

# NB3701-2Wac

# Railway Router with 2x WLAN-ac + EN50155

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



# Keyfeatures

WiFi / WLAN	2x Dual Band IEEE $802.11 a/b/g/n/ac$ (Wi-Fi 5), $100$ Clients in Access Point Mode
Ethernet	5x Fast Ethernet
10	4x Digital I/O
Power	24 VDC to 48 VDC
Temperature Range	-40 °C to +70 °C, EN 50155 class OT4/ST0
Software	Routing, Network Services, VPN, Firewall, Link Management, Supervisor, SDK, free updates
Compliance	CE (RED), Railway (EN50155, EN45545)
Modularity	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**

WiFi / WLAN	Standard	2x Dual-band 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)
	Connector	FCC ID TK4WLE600VX
	Connector	4x TNC female
Ethernet	Standard	5x East Ethernet
		Ethernet standard 100BASE-TX, Auto MDIX
		Speed 10/100 Mbps
	Connector	5x M12 D-coded female
USB	Standard	1x USB 2.0 Host
	Connector	1x Type A
IOs	Туре	4x Digital I/O
	24.5	Signals 2x DI, 2x DO
		DI signals +, -
		DI level Low: 0 - 5 VDC, high: 7.2 - 40 VDC
		DO signals Relay outputs with NO, NC, COM (normally open, normally closed)
		DO level 0 - 60 VDC/1A, maximum switching capacity: 60 W
		Isolation 1'500 VDC
	Connector	1x M12 A-coded female
System	Core	1.3 GHz dual-core, 1 GB RAM, 4 GB flash
	Module Slots	2x miniPCle (PCle + USB)

Package The standard software package includes an intuitive user interface, covering all modern routing protocols and enal 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), logging  Remote Management Manage and monitor devices with SNMP, telnet, SSH, or HTTP/HTTPS  Cellular Networking Multi-SIM / soft-SIM support, multi-APN support, signal strength monitoring, dedicated bearers, GSM/C calls  Wireless LAN Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WP, EAP-TLS, IEEE 802.11w, RADIUS accounting, CAPWAP  Link Management Link prioritisation, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision  Network Services 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	Software	Features	
efficient mass deployment. General Tail-afe update (FOTA), upgrade via USB, HTTP(S), (S)FTP or TFTP, remote CLI & WebGUI, RADIUS authentication, Simple Cartificate Encollment Protocol (SCEP), logging Remote Management Manage and monitor devices with SNMP, telnet, SSH, or HTTP/HTTPS Cellular Networking Multi-NIM / soft-Silk support, multi-APN support, signal strength monitoring, dedicated bearers, GSMC calls Wireless LAN Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WP, EAP-TLS, IEEE 802.11w, RADIUS accounting, CAPWAP Link Management Link prioritisation, link suppersion, load balancing, multipath-TCP, IP-passthrough, link supervision Network Services DNCP Client, DNS service, NTP Client, NTP server, OrynDNS, SSH server, SNNP agent, HTTP/HTTPSFP server, vice pateway, SP (Earl Druing, cooxachili hospot Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, EE PDF, IRDP, VRRP, PPDE VPN Open/PN, IPeac, PPTP, GRE, CSD dial-in Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering  Power  input Voltage  24, 48 VDC Nominal voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standarde HS 05155 class S2/C1 1x M12 Accoded male 15 W (max)  Bracket  Mounting  Bracket  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  Level	Software	reatures	NetModule Router Software
General Fail-safe update (FOTA), upgrade via USB, HTTP(S), (SIFT or TFTP, remote CLI & WebGUI, RADIUS authentication, Simple Certificate Incollement Protocol (SCEP), logging			
Simple Certificate Enrollment Protocol (SCEP), logging   Remote Management Manage and monitor devices with SNMP, telnet, SSH, or HTTP/HTTPS   Cellular Networking Multi-SIM / soft-SIM support, multi-APN support, signal strength monitoring, dedicated bearers, GSM/C calls   Wireless LAN Client or Access Point mode, multi-client support, multi-/ hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WP, EAP-TLS, IEEE 802.11.W, RADIUS accounting, CAPW/AP   Link Management Link priorisation, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision Network Services DHCP Client, DNS server, email, SMS service, NTP Client, NTP server, DynDNS, SSH server, SNMP agent, HTTP/HTTS/FTF server, voice gateway, SPE call routing, covarially intolessor   Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, EE FDP, IRDP, VRRP, VLAN, PPPG   VPR			• •
Remote Management Manage and monitor devices with SMMP, teinet, SSH, or HTTP/HTTPS Celluar Networking Multi-SIM /soft-SIM support, multi-APN support, signal strength monitoring, dedicated bearers, CSM/C calls Wireless LAN Client or Access Point mode, multi client support, multi-APN support, signal strength monitoring, dedicated bearers, CSM/C calls Wireless LAN Client or Access Point mode, multi client support, multi-APN support, signal strength monitoring, dedicated bearers, CSM/C calls Wireless LAN Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WP. EAP-ITS, IEEE 802-11w, RADIUS accounting, CAPW/AP Link Management Link prioritisation, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision Network Services DM/C 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 Routing Destination, policy, multipath, mobile-IP, OSPF, BCP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, EE VPN Open/VPN, IPsec, PPTP, GRE, CSD dial-in Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering  Power  Input Voltage  24, 48 VDC Absolute voltages 27 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class S2/C1 1x M12 A-coded male 15 W (max)  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  Environment  Operating Temperature Ingress Protection Level  P40  Environment  Operating Temperature Ingress Protection Level			· · · · · · · · · · · · · · · · · · ·
calls  Wireless LaM Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WP, BAP-TLS, IEEE 802.11w, RADIUS accounting, CAPWAP  Link Management Link prioritisation, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision  Network Services DNC (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  Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, EE VPN OpenVPN, IPsec, PPTP, CRE, CSD dial-in  Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering  Power  Input Voltage  24, 48 VDC  Nominal voltages 24 VDC to 48 VDC (-30 % / +30 %)  Galvanic isolation 1500 VDC  Standard EN 50155 class S2/C1  Ix M12 A-coded male  15 W (max)  Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  -40°C to +70°C  Ip40  Environment  Operating Temperature Ingress Protection Level			· · · · · · · · · · · · · · · · · · ·
Wireless LAN Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WPA-PSK-WPA2-PSK, WPA-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2-PSK-WPA2			Cellular Networking Multi-SIM / soft-SIM support, multi-APN support, signal strength monitoring, dedicated bearers, GSM/CSFB
Link Management Link prioritisation, link aggregation, load balancing, multipath-TCP, IP-passthrough, link supervision Network Services DHCP Client, NTS service, NTP Client, NTP Server, DynDNS, SSH server, SNMP agent, HTTP/HTTPS/FTP server, voice gateway, SIP call routing, cowachilli hotspot Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, ET FDP, IRDP, VRRP, VLAN, PPOE VPN OpenVPN, IPsec, PPTP, GRE, CSD dial-in Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering  Power Input Voltage 24, 48 VDC Absolute voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic Isolation 1500 VDC Standard EN 50155 class S2/C1  Connector 1x M12 A-coded male 15 W (max)  Mounting Bracket  Mounting Bracket  Dimensions W x H x D Width 165/190 mm x height 85 mm x depth 104 mm  Weight 1400 g  Environment Operating Temperature Ingress Protection Level IP40			Wireless LAN Client or Access Point mode, multi client support, multi / hidden SSID, WPA-PSK/WPA2-PSK, WPA-RADIUS, WPA-
Network Services DHCP Client, DNS server, email, SMS service, DNT Client, NTP server, DynDNS, SSH server, SNMP agent, HTTP/HTTPS/FTP server, voice gateway, SIP call routing, coovachilli hotspot Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, Et FDP, IRDP, VRRP, VLAN, PPPDE VPN Open/PN, IPsec, PPTP, GRE, CSD dial-in Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering    Power			<del>-</del>
Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, Et FDP, IRDP, VRRP, VLAN, PPPDE VPN OpenVPN, IPsec, PPTP, GRE, CSD dial-in Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering  Power  Input Voltage 24, 48 VDC Absolute voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard En So155 class S2/C1 1x M12 A-coded male 15 W (max)  Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  -40°C to +70°C IP40 Input Voltage  A 0°C to +70°C IP40			
FDP, IRDP, VRRP, VLAN, PPPOE VPN OpenVPN, IPsec, PTP, GRE, CSD dial-in Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering  Power Input Voltage 24, 48 VDC Nominal voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class S2/C1 1x M12 A-coded male 15 W (max)  Mounting Bracket  Dimensions W x H x D Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment Operating Temperature Ingress Protection Level IP40			HTTP/HTTPS/FTP server, voice gateway, SIP call routing, coovachilli hotspot
VPN OpenVPN, IPsec, PPTP, GRE, CSD dial-in Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering  Power  Input Voltage 24, 48 VDC Nominal voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class S2/C1  1x M12 A-coded male 15 W (max)  Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  -40°C to +70°C IP40			Routing Destination, policy, multipath, mobile-IP, OSPF, BGP, TCP-MSS clamping, STP/RSTP, bridging, LLDP, CDP, SONMP, EDP,
Power Input Voltage 24, 48 VDC Nominal voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class S2/C1 1x M12 A-coded male 15 W (max)  Mounting Bracket  Dimensions W x H x D Width 165/190 mm x height 85 mm x depth 104 mm  Weight 1400 g  Environment Operating Temperature Ingress Protection Level   IP40			
Power			·
Nominal voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class 52/C1 1x M12 A-coded male Consumption 15 W (max)  Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  P40			Firewall Stateful firewall, connection tracking, NAPT, masquerading, bridge filtering
Nominal voltages 24, 48 VDC Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class 52/C1 1x M12 A-coded male 15 W (max)  Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  P40	Power	Input Voltage	24 48 VDC
Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class \$2/C1  1x M12 A-coded male 15 W (max)  Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  Absolute voltages 24 VDC to 48 VDC (-30 % / +30 %) Galvanic isolation 1500 VDC Standard EN 50155 class \$2/C1  1x M12 A-coded male 15 W (max)  Width 165/190 mm x height 85 mm x depth 104 mm			
Connector   1x M12 A-coded male   15 W (max)			-
Consumption  1x M12 A-coded male 15 W (max)  Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  P40  Level			<del>*</del>
Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  IP40  IP40			Standard EN 50155 class S2/C1
Mounting  Bracket  Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  P40  IP40		Connector	1x M12 A-coded male
Dimensions  W x H x D  Width 165/190 mm x height 85 mm x depth 104 mm  Weight  1400 g  Environment  Operating Temperature Ingress Protection Level  IP40  IP40		Consumption	15 W (max)
Weight 1400 g  Environment Operating -40°C to +70°C Temperature Ingress Protection Level IP40	Mounting		Bracket
Environment Operating -40°C to +70°C Temperature Ingress Protection Level IP40	Dimensions	W×H×D	Width 165/190 mm x height 85 mm x depth 104 mm
Environment Operating Temperature Ingress Protection Level IP40	Weight		1400 g
Temperature Ingress Protection IP40 Level			
Ingress Protection IP40 Level	Environment		-40°C to +70°C
Level			IDAO
MTBF 210'000 h / 24 years, according SN29500 at environmental temperature 40 °C			1740
	MTBF		210'000 h / 24 years, according SN29500 at environmental temperature 40 °C
Certifications Compliance CE according to 2014/53/EU (RED), 2011/65/EU (RoHS), Railway according to EN 50155 class OT4/ST0, EN 45545	Certifications	•	· · · · · · · · · · · · · · · · · · ·
<b>Domain</b> Railway		Domain	канway
Order Code NB3701-2Wac	Order Code		NB3701-2Wac