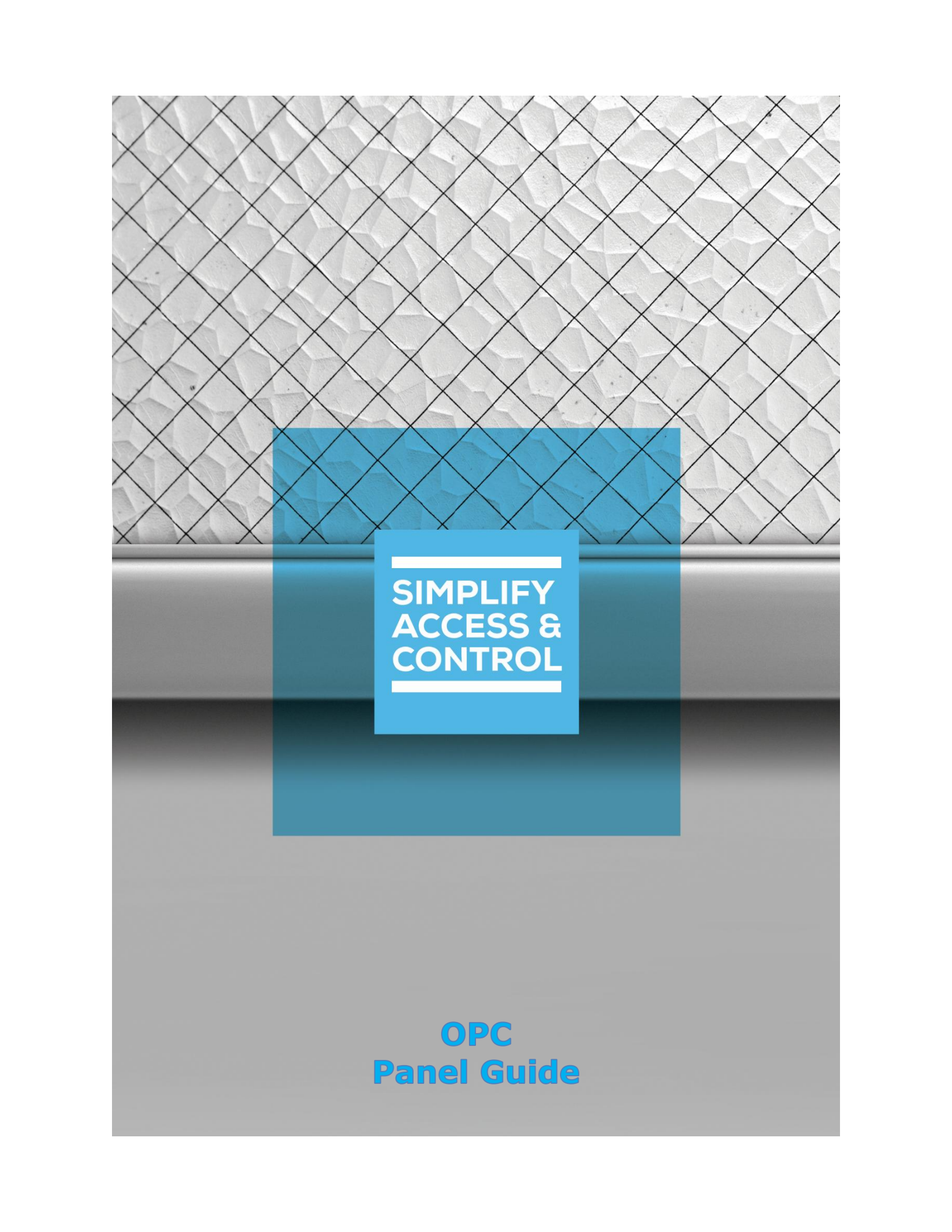




**SIMPLIFY
ACCESS &
CONTROL**

**OPC
Panel Guide**

OPC Panel Guide

Intelli-Site Lite

Security Management Software

OPC Panel Guide

OPC Panel Guide

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OPC Panel Guide

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Email: support@ossi-usa.com

When calling, please be at the computer prepared to provide the following information:

- Product version number, found by selecting the  **About** button from the Intelli-Site Lite Application Menu.
- The type of computer being used, including operating system, processor type, speed, amount of memory, type of display, etc.
- Exact wording of any message that appears on the screen.
- What was occurring when the problem was detected?
- What steps have been taken to reproduce the problem?
- It is highly recommended that the user generate a support package for transmission to Intelli-Site technical support staff. To generate the package, run the Intelli-Site Lite Configuration Utility. *Create Support Package...* is the last option in the **Tools** menu.

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OPC Panel Guide

Introduction

The Intelli-Site OPC panel integration was written using the OPCFoundation.NetStandard.Opc.Ua.Client v1.4.366.38 API. OPC is also known as OPC UA. The names are used interchangeably.

This guide explains using OPC with Intelli-Site Security Management Software.

OPC Panel Guide

Installation Guide

The OPC driver in Intelli-Site must be installed. No external software is needed. Though if using certificates, make sure the certificates are properly installed and configured for the OPC server and the computers on which the driver and Desktop Client will run. Certificates are beyond the scope of this document. Please consult your IT department for help in configuring certificates for the OPC server.

If Intelli-Site has been installed without the OPC driver, run the Intelli-Site installer again and select **Modify**.

During the installation or modify installation process, you are presented with the **Select the drivers you want to install** window.

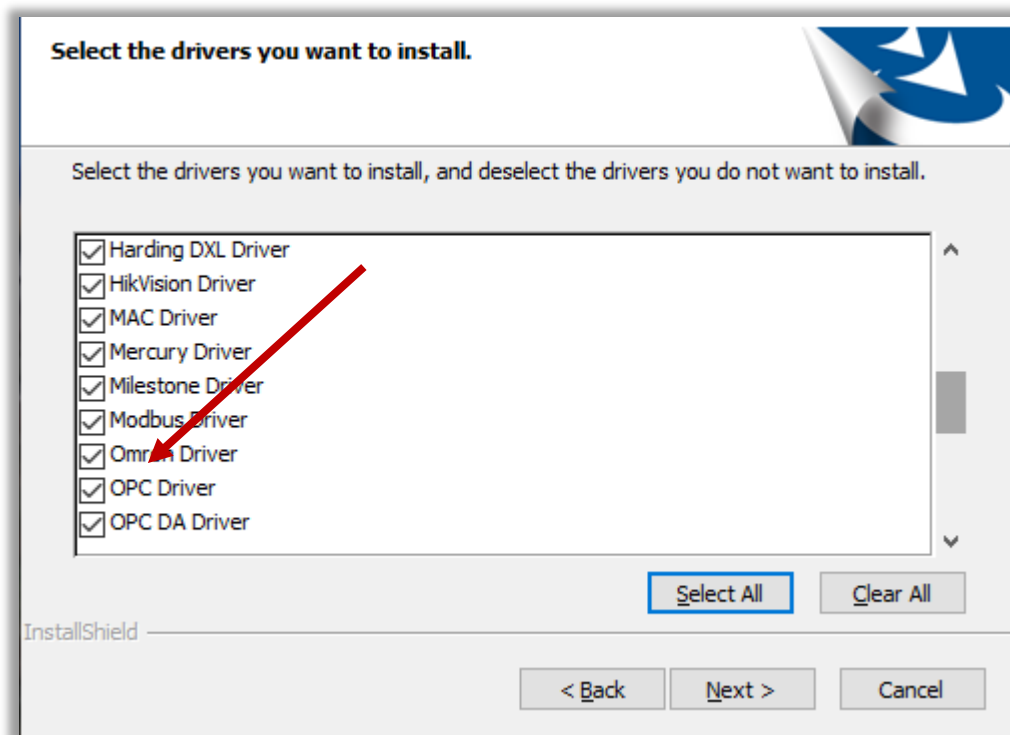


Figure 1 - Select the drivers you want to install

Ensure the **OPC Driver** option is checked then continue with the installation or modification.

Note: It may be necessary to scroll down to locate the desired driver.

OPC Panel Guide

Hardware Management View

The OPC driver and OPC panel are best configured in  **Hardware Management View**. Once configured, the panels can be easily monitored and controlled using their panel control screens.

Setup

The OPC driver and OPC panel are best configured in  **Hardware Management View**. Before the driver and panel can be configured, collect the following information.

- IP Address and Port Number of the OPC server
- The connection protocol with which it has been configured (*http, opc.tcp, or https REST*)
- The path
- The Security Mode
- The Security Policy
- Login Credentials if needed

Once the above information is obtained, the setup process is straight forward.

1. Add the OPC Driver
2. Add the OPC Panel
3. Configure the Panel
4. Enable the Driver

Add the OPC Driver

Adding the OPC Driver is simple, but important. Without it, no communication with the OPC panels can occur.

Launch the Desktop Client and login.

Hardware is managed in the  **Hardware Management View**. If you are not in  **Hardware Management View**, click on  and select .

OPC Panel Guide

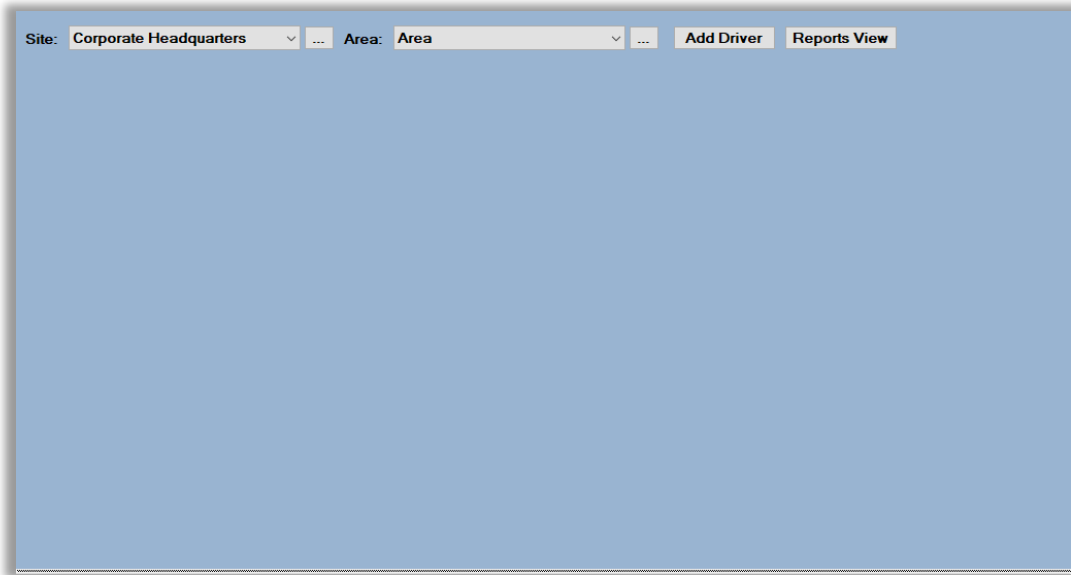


Figure 2 - Hardware Management View

To add the OPC driver, click **Add Driver**. The **Choose Driver Type** dialog displays.

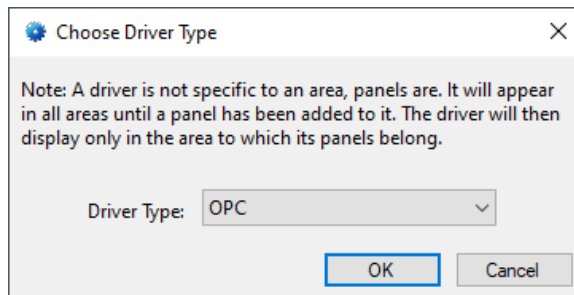


Figure 3 - Choose Driver Type Dialog

Select *OPC* from the **Driver Type** drop-down menu in the **Choose Driver Type** dialog. Click **OK**. A new OPC driver icon is added to the screen and its properties dialog opens.

Note: If only one driver is installed, the Choose Driver Type dialog does not display. The driver is automatically added and the properties dialog is opened.

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The screenshot shows a Windows-style dialog box titled "[1331] New OPC Driver". It features a "Properties" tab. The "Name" field contains "New OPC Driver". The "ID" field shows "1331". The "User Level" is set to "All Access". There is a large empty "Notes" text area. The "Enabled" checkbox is unchecked. The "Default Retry Start Delay" checkbox is checked, and the "Retry Start Delay" is set to "15". The "Publishing Interval" is set to "250". At the bottom, there are two empty list boxes: "Panel List" and "Computer List". The "Computer List" contains one item, "[4] LATWindows10", which is highlighted. "OK" and "Cancel" buttons are located at the bottom right.

Figure 4 - OPC Driver Properties Dialog

Please change the name of the driver to reflect the use and/or location of the panels that this driver will manage. If the **Computer List** does not contain the local machine's name, change it. Click in the field and a **Select Tree Item** window will display the computer nodes. Select the correct computer node. If the local computer is not in the list, see the Intelli-Site User's Guide.

Note: For an explanation of all of the properties of the driver, see [OPC Driver Node](#).

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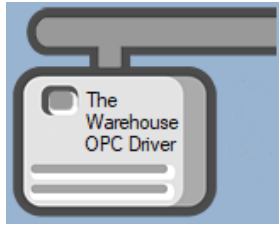


Figure 5 - OPC Driver Icon

The OPC panel is an OPC UA client written using an API. Therefore, no communication method is needed. The driver talks to the server directly.

Add the OPC Panel

Once the OPC driver has been added, it's time to add the OPC panel to it.

Right-click on the OPC Driver and select *Add Panel*. The **Add Panel** dialog displays.

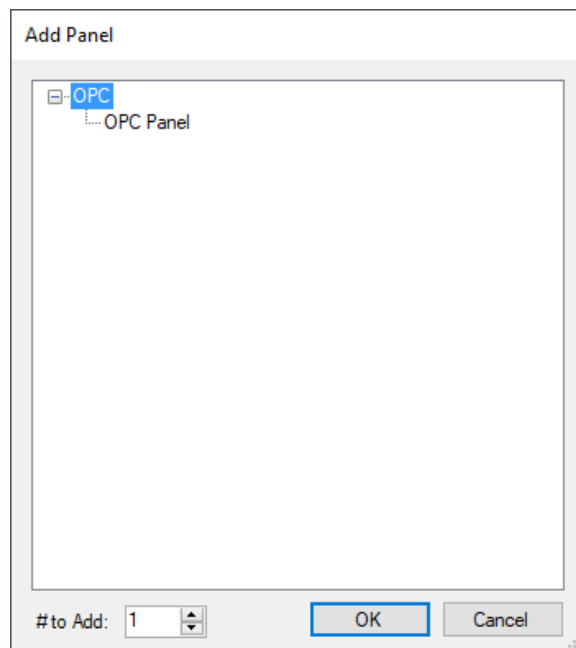


Figure 6 - Add Panel Dialog

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This dialog only displays the panels that are appropriate for the target driver. Select the OPC panel. Normally, there is only one OPC server running on a given computer. If your facility has more than one on this computer, then change **# to Add** to the number of OPC servers on this computer. Additional panels can be added later. Click . A **New OPC** icon is added to the target OPC driver.



Figure 7 - A new OPC panel attached to the OPC driver

Next comes configuring the panel.

OPC Panel Guide

Configure the OPC Panel

The OPC panel is configured using the **Quick Config** dialog. To open the **Quick Config** dialog, right-click on the OPC icon and select *Quick Config*.

Configure New OPC Panel

Panel Name: Virtual: ☐

Connection Settings

Protocol: Security Mode:

Address: Security Policy:

Port: Anonymous: ☐

Path: User Name:

Password:

Nodes:

Node Settings

Name:

Node ID:

Node Type:

Attributes:

Attribute	Value
-----------	-------

Import Nodes Delete

Apply OK Cancel

Figure 8 – OPC Panel Quick Config Dialog

Change the **Panel Name** to describe its use or location. Set the **Protocol**, **Address**, **Port**, and **Path** fields to those of the OPC panel. Set the **Security Mode** and the **Security Policy** for the panel. If the driver must supply a username and password when communicating to the panel, enter the credentials in the **User Name** and **Password** fields. If anonymous login is allowed, check **Anonymous**. Click to save the information supplied.

OPC Panel Guide

The screenshot shows a software window titled "Configure New OPC Panel" with a close button (X) in the top right corner. The window is divided into several sections:

- Panel Name:** A text field containing "The Warehouse OPC Panel".
- Virtual:** An unchecked checkbox.
- Connection Settings:** A section containing:
 - Protocol:** A dropdown menu set to "opc.tcp".
 - Address:** A text field containing "192.168.13.210".
 - Port:** A spinner box set to "49320".
 - Path:** A text field containing "/".
 - Security Mode:** A dropdown menu set to "None".
 - Security Policy:** A dropdown menu set to "None".
 - Anonymous:** A checked checkbox.
 - User Name:** An empty text field.
 - Password:** An empty text field.
- Nodes:** A large empty rectangular area on the left side.
- Node Settings:** A section on the right containing:
 - Name:** An empty text field.
 - Node ID:** An empty text field.
 - Node Type:** An empty text field.
 - Attributes:** A table with two columns: "Attribute" and "Value". The table body is currently empty.

At the bottom right of the window, there are four buttons: "Apply", "OK", "Cancel", and "Import Nodes".

Figure 9 - Example Connection Settings

OPC Panel Guide

Next, we need to add the nodes from the panel. To import the nodes from the panel, click **Import Nodes**. The Desktop Client will use the **Connection Settings** to login to the panel and import the nodes to an **Import Nodes** dialog from which you will select the desired nodes. Retrieving the available nodes from the panel may take some time. When the nodes have been retrieved an **Import Notes** dialog displays.

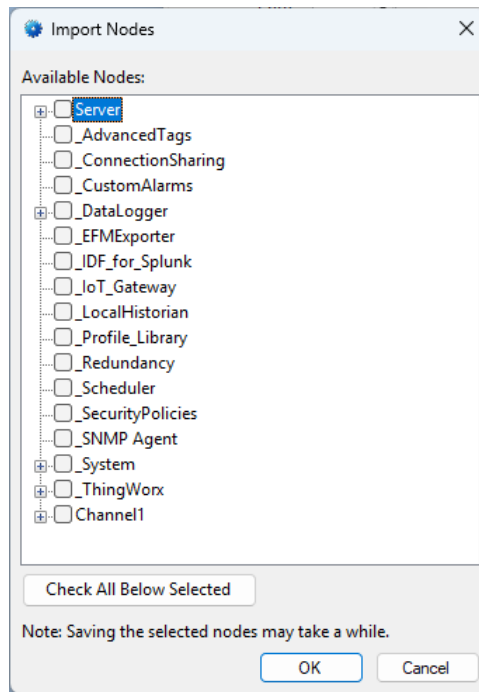


Figure 10 - Import Nodes dialog

The **Available Nodes** is a tree view of all the available nodes. Please select the nodes that the driver will poll and control.

Notice the **Check All Below Selected** button. Click this button to select all of the child nodes of the currently selected node. This will include every child node of the selected node including its child node's children. See the following figure.

OPC Panel Guide

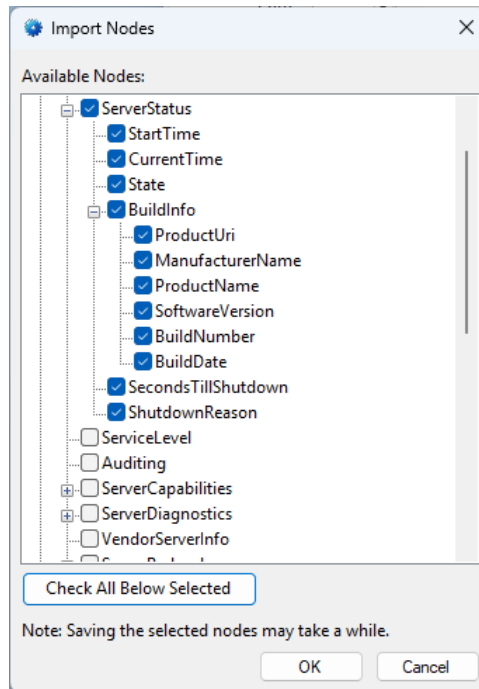


Figure 11 - Check All Nodes Below Selected for ServerStatus

ServerStatus is a child node of System. **ServerStatus** was selected and the button was clicked. Notice **ServerStatus** and all of its child nodes are now checked.

Click to save the selections. As noted, saving the selected nodes may take a while. Please wait while it creates the tree structure and nodes. When the **Import Nodes** dialog disappears, the selected nodes can be found in the **Nodes** tree box in the **Quick Config** dialog.

OPC Panel Guide

Configure The Warehouse OPC Panel

Panel Name: Virtual: ☐

Connection Settings

Protocol: Security Mode:

Address: Security Policy:

Port: Anonymous: ☒

Path: User Name:

Password:

Nodes:

- Channel1

Node Settings

Name:

Node ID:

Node Type:

Attributes:

Attribute	Value
-----------	-------

Import Nodes Delete

Apply OK Cancel

Figure 12 - Quick Config after Import Nodes

Now that the panel is configured, we can enable the driver.

Enable the OPC Driver

At this point, the OPC panel and the OPC driver are configured, but the driver is not online. A quick way to know this is that the communication indicator is grey.



Figure 13 – Disabled OPC Driver

OPC Panel Guide

Right-click on the driver to open the context menu; select *Enable Driver*. The communications indicator will change color to green when it's online.

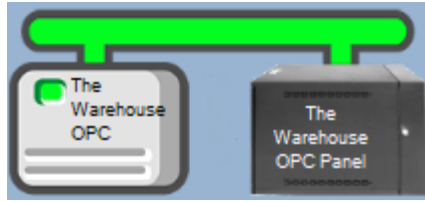


Figure 14 - Enabled OPC Driver

If for some reason the Engine cannot connect to the Driver Service or the Driver cannot connect to the OPC, the communication indicator will be red.



Figure 15 - Enabled OPC Driver that is not communicating with the Driver Service



Figure 16 - Enabled OPC Driver that is communicating with the Driver Service but NOT the panel

Congratulations! The OPC panel is integrated and ready to use in screen design for  **Live View**. Screen design occurs in  **Design View**.

Panel Control Screen

Every OPC panel has a **Panel Control Screen**. From this screen, the user can monitor the current state of the panel. Clicking on the panel icon in  **Hardware Management View** opens the **Panel Control Screen** of the target panel. The content of the screen is dictated by the panel.

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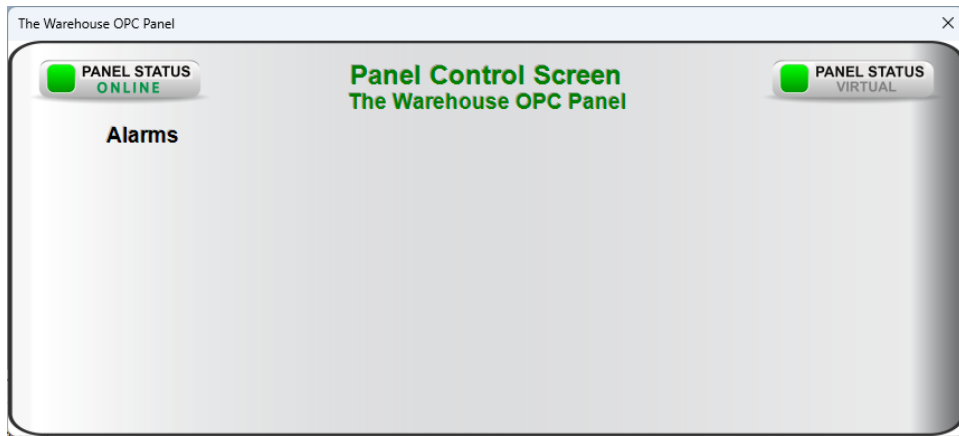


Figure 17 - Sample OPC Panel Control Screen

Because there are no I/O Points associated with the OPC panel when the panel is added, there are no points on this screen other than the Online Panel Status and the Virtual Panel Status.

Once the panel has been configured, screen objects can be added to this **Panel Control Screen** popup screen to give the user quick access to the point states and values. See [The Panel Control Screen](#) in Project Programming.

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Design View

 **Design View** is the home of the Project Node Tree and the place where screens and screen objects are programmed. The following sections explain the OPC Driver node properties, the OPC node properties, and screen object programming, especially the automatically created screen objects.

OPC Driver Node

The OPC driver node is found by expanding **Setup->Computer Setup->Drivers**.

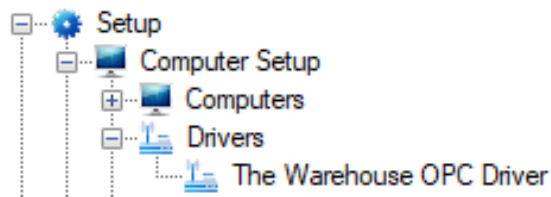


Figure 18 - OPC Driver node in the Project Node Tree

Right-click on the driver node and select *Properties* to open the properties dialog.

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The screenshot shows a Windows-style dialog box titled "[3454] The Warehouse OPC Driver". It has a "Properties" tab. The fields are as follows:

- Name:** A text box containing "The Warehouse OPC Driver".
- ID:** A numeric spinner box set to "3454".
- User Level:** A drop-down menu showing "All Access".
- Notes:** A large empty text area.
- Enabled:** An unchecked checkbox.
- Default Retry Start Delay:** A checked checkbox.
- Publishing Interval:** A numeric spinner box set to "250".
- Retry Start Delay:** A numeric spinner box set to "15".
- Panel List:** A list box containing "[3455] The Warehouse OPC Panel".
- Computer List:** A list box containing "[4] LATWindows10".

At the bottom right are "OK" and "Cancel" buttons.

Figure 19 - OPC Driver properties dialog

Name – edit box; the name for the node; the name doesn't have to be unique

ID – numeric (disabled); the unique identifier of this node; generated by the software

User Level – drop-down menu (default: All Access); the User Level a user must possess to open the properties for this node

Notes – multiline edit box; any notes the user may have for the node

Enabled – check box; when checked the driver is enabled

Default Retry Start Delay – check box (default: checked); if the driver did not connect, pause before attempting to connect again

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Retry Start Delay – numeric (default: 15); number of seconds to wait between retries on connection attempts

Publishing Interval – numeric (default: 250); the cyclic rate at which the server gathers notifications (like data changes or events) and sends them as messages to a client

Panel List- drop box; the OPC panel nodes attached to this driver

Computer List – drop box (default: the computer on which the Engine is running); the computer node on which this driver is running

OPC Panel Node

The OPC panel node is found by expanding **System Layout** then the Site and Area to which the OPC panel was added in  **Hardware Management View**. In the example below, the panel was added to the site **Corporate Headquarters** and the area **Area**.

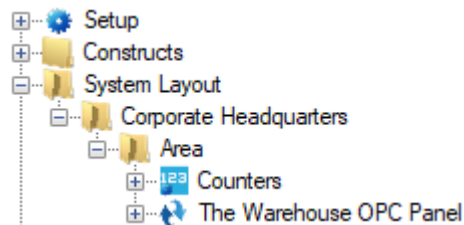


Figure 20 - The OPC panel node in the Project Node Tree

The OPC panel node is the root node for the panel. The following sections will explain:

- The configuration of the OPC panel (a.k.a. **Quick Config**)
- The properties of the OPC panel node
- The child nodes of the OPC panel

OPC Panel Quick Config

The **Quick Config** dialog is accessible either in  **Hardware Management View** or in  **Design View**. To open the **Quick Config** dialog, right-click on the OPC panel node and select *Quick Config*.

OPC Panel Guide

Configure The Warehouse OPC Panel

Panel Name: Virtual: ☐

Connection Settings

Protocol: Security Mode:

Address: Security Policy:

Port: Anonymous: ☒

Path: User Name:

Password:

Nodes:

- Channel1
 - _Statistics
 - _System
 - Device1
 - _System
 - _Hints
 - Tag1
 - Tag2
 - _Address
 - _ClientAccess
 - _Description
 - _Name
 - _NegateValue
 - _RawDataType
 - _ScalingClampHigh
 - _ScalingClampLow
 - _ScalingRawHigh
 - _ScalingRawLow
 - _ScalingScaledDataType
 - _ScalingScaledHigh
 - _ScalingScaledLow
 - _ScalingType

Node Settings

Name:

Node ID:

Node Type:

Attributes:

Attribute	Value
AccessLevel	3
AccessLevelEx	0
AccessRestrictions	0
BrowseName	2:Tag2
DataType	i=5
Description	
DisplayName	Tag2
Historizing	False
MinimumSamplingInterval	10

Import Nodes Delete

Apply OK Cancel

Figure 21 - OPC panel Quick Config dialog

Panel Name – edit box; the name of the OPC panel; updating this field will change the name of the node

Virtual – check box; when checked the panel is virtualized, allowing the driver to be brought online without having the physical panel available

Connection Settings – group box; the properties necessary to connect to the server

Protocol – drop-down list; the protocol used to connect to the server

Address – edit box; the IP address or DNS name of the server

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Port – numeric; the port number used to connect to the server

Path – edit box; the fully qualified path to the server

Security Mode – drop-down list; the security mode used by the server

Security Policy – drop-down list; the security policy used by the server

Anonymous – check box; when checked, the software will attempt to connect to the server anonymously. The **User Name** and **Password** fields are disabled when checked.

User Name – edit box; the username to use when logging in to the server

Password – edit box; the password to use when logging in to the server

Nodes – tree control; the nodes that were imported from the server

Node Settings – group box; the information about the node selected in the **Nodes** tree control

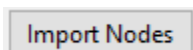
Name – edit box; the node's name

Node ID – edit box (disabled); the node's ID

Node Type – edit box (disabled); the node's data type

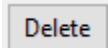
Attributes – table; the various attributes of the node and their corresponding values

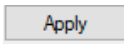
Note: *The attributes and their values are imported from the panel. Changes to these values in the software are never sent to the panel. The values should only be modified to reflect changes made to the panel by an OPC expert. OSSI is not responsible for any modifications made to the values that were imported.*



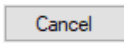
- button; used to import the nodes from the panel

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 - button; delete the selected node

 - button; save all modifications but do not close the dialog

 - button; save all modifications and close the dialog

 - button; abandon any modifications and close the dialog

OPC Panel Node Properties

Right-click on the OPC panel node to open the properties. The **Quick Config** dialog is the only means to manage the panel and its child node properties. It has all the fields of any node with a few additional fields specific to the panel.

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[3455] The Warehouse OPC Panel

Properties

Name: The Warehouse OPC Panel ID: 3455

User Level: All Access

Notes:

Virtual: ☐ Virtual Point:

Connection Settings

Protocol: opc.tcp

Address: 192.168.13.210

Port: 49320

Path: /

Security Mode: None

Security Policy: Basic256Sha256

Anonymous: ☒

User Name:

Password:

Apply OK Cancel

Figure 22 - OPC node properties dialog

Connection Settings – group box; the properties necessary to connect to the server

Protocol – drop-down list; the protocol used to connect to the server

Address – edit box; the IP address or DNS name of the server

Port – numeric; the port number used to connect to the server

Path – edit box; the fully qualified path to the server

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Security Mode – drop-down list; the security mode used by the server

Security Policy – drop-down list; the security policy used by the server

Anonymous – check box; when checked, the software will attempt to connect to the server anonymously. The **User Name** and **Password** fields are disabled when checked.

User Name – edit box; the username to use when logging in to the server

Password – edit box; the password to use when logging in to the server

OPC Child Nodes

The OPC child nodes are the **Alarms** node and the nodes imported in the **Quick Config**. When a node is added in **Quick Config**, a node is added to the panel node in the Tree for that node. Any points that are children of the node in the **Quick Config** are added to the Tree as child nodes of the node. The alarms are children of the **Alarms** node.

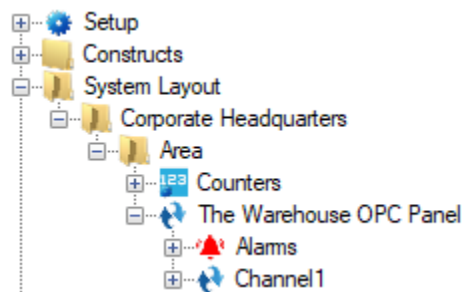


Figure 23 - Sample panel node with one imported node

Note: While nodes and even point nodes can be added in Design View, please use Quick Config to ensure the tag information matches the information in the actual panel.

Alarms

The alarm for the OPC is located under the **Alarms** node. There is one (1) alarm, **Panel Status**.

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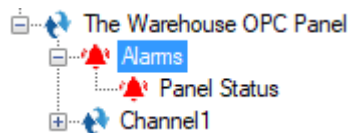


Figure 24 - OPC panel Alarms child nodes

The **Panel Status** point is high when the panel is offline (assuming the driver is online, and the panel is not virtualized).

Point Nodes

Each node imported via the **Quick Config** is added as child nodes of the panel node in the Project Node Tree. These child nodes are exactly as they appear in the **Quick Config**. This tree reflects the structure of the points and tags in the panel. While they are referred to as points in general, they are specifically *Points* or *Values*. The node's **Node Type** determines if it is a *Point* or a *Value* or neither. Tags of **Node Type Boolean** are points. A *Point* can only be 0 or 1, on or off, high or low. Tags of **Node Type Byte, Int16, UInt16, Int32, UInt32, Int64, UInt64, Float, or Double** are values. Value nodes can also have child nodes (a.k.a. sub-nodes) added to them in  **Design View**. These points are much like counter value nodes for counters.

Point Node Properties

Each point node has the same **Properties** dialog. Right-click on the point node to open the properties. These fields are specifically about the point. The **Quick Config** dialog is the recommended means to manage the point node properties. The point node is a special kind of I/O Point node called GenProto node. It has all the fields of an I/O Point with a few additional fields specific to the point. We will only discuss the additional fields. For an explanation of the I/O Point, see section **The Properties Dialog** of the Intelli-Site Lite User's Guide.

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Attribute	Value
AccessLevel	3
AccessLevelEx	0
AccessRestrictions	0
BrowseName	2:Tag1
DataType	i=5
Description	
DisplayName	Tag1
Historizing	False

Figure 25 - Point node properties dialog

Current Value – numeric (disabled); the current value of the point

High Threshold – numeric; when the **Current Value** is equal to or greater than this number, the point is high; disabled when the tag is of type *Boolean*

Node Type – edit box (disabled) (values: *None, Boolean, Byte, Int16, UInt16, Int32, UInt32, Int64, UInt64, Float, Double*); the tag's data type

Attributes – table; the attributes of the tag and their current values

Note: *The attributes and their values are imported from the panel. Changes to these values in the software are never sent to the panel. The values should only be modified to reflect changes made to the panel by an OPC expert. OSSI is not responsible for any modifications made to the values that were imported.*

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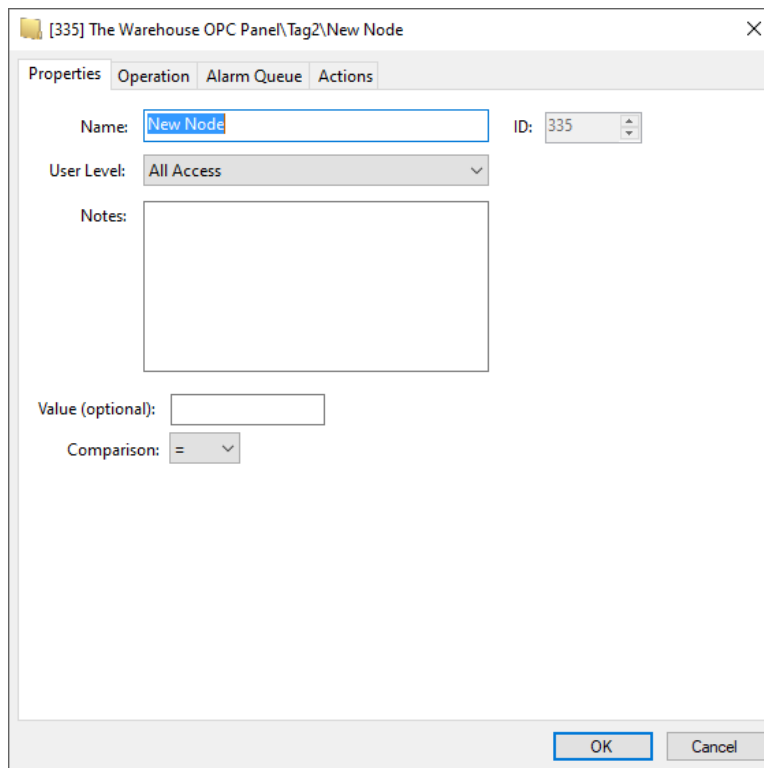
Value Sub-Nodes

When a point node is a value type tag, it can have value sub-nodes. Like their parents, these sub-nodes are special GenProto nodes. They are like counter value nodes in that their state is tied to the current value of their parent node. And like a counter value, when a value sub-node is the target of a **SendCommand** action, the parent node is acted on by the value child node if possible.

To better understand these nodes, let's examine the properties dialog. Because a value sub-node is a GenProto node, we will only discuss the additional fields specific to a value sub-node. For an explanation of the rest of the fields and tabs, see section **The Properties Dialog** of the Intelli-Site Lite User's Guide.

First, though, one needs to add a value child node. Locate the desired point node in the Tree. Right-click on it and select either *Add Node*, or *Add Node and Edit*.

Note: If the point node is not a Value node, these menu options are disabled.



The screenshot shows a dialog box titled "[335] The Warehouse OPC Panel\Tag2\New Node". It has four tabs: "Properties", "Operation", "Alarm Queue", and "Actions". The "Properties" tab is active. Inside the dialog, there are several fields: "Name" with the text "New Node", "ID" with the value "335", "User Level" set to "All Access", a large "Notes" text area, "Value (optional)" with an empty input field, and "Comparison" set to "=". At the bottom right are "OK" and "Cancel" buttons.

Figure 26 - Value Sub-Node properties dialog

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The Properties tab has the standard properties of **Name**, **ID**, **User Level**, and **Notes**. It has two new fields.

Value (optional) – numeric; It is an optional field. If it is empty, this node is treated as a group node. This means even value sub-nodes can have child nodes. There is no limit to the depth of child nodes. This gives the user flexibility in organizing the sub-values. Even if the value sub-node has a number in the **Value** field, it can still have child nodes of its own.

Comparison – drop-down list (values: =, >, <); the comparison operator used to determine the state of this sub-value node; when the comparison is true, the point is high; when the comparison is false, the point is low.

The parent Value node can be set to the value of this sub-node using **SendCommand** with the sub-value node as the target.

Project Programming

The point nodes can be used in project programming in evaluation grids and in action grids. The point nodes can also be dragged and dropped onto screens to automatically create screen objects.

Evaluation Grids and Action Grids

The panel and point nodes can be used in evaluation and action grids.

The Panel Node

When a panel node is used in the evaluation grid, there are two **Selection** options: *Virtual* and *Driver Online*.

Point	Selection	Qual.	Oper.	
▶ [3455] The Warehouse OPC Panel	▼	▼	▼	▲
	Virtual	▼	▼	
	Driver Offline	▼	▼	
	** Not Available **	▼	▼	▼

The panel node can be used in action grids as the target of the following actions:

- **VirtualizePanel**
- **UnvirtualizePanel**

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	Action	Target
▶ 1	VirtualizePanel	[3455] The Warehouse OPC Panel
2		
3		
4		
5		
6		

The Point Nodes

The point nodes are I/O Points. Therefore, they can be used in evaluation grids and action grids.

The value of a point node, a point with **Node Type** of Boolean, can be toggled using **SendCommand** with the point node as the target. If the current state of the point node is high or on, **SendCommand** will cause the point's state to toggle to low or off and vice versa.

	Action	Target
▶ 1	SendCommand	[3495] The Warehouse OPC Panel\System_Error
2		
3		
4		
5		
6		

Figure 27 - Example Action grid using a point node

The Sub-nodes of Point Nodes

The sub-nodes of Point Nodes of **Node Type** value can be used in action grids to modify the Point Node's value. To set the parent Value node to equal the sub-node, use **SendCommand** and target the sub-node.

	Action	Target
▶ 1	SendCommand	[335] The Warehouse OPC Panel\Tag2\Tag2=22
2		
3		
4		
5		
6		

Figure 28 - Example Action grid using a sub-value node

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Automatically Created Screen Objects

The point nodes can be used as evaluation points for the evaluation grids of screen objects. This allows the user to monitor and control the state of each point.

Instead of programming the screen objects by hand, drag and drop the nodes onto the screen to automatically create screen objects that are programmed based on the type of point it is.

Remember that point nodes are either points or values based on their tag **Node Type**. Each can be dragged and dropped on the screen to automatically create a screen object.

Value Screen Objects

When the point node the node is a Value node meaning it is not a simple on or off tag and it is dragged and dropped to the screen, a simple screen object is created that displays the current value of the object.



Figure 29 - Sample screen node created from a register node

The screen object is programmed to display the current value of the point.

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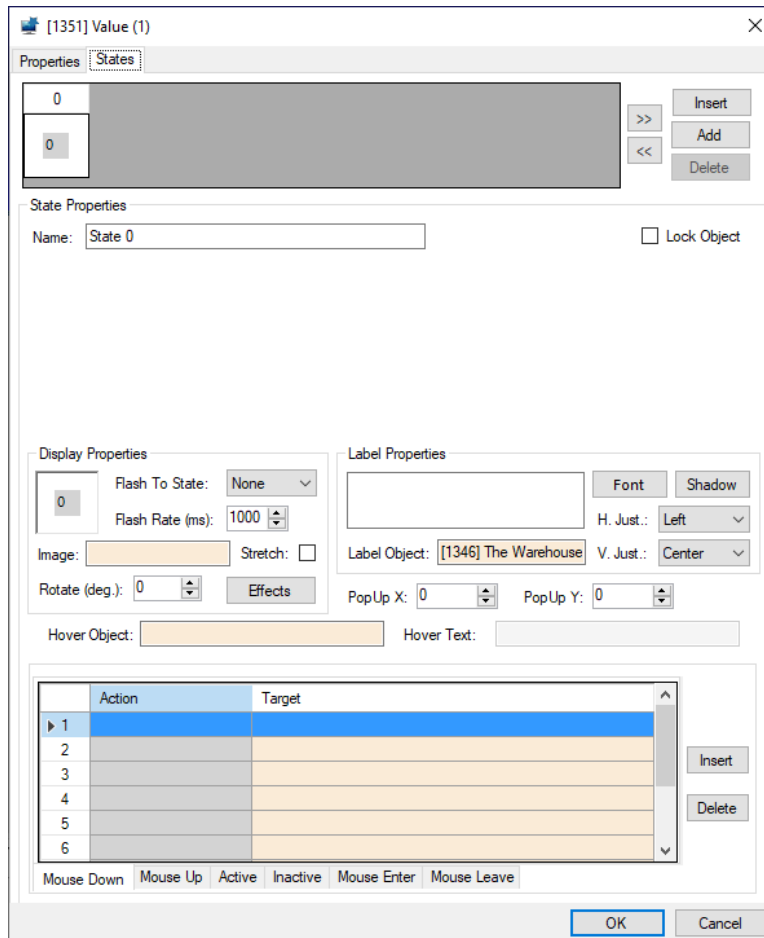


Figure 30 - Sample Value screen object properties dialog: State 0

Values cannot be set on or off; they can only be displayed. Therefore, the **Action** grid has no programming. They can be set to a specific value. See [Sub-Value Node Screen Objects](#).

Sub-Value Node Screen Objects

When a sub-value node is dragged and dropped onto a screen, a button screen object is created. These screen objects are used to set the parent value node to a specific value which is defined in the **Value** field of the sub-value node's properties dialog.

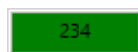


Figure 31 - Sample screen object created from a Sub-Value node

The properties dialog for this screen object has two states. The following sections describe these two states.

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Sub-Value Node Screen Object Properties: State 0 – Off

State 0 is the base state. It displays when the evaluation grid on the other state does not evaluate to true. Stated more simply, when the point is off, this state displays.

The screenshot shows the 'Sub-Value Node Screen Object Properties' dialog for State 0. The dialog is titled '[1264] 234'. It has two tabs: 'Properties' and 'States'. The 'States' tab is active, showing a grid with two states: 0 (selected) and 1. State 0 is represented by a green square, and State 1 by a red square. To the right of the grid are buttons for '>>', '<<', 'Insert', 'Add', and 'Delete'. Below the grid is the 'State Properties' section with a 'Name' field set to 'Off' and a 'Lock Object' checkbox. The 'Display Properties' section includes 'Flash To State' (set to 'None'), 'Flash Rate (ms)' (set to '1000'), 'Image' (set to a default image), 'Stretch' (unchecked), 'Rotate (deg.)' (set to '0'), and an 'Effects' button. The 'Label Properties' section includes 'Font' and 'Shadow' buttons, 'H. Just.' (set to 'Center'), 'V. Just.' (set to 'Center'), 'Label Object' (set to '[335] The Warehouse'), 'PopUp X' (set to '0'), and 'PopUp Y' (set to '0'). Below these is a 'Hover Object' field and a 'Hover Text' field. At the bottom is an 'Action' grid with two columns: 'Action' and 'Target'. The grid contains two actions: '1 Play' targeting '[1166] Click.wav' and '2 SendCommand' targeting '[335] The Warehouse OPC Panel\Tag2\234'. There are also buttons for 'Insert' and 'Delete' next to the grid. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Figure 32 - Sample sub-value node screen object properties dialog: State 0

Notice the **Action** grid. When this button is clicked in this state, a **SendCommand** action targeting this sub-value node is executed. This command is sent to the panel to set the parent value node to the sub-value's **Value**.

Sub-Value Node Screen Object Properties: State 1 - On

This state is displayed when the point is high. See the evaluation grid. The evaluation grid is programmed to return true when the point's state is evaluated as high. A sub-value node is high when its parent value node equals the sub-value node's **Value**.

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The screenshot shows the 'State 0' properties dialog for a sub-value node. The dialog is titled '[1264] 234'. It has two tabs: 'Properties' and 'States'. The 'States' tab is active, showing a table with two columns: '0' and '1'. The '0' column has a green background, and the '1' column has a red background. Below the table, there are buttons for 'Insert', 'Add', and 'Delete'. The 'State Properties' section shows 'Name: On' and a 'Lock Object' checkbox. A red box highlights the 'Selection' table, which has columns for 'Point', 'Selection', 'Qual.', and 'Oper.'. The table contains three rows: the first row is selected and shows '[335] The Warehouse OPC Panel\Tag2\234' for 'Point', 'State' for 'Selection', and empty cells for 'Qual.' and 'Oper.'. The second and third rows are labeled '** Not Applicable **'. Below the table are 'Insert' and 'Delete' buttons. The 'Display Properties' section shows 'Flash To State: None' and 'Flash Rate (ms): 1000'. The 'Label Properties' section shows 'Label Object: [335] The Warehouse (', 'H. Just.: Center', 'V. Just.: Center', 'PopUp X: 0', and 'PopUp Y: 0'. The 'Action' grid at the bottom has columns for 'Action' and 'Target', with rows 1 through 6. Row 1 is selected. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Figure 33 - Sample sub-value node screen object properties dialog: State 0

Notice the **Action** grid. There are no actions when the screen object is in this state. Clicking on this button does nothing.

The Panel Control Screen

The Panel Control Screen is a popup screen that is added when the panel is added. It can be displayed in  **Hardware Management View** by clicking on the panel icon.

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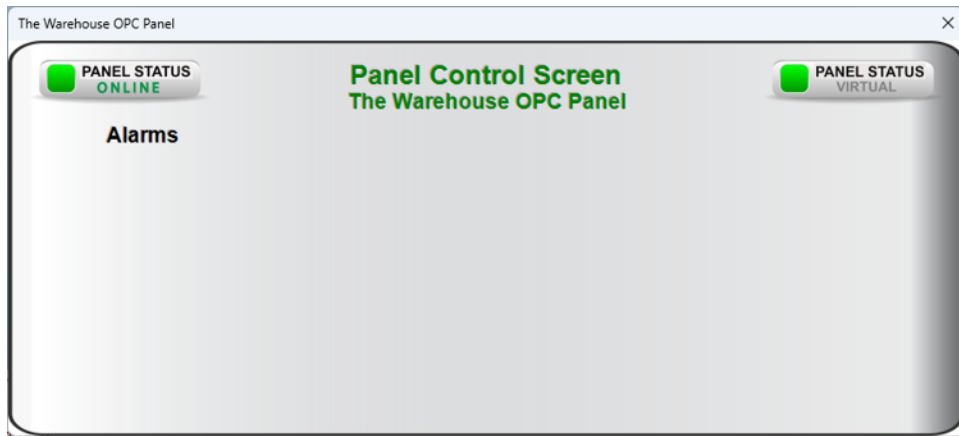


Figure 34 - Panel Control Screen

When an OPC panel is added, there are no points. Therefore, the Panel Control Screen has no points. You must program the screen to display the points and values once the panel is programmed.

To find and modify the Panel Control Screen, you'll need to be in  **Design View**. The Panel Control Screens are found by expanding **Screen Control->Popup Screens->Area Popup Screens**.

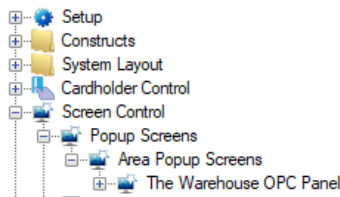


Figure 35 - Panel Control Screens in the Project Node Tree

If there is only one or two OPC panels, finding the corresponding Panel Control Screen is relatively simple. Open the properties dialog of the Panel Control Screen and examine **Base Object** field.

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[3458] Area Popup Screens\The Warehouse OPC Panel

Properties

Name: The Warehouse OPC Panel ID: 3458

User Level: All Access

Notes:

Width: 856 X Position: 0

Height: 353 Y Position: 0

Background: Base Object: [3455] The Warehouse OPC Panel

Transparent Background (PopUp action only): ☐

Display/Dismiss Actions

Event: On Display

	Action	Target
1		
2		
3		
4		
5		

Insert Delete

OK Cancel

Figure 36 - Panel Control Screen properties dialog

Another way to locate the corresponding Panel Control Screen is to use *Find...->All objects referencing this node* on the panel node itself.

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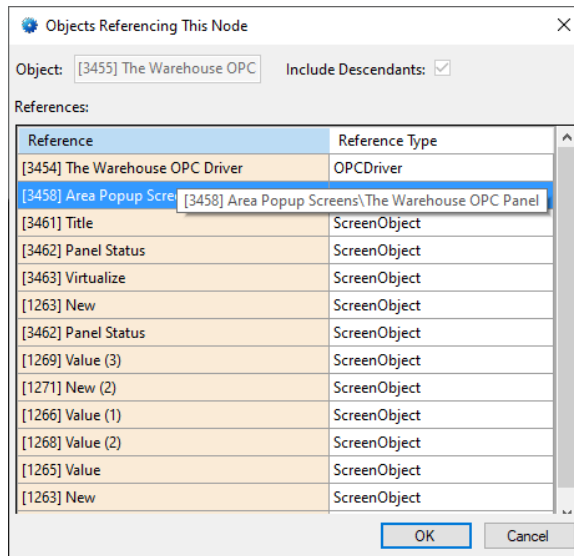
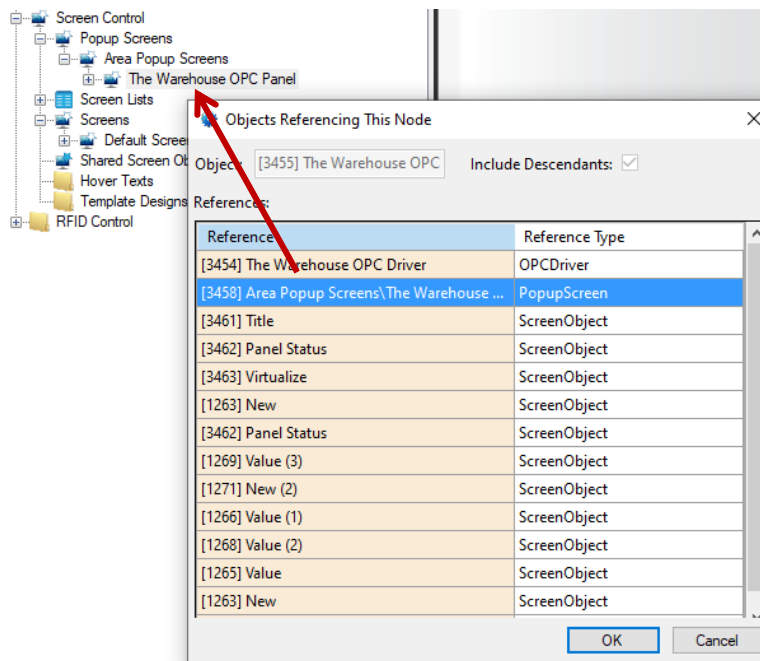


Figure 37 - Find...->All objects referencing this node dialog

Right-click on the Panel Control Screen in the **References** and select *Go To/Find In Tree*. The software will expand the Tree and select the Panel Control Screen node.



The highlighting is grey because it does not have focus. Cancel out of the **Objects Referencing This Node** dialog and the highlighting will be blue. Double-click on the Panel Control Screen node to open the screen for programming.

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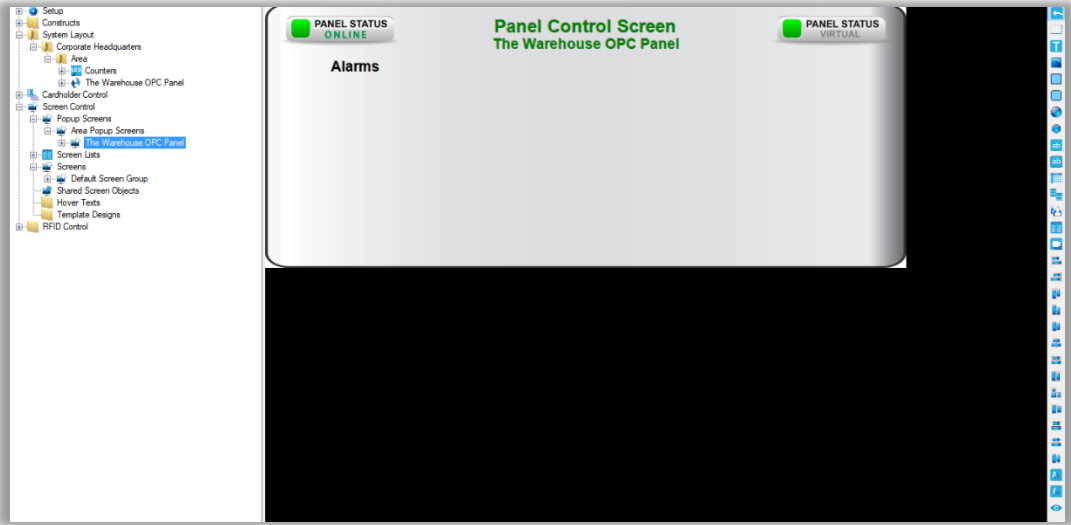


Figure 38 - Panel Control Screen in  Design View

Add the points that are important to watch in  **Hardware Management View**.

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Revision History

2026-06-30 Creation Date