800 Series to Quantum I/O Conversion

The Quantum Automation Series supports a full range of high performance I/O modules designed to interface with a wide variety of field devices. Telemecanique Automation Services offers a conversion product to ease the migration from 800 series I/O to Quantum I/O. The conversion product consists of B800 series quick fit conversion connectors (Figure 1) and a swing arm assembly (Figure 2).

The conversion connectors allow users to connect their existing 800 series field wiring to Quantum I/O. High-density (32 point) and low-density (16 point) versions are available.

The swing arm assembly consists of a base plate and a swing arm. The swing arm allows the Quantum backplane and the B800 quick fit conversion connectors to occupy the same space as the original 800 series housing. The swing arm assembly comes in 19 and 27 inch versions, and is available in either painted steel or aluminum.

### Figure 1: Conversion Connectors

![Conversion Connectors](image1.png)

High-density  
Low-density

### Figure 2: Quantum I/O Swing Arm Assembly

![Quantum I/O Swing Arm Assembly](image2.png)

### Ordering Information

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>Conversion Connectors</td>
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<tr>
<td>High-density</td>
<td>990QFC005HD</td>
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<tr>
<td>Low-density</td>
<td>990QFC005LD</td>
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<tr>
<td>Swing Arms</td>
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<tr>
<td>19 in. aluminum</td>
<td>990QFC2551M19A</td>
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<tr>
<td>19 in. steel</td>
<td>990QFC2551M19S</td>
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<tr>
<td>27 in. aluminum</td>
<td>990QFC2551M27A</td>
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<tr>
<td>27 in. steel</td>
<td>990QFC2551M27S</td>
</tr>
</tbody>
</table>
Safety Precautions

**DANGER**

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

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- 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.

Removing Existing Modules and Housing

1. Turn off power to the 800 series I/O housing and remove field side power.
2. Unscrew the remote I/O (RIO) coaxial cable (Figure 3) and set it aside.
3. Remove the 800 series I/O module(s). Each module has a built-in handle attached at the front of the module. To remove a module, loosen the captive screws at the top and bottom of the module, grasp the handle (Figure 4), and pull the module straight out.
4. Remove the two Phillips head screws securing 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.
5. Remove the field connector(s) (Figure 5). Keep the wiring intact for later use.
6. Remove the 800 series I/O housing.
Attaching the Quantum I/O Base Plate

1. The swing arm assembly is shipped with the swing arm attached to the base plate. For ease of installation, detach the swing arm before installing the Quantum base plate. To detach the swing arm:
   a. Remove the two Phillips head screws securing the top of the swing arm to the base plate (Figure 2 on page 1).
   b. Compress the hinges at the bottom of the swing arm by squeezing the two knurled knobs on each hinge and rotating them downward (Figure 6).
   c. Remove the swing arm from the base plate.

2. Securely fasten the base plate in your preferred location.

3. Mate the field connector(s) removed in Step 4 on page 2 with the conversion connector(s). See Figure 8 and the B800 Quick Fit Connector Read Me First document.

4. The mated conversion connector(s) can be mounted in any available position on the base plate. Line up the tabs on the back of each field connector with the square mounting slots on the base plate (Figure 7).

5. Secure the conversion connector to the base plate by tightening the two captive screws with a Phillips head screwdriver (Figure 9). (The maximum tightening torque for these mounting screws is 10 in-lbs.)

Figure 6: Compressing Hinges

Figure 7: Quantum Base Plate

Figure 8: Mating the Field and Conversion Connectors

Figure 9: Mounting Connectors to Base Plate
Attaching the Swing Arm

1. Make sure the swing arm hinges are compressed (Figure 6 on page 3).
2. Line up the hinges on the swing arm with the hinges on the base plate. Lock the hinges by rotating the knurled knobs on each hinge upward until they snap into place (Figure 10).
3. Insert a Phillips head screw into each of the two holes at the top of swing arm (Figure 2 on page 1). Tighten securely.

Installing the Quantum System

1. Mount the required Quantum I/O module(s) onto the swing arm. Secure each module by tightening the captive Phillips head screw at the bottom of the module (Figure 12). (The maximum tightening torque for this screw is 2–4 in-lbs.)
2. Plug each Quantum I/O field connector into its corresponding I/O module. Tighten the captive Phillips head screw at the top and bottom of each connector.
3. Connect the coaxial cable to the Quantum RIO processor.

Figure 10: Bottom View Showing Locked Compression Hinges

Figure 11: Bottom View, Quantum I/O Modules Installed

The open design allows easy routing of the field connector wiring through the bottom of the swing arm assembly.

Figure 12: Connecting Coaxial Cable to RIO Processor