

Network Sensors

BACstat® II: DNS-x24

Description

The DNS-24 is a smart room sensor that can optimize user comfort while reducing energy consumption. It is a simple to install, and cost effective package for advanced, automated, control. With an LCD display and intuitive push button interface, the DNS-24 communicates over an RS-485 LAN using BACnet® MS/TP or Delta's LINKnet protocol.

The DNS-24 has multiple sensor options including temperature, humidity, motion, and a self-calibrating CO₂ sensor.



Application

The DNS-24 is suitable for a wide range of space sensing applications, from basic temperature sensing to indoor air quality and occupancy sensing.

The DNS-24 provides mechanical equipment controllers the information needed to drive advanced control algorithms, such as demand control ventilation, for optimum user comfort with minimum energy consumption.

Features

- ▶ Native BACnet firmware allows easy integration into any BACnet system
- ▶ BACnet MS/TP or LINKnet communications
- ▶ Multiple built-in sensor options: Temperature, Humidity, CO₂, and occupancy
- ▶ Self calibrating CO₂ sensor
- ▶ Programmable (via GCL+ over network), LCD display
- ▶ 4 Programmable buttons (via GCL+ over network)
- ▶ Optional terminal block* for wiring a remote thermistor to the temperature input
- ▶ Service port
- ▶ Firmware upgrade and database load/save over the network

Specifications

BACnet Device Profile

BACnet Application Specific Controller (B-ASC)

LCD

3-value and various icons (96 total segments) with optional backlighting

Temperature Sensor

Thermistor Input

10 kΩ at 25°C (77°F)

Accuracy: ± 0.2°C from 0-70°C

(± 0.36°F from 32-158°F)

Display resolution of 0.1°

Stability 0.13°C over 5 years (0.24°F)

Humidity Sensor (Optional)

Accuracy: ± 3% RH from 20-80% RH (linearized accuracy of ± 3% to ± 5% from 0-20% and 80-100% RH)

Display Resolution of 0.1%

Stability of < 0.5% RH/yr (typical)

CO₂ Sensor (Optional)

Dual Beam, Self Calibrating NDIR Detection

Range: 0-2000 ppm

Accuracy @ 25°C (77°F): ± 50 ppm + 2% of value

Temperature Dependence:

2 ppm/°C (1 ppm/°F) typical

Pressure Dependence:

0.13% of reading per mm Hg

Stability: 20 ppm/year (typical)

Occupancy Sensor (Optional)

Passive infrared motion (PIR) sensor

Range: 5 m (16.4 ft.)

Coverage: 100° Horizontal, 80° Vertical

Connectors

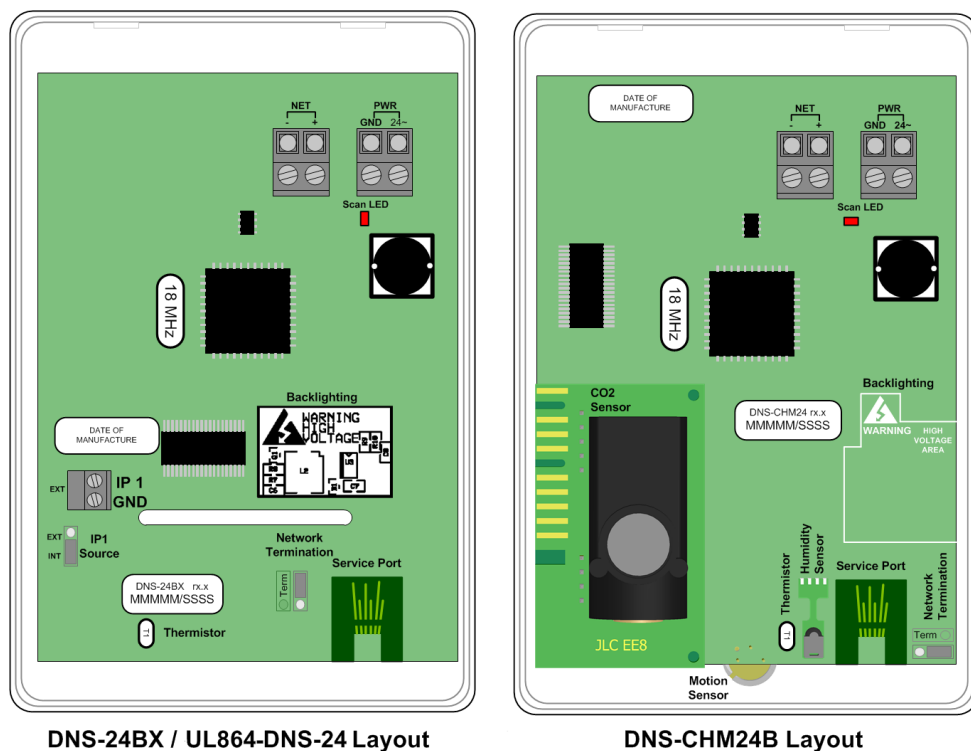
Screw-type terminal connectors

Wiring Class

Class 2 / SELV

Network Sensors

DNS-x24 Board Layout Diagram



Specifications (Continued)

Power

24 VAC @ 3 VA

Technology

32-bit processor with internal A/D, Flash and RAM

Communications Ports

RS-485 NET1
BACnet MS/TP up to 76800 bps, max 99 devices per port

Delta LINKnet up to 76800 bps, max 12 devices on LINKnet

Ambient

0° to 55°C (32° to 131°F)
10 to 90% RH (non-condensing)

Dimensions

12.5 x 8.3 x 3.5 cm (4.91 x 3.26 x 1.37 in.)

The height dimension is maximum for all models. Models without the motion sensor option have a slightly reduced height.

Compliance

CE
FCC Class B
EAC

Listings

UL 916 Listed
UL 864 Listed for UL 864 product numbers



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BACnet is a registered trademark of the American Society of Heating, Refrigerating and Air Conditioning Engineers Inc.

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Ordering

Order the DNS-x24 according to the following product numbers:

DNS-24BX	Network space sensor with LCD/push button interface, temperature sensor, remote thermistor terminator, and LCD backlight
DNS-M24B	Network space sensor with LCD/push button interface, temperature and motion sensors, and LCD backlight
DNS-C24	Network space sensor with LCD/push button interface, temperature and CO ₂ sensors
DNS-CH24	Network space sensor with LCD/push button interface, temperature, humidity and CO ₂ sensors
DNS-CHM24B	Network space sensor with LCD/push button interface, temperature, humidity, CO ₂ and motion sensors, and LCD backlight
UL864-DNS-24	Network space sensor with LCD/push button interface, temperature sensor remote thermistor terminator, LCD backlight and UL-864 listing

Note:

*Backlighting and Remote thermistor options are not available on all models.
Board layout varies slightly depending on option model selected.
DNS-24BX and UL864-DNS-24 models firmware is not field upgradable.

Subject to change without notice.