JACE® 8000 IO R

Q: Where can I find detailed specifications on the JACE 8000 IO R?

A: You can find the data sheet and other collateral posted in the Resource Library on tridium.com. Technical documentation, including dimensions, agency listings, IO mixture, input and output power specifications, environmental specifications, Niagara station conversion tools and more, is posted on the Niagara Community website.

Q: How does the IO R module communicate with the JACE 8000?

A: The JACE 8000 communicates to the IO R using an updated NRIO driver over a dedicated RS-485 network. Tridium recommends placing the JACE 8000 485 biasing switch in the "end" position when communicating with the IO R.

Note: As the JACE 8000 485 ports are isolated, all three conductors must be used to ensure consistent communication.

Q: How many IO R modules can I connect to a JACE 8000?

A: The JACE 8000 is licensed to communicate with sixteen (16) addressable modules. The IO-R-16 counts as one (1) module, and the IO-R-34 counts as two (2) modules. The JACE 8000 can communicate with up to sixteen (16) total IO-R-16 modules or eight (8) IO-R-34 modules. The various combinations of IO-R-16s and IO-R-34s are contained in the installation guide.

Q: How is the IO-R-34 powered?

A: The IO-R-34 input power requires 24V AC or DC. Please consult the installation guide for more information on transformers and sizing.

Q: How is the IO-R-16 powered?

A: Tridium recommends the IO-R-34 as a power source for the IO-R-16. The IO-R-34 is capable of powering up to four (4) IO-R-16 modules simultaneously. Alternatively, a 15VDC source can be used instead. Please consult the installation guide for more information.

Q: Can I use the JACE 8000 and IO R to replace my existing JACE 2, 3, 6 and 6E with NDIO?

A: Yes, Tridium designed the IO R and JACE 8000 to replace existing legacy JACE controllers. Physical installation:

> Footprint—The JACE 8000 and IO R products occupy the same approximate space.

> Wire compatibility—The pin out between IO-R-16 and T-IO-16 for Universal inputs, Digital outputs and analog outputs is identical. The pin out between IO-R-34 and T-IO-34 for Universal inputs, Digital outputs and analog outputs is identical.

> Connector compatibility (Plug and Play compatibility)— The connectors between IO-R-16 and T-IO-16 for Universal inputs, Digital outputs and analog outputs are identical. The connectors between IO-R-34 and T-IO-34 for Universal inputs, Digital outputs and analog outputs are identical.

> Station compatibility—Tridium has developed a network conversion tool for migrating an NDIO to NRIO network. Please consult the updated "NRIO driver guide" for more details.

Q: Can I use the JACE 8000 and IO R to replace my existing JACE 2, 3, 6 and 6E with NRIO?

A: Yes, Tridium designed the IO R and JACE 8000 to replace existing legacy JACE controllers.

> Footprint—The JACE 8000 and IO-R-16 products occupy the same approximate space as the T-IO-16-485.

> Wire compatibility—The pin out between IO-R-16 and T-IO-16 for Universal inputs, Digital outputs and analog outputs is identical.

> Connector compatibility (Plug and Play compatibility)—The connectors between IO-R-16 and T-IO-16 are not the same for

Universal inputs, Digital outputs and analog outputs and will require using the ones provided with the IO-R-16.

Station compatibility—The IO R modules utilize the same NRIO network as before. Existing stations can be updated easily to use the new modules if desired.

Q: Can I migrate a Niagara AX or Niagara 4 station with NDIO-to-NRIO?

A: Tridium has developed a network conversion tool for migrating an NDIO-to-NRIO network. Please consult the updated "NDIO-to-NRIO Conversion Guide" for more details.

Q: Are the Relays for the digital outputs Normally Open (NO) or Normally Closed (NC)?

A: The digital outputs are Form A relays, which are Normally Open.

Q: What are the dimensions of the IO R?

A: IO-R-16: 82.5mm (w) x 116mm (h) x 61mm (d)

IO-R-34: 162mm (w) x 116mm (h) x 61mm (d)

See data sheet for more details

Q: Will the IO R function without a JACE 8000?

A: The IO R product requires continuous communication with the JACE 8000 to function. However, Tridium has enhanced the performance of these modules to include programmable output states during power-up, and communication lost scenarios. Please see "NRIO Driver Guide" for more information on configuring default output states.

Q: What agency certifications does the IO R meet?

A: Please see the IO R data sheet for the most up-to-date information.

- UL-916
- C-UL
- CE EN 61326-1:2013
- RCM
- FCC part 15, class b
- RoHS2
- REACH
- WEEE
- China RoHS
- Open Energy Management Class 2

Q: Does the IO R plug directly into a JACE 8000?

A: The IO R does not plug directly into the JACE 8000 side connector. The IO R can be mounted next to or

remotely from the JACE 8000, but communicates over an RS485 network.

Q: What is the side connector on the IO R used for?

A: It contains five (5) signals. Three (3) pins for RS485 (+,-,S), two (2) pins for power (+,-).

The connector is utilized for:

1. Connecting the network from the IO R back to the JACE 8000

2. Run RS485 and power signals to adjacent DIN rails

Q: What version of Niagara is needed to support the IO R?

A: Niagara 4.3 or later version is required.

Q: Is the IO R compatible with Niagara AX?

A: At this time, Niagara 3.8 does not support the IO R. Tridium is planning to release an update build in the near future which will offer support.

Q: Are premade templates in Niagara 4 available for an IO-R-16 or IO-R-34 connected to a heat pump, small AHU or other application?

A: Tridium does not include templates by default. However, please contact your Niagara partner for availability.

Q: Are the IO-R-16 or IO-R-34 capable of controlling floating actuators?

A: Tridium does not recommend using the IO R products with floating actuators.

Q: Can we use only IO-R-16s with the JACE 8000?

A: The JACE 8000 is capable of working with IO-R-16 modules exclusively. However, you will need to provide your own 15VDC source. Please see the installation guide for more details on using an IO-R-16 with separate 15VDC power supply.

Q: What environmental conditions can the IO R operate in?

A: Operating temperature: -20–60°C; Storage temperature: -40–85°C; Humidity: 5%–95% — Non-condensing; Shipping & vibration: ASTM D4169, Assurance Level II

Q: Can I add IO-R-16 modules onto either side of the IO-R-34?

A: Yes, you can add IO-R-16 modules onto either side of the IO-R-34.

Q: Does the IO-R-16 or IO-R-34 consume capacity from my JACE-8xxx core license?

A: No, the IO-R-16 and IO-R-34 operate over the NRIO network (Niagara Remote IO network), which, like niagaraDriver, is excluded from capacity restrictions on the JACE 8000.

Q: I used a T-3E-MC in the past (bundled JACE-3E & T-IO-34). Is there a new JACE 8000-based product available?

A: Yes, the JACE 834 is now available. It is a bundled JACE 8000 with special license and an IO-R-34.

Q: Does the JACE 834 require rebranding?

A: Yes, please contact your OEM about their branded JACE 834 solution.

Q: Does the JACE 834 require an SMA?

A: Yes, just as all JACE 8000 and Niagara 4 licensed devices require an SMA, an SMA is required during initial purchase of a JACE 834.