Adding Digital Modules to the Controller Organizer

Digital Input Module – sense voltage level.
Digital Output Module - closes a switch.
Digital Output Diagnostic Module – close a switch, sense if connection is available (3 mA).

1. Create a new project. Use EtherNet for downloads.
2. Click on I/O Modules and select New Module.

3. Click on the 16-bit DC input diagnostic module.

Click OK on the Select Module screen.
Click OK on the module revision screen.
The Controller Organizer now is,
4. Configure the module

Give the module a name.
The module is in Slot 7.
Communications Format (Ownership)
  Full Diagnostics – owned by controller
  Listen-Only – owned by another controller
Disable the Electronic Keying – module substitution plan

<table>
<thead>
<tr>
<th>Type</th>
<th>1756-B16D 16 Point 10V-30V DC Diagnostic Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor</td>
<td>Allen-Bradley</td>
</tr>
<tr>
<td>Parent</td>
<td>Local</td>
</tr>
<tr>
<td>Name</td>
<td>DC_Input</td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Comm Format</td>
<td>Full Diagnostics - Input Data</td>
</tr>
<tr>
<td>Revision</td>
<td>3</td>
</tr>
<tr>
<td>Electronic Keying</td>
<td>Disable Keying</td>
</tr>
</tbody>
</table>

**New Module**

[Image of New Module window]
5. Accept the RPI at 10ms.

Every 10ms the module will
Scan all of the input channels and store the data in the module’s memory.
Multicast the data and status to the backplane.
6. The Module Properties are shown in two screens below points (1-bit input channels) 0 through 7 of the 16 points.

The features for a diagnostic input module are:
· Input Change of State
· Input Filter Times
· Open Wire Detection
· Field Power Loss Detection
· Diagnostic Latching
· Diagnostic Change of State

In the configuration given above all of the points are allowed to change state, both off-to-on and on-to-off.

An “open wire” will be detected on all points.

A detected “open wire” status will be latched on all points.
Right side of entry screen.
Add the 16-bit DC Output Module in Slot 9. The Controller Organizer now is,

<table>
<thead>
<tr>
<th>Module Defined Tags</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Offline</td>
</tr>
</tbody>
</table>
Enter the module General properties

Type: 1756-OB16I 16 Point 10V-30V DC Isolated Output, Sink/Source
Vendor: Allen-Bradley
Parent: Local
Name: DC_Output
Description:
Comm Format: Output Data
Revision: 31
Electronic Keying: Disable Keying
Status: Offline
Features listed by Rockwell
· Removal and insertion under power (RIUP)
· Data exchange between modules without polling
· System timestamp of data
· Fault reporting