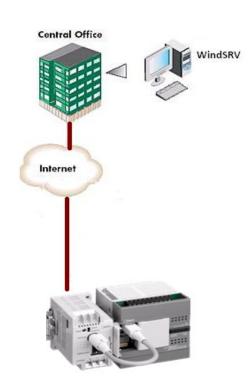
Configuring WindSRV (KEPServerEX5) OPC Server Software

Ethernet Connection with IDEC MicroSmart Pentra PLCs









Overview

Fig. 1: Ethernet connection

The purpose of this document is to give users step-by-step instructions on how to configure WindSRV (aka KEPServerEX) for Ethernet encapsulation as illustrated in Figure 1.

Parts Used

- FC5A MicroSmart Pentra CPU
- FC4A-ENET Web Server module for Ethernet connection
- 1. Launch KEPServerEX 5
- 2. Click $File \rightarrow New$



3. Click Click to add a channel.

📽 KEPServerEX - Runtime							
File	Edit	View	Tools	Runti	ime	Help	
	6	3 🛃	\$	1 🗳	2		Ŀ)
	P Click	to add	a chanr	nel.			

- 4. The New Channel Identification dialog box will appear.
- 5. Under Channel Name, assign a Channel name for your project. For the purpose of this example, we'll use IDEC as a channel name. Click *Next*.

New Channel - Ide	entification	×
	A channel name can be from 1 to 256 characters in length. Names can not contain periods, double quotations or start with an underscore.	
	Channel name: IDEC	
	< <u>Back Next</u> > Cancel Help	_

6. Select Idec Serial under Device driver. Click Next.

New Channel - De	vice Driver 🛛 🗙
	Select the device driver you want to assign to the channel. The drop-down list below contains the names of all the drivers that are installed on your system. Device driver: Idec Serial
	< <u>B</u> ack <u>N</u> ext > Cancel Help

7. Under New Channel – Communications, check Use Ethernet encapsulation. Click Next.

New Channel - Co	ommunications	
	ID: COM 1 Baud rate: 9600 Data bits: 8 Data bits: 8 Baitly: Even Stop bits: € 1 € 2 Elow control: None Image: Communication of the second seco	
	< <u>B</u> ack <u>N</u> ext> Cancel	Help

8. New Channel – Network Interface dialog box appears, Network Adapter is Default. Click Next.

New Channel - Ne	twork Interface	
	This channel is configured to communicate over a network. You can select the network adapter that the driver should use from the list below. Select 'Default' if you want the operating system to choose the network adapter for you. <u>Network Adapter</u> :	
	< <u>B</u> ack <u>N</u> ext > Cancel	Help

- 9. New Channel Write Optimizations dialog box appears, click Next.
- 10. New Channel Summary dialog box appears, click *Finish*.

New Channel - S	ummary	×
	If the following information is correct click 'Finish' to save the settings for the new channel. Name: IDEC Device Driver: Idec Serial Diagnostics: Disabled Communications Parameters Serial ID: Ethernet Encapsulation Network Adapter: Default Write Optimization: Write only latest value for all tags 10 writes per read	
	< Back Finish Cancel	Help

11. Click Click to Add a Device.



12. Under Device - Name, assign a device name for your project. For the purpose of this example, we'll use PENTRA as a device name. Click *Next*.

New Device - N	ame	X
	A device name can be from 1 to 256 characters in length. Names can not contain periods, double quotations or start with an underscore. Device <u>n</u> ame: PENTRA	
	< <u>B</u> ack <u>N</u> ext > Cancel Help)

13. Under New Device – Model, select *MicroSmart*.



IDEC

- 14. New Device ID dialog box appears, click Next.
- 15. New Device Ethernet Encapsulation dialog box appears. Input your IP Address and leave the Port Number and Protocol as Default. For the purpose of this example, we'll use IP Address = 192.168.1.5. Click *Next*.

New Device - Ethernet Encapsulation 🛛 🛛 🔀						
	The device you are defining is on a channel using solicited ethernet encapsulation. In order to send requests to this device, you need to define the device IP address, port number and protocol type.					
	IP Address: 192.168.1.5					
	Port Number: 2101					
	Protocol: TCP/IP					
< <u>B</u> ack <u>N</u> ext > Cancel Help						

- 16. New Device Timing dialog box appears, click Next.
- 17. New Device Auto Demotion dialog box appears, click Next.
- 18. New Device Database Creation dialog box appears, click Next.
- 19. New Device Tag Import Setting dialog box appears, click Next.
- 20. New Device Summary dialog box appears, click *Finish*.



21. Click *Click to add a static tag.*

🚳 KEPServerEX - Cor	figuration [Untitled *]
File Edit View Tools Run	time Help
🗋 📂 🗟 😡 🐃 🐯	i 🚰 🚰 🖻 👗 🛍 📉 🛄
⊡	Tag Name 🗠 Address Data Type 🕴
PENTRA	Click to add a static tag. Tags are not required, but are l

- 22. Tag Properties dialog box appears, enter the PLC Address you want to monitor. For the purpose of this example, we will monitor output Q0.
 - Enter Q0 into the Name and Address fields (see ① below)
 - Click the check mark button (see 2 below)
 - Click Apply

Tag Properties 🔀
General Scaling
Identification
Data properties
Data type: Boolean
Client access: Read/Write
<u>S</u> can rate: 100 <u>→</u> milliseconds
Note: The scan rate is only used for client applications that do not specify a rate when referencing this tag (e.g., non-OPC clients)
OK Cancel Apply Help

23. Click OK.

24. Click OPC Quick Client icon.

🖀 KEPServerEX - Run	time [C:\Documents	and Se	ttings\c
File Edit View Tools Runti	ime Help		
🗋 💕 🗟 🛃 🆃 🛍 🖄	28 9% BBX	RC	
⊡🖙 IDEC	Tag Name 🛛 🛆	Address	Data Ty
PENTRA	2 Q0	Q0	Boolear

25.OPC Quick Client window appears, select *IDEC.PENTRA*. You have successfully established communication between WindSRV and the IDEC PLC if the Quality is showing Good.

🖾 OPC Quick Client - Untit	led *							
File Edit View Tools Help								
🗅 🚅 🖬 🛫 🍏 🖀 🖡 🖻								
⊡-::∎ Kepware.KEPServerEX.V5	Item ID 🔷	Data Type	Value	Timestamp	Ouality	Unda	ate Count	
	DEC.PENTRA.Q0	Boolean	1	10:53:01.416	Good	1		
idec.pentra								
	<u> </u>							
Date	Time				Even	t		
1 3/19/2010	10:53:01 A	м			Conn	iected f	to server 'Ke	epware.KEPS

- 26. Launch Microsoft Excel.
- 27. Type the following command into one of the cells in Excel:

=kepdde|_ddedata!IDEC.PENTRA.Q0 (Note: IDEC = Channel, PENTRA = Device and Q0 = PLC Address)



- 28. If Excel is NOT communicating with the connected PLC, please check the following settings: a. Make sure *Enable DDE connections to the server* is checked.
 - Click File → Project Properties
 - Under DDE tab, check Enable DDE connections to the server. Click OK.

Project Properties	X
Identification OPC DA Settings OPC DA Compliance	DDE OPC UA OPC AE
General C Enable DDE connections to the server Enable Net DDE Service name: kepdde	Formats Advanced DDE XL Table CF_TEXT
Timing	

- b. Make sure Runtime Process is set to Interactive.
 - On system tray, right mouse click on the Ex administration icon and select Settings. (Ex administration icon can also be launched from Start → All Programs → Kepware → KEPServerEX 5 → KEPServerEX5 Administration)

	Reset Event Log	
	User Manager	
	Settings	
	OPC UA Configuration	
	Quick Client	
	License Utility	
	Help	
	Support Information	
	Exit	
6	🙆 🔤 📴 式 🇞 👂 🛛 2:01	. PN

2. Click Runtime Process tab. Under Selected mode, select Interactive. Click OK.

📽 KEPServerEX Set	ttings			
Runtime Options Administration	Event Log Configuration	Host Resolution Runtime Process		
Process Mode The server runtime can operate as a system service or run interactively in a specific user session. Changing this setting will cause the server to restart.				
Selected m	node: Interactive	_		
Process Priority	Processor Affinity	,		



3. On system tray, right mouse click Ex administration icon and select Stop Runtime Process.

Configuration
Start Runtime Process
Stop Runtime Process
Reinitialize
Reset Event Log

4. On system tray, right mouse Ex administration icon again and select Start Runtime Process.

Configuration
Start Runtime Process
Stop Runtime Process Reinitialize
Reset Event Log

Using Excel, you will now be able to monitor all the parameters in the MicroSmart Pentra PLC.

For any further questions, please contact Technical Support at <u>support@idec.com</u> or call 1-800-262-IDEC (4332) extension 2.