

## Kepware Technologies Client Connectivity Guide for Siemens WinCC

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## **1.0verview**

This document intends to discuss how to create an OPC connection to the server from Siemens WinCC.

1.1 Creating a New WinCC Project

The following instructions use Siemens WinCC version 4.0.2.

- 1. In KEPServerEX, start the "simdemo.opf" project. Then, open WinCC to start a new project.
- 2. If there are no existing projects, the **Create a New Project** dialog will be invoked. Otherwise, click **File** | **New**.
- 3. Next, select Single-User System. Then, click OK.

Control Center	×
Create a New Project	
🔄 💿 Single-User System	Cancel
Multi-User System	Tips for New Users
Project Wizard	You can use the Project
Open an Existing Project	project structures quickly.

- 4. In **Project Name**, specify a name for the project. In this example, "KEPServerEX\_Connect" is used.
- 5. In **New Subfolder**, specify a name for the subfolder. In this example, "KEPServerEX\_Connect" is used.

Create a new project 👘		
<u>P</u> roject Name:	Project Path c:\\wincc\winccprojects <u>F</u> older	<u>C</u> reate <b>R</b>
KEPServerEX_Connect	[]	
New <u>S</u> ubfolder: KEPServerEX_Connect		<u>H</u> elp
You can use this dialog box to create a new WinCC project.	Drive:	

6. Once finished, click **Create**.

- 1.2 Adding a New Driver
  - 1. In the **Control Center** tree hierarchy, expand **KEPServerEX\_Connect**. Then, right-click on **Tag Management** and select **Add New Driver**.



2. Select "OPC.chn" and then click **Open**.

Add new driver.	? ×
Look in: 🔄 bin 💌	🗈 🛎 🧱
Modbus Serial.CHN	SIMATIC S5 Ethe
Brotibus EMS obn	
SIMATIC 505 TOPIP CHN	SIMATIC S5 Prod
SIMATIC S5 Ethernet Layer 4.CHN	SIMATIC S5 Seri
<	•
File <u>n</u> ame: OPC.chn	<u>O</u> pen
Files of type: WinCC Communication Driver (*.chn)	Cancel

3. Next, expand Tag Management | OPC. Then, right-click on OPC Groups (OPCHN Unit #1) and select Properties.

Control Center - [KEPServerEX_Cor	nect.N	ICP]				
<u>Eile E</u> dit <u>V</u> iew Edito <u>r</u> s <u>T</u> ools <u>H</u> el	0					
	<b>II</b> 🖆	ן א				
		Name	Туре		Param	Last change
Computer						
📄 🛄 Tag Management						
OPC Groups (OPCHN Unit #	0	I				
🚽 🚽 Internal tags		lew Driver (	Connection			
📄 🖶 🛃 Data Types	<u> </u>	ystem Para	ameter			
📄 💮 🌃 Editor	F	ind				
		iniu				
	E	aste				
	P	roperties	N			
			-7			► F
Press F1 for Help.	Extern	al Tags: 0,	'License: D	ЕМО		NU //

4. In Channel Unit Properties, click New.

- In Connection Properties, beneath Name, enter a name for the OPC connection. In this example, "EX\_Group1" is used. The computer name should stay "TEST\_NT".
- 6. Once finished filling in the **General Information** tab, click to open **OPC Group Setting**.

onnection p	roperties		×
General Informat	tion OPC Gr	oup Setting	
2	<u>N</u> ame:	EX_Group1	
Server List	Unit:	OPC Groups (OPCHN	Unit #1) 🔽
TEST_NT			Up
			Down
Add		Delete	
Specify the n	ame of the log	ical connection.	
	ОК	Cancel	Help

5. In OPC Server Name, enter "KEPware.KEPServerEX.V4".

Connection properties	×				
General Information OPC Group Setting					
OPC Server <u>N</u> ame:					
KEPware.KEPServerEX.V4	Tank				
Run the server on this computer:	Server				
Read Data from © <u>C</u> ache © <u>D</u> evice					
Select an OPC server an the computer on which you want to run it.					
OK Cancel	Help				

- 6. Next, click **Test Server** to ensure that the Control Center can invoke the server.
- 7. In **Read Data From**, select the data source from which to receive data. In this example, select **Cache**.
- 8. Once finished, click **OK**.

Channel unit properties	×
Connections General Information	
Connections are set up for specific drivers	<b>.</b>
EX_Group1	<u>N</u> ew
	<u>D</u> elete
	Properties
OK Cancel	Help

**Note: Channel Unit Properties** should now display the newly created OPC group connection "EX\_Group1".

- 9. Next, click OK.
- 1.3 Creating a Tag
  - 1. In the **KEPServerEX\_Connect** tree hierarchy, right-click on **EX\_Group1** and then select **New Tag**.



2. In **Name**, specify a name for the new item. In this example, "Tag\_1" is used. This is a user-defined tag that has been predefined in KEPServerEX.

Properties of tags —	
<u>N</u> ame:	Tag_1
Data <u>t</u> ype :	Unsigned 16-bit value
Length:	2
Address:	" <addr>", "Channel_1.Device_1.Ta</addr>
Adapt format :	WordToUnsignedWord
Process Value Range From To	e Value range of tag From To

3. To define the tag item, click **Select**.

Address prope	rties	×			
OPC Address					
Item Name:	Channel_1.Device_1.Tag_1				
Access Path:					
Data Type:	Unsigned 16-bit value				
Enter the name and the access path (if needed) of the OPC Item and select its data type.					
OK	Cancel Help				

4. In **Item Name**, enter the address of the tag item.

**Note:** Users may also request a Dynamic Tag by replacing the tag name with an actual address. For example, "Channel\_1.Device\_1.R0001".

- 5. In **Data Type**, select the most appropriate data type for the tag item.
- 6. Then, click **OK**.
- 1.4 Creating a Graphic Display
  - 1. In the **KEPServerEX\_Connect** tree hierarchy, expand **Editor**. Then, select **Graphic Designer**.



- 2. Next, right-click on "NewPdl0.pdl" and select **Rename Picture**. Rename the picture "Start.Pdl". This is the name that WinCC will look for when it executes the Runtime.
- 3. Once finished, click **OK**.

New Name:	×
Start.Pdl	ОК 📐
	Cancel

4. Next, double-click on the picture's name to invoke the **Graphics Designer**.



 Next, locate **Object Palette** and select **I/O Field Object**. Then, right-click on the picture window to create the I/O field object that will display data during Runtime.

**Note:** In order for the display object to function correctly, a link must be created from the object to defined tag item.

- 6. Right-click on the **I/O Field Object** and then select **Configuration Dialog**.
- 7. In **I/O Configuration** dialog, click the **Tag** icon. In the **Select Tag** dialog, select a tag and then click **OK**.

I/O-Field Confi	guration	? ×
Tag:		
Update:	Upon change 💌	] ]
Type		1
C Output	O Input O Both	
- Format		
1 onnac		
Font Size	. 12	
Font Name.	Arial	
Color		
	OK Cance	el 🔤

8. Click **OK** again to return to the **Graphics Designer**.

👌 Grap	phics Designer - S	tart.Pdl					- I X
<u>F</u> ile <u>E</u>	<u>E</u> dit <u>V</u> iew <u>I</u> nsert	Arra <u>n</u> ge	<u>T</u> ools	<u>W</u> indow	2		
		10 CA	8		*	<b>@</b>   <b>Q</b>	🔍 🌌 🗄
Arial	▼ 12	• <b>T</b>	<i>M</i> □ ∨				
	Image: start.Pdl         0.000         0.00	WinCC-R 154.000	untime			Standard I Smart Obje Applic Picture OLE C OLE C OLE C Bar A Graph A Status	Dbject: ▲ ects etion ∨ e Winc Control Ilemen eld ic Obje s Disple
0 1	2 3 4 5 6	7 8 9	10 11	12 13 14	15	盲司	
Pre Eng	lish (United States)			-1:1	X:64 Y	:65	i X /

Note: The display object is now linked to the tag item.

- 1.5 Displaying Tag Data
  - 1. In the Graphics Designer or the Control Center, press the **Play** icon.

**Note:** To test, locate the Status Bar in KEPServerEX. At least one Active Item should be visible.

## 2. Using Kepware's OPC Client

Kepware provides an OPC client application with each installation of KEPServerEX for testing purposes. For more information, refer to the OPC Quick Client help file.