

# Modicon X80

## B800 to X80 I/O Modernization Instruction Sheet

04/2020

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When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

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Failure to observe this information can result in injury or equipment damage.

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# Safety Information

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## Important Information

### NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

## **DANGER**

**DANGER** indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

## **WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

## **CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, **could result** in minor or moderate injury.

## **NOTICE**

**NOTICE** is used to address practices not related to physical injury.

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## PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.



## C

### Cable Management System

An accessory that consists of a metal bar plus two sub-bases that are affixed to the X80 backplane. You can attach I/O adapter assembly cables of X80 modules on the upper X80 backplane to the metal bar. This allows the positioning of the upper X80 module cables, thereby providing an unobstructed view of the display blocks (I/O channel indicators) of the I/O modules located in the lower X80 backplane. The cable management system can also be used to provide a ground connection for analog cable shielding.

### Cables

Used to connect the translator unit to the X80 module. Types include:

- **Dedicated Cables:** These cables have a molded connector on one end for connecting to the translator unit and an X80 connector on the other end for connecting to the X80 I/O module. These cables are wired pin 1 to pin 1, pin 2 to pin 2, and so forth. Types include:
  - **High Power Cable:** These cables have larger gauged wire for higher current and/or voltage. They have an in-line 20 pin molded connector for connection to the translator unit, and a 20 or 40 pin X80 connector to connect to the X80 module.
  - **High Density Cable:** These cables have smaller gauged wired for lower current and/or voltage. They have a 20 position high density connector for connection to the translator unit, and a 20 pin X80 connector to connect to the X80 module.
  - **Analog Cable:** These cables have smaller gauged wire for analog signals. They have a 20 position high density connector and a shield wire with ring lug for connection to the translator unit, and a 20 or 28 pin X80 connector to connect to the X80 module.
- **Pig Tail Cables:** These cables have a molded connector on one end for connecting to a translator unit/O adapter PCB and pig tail wires (flying leads) on the other end for connection to the X80 field connector. The pig tail wires are color coded and have wire number labels (1...20). The wires of the pig tail cable need to be connected to the X80 connector. I/O adapter assembly pigtail cables come with the appropriate X80 connector depending on the X80 module to which it will connect. Types include:

- High Power Pig Tail Cable: These cables have larger gauged wire for higher current and/or voltage. They have an in-line 20 pin molded connector for connection to the translator unit and pig tail color coded/numbered wires on the other end. These wires are then connected to the X80 connector per the appropriate wiring guide.
- High Density Pig Tail Cable: These cables have smaller gauged wire for lower current and/or voltage. They have a 20 position high density connector for connection to the translator unit and pig tail color coded/numbered wires on the other end. These wires are then connected to the X80 connector per the appropriate wiring guide.
- Analog Pig Tail Cable: These cables have smaller gauged wired for analog signals. They have a 20 position high density connector and a shield wire with ring lug for connection to the translator unit and pig tail color coded/numbered wires on the other end. These wires are then connected to the X80 connector per the appropriate wiring guide.
- Replacement Cables: These cables are the same as listed in Dedicated and Pigtail sections, above with one exception: the Pig Tail replacement cables do not come with an X80 connector.

### Chassis

A two-piece metal assembly which allow the X80 PAC system to be mounted to it and houses the I/O adapter assembly and B800 field connectors. The parts include:

- Base plate: The back part of the chassis, which is mounted in the cabinet in the same location as the B800 backplane. It houses the I/O adapter assemblies and B800 field connectors.
- Front plate: The door on the front of the chassis, which opens and is removable. This is where the X80 backplanes are mounted.

## I

### I/O Adapter Assembly

Complete assembly that contains the translator unit (I/O adapter) and cable, which mount in the chassis and connects the field device wiring to the appropriate X80 module pins. Types include:

- Dedicated I/O Adapter Assembly: These assemblies mount to the chassis assembly and contain the translator unit that performs the wiring translations from B800 to X80 connector pins. These assemblies use the dedicated cables. Some I/O adapter assemblies may require the addition of a power connection necessary for the X80 module. These connections can be added to the B800 or X80 connector. Refer to the appropriate wiring maps for this information.
- Generic I/O Adapter Assembly: These assemblies mount to the chassis assembly and contain the translator units that **do not** perform the wiring translation. The signal translation is performed by the cable wiring only.

## T

### Translator Unit

Consists of a printed circuit board (PCB) assembly and a metal mounting plate. The PCB routes the B800 field connections to the PCB mounting connector headers and the mounting plate holds the PCB and affixes it to the chassis.

## W

### **Wiring Guide**

Tables for the Generic Adapters that provide the wiring instructions necessary to complete the required signal translations at the X80 field connector(s). The translator unit does not provide the wiring translations from B800 to X80 connector pins, only straight through connections.

**NOTE:** No circuit protection is provided by the generic translator unit or cable.

### **Wiring Map**

Tables for the Dedicated Adapters that provide signal names and pin assignments from the B800 module, to the X80 replacement module.





## 800 Series to X80 I/O Modernization

### Introduction

The X80 Automation Series supports a full range of high performance I/O modules designed to interface with a wide variety of field devices. Schneider Electric Services offers a series of conversion products to ease the migration from 800 series I/O to X80 I/O.

**NOTE:** Analog modules require configuration parameters to be set that match the B800 module being replaced. For additional information refer to the publication *Modicon M340 Using Unity Pro Analog Input/Output modules User Guide* (Document Number 35011978).

The Evolution PLC-I/O Chassis (Figure 1) consists of a base plate and a front plate. This assembly is designed to fit into the same footprint (height and width), and use the same mounting hardware, as the B800 housing. The assembly is made of aluminum and is available in both 19 and 27 inch sizes.



Figure 1

**NOTE:** The X80 backplanes are not included as part of the Evolution PLC-IO Chassis assembly. You will need to determine the proper size and type of backplanes your application requires, then add the part number(s) and quantities to your Bill of Materials.

Refer to the list of Evolution PLC-I/O Chassis part numbers ([see page 20](#)).

The I/O adapter assemblies consist of translator unit and cabling assemblies to route the field wiring from the 800 series field connector to the X80 I/O module. The assemblies are available for mounting the new X80 I/O modules in the following styles:

- Dedicated I/O adapter assembly: wiring adaption is done on the translator unit and uses the dedicated cable(s) (Figure 2).
- Generic I/O adapter assembly: requires installer wiring of X80 terminal (Figure 3).
- Generic factory pre-wired I/O adapter assembly: a generic adapter that is pre-wired at the factory per the wiring guide for the specific module.

**NOTE:** Installers of generic I/O adapter assemblies are strongly advised to pre-wire each generic cable before entering the site where the adapter is to be installed. Not wiring each generic cable in advance of entering the job site will result in unwanted delay in completing the task of mounting the X80 I/O modules.

**⚠ CAUTION**

**LOSS OF INPUT/OUTPUT FUNCTION**

Generic adapter assemblies do not contain fuses or other measures to help protect against external events, such as circuit overload, short circuit, or sensor/pre-actuator voltage errors. Confirm that sufficient module protection measures are in place. Refer to the *Modicon M340 Using Unity Pro Discrete Input/Output Modules User Manual (35012474)* for details regarding X80 module external protection recommendations.

**Failure to follow these instructions can result in injury or equipment damage.**

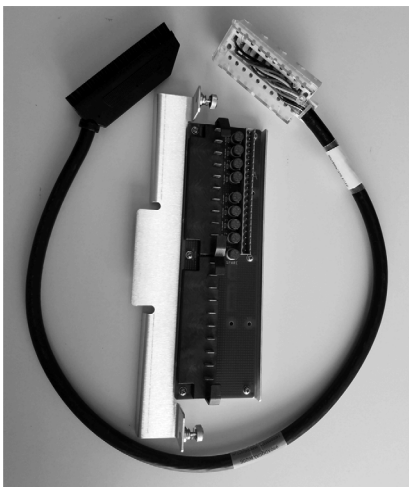


Figure 2

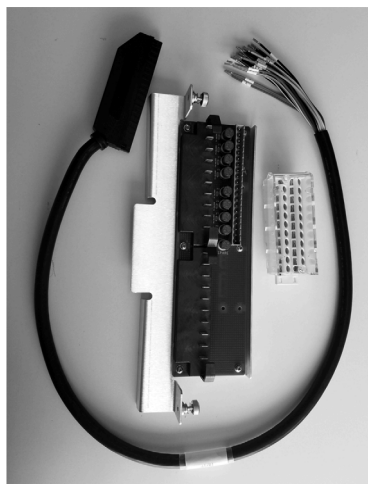


Figure 3

These assemblies (in Figure 2 and Figure 3) connect the existing 800 series field wiring to the X80 I/O, without disturbing existing wiring connections.

## Safety Precautions

⚠ **DANGER**

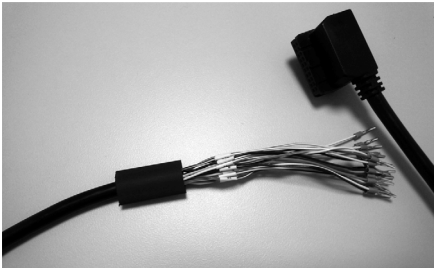
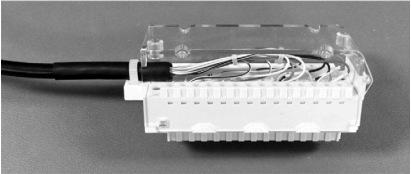

**HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. Follow local electrical codes and standards.
- Turn OFF all power before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm that power is OFF.

**Failure to follow these instructions will result in death or serious injury.**

## Generic Cable Assembly

If you are using a generic adapter, assemble all of these cables (using the appropriate wiring guide) before beginning the modernization:

Step	Action
1	<p>Before wiring the X80 connector to the cable, place the supplied shrink tube over the cable (Figure 4). After all wiring is completed, you can trim back the unused wires at the outer jacket and then shrink the tubing over the end of the jacket. Figure 5 depicts an example of a completed cable end.</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <p style="text-align: center;">Figure 4</p> <p style="text-align: center;">Figure 5</p> </div>
2	<p>Each generic cable comes with a marking flag tie wrap (Figure 6) included in the packaging. Schneider Electric recommends that you use the marking flag for easier identification of each cable during installation.</p>
3	<p>After the X80 connector wiring is completed, secure the cable to the connector with the supplied tie-wrap. Schneider Electric recommends that the tie-wrap connection point be on the cable jacket and not the individual wires. Figure 5 depicts an example of a completed cable end.</p> <div style="text-align: center;">  <p style="text-align: center; margin-top: 10px;">Figure 6</p> </div>

## Removing Existing Modules and Housing

### **⚠ CAUTION**


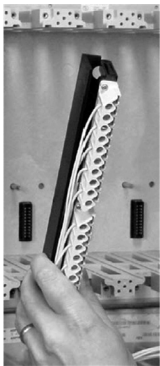
#### **RISK OF ELECTRIC SHOCK**

Before removing existing modules and housing, turn off all power to the 800 series rack, including rack power, I/O field power, and so forth.

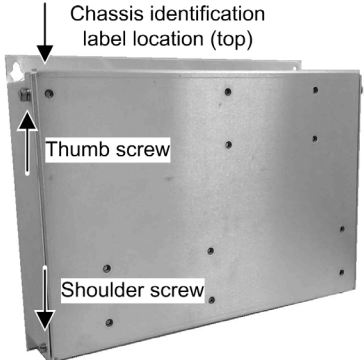


If there are unused B800 AC or DC connections, disconnect the wires at the source (terminal strip, etc.) so the power is no longer present on the B800 field connector.

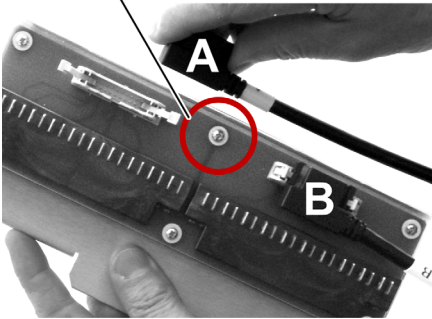
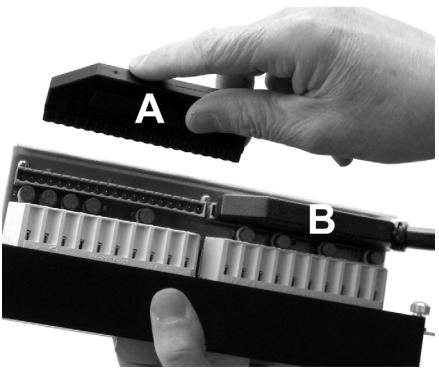
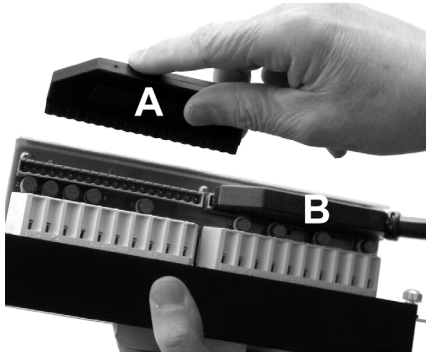
**Failure to follow these instructions can result in injury or equipment damage.**

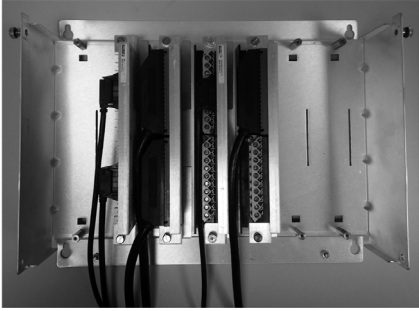
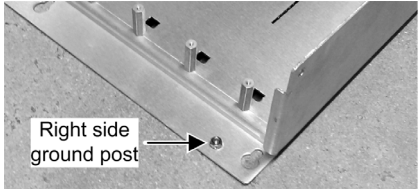
To remove existing modules and housing:

Step	Action	
1	Turn off all power to the 800 series rack, including rack power, I/O field power, and so forth. Disconnect any unused B800 AC or DC connections at the source (terminal strip, etc.) so the power is no longer present on the B800 field connector.	 <p>Figure 7</p>
2	Remove any communications cabling from the PLC system and set them aside (if applicable).	
3	Remove the 800 series I/O modules. Each module has a built-in handle attached at the front of the module. To remove a module: <ol style="list-style-type: none"> <li>Loosen the captive screws at the top and bottom of the module.</li> <li>Grasp the handle and pull the module straight out (Figure 7).</li> </ol>	
4	(Optional) Check each field wire connection to confirm it is tightly fastened.	 <p>Figure 8</p>
5	Remove the two Phillips head screws fastening each 800 series I/O field connector to the housing. One screw is located on the top of the housing, and the other is located on the bottom of the housing.	
6	Remove the field connectors (Figure 8). Keep the wiring intact for later use.	
7	(Optional) Label the field connector with its original slot number and module part number.	
8	Remove the 800 series I/O housing. <b>NOTE:</b> Retain the mounting hardware for use when installing the Evolution chassis.	

Installing the Evolution PLC/IO Chassis Base Plate and front plate

Step	Action	
1	<p>The Evolution PLC/IO Chassis assembly is shipped with the front plate attached to the base plate. For ease of installation, you can detach the front plate before installing the base plate. To detach the front plate:</p> <ol style="list-style-type: none"> <li>1. Loosen the two captive thumb screws fastening the top of the front plate to the base plate (Figure 9).</li> <li>2. Remove the two shoulder screws fastening the front plate to the base plate (Figure 9).</li> <li>3. Remove the front plate from the base plate (Figure 10).</li> </ol> <p><b>NOTE:</b> The front plate has a label placed on the left side of the top lip (Figure 8). This will be used to properly orientate the door when adding the X80 rack(s) and when attaching to base plate.</p>	 <p>Figure 9</p>
2	<p>Securely fasten the base plate in your preferred location.</p> <p><b>NOTE:</b> As you perform this step, keep in mind that you need to install the base plate so that the front door of the chassis assembly will swing upward to close. Use the chassis identification label, located at the upper left corner of the chassis (Figure 9), to determine mounting orientation.</p>	 <p>Figure 10</p>
3	<p>Mate the 800 series field connector(s) (removed in Step 6 of the Remove Existing Modules and Housing procedure (<a href="#">see page 12</a>)) to the Evolution I/O adapters assembly (Figure 11).</p>	 <p>Figure 11</p>

Step	Action
4	<p>If there are two interconnecting cables: first connect one I/O adapter cable to the lower mating connector (B); then connect the second I/O adapter cable to the upper mating connector (A). For a single cable adapter: connect the I/O adapter cable to the mating connector. (Figure 12: low power or analog connections; Figure 13: high power connections).</p> <p><b>NOTE:</b> If the assembly is for analog, attach the cable assembly ring lug shield connection to the ground standoff located between the two cable assembly connectors on the adapter card (Figure 12).</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>shield connection for analog cable</p>  <p>Figure 12</p> </div> <div style="text-align: center;">  <p>Figure 13</p> </div> </div>
5	<p>If you are using one Evolution I/O Adapter assembly with two X80 modules (Figure 14), confirm that the adapter cables are connected to the correct X80 modules so that the point / channel addressing matches the logic.</p> <div style="text-align: center;">  <p>Figure 14</p> </div>

Step	Action	
6	<p>The mated assembly can then be mounted in any available position on the base plate (Figure 15).</p> <p><b>NOTE:</b> Schneider Electric recommends that you locate the adapter assembly as near as possible to a position just below the X80 module.</p>	 <p>Figure 15</p>
7	<p>Fasten each adapter assembly to the base plate by tightening the two captive screws. The recommended tightening torque for these mounting screws is 2...4 lb-in (0.23...0.45 N•m).</p>	
8	<p>Attach X80 backplane(s) to the door. The recommended tightening torque for these screws is 25...30 lb-in (2.8...3.4 N•m.).</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>● If an Ethernet X80 backplane or a non-Ethernet backplane (PV02 or higher) is being installed, use the shorter 16 mm (5/8 in) mounting screws that are supplied with the Chassis assembly. the longer 19 mm (3/4 in) mounting screws that were supplied with the Chassis assembly.</li> <li>● If a non-Ethernet X80 backplane (PV01 only) is being installed, use the longer 19 mm (3/4 in) mounting screws that were supplied.</li> <li>● Note that there is a label attached to the top left lip of the front plate (Figure 8). Use this label to orient the door position when installing the X80 backplane(s).</li> </ul>	
9	<p>Re-attach the front plate to the base plate, using the orientation label mentioned previously. Tighten both head and shoulder screws. The recommended tightening torque for these screws is 15...20 lb-in (1.7...2.3 N•m.).</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>● Use the label (Figure 8) attached to the top left lip of the front plate to orient the door position when installing the X80 backplane(s).</li> <li>● To ease the installation of the front plate, first secure the upper thumbscrews, then install the lower shoulder screws. Finally, torque the shoulder screws and thumb screws to the recommended torque.</li> </ul>	
10	<p>(Optional) Two ground posts are included at the bottom of the chassis base plate: one on the left side and one on the right side (see Figure 16). Use these to provide additional grounding for the chassis. If the ground posts are used, the recommended tightening torque is 15...20 lb-in (1.7...2.3 N•m.)</p>	 <p>Figure 16</p>

## Installing the X80 System

To install the X80 system:

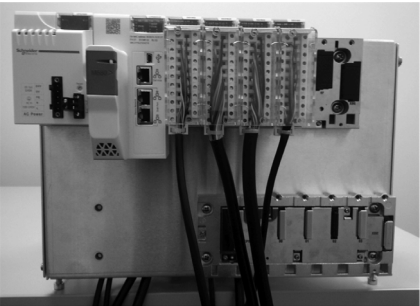
Step	Action	
1	<p>Mount all the required X80 modules (power supply, CPU, I/O, etc.) into the correct slots in the backplanes. Fasten each module by tightening the captive Phillips head screw at the top of the module (Figure 17). The recommended tightening torque for this screw is 10.6...13.3 lb-in (1.2...1.5 N•m).</p>	
2	<p>Plug each X80 I/O field connector into its corresponding I/O module.</p> <p><b>NOTE:</b> X80 module I/O connector keying is recommended. Refer to the analog I/O (35011978) and discrete I/O (35012474) user guides for I/O connector key instructions.</p> <p>Tighten the captive Phillips head screw at the top and bottom of each connector. The recommended tightening torque for these screws is 2.7...3.5 lb-in (0.3...0.4 N•m).</p>	
3	<p>Re-attach any other communications cables that previously had been detached.</p>	

Figure 17

## Maintenance

### Replacement Fuse Trim Procedure:

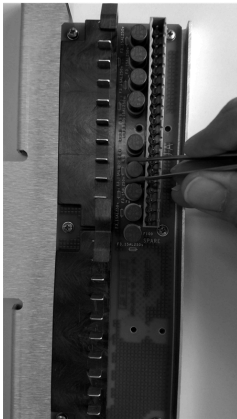

Each original fuse that comes with the I/O adapter assembly has its legs pre-trimmed at the factory, so that the fuse sits flush to the top of the fuse holder. If you replace a fuse, it is recommended that the fuse legs are trimmed using a wire cutter (or similar tool) to a length of 3.3...3.4 mm (0.130...0.134 in.) before installing it.



**Fuse Replacement Procedure:**

Some I/O adapters have fuses that are replaceable. The I/O adapter assemblies with fuses include a spare fuse on the assembly, which is labeled SPARE (or F100) on the translator unit's PCB.

The fuses on the translator units are inaccessible when the system is assembled. If fuse replacement is required, the translator unit needs to be disconnected and removed from the Evolution PLC/IO Chassis:

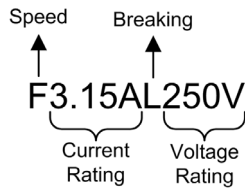
Step	Action
1	Remove power from the system.
2	Unscrew the thumb screws at the top of the chassis assembly, and open the assembly.
3	Unscrew the fastening screws for the translator unit.
4	Partially remove the translator unit from the chassis assembly, then remove the interconnecting cables from the translator unit.
5	Remove the 800 series field connector from the translator unit.
6	Remove the translator unit from the chassis assembly.
7	<p>Replace the blown fuse:</p> <ol style="list-style-type: none"> <li>1. Pull the blown fuse straight out to remove it.</li> <li>2. If necessary, trim the fuse leads as described in the "Replacement Fuse Trim Procedure", above.</li> <li>3. Line up the two pins on the rear of the fuse with the holes of the fuse holder on the translator unit PCB, then push the new fuse into place.</li> </ol> <p>Helpful Hint: Some fuses may be difficult to remove due to their positioning (Figure 18). Using a tool such as a needle tweezers (Figure 19), with its tips covered with shrink tubing or electrical tape, will make removing and inserting the fuse easier.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Figure 18</p> </div> <div style="text-align: center;">  <p>Figure 19</p> </div> </div>
8	<p>Install the translator unit in the reverse order (steps 5 through 2, above).</p> <p><b>NOTE:</b> When replacing the interconnecting cables (step 4), verify that the cables are connected to the correct mating connector.</p>
9	Apply power to the system and verify operation.

**Fuse Part Numbers:**

Fuse Description	Where Used	From/ To modules	Fuse Rating (TR5® Package)	Littlefuse Part Number
0.25Amp, 250 Volt	990ADB80X80336/337	AS-B817-x16 => BMXDAI161x	F0.25AL250V	37002500410
0.5 Amp, 250 Volt	990ADB80X80324/325  990ADB80X80330/331 990ADB80X80338/339 990ADB80X80340/341 990ADB80X80428/429	AS-B805-016=> BMXDAI1604 AS-B837-016 => BMXDxI1602 AS-B849-016 => BMXDxI1603 AS-B809-016=> BMXDAI1615 AS-B825-016=> BMXDDI1602 AS-B833-016=> BMXDAI1602 AS-B807-132=> BMXDAI1604	F0.5AL250V	37005000410
3.15 Amp, 250 Volt	990ADB80X80130/131 990ADB80X80318/319  990ADB80X80322/223  990ADB80X80426/427 990ADB80X80442/443	AS-B810-008=> BMXDRA0805 AS-B802-008=> BMXDRA08x5 AS-B820-008=> BMXDRA0815 AS-B804-X16=> BMXDAO1605 AS-B808-016=> BMXDAO1605 AS-B806-032=> BMXDAO1605 AS-B836-016=> BMXDRA0815	F3.15AL250V	37013150410
4.0 Amp, 250 Volt	990ADB80X80320/321 990ADB80X80332/333 990ADB80X80334/335	AS-B804-X16=> BMXDAO1615 AS-B810-008=> BMXDAO1615 AS-B814-108=> BMXDRC0805 AS-B840-108=> BMXDRC0805	F4.0AL250V	37014000410
6.3 Amp, 250 Volt	990ADB80X80212/213 990ADB80X80344/345	AS-B838-032=> BMXDDO1602 AS-B832-016=> BMXDDO1612	F6.3AL250V	37016300410
<b>NOTE:</b> Littlefuse is the only recommended fuse manufacturer for use in the B800 adapters.				

### Fuse Rating

The components of the fuse rating are explained below, using the example F3.15AL250V:



Fuse Speed		Fuse Breaking Capacity	
Speed Symbol	Description	Breaking Symbol	Description
FF	Very Fast Acting	H	High Breaking Capacity
F	Fast Acting	L	Low Breaking Capacity
M	Medium Acting		
T	Slow Acting		
TT	Very Slow Acting		

### I/O Adapter Assembly Replacement Cables:

You can also obtain replacement I/O adapter cables from Americas MRO. For part numbers, refer to the list of I/O Adapter Replacement Cables ([see page 22](#)).

## B800 to X80 Hardware References

### Evolution PLC-I/O Chassis

From B800 Series	Part Number	Notes
H819 7 slots (19 inch)	990CHB80X80819	There are no X80 backplanes included with these assemblies. Order these separately.
H827 11 slots (27 inch)	990CHB80X80827	

### X80 Backplanes

I/O Slots	Part Number
X Bus Only Racks <sup>1</sup> (M340/M580 Main and Extended Racks):	
4	BMXXBP0400
6	BMXXBP0600
8	BMXXBP0800
12 <sup>2</sup>	BMXXBP1200
Ethernet + X-Bus Racks (M580 Main Racks):	
4	BMEXBP0400
8	BMEXBP0800
12 <sup>2</sup>	BMEXBP1200
Dual Power Supply Ethernet + X-Bus Racks (M580 Main Racks):	
6	BMEXBP0602
10 <sup>2</sup>	BMEXBP1002
1. Product Version 02 or higher.	
2. Used only with chassis part number 990CHB80X80827.	

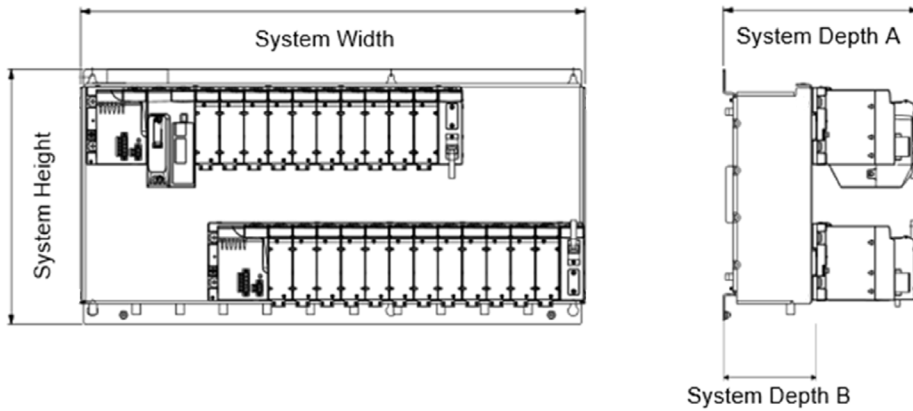
### Cable Management Kits (CMK)

Description	Part Number
CMK for 4 slot X80 backplane	990CMQUAX80040
CMK for 6 slot X80 backplane	990CMQUAX80060
CMK for 8 slot X80 backplane	990CMQUAX80080
CMK for 12 slot X80 backplane	990CMQUAX80120
CMK for 6 slot X80 backplane with dual power supplies	990CMQUAX80080
CMK for 10 slot X80 backplane with dual power supplies	990CMQUAX80120
Optional Spring Clamping Rings, small (lots of 10)	STBXSP3010
Optional Spring Clamping Rings, large (lots of 10)	STBXSP3020

**System Dimensions**

Part Number	Dimensions			
	Width	Height	Depth A <sup>1</sup>	Depth B <sup>2</sup>
990CHB80X80819	17.07 in (433.5 mm)	13.5 in (342.9 mm)	10.33 in (262.4 mm)	4.63 in (117.6 mm)
990CHB80X80827	26.67 in (677.45 mm)	13.5 in (342.9 mm)	10.33 in (262.4 mm)	4.63 in (117.6 mm)

1. With M580 system  
2. Empty



**I/O Adapter Assembly Replacement Cables**

<b>X80 Replacement Cables</b>	
<b>Description</b>	<b>Part Number</b>
High Power I/O Adapter Replacement Cable 2 ft	990X80CABLE016
High Power I/O Adapter Replacement Cable 5 ft	990X80CABLE516
High Power I/O Adapter Replacement Pig Tail Cable 2 ft	990X80CABL016PT
High Power I/O Adapter Replacement Pig Tail Cable 5 ft	990X80CABL516PT
High Density I/O Adapter Replacement Cable 2 ft	990X80CABLE017
High Density I/O Adapter Replacement Cable 5 ft	990X80CABLE517
High Density I/O Adapter Replacement Pig Tail Cable 2 ft	990X80CABL017PT
High Density I/O Adapter Replacement Pig Tail Cable 5 ft	990X80CABL517PT
Analog/ Shielded I/O Adapter Replacement Cable 20 pin conn. 2 ft	990X80CABLE018
Analog/ Shielded I/O Adapter Replacement Cable 20 pin conn. 5 ft	990X80CABLE518
Analog/ Shielded I/O Adapter Replacement Pig Tail Cable 2 ft	990X80CABL018PT
Analog/ Shielded I/O Adapter Replacement Pig Tail Cable 5 ft	990X80CABL518PT
Analog/ Shielded I/O Adapter Replacement Cable 28 pin conn., 2 ft	990X80CABL019
Analog/ Shielded I/O Adapter Replacement Cable 28 pin conn., 5 ft	990X80CABL519
High Power I/O Adapter Replacement Cable 40 pin conn., 2 ft	990X80CABL021
High Power I/O Adapter Replacement Cable 40 pin conn., 5 ft	990X80CABL521

**I/O Adapter Replacement Cable Details**

990X80CABL family of cables:

High Power 990X80CABLEx16 990X80CABLx16PT 990X80CABLEx21 <sup>1</sup> 990X80CABLx21PT <sup>1</sup>		High Density 990X80CABLEx17 990X80CABLx17PT		Analog 990X80CABLEx18 990X80CABLx18PT 990X80CABLx19	
Wire #	Wire Color	Wire #	Wire Color	Wire #	Wire Color
1	Black	1	Black	1	Black
2	Brown	2	Brown	2	Brown
3	Red	3	Red	3	Red
4	Orange	4	Orange	4	Orange
5	Yellow	5	Yellow	5	Yellow
6	Green	6	Green	6	Green
7	Blue	7	Blue	7	Blue
8	Purple	8	Purple	8	Purple
9	Gray	9	Gray	9	Gray
10	White	10	White	10	White
11	Pink	11	White - Black	11	White - Black
12	Light Green	12	White - Brown	12	White - Brown
13	Black - White	13	White - Red	13	White - Red
14	Brown - White	14	White - Orange	14	White - Orange
15	Red - White	15	White - Yellow	15	White - Yellow
16	Orange - White	16	White - Green	16	White - Green
17	Green - White	17	White - Blue	17	White - Blue
18	Blue - White	18	White - Violet	18	White - Violet
19	Yellow - White	19	White - Gray	19	White - Gray
20	Purple - White	20	Brown - Black	20	Brown - Black
-	-	-	-	None (Shield)	Black Wire with Ring Lug

1. Cable 990X80CABLx21 has two cables that connect to the 40 pin X80 field connector. The second cable (B) has the same wire # and color but connected to pins 21...40 of the X80 field connector.

**Cross References**

**NOTE:** B800 series I/O modules that are not listed in this table do not have an I/O adapter assembly for modernizing to an X80 module.

From	To	Type	Adapter Part Numbers (2' and 5')	Fused	Wiring Map	Wiring Guide ( <i>italic = obsolete</i> )	Generic Factory Pre-Wired Part Numbers (2' and 5')	Obsolete Pre-wired Part Numbers (2' and 5')
AS-B802-008	BMXDRA08x5	Dedicated	990ADB80X80318 990ADB80X80319	✓	R	2	-	990ADB80X80100 990ADB80X80101
AS-B803-008	BMXDAI0814	Generic 1	990ADB80X80198 990ADB80X80199	-	-	3	990ADB80X80104 990ADB80X80105	-
AS-B804-X16	BMXDAO1615	Dedicated	990ADB80X80320 990ADB80X80321	✓	E	-	-	-
	BMXDAO1605	Dedicated	990ADB80X80322 990ADB80X80323	✓	L	4	-	990ADB80X80106 990ADB80X80107
	BMXDRA1605	Generic 1	990ADB80X80198 990ADB80X80199	-	-	5	990ADB80X80108 990ADB80X80109	-
AS-B805-016	BMXDAI1604	Dedicated	990ADB80X80324 990ADB80X80325	✓	J	6	-	990ADB80X80112 990ADB80X80113
AS-B806-032	(2x) BMXDAO1605	Dedicated	990ADB80X80426 990ADB80X80427	✓	K	16	-	990ADB80X80214 990ADB80X80215
	(2x) BMXDRA1605	Generic 2	990ADB80X80296 990ADB80X80297	-	-	17	990ADB80X80216 990ADB80X80217	-
AS-B807-132	(2x) BMXDAI1604	Dedicated	990ADB80X80428 990ADB80X80429	✓	I	18	-	990ADB80X80222 990ADB80X80223
AS-B808-016	BMXDAO1605	Dedicated	990ADB80X80322 990ADB80X80323	✓	L	7	-	990ADB80X80124 990ADB80X80125
	BMXDRA1605	Generic 1	990ADB80X80198 990ADB80X80199	-	-	8	-	-
AS-B809-016	BMXDAI1615	Dedicated	990ADB80X80330 990ADB80X80331	✓	N	-	-	-
	(x2) BMXDAI0805	Generic 1	990ADB80X80198 990ADB80X80199	-	-	See Note 1	990ADB80X80228 990ADB80X80229	-
AS-B810-008	BMXDRA0805	Dedicated	990ADB80X80130 990ADB80X80131	✓	D	10	-	990ADB80X80132 990ADB80X80133
	BMXDAO1615	Dedicated	990ADB80X80332 990ADB80X80333	✓	F	-	-	-
AS-B814-108	BMXDRC0805	Dedicated	990ADB80X80334 990ADB80X80335	✓	-	45	-	-
	BMXDRA0805	Generic 1	990ADB80X80198 990ADB80X80199	-	-	11	990ADB80X80134 990ADB80X80135	-



From	To	Type	Adapter Part Numbers (2' and 5')	Fused	Wiring Map	Wiring Guide ( <i>italic = obsolete</i> )	Generic Factory Pre-Wired Part Numbers (2' and 5')	Obsolete Pre-wired Part Numbers (2' and 5')
AS-B817-116	BMXDAI1614	Dedicated	990ADB80X80336 990ADB80X80337	✓	G	–	–	–
	(x2) BMXDAI0814	Generic 2	990ADB80X80296 990ADB80X80297	–	–	19	990ADB80X80236 990ADB80X80237	–
AS-B817-216	BMXDAI1615	Dedicated	990ADB80X80336 990ADB80X80337	✓	G	–	–	–
	(x2) BMXDAI0805	Generic 2	990ADB80X80296 990ADB80X80297	–	–	20	990ADB80X80238 990ADB80X80239	–
AS-B820-008	BMXDRA0815	Dedicated	990ADB80X80318 990ADB80X80319	✓	R	–	–	–
AS-B824-016	BMXDDO1602	Generic 1	990ADB80X80198 990ADB80X80199	–	–	12	990ADB80X80144 990ADB80X80145	–
AS-B825-016	BMXDDI1602	Dedicated	990ADB80X80338 990ADB80X80339	✓	O	<i>13</i>	–	<i>990ADB80X80146</i> <i>990ADB80X80147</i>
AS-B826-032	(x2) BMXDDO1602	Generic 2	990ADB80X80296 990ADB80X80297	–	–	21	990ADB80X80248 990ADB80X80247	–
AS-B827-032	(x2) BMXDDI1602	Dedicated	990ADB80X80206 990ADB80X80207	–	A	–	–	–
AS-B832-016	BMXDDO1612	Dedicated	990ADB80X80344 990ADB80X80345	✓	O	<i>24</i>	–	<i>990ADB80X80152</i> <i>990ADB80X80153</i>
AS-B833-016	BMXDAI1602	Dedicated	990ADB80X80340 990ADB80X80341	✓	M	<i>25</i>	–	<i>990ADB80X80154</i> <i>990ADB80X80155</i>
AS-B836-016	(x2) BMXDRA0815	Dedicated	990ADB80X80442 990ADB80X80443	✓	H	<i>22</i>	–	<i>990ADB80X80256</i> <i>990ADB80X80257</i>
AS-B837-016 (DC)	BMXDDI1602	Dedicated	990ADB80X80324 990ADB80X80325	✓	J	<i>26</i>	–	<i>990ADB80X80158</i> <i>990ADB80X80159</i>
AS-B837-016 (AC)	BMXDAI1602	Dedicated	990ADB80X80324 990ADB80X80325	✓	J	<i>27</i>	–	<i>990ADB80X80160</i> <i>990ADB80X80161</i>
AS-B838-032	(2x) BMXDDO1602	Dedicated	990ADB80X80212 990ADB80X80213	✓	B	–	–	–
AS-B840-108	BMXDRC0805	Dedicated	990ADB80X80334 990ADB80X80335	✓	–	45	–	–
	BMXDRA0805	Generic 1	990ADB80X80198 990ADB80X80199	–	–	14	990ADB80X80162 990ADB80X80163	–
	BMXDRA0804T	Generic 1	990ADB80X80198 990ADB80X80199	–	–	15	990ADB80X80164 990ADB80X80165	–
AS-B846-001	(2x) BMXAMI0810	Generic 4	990ADB80X80292 990ADB80X80293	–	–	30	990ADB80X80166 990ADB80X80167	–
AS-B846-002	(2x) BMXAMI0810	Generic 4	990ADB80X80292 990ADB80X80293	–	–	31	990ADB80X80168 990ADB80X80169	–
AS-B849-016 (DC)	BMXDDI1603	Dedicated	990ADB80X80324 990ADB80X80325	✓	J	<i>28</i>	–	<i>990ADB80X80170</i> <i>990ADB80X80171</i>

From	To	Type	Adapter Part Numbers (2' and 5')	Fused	Wiring Map	Wiring Guide ( <i>italic = obsolete</i> )	Generic Factory Pre-Wired Part Numbers (2' and 5')	Obsolete Pre-wired Part Numbers (2' and 5')
AS-B849-016 (AC)	BMXDAI1603	Dedicated	990ADB80X80324 990ADB80X80325	✓	J	<i>29</i>	-	<i>990ADB80X80172</i> <i>990ADB80X80173</i>
AS-B872-100	BMXAMO0410	Dedicated	990ADB80X80346 990ADB80X80347	-	P	<i>37</i>	-	<i>990ADB80X80178</i> <i>990ADB80X80179</i>
AS-B872-200	BMXAMO0410	Generic 6	990ADB80X80288 990ADB80X80289	-	-	38	990ADB80X80180 990ADB80X80181	-
AS-B873-001	BMXAMI0410	Generic 5	990ADB80X80190 990ADB80X80191	-	-	33	990ADB80X80182 990ADB80X80183	-
AS-B873-002	BMXAMI0410	Generic 5	990ADB80X80190 990ADB80X80191	-	-	34	990ADB80X80184 990ADB80X80185	-
AS-B873-011	BMXAMI0410	Generic 5	990ADB80X80190 990ADB80X80191	-	-	35	990ADB80X80186 990ADB80X80187	-
AS-B873-012	BMXAMI0410	Generic 5	990ADB80X80190 990ADB80X80191	-	-	36	990ADB80X80188 990ADB80X80189	-
AS-B875-001	BMXAMI0810	Generic 7	990ADB80X80286 990ADB80X80287	-	-	39	990ADB80X80300 990ADB80X80301	-
AS-B875-002	BMXAMI0810	Generic 7	990ADB80X80286 990ADB80X80287	-	-	40	990ADB80X80302 990ADB80X80303	-
AS-B875-011	BMXAMI0810	Generic 7	990ADB80X80286 990ADB80X80287	-	-	41	990ADB80X80304 990ADB80X80305	-
AS-B875-012	BMXAMI0810	Generic 7	990ADB80X80286 990ADB80X80287	-	-	42	990ADB80X80306 990ADB80X80307	-
AS-B875-101	BMXAMI0810	Generic 8	990ADB80X80284 990ADB80X80285	-	-	43	990ADB80X80308 990ADB80X80309	-
AS-B875-102	BMXAMI0810	Generic 8	990ADB80X80284 990ADB80X80285	-	-	44	990ADB80X80310 990ADB80X80311	-
AS-B875-111	BMXAMI0810	Dedicated	990ADB80X80120 990ADB80X80121	-	C	-	-	-
AS-B877-111 (V)	(2x) BMXAMI0810	Generic 4	990ADB80X80292 990ADB80X80293	-	-	32 (voltage)	990ADB80X80412 990ADB80X80413	-
AS-B877-111 (I)	(2x) BMXAMI0810	Generic 4	990ADB80X80292 990ADB80X80293	-	-	32 (current)	990ADB80X80414 990ADB80X80415	-
AS-B881-508	BMXDRA0804T	Generic 2	990ADB80X80296 990ADB80X80297	-	-	23	990ADB80X80316 990ADB80X80317	-
	BMXDRA0815			-	-			

1. If performing the AS-B809-016 module modernization to (x2) BMXDAI0805 modules, contact Schneider Electric at [modicon.migrations@schneider-electric.com](mailto:modicon.migrations@schneider-electric.com) for wiring instructions.

**B800 to X80 Dedicated Wiring Maps: A, B, C, D**

**Wiring Map A: B800 to 990ADB80X80206, 990ADB80X80207**

Wiring Map A AS-B827-032 to (x2) BMXDDI1602 Discrete Input, 32 points 24 VDC 990ADB80X80206, 990ADB80X80207				
B800 Information		X80 Information		
B800 Signal Name	B800 Pin #	X80 Pin #	X80 Signal Name	X80 Module #
INPUT 1	1	1	I0	Module #1
INPUT 2	2	2	I1	
INPUT 3	3	3	I2	
INPUT 4	4	4	I3	
INPUT 5	5	5	I4	
INPUT 6	6	6	I5	
INPUT 7	7	7	I6	
INPUT 8	8	8	I7	
INPUT 9	9	9	I8	
INPUT 10	10	10	I9	
INPUT 11	11	11	I10	
INPUT 12	12	12	I11	
INPUT 13	13	13	I12	
INPUT 14	14	14	I13	
INPUT 15	15	15	I14	
INPUT 16	16	16	I15	
N/C	17	-	-	
24 VDC +	18*	18, 20	+24 VDC	
N/C	19	-	-	
24 VDC -	20	17, 19	VDC Ret-	

Wiring Map A AS-B827-032 to (x2) BMXDDI1602 Discrete Input, 32 points 24 VDC 990ADB80X80206, 990ADB80X80207				
B800 Information		X80 Information		
B800 Signal Name	B800 Pin #	X80 Pin #	X80 Signal Name	X80 Module #
INPUT 17	21	1	I0	Module #2
INPUT 18	22	2	I1	
INPUT 19	23	3	I2	
INPUT 20	24	4	I3	
INPUT 21	25	5	I4	
INPUT 22	26	6	I5	
INPUT 23	27	7	I6	
INPUT 24	28	8	I7	
INPUT 25	29	9	I8	
INPUT 26	30	10	I9	
INPUT 27	31	11	I10	
INPUT 28	32	12	I11	
INPUT 29	33	13	I12	
INPUT 30	34	14	I13	
INPUT 31	35	15	I14	
INPUT 32	36	16	I15	
N/C	37	-	-	
N/C	38*	18, 20	+24 VDC	
N/C	39	-	-	
N/C	40	17, 19	VDC Ret	

\* Wire +24 VDC to either pins 18 & 38 of the 800 field connector or to pin 20 of both X80 modules field connector.

**Wiring Map B: B800 to 990ADB80X80212, 990ADB80X80213**

Wiring Map B AS-B838-032 to (x2) BMXDDO1602 Discrete Output, 32 points 24 VDC 990ADB80X80212, 990ADB80X80213 Fuse: Style TR5, Rating 6.3A 250V					
B800 Information		Fuse	X80 Information		
B800 Signal Name	B800 Pin #		X80 Pin #	X80 Signal Name	X80 Module #
OUTPUT 1	1	–	1	O0	Module #1
OUTPUT 2	2	–	2	O1	
OUTPUT 3	3	–	3	O2	
OUTPUT 4	4	–	4	O3	
+24 VDC Group 1	5	F1	18, 20	+24 VDC	
VDC Ret Group 1	6	–	17, 19	VDC Ret-	
OUTPUT 5	7	–	5	O4	
OUTPUT 6	8	–	6	O5	
OUTPUT 7	9	–	7	O6	
OUTPUT 8	10	–	8	O7	
OUTPUT 9	11	–	9	O8	
OUTPUT 10	12	–	10	O9	
OUTPUT 11	13	–	11	O10	
OUTPUT 12	14	–	12	O11	
+24 VDC Group 2	15	F2	18, 20	+24 VDC	
VDC Ret Group 2	16	–	17, 19	VDC Ret-	
OUTPUT 13	17	–	13	O12	
OUTPUT 14	18	–	14	O13	
OUTPUT 15	19	–	15	O14	
OUTPUT 16	20	–	16	O15	

Wiring Map B AS-B838-032 to (x2) BMXDDO1602 Discrete Output, 32 points 24 VDC 990ADB80X80212, 990ADB80X80213 Fuse: Style TR5, Rating 6.3A 250V					
B800 Information		Fuse	X80 Information		
B800 Signal Name	B800 Pin #		X80 Pin #	X80 Signal Name	X80 Module #
OUTPUT 17	21	–	1	O0	Module #2
OUTPUT 18	22	–	2	O1	
OUTPUT 19	23	–	3	O2	
OUTPUT 20	24	–	4	O3	
+24 VDC Group 3	25	F3	18, 20	+24 VDC	
VDC Ret Group 3	26	–	17, 19	VDC Ret-	
OUTPUT 21	27	–	5	O4	
OUTPUT 22	28	–	6	O5	
OUTPUT 23	29	–	7	O6	
OUTPUT 24	30	–	8	O7	
OUTPUT 25	31	–	9	O8	
OUTPUT 26	32	–	10	O9	
OUTPUT 27	33	–	11	O10	
OUTPUT 28	34	–	12	O11	
+24 VDC Group 4	35	F4	18, 20	+24 VDC	
VDC Ret Group 4	36	–	17, 19	VDC Ret-	
OUTPUT 29	37	–	13	O12	
OUTPUT 30	38	–	14	O13	
OUTPUT 31	39	–	15	O14	
OUTPUT 32	40	–	16	O15	


**Wiring Map C: 990ADB80X80120, 990ADB80X80121**

<b>Wiring Map C</b> <b>AS-B875-111 (only) to BMXAMI0810</b> <b>Analog Output, 8 Channels (current or voltage)</b> <b>990ADB80X80120, 990ADB80X80121</b>				
B800 Information		X80 Information		
B800 Signal Name	B800 Pin #	X80 Pin #	X80 Signal Name	X80 Module #
Case Gr	1	-	-	Module #1
Current input 1	2	1	I ch0	
Input 1+	3	3	V ch0	
Input 1-	4	2	Com ch0	
Shield 1	5	-	-	
Current input 2	6	6	I ch1	
Input 2+	7	4	V ch1	
Input 2-	8	5	Com ch1	
Shield 2	9	-	-	
Current input 3	10	7	I ch2	
Input 3+	11	9	V ch2	
Input 3-	12	8	Com ch2	
Shield 3	13	-	-	
Current input 4	14	12	I ch3	
Input 4+	15	10	V ch3	
Input 4-	16	11	Com ch3	
Shield 4	17	-	-	
N/C	18	-	-	
N/C	19	-	-	
N/C	20	-	-	

<b>Wiring Map C</b> <b>AS-B875-111 (only) to BMXAMI0810</b> <b>Analog Output, 8 Channels (current or voltage)</b> <b>990ADB80X80120, 990ADB80X80121</b>				
B800 Information		X80 Information		
B800 Signal Name	B800 Pin #	X80 Pin #	X80 Signal Name	X80 Module #
N/C	21	–	–	Module #2
Current input 5	22	15	I ch4	
Input 5+	23	17	V ch4	
Input 5-	24	16	Com ch4	
Shield 5	25	–	–	
Current input 6	26	20	I ch5	
Input 6+	27	18	V ch5	
Input 6-	28	19	Com ch5	
Shield 6	29	–	–	
Current input 7	30	21	I ch6	
Input 7+	31	23	V ch6	
Input 7-	32	22	Com ch6	
Shield 7	33	–	–	
Current input 8	34	26	I ch7	
Input 8+	35	24	V ch7	
Input 8-	36	25	Com ch7	
Shield 8	37	–	–	
Volt Ref +	38	–	–	
Volt Ref -	39	–	–	
Case Gr	40	–	–	



**Wiring Map D: 990ADB80X80130, 990ADB80X80131**

 <b>CAUTION</b>
<p><b>RISK OF UNINTENDED OPERATION</b></p> <p>The output channels of this X80 module do not include pre-actuator snubbers within the module or on the translator unit. It is recommended that external protection be added for each actuator of this module as detailed in the <i>Modicon X80 Discrete Input/ Output Modules User Manual</i> (3501247).</p> <p><b>Failure to follow these instructions can result in injury or equipment damage.</b></p>

Wiring Map D AS-B810-008 to BMXDRA0805 Relay Output, 8 Points Fused 990ADB80X80130, 990ADB80X80131 Fuse: Style TR5, Rating 3.15A 250V				
B800 Information		Fuse	X80 Information	
B800 Signal Name	B800 Pin #		X80 Pin #	X80 Signal Name
AC Hot 1	1	F1	2	C0
Output 1	2	–	1	Q0
AC Hot 2	3	F2	4	C1
Output 2	4	–	3	Q1
N/C	5	–	–	–
AC Hot 3	6	F3	6	C2
Output 3	7	–	5	Q2
AC Hot 4	8	F4	8	C3
Output 4	9	–	7	Q3
N/C	10	–	–	–
AC Hot 5	11	F5	10	C4
Output 5	12	–	9	Q4
AC Hot 6	13	F6	12	C5
Output 6	14	–	11	Q5
N/C	15	–	–	–
AC Hot 7	16	F7	14	C6
Output 7	17	–	13	Q6
AC Hot 8	18	F8	16	C7
Output 8	19	–	15	Q7
N/C	20	–	–	–

## B800 to X80 Dedicated Wiring Maps: E, F, G, H

### Wiring Map E

Wiring Map E AS-B804-x16 to BMXDAO1615 Discrete Output, 16 points VAC 990ADB80X80320, 990ADB80X80321 Fuse Rating F4.0AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
Out1	1	F1	1	Q0
Out2	2	F2	3	Q1
Out3	3	F3	5	Q2
Out4	4	F4	7	Q3
Out5	5	F5	11	Q4
Out6	6	F6	13	Q5
Out7	7	F7	15	Q6
Out8	8	F8	17	Q7
AC Com	9	-	-	-
AC Hot A	10	-->	2,4,6,8,10,12,14,16,18,20	C0,C1,C2,(2)C3,C4,C5,C6,(2)C7
Out9	11	F9	21	Q8
Out10	12	F10	23	Q9
Out11	13	F11	25	Q10
Out12	14	F12	27	Q11
Out13	15	F13	31	Q12
Out14	16	F14	33	Q13
Out15	17	F15	35	Q14
Out16	18	F16	37	Q15
AC Com	19	-	-	-
AC Hot B	20	-->	22,24,26,28,30,32,34,36,38,40	C8,C9,C10,(2)C11,C12,C13,C14,(2)C15

Wiring Map F

Wiring Map F AS-B810-008 to BMXDAO1615 Discrete Output, 8 points isolated 115 VAC 990ADB80X80332, 990ADB80X80333 Fuse Rating F4.0AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
Hot1	1	-->	2	C0
Out1	2	F1	1	Q0
Hot2	3	-->	4	C1
Out2	4	F2	3	Q1
N/C	5	-	-	
Hot3	6	-->	6	C2
Out3	7	F3	5	Q2
Hot4	8	-->	8, 10	C3
Out4	9	F4	7	Q3
N/C	10	-	-	
Hot5	11	-->	12	C4
Out5	12	F5	11	Q4
Hot6	13	-->	14	C5
Out6	14	F6	13	Q5
N/C	15	-	-	
Hot7	16	-->	16	C6
Out7	17	F7	15	Q6
Hot8	18	-->	18, 20	C7
Out8	19	F8	17	Q7
N/C	20	-	-	

**Wiring Map G**

Wiring Map G AS-B817-x16 to BMXDAI161x Discrete Input, 16 points Isolated VAC 990ADB80X80336, 990ADB80X80337 Fuse Rating F0.25AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
In1	1	F1	1	I0
Neu1	2	-->	2	N0
In2	3	F2	3	I1
Neu2	4	-->	4	N1
In3	5	F3	5	I2
Neu3	6	-->	6	N2
In4	7	F4	7	I3
Neu4	8	-->	8	N3
N/C	9	-		-
N/C	10	-		-
N/C	11	-		-
N/C	12	-		-
In5	13	F5	11	I4
Neu5	14	-->	12	N4
In6	15	F6	13	I5
Neu6	16	-->	14	N5
In7	17	F7	15	I6
Neu7	18	-->	16	N6
In8	19	F8	17	I7
Neu8	20	-->	18	N7
In9	21	F9	21	I8
Neu9	22	-->	22	N8
In10	23	F10	23	I9
Neu10	24	-->	24	N9
In11	25	F11	25	I10
Neu11	26	-->	26	N10
In12	27	F12	27	I11
Neu12	28	-->	28	N11

<b>Wiring Map G</b> <b>AS-B817-x16 to BMXDAI161x</b> <b>Discrete Input, 16 points Isolated VAC</b> <b>990ADB80X80336, 990ADB80X80337</b> <b>Fuse Rating F0.25AL250V (TR5 Package style)</b>				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
N/C	29	-	-	
N/C	30 *	-->	39 *	
N/C	31	-	-	
N/C	32	-	-	
In13	33	F13	31	I12
Neu13	34	-->	32	N12
In14	35	F14	33	I13
Neu14	36	-->	34	N13
In15	37	F15	35	I14
Neu15	38	-->	36	N14
In16	39	F16	37	I15
Neu16	40	-->	38, 40	N15
* Wire AC Hot (line) to either pin 30 of the 800 field connector or to pin 39 of the X80 modules connectors.				

**Wiring Map H**

<b>Wiring Map H</b> <b>AS-B836-016 to (x2) BMXDRA0815</b> <b>Discrete Output, 16 points 12-250 VDC</b> <b>990ADB80X80442, 990ADB80X80443</b> <b>Fuse Rating F3.15AL250V (TR5 Package style)</b> <b>With MOV's</b>					
B800 Information			X80 Information		
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name	X80 Module #
Out1A	1	-->	2	C0	Module 1
Out1B	2	F1	1	Q0	
Out2A	3	-->	4	C1	
Out2B	4	F2	3	Q1	
Out3A	5	-->	6	C2	
Out3B	6	F3	5	Q2	
Out4A	7	-->	8	C3	
Out4B	8	F4	7	Q3	
N/C	9	-	-		
N/C	10	-	-		
N/C	11	-	-		
N/C	12	-	-		
Out5A	13	-->	10	C4	
Out5B	14	F5	9	Q4	
Out6A	15	-->	12	C5	
Out6B	16	F6	11	Q5	
Out7A	17	-->	14	C6	
Out7B	18	F7	13	Q6	
Out8A	19	-->	16	C7	
Out8B	20	F8	15	Q7	

<b>Wiring Map H</b> <b>AS-B836-016 to (x2) BMXDRA0815</b> <b>Discrete Output, 16 points 12-250 VDC</b> <b>990ADB80X80442, 990ADB80X80443</b> <b>Fuse Rating F3.15AL250V (TR5 Package style)</b> <b>With MOV's</b>					
B800 Information			X80 Information		
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name	X80 Module #
Out9A	21	-->	2	C0	Module 2
Out9B	22	F9	1	Q0	
Out10A	23	-->	4	C1	
Out10B	24	F10	3	Q1	
Out11A	25	-->	6	C2	
Out11B	26	F11	5	Q2	
Out12A	27	-->	8	C3	
Out12B	28	F12	7	Q3	
N/C	29	-		-	
N/C	30	-		-	
N/C	31	-		-	
N/C	32	-		-	
Out13A	33	-->	10	C4	
Out13B	34	F13	9	Q4	
Out14A	35	-->	12	C5	
Out14B	36	F14	11	Q5	
Out15A	37	-->	14	C6	
Out15B	38	F15	13	Q6	
Out16A	39	-->	16	C7	
Out16B	40	F16	15	Q7	

## B800 to X80 Dedicated Wiring Maps: I, J, K, L, M

### Wiring Map I

Wiring Map I AS-B807-132 to (x2) BMXDAI1604 Discrete Input, 16 points 115 VAC 990ADB80X80428, 990ADB80X80429 Fuse Rating F0.5AL250V (TR5 Package style)					
B800 Information			X80 Information		
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name	X80 Module #
N/C	1	–	–		
AC Neu Group1	2	-->	17, 19	AC Neu	Module 1
In1	3	-->	1	In0	
In2	4	-->	2	In1	
In3	5	-->	3	In2	
In4	6	-->	4	In3	
In5	7	-->	5	In4	
In6	8	-->	6	In5	
In7	9	-->	7	In6	
In8	10	-->	8	In7	
AC Neu Group2	11	-->	17, 19	AC Neu	
In9	12	-->	9	In8	
In10	13	-->	10	In9	
In11	14	-->	11	In10	
In12	15	-->	12	In11	
In13	16	-->	13	In12	
In14	17	-->	14	In13	
In15	18	-->	15	In14	
In16	19	-->	16	In15	
N/C	20 *	F1	18, 20 *	AC Hot	



<b>Wiring Map I</b> <b>AS-B807-132 to (x2) BMXDAI1604</b> <b>Discrete Input, 16 points 115 VAC</b> <b>990ADB80X80428, 990ADB80X80429</b> <b>Fuse Rating F0.5AL250V (TR5 Package style)</b>						
B800 Information			X80 Information			
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name	X80 Module #	
N/C	21	-	-			Module 2
In17	22	-->	1	In0		
In18	23	-->	2	In1		
In19	24	-->	3	In2		
In20	25	-->	4	In3		
In21	26	-->	5	In4		
In22	27	-->	6	In5		
In23	28	-->	7	In6		
In24	29	-->	8	In7		
AC Neu Group3	30	-->	17, 19	AC Neu		
In25	31	-->	9	In8		
In26	32	-->	10	In9		
In27	33	-->	11	In10		
In28	34	-->	12	In11		
In29	35	-->	13	In12		
In30	36	-->	14	In13		
In31	37	-->	15	In14		
In32	38	-->	16	In15		
AC Neu Group4	39	-->	17, 19	AC Neu		
N/C	40 *	F2	18, 20 *	AC Hot		

\* Wire AC Hot (line) to B800 pin 20 for X80 module #1 pins 18 & 20 and to B800 pin 40 for X80 module #2 pins 18 & 20. If AC Hot is not supplied to the X80 modules pins 18 & 20, the X80 module will not operate.

Wiring Map J

**⚠ CAUTION**

**RISK OF UNINTENDED OPERATION**

Wiring Map J combines the B800 groups 1 & 2 VDC Com or VAC Neu, depending on the module. The X80 replacement module has one group of 16 inputs, unlike the B800 module, which had 2 groups of 8 inputs. Verify that this is suitable for the current wiring. If not, make the appropriate wiring changes.

**Failure to follow these instructions can result in injury or equipment damage.**

Wiring Map J				
AS-B805-016 => BMXDAI1604				
AS-B837-016 => BMXDxI1602				
AS-B849-016 => BMXDxI1603				
Discrete Input, 16 points VAC /VDC				
990ADB80X80324, 990ADB80X80325				
Fuse Rating F0.5AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
In1	1	-->	1	In0
In2	2	-->	2	In1
In3	3	-->	3	In2
In4	4	-->	4	In3
In5	5	-->	5	In4
In6	6	-->	6	In5
In7	7	-->	7	In6
In8	8	-->	8	In7
AC Neu Group1	9	-->	17, 19	AC Neu
N/C	10	-		-
In9	11	-->	9	In8
In10	12	-->	10	In9
In11	13	-->	11	In10
In12	14	-->	12	In11
In13	15	-->	13	In12
In14	16	-->	14	In13
In15	17	-->	15	In14
In16	18	-->	16	In15
AC Neu Group2	19	-->	17, 19	AC Neu
N/C	20 *	F1	18, 20 *	AC Hot

\* Wire AC Hot (line)/ DC+ (Usage dependent) to either pin 20 of the 800 field connector or to pins 18, 20 of the X80 module connector.

Wiring Map K

Wiring Map K AS-B806-032 to (x2) BMXDAO1605 Discrete Output, 32 points 115 VAC 990ADB80X80426, 990ADB80X80427 Fuse Rating F3.15AL250V (TR5 Package style)					
B800 Information			X80 Information		
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name	X80 Module #
N/C	1	-	-		Module 1
AC Neu Group1	2	-	-		
Out1	3	-->	1	Out0	
Out2	4	-->	2	Out1	
Out3	5	-->	3	Out2	
Out4	6	-->	4	Out3	
Out5	7	-->	6	Out4	
Out6	8	-->	7	Out5	
Out7	9	-->	8	Out6	
Out8	10	-->	9	Out7	
N/C	11	-	-		
Out9	12	-->	11	Out8	
Out10	13	-->	12	Out9	
Out11	14	-->	13	Out10	
Out12	15	-->	14	Out11	
Out13	16	-->	16	Out12	
Out14	17	-->	17	Out13	
Out15	18	-->	18	Out14	
Out16	19	-->	19	Out15	
AC Hot Group1	20	F1	5	AC Hot Grp1	
		F2	10	AC Hot Grp2	
		F3	15	AC Hot Grp3	
		F4	20	AC Hot Grp4	

<b>Wiring Map K</b> <b>AS-B806-032 to (x2) BMXDAO1605</b> <b>Discrete Output, 32 points 115 VAC</b> <b>990ADB80X80426, 990ADB80X80427</b> <b>Fuse Rating F3.15AL250V (TR5 Package style)</b>						
B800 Information			X80 Information			
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name	X80 Module #	
AC Neu Group2	21	–	–			Module 2
Out17	22	-->	1	Out0		
Out18	23	-->	2	Out1		
Out19	24	-->	3	Out2		
Out20	25	-->	4	Out3		
Out21	26	-->	6	Out4		
Out22	27	-->	7	Out5		
Out23	28	-->	8	Out6		
Out24	29	-->	9	Out7		
N/C	30	–	–			
Out25	31	-->	11	Out8		
Out26	32	-->	12	Out9		
Out27	33	-->	13	Out10		
Out28	34	-->	14	Out11		
Out29	35	-->	16	Out12		
Out30	36	-->	17	Out13		
Out31	37	-->	18	Out14		
Out32	38	-->	19	Out15		
N/C	39	–	–			
AC Hot Group2	40	F5	5	AC Hot Grp1		
		F6	10	AC Hot Grp2		
		F7	15	AC Hot Grp3		
		F8	20	AC Hot Grp4		

Wiring Map L

Wiring Map L AS-B804-X16 to BMXDAO1605 AS-B808-016 to BMXDAO1605 Discrete Output, 16 points 115 VAC (B804) or 230 VAC (B808) 990ADB80X80322, 990ADB80X80323 Fuse Rating F3.15AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
Out1	1	-->	1	Out0
Out2	2	-->	2	Out1
Out3	3	-->	3	Out2
Out4	4	-->	4	Out3
Out5	5	-->	6	Out4
Out6	6	-->	7	Out5
Out7	7	-->	8	Out6
Out8	8	-->	9	Out7
AC Neu Group1	9	-	-	
AC Hot Group1	10	F1	5	AC Hot Group1
		F2	10	AC Hot Group2
Out9	11	-->	11	Out8
Out10	12	-->	12	Out9
Out11	13	-->	13	Out10
Out12	14	-->	14	Out11
Out13	15	-->	16	Out12
Out14	16	-->	17	Out13
Out15	17	-->	18	Out14
Out16	18	-->	19	Out15
AC Neu Group2	19	-	-	
AC Hot Group2	20	F3	15	AC Hot Group3
		F4	20	AC Hot Group4

**Wiring Map M**

Wiring Map M AS-B833-016 to BMXDAI1602 Discrete Input, 16 points 24 VDC True Low 990ADB80X80340, 990ADB80X80341 Fuse Rating F0.5AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
In1	1	-->	1	In0
In2	2	-->	2	In1
In3	3	-->	3	In2
In4	4	-->	4	In3
In5	5	-->	5	In4
In6	6	-->	6	In5
In7	7	-->	7	In6
In8	8	-->	8	In7
DC -	9	-->	18, 20	DC -
	10	-->	18, 20	
In9	11	-->	11	In8
In10	12	-->	12	In9
In11	13	-->	13	In10
In12	14	-->	14	In11
In13	15	-->	15	In12
In14	16	-->	16	In13
In15	17	-->	17	In14
In16	18	-->	18	In15
DC -	19	-->	18, 20	DC -
DC +	20	F1	17, 19	DC +

## B800 to X80 Dedicated Wiring Maps: N, O, P, R

### Wiring Map N

Wiring Map N AS-B809-016 to BMXDAI1615 Discrete Input, 16 points 230 VAC 990ADB80X80330, 990ADB80X80331 Fuse Rating F0.5AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
In1	1	F1	1	In0
In2	2	F2	3	In1
In3	3	F3	5	In2
In4	4	F4	7	In3
In5	5	F5	11	In4
In6	6	F6	13	In5
In7	7	F7	15	In6
In8	8	F8	17	In7
AC Neu Group1	9	-->	2,4,6,8,12,14,16,18	AC Neu Group1
N/C	10	-	-	
In9	11	F9	21	In8
In10	12	F10	23	In9
In11	13	F11	25	In10
In12	14	F12	27	In11
In13	15	F13	31	In12
In14	16	F14	33	In13
In15	17	F15	35	In14
In16	18	F16	37	In15
AC Neu Group2	19	-->	22,24,26,28,32,34,36,38	AC Neu Group2
N/C	20 *	-->	39 *	-

\* Wire AC Hot (line) to either pin 20 of the 800 field connector or to pin 39 of the X80 module connector.

**Wiring Map O**

Wiring Map O AS-B825-016 to BMXDDI1602 AS-B832-016 to BMXDDO1612 Discrete Input or Output, 16 points 24 VDC Input Module 990ADB80X80338, 990ADB80X80339 Output Module 990ADB80X80344, 990ADB80X80345 Fuse Rating: Input Module F0.5AL250V (TR5 Package style) Output Module F6.3AL250V (TR5 Package style)				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
In/Out1	1	-->	1	In/Out0
In/Out2	2	-->	2	In/Out1
In/Out3	3	-->	3	In/Out2
In/Out4	4	-->	4	In/Out3
In/Out5	5	-->	5	In/Out4
In/Out6	6	-->	6	In/Out5
In/Out7	7	-->	7	In/Out6
In/Out8	8	-->	8	In/Out7
DC-	9	-->	17, 19	DC-
DC-	10	-->	17, 19	DC-
In/Out9	11	-->	9	In/Out8
In/Out10	12	-->	10	In/Out9
In/Out11	13	-->	11	In/Out10
In/Out12	14	-->	12	In/Out11
In/Out13	15	-->	13	In/Out12
In/Out14	16	-->	14	In/Out13
In/Out15	17	-->	15	In/Out14
In/Out16	18	-->	16	In/Out15
DC-	19	-->	17, 19	DC-
DC+	20	F1	18, 20	DC+



## Wiring Map P

**NOTICE****RISK OF UNINTENDED OPERATION**

Disconnect each analog output channel's wires from the external loop supply, then connect the two wires for the channel before applying power to the system. Wiring Map P does not require an external loop power supply for the output channels to operate. This X80 module's output channels are self powered.

**Failure to follow these instructions can result in equipment damage.**

Wiring Map P AS-B872-100 to BMXAMO0410 Analog Output, 4 channel 4-20 mA 990ADB80X80346, 990ADB80X80347				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #		X80 Pin #	X80 Signal name
Internal Frame Gnd	1	-	-	
Internal Frame Gnd	2	-	-	
I Sink Ch1	3	-->	2	Com0
I Source Ch1	4	-->	1	U/I0
I Source Ch1	5	-	1	U/I0
Monitor Ch1	6	-	-	
I Sink Ch2	11	-->	8	Com1
I Source Ch2	12	-->	7	U/I1
I Source Ch2	13	-	7	U/I1
Monitor Ch2	14	-	-	
I Sink Ch3	23	-->	12	Com2
I Source Ch3	24	-->	11	U/I2
I Source Ch3	25	-	11	U/I2
Monitor Ch3	26	-	-	
I Sink Ch4	31	-->	18	Com3
I Source Ch4	32	-->	17	U/I3
I Source Ch4	33	-	17	U/I3
Monitor Ch4	34	-	-	
Internal Frame Gnd	39	-	-	
Internal Frame Gnd	40	-	-	

### Wiring Map Q

Wiring map Q is reserved for future use.

## Wiring Map R

Wiring Map R				
AS-B802-008 to BMXDRA08x5				
AS-B820-008 to BMXDRA0815				
Discrete Output 8 point, 115 VAC (B802) or 10-60 VDC (B820)				
990ADB80X80318, 990ADB80X80319				
Fuse Rating F3.15AL250V (TR5 Package style)				
With MOV's				
B800 Information			X80 Information	
B800 Signal name	B800 Pin #	Fuse	X80 Pin #	X80 Signal name
Out1	1	F1	1	Q0
Out2	2	F2	3	Q1
Common Group1	3	-	-	
DC+ Group1	4	-->	2, 4	C0,1
N/C	5	-	-	
N/C	6	-	-	
Out3	7	F3	5	Q2
Out4	8	F4	7	Q3
Common Group2	9	-	-	
DC+ Group2	10	-->	6, 8	C2,3
Out5	11	F5	9	Q4
Out6	12	F6	11	Q5
Common Group3	13	-	-	
DC+ Group3	14	-->	10, 12	C4,5
N/C	15	-	-	
N/C	16	-	-	
Out7	17	F7	13	Q6
Out8	18	F8	15	Q7
Common Group4	19	-	-	
DC+ Group4	20	-->	14, 16	C6,7

## Generic Wiring Guides

### Using the Wiring Guides

The following wiring guides provide information for initial wiring of the cable/connector, and for maintenance. The diagram, below, shows you how to read and use the following wiring guides.

Use the two left columns when constructing the cables. They provide details on how to build the cable, by identifying the wire number and color that is connected to each X80 connector pin number.

Use the four right columns for system maintenance and troubleshooting. They provide the X80 pin number / function and its association to the B800 connector pin number.

#### 2 Left Columns

How to wire	
Cable Wire # / Wire Color	X80 Conn Number
1 Black	1
2 Brown	2
3 Red	3
4 Orange	4
7 Blue	5
8 Purp	6
9 Gray	7
10 White	8
11 Pink	9
12 Light Grn	10
13 Blk/Wht	11
14 Brn/Wht	12
17 Grn/Wht	13
18 Blue/Wht	14
19 Yell/Wht	15
20 Purp/Wht	16

#### 4 Right Columns

Maintenance			
B800 Information		X80 Information	
B800 Desc	B800 pin #	X80 pin #	X80 Desc
Input 1	1	1	Input 0
Neutral 1	2	2	Neutral 0
Input 2	3	3	Input 1
Neutral 2	4	4	Neutral 1
Input 3	7	5	Input 2
Neutral 3	8	6	Neutral 2
Input 4	9	7	Input 3
Neutral 4	10	8	Neutral 3
Input 5	11	9	Input 4
Neutral 5	12	10	Neutral 4
Input 6	13	11	Input 5
Neutral 6	14	12	Neutral 5
Input 7	17	13	Input 6
Neutral 7	18	14	Neutral 6
Input 8	19	15	Input 7
Neutral 8	20	16	Neutral 7

## Generic #1 Wiring Guides: B800 to 990ADB80X80198, 990ADB80X80199

### Omitted Wiring Guides

This topic includes currently valid wiring guides for the Generic #1 group. Wiring Guides #1, 2, 4, 6, 7, 9, 10, and 13 are obsolete and are no longer included in this group.

### Wiring Guide #3

Wiring Guide #3 AS-B803-008 (8 point) => BMXDAI0814 Discrete Input, 8 point 115 VAC 990ADB80X80198, 990ADB80X80199					
Cable Assembly: How to wire		Maintenance			
Cable Wire # / Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
1 Black	1	Input 1	1	1	Input 0
2 Brown	2	Neutral 1	2	2	Neutral 0
3 Red	3	Input 2	3	3	Input 1
4 Orange	4	Neutral 2	4	4	Neutral 1
7 Blue	5	Input 3	7	5	Input 2
8 Purp	6	Neutral 3	8	6	Neutral 2
9 Gray	7	Input 4	9	7	Input 3
10 White	8	Neutral 4	10	8	Neutral 3
11 Pink	9	Input 5	11	9	Input 4
12 Light Grn	10	Neutral 5	12	10	Neutral 4
13 Blk/Wht	11	Input 6	13	11	Input 5
14 Brn/Wht	12	Neutral 6	14	12	Neutral 5
17 Grn/Wht	13	Input 7	17	13	Input 6
18 Blue/Wht	14	Neutral 7	18	14	Neutral 6
19 Yell/Wht	15	Input 8	19	15	Input 7
20 Purp/Wht	16	Neutral 8	20	16	Neutral 7

Wiring Guide #5

**⚠ WARNING**

**RISK OF ELECTRICAL SHOCK**

Disconnect the A.C. Neutral wires from their source (for example, a terminal strip) that connects to the B800 connector pins 9 and 19.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

Wiring Guide #5					
AS-B804-x16 (16 point) => BMXDRA1605 (16 point)					
Discrete Output, 16 point 115 VAC					
990ADB80X80198, 990ADB80X80199					
Cable Assembly: How to wire		Maintenance			
Cable Wire # / Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
1 Black	1	Output 1	1	1	Output 0
2 Brown	2	Output 2	2	2	Output 1
3 Red	3	Output 3	3	3	Output 2
4 Orange	4	Output 4	4	4	Output 3
5 Yellow	5	Output 5	5	5	Output 4
6 Green	6	Output 6	6	6	Output 5
7 Blue	7	Output 7	7	7	Output 6
8 Purp	8	Output 8	8	8	Output 7
-	-	Neutral Grp 1	9	-	-
10 White	9, 10	Hot Grp 1	10	9, 10	Hot Grp 1
11 Pink	11	Output 9	11	11	Output 8
12 Light Grn	12	Output 10	12	12	Output 9
13 Blk/Wht	13	Output 11	13	13	Output 10
14 Brn/Wht	14	Output 12	14	14	Output 11
15 Red/Wht	15	Output 13	15	15	Output 12
16 Orn/Wht	16	Output 14	16	16	Output 13
17 Grn/Wht	17	Output 15	17	17	Output 14
18 Blue/Wht	18	Output 16	18	18	Output 15
-	-	Neutral Grp 2	19	-	-
20 Purp/Wht	19, 20	Hot Grp 2	20	19, 20	Hot Grp 2

## Wiring Guide #8

 **CAUTION****RISK OF UNINTENDED OPERATION**

The output channels of this X80 module do not include pre-actuator snubbers within the module or on the translator unit. It is recommended that external protection be added for each actuator of this module as detailed in the *Modicon X80 Discrete Input/ Output Modules User Manual* (3501247).

**Failure to follow these instructions can result in injury or equipment damage.**

 **WARNING****RISK OF ELECTRICAL SHOCK**

Disconnect the AC Neutral wires from their source (for example, a terminal strip) that connects to the B800 connector pins 9 and 19.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

<b>Wiring Guide #8</b> <b>AS-B808-016 =&gt; BMXDRA1605</b> <b>Discrete Output, 16 point 230 VAC</b> <b>990ADB80X80198, 990ADB80X80199</b>					
<b>Cable Assembly:</b> <b>How to wire</b>		<b>Maintenance</b>			
<b>Cable Wire # / Color</b>	<b>X80 Conn. Number</b>	<b>B800 Information</b>		<b>X80 Information</b>	
		<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
1 Black	1	Output 1	1	1	Output 0
2 Brown	2	Output 2	2	2	Output 1
3 Red	3	Output 3	3	3	Output 2
4 Orange	4	Output 4	4	4	Output 3
5 Yellow	5	Output 5	5	5	Output 4
6 Green	6	Output 6	6	6	Output 5
7 Blue	7	Output 7	7	7	Output 6
8 Purp	8	Output 8	8	8	Output 7
-	-	Neutral Grp 1	9	-	-
10 White	9, 10	Hot Grp 1	10	9, 10	Hot Grp 1
11 Pink	11	Output 9	11	11	Output 8
12 Light Grn	12	Output 10	12	12	Output 9
13 Blk/Wht	13	Output 11	13	13	Output 10
14 Brn/Wht	14	Output 12	14	14	Output 11
15 Red/Wht	15	Output 13	15	15	Output 12
16 Orn/Wht	16	Output 14	16	16	Output 13
17 Grn/Wht	17	Output 15	17	17	Output 14
18 Blue/Wht	18	Output 16	18	18	Output 15
-	-	Neutral Grp 2	19	-	-
20 Purp/Wht	19, 20	Hot Grp 2	20	19, 20	Hot Grp 2



**Wiring Guide #11**** CAUTION****RISK OF UNINTENDED OPERATION**

The output channels of this X80 module do not include pre-actuator snubbers within the module or on the translator unit. It is recommended that external protection be added for each actuator of this module as detailed in the *Modicon X80 Discrete Input/ Output Modules User Manual* (3501247).

**Failure to follow these instructions can result in injury or equipment damage.**

** CAUTION****UNINTENDED APPLICATION BEHAVIOR**

This X80 replacement module has only Normally Open relay contacts, unlike the B800 module that can be either Normally Open or Normally Closed. Verify that this is suitable for the current wiring. If not, make the appropriate changes to accommodate for the Normally Open contact configuration.

**Failure to follow these instructions can result in injury or equipment damage.**

Wiring Guide #11 AS-B814-108 => BMXDRA0805 Discrete Output, 8 point 20-240 VAC/24 VDC Relay 990ADB80X80198, 990ADB80X80199					
Cable Assembly: How to wire		Maintenance			
Cable Wire # / Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
1 Black	1	Output 1 A	1	1	Output 0
2 Brown	2	Output 1 B	2	2	C 0
3 Red	3	Output 2 A	3	3	Output 1
4 Orange	4	Output 2 B	4	4	C 1
6 Green	5	Output 3 A	6	5	Output 2
7 Blue	6	Output 3 B	7	6	C 2
8 Purp	7	Output 4 A	8	7	Output 3
9 Gray	8	Output 4 B	9	8	C 3
11 Pink	9	Output 5 A	11	9	Output 4
12 Light Grn	10	Output 5 B	12	10	C 4
13 Blk/Wht	11	Output 6 A	13	11	Output 5
14 Brn/Wht	12	Output 6 B	14	12	C 5
16 Orn/Wht	13	Output 7 A	16	13	Output 6
17 Grn/Wht	14	Output 7 B	17	14	C 6
18 Blue/Wht	15	Output 8 A	18	15	Output 7
19 Yell/Wht	16	Output 8 B	19	16	C 7

Wiring Guide #12

**⚠ CAUTION**

**RISK OF UNINTENDED OPERATION**

This wiring guide combines the B800 groups 1 & 2 +24 VDCs. It also combines the B800 groups 1 & 2 Returns. The X80 replacement module has one group of 16 outputs, unlike the B800 module which had 2 groups of 8 outputs. Verify that this is suitable for the current wiring. If not, make the appropriate wiring changes.

**Failure to follow these instructions can result in injury or equipment damage.**

Wiring Guide #12 AS-B824-016 => BMXDDO1602 Discrete Output, 16 point 24 VDC 990ADB80X80198, 990ADB80X80199					
Cable Assembly: How to wire		Maintenance			
		B800 Information		X80 Information	
Cable Wire # / Color	X80 Conn. Number	B800 Desc	B800 pin #	X80 pin #	X80 Desc
1 Black	1	Output 1	1	1	Output 0
2 Brown	2	Output 2	2	2	Output 1
3 Red	3	Output 3	3	3	Output 2
4 Orange	4	Output 4	4	4	Output 3
5 Yellow	5	Output 5	5	5	Output 4
6 Green	6	Output 6	6	6	Output 5
7 Blue	7	Output 7	7	7	Output 6
8 Purp	8	Output 8	8	8	Output 7
9 Gray	17, 19	Comm Grp 1	9	17, 19	Comm
10 White	18, 20	24 VDC Grp 1	10	18, 20	24 VDC
11 Pink	9	Output 9	11	9	Output 8
12 Light Grn	10	Output 10	12	10	Output 9
13 Blk/Wht	11	Output 11	13	11	Output 10
14 Brn/Wht	12	Output 12	14	12	Output 11
15 Red/Wht	13	Output 13	15	13	Output 12
16 Orn/Wht	14	Output 14	16	14	Output 13
17 Grn/Wht	15	Output 15	17	15	Output 14
18 Blue/Wht	16	Output 16	18	16	Output 15
19 Yell/Wht	17, 19	Comm Grp 2	19	17, 19	Comm
20 Purp/Wht	18, 20	24 VDC Grp 2	20	18, 20	24 VDC

**Wiring Guide #14**

** CAUTION**

**RISK OF UNINTENDED OPERATION**

The output channels of this X80 module do not include pre-actuator snubbers within the module or on the translator unit. It is recommended that external protection be added for each actuator of this module as detailed in the *Modicon X80 Discrete Input/ Output Modules User Manual* (3501247).

**Failure to follow these instructions can result in injury or equipment damage.**

** CAUTION**

**UNINTENDED APPLICATION BEHAVIOR**

This X80 replacement module has only Normally Open relay contacts, unlike the B800 module that can be either Normally Open or Normally Closed. Verify that this is suitable for the current wiring. If not, make the appropriate changes to accommodate for the Normally Open contact configuration.

**Failure to follow these instructions can result in injury or equipment damage.**

<b>Wiring Guide #14</b> <b>AS-B840-108 =&gt; BMXDRA0805</b> <b>Discrete Output, 8 point 24-240 VAC/24 VDC Relay</b> <b>990ADB80X80198, 990ADB80X80199</b>					
<b>Cable Assembly:</b> <b>How to wire</b>		<b>Maintenance</b>			
<b>Cable Wire # / Color</b>	<b>X80 Conn. Number</b>	<b>B800 Information</b>		<b>X80 Information</b>	
		<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
1 Black	1	Output 1 A	1	1	Output 0 A
2 Brown	2	Output 1 B	2	2	Output 0 B
3 Red	3	Output 2 A	3	3	Output 1 A
4 Orange	4	Output 2 B	4	4	Output 1 B
6 Green	5	Output 3 A	6	5	Output 2 A
7 Blue	6	Output 3 B	7	6	Output 2 B
8 Purp	7	Output 4 A	8	7	Output 3 A
9 Gray	8	Output 4 B	9	8	Output 3 B
11 Pink	9	Output 5 A	11	9	Output 4 A
12 Light Grn	10	Output 5 B	12	10	Output 4 B
13 Blk/Wht	11	Output 6 A	13	11	Output 5 A
14 Brn/Wht	12	Output 6 B	14	12	Output 5 B
16 Orn/Wht	13	Output 7 A	16	13	Output 6 A
17 Grn/Wht	14	Output 7 B	17	14	Output 6 B
18 Blue/Wht	15	Output 8 A	18	15	Output 7 A
19 Yell/Wht	16	Output 8 B	19	16	Output 7 B

**Wiring Guide #15**

** CAUTION**

**RISK OF UNINTENDED OPERATION**

The output channels of this X80 module do not include pre-actuator snubbers within the module or on the translator unit. It is recommended that external protection be added for each actuator of this module as detailed in the *Modicon X80 Discrete Input/ Output Modules User Manual* (3501247).

**Failure to follow these instructions can result in injury or equipment damage.**

** CAUTION**

**UNINTENDED APPLICATION BEHAVIOR**

This X80 replacement module has only Normally Open relay contacts, unlike the B800 module that can be either Normally Open or Normally Closed. Verify that this is suitable for the current wiring. If not, make the appropriate changes to accommodate for the Normally Open contact configuration.

**Failure to follow these instructions can result in injury or equipment damage.**

<b>Wire Guide #15</b> <b>AS-B840-108 =&gt; BMXDRA0804T</b> <b>Discrete Output, 8 point 125 VDC Relay</b> <b>990ADB80X80198, 990ADB80X80199</b>					
<b>Cable Assembly:</b> <b>How to wire</b>		<b>Maintenance</b>			
<b>Cable Wire # / Color</b>	<b>X80 Conn. Number</b>	<b>B800 Information</b>		<b>X80 Information</b>	
		<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
1 Black	1	Output 1 A	1	1	Output 0
2 Brown	2	Output 1 B	2	2	C 0
3 Red	3	Output 2 A	3	3	Output 1
4 Orange	4	Output 2 B	4	4	C 1
6 Green	5	Output 3 A	6	5	Output 2
7 Blue	6	Output 3 B	7	6	C 2
8 Purp	7	Output 4 A	8	7	Output 3
9 Gray	8	Output 4 B	9	8	C 3
11 Pink	9	Output 5 A	11	9	Output 4
12 Light Grn	10	Output 5 B	12	10	C 4
13 Blk/Wht	11	Output 6 A	13	11	Output 5
14 Brn/Wht	12	Output 6 B	14	12	C 5
16 Orn/Wht	13	Output 7 A	16	13	Output 6
17 Grn/Wht	14	Output 7 B	17	14	C 6
18 Blue/Wht	15	Output 8 A	18	15	Output 7
19 Yell/Wht	16	Output 8 B	19	16	C 7

## Generic #2 Wiring Guides: B800 to 990ADB80X80296, 990ADB80X80297

### Introduction

This topic includes currently valid wiring guides for the Generic #2 group. Wiring Guides #16, 18 and 22 are obsolete and are no longer included in this group.

### Wiring Guide #17

#### CAUTION

##### RISK OF UNINTENDED OPERATION

The output channels of this X80 module do not include pre-actuator snubbers within the module or on the translator unit. It is recommended that external protection be added for each actuator of this module as detailed in the *Modicon X80 Discrete Input/ Output Modules User Manual* (3501247).

**Failure to follow these instructions can result in injury or equipment damage.**

#### WARNING

##### RISK OF ELECTRICAL SHOCK

Disconnect the AC Neutral wires from their source (for example, a terminal strip) that connects to the B800 connector pins 2 and 21.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**



<b>Wiring Guide #17</b> <b>AS-B806-032 =&gt; (x2) BMXDRA1605</b> <b>Discrete Output, 32 point 115 VAC</b> <b>990ADB80X80296, 990ADB80X80297</b>					
<b>Cable Assembly:</b> <b>How to wire</b>		<b>Maintenance</b>			
		<b>B800 Information</b>		<b>X80 Information</b>	
<b>Cable Wire #/Color</b>	<b>X80 Conn. Number</b>	<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
				<b>X80 Module #1</b>	
-	-	Neutral Grp 1	2	-	-
A-3 Red	A - 1	Output 1	3	A - 1	Output 0
A-4 Orange	A - 2	Output 2	4	A - 2	Output 1
A-5 Yellow	A - 3	Output 3	5	A - 3	Output 2
A-6 Green	A - 4	Output 4	6	A - 4	Output 3
A-7 Blue	A - 5	Output 5	7	A - 5	Output 4
A-8 Purp	A - 6	Output 6	8	A - 6	Output 5
A-9 Gray	A - 7	Output 7	9	A - 7	Output 6
A-10 White	A - 8	Output 8	10	A - 8	Output 7
A-12 Light Grn	A - 11	Output 9	12	A - 11	Output 8
A-13 Blk/Wht	A - 12	Output 10	13	A - 12	Output 9
A-14 Brn/Wht	A - 13	Output 11	14	A - 13	Output 10
A-15 Red/Wht	A - 14	Output 12	15	A - 14	Output 11
A-16 Oran/Wht	A - 15	Output 13	16	A - 15	Output 12
A-17 Grn/Wht	A - 16	Output 14	17	A - 16	Output 13
A-18 Blue/Wht	A - 17	Output 15	18	A - 17	Output 14
A-19 Yell/Wht	A - 18	Output 16	19	A - 18	Output 15
A-20 Purp/Wht	A - 9, 10, 19, 20	Hot Grp 1	20	A - 9, 10, 19, 20	Hot


<b>Wiring Guide #17</b> <b>AS-B806-032 =&gt; (x2) BMXDRA1605</b> <b>Discrete Output, 32 point 115 VAC</b> <b>990ADB80X80296, 990ADB80X80297</b>					
<b>Cable Assembly:</b> <b>How to wire</b>		<b>Maintenance</b>			
		<b>B800 Information</b>		<b>X80 Information</b>	
<b>Cable Wire #/Color</b>	<b>X80 Conn. Number</b>	<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
				X80 Module #2	
-	-	Neutral Grp 2	21	-	-
B-2 Brown	B - 1	Output 17	22	B - 1	Output 0
B-3 Red	B - 2	Output 18	23	B - 2	Output 1
B-4 Orange	B - 3	Output 19	24	B - 3	Output 2
B-5 Yellow	B - 4	Output 20	25	B - 4	Output 3
B-6 Green	B - 5	Output 21	26	B - 5	Output 4
B-7 Blue	B - 6	Output 22	27	B - 6	Output 5
B-8 Purp	B - 7	Output 23	28	B - 7	Output 6
B-9 Gray	B - 8	Output 24	29	B - 8	Output 7
B-11 Pink	B - 11	Output 25	31	B - 11	Output 8
B-12 Light Grn	B - 12	Output 26	32	B - 12	Output 9
B-13 Blk/Wht	B - 13	Output 27	33	B - 13	Output 10
B-14 Brn/Wht	B - 14	Output 28	34	B - 14	Output 11
B-15 Red/Wht	B - 15	Output 29	35	B - 15	Output 12
B-16 Oran/Wht	B - 16	Output 30	36	B - 16	Output 13
B-17 Grn/Wht	B - 17	Output 31	37	B - 17	Output 14
B-18 Blue/Wht	B - 18	Output 32	38	B - 18	Output 15
B-20 Purp/Wht	B - 9, 10, 19, 20	Hot Grp 2	40	B - 9, 10, 19, 20	Hot

Wiring Guide #19

Wiring Guide #19 AS-B817-116 => (x2) BMXDAI0814 Discrete Input, 16 point 115 VAC 990ADB80X80296, 990ADB80X80297					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
				X80 Module #1	
A-1 Black	A - 1	Input 1	1	A - 1	Input 0
A-2 Brown	A - 2	Neutral 1	2	A - 2	Neutral 0
A-3 Red	A - 3	Input 2	3	A - 3	Input 1
A-4 Orange	A - 4	Neutral 2	4	A - 4	Neutral 1
A-5 Yellow	A - 5	Input 3	5	A - 5	Input 2
A-6 Green	A - 6	Neutral 3	6	A - 6	Neutral 2
A-7 Blue	A - 7	Input 4	7	A - 7	Input 3
A-8 Purp	A - 8	Neutral 4	8	A - 8	Neutral 3
A-13 Blk/Wht	A - 9	Input 5	13	A - 9	Input 4
A-14 Brn/Wht	A - 10	Neutral 5	14	A - 10	Neutral 4
A-15 Red/Wht	A - 11	Input 6	15	A - 11	Input 5
A-16 Oran/Wht	A - 12	Neutral 6	16	A - 12	Neutral 5
A-17 Grn/Wht	A - 13	Input 7	17	A - 13	Input 6
A-18 Blue/Wht	A - 14	Neutral 7	18	A - 14	Neutral 6
A-19 Yell/Wht	A - 15	Input 8	19	A - 15	Input 7
A-20 Purp/Wht	A - 16	Neutral 8	20	A - 16	Neutral 7

Wiring Guide #19 AS-B817-116 => (x2) BMXDAI0814 Discrete Input, 16 point 115 VAC 990ADB80X80296, 990ADB80X80297					
Cable Assembly: How to wire		Maintenance			
		B800 Information		X80 Information	
Cable Wire #/Color	X80 Conn. Number	B800 Desc	B800 pin #	X80 pin #	X80 Desc
				X80 Module #2	
B-1 Black	B - 1	Input 9	21	B - 1	Input 0
B-2 Brown	B - 2	Neutral 9	22	B - 2	Neutral 0
B-3 Red	B - 3	Input 10	23	B - 3	Input 1
B-4 Orange	B - 4	Neutral 10	24	B - 4	Neutral 1
B-5 Yellow	B - 5	Input 11	25	B - 5	Input 2
B-6 Green	B - 6	Neutral 11	26	B - 6	Neutral 2
B-7 Blue	B - 7	Input 12	27	B - 7	Input 3
B-8 Purp	B - 8	Neutral 12	28	B - 8	Neutral 3
B-13 Blk/Wht	B - 9	Input 13	33	B - 9	Input 4
B-14 Brn/Wht	B - 10	Neutral 13	34	B - 10	Neutral 4
B-15 Red/Wht	B - 11	Input 14	35	B - 11	Input 5
B-16 Oran/Wht	B - 12	Neutral 14	36	B - 12	Neutral 5
B-17 Grn/Wht	B - 13	Input 15	37	B - 13	Input 6
B-18 Blue/Wht	B - 14	Neutral 15	38	B - 14	Neutral 6
B-19 Yell/Wht	B - 15	Input 16	39	B - 15	Input 7
B-20 Purp/Wht	B - 16	Neutral 16	40	B - 16	Neutral 7

Wiring Guide #20

 <b>CAUTION</b>
<p><b>RISK OF UNINTENDED OPERATION</b></p> <p>This wiring guide combines the B800 Inputs 1-8 VAC Neutrals together on one of the X80 replacement modules. It also combines Inputs 9-16 VAC Neutrals on the second X80 replacement module. Each of the two X80 replacement modules has 1 group of 8 inputs, unlike the B800 module which had 16 groups of 1 input. Verify that this is suitable for the current wiring. If not, make the appropriate wiring changes.</p> <p><b>Failure to follow these instructions can result in injury or equipment damage.</b></p>

Wiring Guide #20 AS-B817-216 => (x2) BMXDAI0805 Discrete Input, 16 point 230 VAC 990ADB80X80296, 990ADB80X80297					
Cable Assembly: How to wire		Maintenance			
		B800 Information		X80 Information	
Cable Wire #/Color	X80 Conn. Number	B800 Desc	B800 pin #	X80 pin #	X80 Desc
		X80 Module #1			
A-1 Black	A - 1	Input 1	1	A - 1	Input 0
A-2 Brown	A - 17, 19	Neutral 1	2	A - 17, 19	Neutral
A-3 Red	A - 3	Input 2	3	A - 3	Input 1
A-4 Orange	A - 17, 19	Neutral 2	4	A - 17, 19	Neutral
A-5 Yellow	A - 5	Input 3	5	A - 5	Input 2
A-6 Green	A - 17, 19	Neutral 3	6	A - 17, 19	Neutral
A-7 Blue	A - 7	Input 4	7	A - 7	Input 3
A-8 Purp	A - 17, 19	Neutral 4	8	A - 17, 19	Neutral
A-13 Blk/Wht	A - 9	Input 5	13	A - 9	Input 4
A-14 Brn/Wht	A - 17, 19	Neutral 5	14	A - 17, 19	Neutral
A-15 Red/Wht	A - 11	Input 6	15	A - 11	Input 5
A-16 Oran/Wht	A - 17, 19	Neutral 6	16	A - 17, 19	Neutral
A-17 Grn/Wht	A - 13	Input 7	17	A - 13	Input 6
A-18 Blue/Wht	A - 17, 19	Neutral 7	18	A - 17, 19	Neutral
A-19 Yell/Wht	A - 15	Input 8	19	A - 15	Input 7
A-20 Purp/Wht	A - 17, 19	Neutral 8	20	A - 17, 19	Neutral
-	A - 18, 20 <sup>1</sup>	-	-	A - 18, 20	AC Hot <sup>1</sup>

Wiring Guide #20 AS-B817-216 => (x2) BMXDAI0805 Discrete Input, 16 point 230 VAC 990ADB80X80296, 990ADB80X80297					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
				X80 Module #2	
B-1 Black	B - 1	Input 9	21	B - 1	Input 0
B-2 Brown	B - 17, 19	Neutral 9	22	B - 17, 19	Neutral
B-3 Red	B - 3	Input 10	23	B - 3	Input 1
B-4 Orange	B - 17, 19	Neutral 10	24	B - 17, 19	Neutral
B-5 Yellow	B - 5	Input 11	25	B - 5	Input 2
B-6 Green	B - 17, 19	Neutral 11	26	B - 17, 19	Neutral
B-7 Blue	B - 7	Input 12	27	B - 7	Input 3
B-8 Purp	B - 17, 19	Neutral 12	28	B - 17, 19	Neutral
B-13 Blk/Wht	B - 9	Input 13	33	B - 9	Input 4
B-14 Brn/Wht	B - 17, 19	Neutral 13	34	B - 17, 19	Neutral
B-15 Red/Wht	B - 11	Input 14	35	B - 11	Input 5
B-16 Oran/Wht	B - 17, 19	Neutral 14	36	B - 17, 19	Neutral
B-17 Grn/Wht	B - 13	Input 15	37	B - 13	Input 6
B-18 Blue/Wht	B - 17, 19	Neutral 15	38	B - 17, 19	Neutral
B-19 Yell/Wht	B - 15	Input 16	39	B - 15	Input 7
B-20 Purp/Wht	B - 17, 19	Neutral 16	40	B - 17, 19	Neutral
-	B - 18, 20 <sup>1</sup>	-	-	B - 18, 20	AC Hot <sup>1</sup>

1. Connect AC Hot (line) to this pin.

Wiring Guide #21


Wiring Guide #21 AS-B826-032 => (x2) BMXDDO1602 Discrete Output, 32 point 24 VDC 990ADB80X80296, 990ADB80X80297					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
				X80 Module #1	
A-1 Black	A - 1	Output 1	1	A - 1	Output 0
A-2 Brown	A - 2	Output 2	2	A - 2	Output 1
A-3 Red	A - 3	Output 3	3	A - 3	Output 2
A-4 Orange	A - 4	Output 4	4	A - 4	Output 3
A-5 Yellow	A - 5	Output 5	5	A - 5	Output 4
A-6 Green	A - 6	Output 6	6	A - 6	Output 5
A-7 Blue	A - 7	Output 7	7	A - 7	Output 6
A-8 Purp	A - 8	Output 8	8	A - 8	Output 7
A-9 Gray	A - 9	Output 9	9	A - 9	Output 8
A-10 White	A - 10	Output 10	10	A - 10	Output 9
A-11 Pink	A - 11	Output 11	11	A - 11	Output 10
A-12 Light Grn	A - 12	Output 12	12	A - 12	Output 11
A-13 Blk/Wht	A - 13	Output 13	13	A - 13	Output 12
A-14 Brn/Wht	A - 14	Output 14	14	A - 14	Output 13
A-15 Red/Wht	A - 15	Output 15	15	A - 15	Output 14
A-16 Oran/Wht	A - 16	Output 16	16	A - 16	Output 15
A-18 Blue/Wht	A - 18, 20	24 VDC	18	A - 18, 20	24 VDC
A-20 Purp/Wht	A - 17, 19	Comm	20	A - 17, 19	Comm


Wiring Guide #21 AS-B826-032 => (x2) BMXDDO1602 Discrete Output, 32 point 24 VDC 990ADB80X80296, 990ADB80X80297					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
				X80 Module #2	
B-1 Black	B - 1	Output 17	21	B - 1	Output 0
B-2 Brown	B - 2	Output 18	22	B - 2	Output 1
B-3 Red	B - 3	Output 19	23	B - 3	Output 2
B-4 Orange	B - 4	Output 20	24	B - 4	Output 3
B-5 Yellow	B - 5	Output 21	25	B - 5	Output 4
B-6 Green	B - 6	Output 22	26	B - 6	Output 5
B-7 Blue	B - 7	Output 23	27	B - 7	Output 6
B-8 Purp	B - 8	Output 24	28	B - 8	Output 7
B-9 Gray	B - 9	Output 25	29	B - 9	Output 8
B-10 White	B - 10	Output 26	30	B - 10	Output 9
B-11 Pink	B - 11	Output 27	31	B - 11	Output 10
B-12 Light Grn	B - 12	Output 28	32	B - 12	Output 11
B-13 Blk/Wht	B - 13	Output 29	33	B - 13	Output 12
B-14 Brn/Wht	B - 14	Output 30	34	B - 14	Output 13
B-15 Red/Wht	B - 15	Output 31	35	B - 15	Output 14
B-16 Oran/Wht	B - 16	Output 32	36	B - 16	Output 15
-	B - 18, 20 <sup>1</sup>	-	38	B - 18, 20	24 VDC <sup>1</sup>
-	B - 17, 19 <sup>2</sup>	-	40	B - 17, 19	Comm <sup>2</sup>

1. Connect DC+ to this pin.  
2. Connect DC- to this pin.



Wiring Guide #23

<b> CAUTION</b>
<b>RISK OF UNINTENDED OPERATION</b>
The output channels of this X80 module do not include pre-actuator snubbers within the module or on the translator unit. It is recommended that external protection be added for each actuator of this module as detailed in the <i>Modicon X80 Discrete Input/ Output Modules User Manual</i> (3501247).
<b>Failure to follow these instructions can result in injury or equipment damage.</b>

<b> WARNING</b>
<b>RISK OF ELECTRICAL SHOCK</b>
Disconnect the EXT IN and EXT RET wires from their source (for example, a terminal strip) that connects to the B800 connector pins 1, 2, 3, 21, 22 and 23.
<b>Failure to follow these instructions can result in death, serious injury, or equipment damage.</b>

<b>Wiring Guide #23</b>					
<b>AS-B881-508 =&gt; BMXDRA0804T or BMXDRA0815</b>					
<b>Discrete Output, 8 point 125 VDC</b>					
<b>990ADB80X80296, 990ADB80X80297</b>					
<b>Cable Assembly: How to wire</b>		<b>Maintenance</b>			
<b>Cable Wire #/Color</b>	<b>X80 Conn. Number</b>	<b>B800 Information</b>		<b>X80 Information</b>	
		<b>Jumper as Necessary</b>	<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>
-	-		EXT IN 1	1	-
-	-		EXT IN 2	2	-
-	-		EXT RET	3	-
-	-	Γ	Ch1 POS	4	-
A-5 Yellow	1	L	Ch1 POS	5	1
A-6 Green	2	Γ	Ch1 NEG	6	2
-	-	L	Ch1 NEG	7	-
-	-	Γ	Ch2 POS	8	-
A-9 Gray	3	L	Ch2 POS	9	3
A-10 White	4	Γ	Ch2 NEG	10	4
-	-	L	Ch2 NEG	11	-

Wiring Guide #23 AS-B881-508 => BMXDRA0804T or BMXDRA0815 Discrete Output, 8 point 125 VDC 990ADB80X80296, 990ADB80X80297					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		Jumper as Necessary	B800 Desc	B800 pin #	X80 pin #
-	-	Γ	Ch3 POS	12	-
A-13 Blk/Wht	5	L	Ch3 POS	13	5
A-14 Brn/Wht	6	Γ	Ch3 NEG	14	6
-	-	L	Ch3 NEG	15	-
-	-	Γ	Ch4 POS	16	-
A-17 Grn/Wht	7	L	Ch4 POS	17	7
A-18 Blue/Wht	8	Γ	Ch4 NEG	18	8
-	-	L	Ch4 NEG	19	-
-	-		EXT IN 3	21	-
-	-		EXT IN 4	22	-
-	-		EXT RET	23	-
-	-	Γ	Ch5 POS	24	-
B-5 Yellow	9	L	Ch5 POS	25	9
B-6 Green	10	Γ	Ch5 NEG	26	10
-	-	L	Ch5 NEG	27	-
-	-	Γ	Ch6 POS	28	-
B-9 Gray	11	L	Ch6 POS	29	11
B-10 White	12	Γ	Ch6 NEG	30	12
-	-	L	Ch6 NEG	31	-
-	-	Γ	Ch7 POS	32	-
B-13 Blk/Wht	13	L	Ch7 POS	33	13
B-14 Brn/Wht	14	Γ	Ch7 NEG	34	14
-	-	L	Ch7 NEG	35	-
-	-	Γ	Ch8 POS	36	-
B-17 Grn/Wht	15	L	Ch8 POS	37	15
B-18 Blue/Wht	16	Γ	Ch8 NEG	38	16
-	-	L	Ch8 NEG	39	-

**NOTE:** Only one of the supplied X80 20-pin connectors is used for this module.

## Generic #3 Wiring Guides

### Introduction

The wiring guides of Generic #3 group, including wiring guides #24, 25, 26, 27, 28 and 29 are obsolete, and are no longer included in this document.

## Generic #4 Wiring Guides: B800 to 990ADB80X80292, 990ADB80X80293

### Wiring Guide #30

Wiring Guide #30			
AS-B846-001 => (x2) BMXAMI0810			
Analog Input Mux. 16 Channel (±10V) => Analog Input Channel 990ADB80X80292, 990ADB80X80293			
Cable Assembly: How to wire		Maintenance	
		B800 Information	X80 Information
Cable Wire #/Color	X80 Conn. Number	B800 Desc	B800 pin #
		X80 pin #	X80 Desc
			X80 Module #1
-	-	Output +	1
-	-	Output -	2
A-4 Orange	A - 3	Input 0 +	4
A-5 Yellow	A - 2	Input 0 -	5
A-6 Green	A - 4	Input 1 +	6
A-7 Blue	A - 5	Input 1 -	7
A-8 Purp	A - 9	Input 2 +	8
A-9 Gray	A - 8	Input 2 -	9
A-10 White	A - 10	Input 3 +	10
A-11 Wht/Blk	A - 11	Input 3 -	11
A-13 Wht/Red	A - 17	Input 4 +	13
A-14 Wht/Orn	A - 16	Input 4 -	14
A-15 Wht/Yel	A - 18	Input 5 +	15
A-16 Wht/Grn	A - 19	Input 5 -	16
A-17 Wht/Blu	A - 23	Input 6 +	17
A-18 Wht/Vio	A - 22	Input 6 -	18
A-19 Wht/Gra	A - 24	Input 7 +	19
A-20 Brn/Blk	A - 25	Input 7 -	20

Wiring Guide #30 AS-B846-001 => (x2) BMXAMI0810 Analog Input Mux. 16 Channel (±10V) => Analog Input Channel 990ADB80X80292, 990ADB80X80293					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
				X80 Module #2	
B-4 Orange	B - 3	Input 8 +	24	B - 3	Input 0 +
B-5 Yellow	B - 2	Input 8 -	25	B - 2	Input 0 -
B-6 Green	B - 4	Input 9 +	26	B - 4	Input 1 +
B-7 Blue	B - 5	Input 9 -	27	B - 5	Input 1 -
B-8 Purp	B - 9	Input 10 +	28	B - 9	Input 2 +
B-9 Gray	B - 8	Input 10 -	29	B - 8	Input 2 -
B-10 White	B - 10	Input 11 +	30	B - 10	Input 3 +
B-11 Wht/Blk	B - 11	Input 11 -	31	B - 11	Input 3 -
B-13 Wht/Red	B - 17	Input 12 +	33	B - 17	Input 4 +
B-14 Wht/Orn	B - 16	Input 12 -	34	B - 16	Input 4 -
B-15 Wht/Yel	B - 18	Input 13 +	35	B - 18	Input 5 +
B-16 Wht/Grn	B - 19	Input 13 -	36	B - 19	Input 5 -
B-17 Wht/Blu	B - 23	Input 14 +	37	B - 23	Input 6 +
B-18 Wht/Vio	B - 22	Input 14 -	38	B - 22	Input 6 -
B-19 Wht/Gra	B - 24	Input 15 +	39	B - 24	Input 7 +
B-20 Brn/Blk	B - 25	Input 15 -	40	B - 25	Input 7 -

**NOTE:** Configure the X80 module analog channels to match the Range and Scaling of the B800 module.

Wiring Guide #31

Wiring Guide #31 AS-B846-002 => (x2) BMXAMI0810 Analog Input Mux. 16 Channel (4-20 mA) => Analog Input Channel 990ADB80X80292, 990ADB80X80293					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number and (jumper target #)	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin # and (jumper target #)	X80 Desc
				X80 Module #1	
-	-	Output +	1	-	-
-	-	Output -	2	-	-
A-4 Orange	A - 3 (A - 1)	Input 0 +	4	A - 3 (A - 1)	Input 0 +
A-5 Yellow	A - 2	Input 0 -	5	A - 2	Input 0 -
A-6 Green	A - 4 (A - 6)	Input 1 +	6	A - 4 (A - 6)	Input 1 +
A-7 Blue	A - 5	Input 1 -	7	A - 5	Input 1 -
A-8 Purp	A - 9 (A - 7)	Input 2 +	8	A - 9 (A - 7)	Input 2 +
A-9 Gray	A - 8	Input 2 -	9	A - 8	Input 2 -
A-10 White	A - 10 (A - 12)	Input 3 +	10	A - 10 (A - 12)	Input 3 +
A-11 Wht/Blk	A - 11	Input 3 -	11	A - 11	Input 3 -
A-13 Wht/Red	A - 17 (A - 15)	Input 4 +	13	A - 17 (A - 15)	Input 4 +
A-14 Wht/Orn	A - 16	Input 4 -	14	A - 16	Input 4 -
A-15 Wht/Yel	A - 18 (A - 20)	Input 5 +	15	A - 18 (A - 20)	Input 5 +
A-16 Wht/Grn	A - 19	Input 5 -	16	A - 19	Input 5 -
A-17 Wht/Blu	A - 23 (A - 21)	Input 6 +	17	A - 23 (A - 21)	Input 6 +
A-18 Wht/Vio	A - 22	Input 6 -	18	A - 22	Input 6 -
A-19 Wht/Gra	A - 24 (A - 26)	Input 7 +	19	A - 24 (A - 26)	Input 7 +
A-20 Brn/Blk	A - 25	Input 7 -	20	A - 25	Input 7 -

<b>Wiring Guide #31</b> <b>AS-B846-002 =&gt; (x2) BMXAMI0810</b> <b>Analog Input Mux. 16 Channel (4-20 mA) =&gt; Analog Input Channel</b> <b>990ADB80X80292, 990ADB80X80293</b>					
<b>Cable Assembly:</b> <b>How to wire</b>		<b>Maintenance</b>			
		<b>B800 Information</b>		<b>X80 Information</b>	
<b>Cable Wire #/Color</b>	<b>X80 Conn. Number and (jumper target #)</b>	<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin # and (jumper target #)</b>	<b>X80 Desc</b>
		X80 Module #2			
B-4 Orange	B - 3 (B - 1)	Input 8 +	24	B - 3 (B - 1)	Input 0 +
B-5 Yellow	B - 2	Input 8 -	25	B - 2	Input 0 -
B-6 Green	B - 4 (B - 6)	Input 9 +	26	B - 4 (B - 6)	Input 1 +
B-7 Blue	B - 5	Input 9 -	27	B - 5	Input 1 -
B-8 Purp	B - 9 (B - 7)	Input 10 +	28	B - 9 (B - 7)	Input 2 +
B-9 Gray	B - 8	Input 10 -	29	B - 8	Input 2 -
B-10 White	B - 10 (B - 12)	Input 11 +	30	B - 10 (B - 12)	Input 3 +
B-11 Wht/Blk	B - 11	Input 11 -	31	B - 11	Input 3 -
B-13 Wht/Red	B - 17 (B - 15)	Input 12 +	33	B - 17 (B - 15)	Input 4 +
B-14 Wht/Orn	B - 16	Input 12 -	34	B - 16	Input 4 -
B-15 Wht/Yel	B - 18 (B - 20)	Input 13 +	35	B - 18 (B - 20)	Input 5 +
B-16 Wht/Grn	B - 19	Input 13 -	36	B - 19	Input 5 -
B-17 Wht/Blu	B - 23 (B - 21)	Input 14 +	37	B - 23 (B - 21)	Input 6 +
B-18 Wht/Vio	B - 22	Input 14 -	38	B - 22	Input 6 -
B-19 Wht/Gra	B - 24 (B - 26)	Input 15 +	39	B - 24 (B - 26)	Input 7 +
B-20 Brn/Blk	B - 25	Input 15 -	40	B - 25	Input 7 -

**NOTE:**

- Configure the X80 module analog channels to match the Range and Scaling of the B800 module.
- Add a jumper to the X80 connector from the indicated pin # to the jumper target pin #.

**Wiring Guide #32**

Wiring Guide #32 AS-B877-111 => (x2) BMXAMI0810 Analog Input, 16 Channel Voltage or Current 990ADB80X80292, 990ADB80X80293					
Cable Assembly: How to wire		Maintenance			
Cable Wire # / Color	X80 Conn. Number and (jumper target #)	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin # and (jumper target #)	X80 Desc
				X80 Module #1	
-	-	Case Gnd	1	-	-
A-3 Red	A - 3 (A - 1)	Input 1 +	3	A - 3 (A - 1)	Input 0 +
A-4 Orange	A - 4 (A - 6)	Input 2 +	4	A - 4 (A - 6)	Input 1 +
A-5 Yellow	A - 2, 5	Input 1&2 Ret	5	A - 2, 5	Input 0&1 Ret
A-7 Blue	A - 9 (A - 7)	Input 3 +	7	A - 9 (A - 7)	Input 2 +
A-8 Purp	A - 10 (A - 12)	Input 4 +	8	A - 10 (A - 12)	Input 3 +
A-9 Gray	A - 8, 11	Input 4&5 Ret	9	A - 8, 11	Input 2&3 Ret
A-11 Wht/Blk	A - 17 (A - 15)	Input 5 +	11	A - 17 (A - 15)	Input 4 +
A-12 Wht/Brn	A - 18 (A - 20)	Input 6 +	12	A - 18 (A - 20)	Input 5 +
A-13 Wht/Red	A - 16, 19	Input 5&6 Ret	13	A - 16, 19	Input 4&5 Ret
A-15 Wht/Yel	A - 23 (A - 21)	Input 7 +	15	A - 23 (A - 21)	Input 6 +
A-16 Wht/Grn	A - 24 (A - 26)	Input 8 +	16	A - 24 (A - 26)	Input 7 +
A-17 Wht/Blu	A - 22, 25	Input 7&8 Ret	17	A - 22, 25	Input 6&7 Ret



Wiring Guide #32 AS-B877-111 => (x2) BMXAMI0810 Analog Input, 16 Channel Voltage or Current 990ADB80X80292, 990ADB80X80293					
Cable Assembly: How to wire		Maintenance			
Cable Wire # / Color	X80 Conn. Number and (jumper target #)	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin # and (jumper target #)	X80 Desc
				X80 Module #2	
B-3 Red	B - 3 (B - 1)	Input 9 +	23	B - 3 (B - 1)	Input 8 +
B-4 Orange	B - 4 (B - 6)	Input 10 +	24	B - 4 (B - 6)	Input 9 +
B-5 Yellow	B - 2, 5	Input 9&10 Ret	25	B - 2, 5	Input 8&9 Ret
B-7 Blue	B - 9 (B - 7)	Input 11 +	27	B - 9 (B - 7)	Input 10 +
B-8 Purp	B - 10 (B - 12)	Input 12 +	28	B - 10 (B - 12)	Input 11 +
B-9 Gray	B - 8,11	Input 11&12 Ret	29	B - 8, 11	Input 10&11 Ret
B-11 Wht/Blk	B - 17 (B - 15)	Input 13 +	31	B - 17 (B - 15)	Input 12 +
B-12 Wht/Brn	B - 18 (B - 20)	Input 14 +	32	B - 18 (B - 20)	Input 13 +
B-13 Wht/Red	B - 16, 19	Input 13&14 Ret	33	B - 16, 19	Input 12&13 Ret
B-15 Wht/Yel	B - 23 (B - 21)	Input 15 +	35	B - 23 (B - 21)	Input 14 +
B-16 Wht/Grn	B - 24 (B - 26)	Input 16 +	36	B - 24 (B - 26)	Input 15 +
B-17 Wht/Blu	B - 22, 25	Input 15&16 Ret	37	B - 22, 25	Input 14&15 Ret
-	-	Ref +V	38	-	-
-	-	Ref -V	39	-	-

**NOTE:**

- Configure the X80 module analog channels to match the Range and Scaling of the B800 module.
- For current mode, add a jumper to the X80 connector from the indicated pin # to the jumper target pin #.

**Generic #5 Wiring Guides: B800 to 990ADB80X80190, 990ADB80X80191**

**Wiring Guide #33**

Wiring Guide #33 AS-B873-001 => BMXAMI0410 Analog Input, 4 Channel Voltage or Current 990ADB80X80190, 990ADB80X80191					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
2 Brown	3	Input 1 Current	2	3	Input 0 Current
3 Red	1	Input 1 +	3	1	Input 0 +
4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
6 Green	9	Input 2 Current	6	9	Input 1 Current
7 Blue	7	Input 2 +	7	7	Input 1 +
8 Purp	8	Input 2 -	8	8	Input 1 -
-	-	Input 2 Shield	9	-	-
10 White	13	Input 3 Current	10	13	Input 2 Current
11 Wht/Blk	11	Input 3 +	11	11	Input 2 +
12 Wht/Brn	12	Input 3 -	12	12	Input 2 -
-	-	Input 3 Shield	13	-	-
14 Wht/Orn	19	Input 4 Current	14	19	Input 3 Current
15 Wht/Yel	17	Input 4 +	15	17	Input 3 +
16 Wht/Grn	18	Input 4 -	16	18	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

Wiring Guide #34

Wiring Guide #34 AS-B873-002 => BMXAMI0410 Analog Input, 4 Channel Voltage or Current 990ADB80X80190, 990ADB80X80191					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
2 Brown	3	Input 1 Current	2	3	Input 0 Current
3 Red	1	Input 1 +	3	1	Input 0 +
4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
6 Green	9	Input 2 Current	6	9	Input 1 Current
7 Blue	7	Input 2 +	7	7	Input 1 +
8 Purp	8	Input 2 -	8	8	Input 1 -
-	-	Input 2 Shield	9	-	-
10 White	13	Input 3 Current	10	13	Input 2 Current
11 Wht/Blk	11	Input 3 +	11	11	Input 2 +
12 Wht/Brn	12	Input 3 -	12	12	Input 2 -
-	-	Input 3 Shield	13	-	-
14 Wht/Orn	19	Input 4 Current	14	19	Input 3 Current
15 Wht/Yel	17	Input 4 +	15	17	Input 3 +
16 Wht/Grn	18	Input 4 -	16	18	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

Wiring Guide #35

Wiring Guide #35 AS-B873-011 => BMXAMI0410 Analog Input, 4 Channel Voltage 990ADB80X80190, 990ADB80X80191					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
3 Red	1	Input 1 +	3	1	Input 0 +
4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
7 Blue	7	Input 2 +	7	7	Input 1 +
8 Purp	8	Input 2 -	8	8	Input 1 -
-	-	Input 2 Shield	9	-	-
11 Wht/Blk	11	Input 3 +	11	11	Input 2 +
12 Wht/Brn	12	Input 3 -	12	12	Input 2 -
-	-	Input 3 Shield	13	-	-
15 Wht/Yel	17	Input 4 +	15	17	Input 3 +
16 Wht/Grn	18	Input 4 -	16	18	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

Wiring Guide #36

Wiring Guide #36 AS-B873-012 => BMXAMI0410 Analog Input, 4 Channel Voltage 990ADB80X80190, 990ADB80X80191					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
3 Red	1	Input 1 +	3	1	Input 0 +
4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
7 Blue	7	Input 2 +	7	7	Input 1 +
8 Purp	8	Input 2 -	8	8	Input 1 -
-	-	Input 2 Shield	9	-	-
11 Wht/Blk	11	Input 3 +	11	11	Input 2 +
12 Wht/Brn	12	Input 3 -	12	12	Input 2 -
-	-	Input 3 Shield	13	-	-
15 Wht/Yel	17	Input 4 +	15	17	Input 3 +
16 Wht/Grn	18	Input 4 -	16	18	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

## Generic #6 Wiring Guides: B800 to 990ADB80X80288, 990ADB80X80289

### Introduction

This topic includes currently valid wiring guides of Generic #6 group. Wiring guide #37 is obsolete, and is no longer included in this document.

### Wiring Guide #38

Wiring Guide #38 AS-B872-200 => BMXAMO0410 Analog Output, 4 Channel Voltage 990ADB80X80288, 990ADB80X80289					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Case Gnd	1	-	-
-	-	Case Gnd	2	-	-
-	-	Comm Output 1	4	-	-
A-5 Yellow	2	Comm Output 1	5	2	Com 0
A-6 Green	1	Output 1	6	1	Output 0
-	-	Comm Output 2	12	-	-
A-13 Wht/Red	8	Comm Output 2	13	8	Com 1
A-14 Wht/Orn	7	Output 2	14	7	Output 1
-	-	Comm Output 3	24	-	-
B-5 Yellow	12	Comm Output 3	25	12	Com 2
B-6 Green	11	Output 3	26	11	Output 2
-	-	Comm Output 4	32	-	-
B-13 Wht/Red	18	Comm Output 4	33	18	Com 3
B-14 Wht/Orn	17	Output 4	34	17	Output 3
-	-	Case Gnd	39	-	-
-	-	Case Gnd	40	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

**Generic #7 Wiring Guides: B800 to 990ADB80X80286, 990ADB80X80287**

**Wiring Guide #39**

Wiring Guide #39 AS-B875-001 => BMXAMI0810 Analog Input, 8 Channel Voltage or Current 990ADB80X80286, 990ADB80X80287					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
A-2 Brown	1	Input 1 Current	2	1	Input 0 Current
A-3 Red	3	Input 1 +	3	3	Input 0 +
A-4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
A-6 Green	6	Input 2 Current	6	6	Input 1 Current
A-7 Blue	4	Input 2 +	7	4	Input 1 +
A-8 Purp	5	Input 2 -	8	5	Input 1 -
-	-	Input 2 Shield	9	-	-
A-10 White	7	Input 3 Current	10	7	Input 2 Current
A-11 Wht/Blk	9	Input 3 +	11	9	Input 2 +
A-12 Wht/Brn	8	Input 3 -	12	8	Input 2 -
-	-	Input 3 Shield	13	-	-
A-14 Wht/Orn	12	Input 4 Current	14	12	Input 3 Current
A-15 Wht/Yel	10	Input 4 +	15	10	Input 3 +
A-16 Wht/Grn	11	Input 4 -	16	11	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-

Wiring Guide #39 AS-B875-001 => BMXAMI0810 Analog Input, 8 Channel Voltage or Current 990ADB80X80286, 990ADB80X80287					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	19	-	-
B-2 Brown	15	Input 5 Current	20	15	Input 4 Current
B-3 Red	17	Input 5 +	21	17	Input 4 +
B-4 Orange	16	Input 5 -	22	16	Input 4 -
-	-	Input 5 Shield	23	-	-
B-6 Green	20	Input 6 Current	24	20	Input 5 Current
B-7 Blue	18	Input 6 +	25	18	Input 5 +
B-8 Purp	19	Input 6 -	26	19	Input 5 -
-	-	Input 6 Shield	27	-	-
B-10 White	21	Input 7 Current	28	21	Input 6 Current
B-11 Wht/Blk	23	Input 7 +	29	23	Input 6 +
B-12 Wht/Brn	22	Input 7 -	30	22	Input 6 -
-	-	Input 7 Shield	31	-	-
B-14 Wht/Orn	26	Input 8 Current	32	26	Input 7 Current
B-15 Wht/Yel	24	Input 8 +	33	24	Input 7 +
B-16 Wht/Grn	25	Input 8 -	34	25	Input 7 -
-	-	Input 8 Shield	35	-	-
-	-	Housing Gnd	36	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.



Wiring Guide #40

Wiring Guide #40 AS-B875-002 => BMXAMI0810 Analog Input, 8 Channel Voltage or Current 990ADB80X80286, 990ADB80X80287					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
A-2 Brown	1	Input 1 Current	2	1	Input 0 Current
A-3 Red	3	Input 1 +	3	3	Input 0 +
A-4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
A-6 Green	6	Input 2 Current	6	6	Input 1 Current
A-7 Blue	4	Input 2 +	7	4	Input 1 +
A-8 Purp	5	Input 2 -	8	5	Input 1 -
-	-	Input 2 Shield	9	-	-
A-10 White	7	Input 3 Current	10	7	Input 2 Current
A-11 Wht/Blk	9	Input 3 +	11	9	Input 2 +
A-12 Wht/Brn	8	Input 3 -	12	8	Input 2 -
-	-	Input 3 Shield	13	-	-
A-14 Wht/Orn	12	Input 4 Current	14	12	Input 3 Current
A-15 Wht/Yel	10	Input 4 +	15	10	Input 3 +
A-16 Wht/Grn	11	Input 4 -	16	11	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-

<b>Wiring Guide #40</b> <b>AS-B875-002 =&gt; BMXAMI0810</b> <b>Analog Input, 8 Channel Voltage or Current</b> <b>990ADB80X80286, 990ADB80X80287</b>					
<b>Cable Assembly: How to wire</b>		<b>Maintenance</b>			
<b>Cable Wire #/Color</b>	<b>X80 Conn. Number</b>	<b>B800 Information</b>		<b>X80 Information</b>	
		<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
–	–	Housing Gnd	19	–	–
B-2 Brown	15	Input 5 Current	20	15	Input 4 Current
B-3 Red	17	Input 5 +	21	17	Input 4 +
B-4 Orange	16	Input 5 -	22	16	Input 4 -
–	–	Input 5 Shield	23	–	–
B-6 Green	20	Input 6 Current	24	20	Input 5 Current
B-7 Blue	18	Input 6 +	25	18	Input 5 +
B-8 Purp	19	Input 6 -	26	19	Input 5 -
–	–	Input 6 Shield	27	–	–
B-10 White	21	Input 7 Current	28	21	Input 6 Current
B-11 Wht/Blk	23	Input 7 +	29	23	Input 6 +
B-12 Wht/Brn	22	Input 7 -	30	22	Input 6 -
–	–	Input 7 Shield	31	–	–
B-14 Wht/Orn	26	Input 8 Current	32	26	Input 7 Current
B-15 Wht/Yel	24	Input 8 +	33	24	Input 7 +
B-16 Wht/Grn	25	Input 8 -	34	25	Input 7 -
–	–	Input 8 Shield	35	–	–
–	–	Housing Gnd	36	–	–

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

Wiring Guide #41

Wiring Guide #41 AS-B875-011 => BMXAMI0810 Analog Input, 8 Channel Voltage 990ADB80X80286, 990ADB80X80287					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
A-3 Red	3	Input 1 +	3	3	Input 0 +
A-4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
A-7 Blue	4	Input 2 +	7	4	Input 1 +
A-8 Purp	5	Input 2 -	8	5	Input 1 -
-	-	Input 2 Shield	9	-	-
A-11 Wht/Blk	9	Input 3 +	11	9	Input 2 +
A-12 Wht/Brn	8	Input 3 -	12	8	Input 2 -
-	-	Input 3 Shield	13	-	-
A-15 Wht/Yel	10	Input 4 +	15	10	Input 3 +
A-16 Wht/Grn	11	Input 4 -	16	11	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-
-	-	Housing Gnd	19	-	-
B-3 Red	17	Input 5 +	21	17	Input 4 +
B-4 Orange	16	Input 5 -	22	16	Input 4 -
-	-	Input 5 Shield	23	-	-
B-7 Blue	18	Input 6 +	25	18	Input 5 +
B-8 Purp	19	Input 6 -	26	19	Input 5 -
-	-	Input 6 Shield	27	-	-
B-11 Wht/Blk	23	Input 7 +	29	23	Input 6 +
B-12 Wht/Brn	22	Input 7 -	30	22	Input 6 -
-	-	Input 7 Shield	31	-	-
B-15 Wht/Yel	24	Input 8 +	33	24	Input 7 +
B-16 Wht/Grn	25	Input 8 -	34	25	Input 7 -
-	-	Input 8 Shield	35	-	-
-	-	Housing Gnd	36	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

Wiring Guide #42

Wiring Guide #42 AS-B875-012 => BMXAMI0810 Analog Input, 8 Channel Voltage 990ADB80X80286, 990ADB80X80287					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
A-3 Red	3	Input 1 +	3	3	Input 0 +
A-4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
A-7 Blue	4	Input 2 +	7	4	Input 1 +
A-8 Purp	5	Input 2 -	8	5	Input 1 -
-	-	Input 2 Shield	9	-	-
A-11 Wht/Blk	9	Input 3 +	11	9	Input 2 +
A-12 Wht/Brn	8	Input 3 -	12	8	Input 2 -
-	-	Input 3 Shield	13	-	-
A-15 Wht/Yel	10	Input 4 +	15	10	Input 3 +
A-16 Wht/Grn	11	Input 4 -	16	11	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-
-	-	Housing Gnd	19	-	-
B-3 Red	17	Input 5 +	21	17	Input 4 +
B-4 Orange	16	Input 5 -	22	16	Input 4 -
-	-	Input 5 Shield	23	-	-
B-7 Blue	18	Input 6 +	25	18	Input 5 +
B-8 Purp	19	Input 6 -	26	19	Input 5 -
-	-	Input 6 Shield	27	-	-
B-11 Wht/Blk	23	Input 7 +	29	23	Input 6 +
B-12 Wht/Brn	22	Input 7 -	30	22	Input 6 -
-	-	Input 7 Shield	31	-	-
B-15 Wht/Yel	24	Input 8 +	33	24	Input 7 +
B-16 Wht/Grn	25	Input 8 -	34	25	Input 7 -
-	-	Input 8 Shield	35	-	-
-	-	Housing Gnd	36	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

## Generic #8 Wiring Guides: B800 to 990ADB80X80284, 990ADB80X80285

### Wiring Guide #43

Wiring Guide #43 AS-B875-101 => BMXAMI0810 Analog Input, 8 Channel Voltage or Current 990ADB80X80284, 990ADB80X80285					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
A-2 Brown	1	Input 1 Current	2	1	Input 0 Current
A-3 Red	3	Input 1 +	3	3	Input 0 +
A-4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
A-6 Green	6	Input 2 Current	6	6	Input 1 Current
A-7 Blue	4	Input 2 +	7	4	Input 1 +
A-8 Purp	5	Input 2 -	8	5	Input 1 -
-	-	Input 2 Shield	9	-	-
A-10 White	7	Input 3 Current	10	7	Input 2 Current
A-11 Wht/Blk	9	Input 3 +	11	9	Input 2 +
A-12 Wht/Brn	8	Input 3 -	12	8	Input 2 -
-	-	Input 3 Shield	13	-	-
A-14 Wht/Orn	12	Input 4 Current	14	12	Input 3 Current
A-15 Wht/Yel	10	Input 4 +	15	10	Input 3 +
A-16 Wht/Grn	11	Input 4 -	16	11	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-
-	-	Housing Gnd	19	-	-

<b>Wiring Guide #43</b> <b>AS-B875-101 =&gt; BMXAMI0810</b> <b>Analog Input, 8 Channel Voltage or Current</b> <b>990ADB80X80284, 990ADB80X80285</b>					
<b>Cable Assembly: How to wire</b>		<b>Maintenance</b>			
		<b>B800 Information</b>		<b>X80 Information</b>	
<b>Cable Wire #/Color</b>	<b>X80 Conn. Number</b>	<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
B-2 Brown	15	Input 5 Current	20	15	Input 4 Current
B-3 Red	17	Input 5 +	21	17	Input 4 +
B-4 Orange	16	Input 5 -	22	16	Input 4 -
-	-	Input 5 Shield	23	-	-
B-6 Green	20	Input 6 Current	24	20	Input 5 Current
B-7 Blue	18	Input 6 +	25	18	Input 5 +
B-8 Purp	19	Input 6 -	26	19	Input 5 -
-	-	Input 6 Shield	27	-	-
B-10 White	21	Input 7 Current	28	21	Input 6 Current
B-11 Wht/Blk	23	Input 7 +	29	23	Input 6 +
B-12 Wht/Brn	22	Input 7 -	30	22	Input 6 -
-	-	Input 7 Shield	31	-	-
B-14 Wht/Orn	26	Input 8 Current	32	26	Input 7 Current
B-15 Wht/Yel	24	Input 8 +	33	24	Input 7 +
B-16 Wht/Grn	25	Input 8 -	34	25	Input 7 -
-	-	Input 8 Shield	35	-	-
-	-	Housing Gnd	36	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.

## Wiring Guide #44

Wiring Guide #44 AS-B875-102 => BMXAMI0810 Analog Input, 8 Channel Voltage or Current 990ADB80X80284, 990ADB80X80285					
Cable Assembly: How to wire		Maintenance			
Cable Wire #/Color	X80 Conn. Number	B800 Information		X80 Information	
		B800 Desc	B800 pin #	X80 pin #	X80 Desc
-	-	Housing Gnd	1	-	-
A-2 Brown	1	Input 1 Current	2	1	Input 0 Current
A-3 Red	3	Input 1 +	3	3	Input 0 +
A-4 Orange	2	Input 1 -	4	2	Input 0 -
-	-	Input 1 Shield	5	-	-
A-6 Green	6	Input 2 Current	6	6	Input 1 Current
A-7 Blue	4	Input 2 +	7	4	Input 1 +
A-8 Purp	5	Input 2 -	8	5	Input 1 -
-	-	Input 2 Shield	9	-	-
A-10 White	7	Input 3 Current	10	7	Input 2 Current
A-11 Wht/Blk	9	Input 3 +	11	9	Input 2 +
A-12 Wht/Brn	8	Input 3 -	12	8	Input 2 -
-	-	Input 3 Shield	13	-	-
A-14 Wht/Orn	12	Input 4 Current	14	12	Input 3 Current
A-15 Wht/Yel	10	Input 4 +	15	10	Input 3 +
A-16 Wht/Grn	11	Input 4 -	16	11	Input 3 -
-	-	Input 4 Shield	17	-	-
-	-	Housing Gnd	18	-	-
-	-	Housing Gnd	19	-	-

<b>Wiring Guide #44</b> <b>AS-B875-102 =&gt; BMXAMI0810</b> <b>Analog Input, 8 Channel Voltage or Current</b> <b>990ADB80X80284, 990ADB80X80285</b>					
<b>Cable Assembly:</b> <b>How to wire</b>		<b>Maintenance</b>			
<b>Cable Wire #/Color</b>	<b>X80 Conn. Number</b>	<b>B800 Information</b>		<b>X80 Information</b>	
		<b>B800 Desc</b>	<b>B800 pin #</b>	<b>X80 pin #</b>	<b>X80 Desc</b>
B-2 Brown	15	Input 5 Current	20	15	Input 4 Current
B-3 Red	17	Input 5 +	21	17	Input 4 +
B-4 Orange	16	Input 5 -	22	16	Input 4 -
-	-	Input 5 Shield	23	-	-
B-6 Green	20	Input 6 Current	24	20	Input 5 Current
B-7 Blue	18	Input 6 +	25	18	Input 5 +
B-8 Purp	19	Input 6 -	26	19	Input 5 -
-	-	Input 6 Shield	27	-	-
B-10 White	21	Input 7 Current	28	21	Input 6 Current
B-11 Wht/Blk	23	Input 7 +	29	23	Input 6 +
B-12 Wht/Brn	22	Input 7 -	30	22	Input 6 -
-	-	Input 7 Shield	31	-	-
B-14 Wht/Orn	26	Input 8 Current	32	26	Input 7 Current
B-15 Wht/Yel	24	Input 8 +	33	24	Input 7 +
B-16 Wht/Grn	25	Input 8 -	34	25	Input 7 -
-	-	Input 8 Shield	35	-	-
-	-	Housing Gnd	36	-	-

**NOTE:** Configure the X80 module channels to match the Range and Scaling of the B800 module.



**Generic #9 Wiring Guides: B800 to 990ADB80X80334, 990ADB80X80335**

**Wiring Guide #45**

<b>Wiring Guide 45</b> AS-B814-108 => BMXDRC0805 AS-B840-108 => BMXDRC0805 Relay Output, 8 points NO/NC 14-240VAC/24-125 VDC 990ADB80X80334, 990ADB80X80335 Fuse Rating F4.0AL250V (TR5 Package style) With MOV's						
Cable Assembly: How to wire		Maintenance				
Wire #/ Color	Contact Type / X80 Conn #	B800 Information		Fuse	X80 Information	
		B800 Signal	B800 Pin #		X80 Pin #	X80 Signal
1 Black	NO 1	OUT1A	1	F1	1	NO0
	NC 3				3	NC0
2 Brown	2, 4	OUT1B	2	-->	2, 4	COM0
3 Red	NO 5	OUT2A	3	F2	5	NO1
	NC 7				7	NC1
4 Orange	6, 8	OUT2B	4	-->	6, 8	COM1
		N/C	5			
6 Green	NO 11	OUT3A	6	F3	11	NO2
	NC 13				13	NC2
7 Blue	12, 14	OUT3B	7	-->	12, 14	COM2
8 Purple	NO 15	OUT4A	8	F4	15	NO3
	NC 17				17	NC3
9 Gray	16, 18	OUT4B	9	-->	16, 18	COM3
		N/C	10			
11 Pink	NO 21	OUT5A	11	F5	21	NO4
	NC 23				23	NC4
12 Lt Green	22, 24	OUT5B	12	-->	22, 24	COM4
13 Blk/Wht	NO 25	OUT6A	13	F6	25	NO5
	NC 27				27	NC5
14 Brn/Wht	26, 28	OUT6B	14	-->	26, 28	COM5
		N/C	15			
16 Orn/Wht	NO 31	OUT7A	16	F7	31	NO6
	NC 33				33	NC6
17 Grn/Wht	32, 34	OUT7B	17	-->	32, 34	COM6
18 Blu/Wht	NO 35	OUT8A	18	F8	35	NO7
	NC 37				37	NC7
19 Yel/Wht	36, 38	OUT8B	19	-->	36, 38	COM7
		N/C	20			



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