

# NB3701-2Wac

## Railway Router with 2x WLAN-ac + EN50155

Proven multi-service onboard router for light rail and railways.



### Keyfeatures

<b>WiFi / WLAN</b>	2x Dual Band IEEE 802.11a/b/g/n/ac (Wi-Fi 5), 100 Clients in Access Point Mode
<b>Ethernet</b>	5x Fast Ethernet
<b>IO</b>	4x Digital I/O
<b>Power</b>	24 VDC to 48 VDC
<b>Temperature Range</b>	-40 °C to +70 °C, EN 50155 class OT4/ST0
<b>Software</b>	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
<b>Compliance</b>	CE (RED), Railway (EN50155, EN45545)
<b>Modularity</b>	Extensions on request

### Product description

The NB3701 is the compact router for railways and other applications where similarly high demands are placed on the hardware. It is the right device for passenger WiFi or infotainment.

### Applications

- Passenger WiFi
- Passenger Infotainment

### Specifications

<b>WiFi / WLAN</b>	<b>Standard</b>	2x WLAN 2.4/5 GHz a/b/g/n/ac (Wi-Fi 5) <b>Wireless standard</b> IEEE 802.11a/b/g/n/ac (Wi-Fi 5) <b>Frequency</b> 2.4/5 GHz <b>Diversity</b> 2x2 MIMO <b>Data rate (max)</b> 300 Mbps (2.4 GHz) / 866 Mbps (5 GHz) <b>Modes</b> Client or access point (up to 100 clients) <b>FCC ID</b> TK4WLE600VX
	<b>Connector</b>	4x TNC female
<b>Ethernet</b>	<b>Standard</b>	5x Fast Ethernet <b>Ethernet standard</b> 100BASE-TX, Auto MDIX <b>Speed</b> 10/100 Mbps
	<b>Connector</b>	5x M12 D-coded female
<b>USB</b>	<b>Standard</b>	1x USB 2.0 Host
	<b>Connector</b>	1x Type A
<b>IOs</b>	<b>Type</b>	4x Digital I/O <b>Signals</b> 2x DI, 2x DO <b>DI signals</b> +, - <b>DI level</b> Low: 0 - 5 VDC, high: 7.2 - 40 VDC <b>DO signals</b> Relay outputs with NO, NC, COM (normally open, normally closed) <b>DO level</b> 0 - 60 VDC/1A, maximum switching capacity: 60 W <b>Isolation</b> 1'500 VDC
	<b>Connector</b>	1x M12 A-coded female
<b>System</b>	<b>Core</b>	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	<b>Module Slots</b>	2x miniPCIe (PCIe + USB)

Software	Features	<p>NetModule Router Software (supported features depending on product variant)</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 LLDP, 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>
Power	Input Voltage	<p>24, 48 VDC</p> <p><b>Nominal voltages</b> 24, 48 VDC</p> <p><b>Absolute voltages</b> 24 VDC to 48 VDC (–30 % / +30 %)</p> <p><b>Galvanic isolation</b> 1500 VDC</p> <p><b>Standard</b> EN 50155 class S2/C1</p>
	Connector Consumption	<p>1x M12 A-coded male</p> <p>15 W (max)</p>
Mounting		Bracket
Dimensions	W x H x D	Width 165/190 mm x height 85 mm x depth 104 mm
Weight		1100 g
Environment	Operating Temperature	–40°C to +70°C
	Ingress Protection Level	IP40
MTBF		210'000 h / 24 years, according SN29500 at environmental temperature 40 °C
Scope of delivery		Device, General safety instructions
Certifications	Compliance Domain	CE according to 2014/53/EU (RED), 2011/65/EU (RoHS), Railway according to EN 50155 class OT4/ST0, EN 45545 Railway
Order Code		NB3701-2Wac