

Wireless Damper Controller

Installation and User Manual

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Regulatory Notices

Notice to Users:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's expense.

FCC Statement: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Antenna Statement:

Only the antenna supplied with this unit may be used. Any attempt to modify this antenna or substitute a different antenna by any means shall void the warranty and will void the FCC approval to operate this equipment

CE Statement:

This equipment has been tested and found to comply with the limits of the European Council Directive on the approximation of the law of the member states relating to electromagnetic compatibility (89/336/EEC) according to EN 55022 Class B.

Industry Canada Equipment Notice:

The Industry Canada certification identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Document(s). The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure, for their own protection, that the electrical ground connectors of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This presentation may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or electrician, as appropriate.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warranty Information

Limited One Year Warranty

Our company warrants that for two years from the date of purchase, it will replace this product if found to be defective in materials or workmanship. For a prompt, no charge replacement of equivalent product, return the defective product postage prepaid to the appropriate address.

Product Support Center

340 Palladio Parkway, Suite 540

Folsom, CA 95630

United States of America

This replacement is the company's sole obligation under this warranty. SynapSense, Inc. will not be responsible for any incidental or consequential damages or for any loss arising in connection with the use or inability to use this product. Some states/provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty excludes defects or damage due to misuse, abuse, or neglect. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state/province to province.

1 Operation

A SynapSense Node, such as the Wireless Damper Controller, is designed to work in conjunction with a SynapSense Gateway device and the SynapSoft console. Please be sure you have correctly configured SynapSoft on the gateway computer prior to continuing.

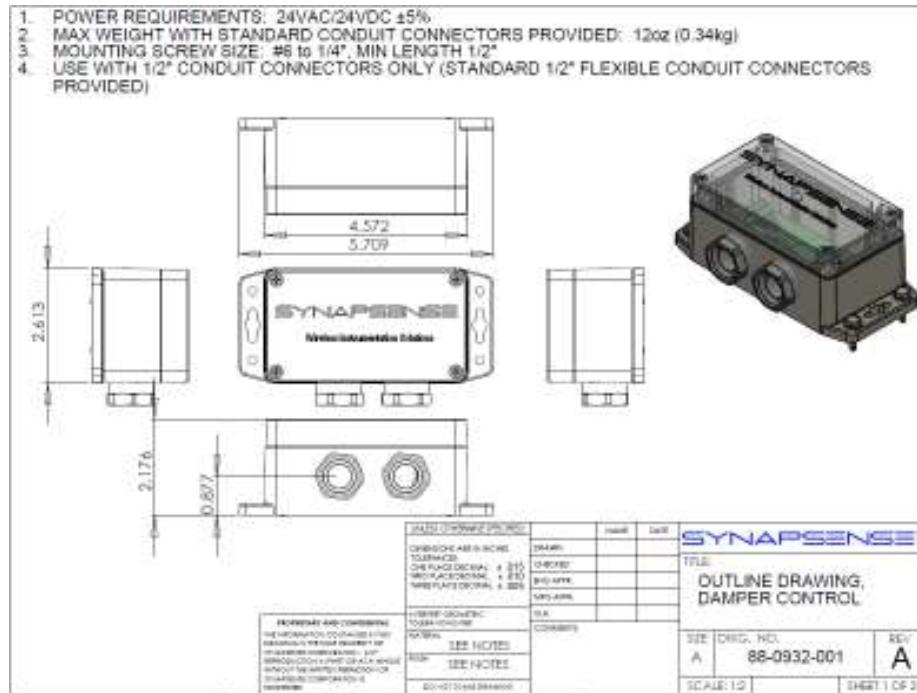
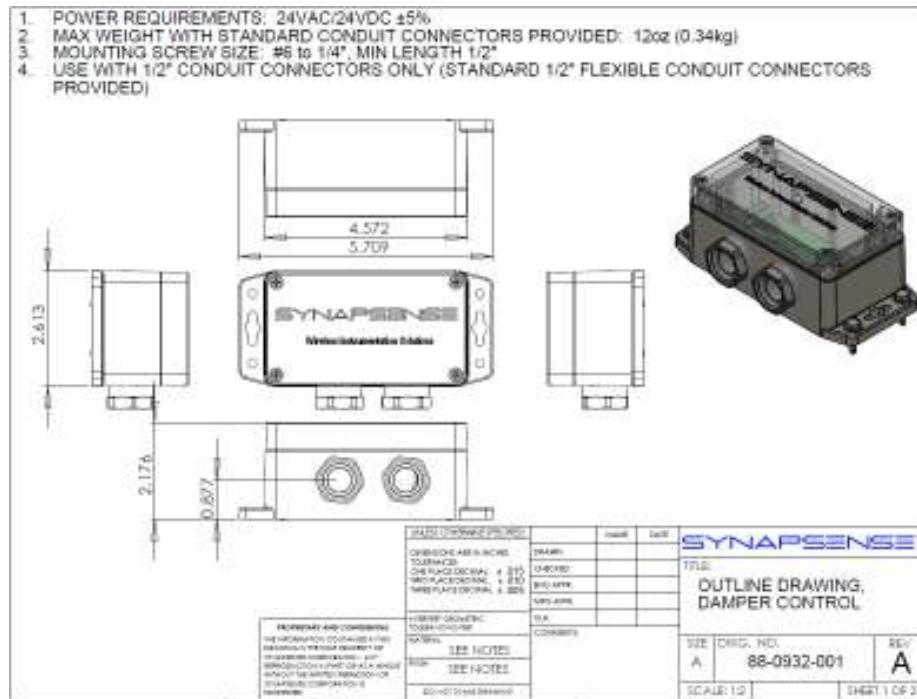
Nodes can be added to an existing SynapSense Wireless Sensor Network (driven by a Gateway) or be used to form a network. Note that for battery operated devices, the battery life will be compromised if the Node is not in range of an active Gateway device or other Node which is part of a running SynapSense Wireless Sensor Network.

The Wireless Damper Controller acts as an interface between the SynapSense Wireless Sensor Network and a 0-10V motorized damper actuator.

2 Wireless Damper Controller Installation Requirements

2.1 Mounting

The Wireless Damper Controller mounts to any flat surface via mounting screws ranging from #6 to 1/4". See Outline Drawing for mounting bolt pattern.



2.2 Connections

Unscrew and remove the clear lid from the device. The connections noted below should be drawn through the available conduit connectors as shown in the outline drawings in section 2.1.

Power Input

AC or DC input power should be connected to the two-terminal block as labeled on the product.

Parameter	Min	Typical	Max	Units	Notes
AC Input	20.4	24	27.6	V _{RMS}	
DC Input	20.4	24	27.6	V	

To Actuator

Connections to the damper actuator are made to the four-terminal block as labeled on the product.

Feedback In: A 0-10V analog input to the Wireless Damper Controller which should be connected to the output control of a 0-10V damper actuator.

Feedback Out: A 0-10V analog output from the Wireless Damper Controller which should be connected to the input control of a 0-10V damper actuator.

24V Out/Common: Power is provided to the damper actuator through the Wireless Damper Controller and should be connected in this terminal block.



Once all connections are complete, the clear top lid should be replaced and screwed in tightly. When using the provided watertight conduit connectors, the enclosure supports NEMA4X certifications if properly tightened using the specified torque rating of 8 in-lbs.

3 Troubleshooting and Diagnostics

No light indication

Power loss.

Solid red light

Actuator Control error condition. The actuator has not responded to the control system, check the electrical connections.

Blinking red light

The Wireless Sensor Network link is not established and is in progress.

Failure to establish connection with the network may indicate a network configuration error or weak signal conditions. Make sure the node is in range of either an active gateway device or another network-associated SynapSense Node. A Node may take up to 20 minutes to fully join an existing network.

Nodes may fall out of an active network if their signal strength is weak. Consider topology changes such as the addition of repeaters or the movement of other Nodes in order to improve signal conditions. For more information, see the SynapSense Wireless Sensor Network User's Guide.

Blinking blue light

Actuator control is in progress. The actuator motor is changing positions.

Solid blue light

Normal operation without actuator control movement.