

# Onyx<sup>®</sup> XM 34IO INSTALLATION GUIDE

## Package Contents of Onyx-XM34IO

Estimated installation time: 5-10 minutes

- ✓ (1) Onyx<sup>®</sup> XM 34IO (*Onyx-XM34IO*)
- ✓ This Onyx XM 34IO Installation Guide
- ✓ (1) 15-Position Terminal Connector (*blue*)
- ✓ (3) 12-Position Terminal Connectors (*2 black & 1 blue*)
- ✓ (2) 3-Position Terminal Connectors (*1 black & 1 gray*)



Made in USA

## Preparing to Install

Decide on the location/placement of your Onyx XM 34IO. You can use wall mounting screws (*not provided*) to mount the device in an open space or mount on a 35mm wide DIN rail utilizing the molded DIN rail slot located on the base of the device. Make sure the selected location is:

- ✓ Not in direct sunlight, near a heater or heating vent
- ✓ Not cluttered/crowded and sufficient clearance is available above and below the Onyx XM 34IO for proper ventilation and room for cables and wiring
- ✓ Well-ventilated (*especially if enclosed in a cabinet*)

## Physical Mounting to a DIN Rail

For UL safety compliance this Lynxspring product shall be mounted inside enclosures with no openings below the device and if non-metallic, a flammability rating of at least HB.

**Step 1:** Position the Onyx XM 34IO on the rail, tilting to hook DIN rail tabs over one edge of the DIN rail.

**Step 2:** Pull out the DIN rail clip and push down and in to force the DIN rail clip to snap over the other edge of the DIN rail.

**Step 3:** To keep the Onyx XM 34IO from sliding on the DIN rail, you may secure it with DIN rail clips, or place a screw in one of the mounting tabs in the base of the Onyx XM 34IO.

**Note 1:** Add to an Edge 534 or an Onyx XM-B, up to eight (8) additional extender modules (at 34 points of IO each) for a maximum of 306 points when including the JENESys Edge 534 or Onyx XM 34IO. See [CONNECTING ONYXX NETWORKS TO ONYXX XM 34IO](#) for details.

**Note 2:** To remove the device(s) from a DIN rail, insert a screwdriver in center plastic locking tab and pull downwards, then lift the unit outwards.

## LED Indicators

LED indicators are provided to display status and activity. Become familiar with these indicators for a quick visual device reference.



The **Power LED** should be lit when 24V power is applied to the device.



For the **Heartbeat LED**, there are three modes of operation

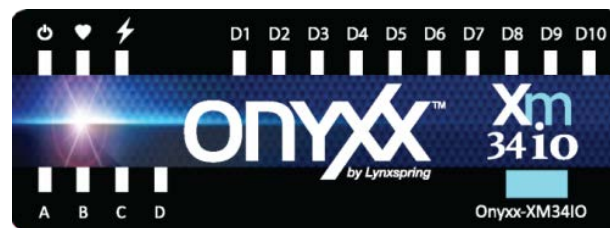
- 1) A **fast beat** with a 50% duty cycle when the device is booting
- 2) A **slow beat** with a 50% duty cycle when the platform is started
- 3) A **double beat** when the station has started



The **Lightning Bolt LED** shows the Onyx network is actively communicating to and from the device.

An LED status indicator for each relay (D1–D10) is located on the cover (pictured below). Under normal operation, each digital status LED indicates activity as follows:

- ✓ Off – relay high-impedance/no current flows
- ✓ On – relay low-impedance/load current flows; relay is closed and the load is powered



## Power Wiring

The Onyx XM 34IO can be powered by wiring to a dedicated Class 2, 24 Vac transformer, or to a 24 Vdc power source. Please refer to the [ONYXX XM 34IO WIRING INSTALLATION GUIDE—NIAGARA AX](#) for further wiring instructions and cautions.



**Alert:** Do not apply 24 Vac power (*reinsert connector plug into the Onyx XM 34IO*) until all other wiring is completed, including Onyx XM 34IO inputs and outputs. **Do not power other equipment with it.**

## Connecting Power to the Onyx XM 34IO

**Step 1:** Unplug the 3-position screw terminal (black) from the Power port on the Onyx XM 34IO.

**Step 2:** Insert the *positive* wire from your 24Vac/dc, 50/60 Hz circuit to the terminal marked *~/+* on the screw terminal and tighten down the screw.

**Step 3:** Insert the *negative* wire from your 24Vac/dc, 50/60 Hz circuit to the terminal marked *~/-* on the screw terminal and tighten down the screw.

**Step 4:** Insert the *ground* wire from your 24Vac/dc, 50/60 Hz circuit to ground (*far left terminal*) marked  $\perp$  on the screw terminal and tighten down the screw.

**Step 5:** Plug the 3-position screw terminal connector into the Power port on the Onyx XM 34IO.

**Step 6:** Refer to the NIAGARA AX USER GUIDE and the JENESys EDGE 534 USER GUIDE for detailed instructions on how to configure it using Niagara.



**Alert:** Power supply cannot power anything other than the JENESys Edge 534 or the Onyx XM extender modules.

## Connecting Onyx Networks

(*JENESys Edge 534 or Onyx XM 34IO-B to an Onyx XM 34IO*)

**Step 1:** Unplug the 3-position screw terminal connector (gray) from port marked LxH, LxL and SHLD on the Onyx XM 34IO.

**Step 2:** Insert a wire between LxH terminal (*far left terminal*) on the 3-position screw terminal connector of each device and tighten down the screw.

**Step 3:** Insert a wire between LxL terminal (*center terminal*) on the 3-position screw terminal connector of each device and tighten down the screw.

**Step 4:** Insert the shield wire between SHLD terminal (*far right terminal*) on the 3-position screw terminal connector of each device and tighten the screw.

**Step 5:** Install a 120 ohm end-of-line resistor on the LxH and LxL terminals of the last XM34IO device on the daisy-chain. (There is already a resistor installed on the JENESys Edge 534 and Onyx XM 34IO-B.)

**Step 6:** Plug the 3-position screw terminal connector back into the port marked LxH, LxL and SHLD on the **Onyx XM 34IO and XM 34IO** as needed.

## Specifications

PLATFORM	
Operating System	Helixx <sup>®</sup> Framework by Lynxspring <sup>®</sup>
COMMUNICATION PORTS	
Micro USB	Serial shell access
Onyx Network	3-wire (LxH LxL SHLD) high-speed differential serial signal
INPUTS & OUTPUTS	
16 Universal Inputs	Type-3 10 K ohm thermistors; resistance 0-100 K ohms; 0-10 Vdc; 0-20 mA using a 499 ohm resistor; pulse input: up to 500 Hz
10 Digital Outputs	Form A contacts, 24V at 0.5 A
8 Analog Outputs	0-10 Vdc
Connector Screw Size	3/32" slotted
Supported Wire Size	16-28 AWG
Housing	UL94V-0
POWER	
Power Input	External 24 Vac/dc power supply, minimum 10 VA/module
CHASSIS	
Construction	Base: Plastic, DIN rail or screw mount      Cover: Plastic
Cooling	Internal air convection
Dimensions	4.5" (11.43 cm) width x 4.25" (10.8 cm) length x 2.25" (5.72 cm) depth
Mounting	Flat panel and 35 mm DIN rail mounting options standard Recommended maximum cable length: 30 feet
ENVIRONMENT	
Operating Temperature Range	0 – 60 °C (32 –140 °F)
Storage Temperature Range	0 – 70 °C (32 –158 °F)
Relative Humidity Range	5 – 95% RH, non-condensing
CERTIFICATIONS	
Compliance	Approved: FCC 47CFR Parts 15B and 18, EN 55022, EN 55011, ICES-003, RoHS In Process: UL 916, CSA C22.2 No. 205-12, EN 61010-1: 2010, IEC 61010-1, 3rd edition

## Troubleshooting

If you are unable to discover one or more Onyx XM 34IO devices from a JENEsys Edge 534:

- ✓ Make sure the Onyx XM 34IO is fully up and running. Its power LED should turn on and its heartbeat LED should be flashing.
- ✓ Make sure it is connected firmly to the JENEsys Edge 534. Inspect all connectors and cables
- ✓ Ensure there is an EOL resistor at the end of the Onyx Network daisy-chain.

## Statement of Conditions

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## Technical Support

Thank you for selecting Lynxspring products. Please contact our Support Team if you have any questions about installing or setting up your new Onyx XM 34IO (*Onyx-XM34IO*).

[support@lynxspring.com](mailto:support@lynxspring.com) | toll free: 877-649-5969

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