

# NB1601-La

## Industrial Router with LTE 450 + 4x ETH

Modular mobile router with 4-port Ethernet switch to connect remote locations.



### Keyfeatures

<b>Mobile / Cellular</b>	1x LTE 450, UMTS, GSM
<b>SIM</b>	2x Micro SIM
<b>Ethernet</b>	4x Fast Ethernet
<b>IO</b>	2x Digital I/O
<b>Operation Temperature</b>	-40°C to +70 °C
<b>Serial / Fieldbus</b>	1x RS-232 Console
<b>Software</b>	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
<b>Compliance</b>	CE (RED)
<b>Customizable</b>	Extensions on request

### Product description

The NB1601 offers the key technologies for stationary applications that require reliable Internet access.

### Applications

- Condition Monitoring
- Remote Management
- Smart Buildings
- Environmental Monitoring
- Digital Signage
- Smart Grid
- Oil & Gas
- Renewable Energy
- Ticketing
- CCTV

### Specifications

<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 1 Mbps
	<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>	NetModule Router Software <b>Package</b> The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment. <b>General</b> Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI & WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), logging <b>Remote Management</b> Manage and monitor devices with SNMP, telnet, SSH, or HTTP/HTTPS <b>Cellular Networking</b> Multi-SIM / soft-SIM support, multi-APN support, signal strength monitoring, dedicated bearers, GSM/CSFB calls <b>Wireless LAN</b> Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WPA-EAP-TLS, IEEE 802.11w, RADIUS accounting, CAPWAP <b>Link Management</b> Link prioritisation, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision <b>Network Services</b> DHCP Client, DNS server, email, SMS service, NTP Client, NTP server, DynDNS, SSH server, SNMP agent, HTTP/HTTPS/FTP server, voice gateway, SIP call routing, coovachilli hotspot <b>Routing</b> Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, EDP, FDP, IRDP, VRRP, VLAN, PPPoE <b>VPN</b> OpenVPN, IPsec, PPTP, GRE, CSD dial-in <b>Firewall</b> Stateful firewall, connection tracking, NAT, masquerading, bridge filtering
<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>Certifications</b>	<b>Compliance Domain</b>	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)
		Industrial
<b>Order Code</b>		NB1601-La