

# NB800 Industrial IoT Router

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Product Information NB800  
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Compact Wireless Router with LTE, WLAN, Bluetooth, Ethernet, Serial Interfaces and E-Mark



## Key Features

<b>Mobile / Cellular</b>	1x LTE, UMTS, GSM
<b>SIM</b>	1x Micro SIM
<b>WiFi / WLAN</b>	1x Dual-band IEEE 802.11a/b/g/n 1x Bluetooth Low Energy
<b>Ethernet</b>	1x Fast Ethernet
<b>IO</b>	2x Digital IO
<b>USB</b>	USB 2.0 Host
<b>Serial / Fieldbus</b>	1x RS-232/485 or CAN
<b>Temperature</b>	-40 °C to +70 °C
<b>Software</b>	Routing, Network Services, VPN, Firewall, Link Management, Su- pervisor, LXC, SDK, free updates
<b>Compliance</b>	CE (RED), Vehicle (UN ECE R10, UN ECE R118)

## Product Description

The compact NB800 is the cost-effective solution for a robust Internet connection in an industrial environment. The small form factor and reduced features make it ideal for simple connectivity tasks. Its modular design supports a wide range of protocols for the rapidly spreading Internet of Things (IoT).

Its features include an LTE module for wireless Internet connection, a small WiFi access point with Bluetooth LE and an Ethernet port. A hardware shield concept offers additional flexibility to extend the NB800 to an application optimized device or to follow future technology trends. By now, shields with dual CAN, digital I/Os and serial interfaces are available. The router also meets UN ECE R10 (E-Mark) regulation and can therefore be used in busses and other road vehicles, even under tough operating conditions.

This, combined with its versatile features, makes it the ideal device for applications such as Condition Monitoring, Remote Management or Ticketing.

The software is based on well proven components including an embedded Linux operating system and a powerful communication protocol suite. Customer specific software extensions may be implemented via a sophisticated SDK or Linux containers (LXC).

## Applications

- Condition Monitoring
- Factory Automation
- Remote Management
- Environmental Monitoring
- Ticketing
- ATMs

## Specifications

### 1x Mobile / Cellular (optional)

#### Multimode LTE, UMTS and GSM 4G - LTE

B1 (2100), B2 (1900), B3 (1800),  
B4 (AWS), B5 (850), B7 (2600),  
B8 (900), B20 (800)

#### 3G - DC-HSPA+/UMTS

B1 (2100), B2 (1900), B5 (850),  
B8 (900)

#### 2G - GSM/GPRS/EDGE

B2 (1900), B3 (1800), B5 (850),  
B8 (900)

#### LTE Specification

LTE Cat 4, 2x2 MIMO  
DL 150 Mbps / UL 50 Mbps

#### Region

EMEA

#### Connector

2x SMA female

#### SIM

1x Micro SIM - 3FF

### 1x WiFi / WLAN (optional)

#### Standard

IEEE 802.11a/b/g/n + Bluetooth Low  
Energy combo

Dual-band 2.4/5 GHz  
2.4 GHz 2x2 MIMO, 5 GHz SISO

#### Bit rate (max)

144 Mbps 2.4 GHz, 150 Mbps 5 GHz

#### Modes

Client or Access Point (max. 10 Clients)

#### Connector

2x SMA female

### 1x Ethernet

#### Standard

100Base-TX, Auto MDIX

#### Speed

10 / 100 Mbps

#### Connector

1x RJ45

### 1x USB

USB 2.0 Host Port

#### Connector

1x Type A

### Serial, Fieldbus (optional)

#### Protocol

1x RS-232/485 combo (software  
switchable)

#### Signals

TX, RX / A, B

#### Bit rate

Up to 1 Mbps

#### Termination

120  $\Omega$  for RS-485 configurable by  
software

OR

#### Protocol

2x CAN V2.0B (ISO 11898)

#### Bit rate

Up to 1 Mbps

#### Termination

120  $\Omega$  configurable by software

#### Bus access

Passive: read access only (write access  
on request)

#### Connector

1x Terminal block header 3.5 mm

### 2x IOs (optional)

#### 1x Digital In

Level 0 (0-3 VDC), level 1 (9-32 VDC),  
isolation 1'500 VDC

#### 1x Digital Out

0-32 VDC/1A, isolation 1'500 VDC

#### Connector

1x Terminal block header 3.5 mm

### System

600 MHz single core, 512 MB RAM,  
4 GB flash

### Power

#### Nominal Input voltages

12 VDC, 24 VDC (+/- 20%)

#### Average Power Consumption

5 W

#### Maximal Power Consumption

10 W

#### Connector

1x Terminal block header 3.5 mm

### Other

#### Mounting

Brackets, DIN-Rail with adapter

#### Dimensions

Width 85/111 mm x height 32 mm x  
depth 110 mm

#### Weight

ca. 250 g

#### Environment

##### Operating Temperature

-40 °C to +70 °C

##### Ingress Protection Level

IP40

### Software

#### Features

Routing, Network Services, VPN,  
Firewall, Link Management, Supervisor,  
SDK, free updates

#### Licenses (optional)

LXC Virtualization, OpenVPN- and  
DynDNS Server, GNSS, FMS2IP,  
E-Mark, Enhanced RF Configuration

### Certifications

#### Compliance

CE according to 2014/53/EU (RED),  
2011/65/EU (RoHS)  
Vehicle according to UN ECE R10, UN  
ECE R18 on request

#### Standards

EN 62368-1, EN 62311, EN 55032,  
EN 55035, EN 61000-6-2,  
EN 61000-6-3, EN 301489-1,  
EN 301489-3, EN 301489-7,  
EN 301489-17, EN 301489-24,  
EN 301489-52, EN 300328, EN 301511,  
EN 301893, EN 301908-1, EN 301908-2,  
EN 301908-13, EN 301489-19,  
EN 303413

### Ordering options

Contact our sales team for our standard  
models, options or project specific  
adaptations