DNT2400 APP FACTS

Automation systems can provide important data related to building performance that help facility managers make better decisions. If buildings are green, a building automation system can contribute greatly to earning EPA ENERGY STAR or LEED certifications. Wireless technology has rapidly begun to replace traditionally wired building automation infrastructure to provide more data and in real-time.

Commercial:

Building Automation and Control

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The DNT2400 overcomes many of the obstacles that wireless-enabled BAS systems previously faced. It is a standards-based radio that easily interfaces to existing WLAN infrastructure, has long-battery life and overcomes variety of other communications transmission challenges.

OTHER TOP DNT2400 APPLICATIONS

Industrial automation

Cold chain and food safety

Energy management and control

Machine health monitoring

APPLICATION OVERVIEW

Manufacturers have started to build Home and Industrial Building Automation based on Wi-Fi due to the ubiquitous nature of these networks. Building automation involves monitoring of environmental conditions within the building such as temperature, humidity, ambient lighting and then using intelligent algorithms to make decisions on control of these ambient conditions such as increase or decrease in temperature of the floor by regulating the HVAC unit or by dimming or turning off the lighting.

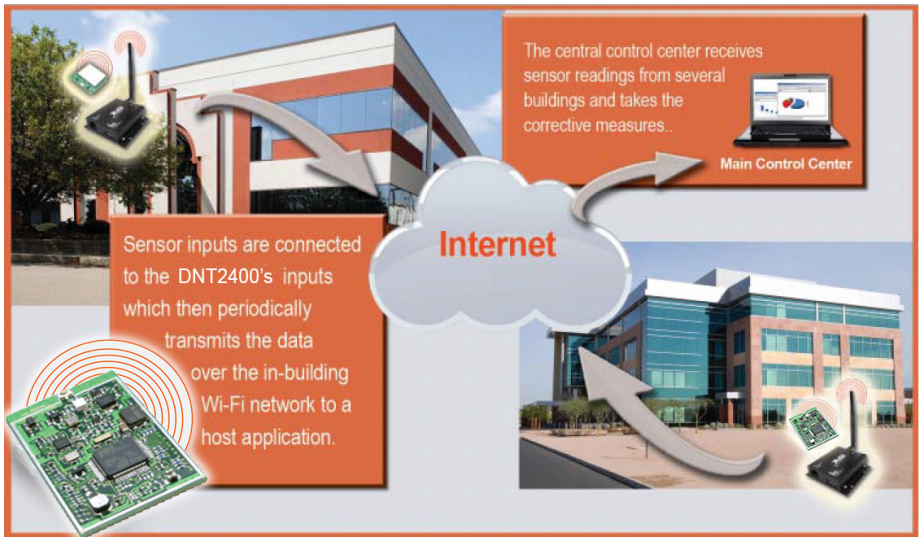
Sensor inputs are connected to the battery powered DNT2400 radio modules via the multiple analog and digital I/O at various points in the buildings. These sensor nodes then periodically transmit the sensor readings to a host application over the in-building Wi-Fi network. The host application then determines what course of action to take based on these readings.

APPLICABLE PRODUCT FEATURES

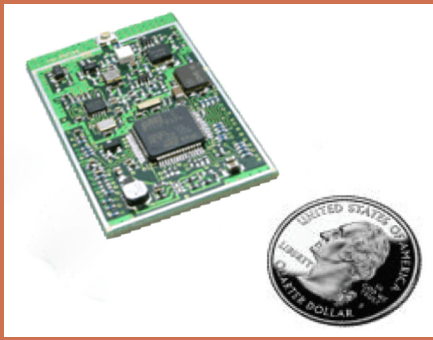
The DNT2400 low power Wi-Fi module is well suited for such an application due to it's sleep mode, multiple analog and Digital I/O, auto-reporting, battery powered operation, direct sensor input connections and full TCP /IP data transfer capabilities.

Sleep mode enables long-battery life for building automation applications

HOW IT WORKS



Very small footprint, the DNT2400 module is about the size of a quarter



SPECIFICATIONS

The DNT2400 has the same form factor and pin out as the DNT90 and DNT24

Radio Characteristics:	FHSS (Frequency Hopping Spread Spectrum)
Frequency:	2.4093 - 2.467 GHz
Transmit Power:	1 mW up to 100 mW
RF Data Rates:	38.4, 115.2, 200, 500 kb/s
Receiver Sensitivity:	-104 dBm 10-5 BER at 38 kb/s
Data Encryptions:	AES-128
Network:	Point-to-Point, Point-to-Multipoint, Peer-to-Peer, Tree Routing
Environmental:	-40 °C to +85 °C 10 - 90% humidity, non-condensing
Power Supply:	3.3 to 5 VDC
Dimensions:	2.01 X 1.26 inches (51.05 X 32.00 mm) for DNT2400C 2.05 X 1.36 inches (52.07 X 34.54 mm) for DNT2400P
Mounting Option:	Pinned and Surface Mount Versions
RF Connection:	U.FL Coaxial
Input / Outputs:	6 GPIO, 3 ADC and 2 DAC outputs
Interface:	UART, SPI
Certification:	FCC, Canadian IC, ETSI certified

PART NUMBERS

Part Number	Description
DNT2400P	DNT2400 FHSS Module - Pinned Version
DNT2400C	DNT2400 - Surface Mount Version
DNT2400DK	DNT2400P FHSS Module Developer Kit

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