



# Ethernet Node Switch Expansion

Ethernet Node  
Switch Expansion



EN - FR - CN - RU



**INSTALLATION INSTRUCTIONS**

# **OPERATION MANUAL**

Part No. ETH-NODE-AUXSW-4P

[www.go4b.com](http://www.go4b.com)



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# 1. CUSTOMER SAFETY RESPONSIBILITIES

4B appreciates your business and is pleased you have chosen our products to meet your needs.

Please read in its entirety and understand the literature accompanying the product before you place the product into service. Please read the safety precautions carefully before operating the product. With each product you purchase from 4B, there are some basic but important safety considerations you must follow to be sure your purchase is permitted to perform its design function and operate properly and safely, giving you many years of reliable service. Please read and understand the Customer Safety Responsibilities listed below. Failure to follow this safety directive and the Operation Manuals and other material furnished or referenced, may result in serious injury or death.

## ***SAFETY NOTICE TO OUR CUSTOMERS***

- A. In order to maximize efficiency and safety, selecting the right equipment for each operation is vital. The proper installation of the equipment, and regular maintenance and inspection is equally important in continuing the proper operation and safety of the product. The proper installation and maintenance of all our products is the responsibility of the user unless you have asked 4B to perform these tasks.
- B. All installation and wiring must be in accordance with Local and National Electrical Codes and other standards applicable to your industry. (Please see the article “Hazard Monitoring Equipment Selection, Installation and Maintenance” at [www.go4b.com](http://www.go4b.com).) The installation of the wiring should be undertaken by an experienced and qualified professional electrician. Failure to correctly wire any product and/or machinery can result in the product or machine failing to operate as intended, and can defeat its design function.
- C. Periodic inspection by a qualified person will help assure your 4B product is performing properly. 4B recommends a documented inspection at least annually and more frequently under high use conditions.
- D. Please see the last page of this manual for all warranty information regarding this product.

## ***CUSTOMER SAFETY RESPONSIBILITIES***

### **1. READ ALL LITERATURE PROVIDED WITH YOUR PRODUCT**

Please read all user, instruction and safety manuals to ensure that you understand your product operation and are able to safely and effectively use this product. If the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.

### **2. YOU BEST UNDERSTAND YOUR NEEDS**

Every customer and operation is unique, and only you best know the specific needs and capabilities of your operation. Please call the 24-hour hotline at 309-698-5611 for assistance with any questions about the performance of products purchased from 4B. 4B is happy to discuss product performance with you at any time.

### **3. SELECT A QUALIFIED AND COMPETENT INSTALLER**

Correct installation of the product is important for safety and performance. If you have not asked 4B to perform the installation of the unit on your behalf, it is critical for the safety of your operation and those who may perform work on your operation that you select a qualified and competent electrical installer to undertake the installation. The product must be installed properly to perform its designed functions. The installer should be qualified, trained, and competent to perform the installation in accordance with Local and National Electrical Codes, all relevant OSHA Regulations, as well as any of your own standards and preventive maintenance requirements, and other product installation information supplied with the product. You should be prepared to provide the installer with all necessary installation information to assist in the installation.

### **4. ESTABLISH AND FOLLOW A REGULAR MAINTENANCE AND INSPECTION SCHEDULE FOR YOUR 4B PRODUCTS**

You should develop a proper maintenance and inspection program to confirm that your system is in good working order at all times. You will be in the best position to determine the appropriate frequency for inspection. Many different factors known to the user will assist you in deciding the frequency of inspection. These factors may include but are not limited to weather conditions; construction work at the facility; hours of operation; animal or insect infestation; and the real-world experience of knowing how your employees perform their jobs. The personnel or person you select to install, operate, maintain, inspect or perform any work whatsoever, should be trained and qualified to perform these important functions. Complete and accurate records of the maintenance and inspection process should be created and retained by you at all times.

### **5. RETAIN AND REFER TO THE OPERATION MANUAL FOR 4B'S SUGGESTED MAINTENANCE AND INSPECTION RECOMMENDATIONS**

As all operations are different, please understand that your specific operation may require additional adjustments in the maintenance and inspection process essential to permit the monitoring device to perform its intended function. Retain the Operation Manual and other important maintenance and service documents provided by 4B and have them readily available for people servicing your 4B equipment. Should you have any questions, please call the free 24-hour hotline number (309-698-5611).

### **6. SERVICE REQUEST**

If you have questions or comments about the operation of your unit or require the unit to be serviced please contact the 4B location who supplied the product or call us via our 24-hour hotline number in the USA (309-698-5611). Please have available product part numbers, serial numbers, and approximate date of installation. In order to assist you, after the product has been placed into service, complete the online product registration section which is accessed via our website [www.go4b.com](http://www.go4b.com).

## 2. PRODUCT OVERVIEW

The ETH-NODE-AUXSW-4P Expansion board allows for the support of up to 4 Ethernet ports instead of the standard single port available on the base IE-Node. Note that while the unit has 5 Ethernet ports in total, one is dedicated to connecting into the IE-Node.

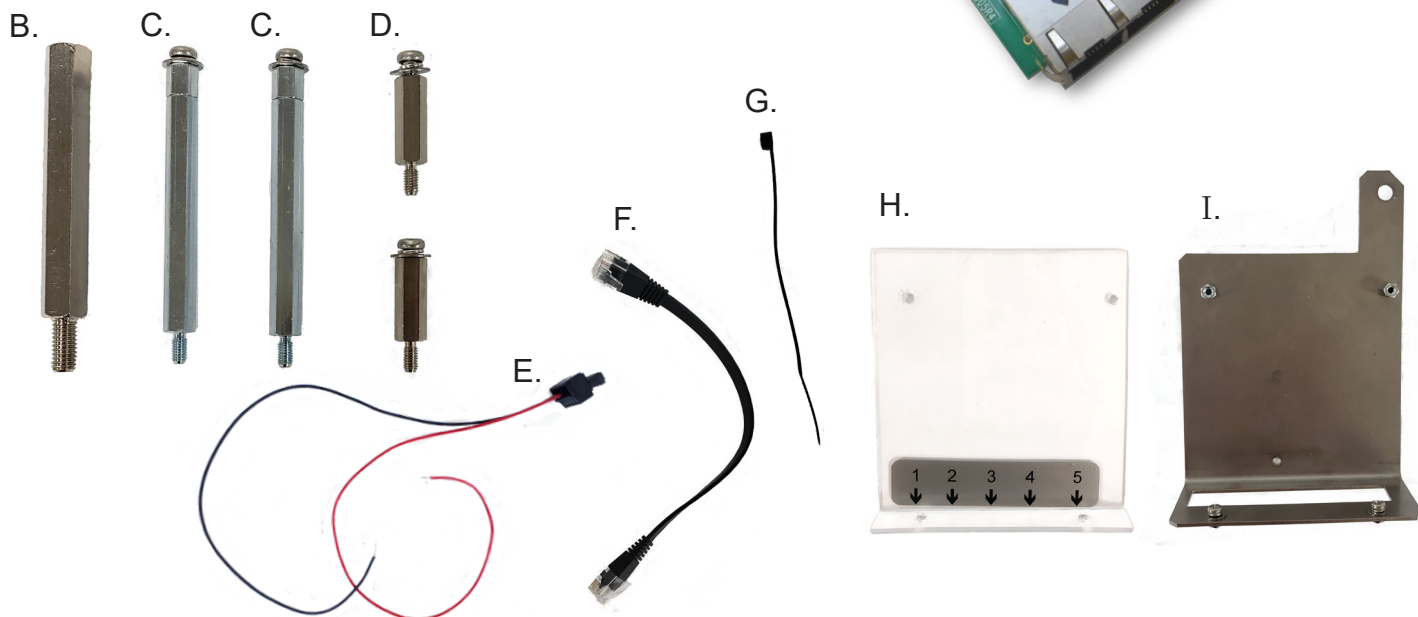
## 3. SPECIFICATIONS

The Expansion board has the following connections available:

1	Unavailable/Dedicated to IE-Node
2	RJ-45 10/100 Mbps Ethernet Port
3	RJ-45 10/100 Mbps Ethernet Port
4	RJ-45 10/100 Mbps Ethernet Port
5	RJ-45 10/100 Mbps Ethernet Port
Approvals - (When Installed in IE-Node)	<ul style="list-style-type: none"> <li>• CSA (Master Contract Ref: 212693)</li> <li>• CSA Class II Div 1 Groups E, F &amp; G (ETH-NODE1V4C and ETH-NODE2V4C)</li> <li>• ATEX &amp; CE (Versions Available)</li> <li>• For all approval requirements please refer to the ETH-NODE manual.</li> </ul>

### ETH-NODE-AUXSW-4P EXPANSION BOARD KIT CONTENTS

- A. Ethernet Switch Board(1)
- B. Extra Large Hex Pillar(1)
- C. Large Hex Pillar (2)
- D. Small Hex Pillar(2)
- E. Power Connector with Leads(1)
- F. Ethernet Cable(1)
- G. Cable Tie(1)
- H. Clear Plastic Cover(1)
- I. Mounting Plate(1)



### WARNING

**DO NOT ATTEMPT TO FIT THE EXPANSION BOARD WHILE POWER IS LIVE. THE SYSTEM SHOULD BE OFF BEFORE ANY INSTALLATION TAKES PLACE.**

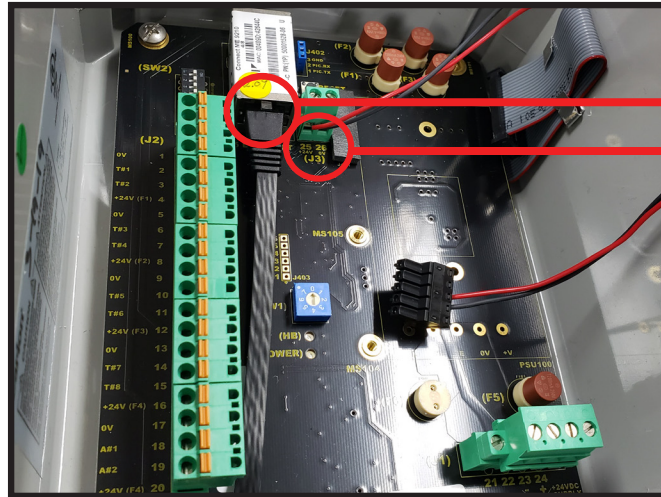
# 5. INSTALLATION

For factory pre-installed boards, skip to ELECTRICAL CONNECTION on page 9

**Step 1** - Remove power from the IE-Node before proceeding with the expansion board installation.

**Step 2** - Plug Ethernet Cable into the IE-Node RJ-45 connector and terminate Power Connector Leads to Terminals 25 and 26 (J3) on the IE-Node

Red -> 25 (+24V)  
Black -> 26 (0V)



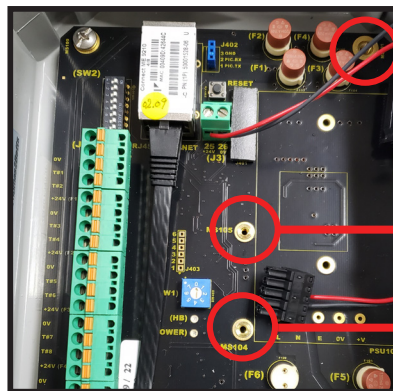
RJ-45 Connector / Ethernet Cable (F)  
Terminals 25 & 26 (J3) / Power Connector With Leads (E)

Image A

## NOTE

NOTE: THIS STEP MUST BE CARRIED OUT AT THIS STAGE AS THE MOUNTING PLATE WILL COVER THE TERMINAL. IF FOR ANY REASON THE WIRES ARE DISCONNECTED FROM THE BLACK CONNECTOR, THE RED WIRE SHOULD CONNECT TO TERMINAL 3 (VB+) AND THE BLACK WIRE TO TERMINAL 4 (V-).

**Step 3** - Remove the large Phillips screw on the top right corner of the control unit's board and be sure to keep it for a later stage. Note the two locations for large hex pillar (C) installation.



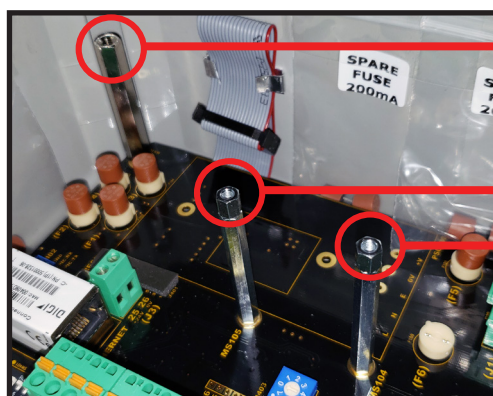
Control Board Phillips Screw to Remove

Large Hex Pillar Location (C)

Large Hex Pillar Location (C)

Image B

**Step 4** - Install the extra large hex pillar into the location from where the Phillips screw was removed. Install two of the large hex pillars into the open locations on the control unit's board. Note that there should be a small hex pillar installed on top of both large hex pillars.



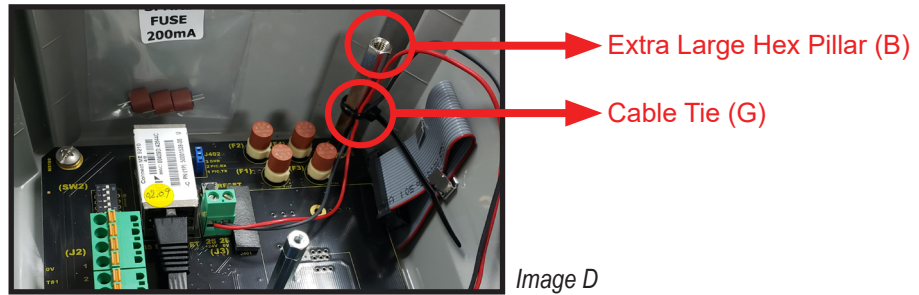
Extra Large Hex Pillar (B)

Small Hex Pillar Extensions (C)

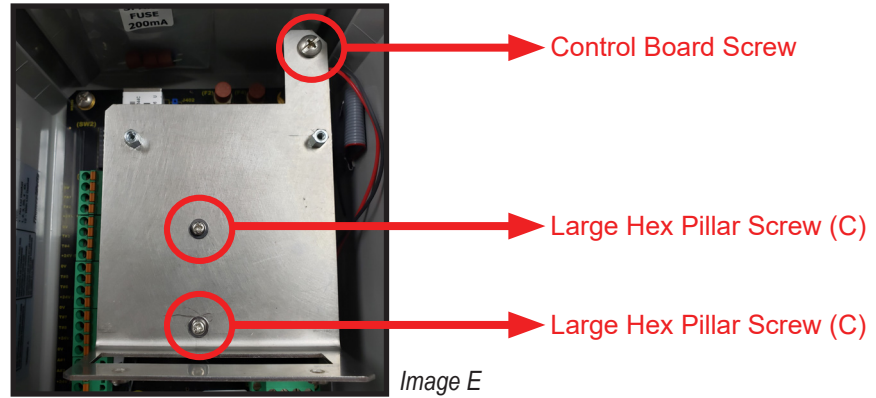
Small Hex Pillar Extensions (C)

Image C

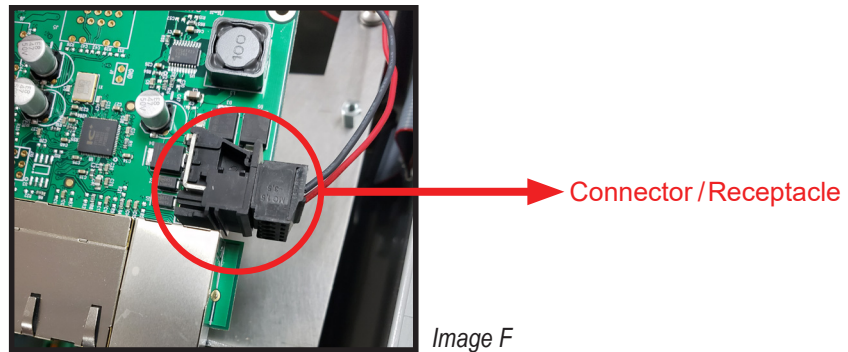
**Step 5** - Use Cable Tie to secure the red and black wire to the extra large hex pillar



**Step 6** - Take the mounting plate and screw it down onto the three pillars. The control board screw removed from step 3 will be used to secure the extra large hex pillar.



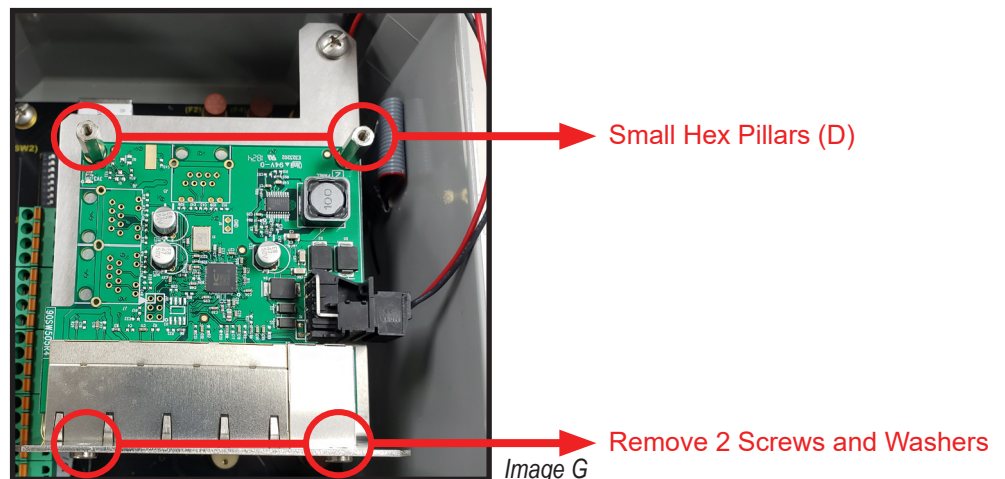
**Step 7** - Plug the power connector into the receptacle on the Ethernet Switch.



## NOTE

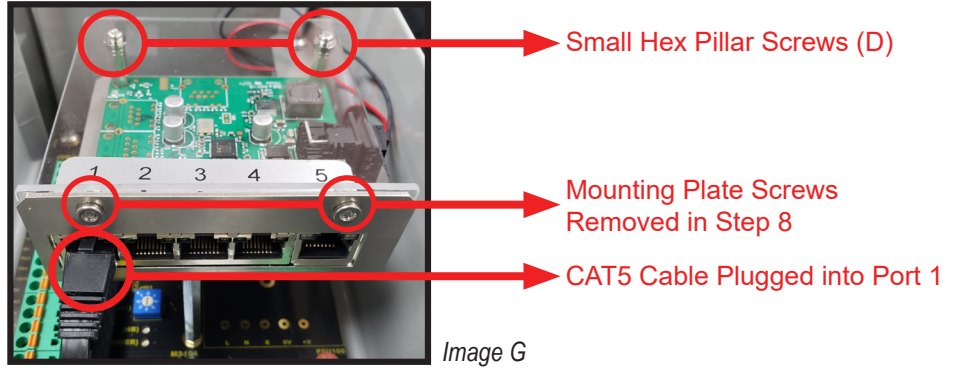
NOTE: THIS STEP MUST BE CARRIED OUT AT THIS STAGE, CONNECTOR CANNOT BE REMOVED ONCE SWITCH EXPANSION BOARD IS SECURED

**Step 8** - Remove the two screws and washers from above the slot on the mounting plate. Insert the Ethernet Switch into the slot and use the small hex pillars to attach the Ethernet Switch to the mounting plate

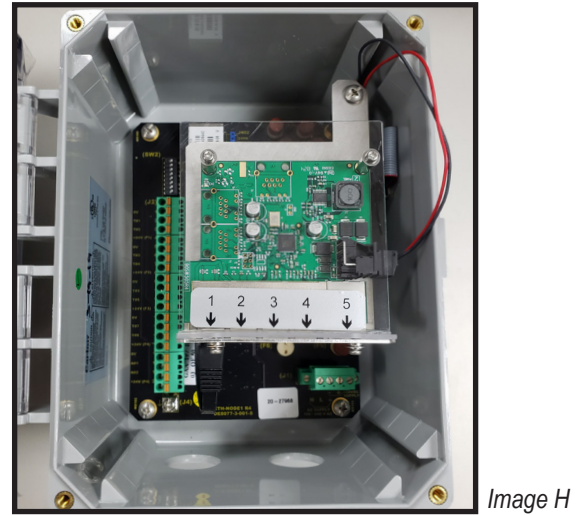
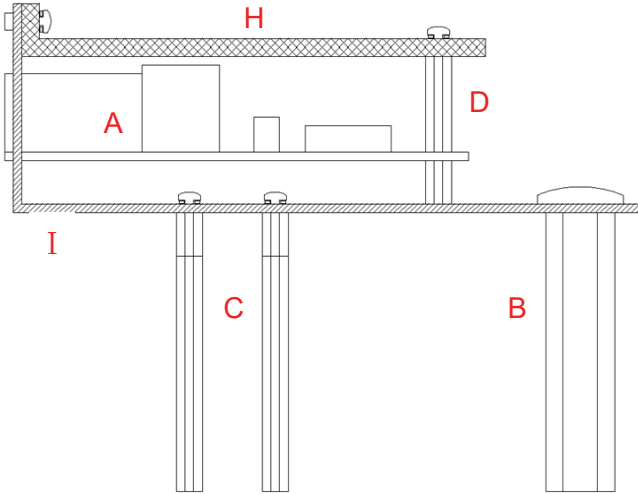




**Step 9** - Place the clear cover over the Ethernet Switch and attach it to the small hex pillars and to the mounting plate holes above the slot. Insert the other end of the CAT5 cable into the port one of the switch.

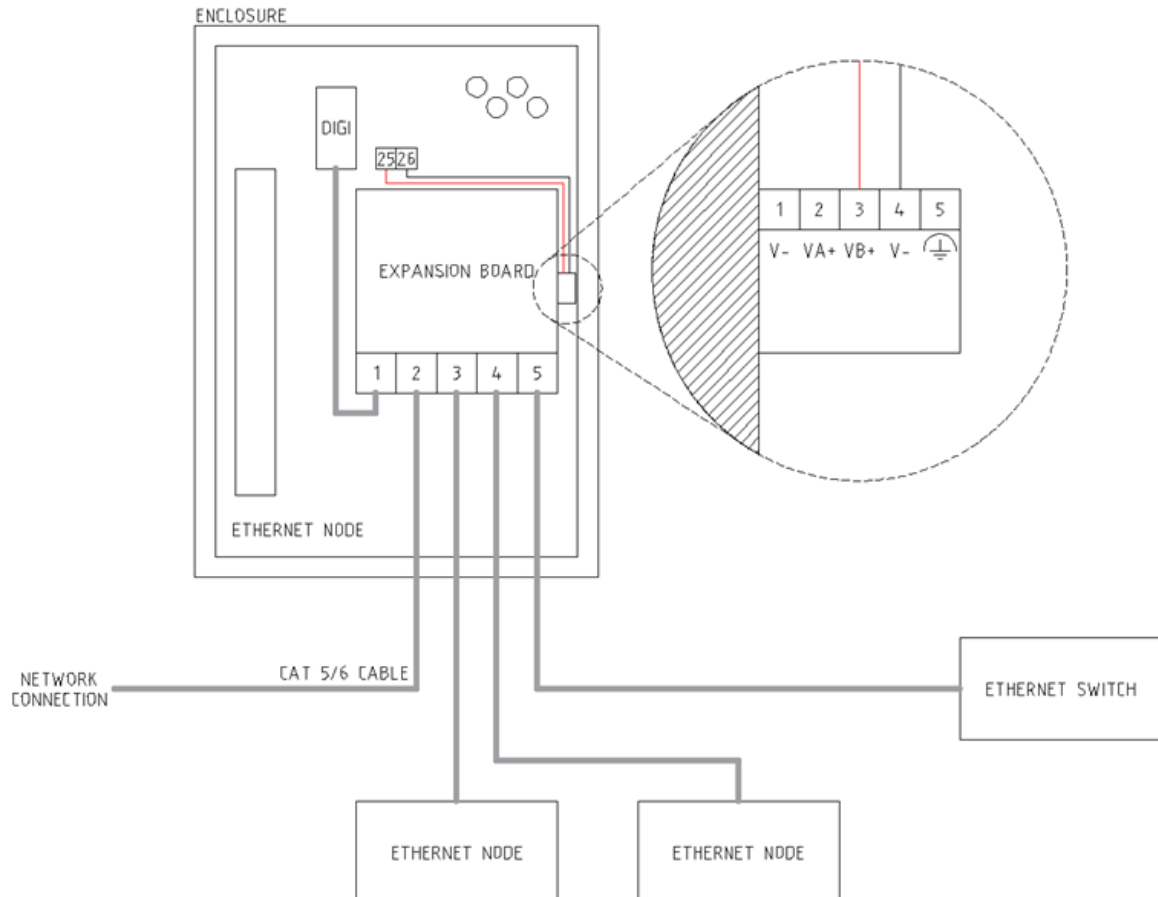


Installation of the expansion board is now complete.

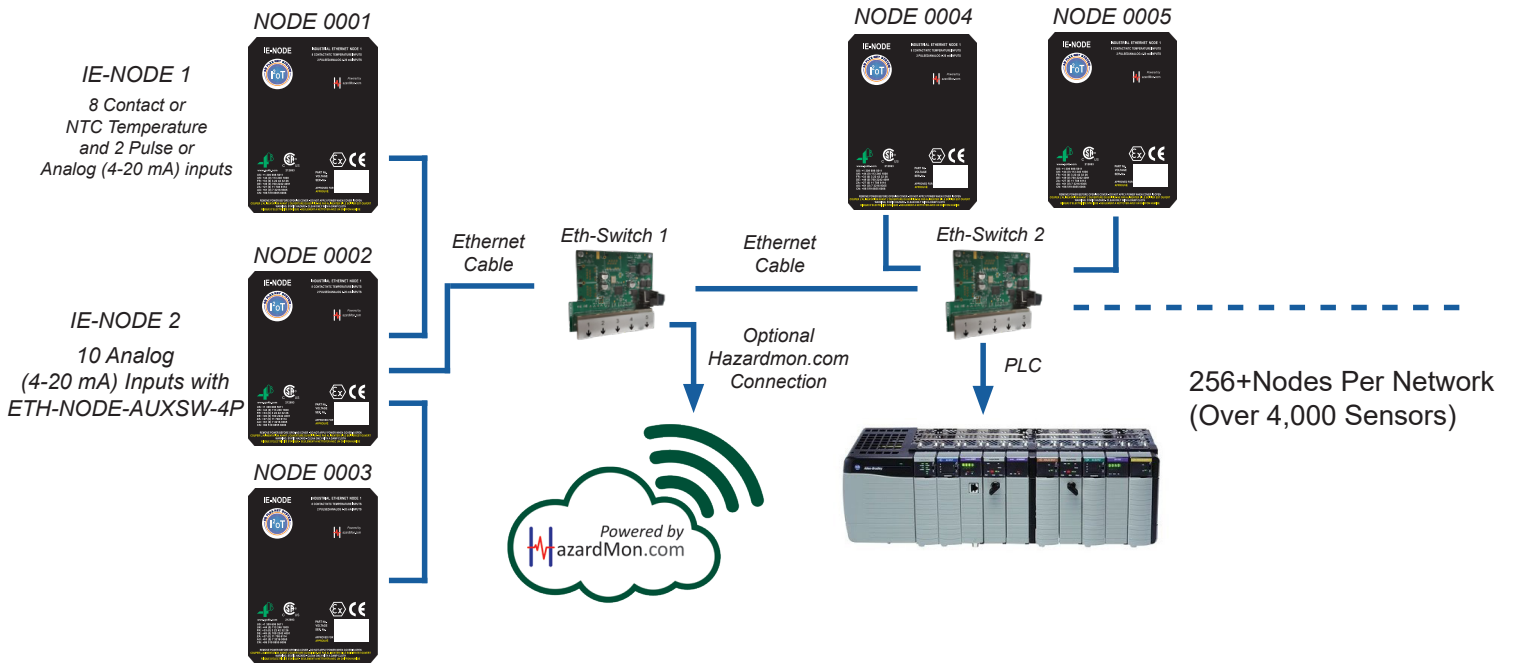


## 6. ELECTRICAL CONNECTION

### 6.1 SUPPLY VOLTAGE WIRING (24 VDC)



## 6.2 NETWORK BLOCK DIAGRAM



## 6. OPERATION

Each Port on the switch has a green LED. When a cable is plugged into the port, the LED will illuminate solid green. When there is Ethernet activity on the port, the LED will flash green.

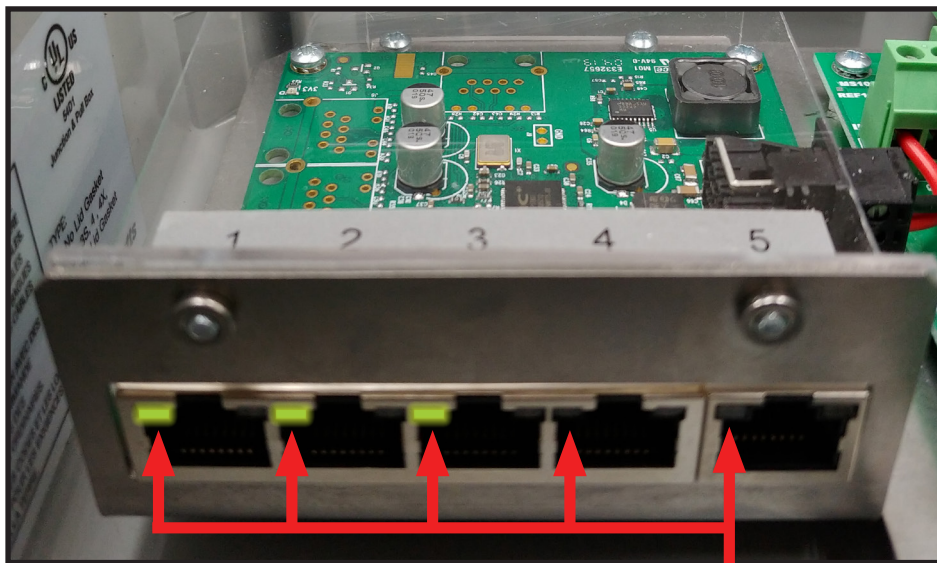


Image 1

Green Port LED On - Cable Is Plugged Into The Port  
 Green Port LED Flashing - Ethernet Activity On The Port  
 Port LED Off – Cable Unplugged From The Port

## 6. TROUBLESHOOTING GUIDE

CONDITION	SOLUTION
Network Communications is not working	<ol style="list-style-type: none"> <li>1. Check that there is Power on the card.</li> <li>2. Check that the activity LED is on / flashing</li> <li>3. Check IP configuration of devices</li> </ol>
Activity LED is off	<ol style="list-style-type: none"> <li>1. Check that there is Power on the card.</li> <li>2. Check that the RJ-45 connector is fully seated in the socket</li> <li>3. Check that the CAT5/CAT6 cable is following the T568A or T568B standard</li> </ol>

## **7. PRODUCT WARRANTY**

### **1. EXCLUSIVE WRITTEN LIMITED WARRANTY**

ALL PRODUCTS SOLD ARE WARRANTED BY THE COMPANY 4B COMPONENTS LIMITED AND 4B BRAIME COMPONENTS LIMITED HEREIN AFTER REFERRED TO AS 4B TO THE ORIGINAL PURCHASER AGAINST DEFECTS IN WORKMANSHIP OR MATERIALS UNDER NORMAL USE FOR ONE (1) YEAR AFTER DATE OF PURCHASE FROM 4B. ANY PRODUCT DETERMINED BY 4B AT ITS SOLE DISCRETION TO BE DEFECTIVE IN MATERIAL OR WORKMANSHIP AND RETURNED TO A 4B BRANCH OR AUTHORIZED SERVICE LOCATION, AS 4B DESIGNATES, SHIPPING COSTS PREPAID, WILL BE, AS THE EXCLUSIVE REMEDY, REPAIRED OR REPLACED AT 4B'S OPTION.

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### **3. NO WARRANTY "BY SAMPLE OR EXAMPLE"**

ALTHOUGH 4B HAS USED REASONABLE EFFORTS TO ACCURATELY ILLUSTRATE AND DESCRIBE THE PRODUCTS IN ITS CATALOGS, LITERATURE, AND WEBSITES, SUCH ILLUSTRATIONS AND DESCRIPTIONS ARE FOR THE SOLE PURPOSE OF PRODUCT IDENTIFICATION AND DO NOT EXPRESS OR IMPLY A WARRANTY AFFIRMATION OF FACT, OF ANY KIND OR A WARRANTY OR AFFIRMATION OF FACT THAT THE PRODUCTS WILL CONFORM TO THEIR RESPECTIVE ILLUSTRATIONS OR DESCRIPTIONS. 4B EXPRESSLY DISCLAIMS ANY WARRANTY OR AFFIRMATION OF FACT, EXPRESSED OR IMPLIED, OTHER THAN AS SET FORTH IN THE EXCLUSIVE WRITTEN LIMITED WARRANTY STATEMENT ABOVE, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

### **4. LIMITATION OF DAMAGES**

ANY LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES, OR FOR LOSS OF PROFIT WHETHER DIRECT OR INDIRECT, IS EXPRESSLY DISCLAIMED.

With subsidiaries in North America, Europe, China, Asia, Africa and Australia along with a worldwide network of distributors, 4B can provide practical solutions for all your applications no matter the location.



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