PLANTSCAPE SERVER

OPTIONS STATUS MONITORING

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SESSION OBJECTIVES

At the end of this section of the course the student will be able to:

- Display and interpret the Server Redundancy Status Summary
- Display and interpret Distributed Servers Status Summary
- Display and interpret Hybrid Controller Diagnostic Points

REFERENCES

Knowledge Builder: Server Configuration Guide

Knowledge Builder: Operator's Guide

Monitoring System Status

What Information is Available?

Station provides a number of pages which display the operating status of various components within the Plantscape Server.

These are:

- Channel Status Summary
- Controller Status Summary
- Station Status Summary
- Printer Status Summary
- Server Redundancy Status
- Distributed Servers Status (if optioned)
- Hardware Connections Summary
- Hybrid Controller Processor Status (PlantScape Process only)
- Hybrid Controller I/O Modules Status (PlantScape Process only)

Hardware item alarms may also be displayed in the Alarm Summary, the Alarm Line, and the Status Line.

Only cover Options here

The status of Channels, Controllers, Stations, and Printers, plus the Hardware Connections Summary have already been covered in earlier sections of this course.

In this section we will only cover the status of the options:

- Server Redundancy
- Distributed Server Architecture
- Hybrid Controller

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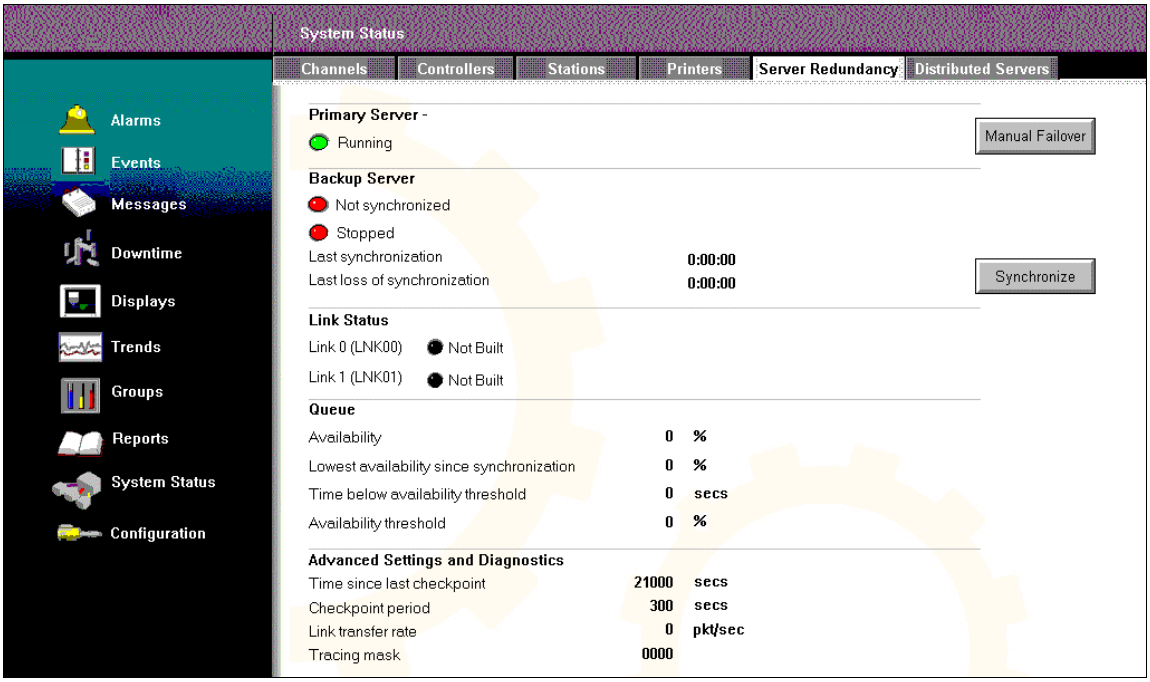
Redundant PlantScape Servers

Server Redundancy Status

If the Server Redundancy option is being used its Status is displayed by choosing:

System Menu→System Status→Server Redundancy tab

or
View→System Status→Server Redundancy



Interpretation of Status Indications		
LED Colour	**Status Text**	**Description**
Green	Running Synchronised Link Available	Servers and Links OK
Red	Failed Not Synchronised Link Unavailable	Backup Server failed or not synchronised

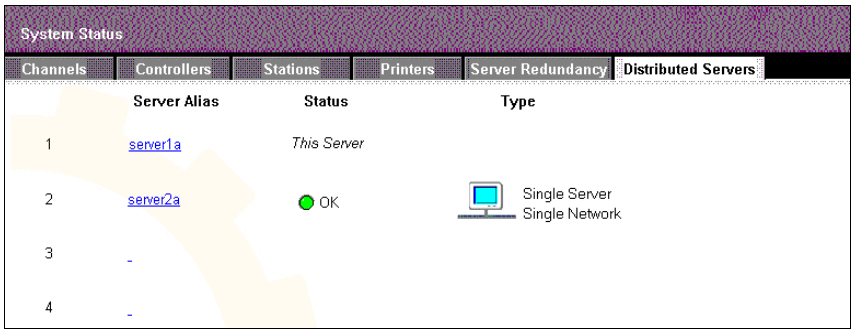
Redundancy is covered in detail in the course
PlantScape Server Implementation - 2

Distributed PlantScape Servers

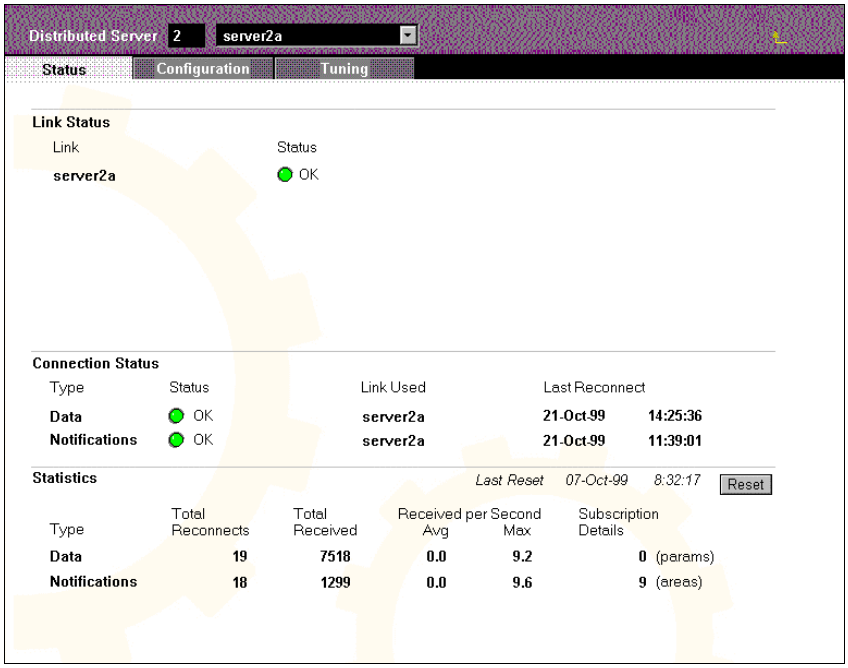
Distributed Servers Status

If the Distributed Server option is being used its Status is displayed by choosing:

System Menu→System Status→Distributed Servers tab



Click on a remote Server's Alias:



There can be up to four Link Status indications depending on whether there are single or dual links to the remote Server, and whether the remote Server is a Redundant pair.

The Connection Status indicates which of the four possible Links are being used for Data and Notifications traffic, using the host file specifications to indicate the Link names.

Hybrid Controller

Overview

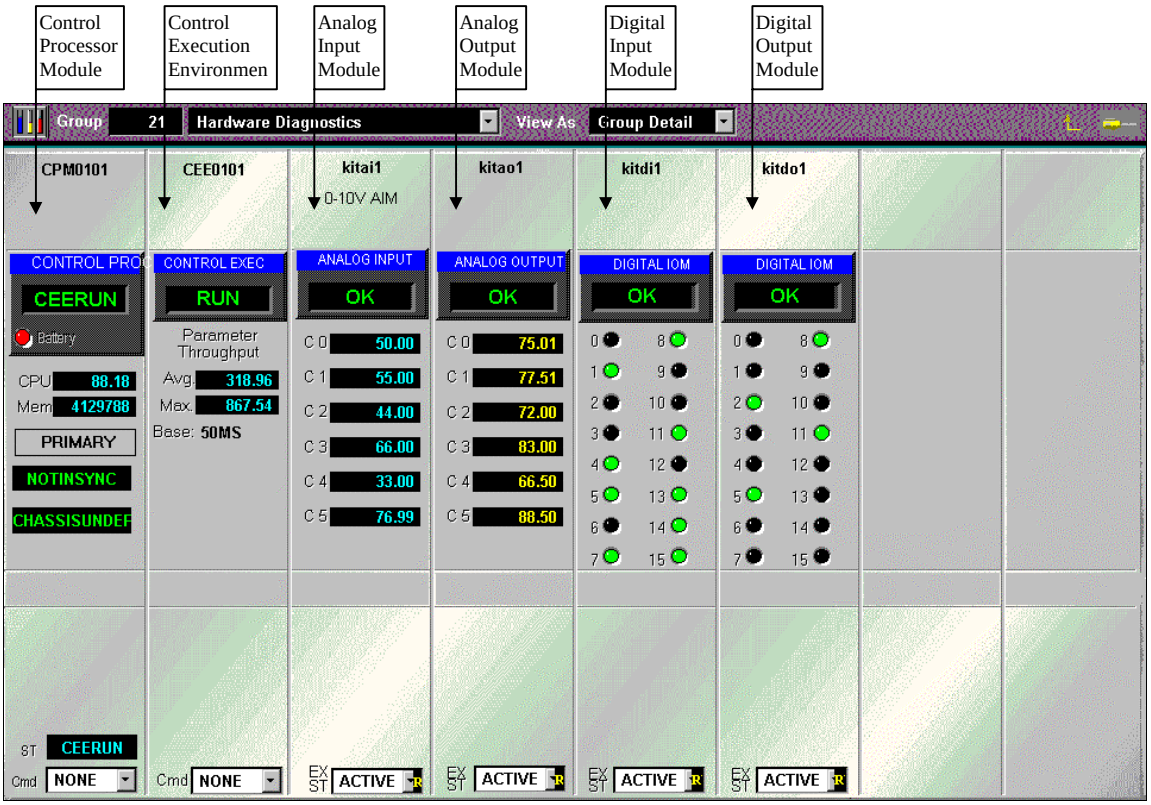
During the configuration of a Hybrid Controller certain points are created in the server that enable monitoring of the controller:

- there is a point to define the location of each Hybrid Controller connected to server through the Supervisory ControlNet
- there is a point to monitor the control software execution within each Hybrid Controller
- there is a point for each I/O Module within each Hybrid Controller and their Remote I/O racks.

Although each of these points can be monitored there is no specific page available. Instead the points can be viewed through the Group and Point Detail pages.

Preformatted Group and Point Detail display files are provided so that Group Details can be created as required. The Detail page for each point can be viewed using the standard methods.

A typical Group of these points is shown here:



Group Detail showing Hybrid Controller Hardware Points

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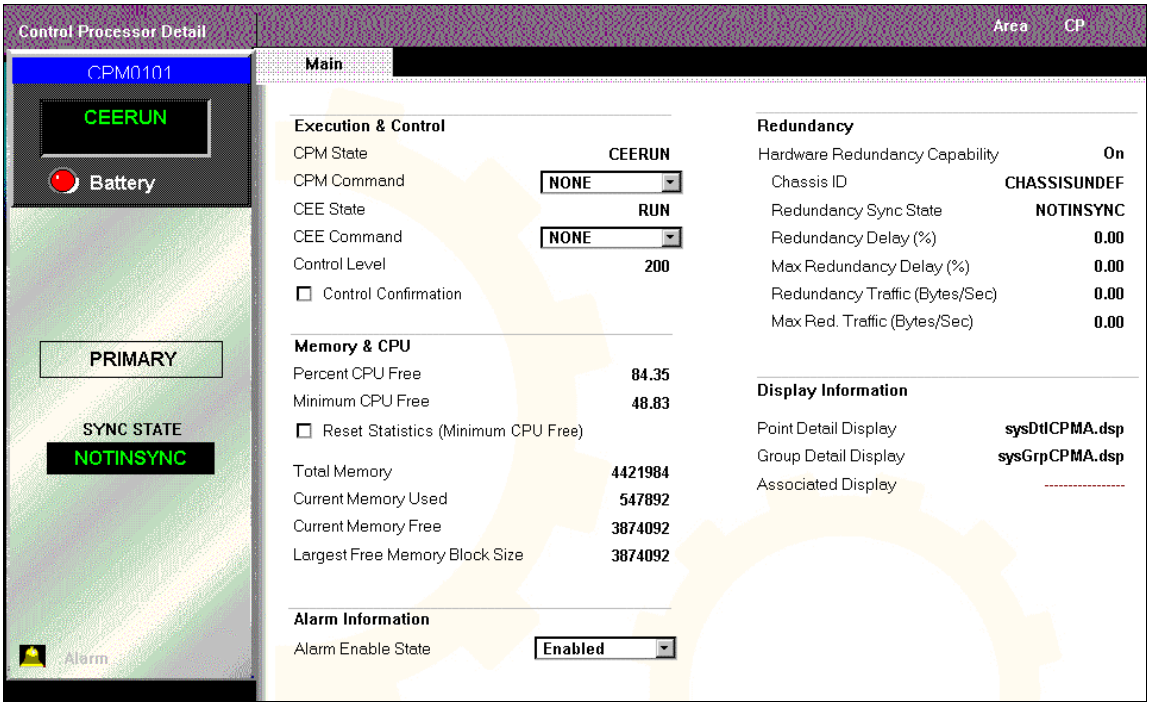
Hybrid Controller…..continued

Control Processor Module Diagnostics



Control Processor Module Diagnostics

Summary of Information

For more detailed information refer to
Knowledge Builder: Function Blocks→CPM

State	RUN	Processor running OK
	CEEIDLE	CPM Database is loaded but CEE is not running.
Command	SHUTDOWN	Halts CPM and deletes database. **Attention** CPM cannot be restarted from this condition from Station
Memory and CPU	% CPU Free	Average CPU load available
	Current Memory Free	Memory available for additional Control Modules and Sequence Control Modules to be loaded from Control Builder

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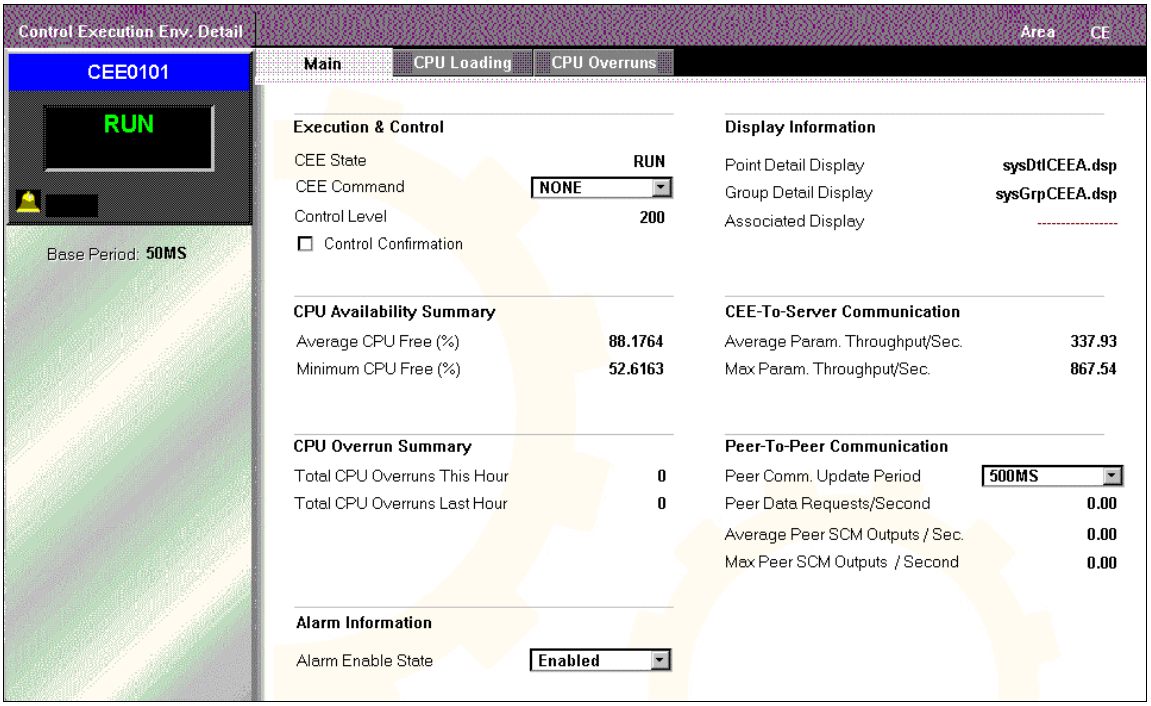
Hybrid Controller…..continued

Control Execution Environment Diagnostics



Control Execution Environment Diagnostics

Summary of Information

For more detailed information refer to
Knowledge Builder: Function Blocks→CEE

State	RUN	All Controller tasks running OK
	IDLE	CPM Database is loaded but CEE is not running.
Command	RUN	Commands the CEE State from Idle to Run.
	IDLE	Commands the CEE State from Run to Idle.
Communication	Avg Parameter Throughput	Average number of parameters per second being passed to the server
CPU Availability	Avg CPU Free	Average CPU load available (total)
	Current Memory Free	Memory available for additional Control Modules to be loaded from Control Builder
CPU Loading	CPU loading per phase	

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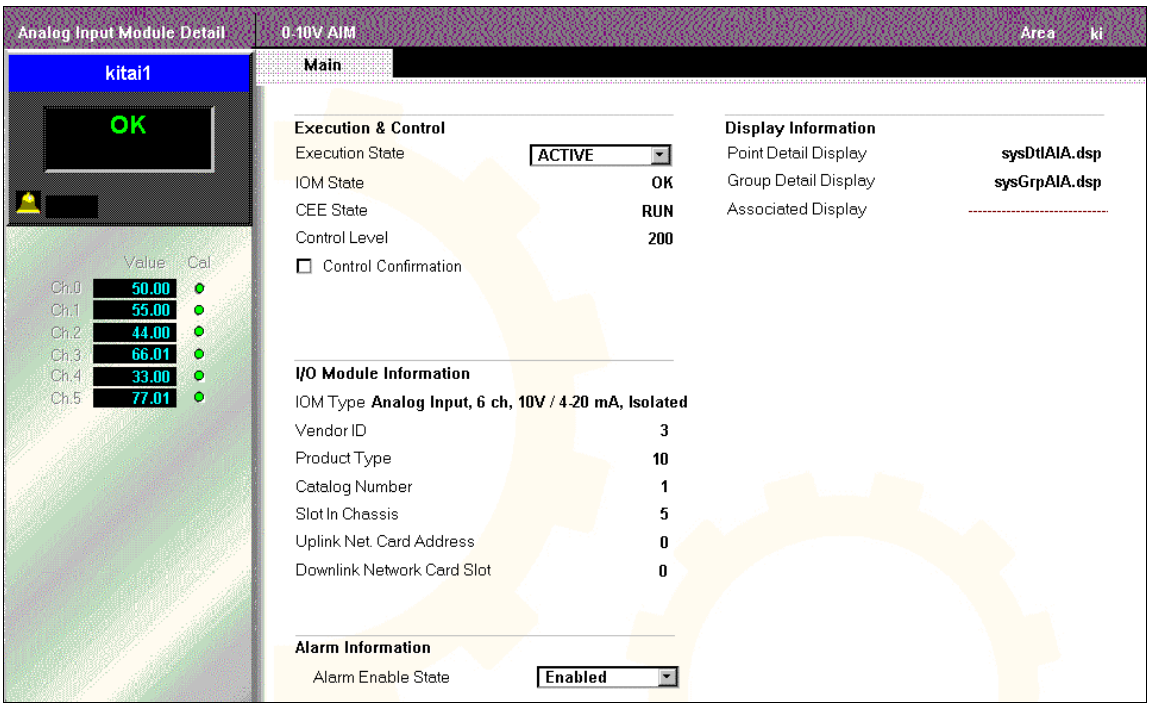
Hybrid Controller…..continued

Analog Input Module Diagnostics



Analog Input Module Diagnostics

Summary of Information

For more detailed information refer to
Knowledge Builder: Function Blocks→IOM

State	OK	Module scanning inputs OK
	INACTIVE	Module not scanning its inputs.
Command	ACTIVE	Commands the Module to ACTIVE state.
	INACTIVE	Commands the Module to INACTIVE state.
Raw Input Values	Raw input value on each channel	

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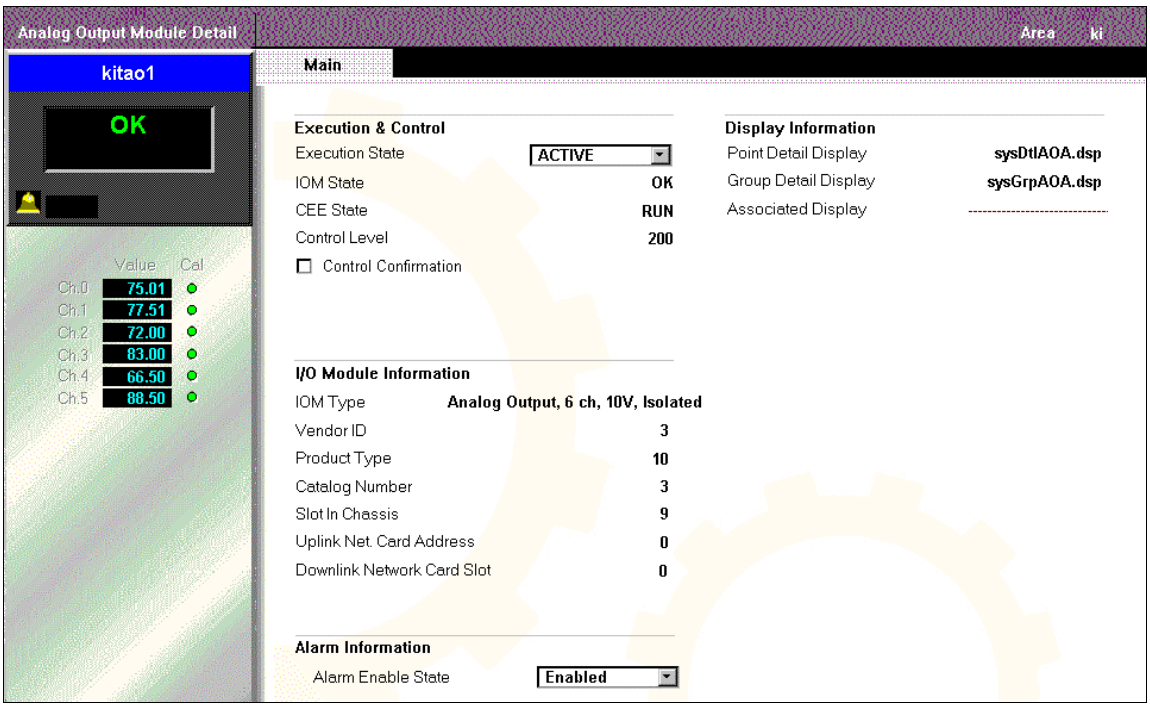
Hybrid Controller…..continued

Analog Output Module Diagnostics



Analog Output Module Diagnostics

Summary of Information

For more detailed information refer to
Knowledge Builder: Function Blocks→IOM

State	OK	Module updating outputs OK
	INACTIVE	Module not updating its outputs.
Command	ACTIVE	Commands the Module to ACTIVE state.
	INACTIVE	Commands the Module to INACTIVE state.
Output Values	Value being presented to the DAC on each channel	

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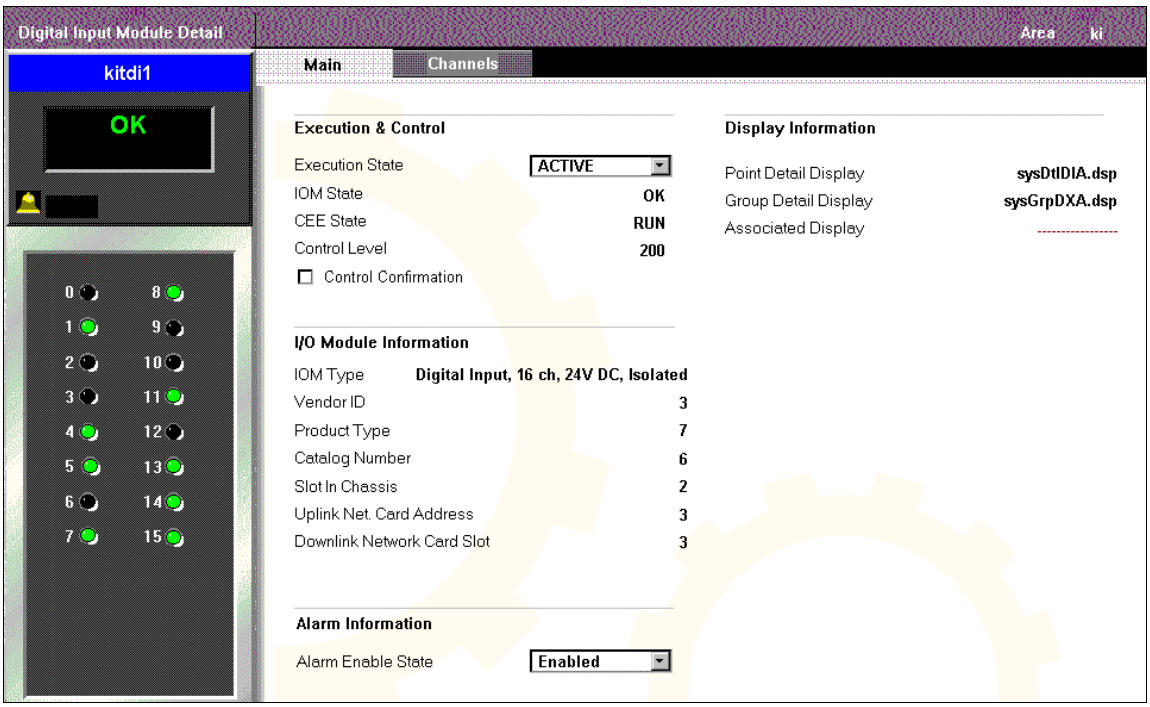
Hybrid Controller…..continued

Digital Input Module Diagnostics



Digital Input Module Diagnostics

Summary of Information

For more detailed information refer to
Knowledge Builder: Function Blocks→IOM

State	OK	Module scanning inputs OK
	INACTIVE	Module not scanning its inputs.
Command	ACTIVE	Commands the Module to ACTIVE state.
	INACTIVE	Commands the Module to INACTIVE state.
Current Values	Status indication of each input channel	

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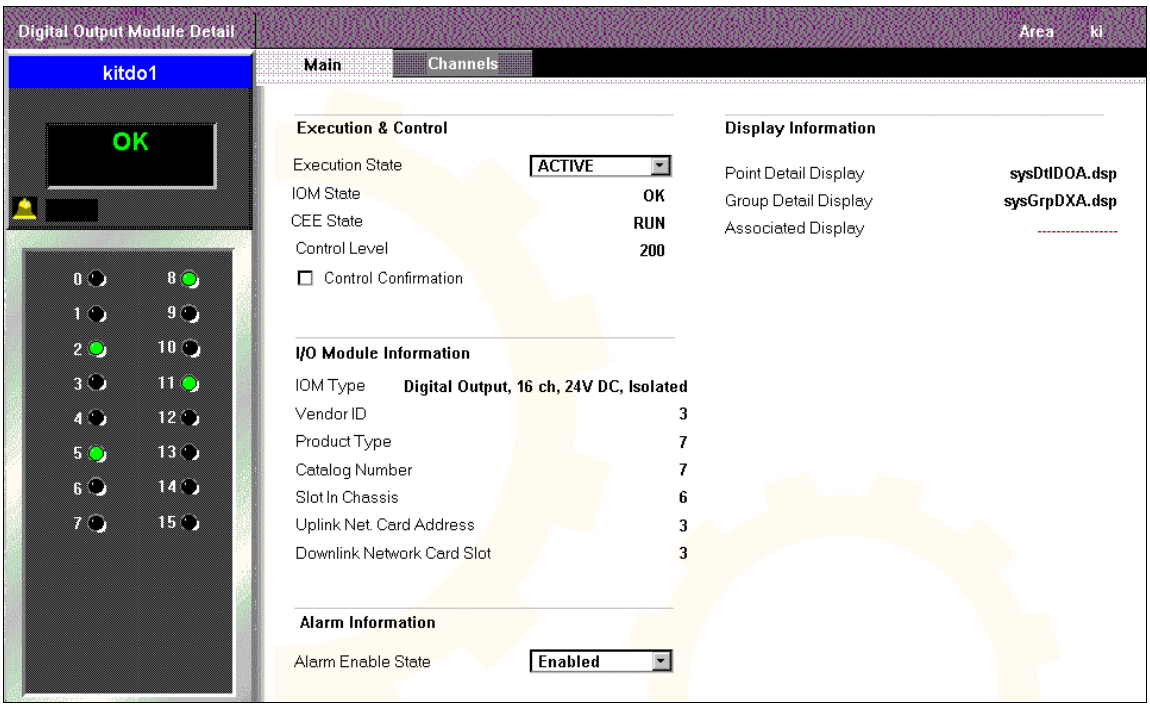
Hybrid Controller…..continued

Digital Output Module Diagnostics



Digital Output Module Diagnostics

Summary of Information

For more detailed information refer to
Knowledge Builder: Function Blocks→IOM

State	OK	Module updating outputs OK
	INACTIVE	Module not updating its outputs.
Command	ACTIVE	Commands the Module to ACTIVE state.
	INACTIVE	Commands the Module to INACTIVE state.
Current Values	Status indication of each output channel	

Lab Exercise - Hardware Monitoring

Hybrid Controller

This exercise will demonstrate the use of Group and Point Detail displays to check the operation of a Hybrid Controller

Step	Action
1	Display Group 9. This has been configured to include the main Hybrid Controller procesor monitoring points, CPM0101 and CEE0101. Check the statistics that these points provide.
2	In addition Group 9 includes a point for each of the analog I/O modules that are mounted in the processor rack. Check the statistics that these points provide.
3	Display Group 10 which includes a point for each of the digital I/O modules that are mounted in the remote I/O rack. Check the statistics that these points provide.