

NB1601-LSc-G

Industrie-Router mit LTE + 4x ETH + RS-232/485 + DIO + GNSS

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



Hauptmerkmale

Mobilfunk	1x LTE, UMTS, GSM
SIM	2x Micro SIM
Ethernet	4x Fast Ethernet
IO	4x Digitale I/O
Serielle / Feldbus	1x RS-232/485, 1x RS-232 Konsole
Ortung	Multi-GNSS
Betriebstemperatur	-40°C bis +70 °C
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, freie Updates
Konformität	CE (RED), UKCA (RER), UL/IEC/EN 62368-1, FCC
Modularität	Extensions on request

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

Mobile / Cellular	Standard	1x Multimode LTE, UMTS, GSM for EMEA 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) Category LTE Cat 4 Antenna ports 2x2 MIMO Data rate down / up (max) 150 Mbps / 50 Mbps Voice CSFB (mit optionaler Software-Lizenz) FCC ID XPYTOBYL210
	Region Connectors SIM	Europe 2x SMA female 2x Micro SIM - 3FF
Ethernet	Standard	4x Fast Ethernet Ethernet standard 100BASE-TX, Auto MDIX Speed 10/100 Mbps
	Connector	4x RJ45
Positioning	Standard	1x Multi-GNSS Receiver BeiDou, Galileo, GLONASS, GPS/QZSS 72-channel u-blox M8 engine 3 concurrent GNSS channels Antennas Active or passive Accuracy Up to 2.5 m CEP Sensitivity Up to -164 dBm Services Standalone, Assisted GPS Data server with JSON, NMEA data stream

USB	Standard Connector	1x USB 2.0 Host 1x Type A
Serial, Fieldbus	Protocol	1x RS-232 Protocol EIA-232 Signals TX, RX Signal level High > 5 VDC, low < -5 VDC Bit rate Up to 115 200 Bit/s 1x RS-232/485 combo (software switchable) Protocol EIA-232 Signals TX, RX Signal level High > 5 VDC, low < -5 VDC Bit rate Up to 115'200 Bit/s Protocol EIA-485 Signals A, B Signal level Differential output voltage, loaded 1.5 VDC – 3.6 VDC Bit rate Up to 115'200 Bit/s Termination 120 Ω for RS-485 configurable by software
	Connector	2x Terminal block header 3.5 mm (screw locking)
IOs	Type	2x Digital I/O Signals 1x DI, 1x DO DI signals +, - DI level Low: 0 - 3 VDC, high: 9 - 32 VDC DO signals Relay outputs with NO, NC, COM (normally open, normally closed) DO level 0 - 32 VDC/1A Isolation 1'500 VDC
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System	Core Module Slots	600 MHz (HW Rev. A) or 1 GHz (HW Rev. B02) single core, 512 MB RAM, 4 GB flash 1x miniPCIe / extension combo (USB), 1x Shield
Software	Features	NetModule Router Software Package The standard software package includes an intuitive user interface, covering all modern routing protocols and enables efficient mass deployment. General Fail-safe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI & WebGUI, RADIUS authentication, Simple Certificate Enrollment Protocol (SCEP), Hardware- und Software Watchdog Remote Management Manage and monitor devices with SNMP V1/V2/V3, Netmodule vendor MIB, telnet, SSH, or HTTP/HTTPS Cellular Networking Multi-SIM / eSIM support (optional license), multi-APN support, signal strength monitoring, dedicated bearers, CSFB/VoLTE calls (optional license) Wireless LAN 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 Link Management Link prioritization, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision, Services 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 Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, multicast, TCP-MSS clamping, bridging discovery protocols LLDAP, CDP, SONMP, EDP, FDP, IRDP, VRRP, STP/RSTP, VRRP, VLAN, PPPoE, VXLAN VPN OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP, CSD dial-in, Certificate revocation service Firewall Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Adress translation (based on SRC and DST ports) Encryption supporting password protected PKCS12 files, integrated random certificate key generator, "Let's encrypt" certificate, ECC (Certificates with Elliptic Cryptography) Quality of Service Diffserv, SFQ, HTB, Priority-based Queuing, Netflow (Softflow) Programmability SDK Troubleshooting Logging, Ping, Traceroute, Tcpdump, Speed-test
Power	Input Voltage	12, 24 VDC Nominal voltages 12, 24 VDC Absolute voltages 12 VDC to 24 VDC (-20 % / +20 %)
	Connector Consumption	1x Terminal block header 3.5 mm (screw locking) 7 W (average), 10 W (max)
Mounting		DIN-Rail

Dimensions	W x H x D	Width 45 mm x height 124/134 mm x depth 110/121 mm
Weight		450 g
Environment	Operating Temperature Ingress Protection Level	-40°C to +70°C IP40
MTBF		300'000 h / 34.2 years, according SN29500 at environmental temperature 40 °C
Lieferumfang		Device, General safety instructions, Terminal block
Certifications	Compliance Domain	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) Industrial
Order Code		NB1601-LSc-G