

DNT90 APP FACTS

Equipment monitoring plays a vital role in many industries. Effective monitoring systems enable manufacturing companies to avoid surprises by eliminating critical equipment failure while extending life and reducing maintenance costs. With the proliferation of WLAN networking, manufacturers are looking to Wi-Fi enabled equipment to leverage existing WLAN infrastructure in their maintenance management solutions.

Industrial: *Equipment Monitoring System*



Design engineers look to Murata's certified radio module - the DNT90 - for their standards-based wireless connectivity. Its multiple input / outputs, API and small footprint help OEMs reduce their design time while offering flexible products to fit in a variety of manufacturing environments.



OTHER TOP DNT90 APPLICATIONS

Industrial automation

Cold chain and food safety

Energy management and control

Machine health monitoring

APPLICATION OVERVIEW

Municipalities are constantly looking to save money by deploying efficient and intelligent systems to control individual street lights and manage when they should be dimmed, turned off/on and detecting failed lamps while maintaining safety and security. Such a system requires high transmission reliability, dynamic network optimization and built in path redundancy.

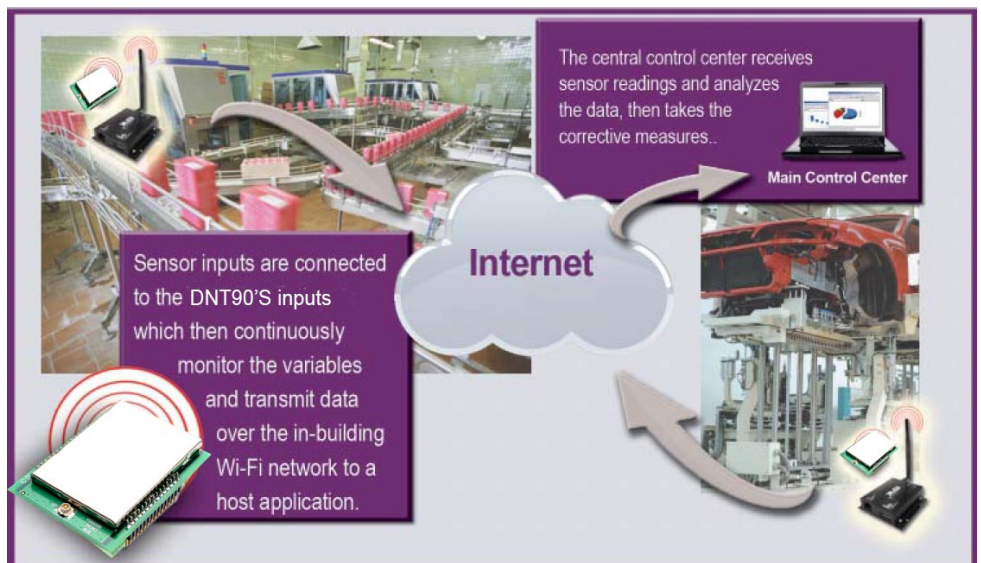
The readings from the various sensors are continuously monitored and then sent over the high speed Wi-Fi network to a central location for analysis and control decisions. The host application then determines what course of action to take based on these readings.

APPLICABLE PRODUCT FEATURES

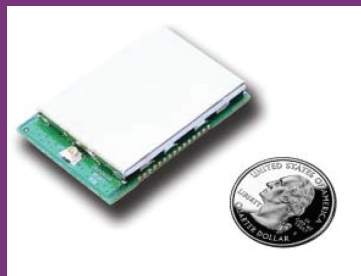
The DNT90 radio module was the radio module of choice in this case due to its robust network reliability, self organizing mesh networking capabilities, and easy integration with well-defined, easy-to-program interfaces.

API designed
for easy
integration into
existing designs

HOW IT WORKS



Very small footprint, the DNT90 module is about the size of a quarter



SPECIFICATIONS

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

Radio Characteristics:	FHSS (Frequency Hopping spread Spectrum)
Frequency:	902.76 – 927.24 MHz
Transmit Power:	40 or 158 mW
RF Data Rates:	100 kb/s
Receiver Sensitivity:	-100 dBm 10-5 BER
Data Encryptions:	AES-128
Network:	Point to Point, Point to Multipoint, Peer-to-Peer and Store & Forward Repeating
Environmental:	-40 °C to + 85 °C 10 - 90% humidity, non-condensing
Power Supply:	3.3 to 5.5 VDC
Dimensions:	1.45 x 0.98 inches (36.8 x 27.9mm) for DNT90C 1.45 x 1.04 inches (36.8 x 27.9 mm) for DNT90P
Mounting Option:	Pinned and Surface Mount Versions
RF Connection:	U.FL Coaxial (Chip Antenna version available in 2H 2012)
Input / Outputs:	4 GPIO, 3 ADC and 2 DAC outputs
Interface:	UART, SPI
Certification:	FCC and Canadian IC certified

PART NUMBERS

Part Number	Description
DNT90P	DNT90 FHSS Module - Pinned Version
DNT90C	DNT90 FHSS Module - Pinned Version
DNT90DK	DNT90P FHSS Developer's Kit

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