Flush-Mounted NSA7000 Series Network Sensor

Product Bulletin

NSA-FHN70X1-0, NSA-FTD70X3-0, NSA-FTB70X3-0, NSA-FHR71X3-0

Code No. LIT-15052017
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The flush-mounted NSA7000 series network sensor with LCD is an electronic zone sensor designed to function directly with Johnson Controls® BACnet® MS/TP digital controllers in heating, ventilating and air conditioning (HVAC) systems. Models in this series monitor the temperature set point, zone temperature and humidity, and transmit this data to a field controller on the sensor actuator (SA) bus.

NSA-FHR71X3-0 can toggle between temperature and RH on the dis-play, and has the capability to set the desired default display to either temperature or RH. A fan mode push button is included in NSA-FTD70X3-0 to set the desired fan speed (OFF–LOW–MED–HIGH–AUTO). Besides NSA-FHN70X1-0, all other models have occupancy override button which allows user to signal the controller that the zone is occupied to override the scheduled mode.

For communication wiring flexibility, all models equipped with both a modular jack and screw terminals, connecting the NSA7000 network sensor to controllers.

Table 1: Features and Benefits

Features	Benefits
Up to 16 address can be set	User can set NSA7000 address in field via push button and LCD display, and up to 16 address can be set
Both MJ and ST are available	Both MJ (Modular Jack) and ST (Screw Terminal) are available in one model, easy for installation
Large backlit LCD	LCD is larger than 40% of front area, provide real time status of the environment with intuitive and clear user interface
Energy saving indicator	Green or red leaf symbol to indicate the NSA7000 works in energy saving or not saving mode
New installation method	New method without opening NSA7000 cover during installation, avoids the risk of components damage by screwdriver
Suitable for various installation box	Small back part which is suitable for all installation boxes available in China and Europe market.
Multiple color	There are three standard color: White, Black and Gold. Other colors also can be customized
Push button for user operation	User can change temperature set point, fan speed and occupied/unoccupied via push button. Easier for operation

IMPORTANT:
Use this NSA7000 sensor only as an operating control. Where failure of malfunction of the NSA7000 sensor could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the 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 NSA7000 sensor.
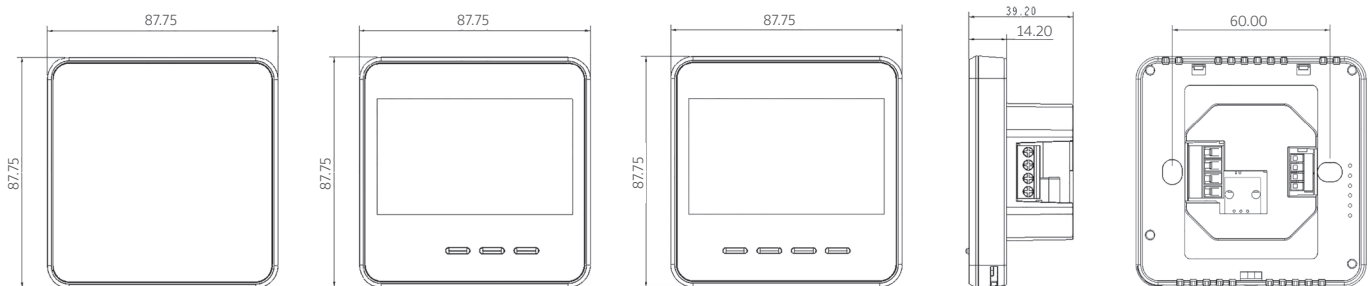
Product dimensions:

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Table 2: NSA7000 series network sensor product code number

Product code number	Color[1]	LCD	Fan control	Humidity[2]	Temp. adjustment[3]	F/C scale toggle	Occupancy override	Screw terminal[4]	Address selection[5]
NSA-FHN7001-0	White	No	No	Yes (±3%)	N/A	No	No	ST/MJ	No
NSA-FTD7003-0	White	Yes	Yes	No	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FTB7003-0	White	Yes	No	No	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FHR7103-0	White	Yes	No	Yes (±3%)	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FHN7011-0	Black	No	No	Yes (±3%)	N/A	No	No	ST/MJ	No
NSA-FTD7013-0	Black	Yes	Yes	No	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FTB7013-0	Black	Yes	No	No	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FHR7113-0	Black	Yes	No	Yes (±3%)	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FHN7021-0	Gold	No	No	Yes (±3%)	N/A	No	No	ST/MJ	No
NSA-FTD7023-0	Gold	Yes	Yes	No	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FTB7023-0	Gold	Yes	No	No	Set/WC	Yes	Yes	ST/MJ	Yes
NSA-FHR7123-0	Gold	Yes	No	Yes (±3%)	Set/WC	Yes	Yes	ST/MJ	Yes

Note:

1. There is MOQ (Minimum Order Quantity) requirement for black and gold color.
2. For models with humidity sensor, the humidity value also can be displayed in LCD, and the measurement accuracy is ±3%RH.
3. Set/WC means this model can work under set or WC (Warmer/Cooler) mode, selected in setting.
4. All models equipped with both ST (Screw Terminal) and MJ (Modular Jack) can be selected by user in the field.
5. The address can be selected in setting (199-215), and default address is 199. User need to calculate the current consumption, to decide max. NSA7000 connected in one SA Bus.

Technical specifications:

NSA7000 series network sensor

Supply Voltage	9.8 to 16.5 VDC; 15VDC norminal (From SA Bus)
Current consumption	35mA maximum
Terminations	Modular jack and screw terminal block
Sensor addressing	All models with factory set address 199. NSA-FTD70X3-0, NSA-FTB70X3-0 and NSA-FHR71X3-0 can set address from 199 to 215 in setting page
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: 18-22 AWG (1.0-0.6 mm diameter); 22AWG (0.6 mm diameter) recommended
Communication rate	Auto-detect: 9.6k, 19.2k, 38.4k or 76.8k bps
Mounting	Flush-mounted
Temperature measurement range	0-40℃ (32-104ºF)
Humidity measurement range	Full range: 0-100% RH
Temperature accuracy	±0.5℃(±1ºF)
Humidity accuracy	±3%RH
Default temperature set point adjustment range	10.0-30.0℃ (50.0-86.0ºF) in 0.5℃ increments
Ambient conditions	Operating: 0-40℃ (32-104ºF), 10-90% RH, noncondensing, 29℃ (85ºF) maximum dew point
	Storage: -20-60℃ (-4-140ºF), 5-95% RH, noncondensing
Shipping weight	Approx. 300g
Compliance	CE mark
	RCM mark, Australia/NZ emissions compliance
	RoHS, REACH, WEEE

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