## NS Series Network Sensors

The NS Series Network Sensor offering includes NS Series Network Zone Sensors and NS Series Network Discharge Air Sensors. The NS Series Network Sensors are designed to function directly with Metasys® system Field Equipment Controllers (FECs), Input/Output Modules (IOMs), VAV Modular Assembly (VMA16) Controllers, and Facility Explorer FX-PC Series Programmable Controllers (FX-PCGs, FX-PCVs, and FX-PCXs). The sensors are also compatible with Verasys™ and Johnson Controls Smart Equipment.

The majority of NS Series Network Zone Sensors monitor room temperature; however, options are available to also monitor zone humidity, carbon dioxide ($CO_2$), local temperature setpoint adjustments, and other variables. This data is transmitted to a controller on the Sensor Actuator (SA) Bus.

Some models of NS Series Network Zone Sensors include an onboard passive infrared (PIR) occupancy sensor that detects motion to determine if a space is occupied. This feature maximizes up to 30% energy savings in high-energy usage environments such as schools, dormitories, offices, hospitals, and hotels by adjusting the temperature of the space based on the occupancy status. In addition, the PIR occupancy sensor facilitates trending of floor space usage in these environments.

The NS Series Network Zone Sensors include models with either a temperature setpoint dial or setpoint pushbuttons and LCD that allows occupants to view the zone temperature, Relative Humidity (RH), and view and adjust the zone temperature setpoint. Some temperature and humidity models include an RH pushbutton to toggle between temperature and RH on the display. These models also have the capability to set the default display to either temperature or RH. Some models also include an °F/°C pushbutton to toggle between degrees Fahrenheit (F) and degrees Celsius (C).

A fan mode pushbutton is included to set the desired fan speed (AUTO-OFF-low-medium-high). An occupancy override function allows the user to signal to the controller that the zone is occupied to override the scheduled mode. Some models have DIP switches toset a unique address for applications that require multiple sensors.

**Figure 1: NS Series Network Sensors**



For communication wiring flexibility, the wires connecting the network zone sensor to a controller can be terminated using a modular jack or screw terminals.

ⓘ **Note:** Mixing of phone jack and screw terminal devices on the same SA bus segment must be avoided.

Each network sensor includes an SA Bus access port to allow accessories to access the SA Bus. This plug allows accessories to service or commission the connected controller or gain access to any other controller on the same Field Controller (FC) Bus.

The NS Series Network Zone Sensor offering includes models that can be surface mounted, vertical wallbox mounted, or flush mounted to meet the requirements ofthe specific application. Some NS Series Sensor models are designed to assist with the California Energy Code (Title 24). Select models offer stylishblack enclosures to suit specific architectural and interior design needs.

The NS Series Network Discharge Air Sensors monitor the duct temperature, typically at the discharge of the VAV box, and transmit this data to a local controller onthe SA Bus using the 10 ft (305 cm) wiring lead included with the unit. The 10 ft (305 cm) wiring lead consists of four 22 AWG (0.6 mm) trade sizecolor-coded wires encased in a plenum-rated jacket. Each of the wires is stripped and tinned for easy connection to the SA Bus screw terminal block.

The NS Series Network Discharge Air Sensors are available with either a 4- or 8-in. (102 or 203 mm) temperature probe. All models include DIP switches for applications requiring multiple discharge air sensors, each with a unique DIP switch configurable address.

**Table 1: Features and Benefits**

| Features | Benefits |
|---|---|
| **BACnet® MSTP Protocol Communication** | Provides compatibility with Metasys system field controllers and Facility Explorer programmable controllers in a proven communication network. |
| **Backlit LCD Available on Some Models** | Provides real-time status of the environment with backlighting activated during user interaction. |
| **Simple Temperature Setpoint Adjustment Available on Some Models** | Enables you to change the setpoint with the turn of a dial or press of a button. |
| **Onboard PIR Occupancy Sensor Available on Some Models** | Maximizes up to 30% energy savings in high-energy usage environments, and facilitates trending of floor space usage. |
| **Temporary Occupancy Available on Some Models** | Provides a timed override command, which temporarily initiates an alternate mode. |
| **Field-Selectable Default Display Setting on Some Models** | Allows you to toggle between temperature and RH on the display, and set the desired default for continuous viewing. |
| **Fahrenheit/Celsius (°F/°C) Button Available on Some Models** | Toggles the display temperature between degrees Celsius and degrees Fahrenheit. |

## Ordering Information

Table 2 through Table 7 list the various NS Series Network Zone Sensors available, and Table 8 lists the various NS Series Network Discharge Air Sensors available.

❯ **Important:** The NS Series Network Sensor is intended to provide an input to equipment under normal operating conditions. Where failure or malfunction of the network sensor could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intended to warn of or protect against failure or malfunction of the network sensor.

ⓘ **Note:** Some NS Series Network Sensor features are not supported in previous releases of *Metasys* or Facility Explorer system software; therefore, it is recommended that the system software be kept up to date.

## Repair Information

If the NS Series Network Zone Sensor or the NS Series Network Discharge Air Sensor fails to operate within its specifications, replace the unit. For a replacement sensor, contact the nearest Johnson Controls® representative.

# Selection Charts

## Table 2: Network Zone Sensor Ordering Information—Temperature Only Models

| Product Code Number | Size (mm), Height x Width | Vertical Wallbox-Mounted (WB) or Surface-Mounted (SM) | Johnson Controls Logo | LCD Display | Temperature Adjustment: Setpoint Dial (Set), Warmer/Cooler Dial (W/C), or Setpoint Pushbuttons (PB)[1] | Occupancy Override[2], PIR Occupancy Sensor | °F/°C Scale Toggle | Fan Control | Screw Terminals (ST) or Modular Jack (MJ) | Address Switches | VAV Balancing Feature |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NS-ATA7001-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | No | No | MJ | No | No |
| NS-ATA7002-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | No | No | ST | No | No |
| NS-ATA7002-3[3] | 80 x 80 | SM | Yes | Yes | Set | Yes, No | No | No | ST | No | No |
| NS-ATA7003-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | No | No | ST | Yes | No |
| NS-ATA7004-2 | 80 x 80 | SM | No | Yes | Set | Yes, No | No | No | ST, MJ | Yes | No |
| NS-ATB7001-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | Yes | No | MJ | No | No |
| NS-ATB7002-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | Yes | No | ST | No | No |
| NS-ATB7003-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | Yes | No | ST | Yes | No |
| NS-ATC7001-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | No | Yes | MJ | No | No |
| NS-ATC7002-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | No | Yes | ST | No | No |
| NS-ATC7005-2 | 80 x 80 | SM | No | Yes | Set | Yes, No | No | Yes | ST, MJ | No | No |
| NS-ATD7001-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | Yes | Yes | MJ | No | No |
| NS-ATD7002-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | Yes | Yes | ST | No | No |
| NS-ATF7001-0 | 80 x 80 | SM | Yes | Yes | W/C | Yes, No | Yes | No | MJ | No | No |
| NS-ATF7002-0 | 80 x 80 | SM | Yes | Yes | W/C | Yes, No | Yes | No | ST | No | No |
| NS-ATN7001-0 | 80 x 80 | SM | Yes | No | N/A | No, No | No | No | MJ | No | No |
| NS-ATN7001-2 | 80 x 80 | SM | No | No | N/A | No, No | No | No | MJ | No | No |
| NS-ATN7003-0 | 80 x 80 | SM | Yes | No | N/A | No, No | No | No | ST | Yes | No |
| NS-ATN7003-2 | 80 x 80 | SM | No | No | N/A | No, No | No | No | ST | Yes | No |
| NS-ATN7004-2 | 80 x 80 | SM | No | No | N/A | No, No | No | No | ST, MJ | Yes | No |
| NS-ATP7001-0 | 80 x 80 | SM | Yes | No | W/C | Yes, No | No | No | MJ | No | No |
| NS-ATP7001-2 | 80 x 80 | SM | No | No | W/C | Yes, No | No | No | MJ | No | No |
| NS-ATP7002-0 | 80 x 80 | SM | Yes | No | W/C | Yes, No | No | No | ST | No | No |
| NS-ATP7002-2 | 80 x 80 | SM | No | No | W/C | Yes, No | No | No | ST | No | No |
| NS-ATP7003-0 | 80 x 80 | SM | Yes | No | W/C | Yes, No | No | No | ST | Yes | No |
| NS-ATP7003-2 | 80 x 80 | SM | No | No | W/C | Yes, No | No | No | ST | Yes | No |
| NS-ATV7001-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | Yes | No[4] | MJ | No | Yes |
| NS-ATV7002-0 | 80 x 80 | SM | Yes | Yes | Set | Yes, No | Yes | No[4] | ST | No | Yes |
| NS-BTB7001-0 | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, No | Yes | No | MJ | No | No |
| NS-BTB7001-2 | 120 x 80 | WB, SM | No | Yes | Set | Yes, No | Yes | No | MJ | No | No |
| NS-BTB7001-3[3] | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, No | Yes | No | MJ | No | No |
| NS-BTB7002-0 | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, No | Yes | No | ST | No | No |
| NS-BTB7003-0 | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, No | Yes | No | ST | Yes | No |
| NS-BTB7003-2 | 120 x 80 | WB, SM | No | Yes | Set | Yes, No | Yes | No | ST | Yes | No |
| NS-BTF7001-0 | 120 x 80 | WB, SM | Yes | Yes | W/C | Yes, No | Yes | No | MJ | No | No |
| NS-BTF7002-0 | 120 x 80 | WB, SM | Yes | Yes | W/C | Yes, No | Yes | No | ST | No | No |
| NS-BTJ7001-0 | 120 x 80 | WB, SM | Yes | Yes | PB | Yes, No | Yes | No | MJ | No | No |
| NS-BTJ7001-2 | 120 x 80 | WB, SM | No | Yes | PB | Yes, No | Yes | No | MJ | No | No |
| NS-BTJ7002-0 | 120 x 80 | WB, SM | Yes | Yes | PB | Yes, No | Yes | No | ST | No | No |
| NS-BTJ7002-2 | 120 x 80 | WB, SM | No | Yes | PB | Yes, No | Yes | No | ST | No | No |
| NS-BTJ7003-0 | 120 x 80 | WB, SM | Yes | Yes | PB | Yes, No | Yes | No | ST | Yes | No |
| NS-BTJ7003-2 | 120 x 80 | WB, SM | No | Yes | PB | Yes, No | Yes | No | ST | Yes | No |
| NS-BTK7001-0 | 120 x 80 | WB, SM | Yes | Yes | PB | Yes, No | Yes | Yes | MJ | No | No |
| NS-BTK7001-2 | 120 x 80 | WB, SM | No | Yes | PB | Yes, No | Yes | Yes | MJ | No | No |
| NS-BTK7002-0 | 120 x 80 | WB, SM | Yes | Yes | PB | Yes, No | Yes | Yes | ST | No | No |
| NS-BTK7002-2 | 120 x 80 | WB, SM | No | Yes | PB | Yes, No | Yes | Yes | ST | No | No |
| NS-BTL7003-0 | 120 x 80 | WB, SM | Yes | No | N/A | Yes, No | No | No | ST | Yes | No |
| NS-BTN7001-0 | 120 x 80 | WB, SM | Yes | No | N/A | No, No | No | No | MJ | No | No |
| NS-BTN7001-2 | 120 x 80 | WB, SM | No | No | N/A | No, No | No | No | MJ | No | No |
| NS-BTN7003-0 | 120 x 80 | WB, SM | Yes | No | N/A | No, No | No | No | ST | Yes | No |
| NS-BTN7003-2 | 120 x 80 | WB, SM | No | No | N/A | No, No | No | No | ST | Yes | No |
| NS-BTP7001-0 | 120 x 80 | WB, SM | Yes | No | W/C | Yes, No | No | No | MJ | No | No |
| NS-BTP7001-2 | 120 x 80 | WB, SM | No | No | W/C | Yes, No | No | No | MJ | No | No |
| NS-BTP7002-0 | 120 x 80 | WB, SM | Yes | No | W/C | Yes, No | No | No | ST | No | No |

## Table 2: Network Zone Sensor Ordering Information—Temperature Only Models

| Product Code Number | Size (mm), Height x Width | Vertical Wallbox-Mounted (WB) or Surface-Mounted (SM) | Johnson Controls Logo | LCD Display | Temperature Adjustment: Setpoint Dial (Set), Warmer/Cooler Dial (W/C), or Setpoint Pushbuttons (PB)[1] | Occupancy Override[2], PIR Occupancy Sensor | °F/°C Scale Toggle | Fan Control | Screw Terminals (ST) or Modular Jack (MJ) | Address Switches | VAV Balancing Feature |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NS-BTP7002-2 | 120 x 80 | WB, SM | No | No | W/C | Yes, No | No | No | ST | No | No |
| NS-BTP7003-0 | 120 x 80 | WB, SM | Yes | No | W/C | Yes, No | No | No | ST | Yes | No |
| NS-BTV7001-0 | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, No | Yes | No[4] | MJ | No | Yes |
| NS-BTV7002-0 | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, No | Yes | No[4] | ST | No | Yes |
| NS-MTB7001-0 | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, Yes | Yes | No | MJ | No | No |
| NS-MTB7002-0 | 120 x 80 | WB, SM | Yes | Yes | Set | Yes, Yes | Yes | No | ST | No | No |
| NS-MTB7004-2 | 120 x 80 | WB, SM | No | Yes | Set | Yes, Yes | Yes | No | ST, MJ | Yes | No |
| NS-MTJ7001-0 | 120 x 80 | WB, SM | Yes | Yes | PB | Yes, Yes | Yes | No | MJ | No | No |
| NS-MTJ7001-2 | 120 x 80 | WB, SM | No | Yes | PB | Yes, Yes | Yes | No | MJ | No | No |
| NS-MTJ7002-0 | 120 x 80 | WB, SM | Yes | Yes | PB | Yes, Yes | Yes | No | ST | No | No |
| NS-MTJ7002-2 | 120 x 80 | WB, SM | No | Yes | PB | Yes, Yes | Yes | No | ST | No | No |
| NS-MTL7001-0 | 120 x 80 | WB, SM | Yes | No | N/A | Yes, Yes | No | No | MJ | No | No |
| NS-MTL7002-0 | 120 x 80 | WB, SM | Yes | No | N/A | Yes, Yes | No | No | ST | No | No |
| NS-MTN7004-2 | 120 x 80 | WB, SM | No | No | N/A | No, Yes | No | No | ST, MJ | Yes | No |

1   Use the setpoint dial or pushbuttons to adjust the absolute temperature setpoint.
2   An Occupancy Override button is available on NS-xxP and NS-xxL models. Other models allow Occupancy Override through the setpoint adjustment interface.
3   These models feature a black enclosure.
4   In the VAV balancing models, the fan control button is replaced by a light bulb button used in the VAV balancing process.

## Table 3: Network Zone Sensor Ordering Information—Temperature and Humidity Models without RH Display

| Product Code Number | Size (mm), Height x Width | Vertical Wallbox-Mounted (WB) or Surface-Mounted (SM) | Johnson Controls Logo | LCD Display, RHDisplay | Humidity Element Accuracy | Temperature Adjustment: Setpoint Dial (Set) or Warmer/Cooler Dial (W/C) | Occupancy Override[1], PIR Occupancy Sensor | °F/°C Scale Toggle | Screw Terminals (ST) or Modular Jack (MJ) | Address Switches |
|---|---|---|---|---|---|---|---|---|---|---|
| NS-AHA7001-0 | 80 x 80 | SM | Yes | Yes, No | 3% | Set | Yes, No | No | MJ | No |
| NS-AHA7002-0 | 80 x 80 | SM | Yes | Yes, No | 3% | Set | Yes, No | No | ST | No |
| NS-AHA7004-2 | 80 x 80 | SM | No | Yes, No | 3% | Set | Yes, No | No | ST, MJ | Yes |
| NS-AHB7001-0 | 80 x 80 | SM | Yes | Yes, No | 3% | Set | Yes, No | Yes | MJ | No |
| NS-AHB7002-0 | 80 x 80 | SM | Yes | Yes, No | 3% | Set | Yes, No | Yes | ST | No |
| NS-AHB7003-0 | 80 x 80 | SM | Yes | Yes, No | 3% | Set | Yes, No | Yes | ST | Yes |
| NS-AHN7001-0 | 80 x 80 | SM | Yes | None | 3% | N/A | No, No | No | MJ | No |
| NS-AHN7001-2 | 80 x 80 | SM | No | None | 3% | N/A | No, No | No | MJ | No |
| NS-AHN7003-0 | 80 x 80 | SM | Yes | None | 3% | N/A | No, No | No | ST | Yes |
| NS-AHN7004-2 | 80 x 80 | SM | No | None | 3% | N/A | No, No | No | ST, MJ | Yes |
| NS-AHP7001-0 | 80 x 80 | SM | Yes | None | 3% | W/C | Yes, No | No | MJ | No |
| NS-APA7001-0 | 80 x 80 | SM | Yes | Yes, No | 2% | Set | Yes, No | No | MJ | No |
| NS-APA7002-0 | 80 x 80 | SM | Yes | Yes, No | 2% | Set | Yes, No | No | ST | No |
| NS-APB7001-0 | 80 x 80 | SM | Yes | Yes, No | 2% | Set | Yes, No | Yes | MJ | No |
| NS-APB7002-0 | 80 x 80 | SM | Yes | Yes, No | 2% | Set | Yes, No | Yes | ST | No |
| NS-APB7003-0 | 80 x 80 | SM | Yes | Yes, No | 2% | Set | Yes, No | Yes | ST | Yes |
| NS-BHB7001-0 | 120 x 80 | WB, SM | Yes | Yes, No | 3% | Set | Yes, No | Yes | MJ | No |
| NS-BHB7002-0 | 120 x 80 | WB, SM | Yes | Yes, No | 3% | Set | Yes, No | Yes | ST | No |
| NS-BHB7003-0 | 120 x 80 | WB, SM | Yes | Yes, No | 3% | Set | Yes, No | Yes | ST | Yes |
| NS-BHN7001-0 | 120 x 80 | WB, SM | Yes | None | 3% | N/A | No, No | No | MJ | No |
| NS-BHN7001-2 | 120 x 80 | WB, SM | No | None | 3% | N/A | No, No | No | MJ | No |
| NS-BHN7003-0 | 120 x 80 | WB, SM | Yes | None | 3% | N/A | No, No | No | ST | Yes |
| NS-BHP7001-0 | 120 x 80 | WB, SM | Yes | None | 3% | W/C | Yes, No | No | MJ | No |
| NS-BHP7003-0 | 120 x 80 | WB, SM | Yes | None | 3% | W/C | Yes, No | No | ST | Yes |
| NS-BPB7001-0 | 120 x 80 | WB, SM | Yes | Yes, No | 2% | Set | Yes, No | Yes | MJ | No |
| NS-BPB7002-0 | 120 x 80 | WB, SM | Yes | Yes, No | 2% | Set | Yes, No | Yes | ST | No |
| NS-BPB7003-0 | 120 x 80 | WB, SM | Yes | Yes, No | 2% | Set | Yes, No | Yes | ST | Yes |
| NS-MHB7004-2 | 120 x 80 | WB, SM | No | Yes, No | 3% | Set | Yes, Yes | Yes | ST, MJ | Yes |

**Table 3: Network Zone Sensor Ordering Information—Temperature and Humidity Models without RH Display**

| Product Code Number | Size (mm), Height x Width | Vertical Wallbox-Mounted (WB) or Surface-Mounted (SM) | Johnson Controls Logo | LCD Display, RHDisplay | Humidity Element Accuracy | Temperature Adjustment: Setpoint Dial (Set) or Warmer/Cooler Dial (W/C) | Occupancy Override[1], PIR Occupancy Sensor | °F/°C Scale Toggle | Screw Terminals (ST) or Modular Jack (MJ) | Address Switches |
|---|---|---|---|---|---|---|---|---|---|---|
| NS-MHL7001-0 | 120 x 80 | WB, SM | Yes | No, No | 3% | N/A | Yes, Yes | No | MJ | No |
| NS-MHL7002-0 | 120 x 80 | WB, SM | Yes | No, No | 3% | N/A | Yes, Yes | No | ST | No |
| NS-MHN7004-2 | 120 x 80 | WB, SM | No | None | 3% | N/A | No, Yes | No | ST, MJ | Yes |

1 An Occupancy Override button is available on NS-xxP and NS-xxL models. Other models allow Occupancy Override through the setpoint adjust interface.

**Table 4: Network Zone Sensor Ordering Information—Temperature and Humidity Models with Temperature or RH Display (Field-Selectable Default Display)**

| Product Code Number | Size (mm), Height x Width | Vertical Wallbox-Mounted (WB) or Surface-Mounted (SM) | Johnson Controls Logo | LCD Display, RHDisplay | Humidity Element Accuracy | Temperature Adjustment: Setpoint Dial (Set) or Setpoint Pushbuttons (PB)[1] | OccupancyOverride[2] | °F/°C Scale Toggle | ScrewTerminals (ST) or Modular Jack (MJ) | Address Switches |
|---|---|---|---|---|---|---|---|---|---|---|
| NS-AHR7101-0 | 80 x 80 | SM | Yes | Yes, Yes | 3% | Set | Yes | Yes | MJ | No |
| NS-AHR7102-0 | 80 x 80 | SM | Yes | Yes, Yes | 3% | Set | Yes | Yes | ST | No |
| NS-AHR7103-0 | 80 x 80 | SM | Yes | Yes, Yes | 3% | Set | Yes | Yes | ST | Yes |
| NS-APR7101-0 | 80 x 80 | SM | Yes | Yes, Yes | 2% | Set | Yes | Yes | MJ | No |
| NS-APR7102-0 | 80 x 80 | SM | Yes | Yes, Yes | 2% | Set | Yes | Yes | ST | No |
| NS-BHM7101-0 | 120 x 80 | WB, SM | Yes | Yes, Yes | 3% | PB | Yes | Yes | MJ | No |
| NS-BHM7101-2 | 120 x 80 | WB, SM | No | Yes, Yes | 3% | PB | Yes | Yes | MJ | No |
| NS-BHM7102-0 | 120 x 80 | WB, SM | Yes | Yes, Yes | 3% | PB | Yes | Yes | ST | No |
| NS-BHM7102-2 | 120 x 80 | WB, SM | No | Yes, Yes | 3% | PB | Yes | Yes | ST | No |
| NS-BHM7103-0 | 120 x 80 | WB, SM | Yes | Yes, Yes | 3% | PB | Yes | Yes | ST | Yes |
| NS-BHM7103-2 | 120 x 80 | WB, SM | No | Yes, Yes | 3% | PB | Yes | Yes | ST | Yes |
| NS-BHR7101-0 | 120 x 80 | WB, SM | Yes | Yes, Yes | 3% | Set | Yes | Yes | MJ | No |
| NS-BHR7103-0 | 120 x 80 | WB, SM | Yes | Yes, Yes | 3% | Set | Yes | Yes | ST | Yes |

1 Use the setpoint dial or pushbuttons to adjust the absolute temperature setpoint.
2 An Occupancy Override button is available on NS-xxP and NS-xxL models. Other models allow Occupancy Override through the setpoint adjust interface.

**Table 5: Network Zone Sensor Ordering Information—Motion Detection Only Models (No Temperature or Humidity Sensing)**

| Product Code Number | Size (mm), Height x Width | Vertical Wallbox- Mounted (WB),or Surface- Mounted (SM) | Johnson Controls Logo | LCD Display | PIR Occupancy Sensor | ScrewTerminals (ST),or ModularJack (MJ) | Address Switches |
|---|---|---|---|---|---|---|---|
| NS-MNN7001-0 | 120 x 80 | WB, SM | Yes | No | Yes | MJ | No |
| NS-MNN7003-0 | 120 x 80 | WB, SM | Yes | No | Yes | ST | Yes |
| NS-MNN7004-2 | 120 x 80 | WB, SM | No | No | Yes | ST, MJ | Yes |

**Table 6: Network Zone Sensor Ordering Information—CO$_2$ Models**

| Product Code Number | Size (mm) Height x Width | Vertical Wallbox-Mounted (WB), or Surface-Mounted (SM) | LCD Display | CO$_2$ Measurement Range | Johnson Controls Logo | Screw Terminals (ST), or Modular Jack (MJ) | Sensor Addressing |
|---|---|---|---|---|---|---|---|
| NS-BCN7004-0 | 120 x 80 | WB, SM | No | 0 to 2,000 ppm | Yes | ST, MJ | DIP Switch (212 to 219) |
| NS-BCN7004-2 | 120 x 80 | WB, SM | No | 0 to 2,000 ppm | No | ST, MJ | DIP Switch (212 to 219) |

**Table 7: Network Zone Sensor Ordering Information—Flush-Mount Temperature Only Models**

| Product Code Number | Faceplate Dimensions, Height x Width | Mounting | LCD Display | Temperature Measurement Range | Johnson Controls Logo | Terminations | Sensor Addressing |
|---|---|---|---|---|---|---|---|
| NS-FTN7003-0 | 4-1/2 in. x 2-3/4 in. (114 mm x 70 mm) | Flush-Mount | No | 32.0°F/0.0°C to 104.0°F/40.0°C | Yes | Screw Terminal Block | DIP Switch (200 to 203) |
| NS-FTN7003-2 | 4-1/2 in. x 2-3/4 in. (114 mm x 70 mm) | Flush-Mount | No | 32.0°F/0.0°C to 104.0°F/40.0°C | No | Screw Terminal Block | DIP Switch (200 to 203) |

**Table 8: Network Discharge Air Sensor Ordering Information**

| Product Code Number | Dimensions, Height x Width x Depth | Johnson Controls Logo | Temperature Probe Length | 10 ft (305 cm) Wiring Lead Included | Terminations | Sensor Addressing |
|---|---|---|---|---|---|---|
| NS-DTN7043-0 | 3 in. x 3 in. x 2 in. (76 mm x 76 mm x 51 mm) | Yes | 4 in. (102 mm) | Yes | Screw Terminal Block | DIP Switch (204 to 211) |
| NS-DTN7043-2 | 3 in. x 3 in. x 2 in. (76 mm x 76 mm x 51 mm) | No | 4 in. (102 mm) | Yes | Screw Terminal Block | DIP Switch (204 to 211) |
| NS-DTN7083-0 | 3 in. x 3 in. x 2 in. (76 mm x 76 mm x 51 mm) | Yes | 8 in. (203 mm) | Yes | Screw Terminal Block | DIP Switch (204 to 211) |
| NS-DTN7083-2 | 3 in. x 3 in. x 2 in. (76 mm x 76 mm x 51 mm) | No | 8 in. (203 mm) | Yes | Screw Terminal Block | DIP Switch (204 to 211) |

**Table 9: Network Sensors with Fault Code Capability Ordering Information (Title 24 Models for Economizer Fault Detection Diagnostics [FDD])**

| Product Code Number | Size (mm), Height x Width | Vertical Wallbox-Mounted (WB) | LCD Display,°F/°C Scale Toggle | Screw Terminals | Address Switches | Temperature Adjustment: Setpoint (Set) or Warmer/Cooler Dial (W/C) | Johnson Controls Logo | VAV Balancing Feature |
|---|---|---|---|---|---|---|---|---|
| NS-ATB7F03-0 | 80 x 80 | Yes | Yes, Yes | Yes | Yes | Set | Yes | No |
| NS-ATB7F03-1 | 80 x 80 | Yes | Yes, Yes | Yes | Yes | Set | No | No |
| NS-BTB7F03-0 | 80 x 120 | Yes | Yes, Yes | Yes | Yes | Set | Yes | No |
| NS-BTB7F03-1 | 80 x 120 | Yes | Yes, Yes | Yes | Yes | Set | No | No |

# NS Sensors with Fault Code Capability
# Error Codes

The fault indication comes through the Network Sensor Bus when a Network Sensor is used in the Zone. The LCD indicates the code number for all the required state of California Title 24 economizer fault conditions.

**Table 10: Network Sensors with Fault Code Capability Error Codes**

| Display Text | California Title 24 Economizer Fault Condition | Possible Problem |
|---|---|---|
| EF1 | Air temperature sensor failure/fault | Problem with one of the air temperature sensors. Check Outdoor Air, Return Air, or Supply Air sensors. |
| EF5 | Not economizing when it should | The economizer is not using outdoor air when it should. |
| EF6 | Economizing when it should | The economizer is allowing outdoor air inside when the conditions are not suitable for economizer operation. |
| EF8 | Damper not modulating | The economizer damper is not able to modulate properly. Check damper, linkage to actuator, or the actuator. |
| EF9 | Excess outdoor air | The economizer is allowing excess outdoor air inside. |

# Technical Specifications

**Table 11: NS Series Network Zone Sensors—Temperature Only Models and Temperature and Humidity Models**

| | | |
|---|---|---|
| **Supply Voltage** | 9.8 to 16.5 VDC; 15 VDC nominal (from SA bus) | |
| **Current Consumption** | **Temperature only models with LCD display:** 21 mA maximum (non-transmitting) | |
| | **Temperature only models without LCD display:** 13 mA maximum (non-transmitting) | |
| | **Temperature and humidity models with LCD display:** 25 mA maximum (non-transmitting) | |
| | **Temperature and Humidity models without LCD display:** 17 mA maximum (non-transmitting) | |
| **Terminations** | Modular jack or screw terminal block | |
| **Sensor Addressing** | **NS-AHx7003-0, NS-APB7003-0, NS-ATx7003-0, NS-BHx7003-0, NS-BPB7003-0, NS-BTB7003-0, NS-BTN7003-0, and NS-BTP7003-0 Models:** DIP switch set from 200 to 203; factory set at 203 | |
| | **All other models:** Fixed address of 199 | |
| **Wire Size** | **Modular jack models:** 24 AWG or 26 AWG (0.5 or 0.4 mm diameter) recommended; three twisted pair (six conductors) | |
| | **Screw terminal block models:** 18 to 22 AWG (1.0 to 0.6 mm diameter); 22 AWG (0.6 mm diameter) recommended | |
| **Communication Rate** | **Auto-detect:** 9.6k, 19.2k, 38.4k, or 76.8k bps | |
| **Mounting** | **Surface-mounted:** 80 x 80 mm | |
| | **Surface-mounted or vertical wallbox-mounted:** 120 x 80 mm | |
| **Temperature Measurement Range** | 32.0°F/0.0°C to 104.0°F/40.0°C | |
| **Humidity Measurement Range** | **Full range:** 0 to 100% RH | |
| | **Calibrated range:** 10 to 90% RH | |
| **Temperature Sensor Type** | Local 1k ohm Platinum Resistance Temperature Detector (RTD); Class A per IEC 60751 | |
| **Humidity Sensor Type** | Thin film capacitive sensor | |
| **Temperature Resolution (Models with LCD)** | ±0.5F°/±0.5C° | |
| **Temperature Accuracy** | **NS Series Network Zone Sensor:** ±1.0F°/±0.6C° | |
| | **Temperature element only:** 0.35F° at 70°F (0.2C° at 21°C) | |
| **Humidity Element Accuracy** | **NS-APx700x-0 and NS-BPB700x-0 models:** ±2% RH for 20 to 80% RH; ±4% RH for 10 to 20% and 80 to 90% RH | |
| | **NS-AHx700x-x, NS-BHx700x-0, and NS-MHx700x-x models:** ±3% RH for 20 to 80% RH; ±6% RH for 10 to 20% and 80 to 90% RH | |
| **Time Constant** | 10 minutes nominal at 10 fpm airflow | |
| **Default Temperature Setpoint Adjustment Range** | **With LCD display:** 50.0°F/10.0°C to 86.0°F/30.0°C in 0.5° increments | |
| | **Without LCD display:** ±5.0F°/±3.0C° | |
| **PIR Occupancy Sensor Motion Detection (Models with PIR Occupancy Sensor)** | Minimum 94 angular degrees up to a distance of 15 ft (4.6 m); based on a clear line of sight | |
| **Ambient Conditions** | **Operating:** 32 to 104°F (0 to 40°C); 10 to 90% RH, noncondensing; 85°F (29°C) maximum dew point | |
| | **Storage with LCD display:** -4 to 140°F (-20 to 60°C); 5 to 95% RH, noncondensing | |
| | **Storage without LCD display:** -40 to 158°F (-40 to 70°C); 5 to 95% RH, noncondensing | |
| **Compliance** | **BACnet International** | BACnet Testing Laboratories™ (BTL) 135-2004 Listed BACnet Smart Sensor (B-SS) <br> ⓘ  **Note:** Excludes the NS-ATV700x-0 and NS-BTV700x-0 models. |
| | **United States** | UL Listed, File E107041, CCN PAZX, Under UL 916, Energy Management Equipment; FCC Compliant to CFR 47, Part 15, Subpart B, Class A |
| | **Canada** | UL Listed, File E107041, CCN PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment; Industry Canada, ICES-003 |
| CE | **Europe** | CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC. |
| | **Australia and New Zealand** | RCM Mark, Australia/NZ Emissions Compliant |
| **Accessory (Order Separately)** | **NS-WALLPLATE-0:** adapts an 80 x 80 mm NS Series Network Zone Sensor to a standard 80 x 120 mm wallbox | |
| **Shipping Weight** | 0.20 lb (0.09 kg) | |

**Table 12: NS Series Network Zone Sensors—Motion Detection Only Models (No Temperature or Humidity Sensing)**

| | | |
|---|---|---|
| **Supply Voltage** | 9.8 to 16.5 VDC; 15 VDC nominal (from SA bus) | |
| **Current Consumption** | 13 mA maximum (non-transmitting) | |
| **Terminations** | Modular jack or screw terminal block | |
| **Sensor Addressing (NS-MNN7003-0 Model)** | DIP switch set from 200 to 203; factory set at 203 | |
| **Wire Size** | **Modular jack model:** 24 AWG or 26 AWG (0.5 or 0.4 mm diameter) recommended; three twisted pair (six conductors) | |
| | **Screw terminal block model:** 18 to 22 AWG (1.0 to 0.6 mm diameter); 22 AWG (0.6 mm diameter) recommended | |
| **Communication Rate** | **Auto-detect:** 9.6k, 19.2k, 38.4k, or 76.8k bps | |
| **Mounting** | **Surface-mounted or vertical wallbox-mounted:** 120 x 80 mm | |
| **PIR Occupancy Sensor Motion Detection** | Minimum 94 angular degrees up to a distance of 15 ft (4.6 m); based on a clear line of sight | |
| **Ambient Conditions** | **Operating:** 32 to 104°F (0 to 40°C); 10 to 90% RH, noncondensing; 85°F (29°C) maximum dew point | |
| | **Storage:** -40 to 158°F (-40 to 70°C); 5 to 95% RH, noncondensing | |
| **Compliance** | **BACnet International** | BACnet Testing Laboratories™ (BTL) 135-2004 Listed BACnet Smart Sensor (B-SS) |
| | **United States** | UL Listed, File E107041, CCN PAZX, Under UL 916, Energy Management Equipment; FCC Compliant to CFR 47, Part 15, Subpart B, Class A |
| | **Canada** | UL Listed, File E107041, CCN PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment; Industry Canada, ICES-003 |

**Table 12: NS Series Network Zone Sensors—Motion Detection Only Models (No Temperature or Humidity Sensing)**

| | | |
|---|---|---|
| CE | Europe | CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC. |
| | Australia and New Zealand | RCM Mark, Australia/NZ Emissions Compliant |
| Shipping Weight | | 0.24 lb (0.11 kg) |

**Table 13: NS Series Network Zone Sensor—$CO_2$ Models**

| | | |
|---|---|---|
| Supply Voltage | | **Non-isolated:** 20 to 30 VAC (18 to 30 VDC), Class 2 or Safety Extra-Low Voltage (SELV) |
| | | **Isolated:** 9.8 to 16.5 VDC; 15 VDC nominal (from SA bus) |
| Current Consumption | | **Non-isolated:** 22 mA average at 24 VAC; 28 mA average at 24 VDC |
| | | **Isolated:** 5 mA maximum, non-transmitting (from SA bus) |
| Power Consumption | | **Non-isolated:** less than 0.7 W average |
| Terminations | | **Non-isolated supply:** screw terminal block |
| | | **SA bus:** Modular jack or screw terminal block |
| Sensor Addressing | | DIP switch set from 212 to 219; factory set at 212 |
| Wire Size | | **Modular jack:** 24 AWG or 26 AWG (0.5 or 0.4 mm diameter) recommended; three twisted pair (six conductors) |
| | | **Screw terminal block:** 18 to 22 AWG (1.0 to 0.6 mm diameter); 22 AWG (0.6 mm diameter) recommended |
| Communication Rate | | **Auto-detect:** 9.6k, 19.2k, 38.4k, or 76.8k bps |
| CO2 Measurement Range | | 0 to 2,000 ppm |
| CO2 Sensing Accuracy | | Plus or minus the sum of 40 ppm and 2.0% of the $CO_2$ reading at 77°F (25°C) and 978 hPa or an altitude of 1,000 ft/300 m |
| | | ⓘ   **Note:** All accuracy specifications reflect the testing of the device using high-grade certified gases. This device is intended for an altitude range of 0 ft/0 m to 2,000 ft/600 m above sea level without compensation. |
| | | **Temperature dependence of output:** -0.35% of the $CO_2$ reading per 1.8F°/1C° typical |
| | | **Pressure dependence of output:** +0.15% of the $CO_2$ reading per 1 hPa typical |
| CO2 Sensing Resolution | | 1 ppm |
| CO2 Sensing Response Time | | 1 minute (0 to 90%) |
| CO2 Sensing Warm-Up Time | | Less than 1 minute; less than 10 minutes for full accuracy |
| CO2 Sensing Long-Term Stability | | Less than ±100 ppm over 5 years |
| Mounting | | **Surface-mounted or vertical wallbox-mounted:** 120 x 80 mm |
| Ambient Conditions | | **Operating:** 32 to 104°F (0 to 40°C); 10 to 90% RH, noncondensing; 85°F (29°C) maximum dew point; 700 to 1,200 hPa |
| | | **Storage:** -40 to 158°F (-40 to 70°C); 0 to 95% RH, noncondensing |
| Compliance | BACnet International | BACnet Testing Laboratories™ (BTL) 135-2004 Listed BACnet Smart Sensor (B-SS) |
| | United States | UL Listed, File E107041 CCN PAZX, Under UL 916, Energy Management Equipment; FCC Compliant to CFR 47, Part 15, Subpart B, Class A |
| | Canada | UL Listed, File E107041, CCN PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment; Industry Canada, ICES-003 |
| CE | Europe | CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC. |
| | Australia and New Zealand | RCM Mark, Australia/NZ Emissions Compliant |
| Shipping Weight | | 0.35 lb (0.16 kg) |

**Table 14: NS Series Network Zone Sensor—Flush-Mount Temperature Only Models**

| | | |
|---|---|---|
| Supply Voltage | | 9.8 to 16.5 VDC; 15 VDC Nominal (from SA bus) |
| Current Consumption | | 12 mA maximum (non-transmitting) per flush-mount network sensor |
| Terminations | | Screw terminal block |
| | | ⓘ   **Note:** Wire leads are field supplied and are not tinned. |
| Sensor Addressing | | DIP switch set from 200 to 203; factory set at 203 |
| Wire Size | | 18 to 22 AWG (1.0 to 0.6 mm diameter); 22 AWG (0.6 mm diameter) recommended; 10 ft (304.8 cm) wiring lead Included with the unit |
| Communication Rate | | **Auto-detect:** 9.6k, 19.2k, 38.4k, or 76.8k bps |
| Temperature Measurement Range | | 32.0°F/0.0°C to 104.0°F/40.0°C |
| Temperature Sensor Type | | Local 1k ohm Platinum Resistance Temperature Detector (RTD); Class A per IEC 60751 |
| Temperature Accuracy | | **NS Series Network Zone Sensor:** ±1.0F°/±0.6C° |
| | | **Temperature Element Only:** 0.35F° at 70°F (0.2C° at 21°C) |
| Ambient Conditions | | **Operating:** 32 to 104°F (0 to 40°C); 10 to 90% RH, noncondensing; 85°F (29°C) Maximum Dew Point |
| | | **Storage:** -40 to 158°F (-40 to 70°C); 5 to 95% RH, noncondensing |
| Compliance | BACnet International | BACnet Testing Laboratories™ (BTL) 135-2004 Listed BACnet Smart Sensor (B-SS) |
| | United States | UL Listed, File E107041, CCN PAZX, Under UL 916, Energy Management Equipment; FCC Compliant to CFR 47, Part 15, Subpart B, Class A |

## Table 14: NS Series Network Zone Sensor—Flush-Mount Temperature Only Models

| | | |
|---|---|---|
| | Canada | UL Listed, File E107041, CCN PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment; Industry Canada, ICES-003 |
| CE | Europe | CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC. |
| | Australia and New Zealand | RCM Mark, Australia/NZ Emissions Compliant |
| Shipping Weight | | 0.25 lb (0.11 kg) |

## Table 15: NS Series Network Discharge Air Sensors

| | | |
|---|---|---|
| **Supply Voltage** | | 9.8 to 16.5 VDC; 15 VDC nominal |
| **Current Consumption** | | 12 mA maximum (non-transmitting) per discharge air sensor |
| **Terminations** | | Four color-coded wiring leads, stripped and tinned; factory-installed at the discharge air sensor screw terminal block |
| **Sensor Addressing** | | DIP switch set from 204 to 211; factory set at 204 |
| **Wire Size** | | 18 to 22 AWG (1.0 to 0.6 mm diameter); 22 AWG (0.6 mm diameter) recommended; 10 ft (305 cm) wiring lead included with the unit |
| **Communication Rate** | | **Auto-detect:** 9.6k, 19.2k, 38.4k, or 76.8k bps |
| **Mounting** | | **Duct-mounted:** 4 or 8 in. (102 or 203 mm) temperature probe length |
| **Temperature Measurement Range** | | 14°F/-10°C to 140°F/60°C |
| **Temperature Sensor Type** | | Local 1k ohm Platinum Resistance Temperature Detector (RTD); Class A per IEC 60751 |
| **Temperature Accuracy** | | **NS Series Network Discharge Air Sensor:** ±1.0F°/±0.6C° |
| | | **Temperature element only:** 0.35F° at 70°F (0.2C° at 21°C) |
| **Ambient Conditions** | | **Operating:** 14 to 140°F (-10 to 60°C); 10 to 90% RH, noncondensing; 85°F (29°C) Maximum Dew Point |
| | | **Storage:** -40 to 158°F (-40 to 70°C); 5 to 95% RH, noncondensing |
| **Compliance** | **BACnet International** | BACnet Testing Laboratories™ (BTL) 135-2004 Listed BACnet Smart Sensor (B-SS) |
| | **United States** | UL Listed, File E107041, CCN PAZX, Under UL 916, Energy Management Equipment; FCC Compliant to CFR 47, Part 15, Subpart B, Class A |
| | **Canada** | UL Listed, File E107041, CCN PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment; Industry Canada, ICES-003 |
| CE | **Europe** | CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC. |
| | **Australia and New Zealand** | RCM Mark, Australia/NZ Emissions Compliant |
| **Shipping Weight** | | **NS-DTN7043-x:** 1.15 lb (0.52 kg) |
| | | **NS-DTN7083-x:** 1.17 lb (0.53 kg) |

## Table 16: NS Series Network Sensors with Fault Code Capability

| | | |
|---|---|---|
| **Supply Voltage** | | 9.8 to 16.5 VDC; 15 VDC nominal (from SA bus) |
| **Current Consumption** | | 21 mA maximum, non-transmitting (from SA bus) |
| **Network Sensor Addressing** | | DIP switch set from 200 to 203; factory set at 203 |
| **Terminations** | | Screw terminal block |
| **Screw Terminal Wire Size** | | 18 to 22 AWG (1.0 to 6.0 mm diameter); 22 AWG (0.6 mm diameter) recommended |
| **Communication Rate** | | Auto-detect: 9.6k, 19.2k, 38.4k, or 76.8k bps |
| **Temperature Measurement Range** | | 32.0°F/0.0°C to 104.0°F/40.0°C |
| **Temperature Sensor Type** | | Local Platinum Resistance Temperature Detector (RTD) |
| **Temperature Resolution** | | ±0.5F°/±0.5C° |
| **Temperature Accuracy** | NS Series Network Sensor | ±1.0F°/±0.6C° |
| | Temperature Element Only | 0.35F° at 70°F (0.2C° at 21°C) |
| **Time Constant** | | 10 minutes nominal at 10 fpm airflow |
| **Default Temperature Setpoint Adjustment Range** | | 50.0°F/10.0°C to 86.0°F/30.0°C in 0.5° increments |
| **Ambient Conditions** | Operating | 32 to 104°F (0 to 40°C); 10 to 90% RH, noncondensing; 85°F (29°C) maximum dew point |
| | Storage | -4 to 140°F (-20 to 60°C); 5 to 95% RH, noncondensing |
| **Compliance** | United States | UL Listed, File E107041, CCN PAZX, Under UL 916, Energy Management Equipment |
| | | FCC Compliant to CFR 47, Part 15, Subpart B, Class A |
| | Canada | UL Listed, File E107041, CCN PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment |
| | | Industry Canada, ICES-003 |
| CE | Europe | CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC. |

**Table 16: NS Series Network Sensors with Fault Code Capability**

| | Australia and New Zealand | RCM Mark, Australia/NZ Emissions Compliant |
|---|---|---|
| **Dimensions (Height x Width x Depth)** | | **NS-ATBF703-x:** 3-5/32 x 3-5/32 x 1-3/8 in. (80 x 80 x 35 mm) **NS-BTB7F03-x:** 4-23/32 x 3-5/32 x 1-3/8 in. (120 x 80 x 35 mm) |
| **Shipping Weight** | | 0.25 lb (0.11 kg) |

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls shall not be liable for damages resulting from misapplication or misuse of its products.

# North American emissions compliance

## United States

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 this 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 may cause harmful interference, in which case the users will be required to correct the interference at their own expense.

**Warning (Part 15.21)**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## Canada

This Class (A) digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe (A) respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

**Industry Canada Statement(s)**

This device complies with Industry Canada licence-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.

# Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

# Software terms

**Use of the software that is in (or constitutes) this product, or access to the cloud, or hosted services applicable to this product, if any, is subject to applicable end-user license, open-source software information, and other terms set forth at www.johnsoncontrols.com/techterms.** Your use of this product constitutes an agreement to such terms.

# Patents

Patents: https://jcipat.com

# Single point of contact

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