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



Citect 2015 with ANC-100e or ANC-120e using HMI feature and the ABTCP/TCPIP driver 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)

Device Settin	gs Change Password	Upgrade Firmware	Statistics HMI La
		HMI addr	ess mapping:
	IP Address	DH+ Node	
ON •	192.168.137.9	5	1
OFF •	0.0.0.0	0	
OFF •	0.0.0.0	0	
OFF •	0.0.0.0	0	
OFF •	0.0.0.0	0	
1 1 2			
Apply			
		Automation Natur	arks & Solutions LLC

http://www.automation-networks.com

4. Open "Citect Explorer" application.

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



6. Enter a name for the project ("Test3" for our example) and click "OK"

New Project		×
Name:	4	1
Description:		
Location: C:\Progr	amData\Schneider Ele	Browse
Create project base	d on starter project	
Starter project selection	on	
Project:	SxW_Style_1_HD1080_	titleb 💌
	Cancel	Halp
ZOK	Cancer	nep

7. Select from the "Project list" tree project Test3, and then select "Communications".



8. You will see in the right side window the "*Contents of Communications*" with several items, we will need to modify: Boards, I/O Devices, Ports and Variable Tags.

Contents of Communications												
ЩЩ			1		Ē		~					0
Express I/O Device Setup	Clusters	I/O Servers	Alarm Servers	Trend Servers	Report Servers	OPC DA Servers	Network Addresses	Boards	Ports	Modems	I/O Devices	I/O Remapping

9. Select "Boards" and double click that item (left mouse button). This will open "*Citect Project Editor*" window, if it doesn't open please look for it in the Windows Task Bar of the Windows OS (Operating System).



10. You will see two little windows inside "*Citect Project Editor*". One is "*I/O Server*" and the other is "*Boards*". You don't need to change any value in the "*I/O Server*" window, leave that information like it is. In the "*Boards*" window you will have to change the next values and at the end selecting "*Add…*":

- Board Name: BOARD1
- Board Type: TCPIP
- Address: 0

🛄 Boards [Te	ist3]
Server Name	IOServer1
Board Name	BOARD1
Board Type	TCPIP
Address	0 V Interrupt V
Special Opt	
Comment	
Add	Replace Delete Help
Record: 1	~

- 11. In the "*Citect Project Editor*" window you can change the other items you need to (I/O Devices, Ports and Variable Tags) using the "*Communications…*" menu for I/O Devices and Ports, and the "*Tags…*" menu for the Variable Tags.
- 12. We will now proceed with "*Ports*". For that we will click in the "*Communications…*" menu and select "*Ports…*"



13. In the "*Ports*" window you will have to change the next values: Port Name, Board Name, Port Number and Special Opts.

Port Name: Port1_Board1

Board Name: Board1

Port Number: 1

Special Opt: -I 192.168.137.9 -P2222 -T

Special Options (in the Ports form) are space separated and start with the dash character (-) immediately followed by the option characters. Use the following special options for TCP/IP:

- Ia.b.c.d: defines remote IP address to connect to.

-Pn: defines remote PORT to connect to.

-T: sets this po	ort for TCP (stre	n) operation.	
Ports [Tes	13]		
Server Name	IOServer1		^
Port Name	PORT1_BOARD1	Port Number	1
Board Name	BOARD1	~	
Baud Rate		✓ Data Bits	~
Stop Bits		Parity	<u> </u>
Special Opt	-I 192.168.137.9 -P	2222 -т 🗧	
Comment			
Add		Delete	Help
Record : 1			~

14. We will now proceed with "I/O Devices". For that we will click in the "Communications..." menu and select "I/O Devices"



15. In the "I/O Devices" window you will have to change the next values:

Name: SLC Protocol: ABTCP500 Port Name: Port1_Board1 Number: 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.

For the Number, select the corresponding number of the I/O device

I/O Devices [Test3]				
Server Name	IOServer1				^
Name	SLC		Number	1	
Address					
Protocol	ABTCP500	\sim	Port Name	PORT1_BOARD1 V	
Startup Mode	Primary	~	Priority	1	
Memory	TRUE	~	Read-Only	~	
Comment]	
Add	Replace	Dele	te	Help	
Record : 1					~

16. We will now proceed with "Variable Tags". For that we will click in the "Tags..." menu and select "Variable Tags"



17. In the "Variable Tags" window you will have to change the next values: Tag Name, I/O Device, Address and Data Type.

🔲 Variable Tags	[Test3]					
Equipment					~ ^	
Item Name			Cluster Name		~	
Comment						
Tag Name	Test		evice	SLC		
Address	N7:0		Data Type	INT	~	
	Eng Zero Scale		Eng Full Scale			
Add	Replace	elete H	Help			
Record :			Linked: No		~	
						1

Tag Name: Test 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.

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.

18. Now you will have to compile the project. Left click the "*File…*" menu and select "*Compile*".



19. If everything is ok you will see the next screen dialog. Select "OK".



20. Now you will have to run the Citect Computer Stup Wizard so you don't have any issue about finding the server. In the same Citect Project Editor window go to *"Tools…"* menu and select *"Computer Setup Wizard"*.

Communication Servers	Tools Window Help	
2020	Citect Explorer	F12
	Graphics Builder	
	Cicode Editor	
	Computer Setup Wizard	
Cluster Name	Computer Setup Editor	
	Runtime Manager	
	Migration Tool	
I/O Device	Options	
Data Type	INT V	
Eng Full Scale		
Help		
Linked; NO	× 1	

21. Select "Custom Setup".

Citect Computer Setup) Wizard	_		×
	This wizard will assist you in setting up and customizing your computer for use with Citect. Select the type of setup you require. Express Setup Custom Setup 			
		ancer	ne	Ψ.

22. This screen will ask you for the project name. In our case: Test3

Project Setup		—		\times
	Select a compiled project that this computer will run. Project Name: Test3	~		
	< Back Next >		Hel	p

23. Select "Server and Control Client"

The minimum role of this computer is determined by matching its IP address with the server addresses configured in your project.
Select the role of this computer.
 Server and Control Client Multi-Process Control Client Full License View-only Client
Note: If no servers match this computer, then this computer must be a client.
< Back Next > Help

24. Select the next option according to: having or not other SCADA computers.

Network Setup		-		\times
	Select the primary networking model for this machine. Stand alone (no other SCADA computers) Networked (connect to other SCADA computers)			
	< Back Next >		Help	

25. Here you can select the way Reports Servers on this machine operate. We selected:

Report Server Properties Setup	—		\times
These options allow you to control the way all Reports Servers on this machine operate. Consult the help for a detailed description on what these options do.			
You currently have no Reports configured in your			
Startup report: <default> <</default>			
Inhibit triggered reports on startup Run reports concurrently with Primary Reports Server			
< Back Next >		Help	•

26. In this next screen you control the way all Trends Server in this machine operate. We selected:



27. In this screen we didn't change any value. Click only in Next:

CPU Setup				—		×
Select and modify the CPUs fo	r each compo	nent.				
Component Client Cluster 1.IOServer 1 Cluster 1.AlarmServer 1 Cluster 1.TrendServer 1 Cluster 1.ReportServer 1	Priority Primary Primary Primary	CPU All All All All				
			Modify			
		< Back	Next >		Help	>

28. In this screen you select and modify the startup functions for each component:

St	Startup Functions Setup - 🗆 🗙								
	Select and modify the startup f								
	Component	Priority	Startup Function						
	Client Cluster 1.IOServer 1 Cluster 1.AlarmServer 1 Cluster 1.TrendServer 1 Cluster 1.ReportServer 1	Primary Primary Primary	ClientStartup						
				Modify					
			< Back Next	t > <		Help			

29. In this screen you select and modify the clusters that each component will connect to on start up. We didn't change anything.

Cluster Connections Setup	_		\times			
Select and modify the clusters	that each com	ponent will cor	nnect to on startup.	_		
Component	Priority	Cluster Con	nections			
Client		Cluster 1				
Cluster 1. IOServer 1		Cluster 1				
Cluster 1. AlarmServer 1	Primary	Cluster 1				
Cluster 1. TrendServer 1	Primary	Cluster 1				
Cluster 1.ReportServer 1	Primary	Cluster 1				
			Modify			
		< Back	Nevt		Hal	•
		< DOCK	INEXL >		nei	

30. In this screen you configure the server password.

Server Authentication		_		\times
	Running a server process requires the configuration of a server password. Setting this password allows servers to authenticate each other and creates a trusted network between server machines.			
	Configure Server Password			
	Password: Confirm Password:			
	< Back Next >		Hel	p

31. Here you configure a Server User. We use a Default Server User.

Configure Server User	_		×
	A particular user can be assigned to server processes running on machine. Default Server User (full areas and privileges) None Specific User	this	
	Configure Server User User Name: Password: Confirm Password:		
	< Back Next > Cancel	Help	

32. Here you select the Citect control menu. We left the default options selected.



34. Here you can select if you don't want the screensaver to be launch and the cancelling of the startup sequence of Citect.

Security Setup - Miscell	-		\times	
	These options allow you to inhibit the Windows screen s cancelling of the startup sequence of Citect. Miscellaneous options	aver and t	the	
	Display Cancel button at startup			
	< Back Next >	r - 1 - 100 - 100 - 1	He	p

35.Here we will configure the Data directory, the Backup project path, the Startup page and OPC Alarms and Events:

General Options Setup		_		×		
	These options allow you to further customize Citect. Consult the help for a detailed description on what these options do. Data directory: itectSCADA 7.50\Data Backup project path:					
	Startup page: Startup Page scan time: 250 milliseconds OPC Alarms and Events: Register					
< Back Next >						

36. Finally you will have reached the last window



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

38. Select the "File ... " menu in Citect Graphics Builder and click on "New".

W	Citect (Graphic	s Builder								
File	Edit	View	Objects	Text	Arrange	Tools	Window	Help			
	New			Ct	rl+N				日日	2	•
	Open.			Ct	rl+O						
	Close				- 1						
	Find										
	Save			С	trl+S						
	Save A	\s			- 1						
	Save A	AII			- 1						
	Impor	t			- 1						
	Impor	t As Fla	shing		- 1						
	Prope	rties									
	Defau	lts			- 1						
	Comp	ile		Alt	+F10						
	Run				F5						
	Print			C	trl+P						
	Print S	etup			- 1						
	Exit			AI	t+F4						
	1 Testa	2v2\Tes	t								
	2 Testá	2\Variat	oleTags		_						

39. Select "Page ... "

New		×
	Page Create a new graphics page using a pre-defined template.	Cancel Help
ß	Template Create your own template to use as a for similar graphics pages.	a base
\$	Symbol Create a new symbol for objects that often.	t you use
õ	Genie Create a new genie for groups of obj have common attributes.	ects that
۲	Super Genie Create a new super genie that can be accessed at runtime.	2

40. Select NORMAL template and SXW_STYLE_1 Style. Click OK

Use Template						\times
Template: Norma	I				Style:	
					bottom OK	
		<u></u>			standard Cancel	
file_rtf	hardware	meanmeaart	normal		tab_style_1 top Edit	
. <u></u>			2		< >	
poppa	rangechart	rightpanel	singlepa	-	Linked	
					Resolution: HD1080 (1920x1080, 16:9)	
soe	spccpk	spcpareto	spcxrschart	-	Help	

41. Left click in the "Objects..." menu and right click the "Number" option.

🐯 File Edit View	Objects Text Arrange Tools Wi	ndow Help
1	Free Hand Line	988 <u>59</u> 8 ■
Citect	Straight Line # Rectangle Ellipse Polygon	Image: Second
	Pipe Text	
	Number 🥠	
	Button	
	Symbol Set	
	Trend	
	Cicode Object	
	Pelco Camera Viewer	
	Scheduler	
	Vijeo Web Gate	

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

😻 Citect Graphics Builder - [Test3 - Untitled1]	
👽 File Edit View Objects Text Arrange Tools Wir	ndow Help
<u>* * * * * * * * * * * * * * * * * * * </u>	
	Text Properties X
	Appearance Average
	Type On/off C On / off Multi-state C Array Image: Control of the state C String Format: Clear Property
	OK Cancel Apply Help

43. 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		×
✓ Appearance Movem	ent 🕼 Scaling 🕅 🖓 Fill 🕅 🖉 Input 🔤 Slider 🕅 🖉 Access 🕅 🖉 Metadata 🗎	
Type On / off Multi-state Array Numeric String	Numeric expression	General 3D Effects
Sung	Format: default> 	🗸 Display Value
	Clear Property	Visibility
	OK Cancel Apply Help	

44. You will repeat the steps 41, 42, 43 above, but in the 43 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 of Movement of Scaling of Fill of Input of Slider of Access of Metadata	
Type On / off Multi-state Array Numeric Numeric	General 3D Effects
Format: 	✓ Display Value
Clear Property	Visibility
OK Cancel Apply	Help

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



46. 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: Test3, and select the Project where it belongs.

Save As					×
Page	Template	Symbol	Genie	Su	iper Genie
Page:		Project:		Preview:	<u>O</u> K
Test3		Test3		Enable	Cant
Hardware HTML ManualOverride	^	library_controls library_equipment sxw_style_include	^		
ProcessAnalyst Soe Startup		tab_style_include test2 test2v2			Nev
Test3 1 VariableTans	~	test3 2	~	1920 x 1058	Delete
15	2	15	2		
					Help

- 47. Now you will proceed with the compilation of the project. In the Citect Project Editor window select the "*File...*" menu and left click on "*Compile*"
- Citect Project Editor [Test3] UNCOMPILED



48. If there are no errors a dialog box will appear. Select "Run".



49. 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*"

Operating System	incompatible drive	r list		×	
Warning !!! IO Server is trying Operating System. re-compile, or run t If you are sure tha	to use drivers that h You must remove I/(this I/O server on a c It these drivers are ru	ave not been confirmed to ope O devices that use these driver ompatible operating system. unning properly on your Operat	rate correctly on the currently russ from the project configuration ion System press continue.	unning and	
Driver Name	Driver Version	Driver Status	Driver Os Compatibility		
tcpip	2.4.16.3	Support not confirmed	+Windows 2000 (5.0), +Windows S		
<				>	
Continue			21 sec until Con	tinue	

50. 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*".



51. 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.



52. This will show a new list. Select the one that says "Test3"



53. The page "*Test3*" 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.

