

NB1601 Industrial Router

16.06.2023, ©NetModule AG
Product Information NB1601
Errors reserved

Wireless Router with LTE, WLAN, Bluetooth Low Energy, 4-Port Ethernet Switch, Serial Interfaces and GNSS



Key Features

Mobile / Cellular	1 - 2x LTE, UMTS, GSM
SIM	2x Micro SIM
WiFi / WLAN	1x Dual-band IEEE 802.11a/b/g/n (Wi-Fi 4) 1x Bluetooth Low Energy
Ethernet	4x Fast Ethernet
IO	2 - 4x Digital IO
Serial / Fieldbus	1x RS-232/485 or 2x CAN 1x RS-232 Console
Positioning	Multi-GNSS
Temperature	-40 °C to +70 °C
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, LXC, SDK, free updates
Compliance	CE (RED), UKCA (RER), UL 62368-1

Product Description

The NB1601 offers the key technologies for stationary applications that require reliable Internet access. As a special feature, the industrial router offers four Ethernet ports, which are highly configurable. It is also equipped with digital I/Os, serial interfaces and an USB 2.0 port. Additionally, there is an LTE module and a small WLAN access point.

The high-quality metal housing, which is suitable for DIN rail mounting, in combination with the supported temperature range of -40 °C to 70 °C, offers the ruggedness required for use in industrial environments. Thus, with the versatile features, the NB1601 is suitable for applications such as Condition Monitoring, Environmental Monitoring and Ticketing.

The software is based on well proven components including an embedded Linux operating system and a powerful communication protocol suite as well as VPN technologies as OpenVPN. Customer specific software extensions may be implemented via a sophisticated SDK.

Applications

- Condition Monitoring
- Factory Automation
- Remote Management
- Environmental Monitoring
- Smart Buildings



Specifications

1 - 2x 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

2x Micro SIM - 3FF

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

4x Ethernet

Standard

100Base-TX, Auto MDIX

Speed

10 / 100 Mbps

Connector

4x RJ45

1x USB

USB 2.0 Host Port

Connector

1x Type A

Positioning (optional)

GNSS Receiver

BeiDou, Galileo, GLONASS, GPS/QZSS

Sensitivity

Up to -164 dBm, up to 2.5m CEP

Antennas

Active or passive

Connector

1x SMA female

Serial, Fieldbus

Protocol

1x RS-232

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

2x CAN V2.0B (optional)

Connector

2x Terminal block header 3.5 mm (screw locking)

2 - 4x IOs

1 - 2x Digital In

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

1 - 2x Digital Out

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

Connector

2x Terminal block header 3.5 mm (screw locking)

System

600 MHz (HW Rev. A) or 1 GHz (HW Rev. B02) single core, 512 MB RAM, 4 GB flash

Power

Nominal Input voltages

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

Average Power Consumption

7 W

Maximal Power Consumption

10 W

Connector

1x Terminal block header 3.5 mm (screw locking)

Other

Mounting

DIN-Rail

Dimensions

Width 45 mm x height 124/134 mm x depth 110/121 mm

Weight

ca. 450 g

Environment

Operating Temperature

-40 °C to +70 °C

Ingress Protection Level

IP40

MTBF

300'000 h / 34.2 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, Enhanced RF Configuration

Certifications

Compliance

CE according to 2014/53/EU (RED), UKCA according to Radio Equipment Regulations 2017 No. 1206 (RER), UL 62368-1, 2nd Ed., 2011/65/EU (RoHS)

Ordering options

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