

# NB1601-La

## Industrie-Router mit LTE 450 + 4x ETH

Modularer Mobilfunk-Router mit 4-Port Ethernet Switch zur Vernetzung von schwer zugänglichen Orten.



### Hauptmerkmale

<b>Mobilfunk</b>	1x LTE 450, UMTS, GSM
<b>SIM</b>	2x Micro SIM
<b>Ethernet</b>	4x Fast Ethernet
<b>IO</b>	2x Digitale I/O
<b>Serielle / Feldbus</b>	1x RS-232 Konsole
<b>Betriebstemperatur</b>	-40°C bis +70 °C
<b>Software</b>	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, freie Updates
<b>Konformität</b>	CE (RED), UKCA (RER), UL/IEC/EN 62368-1
<b>Modularität</b>	Erweiterungen auf Anfrage

### Produktbeschreibung

Der NB1601 bietet die Schlüsseltechnologien für stationäre Anwendungen, die einen zuverlässigen Internetzugang benötigen

### Anwendungen

- Zustandsüberwachung
- Remote Management
- Smart Buildings
- Umweltüberwachung
- Digital Signage
- Smart Grid
- Öl & Gas
- Erneuerbare Energien
- Fahrkartensysteme
- Videoüberwachung

### Spezifikation

<b>Mobile / Cellular</b>	<b>Standard</b>	1x LTE 450MHz, UMTS for EMEA <b>4G - LTE</b> B3 (1800), B7 (2600), B20 (800), B31 (450) <b>3G - DC-HSPA+/UMTS</b> B1 (2100), B8 (900) <b>2G - GSM/GPRS/EDGE</b> B8 (900), B3 (1800) <b>Category</b> LTE Cat 3 <b>Antenna ports</b> 2x2 MIMO <b>Data rate down / up (max)</b> 100 Mbps / 50 Mbps <b>Voice</b> n.a.
	<b>Region</b>	Europe, Middle East and Africa (EMEA)
	<b>Connectors</b> <b>SIM</b>	2x SMA female 2x Micro SIM - 3FF
<b>Ethernet</b>	<b>Standard</b>	4x Fast Ethernet <b>Ethernet standard</b> 100BASE-TX, Auto MDIX <b>Speed</b> 10/100 Mbps
	<b>Connector</b>	4x RJ45
<b>USB</b>	<b>Standard</b>	1x USB 2.0 Host
	<b>Connector</b>	1x Type A

<b>Serial, Fieldbus</b>	<b>Protocol</b>	1x RS-232 <b>Protocol</b> EIA-232 <b>Signals</b> TX, RX <b>Signal level</b> High > 5 VDC, low < -5 VDC <b>Bit rate</b> Up to 115 200 Bit/s
	<b>Connector</b>	1x Terminal block header 3.5 mm (screw locking)
<b>IOs</b>	<b>Type</b>	2x Digital I/O <b>Signals</b> 1x DI, 1x DO <b>DI signals</b> +, - <b>DI level</b> Low: 0 - 3 VDC, high: 9 - 32 VDC <b>DO signals</b> Relay outputs with NO, NC, COM (normally open, normally closed) <b>DO level</b> 0 - 32 VDC/1A <b>Isolation</b> 1'500 VDC
	<b>Connector</b>	1x Terminal block header 3.5 mm (screw locking)
<b>System</b>	<b>Core</b>	600 MHz (HW Rev. A) or 1 GHz (HW Rev. B02) single core, 512 MB RAM, 4 GB flash
	<b>Module Slots</b>	1x miniPCIe / extension combo (USB), 1x Shield
<b>Software</b>	<b>Features</b>	<p>NetModule Router Software</p> <p><b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment.</p> <p><b>General</b> Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI &amp; WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), Hardware- und Software Watchdog</p> <p><b>Remote Management</b> Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS</p> <p><b>Cellular Networking</b> Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license)</p> <p><b>Wireless LAN</b> Access Point, Client Mode, Mesh Point or Dual Modes (Mesh Access Point / Access Point - Client), WLAN Pseudo-Bridge Client Mode: Multiple Client SSID Profile, Encryption: Open, WEP, WPA1/2/3-Personal, WPA1/2/3-Enterprise. Fast Roaming: Fast BSS Transition (802.11r), PreAuthentication, Protected Management Frames (802.11w) AP Mode: Multi-SSIDs (up to 8) Encryption: Open WPA1/2/3-Personal, WPA1/2/3-Enterprise Fast Roaming: Fast BSS Transition (802.11r), PreAuthentication, DFS support Protected Management Frames (802.11w) Client Tracking, Band Steering, Hide SSID broadcasting, Isolate Clients, Accounting, Short guard Intervall Mesh Mode (802.11s): Encryption: None, SAE. Gateway announcements</p> <p><b>Link Management</b> Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision,</p> <p><b>Services</b> DHCP Client/Server, DNS Caching Server, Email, SMS Service, NTP Client/Server, SNTP Server, DynDNS, SSH Server, SNMP Agent, HTTP/HTTPS/FTP Server, IPv6 for WAN, 802.1x over Ethernet, MQTT Broker Voice Gateway (SIP, Call Routing, Audio with optional license) Coovachilli Hotspot</p> <p><b>Routing</b> Destination, policy, multipath, mobile-IP, OSPF, BGP, multicast, TCP-MSS clamping, bridging discovery protocols LLD, CDP, SONMP, EDP, FDP, IRDP, VRRP, STP/RSTP, VRRP, VLAN, PPPoE, VXLAN</p> <p><b>VPN</b> OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service</p> <p><b>Firewall</b> Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports)</p> <p><b>Encryption</b> supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography)</p> <p><b>Quality of Service</b> Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow)</p> <p><b>Programmability</b> SDK</p> <p><b>Troubleshooting</b> Logging, Ping, Traceroute, Tcpdump, Speed-test</p>
<b>Power</b>	<b>Input Voltage</b>	12, 24 VDC <b>Nominal voltages</b> 12, 24 VDC <b>Absolute voltages</b> 12 VDC to 24 VDC (-20 % / +20 %)
	<b>Connector</b> <b>Consumption</b>	1x Terminal block header 3.5 mm (screw locking) 5 W (average), 7.5 W (max)
<b>Mounting</b>		DIN-Rail
<b>Dimensions</b>	<b>W x H x D</b>	Width 45 mm x height 124/134 mm x depth 110/121 mm
<b>Weight</b>		450 g
<b>Environment</b>	<b>Operating Temperature</b>	-40°C to +70°C
	<b>Ingress Protection Level</b>	IP40
<b>MTBF</b>		300'000 h / 34.2 years, according SN29500 at environmental temperature 40 °C
<b>Lieferumfang</b>		Device, General safety instructions, Terminal block

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<b>Certifications</b>	<b>Compliance</b>	CE according to 2014/53/EU (RED); UKCA according to Radio Equipment Regulations 2017 No. 1206 (RER); UL/IEC/EN 62368-1; 2011/65/EU (RoHS)
	<b>Domain</b>	Industrial

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<b>Order Code</b>	NB1601-La
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