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**BW4030 Ethernet to DeviceNet Gateway**  
**HMS ACM Scanlist**  
**Configuration Tool Installation**  
**and Startup Instructions v1.2**



# AGENDA

- I. Installing ACM Tool
- II. Getting starting with ACM
- III. BW4030 ACM Demo
- IV. Testing BW4030  
Connection Using Pyramid  
Solutions EIPScan

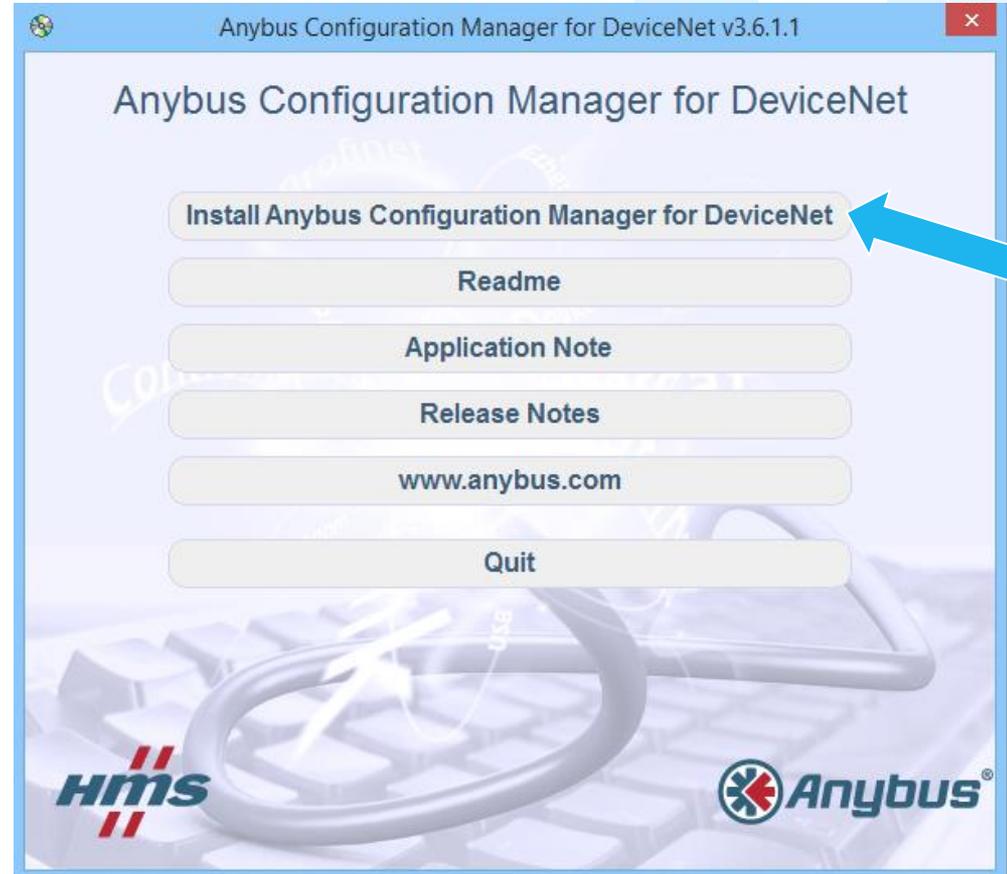


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# INSTALLING ACM TOOL

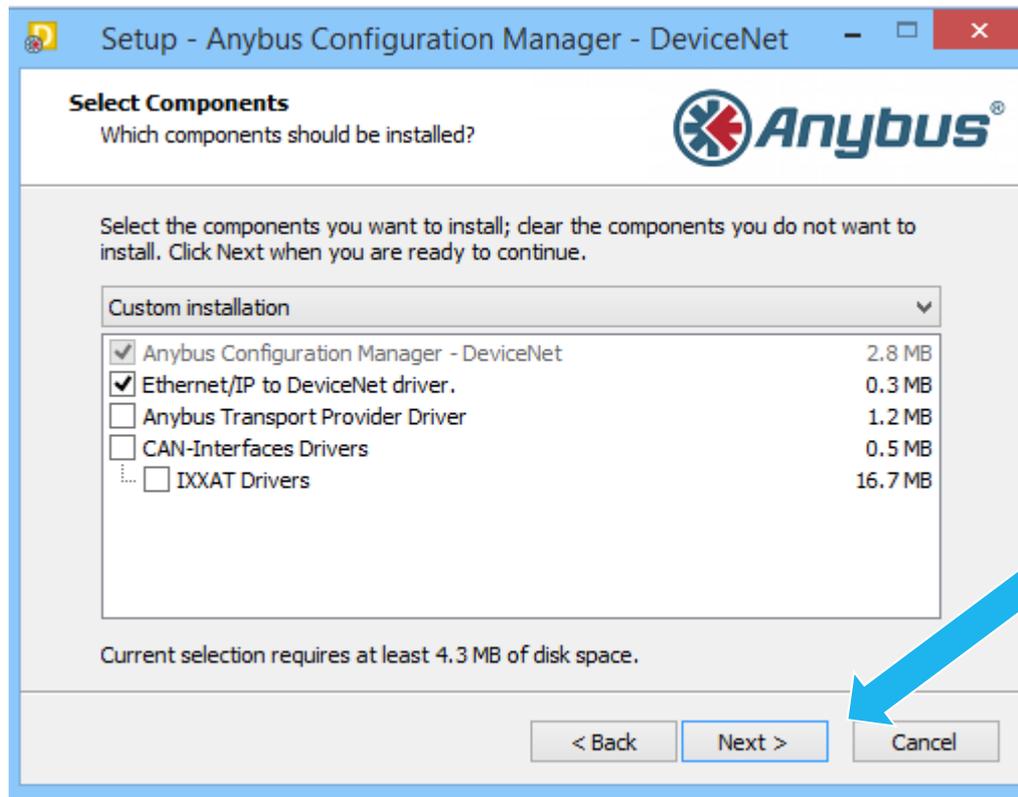
# ACM INSTALLATION INSTRUCTIONS

- Create a folder to store the ACM Software and Documentation
- Unzip the “Media contents.zip” file to the folder you created using the password provided by Pyramid Solutions
- Execute the SLCDMENU.EXE to start the ACM Menu Application
- Click the “Install Anybus Configuration Manager for DeviceNet” button



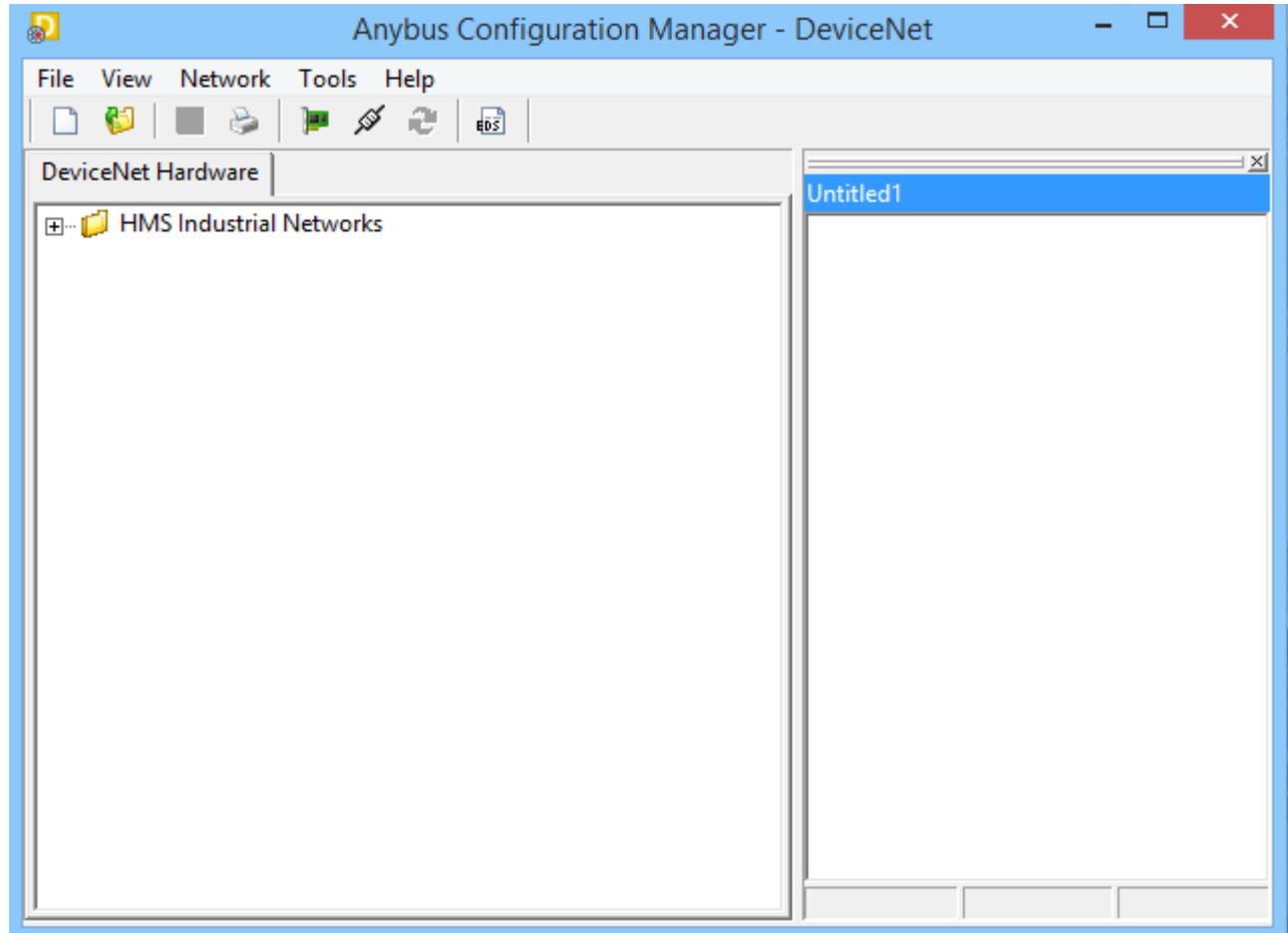
# ACM INSTALLATION INSTRUCTIONS (CONT.)

- When you get to the transport driver selection dialog, deselect the options shown until you duplicate the selections shown (i.e. you only want the ACM App and EtherNet/IP to DeviceNet Transport)
- Click “Next >” to continue the installation



# ACM INSTALLATION INSTRUCTIONS (CONT.)

- Once Installed click the “Anybus Configuration Manager – DeviceNet” shortcut on the desktop to start the ACM tool.





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# GETTING STARTED IN ACM TOOL

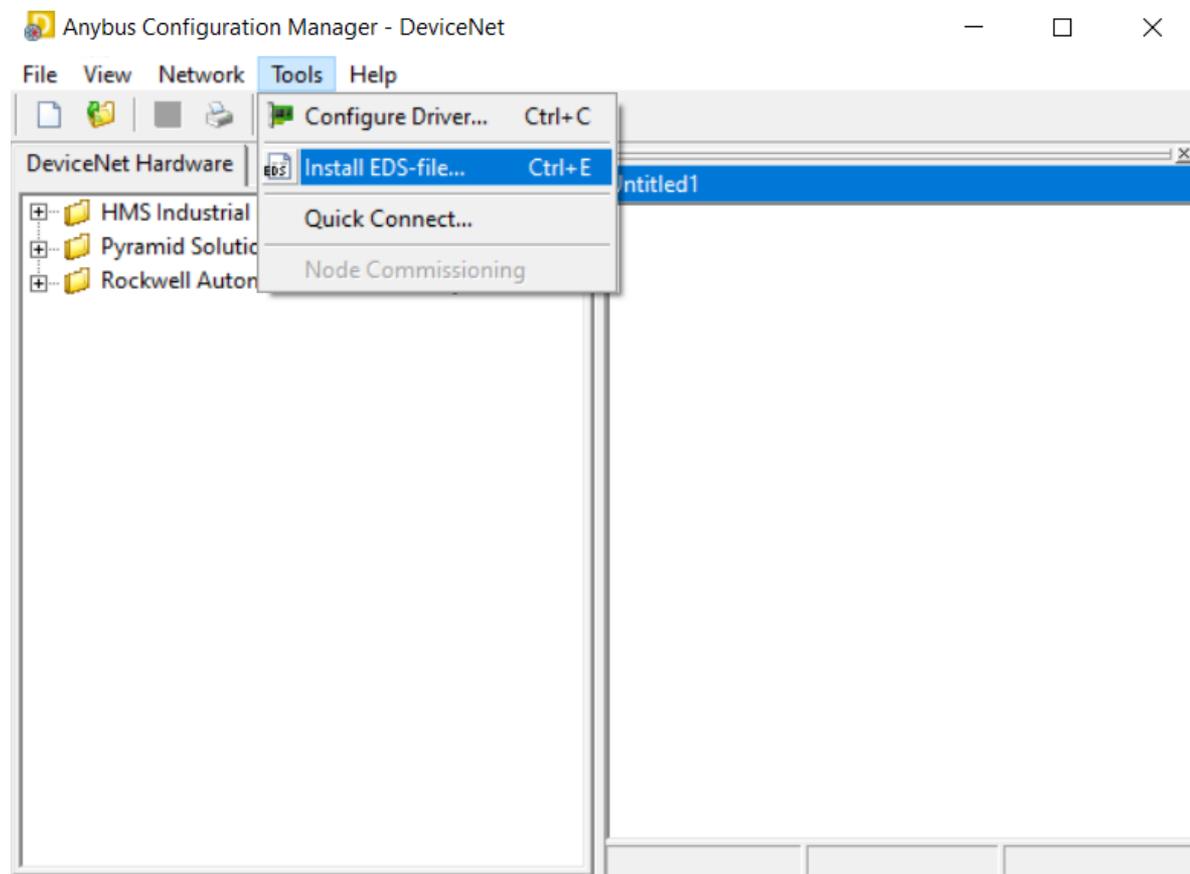
# BEFORE STARTING

- Ensure that the BW4030 is powered up and connected to the Ethernet and DeviceNet Networks
- Note: DC power must be applied to the 5 pin and 3 pin connectors for the module to operate properly. See the BW4030 Installation presentation for information on properly installing the module.



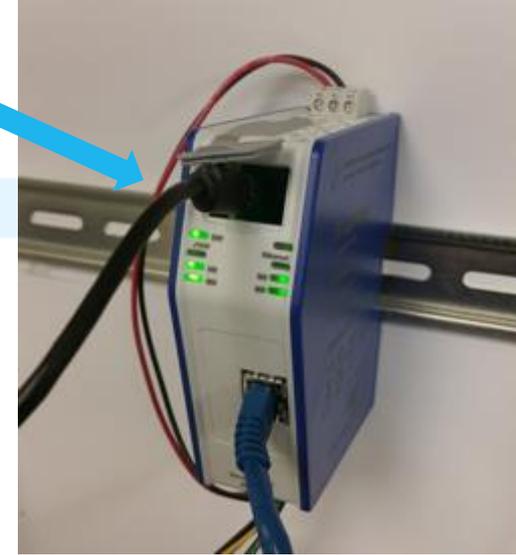
# REGISTERING EDS FILES

- In the “Tool’s menu, select “Install EDS-file” to register the EDS files for the BridgeWay and Slave modules



# BW4030 EDS FILE

- To properly register the BW4030, the EDS file needs to match the firmware in the BW4030
- To check the firmware in the BW4030:
  - Connect the USB config cable
  - Open BWConfig2.0
  - View the status tab



New workspace - BridgeWay Configuration Tool

File BridgeWay Logging Help

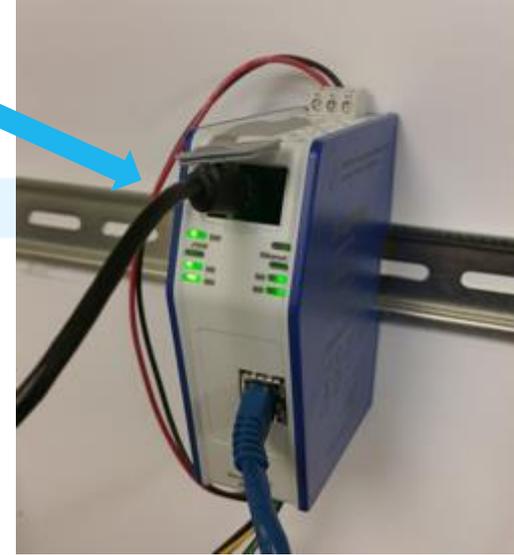
BridgeWay Ethernet-DeviceNet

Status Diagnostic Counters Slave Status

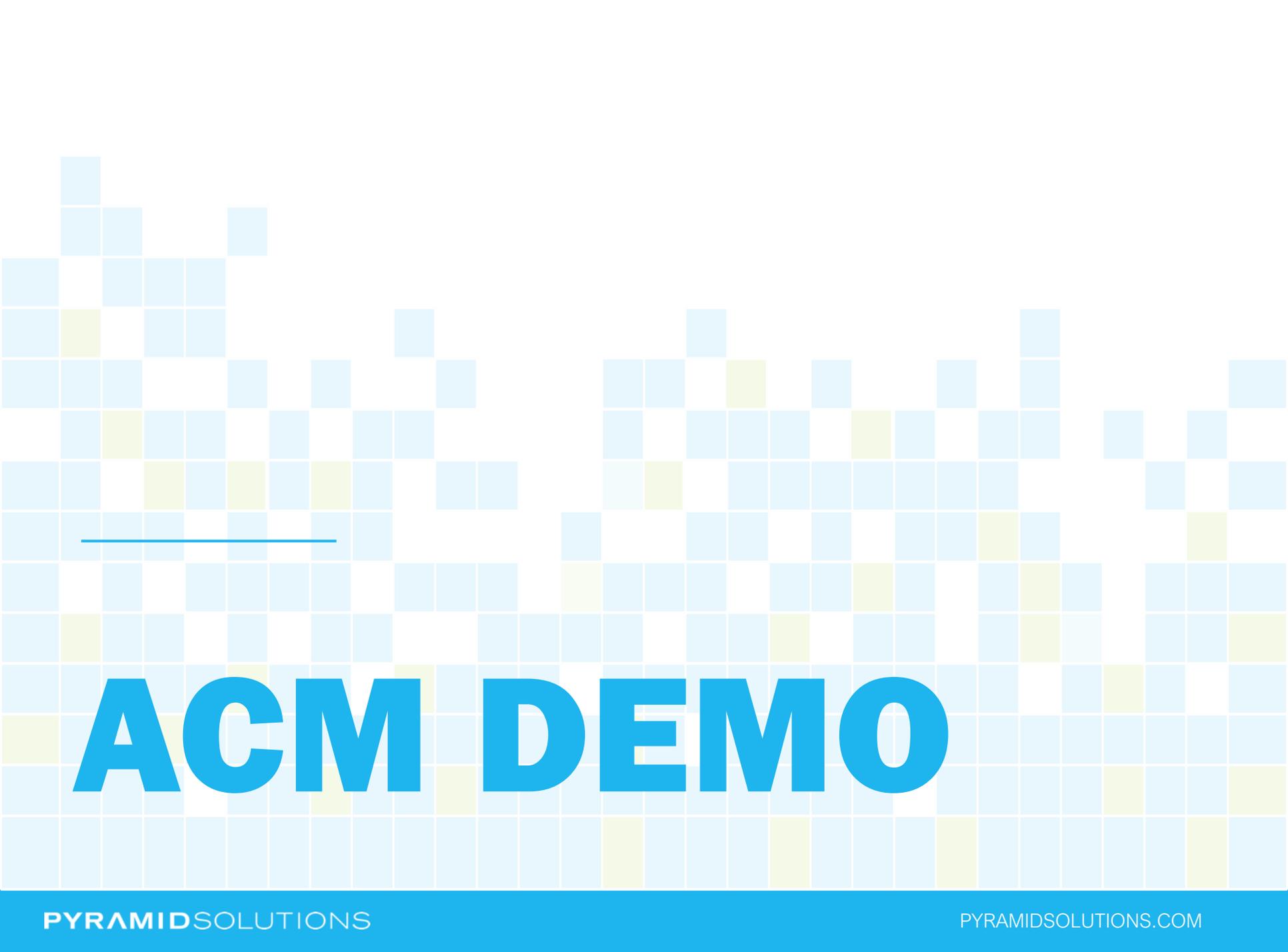
BridgeWay Status	
Run/Idle State	Idle
Boot Firmware	1.02
Exec Firmware	1.03
BridgeWay Error	No error
Ethernet Interface State	Online
Ethernet Status	Not connected
DeviceNet Interface State	Online
DeviceNet Status	Online

# BW4030 EDS FILE (CONT.)

- Make sure the firmware in the BW4030 matches the latest firmware release
- If the BW4030 does not have the latest release, download the update from our website and use the “Update BridgeWay Firmware” function in BWConfig2.0 to update the firmware
- The EDS File, BWConfig2.0, Firmware Update Kit and BW4030 User Manual can be downloaded from our website [here](#)



BridgeWay Status	
Run/Idle State	Idle
Boot Firmware	1.02
Exec Firmware	1.03
BridgeWay Error	No error
Ethernet Interface State	Online
Ethernet Status	Not connected
DeviceNet Interface State	Online
DeviceNet Status	Online



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# ACM DEMO

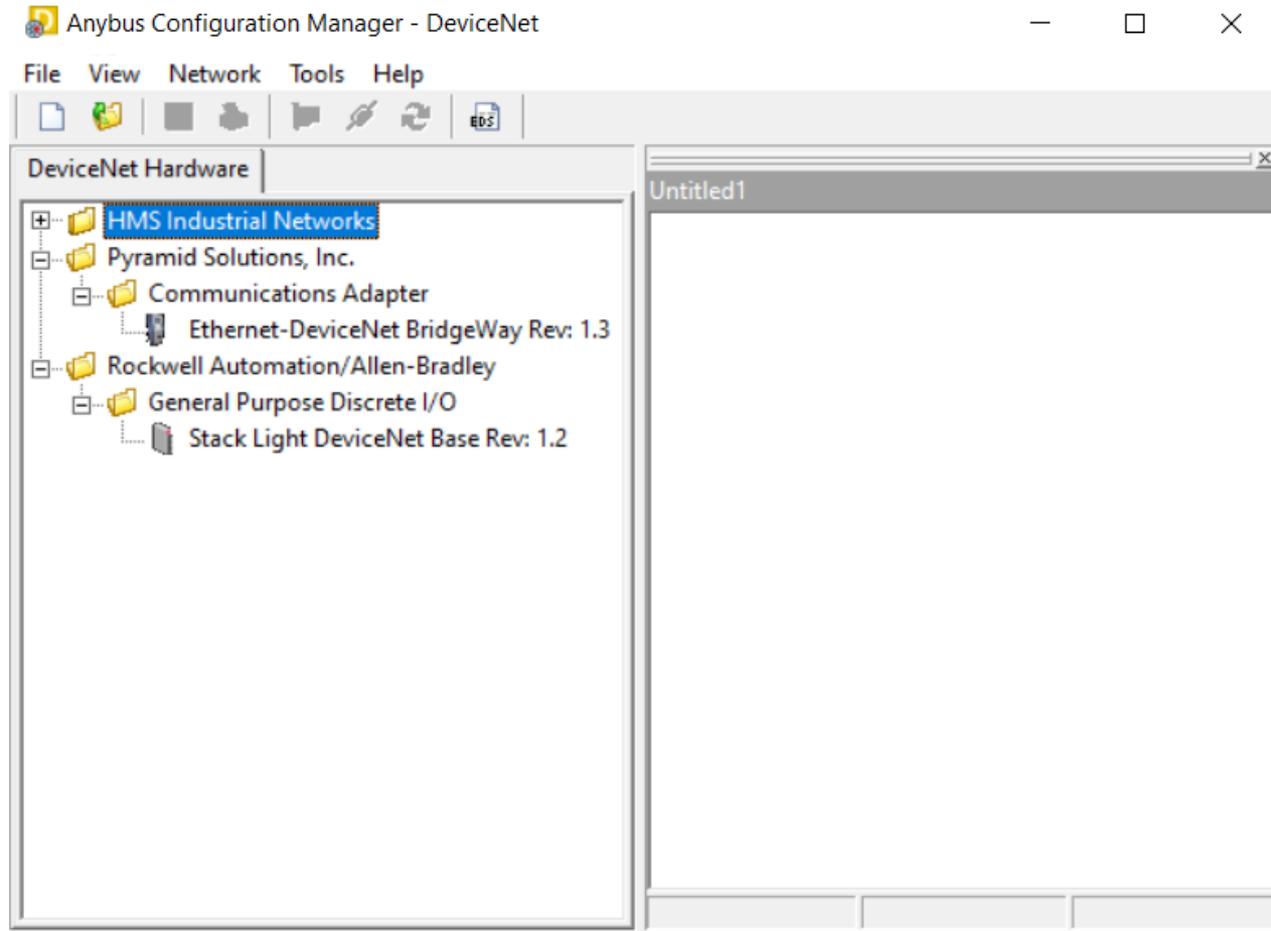
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# ACM DEMO

- In the next few slides we will illustrate an example use of ACM and Pyramid Solutions EIPScan to configure and test the BW4030
- EIPScan is a PC/Windows EtherNet/IP Scanner Simulation Tool sold separately by Pyramid Solutions
- Please contact Pyramid Solutions if you are interested in purchasing or have an questions about EIPScan

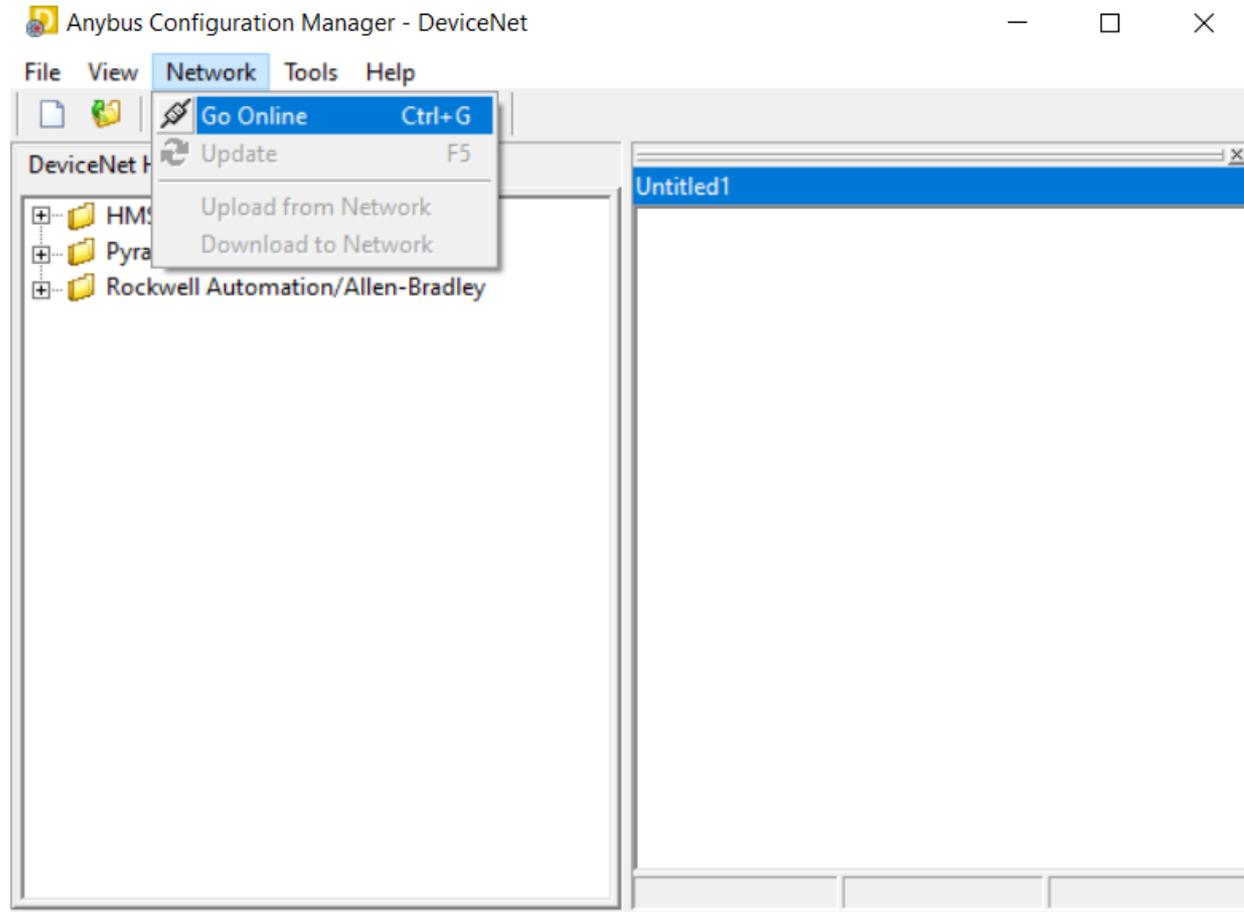
# ACM DEMO

- As shown, we have registered EDS files for the BW4030 and a DeviceNet Stack Light from Rockwell Automation
- For this example, we have connected a BW4030 and two of the same Rockwell Automation Stack Lights



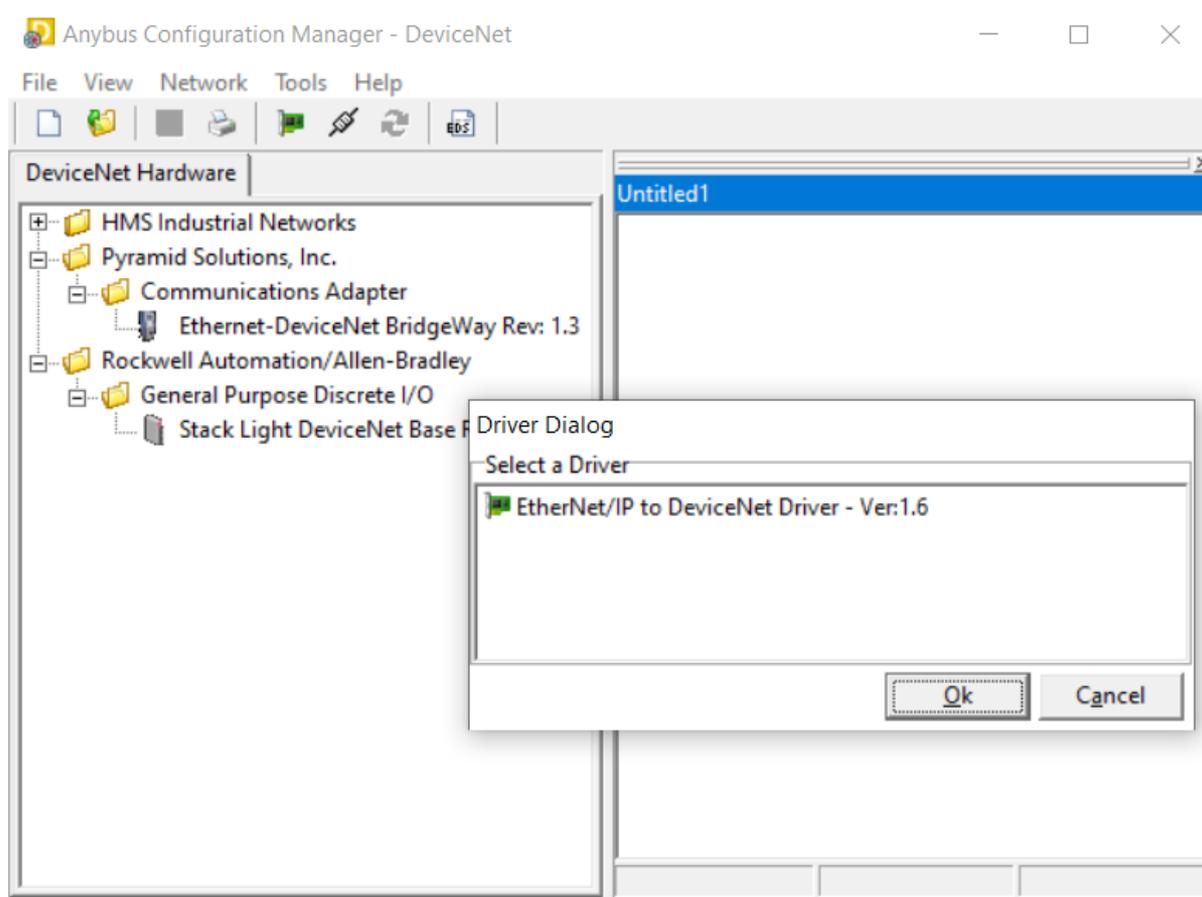
# GO ONLINE

- From the “Network” menu, select “Go Online”
- The tool will scan the EtherNet/IP network for relevant devices



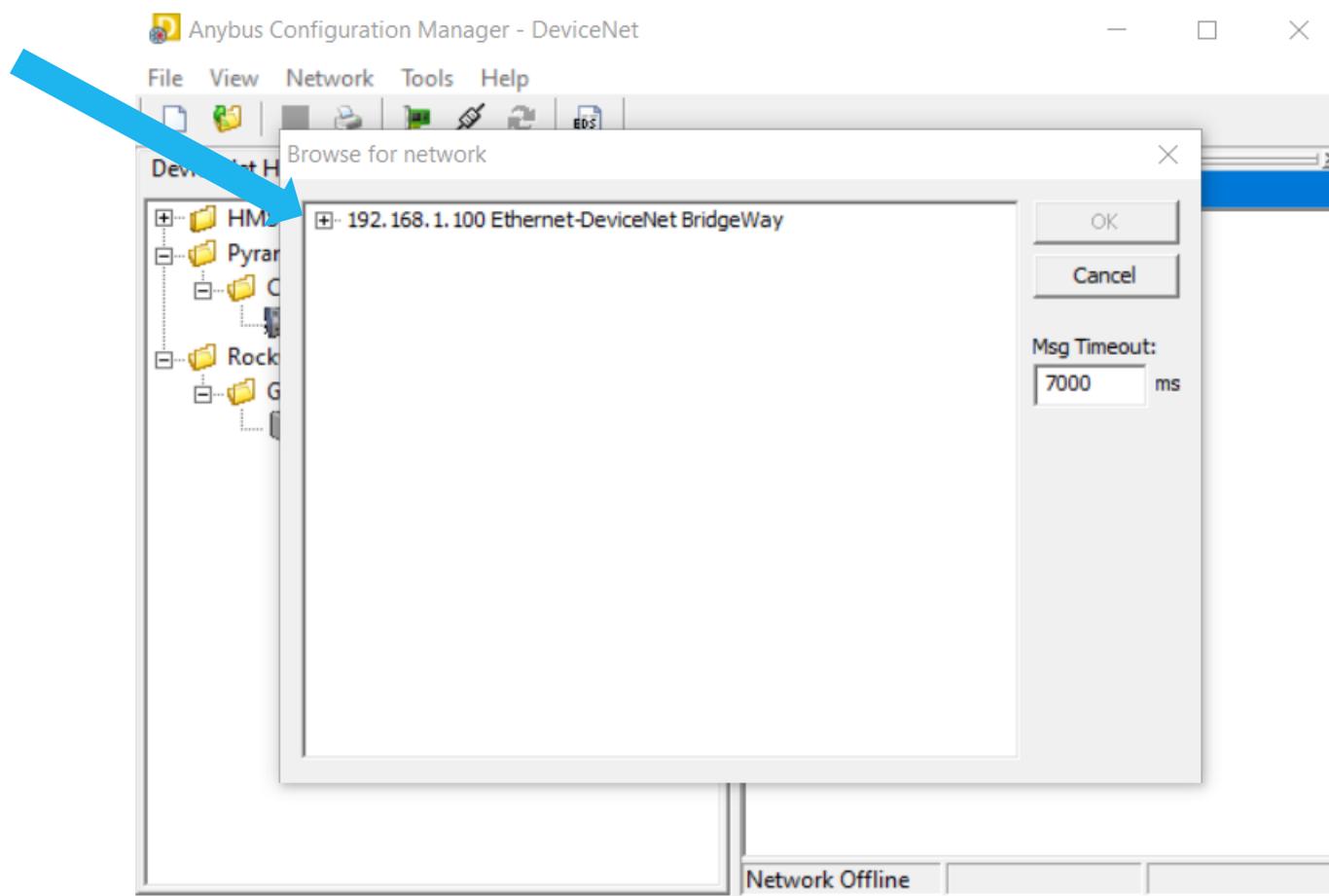
# GO ONLINE (CONT.)

- The Driver Dialog will be displayed
- Click on the Ethernet/IP Driver and hit the “Ok” button to continue



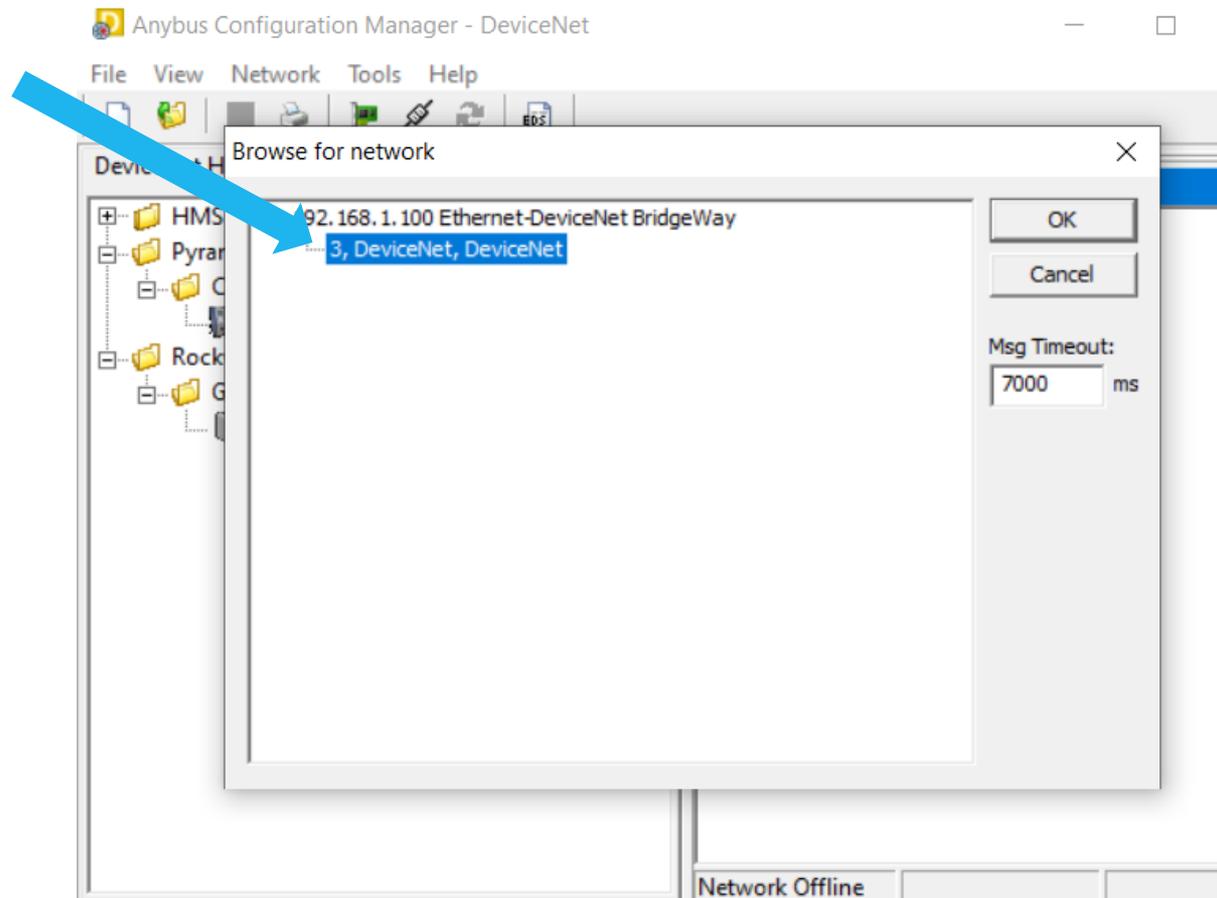
# GO ONLINE (CONT.)

- The “Browse for Network” dialog will be displayed
- Click the “+” to expand the view for the Ethernet to DeviceNet Gateway



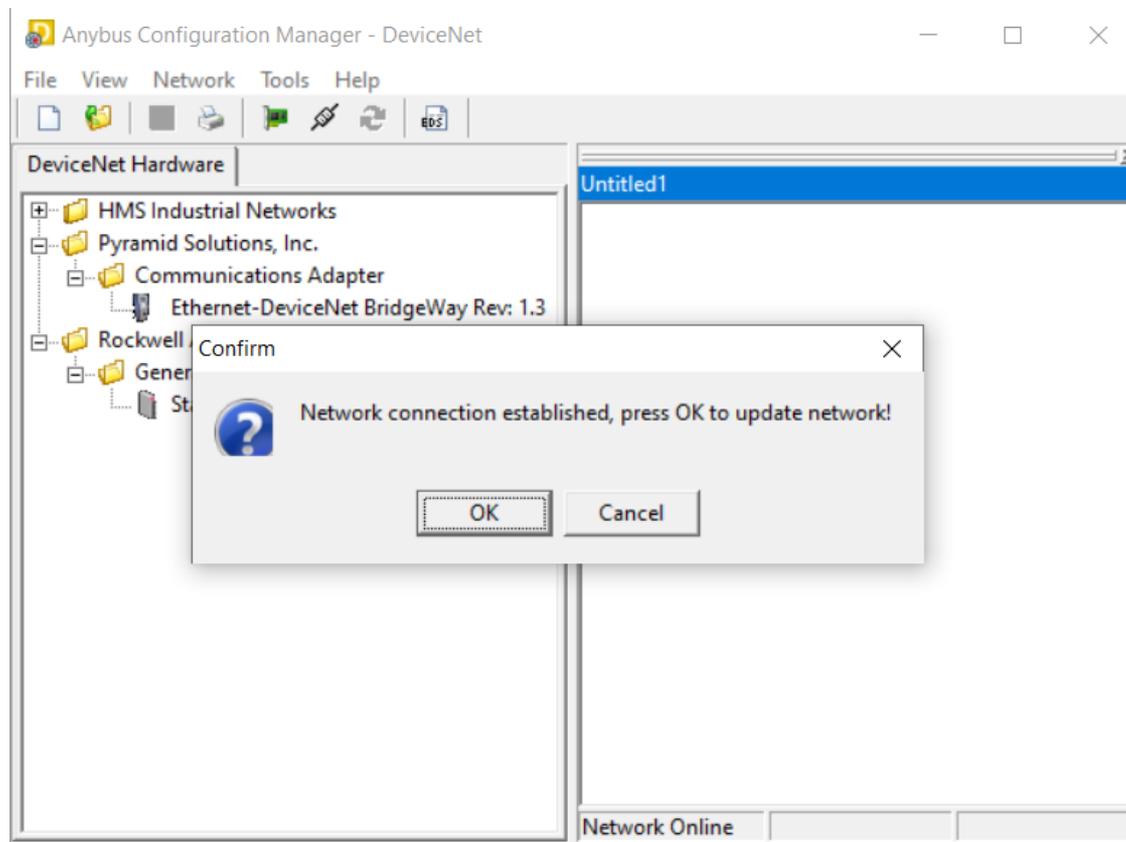
# GO ONLINE (CONT.)

- Click on the DeviceNet Network that is displayed to highlight it and then press the “Ok” button



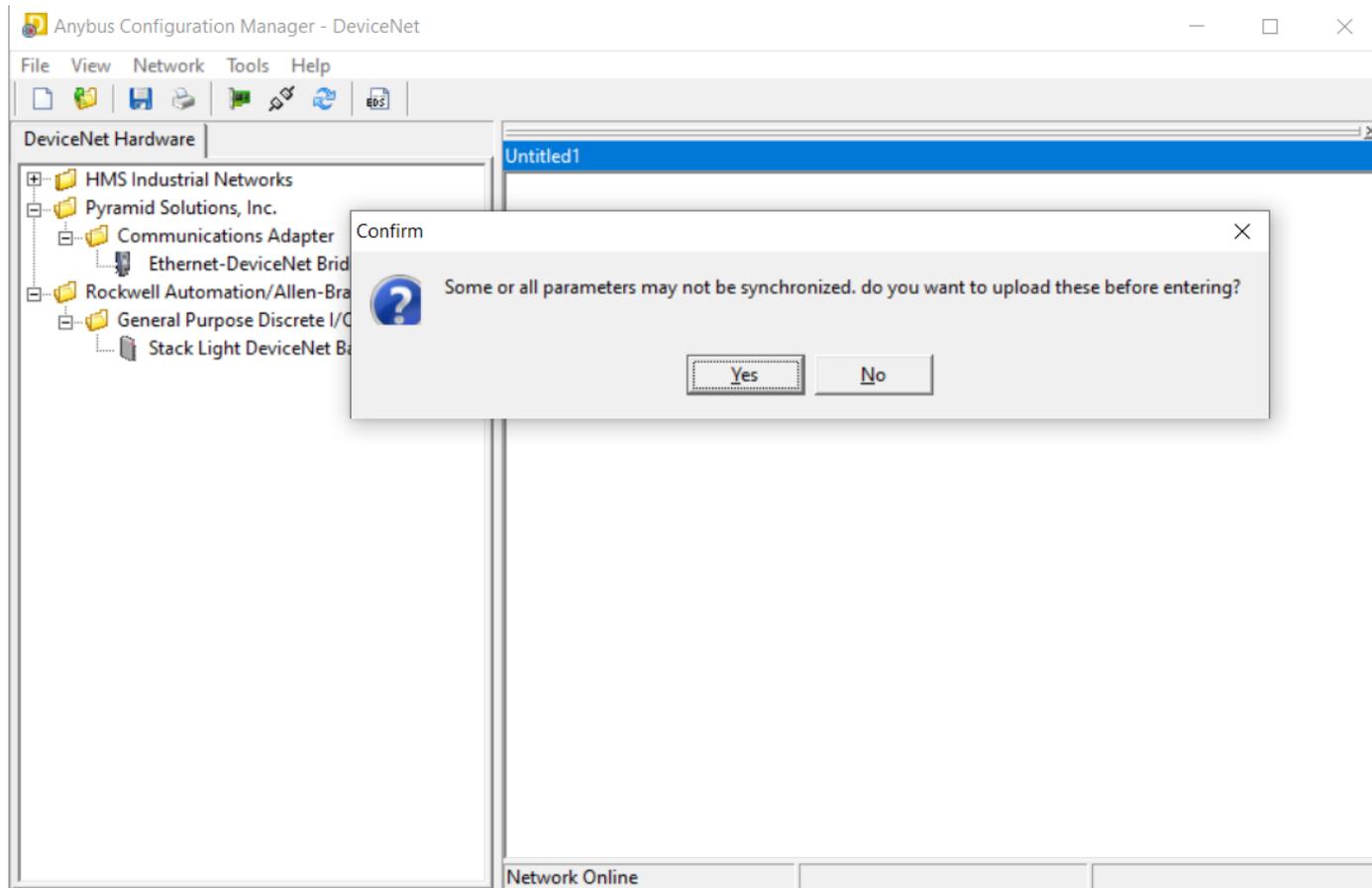
# GO ONLINE (CONT.)

- You will receive a prompt when a successful network connection has been established
- Click “Ok” to continue



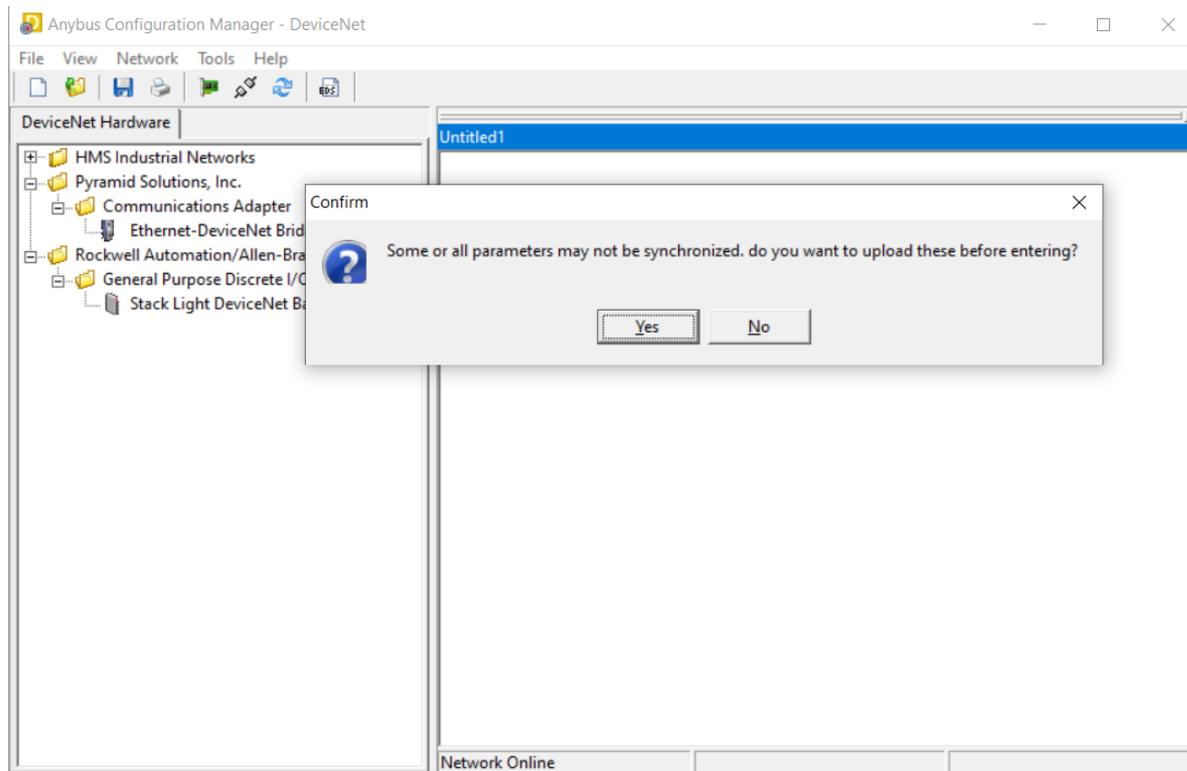
# NETWORK CONNECTION

- The BW4030 and the two Stack Light devices are detected and displayed left to right by address
- Double click on the BW4030 icon



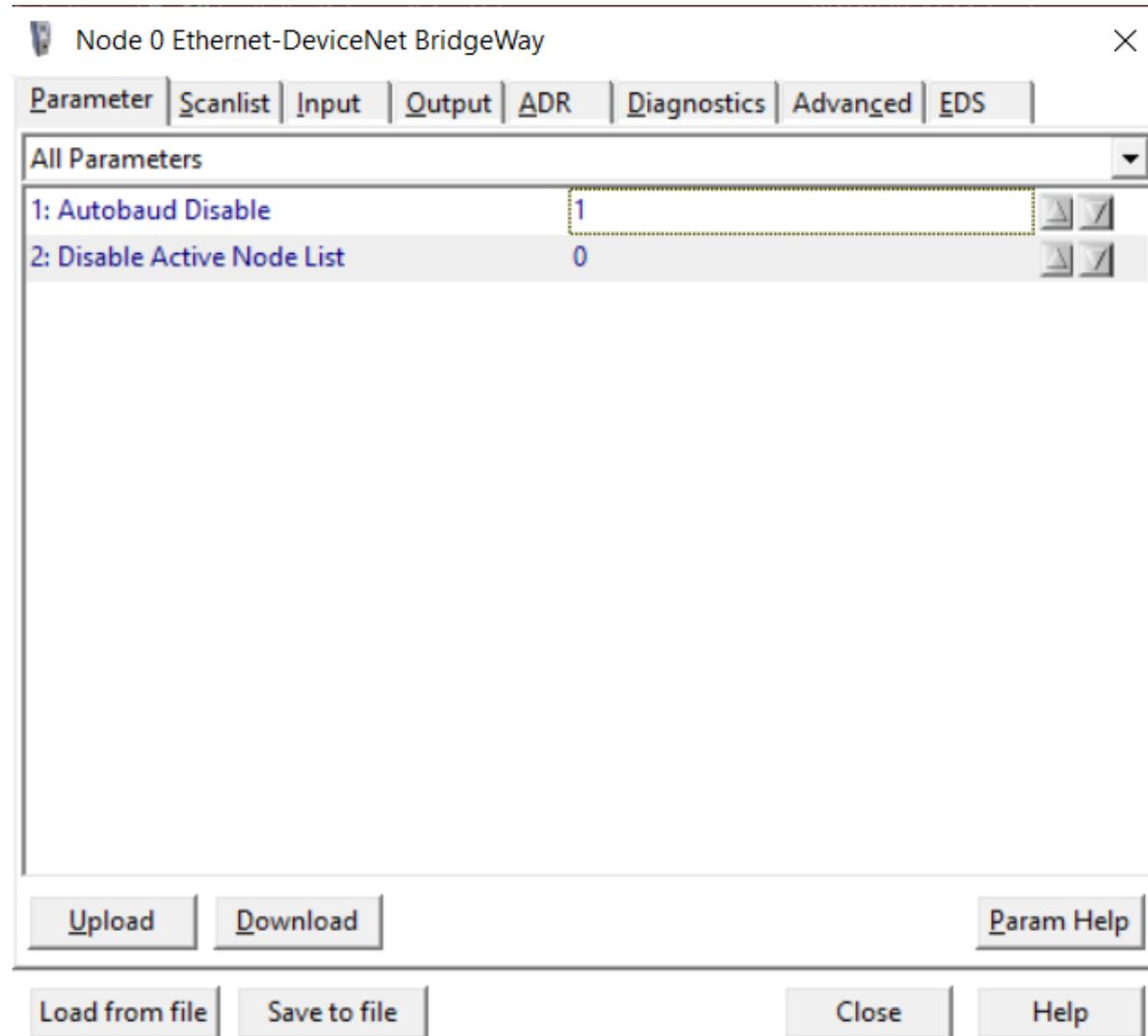
# NETWORK CONNECTION

- The BW4030 and the two Stack Light devices are detected and displayed left to right by address
- Double click on the BW4030 icon and then click “Yes” on the “Confirm” dialog



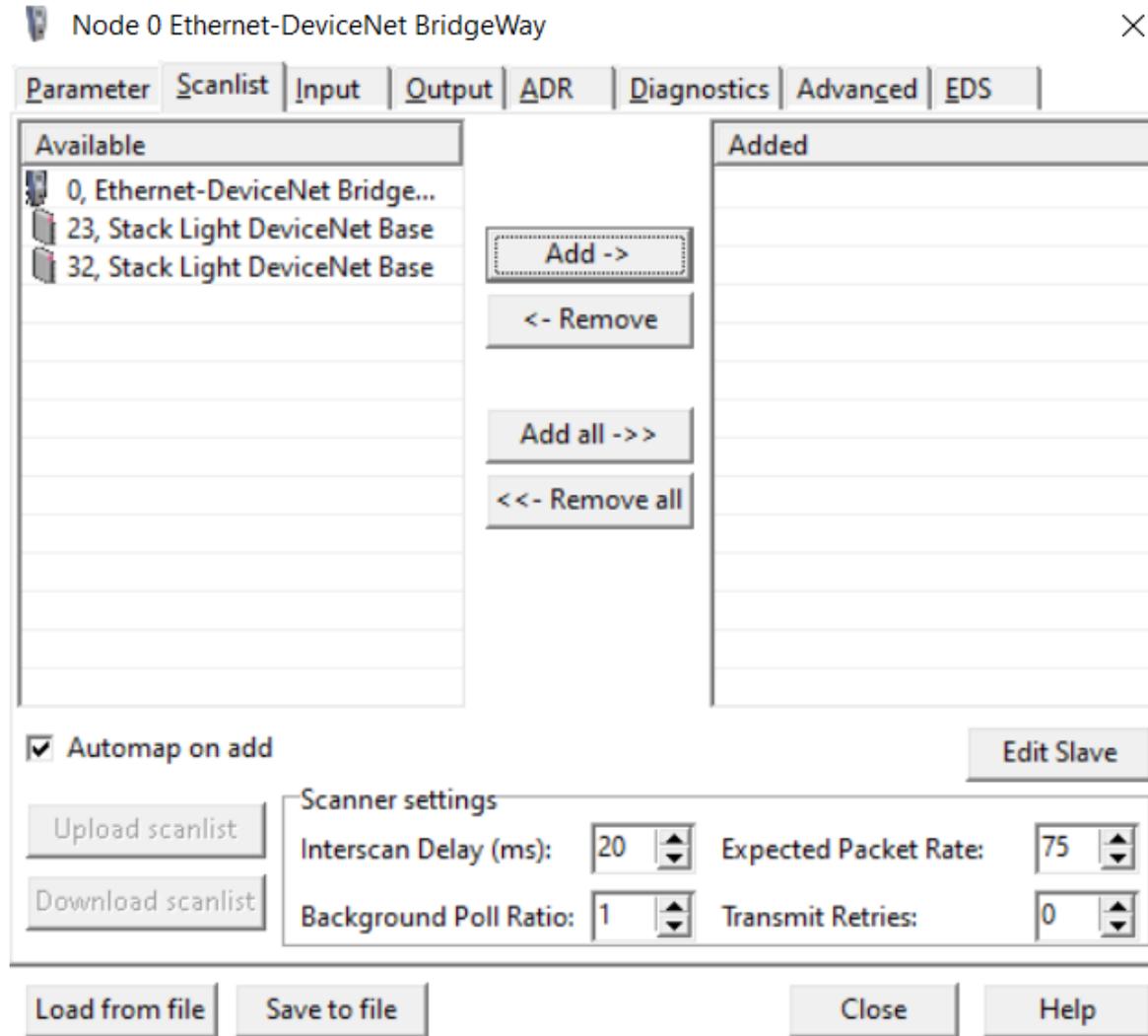
# NETWORK CONNECTION

- A dialog is produced for the BW4030
- Click on the “Scanlist” tab, then click “Yes” on the “Confirm” dialog



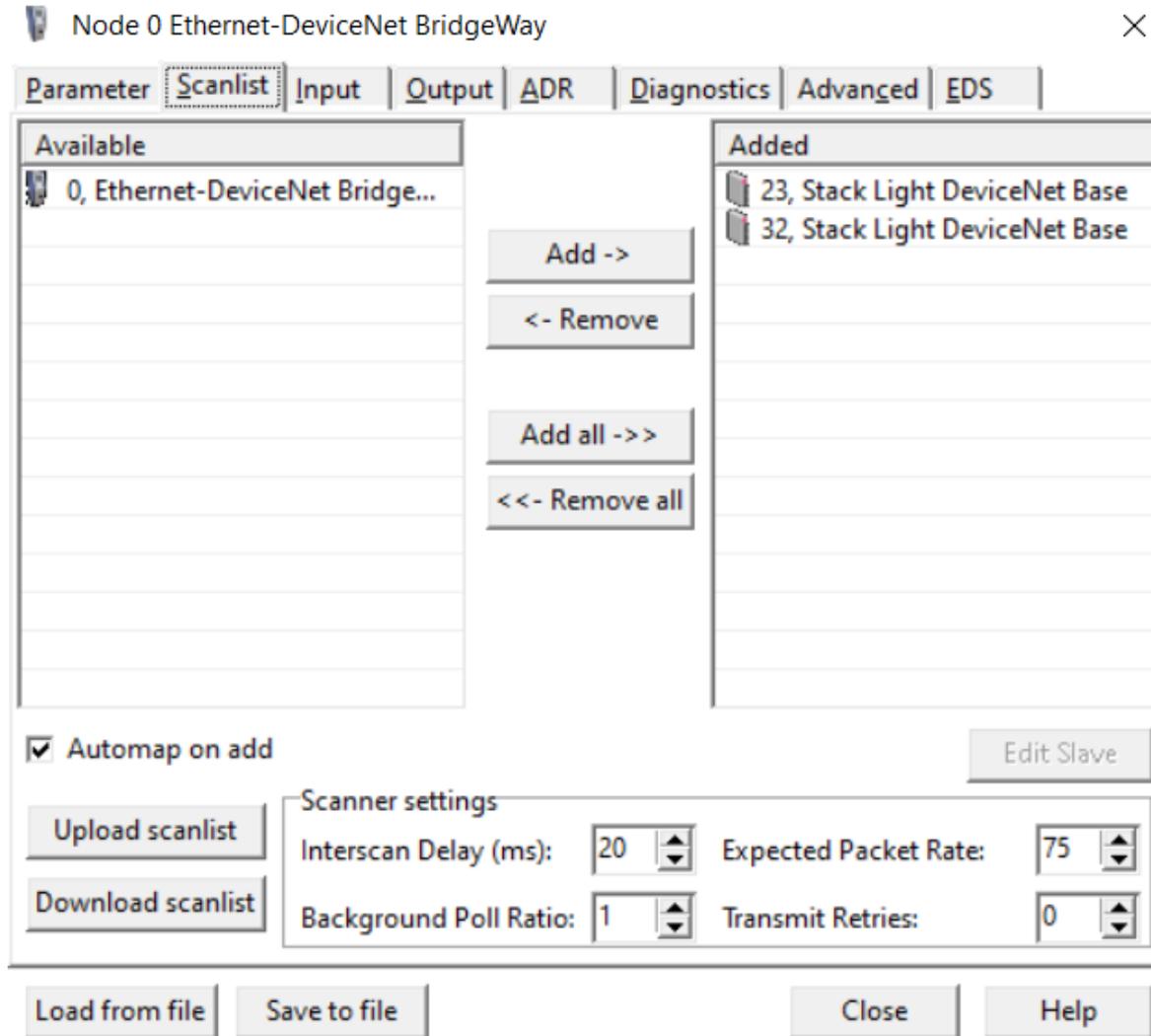
# ADD SLAVE DEVICES TO SCANLIST

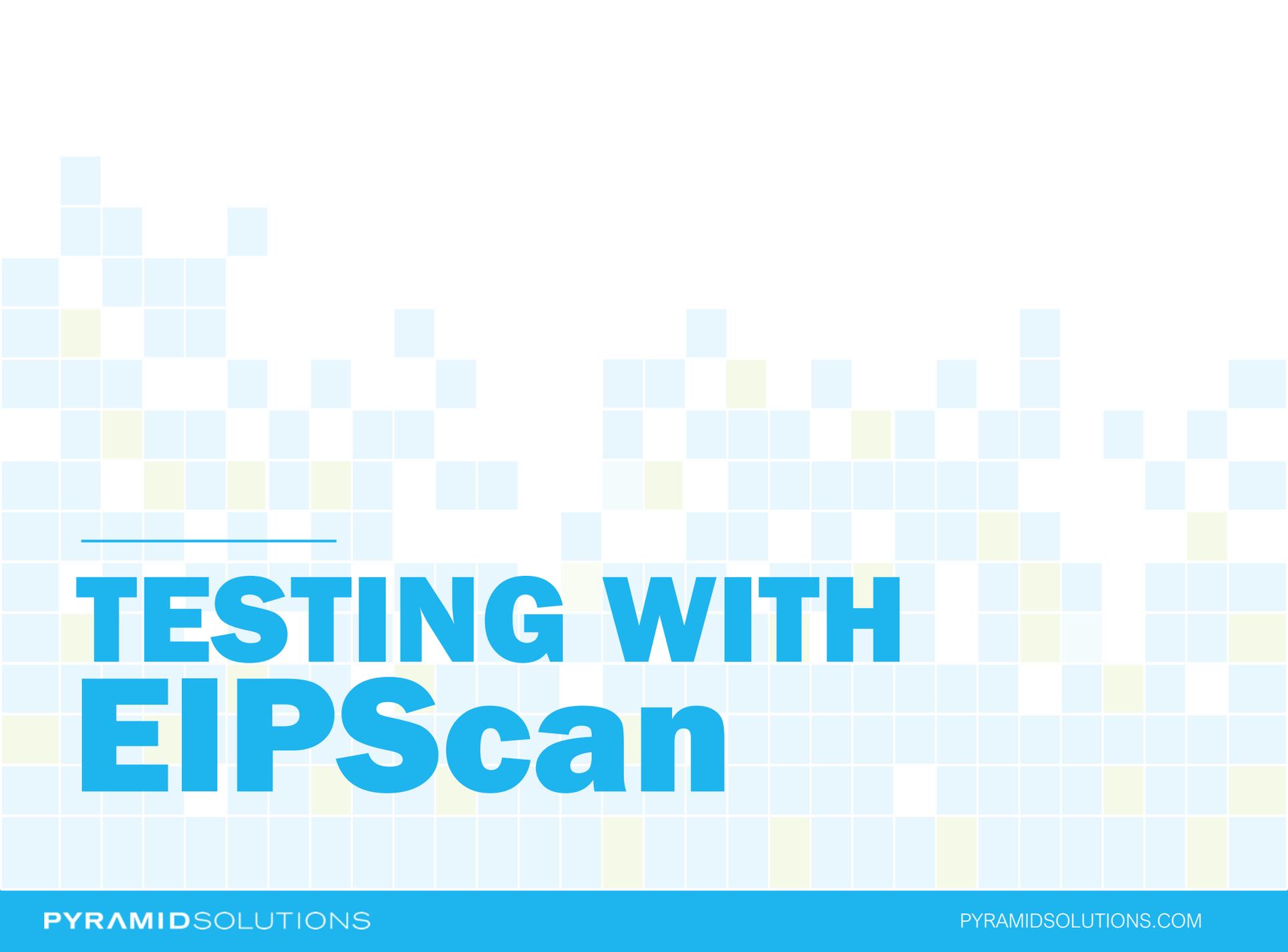
- Click on each slave device in the “Available” box and click the “Add” button
- Click “Ok” when it displays the device connection dialog



# DOWNLOAD SCANLIST TO BW4030

- The two slaves are now in the BW4030 Scanlist
- Each has 1 word of input and 1 word of output based on a 16 bit boundary setting
- Click “Download scanlist” to download this information to the BW4030
- The input and output data is now set aside in the BW4030 EtherNet/IP and Modbus TCP space based on the I/O size and boundary selected in ACM when adding the slave devices



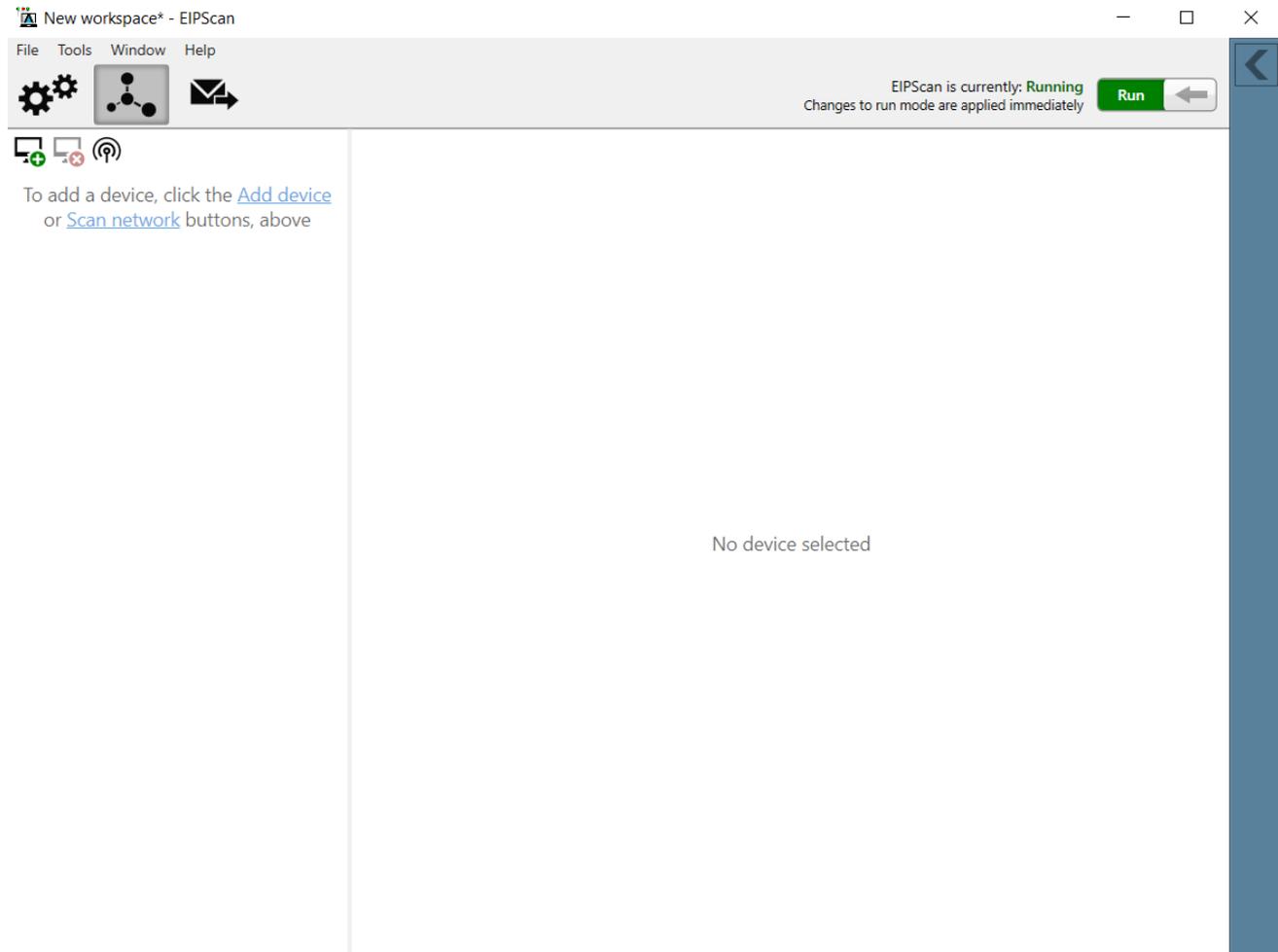


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# TESTING WITH EIPScan

# EIPScan

- We can now connect to the BW4030 with our EIPScan Tool to open an I/O connection



# CONNECT TO BW4030

- Create a class 1 connection to the BW4030 using the correct parameters for the BW4030 and press the “Connect” button
- NOTE: The sizes shown are the default sizes for the BW4030
- Note: Point to Point would be used on the T>O if a switch is not used

Summary ↑ Class 1 #1 (Outgoing) ×

User-defined label: Class 1 #1 (Outgoing)

### Connection Configuration

**Originator to Target (O → T) parameters**

- Instance ID: 150
- Tag name:
- Data size: 496  Run/idle header
- Packet rate (ms): 100
- Production inhibit (ms): 0
- Transport type: Point to point
- Data size type: Fixed size
- Priority: Scheduled

**Target to Originator (T → O) parameters**

- Instance ID: 100
- Tag name:
- Data size: 500  Run/idle header
- Packet rate (ms): 100
- Production inhibit (ms): 0
- Transport type: Multicast
- Data size type: Fixed size
- Priority: Scheduled

**Forward open parameters**

- Transport trigger: Cyclic
- Timeout multiplier: 16

**Misc. options**

- Keep TCP connection active
- Redundant owner

**Configuration data**

- Instance: 3
- Size: 0

Active Connection Data

Error description:

Connect

# READ/WRITE DATA WITH EIPScan

- Once connected, you can read the DeviceNet Slave Input Data and write the DeviceNet Slave Output Data based on the Slave data configuration in the Scanlist
- Note: The first 4 bytes are the BW4030 Command Register for putting the module in RUN mode, clearing warnings and resetting the module

The screenshot displays the EIPScan software interface. At the top, there is a 'Summary' tab and a window title 'Class 1 #1 (Outgoing)'. Below this, a 'User-defined label' field contains 'Class 1 #1 (Outgoing)'. The main area is divided into two sections: 'Connection Configuration' and 'Active Connection Data'. The 'Active Connection Data' section is expanded, showing two data streams: 'Originator to Target (O → T) data' and 'Target to Originator (T → O) data'. Each stream has a 'Size' field and an 'Edit' button. The 'Originator to Target' data is 496 bytes long, and the 'Target to Originator' data is 500 bytes long. Both data streams are displayed in a hex dump format. The 'Originator to Target' data starts with '01 00 00 00 FF 00 FF 00 00 00 00 00 00 00 00'. The 'Target to Originator' data starts with '01 00 00 00 18 00 18 00 00 00 00 00 00 00 00 00'. At the bottom, there is a 'Statistics' section showing 'Max Recv Delay 3 msec, Max Send Delay 4 msec, Rcv API 99.96 msec, Sent API 99.96 msec, Rcvd pkts 481, Sen' and an 'Error description' field.

Summary | Class 1 #1 (Outgoing) x

User-defined label: Class 1 #1 (Outgoing)

> Connection Configuration

▼ Active Connection Data

Originator to Target (O → T) data

Size: 496 [Edit]

Start auto-test...

01 00 00 00 FF 00 FF 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Target to Originator (T → O) data

Size: 500

01 00 00 00 18 00 18 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Statistics: Max Recv Delay 3 msec, Max Send Delay 4 msec, Rcv API 99.96 msec, Sent API 99.96 msec, Rcvd pkts 481, Sen

Error description:

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# BW4030 INPUT DATA

- For the BW4030, input data is mapped as follows:
  - For EtherNet/IP, offset 0 in the BW4030 Assembly (100) is the first byte of the 32 bit Status in Input data
  - For Modbus, this data would start at Input Register Address 30001 (or 40001)

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# BW4030 OUTPUT DATA

- For the BW4030, output data is mapped as follows:
  - For EtherNet/IP, offset 0 for the BW4030 Assembly (150) is the start of the 32 bit Command Register.
  - For Modbus, this would be Holding Register Address 41027 (41025 and 41026 are the Run/Idle Header and are they only for legacy support i.e. not needed for the BW4030)



# THIS CONCLUDES OUR PRESENTATION ON USING THE ACM TOOL FOR BW4030 DEVICENET SCANLIST CONFIGURATION

[Contact](#) Pyramid Solutions for additional support questions.

Check out our [BW4030 Support page](#) for more How to's.

