



NT SECURE DEVICE

NTSecureNode NB100: Data acquisition platform for large-area IoT networks (LTE NB-IoT)

NTSecureNode is a simple, inexpensive and reliable solution for data acquisition in mobile or stationary work environments. Each sensor node device is equipped with an individual key, which allows for secure and confidential communications between the device and the NTSecureCloud environment. Analog and digital input signals can be captured, processed, encrypted and sent directly to cloud services.

NTSecureNode NB100

Our secure sensor nodes merge, buffer and filter the data from sensors and transfer them in an encrypted form to the IoT gateway – also wireless e.g. via WLAN or LTE.



Temperature



Light



Vibration



Humidity



Pressure



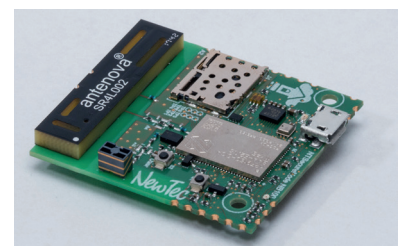
GPS

Typical Applications

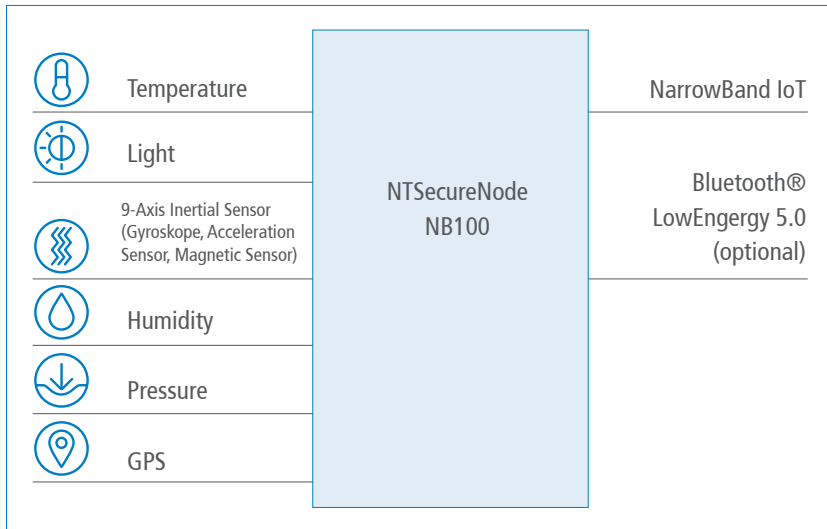
- _ Mobile application use cases
- _ Telematics
- _ Logistics
- _ Construction
- _ Agriculture
- _ Community Services
- _ Emergency Rescue Services

Customer Benefit

- _ Accelerate time to market
- _ Reduction in costs for development and certification
- _ Ready-to-use communication interfaces
- _ Highly secure



NTSecureNode NB100 System Overview



Environmental Parameters

- _ Operating Temperature: from -25°C to +70°C
- _ Storage Temperature: from -40°C to 85°C
- _ Operating Humidity: from 20% to 95% RH (non-condensing)
- _ Storage Humidity: from 0% to 95% RH (non-condensing)
- _ Protection Level: IP 65

BaseBoard connector for optional external interfaces

- _ 5-30 V Power Supply
- _ 4-20 mA Current Loop
- _ Analog Inputs (e.g. Temperature Measurement with PT100 Sensor)
- _ Digital Outputs

Key Features

- _ Sensor data acquisition and secure transfer into the cloud
- _ End-to-end encryption
- _ Over-the-air firmware update
- _ Edge computing platform
- _ Parametrization via mobile app / internet
- _ Data compression, buffering and selection
- _ Extensible through individual application programming
- _ Configurable transmission parameters
- _ Battery powered
- _ GPS Localization
- _ Low Power
- _ Small Dimension

Security and Encryption

- _ Dedicated cryptographic hardware engine (ARM Crypto Cell 310)
- _ Cryptography and security middleware services
- _ Security Library NTSecureCloudConnector
- _ Device Life-Cycle-State management
- _ Key Management infrastructure
- _ Secure Boot
- _ Various supported encryption algorithms, such as AES, RSA, Diffie-Hellman, Elliptic Curve ECC, etc.