HIRSCHMANN
A BELDEN BRAND

NET MODULE

NB800 Industrial IoT Router

Compact Wireless Router with LTE, WLAN, Bluetooth, Ethernet, Serial
Interfaces and GNSS

Key Features

Mobile / Cellular	1x LTE, UMTS, GSM
SIM	1x Micro SIM or 1x eSIM Chip (on request)
WiFi / WLAN	1x Dual-band IEEE 802.11a/b/g/n (Wi-Fi 4) 1x Bluetooth Low Energy
Ethernet	1x Fast Ethernet
IO	2x Digital IO
USB	USB 2.0 Host
Serial / Fieldbus	1x RS-232/485
Positioning	Multi-GNSS
Temperature	-40 °C to +70 °C
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED), UKCA (RER)

Product Description

The compact NB800 is the cost-effective solution for a robust
Internet connection in a harsh 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, GNSS 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 avai-
lable.
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 embed-
ded 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), B3 (1800), 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

Voice
CSFB

Region
EMEA (APAC or NA on request)

Connector
2x SMA female

SIM
1x Micro SIM - 3FF or
1x eSIM Chip (on request)

1x WiFi / WLAN (optional)

Standard
IEEE 802.11a/b/g/n (Wi-Fi 4) +
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

Positioning (optional)

GNSS Receiver
BeiDou, Galileo, GLONASS, GPS/QZSS

Sensitivity
Up to -167 dBm, up to 2.5m CEP

Antennas
Active or passive

Connector
1x SMA female

Serial, Fieldbus (optional)

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

Signals
TX, RX / A, B

Bit rate
Up to 1 15 200 Bit/s

Termination
120 Ω for RS-485 configurable by
software

OR

Protocol
2x CAN V2.0B (ISO 11898)

Bit rate
Up to 1 Mbps

Termination
120 Ω 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

1 GHz single core, 512 MB RAM, 4 GB
flash, HW Rev. B02

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

MTBF
340'000 h / 38.8 years, according
SN29500 at environmental
temperature 40 °C

Software

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

Licenses (optional)
Voice Gateway, LXC Virtualization,
OpenVPN- and DynDNS Server,
GNSS, FMS2IP, E-Mark, Enhanced RF
Configuration, eUICC SIM profile

Certifications

Compliance
CE according to 2014/53/EU (RED),
UKCA according to Radio Equipment
Regulations 2017 No. 1206 (RER),
2011/65/EU (RoHS)

Ordering options

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