Estimated installation time = 15-30 minutes

Wiring Details

Figure 1

1210 NE Windsor Drive
Lee's Summit, MO 64086
sales@lynxspring.com
1 (877) 649-5969

www.lynxspring.com

© 2019 Lynxspring, Inc.
All Rights Reserved
Revised 1/10/2019
Onyxx-XM34IO-V1
Page 1 of 5
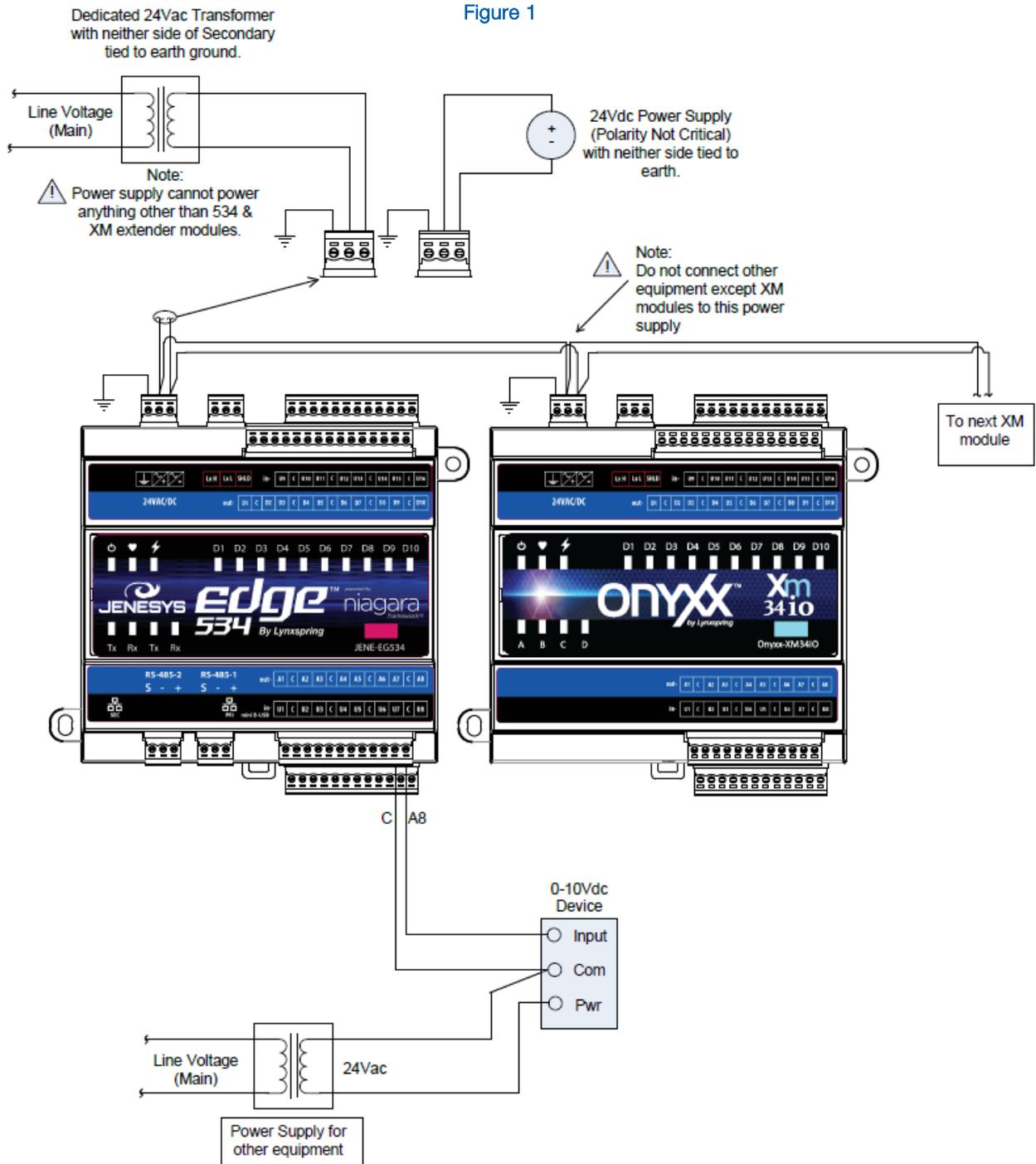
Power Wiring

The Onyxx XM 34IO can be powered by wiring to a dedicated Class 2, 24 Vac transformer, or to a 24 Vdc power source. As shown in Figure 1, the Onyxx XM 34IO's 3-position power connector *(black)* is located at the top corner of the unit. Unplug the connector from the device and make connections to it as shown.

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

Inputs

Each of the 16 universal inputs can support any one of the following:

- ✓ Type-3 10 k ohm Thermistor
- ✓ Resistive 0-100 k ohms
- ✓ 0-10 Vdc
- ✓ 4-20 mA

Thermistor

The inputs support 10 k Thermistor temperature sensors using a Thermistor Input Point. Input accuracy is in the range of ±1% of span. By default, conversion is for a standard Type-3 thermistor sensor, with a sensor range of -10° to 135° F *(-23.3° to 57.2°C).* Using a conversion type of "Tabular Thermistor," you can specify a different thermistor response curve, by importing a thermistor curve .xml file.
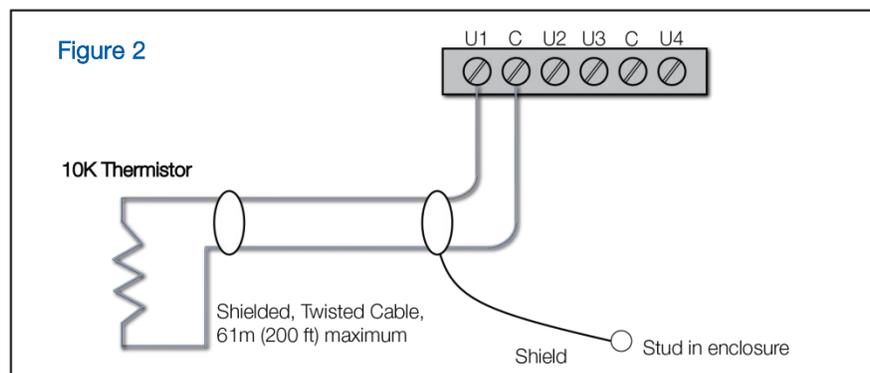
Pulse

Pulse contacts may have a change-of-state (COS) frequency of up to 500 Hz with a 50% duty cycle.

Note: Minimum dwell time must be > 2ms. For a pulse contact, use the CounterInputPoint in the station database.

Resistive 0-100 k ohms

The inputs can read a resistive signal within a range from 0 to 100,000 ohms. Wiring is the same as shown for a Thermistor temperature sensor (Figure 2). Resistive signals require a Resistive Input Point.

Note: The universal input option is optimized to provide the best resolution around the 10 k ohm range. For a sensor with a range far from 10 k ohms *(such as a 100-ohm or 1000-ohm type)*, resolution will be poor. To use such a sensor, it is recommended you install a transmitter that produces a Vdc or mA signal, and then wire the transmitter to the UI according to the 0–10 Vdc or 4–20 mA instructions.


Figure 2

U1 C U2 U3 C U4

10K Thermistor

Shielded, Twisted Cable, 61m (200 ft) maximum

Shield

Stud in enclosure

0-10 Vdc

The inputs support self-powered 0–10 Vdc sensors. Input impedance is greater than 5 k ohms. 0–10 volt accuracy is ± 2% of span, without user calibration. Figure 3 shows the wiring diagram. 0–10 Vdc sensors require a Voltage Input Point.
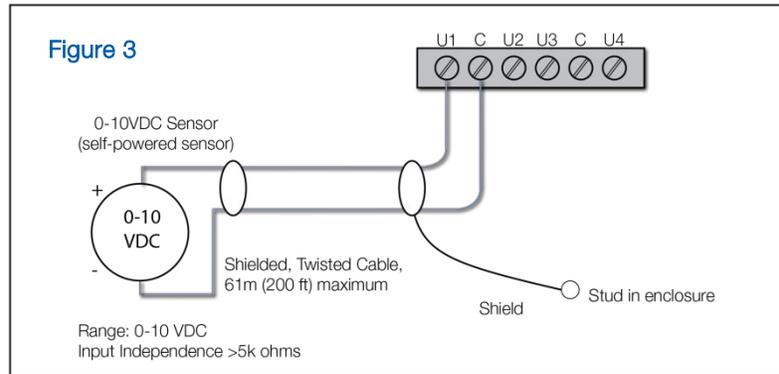
Figure 3

4-20 mA

The inputs support self-powered 4–20 mA sensors. Input accuracy is ± 2% of span, without user calibration. Figure 4 shows the wiring diagram, which requires a 499 ohm resistor wired across the input terminals. 4–20 mA sensors also require the Voltage Input Point.

Figure 4
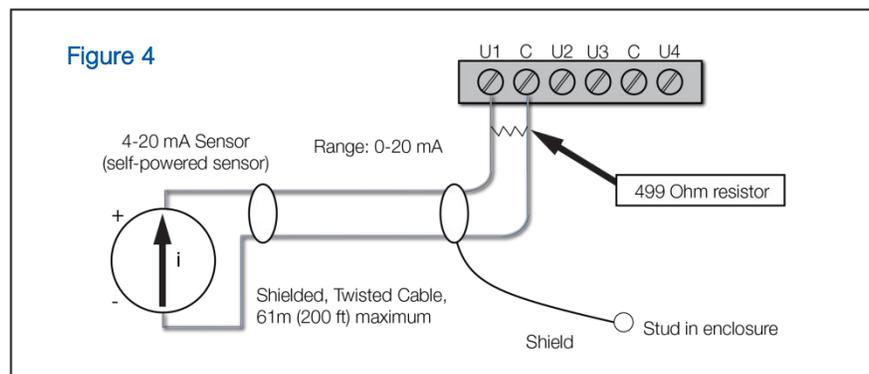
Binary Input

Boolean Input Resistive
Inputs read a 0-100,000 ohm resistive signal. If the signal is above the threshold *(50 k ohms by default),* the Boolean value of false is reported. If the signal is below the threshold, the Boolean value of true is reported. The threshold value can be changed by displaying and editing it.

Boolean Input Voltage
Inputs read the voltage signal of self-powered 0-10 Vdc devices. If the signal is above the threshold *(5 Vdc by default),* the Boolean value of true is reported. If the signal is below the threshold, the Boolean value of false is reported. The threshold value can be changed by displaying and editing it.

Boolean Input Current
Inputs read the current signal of self-powered 4-20 mA devices. If the signal is above the threshold *(12 mA by default),* the Boolean value of true is reported. If the signal is below the threshold, the Boolean value of false is reported. The threshold value can be changed by displaying and editing it.

1210 NE Windsor Drive
Lee's Summit, MO 64086
sales@lynxspring.com
1 (877) 649-5969

www.lynxspring.com

© **2019 Lynxspring, Inc.**
All Rights Reserved
Revised 1/10/2019
Onyxx-XM34IO-V1
Page 3 of 5

Outputs

There are ten (10) N.O. digital relay outputs and eight (8) 0–10 volt analog outputs.

Relay Outputs

Each relay output is rated at 24 Vac or Vdc at 0.5A. Use a BooleanOutputWritable in the station for each output.

Figure 5 shows an example wiring diagram.

Note: The 15-position DO connector has common terminals marked "C" that are isolated from each other. This is useful if controlled loads are powered from different circuits.

Figure 5
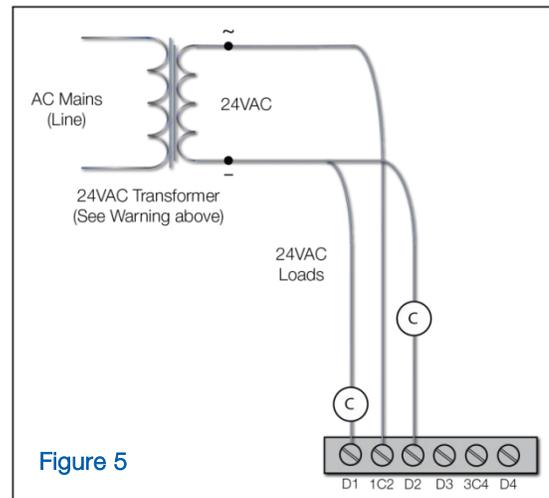
LED Indicators

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 24 V power is applied to the device.

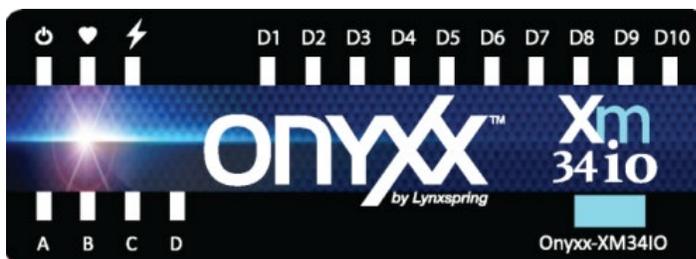For the **Heartbeat LED**, there are three modes of operation.

✓   A **fast beat** with a 50% duty cycle when the device is booting
✓   A **slow beat** with a 50% duty cycle when the platform is started
✓   A **double beat** when the station has started

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

An LED status indicator for each relay (D1–D10) is located on the cover (Figure 6). 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

Figure 6

1210 NE Windsor Drive
Lee's Summit, MO 64086
sales@lynxspring.com
1 (877) 649-5969

www.lynxspring.com

© **2019 Lynxspring, Inc.**
All Rights Reserved
Revised 1/10/2019
Onyxx-XM34IO-V1
Page 4 of 5

Analog Outputs

Analog outputs (AO) are referenced by the terminals labeled "A(n)" and "C" *(ground).* Each AO can supply a maximum of 20 mA over the entire 0 to 10 Vdc range. The minimum input impedance of a device controlled by an AO must be greater than 2500 ohms. Typical wiring for an AO is shown in Figure 7.

For each AO, use a VoltageOutputWritable in the station database.
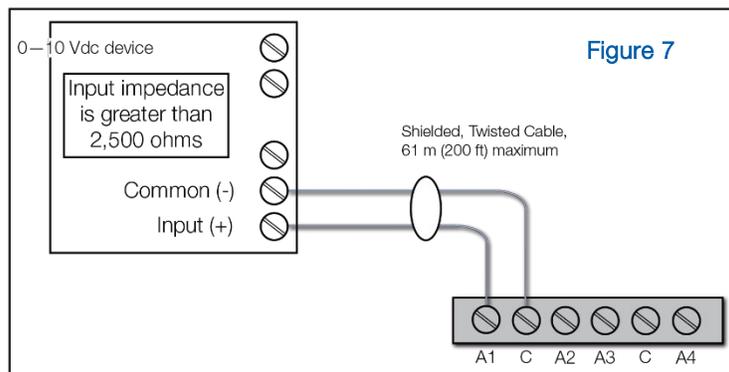

Figure 7

Onyxx® IO *(Software)* Representation

In the Niagara station interface, the JENEsys Edge 534 appears as one Onyxx IO Device, where the "DevicePath" property is appended with a six-digit number. See Figure 8. Upon discovery, if the JENEsys Edge 534 has 1-8 Onyxx XM 34IOs daisy-chained, the devices will show up as onyxx_######. The device number will match the number listed on the device itself.

Refer to the physical devices to verify the device ID number and match it to the discovered device. They may not appear in the wired order so verification must be completed for proper device and point allocation to the physical Onyxx device.

See Figure 8. Each type of input or output used requires a special Lynxspring Input/Output (Onyxx IO) point to be added in the station database. These components act as the station interface to the physical I/O points.

The Onyxx IO points you need for each input or output type are noted in previous wiring sections in boldface.

Figure 8
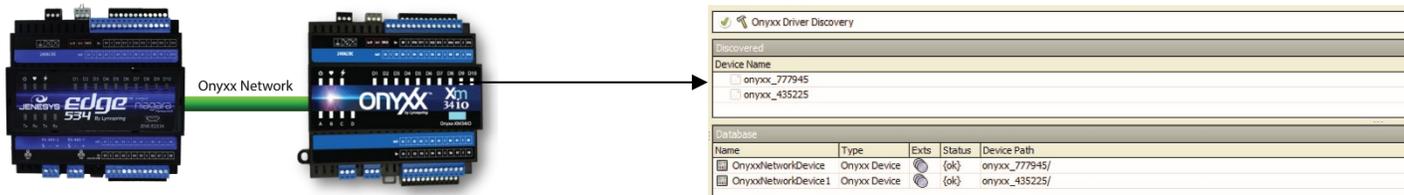
Note: Add to a JENE-EG534, up to 8 additional extender modules *(at 34 points of IO each)* for a maximum of 306 points.

For further reference, please view the wiring *"How To"* videos available on our website:
http://www.lynxspring.com/company/how-to-videos