

# NB1601-LSc

## Industrial Router with LTE + 4x ETH + RS-232/485 + DIO

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



### Keyfeatures

<b>Mobile / Cellular</b>	1x LTE, UMTS, GSM
<b>SIM</b>	2x Micro SIM
<b>Ethernet</b>	4x Fast Ethernet
<b>IO</b>	4x Digital I/O
<b>Operation Temperature</b>	-40°C to +70 °C
<b>Serial / Fieldbus</b>	1x RS-232/485, 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 Multimode LTE, UMTS, GSM for EMEA <b>4G - LTE</b> B1 (2100), B3 (1800), B5 (850), B7 (2600), B8 (900), B20 (800) <b>3G - DC-HSPA+/UMTS</b> B1 (2100), B2 (1900), B5 (850), B8 (900) <b>2G - GSM/GPRS/EDGE</b> B2 (1900), B3 (1800), B5 (850), B8 (900) <b>Category</b> LTE Cat 4 <b>Antenna ports</b> 2x2 MIMO <b>Data rate down / up (max)</b> 150 Mbps / 50 Mbps <b>Voice</b> CSFB <b>FCC ID</b> XPYTOBYL210
	<b>Region</b> <b>Connectors</b> <b>SIM</b>	Europe, Middle East and Africa (EMEA) 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>	<p>1x RS-232  <b>Protocol</b> EIA-232  <b>Signals</b> TX, RX  <b>Signal level</b> High &gt; 5 VDC, low &lt; -5 VDC  <b>Bit rate</b> Up to 1 Mbps  1x RS-232/485 combo (software switchable)  <b>Protocol</b> EIA-232  <b>Signals</b> TX, RX  <b>Signal level</b> High &gt; 5 VDC, low &lt; -5 VDC  <b>Bit rate</b> Up to 1 Mbps  <b>Protocol</b> EIA-485  <b>Signals</b> A, B  <b>Signal level</b> Differential output voltage, loaded 1.5 VDC – 3.6 VDC  <b>Bit rate</b> Up to 1 Mbps  <b>Termination</b> 120 Ω for RS-485 configurable by software</p>
	<b>Connector</b>	2x Terminal block header 3.5 mm (screw locking)
<b>IOs</b>	<b>Type</b>	<p>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  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>Module</b> COM-I/O shield</p>
	<b>Connector</b>	2x 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  <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 &amp; 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</p>
<b>Power</b>	<b>Input Voltage</b>	<p>12, 24 VDC  <b>Nominal voltages</b> 12, 24 VDC  <b>Absolute voltages</b> 12 VDC to 24 VDC (-20 % / +20 %)</p>
	<b>Connector</b>	1x Terminal block header 3.5 mm (screw locking)
	<b>Consumption</b>	7 W (average), 10 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

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**Certifications****Compliance  
Domain**CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)  
Industrial

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**Order Code**

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