As part of ABB’s continued lifecycle support for Symphony Harmony/INFI 90 process control systems, a Remote I/O Module Upgrade Kit with a new, low-cost IMRIO22 module is now available.

**Problems solved with Remote I/O upgrade kit**

- Component obsolescence, new parts are no longer available
- Cost to replace parts is high
- Decreasing ability to repair parts
- Electrical remote communication links are susceptible to noise; lightning strikes
- Difficult to troubleshoot remote I/O problems
- Link is slow; takes time for I/O points to update
- Controller configuration requires special “tuning” using multiple segment control blocks
- Firmware compatibility issues between IMRIO02 and some I/O modules
- Must be careful when replacing parts in the system

**Why ABB’s solution is best**

**Benefits**

- Reliability; newer technology, improved fiber optic communications
- Availability of new replacement parts
- Easy to replace the existing remote I/O setup – same rack form factor; uses existing fiber optic cables; the RIO22 replaces the RIO02 in the Remote cabinet
- Reduced cabinet footprint as the RIO02 in the Local cabinet is no longer required; its functionality is now included in a BRC300/400. The BRC replaces existing MFP or MFC controllers in the Local cabinet
- Improved control performance - increased memory capacity, faster execution and communication speeds
- Improved speed of communication link and remote I/O updates
- Improved hardware/firmware compatibility between remote I/O processor and remote I/O modules
- Easier firmware upgrades; IMRIO22 module has flash memory
- Improved redundancy; faster detection/failover from primary to backup IMRIO22
- Improved error-checking and diagnostics for troubleshooting
- Redundant HNET remote communication channels

**Restrictions/Limitations**

- Supports only fiber optic point-to-point communication links
- Electrical links (twin axial or coaxial cable) must be replaced with fiber optic
- Serial or daisy chain multi-drop links are not supported; multiple drops to remote cabinets (up to 6) now require a star configuration from the Local cabinet

**Remote I/O Module Upgrade Kit**

- Part number INRIOK01 (for non-redundant configuration).
- Part number INRIOK02 (for redundant configuration).

Each kit includes the following components:

<table>
<thead>
<tr>
<th>Component Quantities</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INRIOK01</td>
<td>INRIOK02</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>IMRIO22</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>PHCBRCPBA20000</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>NTRL04</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>PMKHRMPBA1T004</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>PHAMSCTER30000</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>PMKHRMBRC3000A</td>
</tr>
</tbody>
</table>

Note: Multi-drop remote I/O architectures will require inter-column connection cables for daisy chaining additional termination units in a local cabinet.
**System/Application Compatibility**

The remote I/O functionality is compatible with all other existing features of the Harmony BRC300/400 or later controllers. This includes, but is not limited to, the following:

- Support for multiple remote I/O links
- Support mixed I/O types, e.g. IOR/S800, Harmony Rack I/O, Harmony Block I/O
- Re-use of existing fiber optic remote link cables

**To order:**

Tel: 1-800 HELP 365 (1 800 435 7365)  
option 2, option 2 for parts  
Fax: +1 860 298 7665  
E-mail: PartServices@us.abb.com  
Web: www.online.abb.com  
Contact ABB today for specific part availability or for additional information.