ANC-100e and ANC-120e Ethernet and USB to DH+ Converter



Citect 2016 with ANC-100e or ANC-120e using HMI feature and the ABRSLINX500 driver for a SLC5/04 on a Data Highway Plus network

This document provides information to set up Citect 2015 running in a computer connected via Ethernet Network with an ANC-100e or ANC-120e to communicate with a SLC5/04 processor on a Data Highway Plus Network using the HMI feature.

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.

For this example:

ANC-120e IP address = 192.168.137.2 SLC5/04 DH+ node = 05 SLC5/04 IP address = 192.168.137.9

- 1. Turn ON the first row in the ANC-100e's "HMI" tab in the web interface
- Enter an IP address that is not being used (keep in mind that it has to be in the same network the ANC-100e is) and enter the DH+ node of the device that you are connecting to
- 3. You can repeat steps 1 and 2 for each row to communicate with up to 5 DH+ devices if necessary, using a different IP address in each row

Click "Apply" and wait for the unit to reboot (5 seconds)

		opgrade Firmware	Statistics HMI La
		HMI addr	ess mapping:
I	P Address	DH+ Node	
ON •	192.168.137.9	5	
OFF •	0.0.0.0	0	
OFF •	0.0.0.0	0	
OFF •	0.0.0.0	0	
OFF •	0.0.0.0	0	
Apply 2			

Automation Networks & Solutions LLC. http://www.automation-networks.com

4. Open "Citect Studio" application.



5. Left click in "Add" menu and select "New Project..."

	Projects	Home Includes			
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•12	Add Project Link Creates	a new project	Deviation	Dete	Description
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뿌	TEST	Active Project	1.0	27/11/2018	Example Project
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6. Enter a name for the project ("Test3" for our example) and click "OK"

New Project	×
Name:	
Description:	
Location: C:\ProgramData\Schneider Ele	Browse
Create project based on starter project	
Starter project selection	
Project: SxW_Style_1_HD108	80_titleb 💌
	L Lab

7. Now you will make your project, active. Left click "MAKE ACTIVE". The color will change from orange to green.

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Projects		▲ C	Compiled	Revision	Date		
Example			~	8.00.0000	October 31st 20)16	
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m	Example			~	8.00.0000	October 31st 2	016		Example Pro	oject
-	TEST				1.0	27/11/2018				
\bigcirc	Test3	4	ctive Project		1.0	12/12/2018				

8. From the left toolbar select the icon "Topology" and left click on it.

ф.	Topology				
Ľ.	Projects	 Compiled 	Revision	Date	Description
E	Example	 Image: A set of the set of the	8.00.0000	October 31st 2016	Example Project
-	TEST		1.0	27/11/2018	
0	Test3	Active Project	1.0	12/12/2018	

9. Select in "Topology" "I/O Devices"

Topology Comp	outers Edit Pr	rofiles I/O Devices	Components & Mapping
By Computer By Cluster			
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StandaloneServer	I0Server1		
127.0.0.1 - This comput	AlarmServer1		
	✓ TrendServer1		
	ReportServer1		

10. You will see two I/O devices there and we will create one more.

•	(Topology	Compu	ters Edit	Profiles	I/O Devices	Components &	Mapping
	8	Save	X Discard	Сору	Paste	<u></u> ■* Delete Row	r(s) 🛛 🕞 Expo	rt All - 🕣 Import	t All 🚽 🗗 Exp
	:	Row	Server	Name 🏹	Name 🍸	Number 🍸	Address	V	Protocol 🍸
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		2	IOServ	er1	Cicode	2			CICODE

11. In the right side of the screen you will see the General Tab settings of the I/O Device you are creating (please check the DRIVER REFERENCE GUIDE for more information). After editing the information, you will have to save it.

🗄 🖃 🎝 Search Prop	perties Q
- General	
Server Name	IOServer1
Name	SLC
Number	
Address	AB:ASA/L:0,1.1.2.5
Protocol	ABRSLINX500
Port Name	PORT1_BOARD1
Startup Mode	
Priority	
Memory	
Read-Only	
Exclusive	
Comment	

- Server Name: Here we selected the one that was already created.

- Name: Here we choose a name that reference the device that we will be connecting to.

- Address: The address of the I/O device (64 characters maximum).

The format of the address you enter in this field is determined by the type of I/O device (and protocol) used, as each has a different addressing strategy.

ABRSLINX Driver Device Addressing

The format for entering the I/O device address is as follows: AB:KEYWORD[/B:b/L:I/G:g/P:p/M:m/C:c/E:e/],StationNumber

KEYWORD is one of the following: NAME, LOCAL, LONGLOCAL, OFFLINK, PIGATEWAY, PIGATEWAYIP, PIGATEWAYNAME, DF1MASTER, ASA, CIP

- LOCAL used for devices directly connected to your PC via RS232 or Data Highway
- LONGLOCAL a valid RSLinx keyword; however no information is currently available on how to use it.
- ASA used for devices connected via the 1756 ControlLogix Ethernet module.
- NAME used for devices directly connected to your PC via Ethernet.
- OFFLINK used for devices connected via the 1756 DHRIO ControlLogix Data Highway or other routing module.
- CIP used for devices connected via the 1756 CNB ControlLogix ControlNet module.

The following fields are valid only with the keywords OFFLINK, PIGATEWAY, PIGATEWAYNAME and ASA.

Field	Description	Field Values
/L:l	Destination link ID	0 - 177777 (octal). This is set in the module
		using RSLinx (which shows the value in
		decimal).
/B:b	Bridge address	1 - 376 (octal).
/G:g	Gateway to final DH485 link	0 - 8 (decimal).
/P:p	Pushwheel number	KA, KT, RM.
/M:m	Module type	0, 2, 3.
/C:c	Channel number	0 - 77 (octal).
/E:e	Ethernet interface station	/KA switch is required to communicate through a
	number	1785-KA from DH+ to DH.
/KA	Bridge requires 1785-KA	
	addressing mode	

Station number string

The station number string specifies the station number of a remote processor on an A-B network.

ControlLogix 1756 DHRIO station number

In the case of the 1756 ControlLogix DHRIO Module, connection to the Station number is the path string. P.S.C.R. where

-P is a port number and is 1 (referring to the back plane)

S is the slot number in the ContolLogix chassis to which the DHRIO module is connected. The slot numbers start at 0 (zero) and are counted from the left hand side of the chassis as you face the module. So for example the first module on the left hand side of the chassis is 0, the second 1, and so on.

C is the connector number in the 1756 DHRIO - connector A is 2, connector B is 3, and so on.

R is the DH+ station number of the remote PLC to which you are communicating. This is set in the remote device using its programming software or by switch settings. The station number is in decimal. Note that when viewed in RSLinx the number is octal and needs converting to decimal to use here.

For example:

1.2.3.63 is for slot 2 (third slot from the left) ControlLogix DHRIO module connector B. The remote PLC has a DH+ station number of 77 octal.

12. We will continue inside "Topology" and go to the tab "*Components and Mapping*". In this tab we will configure our: BOARDS and PORTS. For that we will click in the dropdown menu and select "*BOARDS*" and then select the first row to start editing the board information.

	🗭 Торо	Compu	iters Edit	Profiles I/0	Devices (Components & Mapping	
⊜	🔚 Save 🔫	Сору	Paste 🚍	Delete Row(s)	G→ Export A	All 🕣 Import All	
ф.	Boards Row	Server Name 🏹	✓ 2 Board Name	Board Type 7	7 Address	∑ I/O Port ∑ Inte	
t; ⊑⊒							

13. The cells we edited and saved were:

- Server Name: IOServer1
- Board Name: BOARD1
- Board Type: ABRSLINX
- Address: 0

Leaving our BOARD configuration like this:

+	•	Topology	Compu	ters Edit	Profiles	I/O Devices	Compo	nents & Mappi	ng
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		IOServ	ver1	BOARD1	ABRSLIN	x 0			1

Save the configuration clicking in the "Save" button.

- 14. We will now proceed with adding a driver using Rslinx. Open "RSLinx Classic"
- 15. Click on "Communications" menu
- 16. Click on "Configure Drivers"



17. Select "Remote Devices via Linx Gateway" from the Drop down list

18. Click on "Add New" Button

Configure Drivers		? 💌
Available Driver Types:		Close
▼ 1784-U2DHP for DH+ devices RS-232 DF1 devices E thernet devices E therNet/IP Driver 1784-PCIC(S) for ControlNet devices DH485 UIC devices Virtual Backplane (SoftLogix58xx, USB) DeviceNet Drivers (1770-KFD,SDNPT drivers) Remote Devices via Linx Gateway	Status	Help Configure Startup

- 19. Enter the name for the driver or use the default name
- 20. Click "OK"

Add New RSLinx Classic Driver	×
Choose a name for the new driver. (15 characters maximum)	ОК
TCP-1	Cancel

21. Enter the IP address of ANC-100e in the "Server's IP Address or hostname:" field

22. (Our is 192.168.137.2) 23. Click "OK"

Configure Remote Devices via Linx Gateway	? 🔀
Driver Selection Configure Browser	
Device Name: TCP-1	
Server's IP Address or hostname: 192.168.137.2	Browse
Server Name:	
Remote driver name:	
OK Cancel Apply	Help

24. Verify that the Driver is "Running"

25. Click on "Close" button

Configure Drivers		? <mark>- x -</mark>
Available Driver Types: Remote Devices via Linx Gateway	▼ Add New	Close Help
Configured Drivers:		
Name and Description TCP-1 to on 192.168.137.2 RUNNING	Status Running	C C re

26. Open "RSWho" window

27. Click the checkbox to activate "Autobrowse" option

28. Double click on the driver element (In our example is TCP-1) to start browsing the ANC-100e or ANC-120e. During browsing, you will notice that more elements appear in a branch fashion

🇞 RSLinx Classic Gateway - [RSWho - 2]	
📽 File Edit View Communications	Station DDE/OPC Security Window Help
🖻 # \$ @ @ 2 K!	
Autobrowse Refresh	Browsing - node 192.168.137.2 found
E를 Workstation, NETSUPPORT-PC	192.168.137.2

29. Keep browsing until you reach "CH A, Data Highway plus". All the devices connected to the same DH+ network as the ANC-100e will appear here



30. We will now proceed with "*PORTS*". For that we will click in the dropdown menu and select "*PORTS*" and then select the first row to start editing the port information.

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								2	

- 31. The cells we edited and saved were:
 - Server Name: IOServer1
 - Port Name: PORT1_BOARD1
 - Port Number:1
 - Board Name: BOARD1
 - Special Opt: TCP-1

For the Name, choose something that makes reference to the device to which you are going to connect to, our case SLC.

For the Protocol you will have to select the one that works with the SLC in this case ABTCP500.

For the Port Name, choose the one which make reference to the protocol and board you are using.

For the Number, select the corresponding number of the port you are using.

We will now proceed with the variables (tags). For that we will access to the "*System Model*..." menu left clicking in its icon.

Ξ		+	System Model	Equipment	Variables Alar	ms Trends	Accumulators	SPC	
	9	Save	X Discard Copy	🗂 Paste	× Delete Row(s)	Export All	1 Import All	🗘 Refresh All Tage	3
5	Ŧ.	Variables	3	•					
		Row	Equipment 🏹 It	em Name 🍸	Tag Name 🍸	Cluster Name 🏹	I/O Device 🏹	Data Type 🏹	Address 🏹
	Ľ;				Test	Cluster1	SLC	INT	N7:0

32. In the "System Model ... " window you will have to access the "Variables"

	+	System Model	Equipment	Variables Ala	rms Trends	Accumulators	SPC	
₿	E Save		opy 📋 Paste	≡ × [te Row(s)	G+ Export All	- Elmport All	🗘 Refresh All Tag	s
њ	Variable	s	•					
••••	Rov	/ Equipment 7	Item Name 🏹	Tag Name 🍸	Cluster Name	I/O Device 🏹	Data Type 🏹	Address 🏹
Ľ:	1			Test	Cluster1	SLC	INT	N7:0

Now you will have to edit the next values and save them:

- Tag Name: Test
- Cluster Name: Cluster1
- I/O Device: SLC
- Address: N7:0
- Data Type: Int

Tag Name: You will write here a name that makes reference and help you remind the TAG you are going to work with.

Cluster Name: Name of the Cluster you are working in your project.

I/O Device: Select the device you are working with.

Address: The address of the SLC or PLC you are going to work with.

Data Type: Type of Data the TAG is working with.

33. Now you will have to compile the project to check for errors. Left click in the "Compile" icon.

	Syst	tem Model	Equipment	Variables Alar	ms Trends /
⊜	🛛 Save 🗙 🛛	Discard Co	opy 🗂 Paste 🗧	≚ Delete Row(s)	다 Export All - 둔
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34. If everything is ok you will see the next information: "Compilation Succeeded"

Ro	w	Equip	ment 🍸	Item N	ame 🍸	Tag Name 🍸	Cluster Name 🏹
1						Test	Cluster1
(
ompile	Messag	es					
ompil	ation Suc	ceedeo					
Ro	w Typ	e 🔺	Name F	Field	Table		

35. Now for testing the communications, Tag and their quality. We will have to create a normal Page in Citect Graphics Builder.

36. Click the "Citect Graphics Builder" icon.



- 37. In the "Citect Graphics Builder" window you will go to "*File…*" menu and left click on "*New…*"
- 4 Citect Graphics Builder

<u>F</u> ile	<u>E</u> dit <u>V</u> iew <u>O</u> bjects	<u>T</u> ext <u>A</u> rrange	e Too <u>l</u> s	s <u>W</u> indow	<u>H</u> elp)		
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	Open	Ctrl+O						
	Close							
	Find							
	Save	Ctrl+S						
	Save As							
	Save All							
	Import							
	Import As Flashing							
	Properties							
	Defaults							
	Compile	Alt+F10						
	Run	F5						
	Print	Ctrl+P						
	Print Setup							
	Exit	Alt+F4						

38. Select "Page ... "

New		×
	Page Create a new graphics page using a pre-defined template.	Cancel Help
D	Template Create your own template to use as a for similar graphics pages.	base
3	Symbol Create a new symbol for objects that often.	you use
Q	Genie Create a new genie for groups of obje have common attributes.	ects that
	Super Genie Create a new super genie that can be accessed at runtime.	

39. Select NORMAL template and SXW_STYLE_1 Style. Click OK

Use Template						×
Template: Norma	al				Style:	
			. <u></u>		bottom 3 OK	
	_	<u> 1998</u>			standard Cancel	
file_rtf	hardware	meanmeaart	1 normal		tab_style_1 2 top Edit	
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40. Left click in the "Objects..." menu and right click the "Number" option.

41. You will have to select in the gray area the position where you are going to put the number object.

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42. You will now see the Number Text Properties. Inside the white box where it says *"Numeric Expression"* you are going to write the name of the tag, in our case: *"Test"*.

Text Properties		\times
✓ Appearance 🧹 Moveme	ent 🗹 Scaling 🗹 Fill 🛛 🖉 Input 🗹 Slider 🗹 Access 🗹 Metadata	
Type On / off Multi-state Array Numeric String	Numeric expression	General 3D Effects
Jung	Format: default> 	🗸 Display Value 🖉 Msib
	Clear Property	oility
	OK Cancel Apply Help	

43. You will repeat the steps 40,41, 42 above, but in the 42 step, inside the white box of "Numeric Expression" you will write "*Test.q*" this will show the quality connection of the driver. Giving you information if the quality is bad.

Text Properties		×
✓ Appearance ✓ Mover	nent 🛛 🗹 Scaling 🗍 🖉 Fill 🗍 🖉 Input 🗍 🖉 Slider 🕅 🖉 Acc	cess 🧹 Metadata
Type C On / off C Multi-state C Array C Numeric	Numeric expression	Ceneral 3D Effects
	Format: <a href="mailto:elign:color:grad:</td> <td>✓ Display Value</td>	✓ Display Value
		Clear Property
	2/ ОК Са	ncel Apply Help

44. Now you will proceed with the saving of the "Page".



45. Save the "*Page*" with a name that makes reference to the page you are going to work when you are running your project. In our case: Test, and select the Project where it belongs.



46. Now you will proceed with the Running of our project.

	Project	Home	Includes	
⊜	+Add - XF	Remove 🔻 📋	Copy To 📑 Back	kup 🔻 🛛 🖉 Setu
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E	Projects		▲ Compiled	Revision
E	Example		×	8.00.0000
-	TEST			1.0
0	Test3	Active	Project 🗸	1.0
e				
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- 47. If the driver is out of date a warning box could appear. If you are sure your operating system will be able to run the driver select "*Continue*"
- 48. If you haven't bought the license of Cltect, there could be an error sign after the driver warning telling you there is no protection key found and to press "*OK*" to run DEMO Mode. Press "*OK*".

Error	\times
	No protection key found Press OK to run in Demo Mode?
	ОК

49. In the Demo window you will go to the right part of the screen and select in the Home Page menu: "*Pages*" and below the Pages item select "*Page List*" and double left click it.

	« » ~	Menu Equipment
		Home Page Pages Page List Alarms Trends Tags
Citect [™] SCADA 2016 ™		
2 m		
Text3 12/12/2018 This application is proteicised by copyright law and international freates. Life is On Schweiser Biochric 6/2016 Schweiser Biochric All rights reserved.		

50. This will show a new list. Select the one that says "Test"

Page List		•
Page List Pages Sx Di L St All Cc Wa Va Pr	s W_Style_Startup sabled artware artup ve arm ontrolinhibit anualOverride ariableTags occessAnalyst	,
Te	st	

51. The page "*Test*" will show up. The value that we see here is the value of the tag N7:0, and below that the word Good, meaning the quality of the connection for that driver is good, also it can show additional information. For bad quality you normally won't see any tag value by default.

