

Industrial Gateway Server Application Note

This document provides information to configure Industrial Gateway OPC Server HMI to communicate with a DH+ network from a computer with an ANC-120e USB to Data Highway Plus adapter or ANC-100e Ethernet to Data Highway Plus adapter.

Note: Before proceeding, make sure

- ✓ ANC-120e Driver is installed (Only if using ANC-120e)
- ✓ Network adapter is correctly configured to access ANC-120e or ANC-100e
- ANC-120e is connected to the computer and DH+ network or ANC-100e is connected to the same Ethernet network or directly to your computer, and to the DH+ network.
- 1. Open "IGS (Industrial Gateway Server)"
- 2. Right Click on the empty space on the left side of the window to create a new channel



3. Name the new channel as you prefer (Channel1 in this example) and click "Next"

New Channel - Identification		×
	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: Channel1	
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4. From the "*Device driver*" dropdown list select "Allen-Bradley ControlLogix Ethernet" and click "*Next*"

New Channel - Device 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:
	Allen-Bradley ControlLogix Ethemet
	Enable diagnostics
< Ba	ck Next > Cancel Help

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5. From the "*Network Adapter:*" dropdown list select the ANC-120e or the Network adapter connected to the same Ethernet network than ANC-100e and click "*Next*"

	This channel is configured to communicate over a network. You can select the network adapter	
	Select 'Default' if you want the operating system to choose the network adapter for you.	
	ANC-120e [192.168.137.1]	
< Ba	ck Next > Cancel Help	

6. Use the default settings for "Write Optimizations" options and click "Next"

You can control how the server processes writes on this channel. Set the optimization method and write-to-read duty cycle below. Note: Writing only the latest value can affect batch processing or the equivalent.
Optimization Method © Write all values for all tags © Write only latest value for non-boolean tags © Write only latest value for all tags
Duty Cycle Perform 10 🚔 writes for every 1 read

7. Use the default settings for "*Non- Normalized Float Handling*" and click "*Next*" New Channel - Non-Normalized Float Handling

Choose how this driver hand point values. Selecting 'Unmodified' handli non-normalized value, while non-normalized floating point Non-normalized values should be:	les non-normalized floating ing delivers the Replaced with zero' changes values to zero. Replaced with zero
 < Back Next >	Cancel Help

8. Click "Next"

New Channel - Optimizatio	on Suggestions	×
	To achieve maximum performance, there are a number of optimizations that must be employed when designing your server and controller application: - Establish multiple connections with a single device by referencing this device from multiple channels	
	- Select the proper Protocol Mode	
	- Alias sub-structures	
	- Select the proper SOTS	
	- Use Logix Arrays whenever possible.	
	Click Here For More Informat	ion
		_
	< Back Next > Cancel Hel;	D

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9. Review the "Summary" and click "Finish"

If the following information is correct click 'Finish save the settings for the new channel.	i'to
Name: Channel2 Device Driver: Allen-Bradley ControlLogix Ethernet Diagnostics: Disabled	*
Write Optimization: Write only latest value for all tags 10 writes per read Non-normalized float handling type:	
Replaced with zero	-

10. Click on the new Channel to select it and then right click on it and select "New Device"



11. Under "Device Name", enter a name meaningful for you and click "Next"

New Device - Name		×
	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 name: ANC-120e	
	< Back Next > Cancel Help	

12. From the "*Device Model:*" dropdown list, select "*DH+ Gateway: SLC 5/04*" and click "*Next*"

	The device you are defining uses a device driver that supports more than one model. The list below shows all supported models. Select a model that best describes the device you are defining.
	Device model: DH+ Gateway: SLC 5/04
<	Back Next > Cancel Help

13. Under "*Device ID*", enter the following path: <*IP of ANC adapter**>, 1, 1. A. Target_DH+_Node_number (decimal)

*or one of the HMI lines inside the ANC if you are using the HMI option inside the ANC web interface.

Please notice that there are "," and "." in the path When you are finished with the path, click "*Next*"

New Device - ID	The device you are defining may be multidropped as part of a network of devices. In order to communicate with the device, it must be assigned a unique ID. Your documentation for the device may refer to this as a "Network ID" or "Network Address."
	Device ID: <192.168.137.2>,1,1.A.1
<	Back Next > Cancel Help

14. Use default values for "Scan Mode" and click "Next"

New Device - Scan Mode	×
	The device's initial update behavior may be adjusted to provide updates with cached data or device data. The scan mode is used to override the interval that tags are automatically ready by the server.
	 Provide initial updates from cache Scan Mode: Respect client specified scan rate
	Back Next > Cancel Help

15. Use defaults values for "Timing" and click "Next"

	The device you are d parameters that you c	efining has com an configure.	munications timing
	Connect timeout:	2	seconds
- OF	Request timeout:	1000	milliseconds
	Fail after:	3	successive timeouts
	Inter-request delay:	0	milliseconds

16. Use defaults values for "Auto-Demotion" and click "Next"

New Device - Auto-Demot	tion 🗾
	You can demote a device for a specific period upon communications failures. During this time no read request (writes if applicable) will be sent to the device. Demoting a failed device will prevent stalling communications with other devices on the channel.
	Enable auto device demotion on communication failures Demote after 3 v successive failures Demote for 10000 v milliseconds Discard write requests during the demotion period
	< Back Next > Cancel Help

17. Use default values for "Database Creation" and click "Next"

	The device you are defining has the ability to automatically generate a tag database.
	Determine if the device should create a database on startup, what action should be performed on previously generated tags, group to add tags to, and allowing subgroups.
	Startup: Do not generate on startup
	Action: Delete on create
	Add to group:
\sim	Allow automatically generated subgroups

18. Use default values for "ENI DF1/DH+/CN Gtwy Communications Parameters" and click "Next"

New Device - ENI DF1/DH-	+/CN Gtwy Communications Parameters			
	Set the TCP/IP port number the Logix gateway or ENI device is configured to use. Default port is 44818. The Request Size determines the max number of bytes the driver can request in a transaction. See Help for FF supporting Block Writes.			
	CL ENET Port Number: 44818 Request Size: 232 Bytes Perform Block Writes for Function Files supporting Block Writes.			
< Back Next > Cancel Help				

19. Use default values for "SLC Slot Configuration" and click "Next"

1	Slot Module	^
	1 <no module=""></no>	
	2 <no module=""></no>	
	3 <no module=""></no>	
	4 <no module=""></no>	*
O DE	Available Modules 0000-Generic Module	•
	1203-SM1 SCANport Comm. Module - Basic 1203-SM1 SCANport Comm. Module - Enhanced 1394-SJT GMC Turbo System	
	1746-BAS Basic Module 5/02 Configuration 1746-BAS Basic Module 500 5/01 Configuration	-
	Add Remove	
		_

20. Read the "Summary" and click "Finish"

New Device - Summary		×
New Device - Summary	If the following settings are correct click 'Finish' to using the new device. Name: ANC-120e Model: DH+ Gateway: SLC 5/04 ID: <192.168.137.2>,1,1.A.1 Provide initial updates from cache: No Scan Mode: Respect client specified scan rate Connect Timeout: 3 Sec. Request Timeout: 1000 ms End after 2 attempte	begin
	Inter-Request Delay: 0 ms Auto-Demotion: Disabled	-
	Back Finish Cancel He	lp

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21. Click on the recently created device under our channel to select it and then right click on it and select "*New Tag*"

Channel1	15	
	New Tag Group	
	New Tag	

- 22. Enter a meaningful name for the tag in the "Name." field
- 23. Enter a known address of your PLC in the "Address." field (N7:0 for our example)
- 24. Select the corresponding "Data type:" from the dropdown list and click "OK"

General	Scaling			
Ident	ification			
	Name:	Test	6	< ▶
	Address:	N7:0	0 🗸	
De	escription:			
Data	properties			
	D	ata type:	Word 👻	
	Clien	t access:	Read/Write 🔻	
	S	can rate:	100 🚔 milliseconds	
Note OPC speci	: This scan clients whe ified rate'.	rate is ap en the dev	olied for non-OPC dients. It only applies to ce scan rate mode is set to 'Respect tag	

25. With this, you can test the connection to your PLC on DH+ using the Quick OPC Client

🍘 Industrial Gateway OPC Server - Runtime (Demo Expires 00:00:00)						
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>T</u> ools <u>R</u> untime <u>H</u> elp						
🗅 📂 🗟 🛃 🦃 🛅 🛍 🚰 🖀 🖃 🦛 👗 🛍 🗙						
E 崎 Channel1	Tag Name 🛆 🛛 Address	Data Type	Scan Rate	Scaling		
ANC120E	Test N7:0	Word	100	None		
	🗹 Test B B3:0/4	Boolean	100	None		

26. In our example, N7:0 is known to hold the value 1616

Use Tools -> OPC Quick Client

Find your tag in the list of items and confirm that you get the correct value.



This concludes this application note.