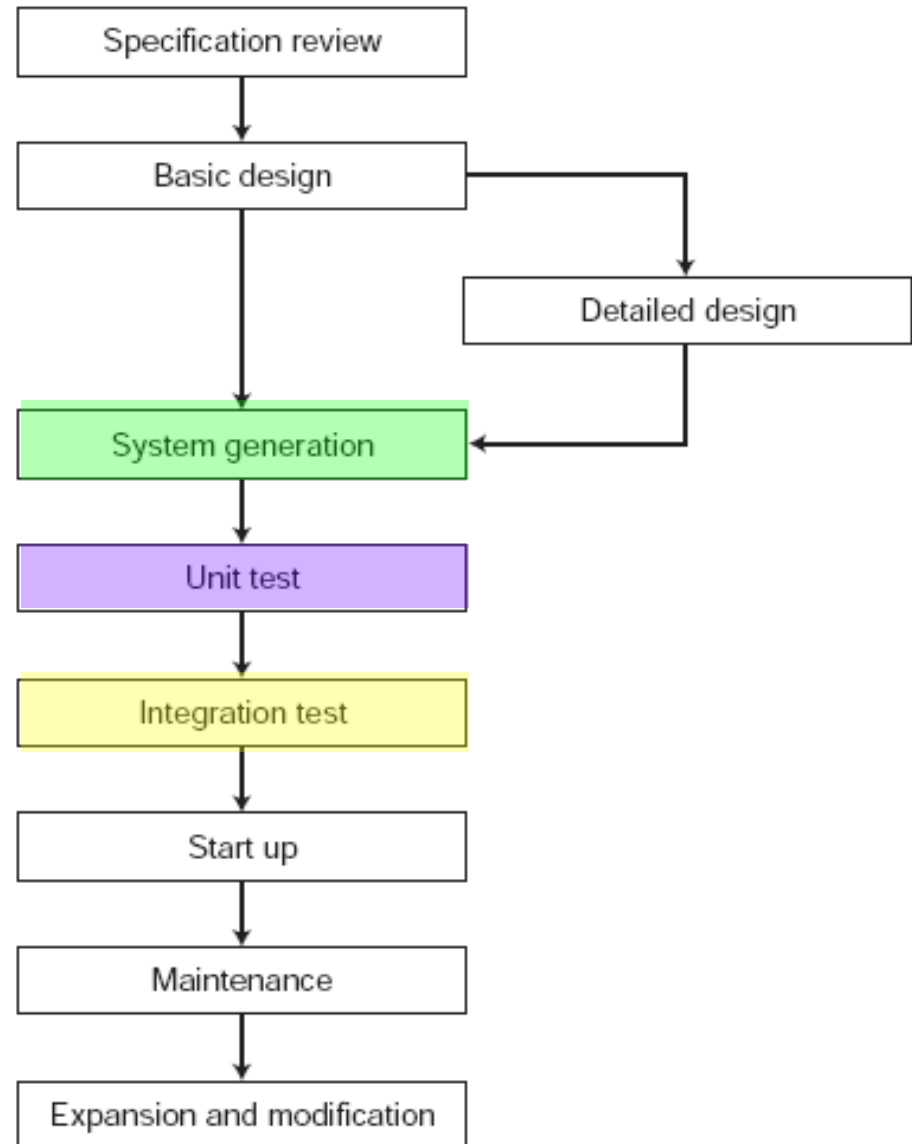
Construct a system using various builders based on the basic design and detailed design.

Unit Test

Check the control loop operation as well as the operation and monitoring windows by using the virtual test function.

Integration Test

Using the actual FCS, check the overall validity of functions and execution timings that were checked individually through the unit test.



Start Up

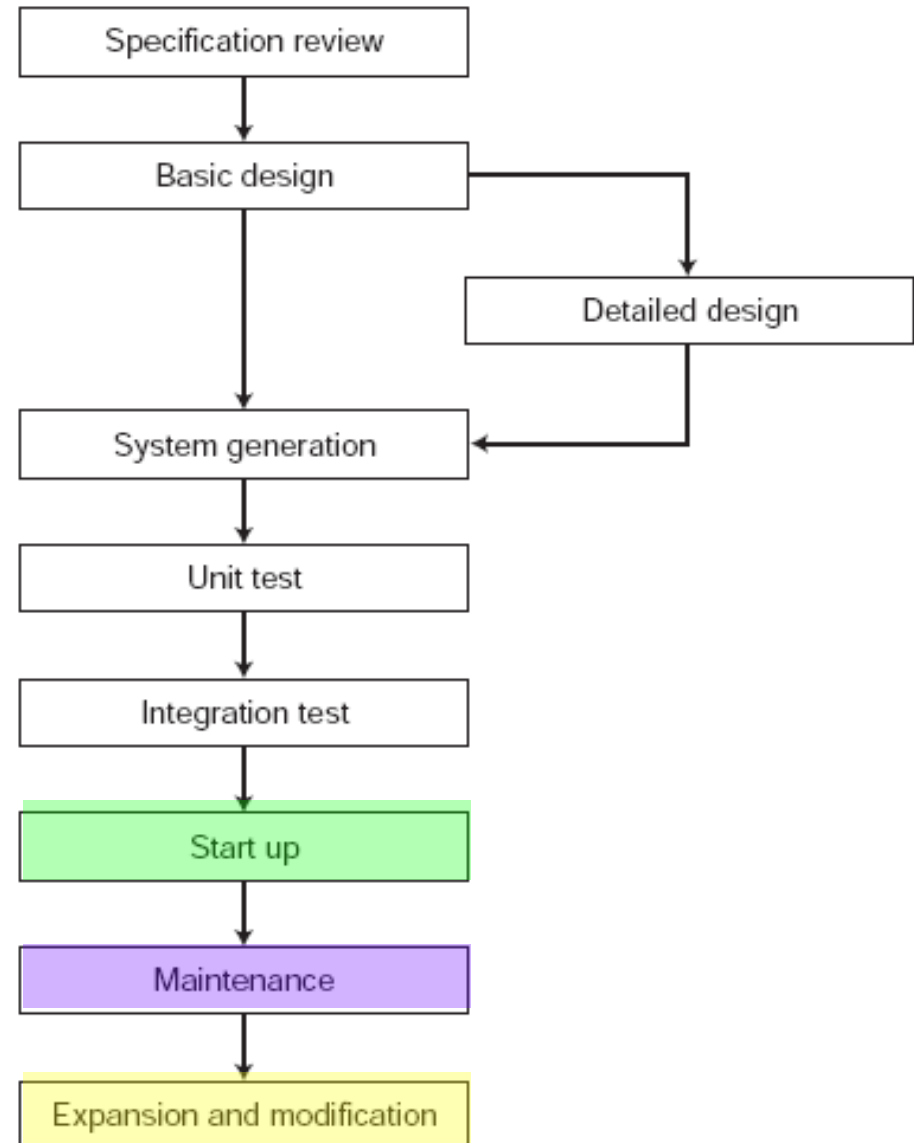
Install and wire the target machine, carry out test operation and then normal operation.

Maintenance

Back up engineering data, inspect hardware, etc.

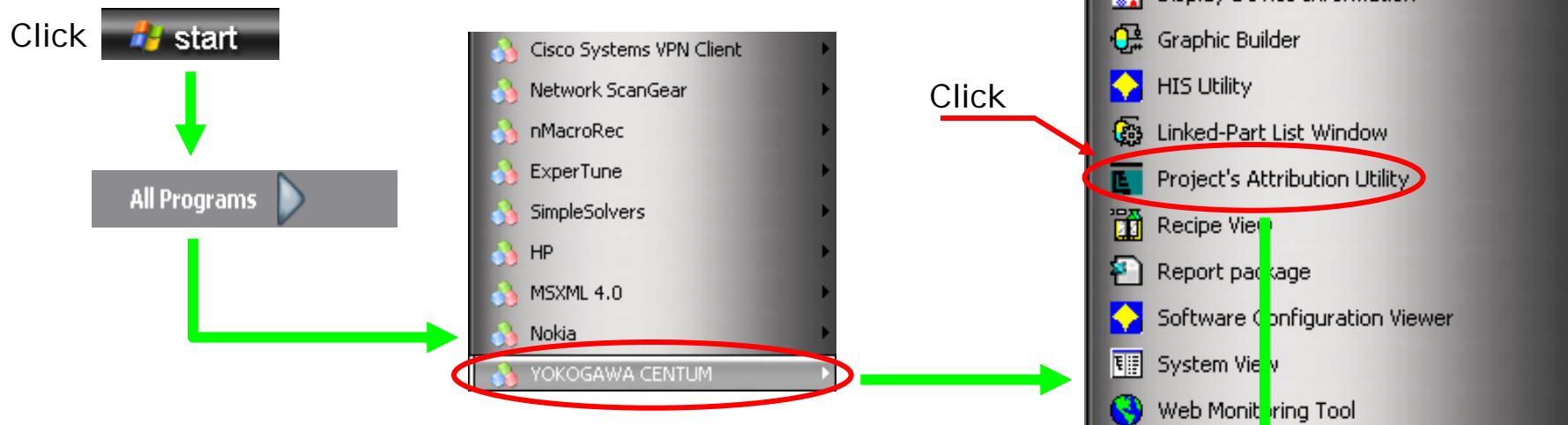
Expansion and Modification

Expand the station, as well as add and change functions.
Review the I/O list, process control methods and necessary hardware.



Project's Attribution Utility

In the Yokogawa Centum Menu select "Project's Attribution Utility"

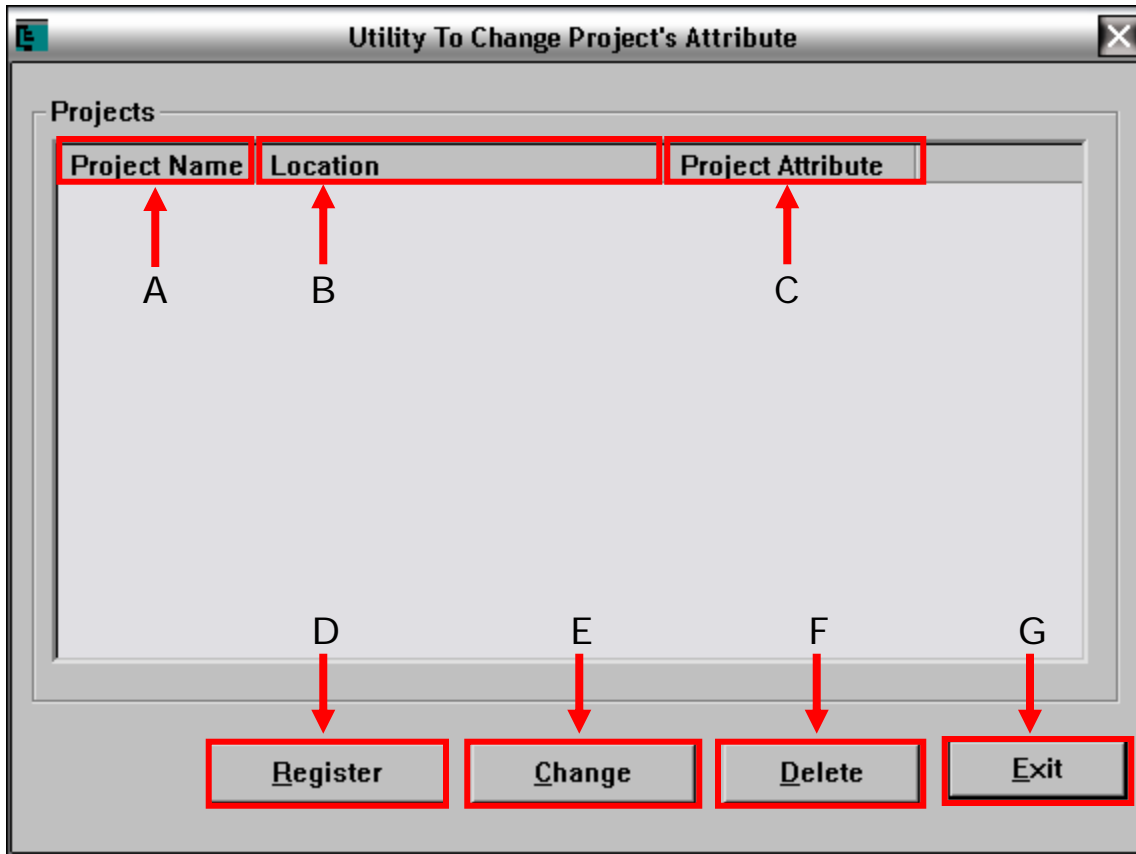


Utility To Change Project's Attribute

Do not use this utility program for a project shared by multiple users. A fatal error may occur. Before changing the project contents, make sure that no other users are accessing the project.

OK Cancel

Project's Attribution Utility



A. Project name

Shows the projects that have been registered.

B. Location

Shows the location/directory where the project file reside

C. Project Attribute

Shows the attribute of the registered projects.

D. Register

Button used to register new projects.

E. Change

Button used to change project's attribute.

F. Delete

Button used to remove projects registration information

G. Exit

Button used to finish/exit project registration utility.

Registering Project Database

Locate your project database file, folder name must not contain space.

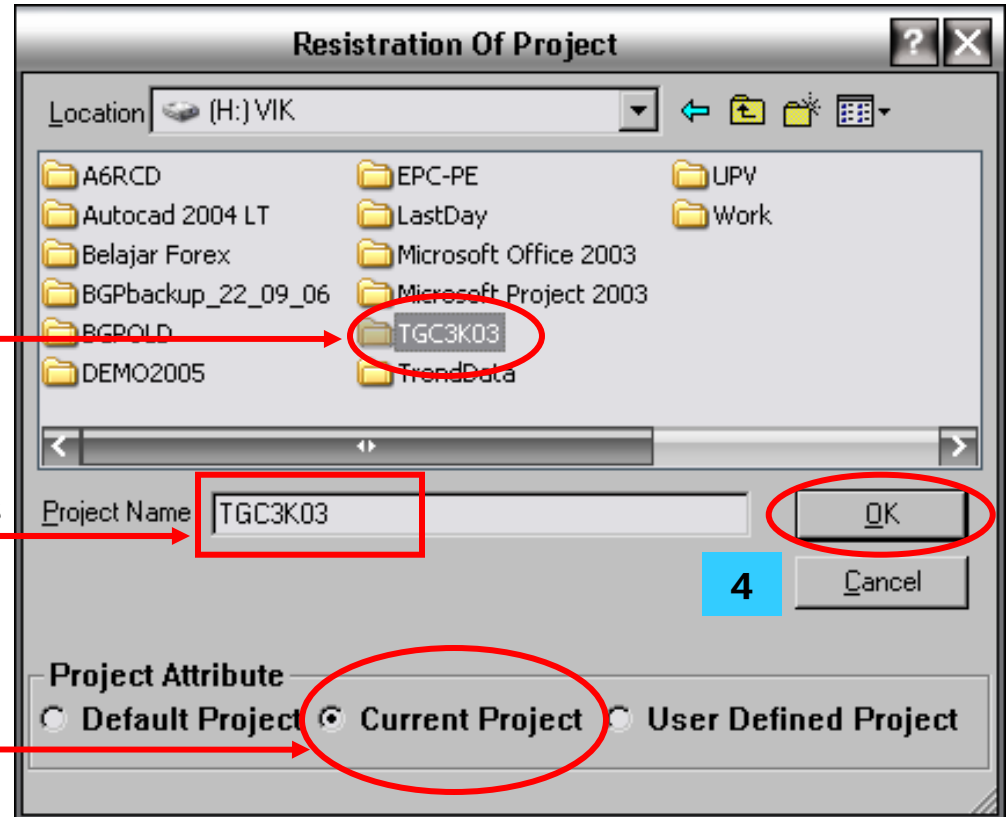
Click
1



Select your project
2

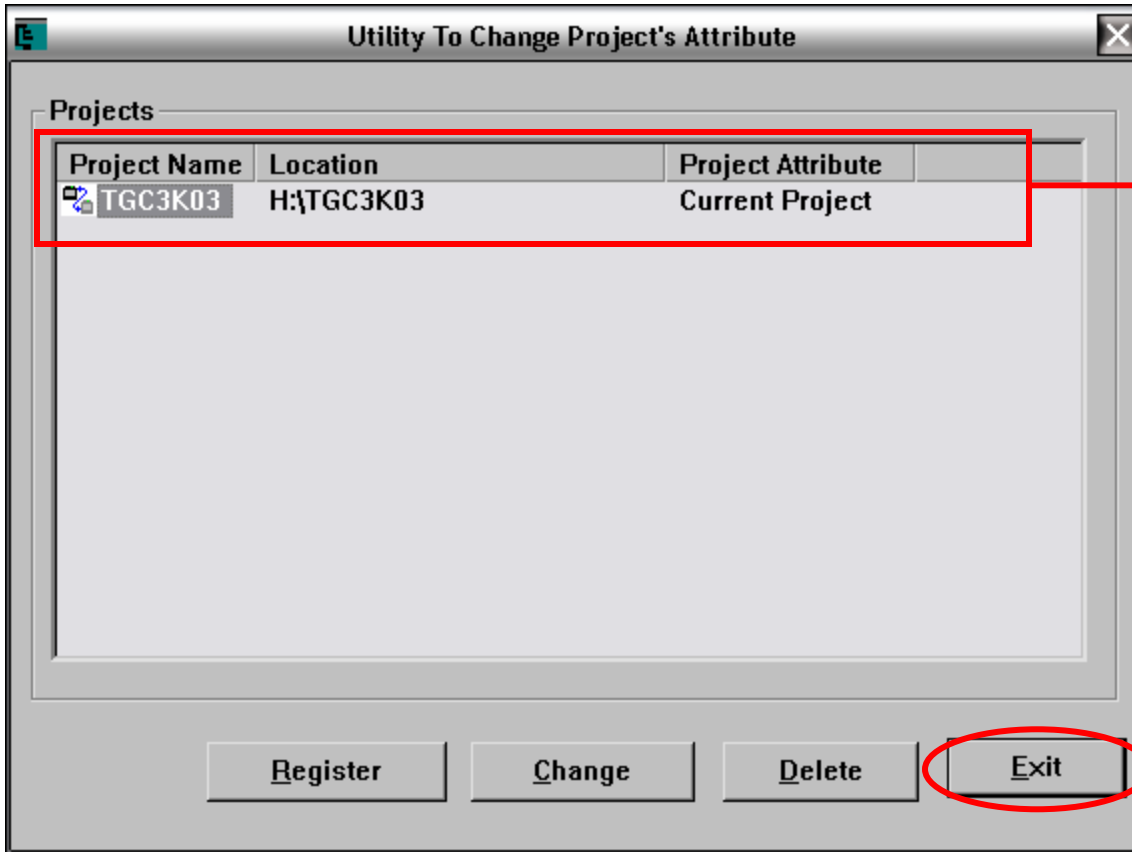
Project name registered is shown here

Select project attribute *
3



* For active project, select "Current Project"

Registering Project Database



Project has been registered !

Changing Project Database Attribute

Select/highlight the project its attribute you want to change.

The screenshot shows a 'Utility To Change' dialog box with a 'Projects' table and a 'Changing Attribute Of Project' sub-dialog. The 'Projects' table has the following data:

Project Name	Location
TGC3K03	H:\TGC3K03
BGP	D:\T&DHBS!\@#%*\B
UPV	H:\UPV

The 'Changing Attribute Of Project' dialog shows the 'Project' field set to 'TGC3K03' and the 'Attribute Of Project' section with three radio buttons: 'Default Project' (selected), 'Current Project', and 'UserDefined Project'. The 'Apply' button is circled in red. A green arrow points from the 'Change' button in the main dialog to the 'Apply' button in the sub-dialog.

Numbered callouts indicate the steps:

- 1: Select/highlight the project (TGC3K03) in the Projects table.
- 2: Click the 'Change' button in the main dialog.
- 3: Select attribute (Default Project) in the sub-dialog.
- 4: Click the 'Apply' button in the sub-dialog.
- 5: Click the 'Exit' button in the main dialog.

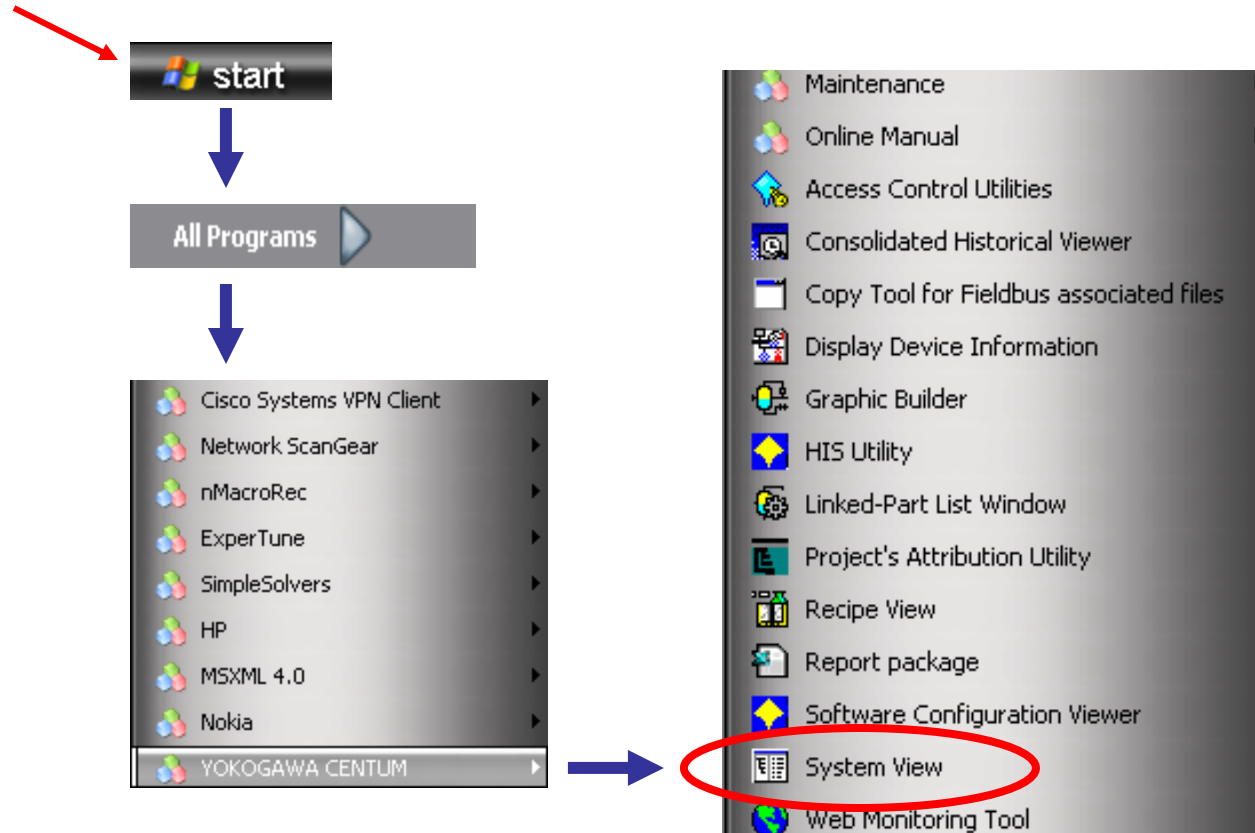
	Default	Current	User-defined
Created the first time when the System View starts	Yes	-	-
Virtual test with the FCS simulator.	Yes	Yes but target test	Yes
Can be downloaded to the FCS of the target system	Yes but off line	Yes but on line	No
Can be downloaded to HIS.	Yes	Yes	No
Multiple projects can be created in System View.	No	No	Yes

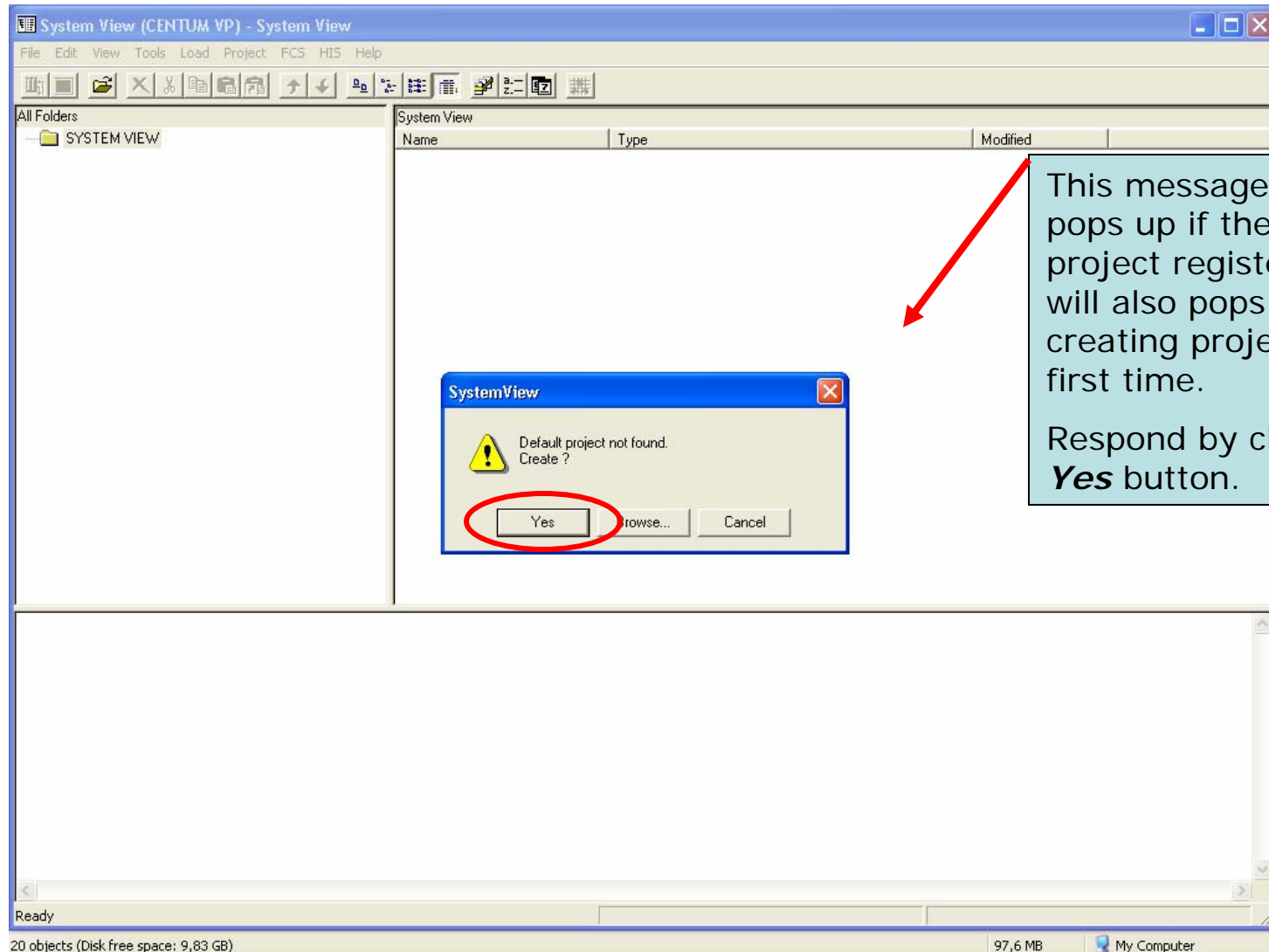
When any one of the FCS's created in default project is successfully downloaded, the attribute changes to a current project.

PROJECT CREATION

To create a project for the first time, start the **System View**.

Microsoft Windows
Start button





This message window pops up if there's no a project registered. It will also pops up when creating project for the first time.

Respond by clicking **Yes** button.

PROJECT CREATION

Fill in the user and project information below. Project information should not be left blank, otherwise project creation will terminate.



Outline

Set Project Information

CENTUM VP Software Information

Model: CENTUM VP

User: ARSIANTO PRIANDANA

Organization: PT. YOKOGAWA INDONESIA

Project Information

CENTUM VP Training

OK (circled in red) Cancel

Create a name for your project name. A project name is an alphanumeric character string, maximum 8 characters. The first character of a project must be an alphabet.

The project position is the volume / folder where your project folder (database) is located in the hardisk.

The default position is

C:\CENTUMVP\ENG\BKPROJECT\XXXXXXXX

Create New Project

Name and Position | Outline | Constant | Detailed Setting

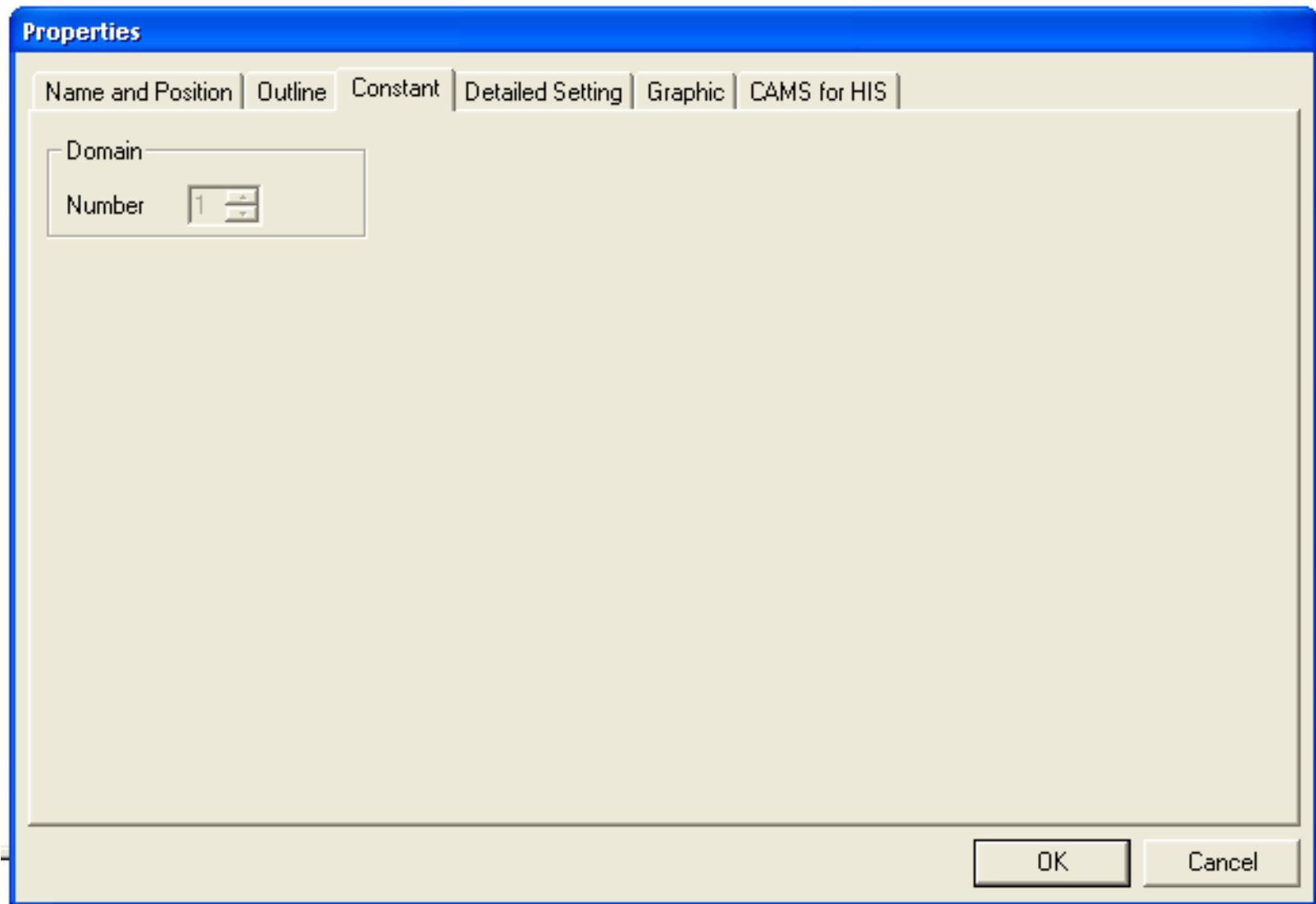
Project: YIN-TRNG

Position: C:\CENTUMVP\eng\BKProject\ Browse...

Project Comment: Project Training

Alias of Project:

OK (circled in red) Cancel



Properties

Name and Position | Outline | Constant | Detailed Setting | Graphic | CAMS for HIS

Manually Register Engineering Unit Symbol

Manually Register Switch Position Label

Plant Hierarchy

Start Number	1
Maximum Number of use	32767
Number of in use (Number of Custom facilities)	1263(1000)

Display FF-PID in same style as PID.(Use P.I.D instead of GAIN.RESET.RATE)

Do not allow online change of alarm detection (AF) setting

OK Cancel

Properties

Name and Position | Outline | Constant | Detailed Setting | Graphic | CAMS for HIS

- Do not apply color change to the transparent control object if Transparent is checked.
- Exchange text and background colors if Invert is checked.
- Blink background if Invert is checked while a blinking action is active.

OK

Cancel

Properties

Name and Position | Outline | Constant | Detailed Setting | Graphic | CAMS for HIS

Alarm action

Method: Consolidated

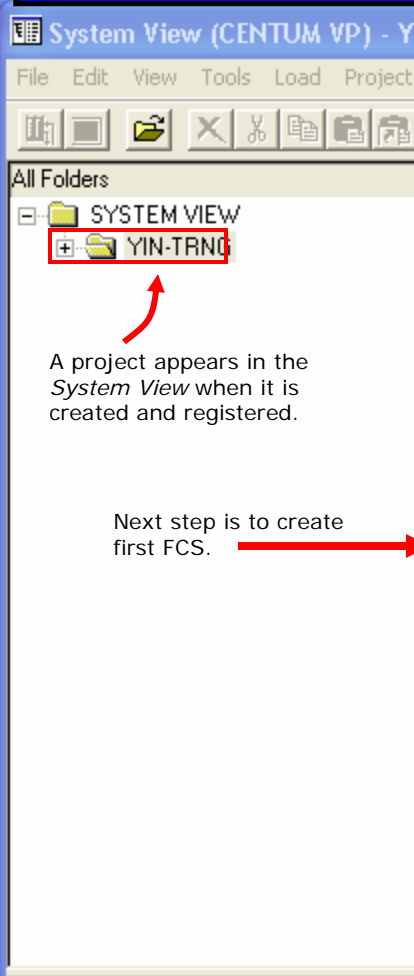
Display Alarm status of suppressed tag

Detection=Disable	Display alarm status in CAMS for HIS style
Priority=Logging/Reference	Display alarm status in CAMS for HIS style
Suppression=ON	Display alarm status in CAMS for HIS style

Create R3/R4.01 Compatible Database

OK Cancel

PROJECT CREATION



A project appears in the System View when it is created and registered.

Next step is to create first FCS.

Create New FCS

Type | Constant | Constant 2 | Constant 3 | State Transition | Line 1 | Network | Edit

Type

Station Type
AFG40D Duplexed Field Control Unit(for FIO, with Cabinet)

Dual-Redundant Power Supply

Database Type
General-Purpose

Station Address

Domain Number: 1

Station Number: 1

Component

Number: 101

Station Comment: UTILITIES-1

Alias of Station: FCS0101

Station Status Display: []

Upper Equipment Name: []

OK Cancel

Select the type of the FCS (you may have to consult the label attached to the FCS panel for the station type).

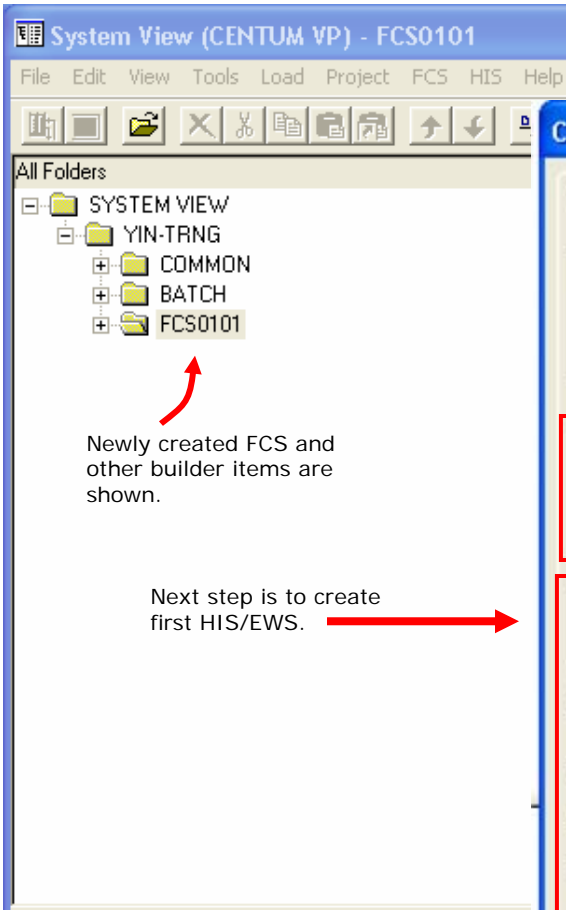
Select database type for your FCS. Most of the time **General-Purpose** is selected.

Define the correct domain and station number. This is the address of your station in the system. The number set here must correspond to the address set by hardware.

Additional information for the FCS. If left blank, will not impact system performance.

Click to finish. When clicked, the new FCS will be generated.

PROJECT CREATION



Newly created FCS and other builder items are shown.

Next step is to create first HIS/EWS.

Type | Constant | Network | Detailed Setting

Type

Station Type
PC with Operation and Monitoring Functions

Station Address

Domain Number: 1
Station Number: 64

Component

Number: []

Station Comment: []

Alias of Station: []

Station Status Display: []

Upper Equipment Name: []

OK Cancel

Define the correct domain and station number. This is the address of your station in the system. The number set here must correspond to the address set by hardware.

- Select the type of the HIS. Available types are:
- PC with operation & monitoring functions.
 - Enclosed display style console type HIS.
 - Open display style console type HIS.
 - Server type for remote monitoring HIS.

Additional information for the FCS.
If left blank, will not impact system performance.

Click to finish. When clicked, the new HIS will be generated.

PROJECT CREATION

The screenshot shows the 'System View (CENTUM VP) - HIS0164' window. The left pane displays a tree view of folders: SYSTEM VIEW, YIN-TRNG, COMMON, BATCH, FCS0101, and HIS0164. A red arrow points to the HIS0164 folder. The right pane shows an empty table with columns 'Name', 'Type', and 'Modified'. The status bar at the bottom indicates '0 objects'.

Newly created HIS and other builder items are shown.

You just have created a minimum configuration of a project.

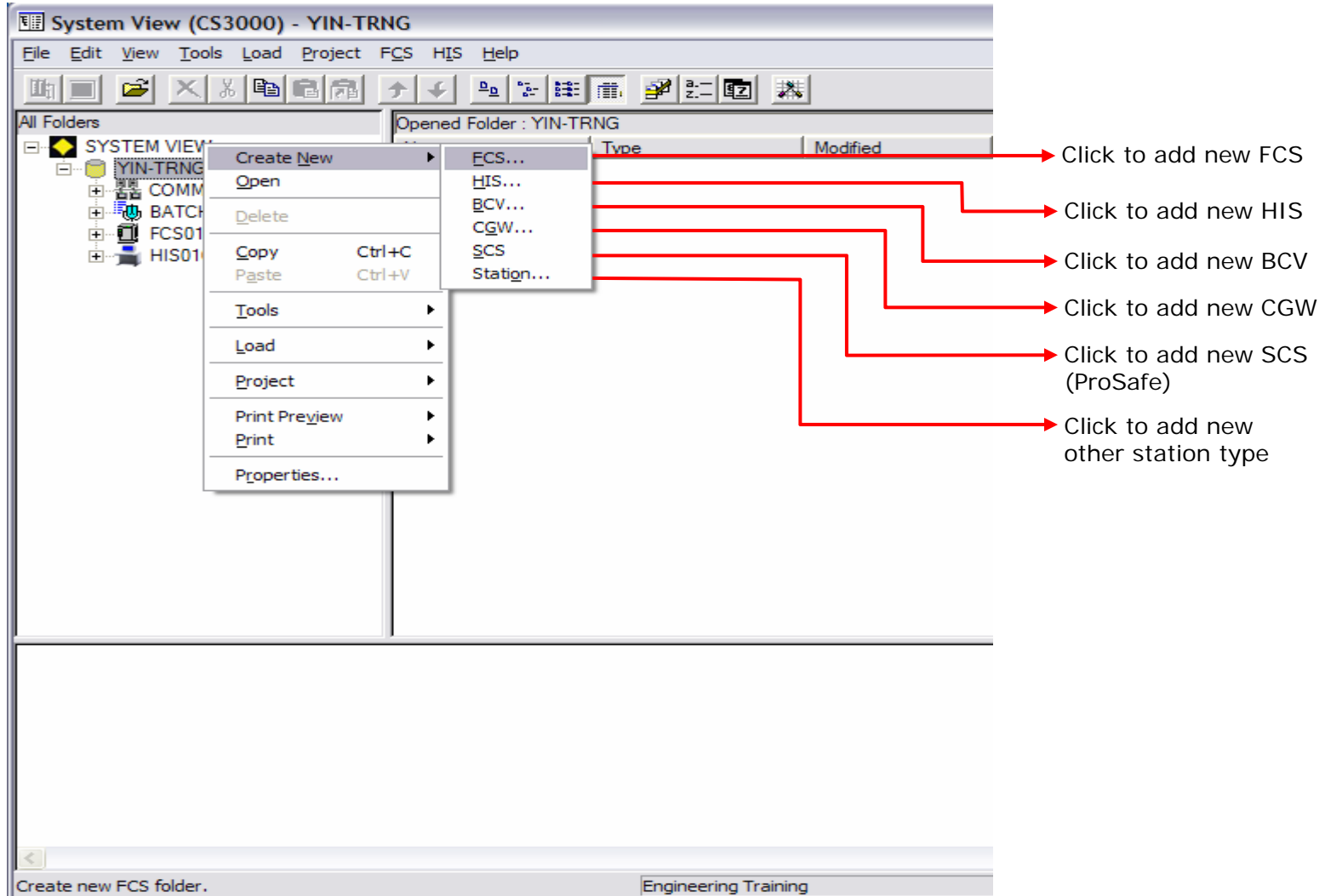
Name	Type	Modified
------	------	----------

0 objects

Slide 7 of 24 1_Training Slide English (U.S.)

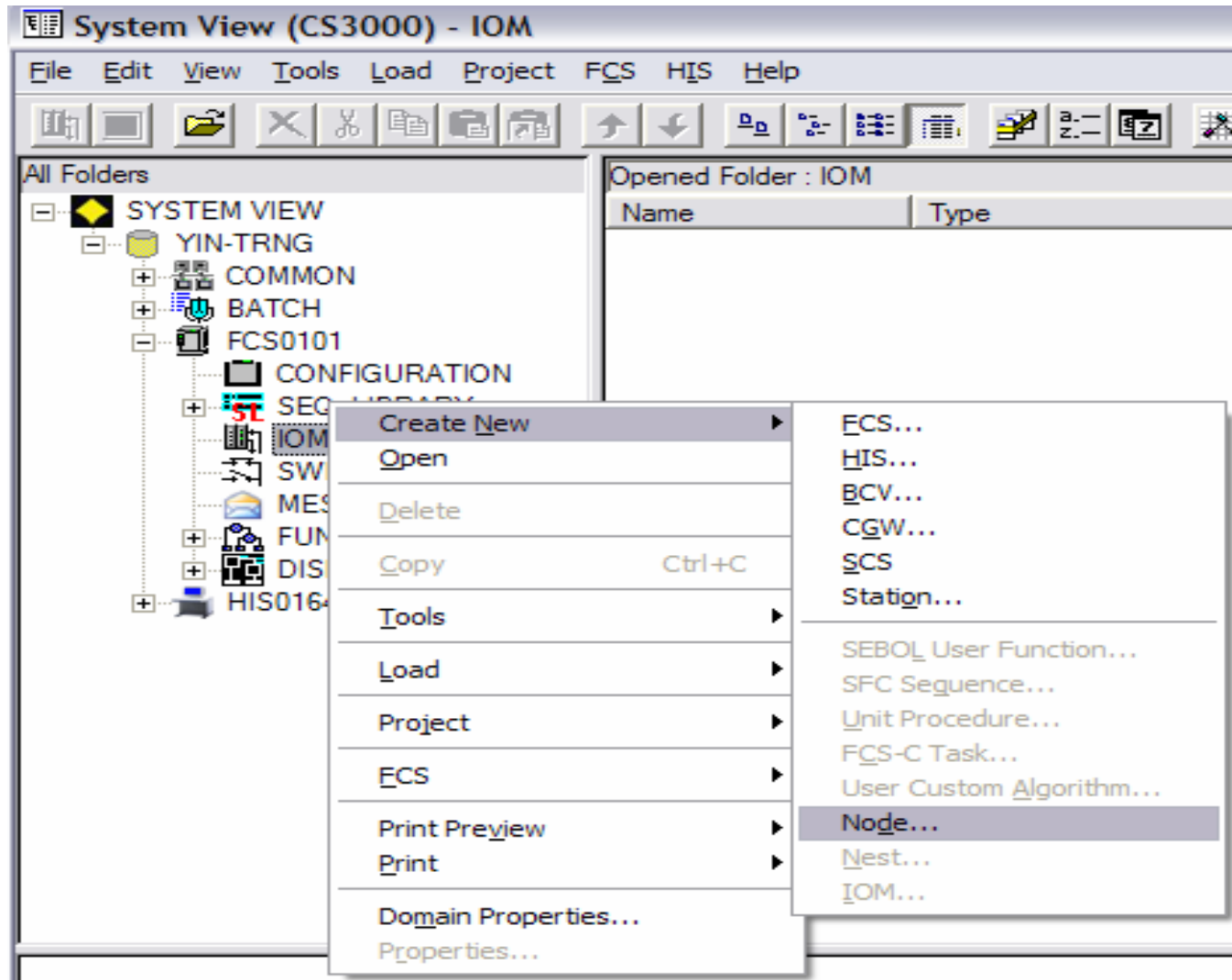
PROJECT CREATION (Adding New Station)

To add some other stations, you may right click on any icon/folder under *System View* folder then select **Create New...** option. Pick a station type from the menu that pops up.



PROJECT CREATION (Adding I/O Node)

To add I/O node: Expand the *FCS* folder, right-click *IOM* folder → *Create new* → *Node*



PROJECT CREATION (Adding I/O Node)

New FIO Node

Type

Local Remote

Node

Remote Node

Master

Use User-Defined IP Address

Address of Left-Hand Side EB501

Address of Right-Hand Side EB501

Power Supply Unit

Dual-Redundant Power Supply

80W 40W 24 VDC External Power Supply

Component Number

Node Comment

Select node type, either **Local** or **Remote** type.

Define the node number.
This number corresponds to node address hardware setting.

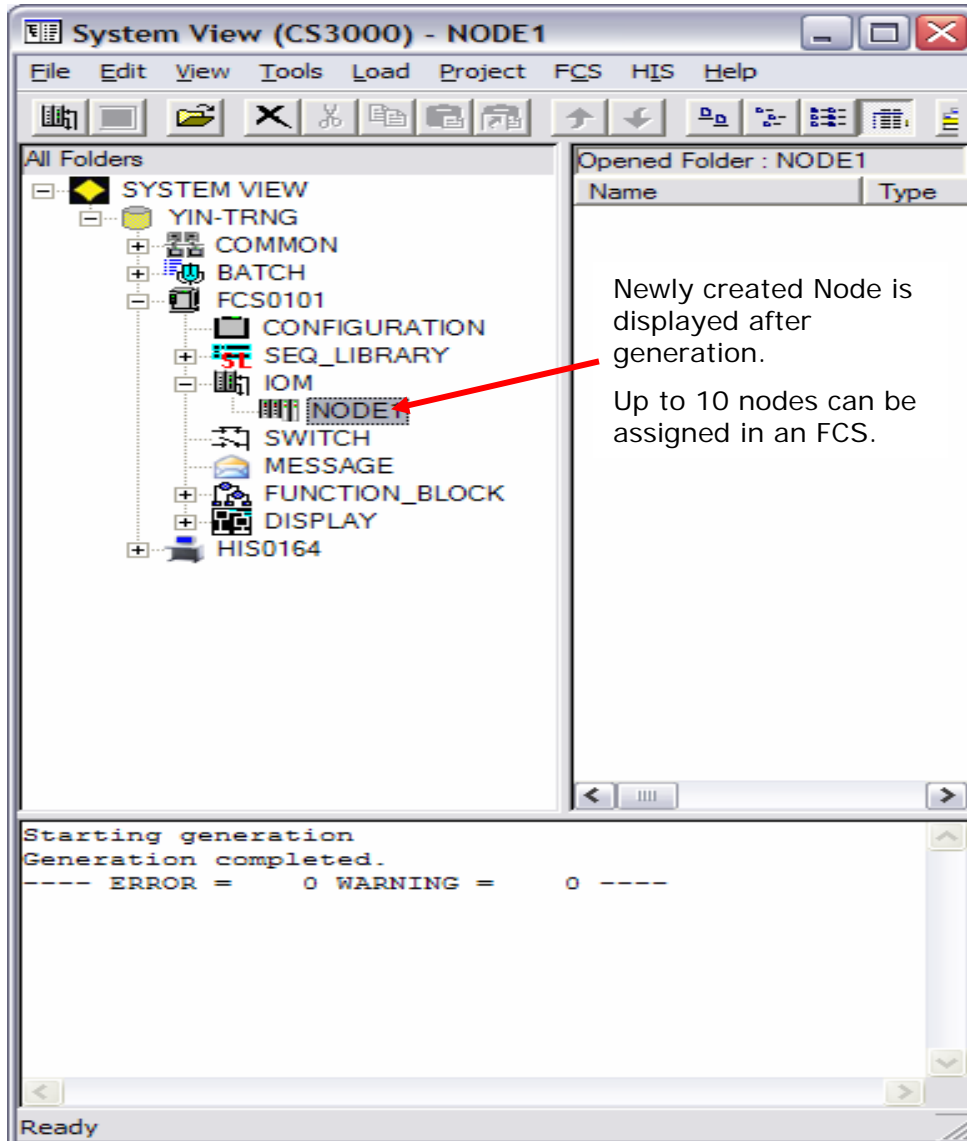
This section is used only in case of remote node.

Setting for node power supplies.

Additional information for the node.

Click to finish. When clicked, the new I/O node will be generated.

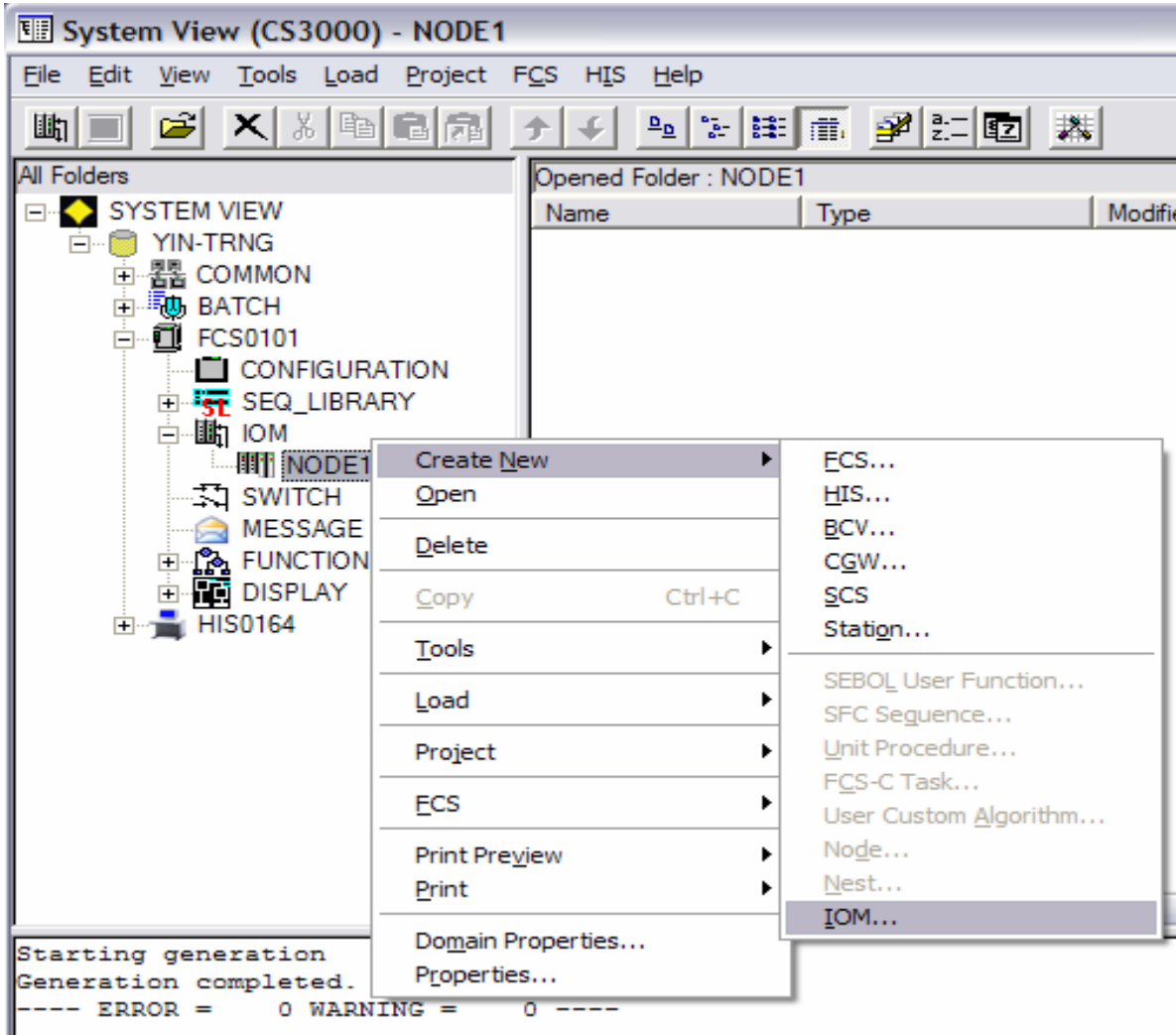
PROJECT CREATION (Adding I/O Node)



When a node is created and ready, you can now add I/O modules to that node.

PROJECT CREATION (Adding I/O Module)

To add I/O module: Expand the *IOM* folder, right-click *NODEXXXX* folder → *Create new* → *IOM...*



PROJECT CREATION (Adding I/O Module)

To add I/O module: Expand the *IOM* folder, right-click *NODEXXXX* folder → *Create new* → *IOM...*

Select I/O module type. This must confirm with your field signal type.

Slot number of the I/O module.

Check this option if you assign a redundant I/O module.

Check this option for high speed reading.

Additional information (commentary) for the I/O module.

Click to finish. When clicked, the new I/O module will be generated.

PROJECT CREATION (Creating I/O Module)

System View (CS3000) - NODE1

Opened Folder : NODE1

Name	Type	Modified	Comment
1AAI143-S	AAI143-S(16-Channel Current Input, Isolated)	2008/03/11 00:59	

Newly created I/O module is displayed.

Up to 8 modules can be assigned in a node unit if FCS is KFCS.

System View (CS3000) - NODE1

Opened Folder : NODE1

Name	Type	Modified	Comment
1AAI143-S	AAI143-S(16-Channel Current Input, Isolated)	2008/03/11 02:52	
2AAI543-S	AAI543-S(16-Channel Current Output, Isolated)	2008/03/11 03:03	
3ADV151-P	ADV151-P(32-Channel Status Input)	2008/03/11 02:36	
4ADV551-P	ADV551-P(32-Channel Status Output)	2008/03/11 02:36	

List of I/O modules assigned in a node.

PROJECT CREATION (Creating I/O Module Tag Name)

Name	Type	Modified	Comment
1AAI143-S	AAI143-S(16-Channel Current Input, Isolated)	2008/03/11 02:52	
2AAI543-S	AAI543-S(16-Channel Current Output, Isolated)	2008/03/11 03:03	
3ADV151-P	ADV151-P(32-Channel Status Input)	2008/03/11 02:36	
4ADV551-P	ADV551-P(32-Channel Status Output)	2008/03/11 02:36	

To create I/O module tag name, double click on the I/O module to open its builder. In this example, let's create analog & digital I/O module tag name (AAI143-S [Slot 1] and ADV151-P [Slot 3]).

PROJECT CREATION (Creating I/O Module Tag Name)

I/O Module Builder (Analog)

Click this button (*Show/Hide Detailed Setting Items*) to show this portion of builder.

1

Conversion	Service Comment	Low Limit	High Limit	Unit	Set Details	P&ID Tag Name	Label
No	Gas Temperature	4	20	mA	No	100-TT-101	%%TT101
No	Fuel Pressure	4	20	mA	No	100-PT-101	%%PT101
No		4	20	mA	No		
No		4	20	mA	No		
No		4	20	mA	No		
No		4	20	mA	No		
No		4	20	mA	No		
%Z011109	Input	No					
%Z011110	Input	No					
%Z011111	Input	No					
%Z011112	Input	No					
%Z011113	Input	No					
%Z011114	Input	No					
%Z011115	Input	No					
%Z011116	Input	No					

2

Download when finish creating I/O module tag name.

3

Label is the item that will be used in the control drawing. Analog I/O module tag name must have %% symbol as prefix and followed by alphanumeric identifier. Note that alphabet must come right after %% symbol.

Example

- %%TT101 → Correct
- %%100TT101 → Wrong (numeric comes after %% symbol)
- %%TT-101 → Correct

PROJECT CREATION (Creating I/O Module Tag Name)

I/O Module Builder (Digital)

IOM Builder - [Pjt:YIN-TRNG Stn:FCS0101 Train:1 Node:1 File:3ADV151-P.edf]

File Edit View Tools Window Help

Open... Ctrl+O
Close
Save Ctrl+S
Save As...
External File
Download
Print Preview
Print... Ctrl+P

Signal	Mode	P&ID Tag Name	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2
Input	Status Input	100-LSL-102	LSL102	T-100 LEVEL LOW STATUS	LOW,,LOW	Direct	Red	Green
Input	Status Input	100-LSH-102	LSH102	T-100 LEVEL HIGH STATUS	HIGH,,HIGH	Direct	Red	Green
Input	Status Input	100-LSLL-102	LSLL102	T-100 LEVEL LOLO STATUS	LOW,,LOW	Direct	Red	Red
Input	Status Input	100-LSHH-102	LSHH102	T-100 LEVEL HIHI STATUS	HIGH,,HIGH	Direct	Red	Red
Input	Status Input				ON,,OFF,ON	Direct	Red	Red

Download when finish creating I/O module tag name.

Define the label for status indication here.

Define the color for status indication label here.

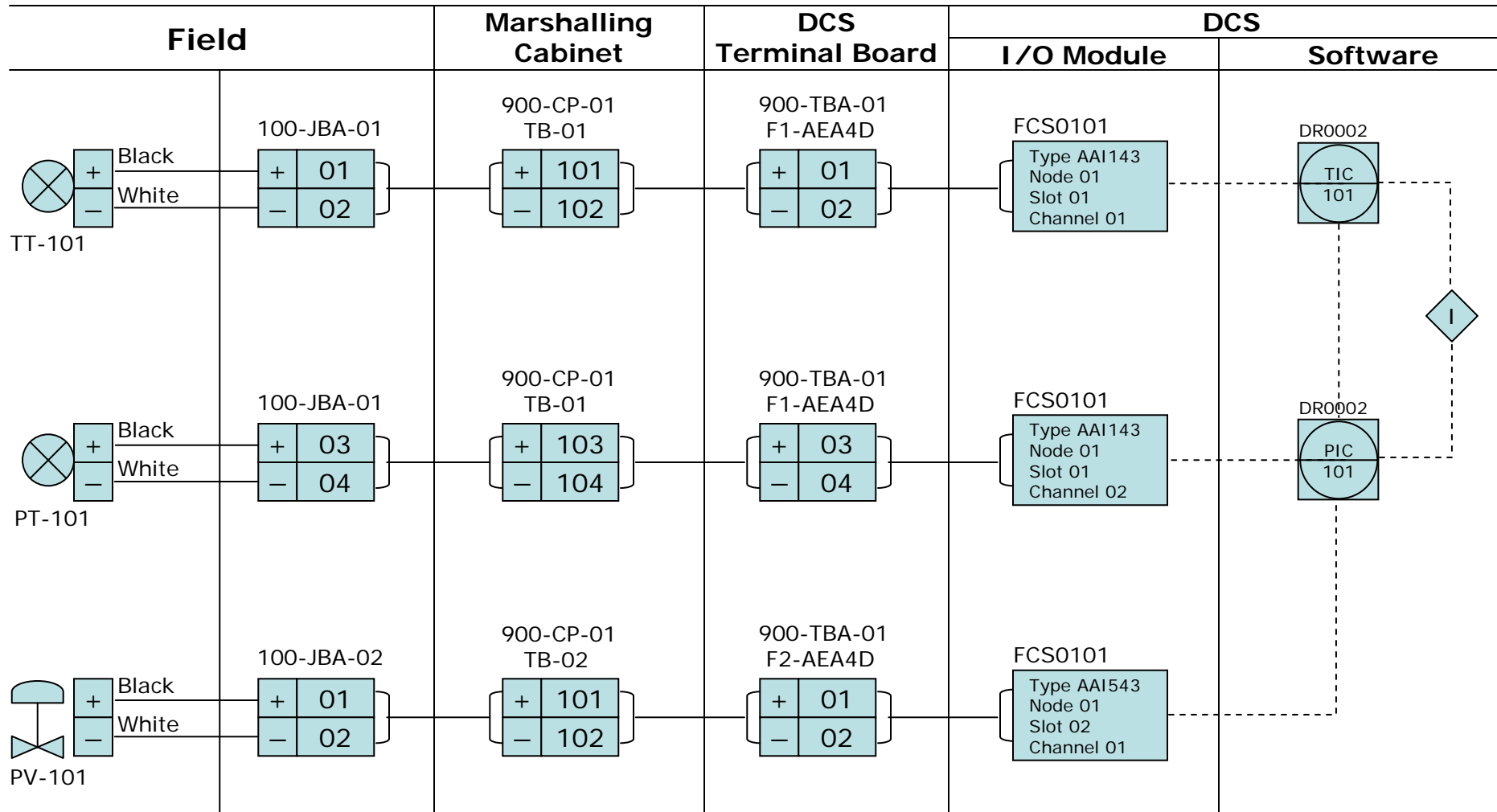
Tag Name is the item that will be used in the control drawing. Digital I/O module tag name uses combination of alphanumeric characters. Unlike analog I/O module tag name, %% symbol is not necessary.

Example

- LSL102 → Correct
- 100LSL102 → Correct
- 100-LSL-102 → Correct

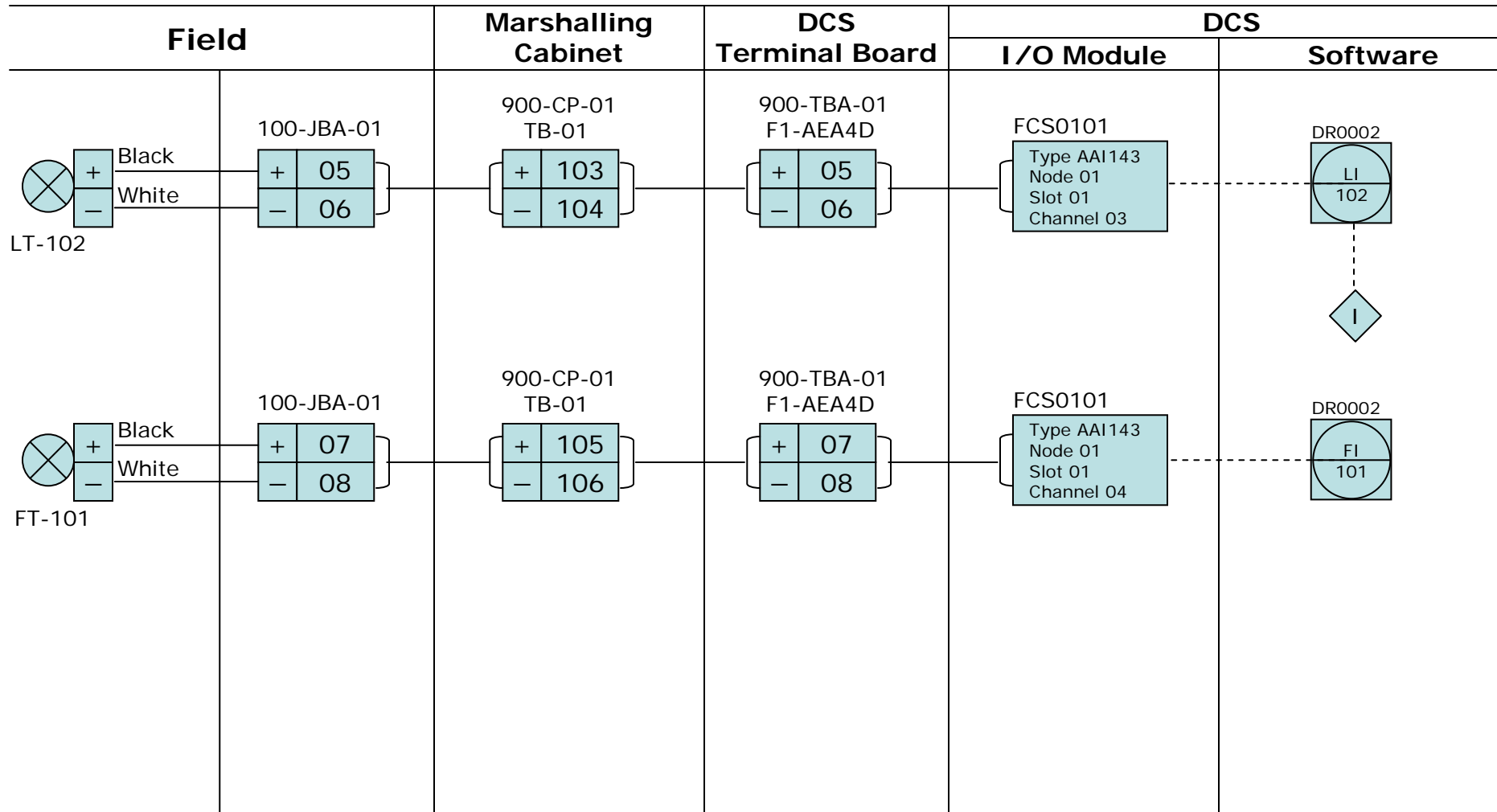
I/O MODULE CREATION

Loop Diagram (1/5) – Analog Input/Output



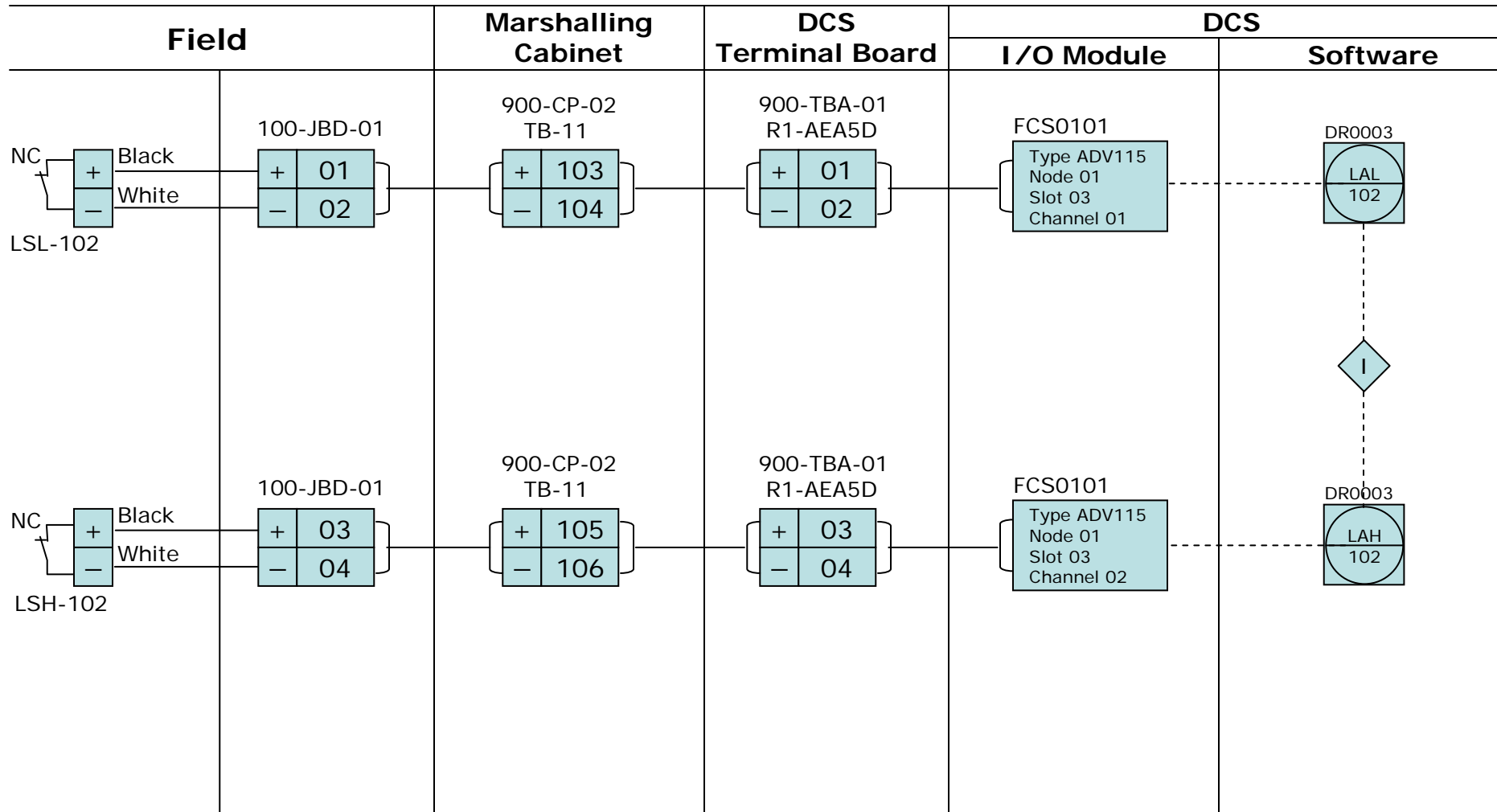
I/O MODULE CREATION

Loop Diagram (2/5) - Analog Input



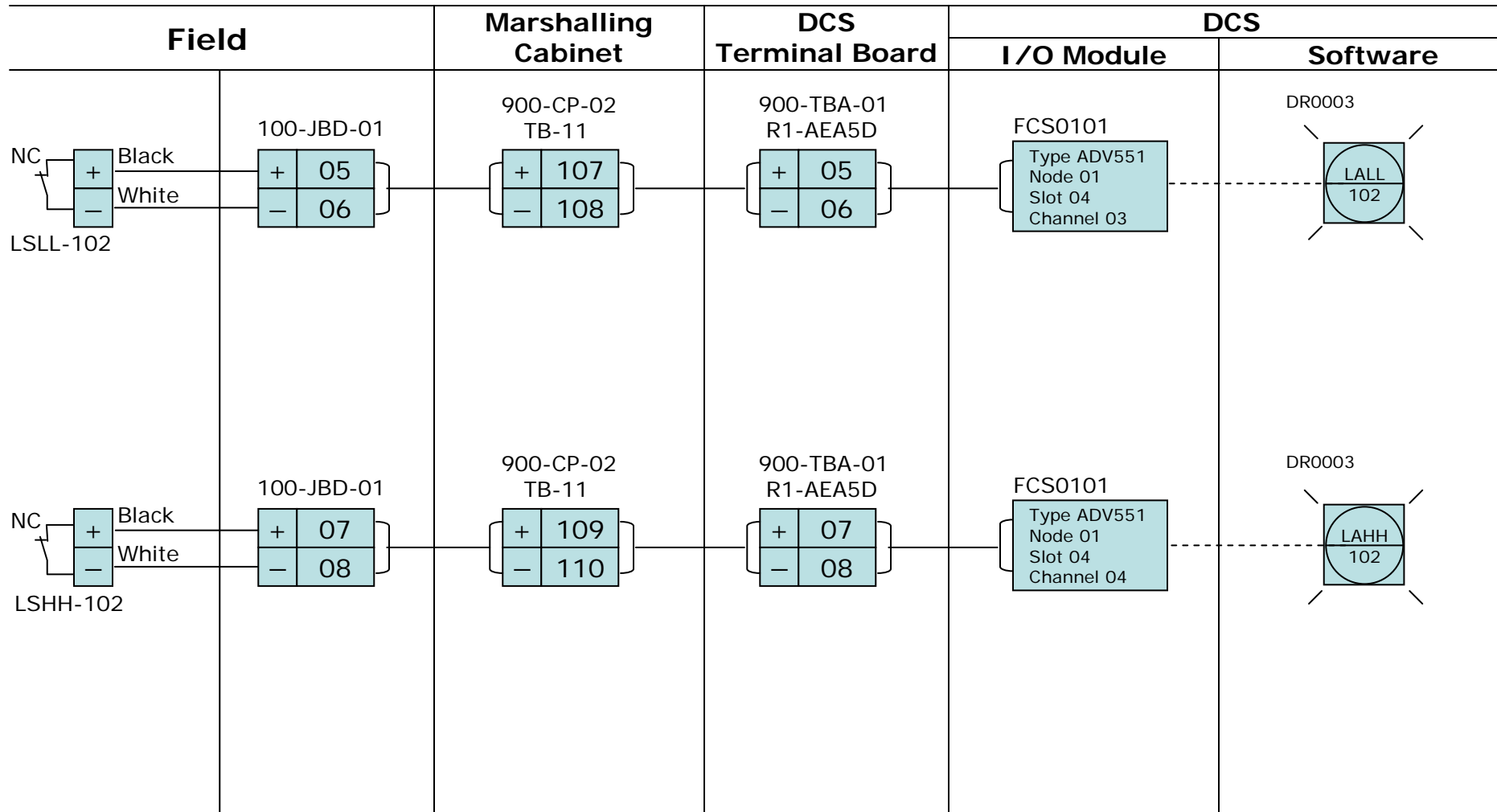
I/O MODULE CREATION

Loop Diagram (3/5) – Digital Input



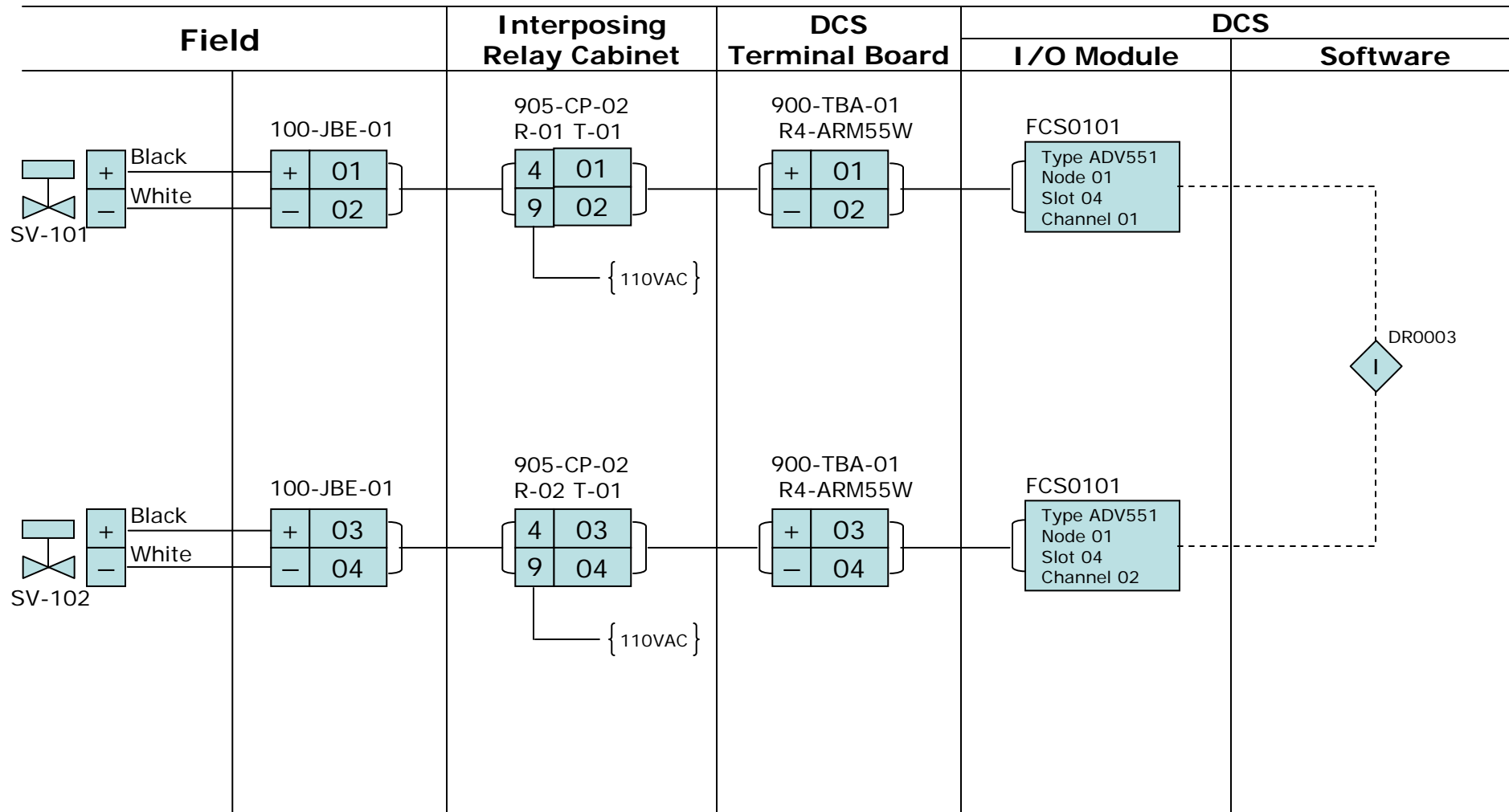
I/O MODULE CREATION

Loop Diagram (4/5) – Digital Input



I/O MODULE CREATION

Loop Diagram (5/5) – Digital Output





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Thanks!