Configuring WindSRV (KEPServerEX5) OPC Server Software

Serial Communication with IDEC MicroSmart Pentra PLCs









Fig. 1: Serial connections

The purpose of this document is to give step-by-step instructions on how to configure WindSRV (aka KEPServerEX) for Serial communications.

Parts Used

- FC5A MicroSmart Pentra CPU
- FC2A-KC4C cable for serial connections
- 1. Launch KEPServerEX 5
- 2. Click *File* \rightarrow *New*





3. Click Click to add a channel.

🌀 K	EPS	erve	rEX -	Rur	ntim	ie	
File	Edit	View	Tools	Run	time	Help	
	2	3 🛃	S (1	i 🖄		12)

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

New Channel - Ide	ntification	×
	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>B</u> ack <u>N</u> ext > Cancel He	lp



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, make sure the serial settings match the MicroSmart Pentra settings. Since the MicroSmart Pentra default settings are 9600, 7, Even, 1, None, we'll use these parameters. Click *Next*.

ID = Available COM port on your PC Baud rate = 9600 Data bits = 7 Parity = Even Stops bits = 1 Flow control = None

New Channel - (Communications	
	ID: COM 4 Bgud rate: 9600 Data bits: 7 Data bits: 7 Barity: Even Stop bits: • 1 • 2 Elow control: None ▼ Use modem ✓ Beport comm. errors Use Ethernet encapsulation	
	< <u>B</u> ack <u>N</u> ext> Cancel	Help



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



10. Click *Click to Add a Device*.



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



12. Under New Device – Device Model, select MicroSmart.



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

New Device - Su	ımmary	×
	If the following settings are correct click 'Finish' to be using the new device.	jin
	Name: PENTRA Model: MicroSmart ID: 0 (Decimal)	^
91	Request Timeout: 1000 ms Fail after 3 attempts	
	Auto-Demotion: Disabled Tag database startup: Do not generate on startup	
	Tag database action: Delete on create Create tags in: PENTRA Allow automatically generated subgroups: Yes	~
	< Back Finish Cancel Help	

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

KEPServerEX - Con	figuration [Untitled *]
File Edit View Tools Runt	time Help
🗋 💕 🗟 🛃 🗳 🛅 🔯	j 🚰 🚰 🔄 🎽 🗈 🛍 🗙 🛄
🖃 🖣 IDEC	Tag Name 🛛 🗠 Address 🛛 Data Type 🛛 🖇
PENTRA	Click to add a static tag. Tags are not required, but are l

- 20. When the 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
Name: QO
Addr <u>e</u> ss: Q0 1 2 2
Description:
Data properties
Data type: Boolean 🗸
Client access: Read/Write
Scan rate: 100 📩 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

21. Click OK.

22. Click OPC Quick Client icon.

🖀 KEPServerEX - Run	time [C:\Documents	and Settings\o
File Edit View Tools Runti	me Help	
🗋 📂 🗟 🛃 🦃 🛅 🖄	2 m 9 % 6 %	ac
⊡ 🖣 IDEC	Tag Name 🔷	Address Data T
PENTRA	200 CO	Q0 Boolear

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



24. Launch Microsoft Excel.

25. Type the following command into one of the cells in Excel:

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



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

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

- 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)

- 1		
	Reset Event Log	
	User Manager	
	Settings	
	OPC UA Configuration	
	Quick Client	
	License Utility	
	Help	
	Support Information	
	Exit	
6	🙆 🔤 🥘 🛒 🧐 🖇 🌒 2:01	. PM

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

6	KEPServerEX Set	ttings		×		
	Runtime Options Administration	Event Log Configuration	Host Resolution Runtime Process	4		
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 mode: Interactive					
	Process Priority	Processor Affinity	/			



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



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.