

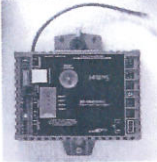






# Catalog

Part Name	Image	Additional Description
Cable stats		
Largo Boxes		TSS Single Duct boxes
MS-VMA1610-0		<p>The VMA1600 is a programmable digital controller that communicates via BACnet® Master-Slave/Token-Passing (MS/TP) Protocol. Both the VMA1610 and VMA1620 have a pressure sensor and actuator in a pre wired unit. The VMA1600 connects easily to the NS Series Network Sensors for zone temperature sensing. The MS-VMA1610-0 supports cooling only applications.</p> <p>The VMA1600 Series controllers can be configured for both single and dual duct Variable Air Volume (VAV) applications. The VMA1610 and VMA1620 require an additional damper actuator and Differential Pressure Transducer (DPT) sensor for dual duct or supply/exhaust applications.</p>
NS-BTP7001-0		<p>NS-BTP7001-x is a BACnet network temperature sensor designed to function directly with Johnson Controls BACnet Master-Slave/Transfer-Protocol digital controllers, in a 3 inch X 4.5 inch (80mm x 120mm) enclosure with temperature adjustment, occupancy override button and modular jack wiring connections.</p>
PAGJ00001FC0		<p>The PAGJ00001FC0 Control Panel is shipped complete, mounted in a 16 in. W x 20 in. H x 6.62 in. D steel enclosure. In addition to the MS-NAE3510-2 controller(s), the assembly also contains a5-port Ethernet switch and a power supply incorporating a 5 A circuit breaker, a 96 VA 120/24 VAC transformer, and two 120 VAC outlets</p>

## NS Series Network Sensors

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### Description

The NS Series Network Sensor offering includes NS Series Network Zone Sensors and NS Series Network Discharge Air Sensors.

The NS Series Network Zone Sensors are designed to function directly with Metasys® system Field Equipment Controllers (FECs), Input/Output Modules (IOMs), and the Variable Air Volume (VAV) Modular Assembly (VMA) 16. The majority of network zone sensors monitor room temperature; however, options are available to also monitor zone humidity, carbon dioxide (CO<sub>2</sub>), local temperature setpoint adjustments, and other variables. This data is transmitted to a field controller on the Sensor Actuator (SA) Bus.

The NS Series Network Zone Sensors include models with a temperature setpoint dial and Liquid Crystal Display (LCD) that allows occupants to view the zone temperature, Relative Humidity (RH), and view and adjust the zone temperature setpoint. A fan mode push button is included to set the desired fan speed (AUTO-OFF-low-medium-high). An occupancy override function allows the user to signal the controller that the zone is occupied to override the scheduled mode. Some models have DIP switches to set a unique address for applications that require multiple 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.

Each network zone 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 of the specific application.

The NS Series Network Discharge Air Sensors are electronic duct sensors designed to function directly with the Johnson Controls® FEC family of digital controllers in Heating, Ventilating, and Air Conditioning (HVAC) systems. Models in this series monitor the duct temperature, typically at the discharge of the VAV box, and transmit this data to an FEC, a VMA16, or a Network Control Engine (NCE) on the 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 trade size color-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 address.

Refer to the *NS Series Network Sensors Product Bulletin (LIT-12011574)* for important product application information.



NS Series Network Sensors

### Features

- BACnet® Master-Slave/Token-Passing (MS/TP) protocol communication — provides compatibility with Metasys system field controllers in a proven communication network
- backlit Liquid Crystal Display (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
- temporary occupancy available on some models — provides a timed override command, which temporarily initiates an alternate mode
- Fahrenheit/Celsius (F/C) button available on some models — toggles the display temperature between degrees Celsius and degrees Fahrenheit

### 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.

## NS Series Network Sensors (Continued)

### Selection Charts

#### 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 (Set) or Warmer/Cooler Dial (W/C)	Occupancy Override	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	MJ	No	No
NS-ATA7002-0	80 x 80	SM	Yes	Yes	Set	Yes	No	No	ST	No	No
NS-ATA7003-0	80 x 80	SM	Yes	Yes	Set	Yes	No	No	ST	Yes	No
NS-ATB7001-0	80 x 80	SM	Yes	Yes	Set	Yes	Yes	No	MJ	No	No
NS-ATB7002-0	80 x 80	SM	Yes	Yes	Set	Yes	Yes	No	ST	No	No
NS-ATB7003-0	80 x 80	SM	Yes	Yes	Set	Yes	Yes	No	ST	Yes	No
NS-ATC7001-0	80 x 80	SM	Yes	Yes	Set	Yes	No	Yes	MJ	No	No
NS-ATC7002-0	80 x 80	SM	Yes	Yes	Set	Yes	No	Yes	ST	No	No
NS-ATD7001-0	80 x 80	SM	Yes	Yes	Set	Yes	Yes	Yes	MJ	No	No
NS-ATD7002-0	80 x 80	SM	Yes	Yes	Set	Yes	Yes	Yes	ST	No	No
NS-ATF7001-0	80 x 80	SM	Yes	Yes	W/C	Yes	Yes	No	MJ	No	No
NS-ATF7002-0	80 x 80	SM	Yes	Yes	W/C	Yes	Yes	No	ST	No	No
NS-ATN7001-0	80 x 80	SM	Yes	No	N/A	No	No	No	MJ	No	No
NS-ATN7001-2	80 x 80	SM	No	No	N/A	No	No	No	MJ	No	No
NS-ATN7003-0	80 x 80	SM	Yes	No	N/A	No	No	No	ST	Yes	No
NS-ATN7003-2	80 x 80	SM	No	No	N/A	No	No	No	ST	Yes	No
NS-ATP7001-0	80 x 80	SM	Yes	No	W/C	Yes	No	No	MJ	No	No
NS-ATP7001-2	80 x 80	SM	No	No	W/C	Yes	No	No	MJ	No	No
NS-ATP7002-0	80 x 80	SM	Yes	No	W/C	Yes	No	No	ST	No	No
NS-ATP7003-0	80 x 80	SM	Yes	No	W/C	Yes	No	No	ST	Yes	No
NS-ATP7003-2	80 x 80	SM	No	No	W/C	Yes	No	No	ST	Yes	No
NS-ATV7001-0	80 x 80	SM	Yes	Yes	Set	Yes	Yes	No <sup>1</sup>	MJ	No	Yes
NS-ATV7002-0	80 x 80	SM	Yes	Yes	Set	Yes	Yes	No <sup>1</sup>	ST	No	Yes
NS-BTB7001-0	120 x 80	WB, SM	Yes	Yes	Set	Yes	Yes	No	MJ	No	No
NS-BTB7001-2	120 x 80	WB, SM	No	Yes	Set	Yes	Yes	No	MJ	No	No
NS-BTB7002-0	120 x 80	WB, SM	Yes	Yes	Set	Yes	Yes	No	ST	No	No
NS-BTB7003-0	120 x 80	WB, SM	Yes	Yes	Set	Yes	Yes	No	ST	Yes	No
NS-BTF7001-0	120 x 80	WB, SM	Yes	Yes	W/C	Yes	Yes	No	MJ	No	No
NS-BTF7002-0	120 x 80	WB, SM	Yes	Yes	W/C	Yes	Yes	No	ST	No	No
NS-BTN7001-0	120 x 80	WB, SM	Yes	No	N/A	No	No	No	MJ	No	No
NS-BTN7001-2	120 x 80	WB, SM	No	No	N/A	No	No	No	MJ	No	No
NS-BTN7003-0	120 x 80	WB, SM	Yes	No	N/A	No	No	No	ST	Yes	No
NS-BTP7001-0	120 x 80	WB, SM	Yes	No	W/C	Yes	No	No	MJ	No	No
NS-BTP7001-2	120 x 80	WB, SM	No	No	W/C	Yes	No	No	MJ	No	No
NS-BTP7002-0	120 x 80	WB, SM	Yes	No	W/C	Yes	No	No	ST	No	No
NS-BTP7002-2	120 x 80	WB, SM	No	No	W/C	Yes	No	No	ST	No	No
NS-BTP7003-0	120 x 80	WB, SM	Yes	No	W/C	Yes	No	No	ST	Yes	No
NS-BTV7001-0	120 x 80	WB, SM	Yes	Yes	Set	Yes	Yes	No <sup>1</sup>	MJ	No	Yes
NS-BTV7002-0	120 x 80	WB, SM	Yes	Yes	Set	Yes	Yes	No <sup>1</sup>	ST	No	Yes

1. In the VAV balancing models, the fan control button is replaced by a light bulb button used in the VAV balancing process.