JENEsys Edge® 414
INSTALLATION GUIDE

Package Contents of JENE-EG414

Estimated completion time: 5-10 minutes

- ✓ (1) JENEsys Edge 414 *(JENE-EG414)*
- ✓ This JENEsys Edge 414 Installation Guide
- ✓ (1) JENEsys Edge 414 Wiring Installation Guide
- ✓ (3) 6-Position Terminal Connectors *(2 black & 1 blue)*
- ✓ (5) 3-Position Terminal Connectors *(2 black, 1 gray & 2 blue)*

Preparing to Install

Decide on the location/placement of your JENEsys Edge 414, ensuring its position is upward/vertical. 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 or near a heater or heating vent
- ✓ Not cluttered/crowded and sufficient clearance is available above and below the JENEsys Edge 414 for proper ventilation and room for cables and wiring
- ✓ Well-ventilated *(especially if enclosed in a cabinet)*
- ✓ This device has been loaded with the bare minimum Niagara 4.2.36 software and requires the latest Onyxx Driver package to commission and update the controller's firmware.
- ✓ Download the latest N4 version of the required Onyxx Driver package at: resources.lynxspring.com.

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: 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 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.

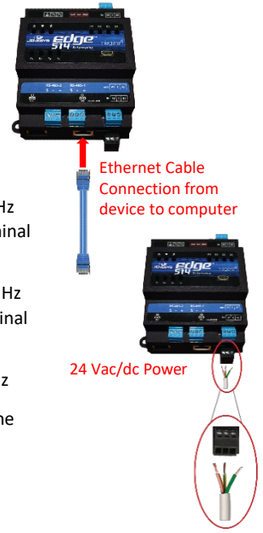
Step 3: To keep the JENEsys Edge 414 from sliding on the DIN rail, secure it with clips provided by the DIN rail vendor, or place a screw in one of the mounting tabs in the base of the JENEsys Edge 414.

Note 1: Up to three Onyxx XM 34IOs can be connected. See section: CONNECTING ONYXX NETWORKS TO JENESYS EDGE 414 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.

Connecting to the JENEsys Edge 414

A 10/100-Mbit Ethernet connection is available on the JENEsys Edge 414. The RJ-45 port has two LED s. When the device is connected to a network, the blue **LINK** LED is lit and the blue **ACTIVITY** LED flashes when activity occurs.



Step 1: Connect one end of the Ethernet cable to your JENEsys Edge 414's Primary RJ-45 port and the other end to the internet port on your computer.

Step 2: Unplug the 3-position screw terminal (black) from the Power port on the JENEsys Edge 414.

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

Step 4: Insert the *negative* wire from your 24 Vac/dc, 50/60 Hz circuit to the terminal marked **~/-** on the screw terminal and tighten down the screw.

Step 5: Insert the *ground* wire from your 24 Vac/dc, 50/60 Hz circuit to ground *(far left terminal)* marked ⏚ on the screw terminal and tighten down the screw.

Step 6: Plug the 3-position screw terminal connector back into the Power port on the JENEsys Edge 414.

Step 7: Temporarily change your computer's network settings so your IP address is in the range: **192.168.1.1** to **192.168.1.254** *(without using the JENEsys Edge 414's default address as described in Step 8).* Make note of your computer's current network settings.

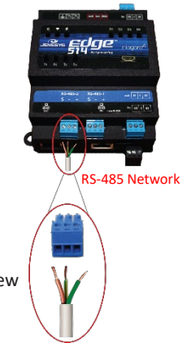
Step 8: With ProBuilder (Workbench) 4.10.1/4.9.1/4.7.110 installed on your computer, make a Platform connection to the JENEsys Edge 414 using the factory default IP address *(192.168.1.12n, where the last numeral (n) matches the last numeral in the JENEsys Edge 414's Host ID number)*, platform daemon port (3011), and the following credentials:

Username: tridium
Password: niagara

Step 9: Refer to the GETTING STARTED WITH NIAGARA 4 GUIDE and JENESYS EDGE 414 USER GUIDE for detailed instructions on how to configure it using Niagara 4.

Connecting RS-485 Networks to JENEsys Edge 414

The RS-485 ports use a 3-position, screw terminal connector. The screw terminals *(from left-to-right)* are shield, negative (-), and positive (+). The transmit (Tx) and receive (Rx) LEDs located on the JENEsys Edge 414 cover will flash when there is network activity detected.



Step 1: Unplug 3-position screw terminal connector from either RS-485 port on the device.

Step 2: Insert positive wire from your RS-485 network to positive terminal *(far right terminal)* on the 3-position, screw terminal connector and tighten down the screw.

Step 3: Insert negative wire from your BACnet network to negative terminal (center terminal) on the 3-position, screw terminal connector and tighten down the screw. Please refer to the JENESYS EDGE 414 WIRING INSTALLATION GUIDE for further wiring instructions and cautions.

Step 4: Lynxspring recommends installing a 120-ohm end-of-line resistor on the positive (+) and negative (-) terminals.

Step 5: Plug 3-position screw terminal connector back into the RS-485 port.

RECOMMENDED RS-485 CABLE SPECIFICATION	
Max Cable Length	4,000 feet
Min loaded driver output signal level	± 1.5v
Driver load impedance (Ohms)	54
Receiver input voltage range	-7v to + 12v
Receiver input resistance (Ohms)	≥12k

Specifications

PLATFORM	
Operating System	Niagara 4.10.1/4.9.1/4.7.110
Processor	1 GHz AM335x ARM Cortex A8
Memory	512 MB DDR3L 800 MHz, 4 GB 8-bit Embedded MMC on-board Flash
Real-Time Clock (RTC)	Battery-powered clock included to store description/setup values including: year, month, date, hours, minutes and seconds
COMMUNICATION PORTS	
2 Ethernet Ports	10/100 Mbps *(RJ-45 Connector)*
2 RS-485 Ports	RS-485 serial port with 3-screw connector
Mini B-USB	USB Client Connector utilizes 5-pin Mini-B USB cable
Micro USB	Serial shell access
Onyxx Network	3-wire (LxH LxL SHLD) high-speed differential serial signal
INPUTS & OUTPUTS	
6 Universal Inputs	Type-3 10 K ohm thermistors; resistance 0-100 K ohms; 0-10Vdc; 0-20 mA using a 499-ohm resistor; pulse input: up to 500 Hz; 12 bit A/D resolution
4 Digital Outputs	Form A contacts, 24 V at 0.5 A
4 Analog Outputs	0-10 Vdc
Connector Screw Size	3/32" slotted
Supported Wire Size	28-16 AWG
Housing	UL94V-0
POWER	
Power Input	External 24 Vac/dc +10%/-10%, 50/60 Hz, minimum 18 VA/ device
CHASSIS	
Construction	Base: Plastic, DIN rail or screw mount Cover: Plastic
Cooling	Internal air convection
Dimensions	3.46" (8.79 cm) width x 4.25" (10.8 cm) length x 2.125" (5.4 cm) depth
Mounting	Flat panel and 35 mm DIN rail mounting options standard
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	Pending: FCC 47CFR Parts 15B and 18, EN 55022, EN 55011, ICES-003, RoHS, UL 916, CSA C22.2 No. 205-17, EN 61010-1: 2010, IEC 61010-1, 3rd edition

Connecting Onyxx Networks *(Onyxx XM 34IO to JENEsys Edge 414)*

Step 1: Unplug 3-position screw terminal connector (gray) from port marked LxH, LxL and SHLD on the JENEsys Edge 414.

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 to connect of each device and tighten the screw.

Step 5: If the Onyxx XM 34IO is located at the end of the network, Lynxspring recommends installing a 120-ohm end-of-line resistor on the LxH and LxL terminals.

Step 6: Plug 3-position screw terminal connector back into the port marked LxH, LxL and SHLD on the JENEsys Edge 414 and Onyxx XM 34IO as needed.

Troubleshooting

If you are unable to make a platform connection to the JENEsys Edge 414:

- ✓ Make sure the JENEsys Edge 414 is fully up and running. The power LED should turn on and the heartbeat LED should be flashing.
- ✓ Make sure the Ethernet cable is connected firmly to the primary Ethernet port on the JENEsys Edge 414. The LEDs on the Ethernet port will indicate if the JENEsys Edge 414 is connected to the network. The blue **LINK** LED will indicate the JENEsys Edge 414 is connected to a network and additional blue **ACTIVITY** LEDs will indicate the JENEsys Edge 414 is transmitting and receiving on the network.
- ✓ If you are connecting directly from your computer to the JENEsys Edge 414 ensure your computer's network settings are set so that your computer's IP address is anything other than the device, in the same subnet.
- ✓ Close and re-open the browser to make sure that the browser did not cache the previous page.

Statement of Conditions

In the interest of improving internal design, operational function, and/or operability, Lynxspring reserves the right to make changes to the product described in this document without notice. Lynxspring does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

Technical Support

Thank you for selecting Lynxspring products. Please contact our Support Team with any questions about installing or setting up your new JENEsys Edge 414 *(JENE-EG414)*.

support@lynxspring.com | toll free: 877-649-5969

Proper Disposal

This product contains a lithium battery.

The U.S. Environmental Protection Agency (EPA) does not regulate the disposal of batteries in small quantities; large quantities are regulated under the Universal rules of Hazardous Waste regulations *(40 CFR PART 273)*. Lithium batteries are not currently being collected by manufacturers for recycling. While there are no federal regulations for disposal of lithium batteries, individual states can establish their own guidelines for battery disposal and should be contacted for any local disposal guidelines.

The shipment of live or discharged lithium batteries is governed by the Department of Transportation (DOT) in their Code of Federal Regulations (49 CFR), paragraph 173.185(j). *Remember that before any type of disposal the batteries should be discharged completely. Tape the contacts with electrical tape and package so as to prevent contacts accidentally coming together at any time.*

This symbol was placed in accordance with the European Union Directive 2002/96 on the Waste Electric and Electronic Equipment *(the WEEE Directive)*. If disposed of within the European Union, this product should be treated and recycled in accordance with the laws of your jurisdiction implementing the WEEE Directive.

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