NET MODULE

NB1800-LWac-G

Industrial Router with LTE + WLAN-ac + 2x GbE + SFP + GNSS

High-performance and modular mobile router with Gigabit Ethernet and SFP port for use in industrial environment.

Keyfeatures

Mobile / Cellular	1x LTE, UMTS, GSM
SIM	2x Micro SIM
WiFi / WLAN	1x Dual-band IEEE 802.11 a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode
Ethernet	2x Gigabit Ethernet, 1x SFP
Extended Storage	1x SD Card
Serial / Fieldbus	1x RS-232/485
Positioning	Multi-GNSS
Operation Temperature	-40 °C to +70 °C
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED)
Modularity	Extensions on request

Product description

The powerful NB1800 router enables fast Internet access in an industrial environment.

Applications

- Industrial Security
- Point of Sale
- Public WiFi
- Smart Grid
- Oil & Gas
- Renewable Energy
- Mining
- Factory Automation
- Smart Traffic
- CCTV

Specifications

Mobile / Cellular	Standard	1x Multimode LTE, UMTS, GSM for EMEA
		4G – LTE B1, B3, B7, B8, B20, B28
		3G - DC-HSPA+/UMTS B1 (2100), B3 (1800), B8 (900)
		2G - GSM/GPRS/EDGE B3 (1800), B8 (900)
		Category LTE Cat 4
		Antenna ports 2x2 MIMO
		Data rate down / up (max) 150 Mbps / 50 Mbps
		Voice CSFB, VoLTE (with optional Software License)
		FCC ID -
	Region	Europe, Middle East and Africa (EMEA)
	Connectors	2x SMA female
	SIM	2x Micro SIM - 3FF

WiFi / WLAN	Standard	1x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5)
		Wireless standard IEEE 802.11a/b/g/n/ac (Wi-Fi 5)
		Frequency 2.4/5 GHz
		Diversity 2x2 MIMO
		Data rate (max) 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz)
		Modes Client or access point (up to 100 clients)
		FCC ID TK4WLE600VX
	Connector	2x SMA female

www.netmodule.com   Switzerland +41 31 985 25 10
sales@netmodule.com Germany +49 6196 77 99 79 0

NetModule AG
Switzerland

Maulbeerstrasse 10
3011 Bern

NetModule GmbH
Germany

Frankfurter Str. 10-14
65760 Eschborn

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Ethernet	**Standard**	2x Gigabit Ethernet **Ethernet standard** 1000BASE-T, Auto MDIX **Speed** 10/100/1000 Mbps 1x SFP **SFP standard** Depending on module **Speed** 10/100/1000 Mbps
	Connector	2x RJ45, 1x SFP cage (mini GBIC)
Positioning	**Standard**	1x Multi-GNSS **Receiver** BeiDou, Galileo, GLONASS, GPS gpsOne Gen 9 **Antennas** Active or passive **Tracking Sensitivity** Up to -160 dBm **Services** Standalone
	Connector	1x SMA female
USB	**Standard**	1x USB 2.0 Host
	Connector	1x Type A
Serial, Fieldbus	**Protocol**	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	1x Terminal block header 3.5 mm (screw locking)
Extended Storage		SD Card **Slot type** microSD **Speed (read / write)** 600 kByte / s **Application** Store user and logging data of SDK or LXC applications SD card not included
System	**Core**	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	Module Slots	2x miniPCIe (PCIe + USB), 2x Extension (USB)
Software	**Features**	NetModule Router Software (supported features depending on product variant) **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 LLDP, 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
	Licenses	GNSS **Enabled service** GNSS location service Server with JSON-, NMEA stream

Power	Input Voltage	12, 24, 48 VDC **Nominal voltages** 12, 24, 48 VDC **Absolute voltages** 12 VDC to 48 VDC (-25 % /+10 %)
	Connector	1x Terminal block header 3.5 mm (screw locking)
	Consumption	11 W (average), 20 W (max)
Mounting		DIN-Rail
Dimensions	W x H x D	Width 61 mm x height 128/140 mm x depth 121 mm
Weight		800 g
Environment	Operating Temperature	-40°C to +70°C
	Ingress Protection Level	IP40
MTBF		240'000 h / 27.4 years, according SN29500 at environmental temperature 40 °C
Certifications	Compliance	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)
	Domain	Industrial
Order Code		NB1800-LWac-G