

VYKON IO-16-485 FAQs

How many IO-16-485s will the JACE[®]-2 support?

The JACE-2 products are limited to four (4) IO-16-485s. Testing shows that a JACE-2 based control system with 64 IO points, 16 loop objects, associated trends and control will keep the JACE-2 processor fairly busy (~70%). Based on this test, we recommend no more than four IO-16-485 modules on a JACE-2 and/or a JACE-202-XPR including the internal module in typical installations where each AO will be controlled with a separate loop object.

How many IO-16-485s will the JACE[®]-6 support?

The JACE-6 supports up to sixteen (16). If you are fully utilizing all the analog outputs with one or more loop object per AO, you will find that the limit is significantly lower than 16 (considering that 16 modules have 64 AO points which could translate to 64 or more PID loops (typically).

Is the number of points or IO modules limited by license?

Yes. The number of supported IO-16-485 modules will be limited to four (4) on a JACE-2 and JACE-202-XPR based products and sixteen (16) on the JACE-6.

What is the nrio driver?

"nrio" stands for Niagara Remote IO. The new IO-16-485s communicate with JACEs using an nrio driver. IO modules that plug directly to JACEs communicate using an "ndio" (Niagara Direct IO) communications bus.

Is the nrio driver free?

Yes! The nrio driver is free. It will be included with all new JACE2/6 platforms shipped after this date.

Will I have to pay for a license change in order to add one to an existing system?

Existing JACEs that are at Rev 3.4 will need a license change to add the nrio driver feature, we will add this feature at no cost you. JACEs that are at Rev 3.3 and below will need to have a software upgrade purchased in order for the nrio driver to work.

How many nrio trunks can I have?

The nrio driver will support no more than one COM port. The JACE-202-XPR and Security JACE base boards use one internal COM port for on-board nrio. On these devices you will be limited to one external RS-485 port on which you can connect IO-16-485 modules.

What versions of Niagara^{AX} will support nrio?

Version 3.5 (expected release late Fall 2009) and later will be supported. Version 3.4 is supported in the 3.4.51 maintenance release.

Will my JACE support remote IO when I am also using other drivers/modules?

A JACE that is loaded with other drivers and other tasks will support fewer IO-16-485 modules than a system that is dedicated to monitoring and control of IO-16-485 points. A JACE that only monitors IO-16-485 with no trending or control will support the highest point count. When you add control, trending, and graphics tasks to the JACE, it will have fewer resources available for IO points. You are advised to do your own system testing to determine how your system will perform with the features that your application requires.

What is the wiring topology for the remote IO modules? Are they on a multi-drop bus? What is the max distance between modules? How are the modules addressed?

The remote IO module communications bus is an RS-485 multi-drop network. Standard "multi-drop" RS-485 topology rules apply. The maximum RS-485 total bus length is 4,000 feet. Each module has a unique ID value defined in the module hardware. Addressing is managed automatically by the nrio driver.

Are the digital outputs on the remote IO module dry, or can they source voltage?

The outputs are Form C dry relay contacts rated at 24VAC/VDC up to 3A.

How are the remote IO modules powered?

Remote IO modules require a 15 VDC supply power and may be powered in a variety of ways:

- Direct connect (Pin compatible) with the NPB-PWR & NPB-PWR-UN power supplies.
- Powered directly from select JACE models with a 15VDC outputs.
- External third party 15 VDC power supply

Refer to the IO-16-485 Mounting and Wiring document for details.