NB3700 CompactRail

EN50155 Certified 3G/4G Router with WiFi 802.11abgn and GPS

Applications

- Remote access
- Data acquisition
- Passenger information systems
- Passenger WiFi
- Passenger counting systems

The NB3700 CompactRail provides wireless Internet access on board. The compact device integrates a WiFi access point and further interfaces for various application like remote access, data acquisition and passenger information.

The NB3700 is the preferred communication device for railway and public transport applications. Thanks to its unique port-based subnetting feature, the NB3700 is able to separate different application networks, thus avoiding interferences and guaranteeing dedicated communication paths. Quality of Service support allows to prioritizing the traffic to avoid that less important tasks are blocking high priority data. The NB3700, operating as communication gateway of the vehicle, enables access to remote stations for any kinds of applications in the Internet, but also to Intranet sites which can be connected via its powerful VPN protocol suite. Multiple devices can directly be attached to the NB3700 by using the integrated 5 port Ethernet switch.

Equipped with multiple 3G/4G modules the total bandwidth can be extended to the needs of the applications. Especially in passenger Wi-Fi applications the increased total throughput gives a better user experience.

The router software is based on well proven components including an embedded Linux operating system and standard communication protocols. The device is administrated via web browser or command line. Selfprovisioning for new software or new configuration is possible. The device can be configured remotely by customer programs via a powerful application interface.

The router is qualified for operating under harsh environmental conditions defined by EN50155, supporting the temperature range TX (-40°C to +70°C, +85°C for 15 minutes). The dual SIM feature and the sophisticated WAN link manager are offering high availability of network connections between multiple network providers. The device is now also available with extended input voltage (72, 96, 110V).

Key Features

- EN50155 TX / EN45545
- LTE/UMTS modem
- WiFi AP/client
- 5 Ethernet M12
- 2 digital I/O
- OpenVPN, IPsec, QoS
- Options: SIP-to-GSM gateway
- Isolated power
- Option: extended input voltage range 72, 96, 110V

Specifications

Mobile / Cellular	1-2 Multimode LTE, UMTS and GSM modules LTE/4G FDD Bands: B1(2100), B2(1900), B3(1800), B5(850), B7(2600), B8(900), B20(800) DC-HSPA+/UMTS/3G: B5(850), B8(900), B2(1900), B1(2100) GSM/2G: B5(850), B9(900), B3(1800), B2(1900) Data rates: LTE max. 100 Mbps downlink / 50 Mbps uplink (DC-HSPA+ 42/5.76) - or - Multimode UMTS and GSM module UMTS/3G: B5(850), B8(900), B2(1900), B1(2100) GSM/2G: B5(850), B9(900), B3(1800), B2(1900) Data rates: max. 14.4 Mbps downlink / 5.76 Mbps uplink Antenna connector: 1-2 TNC female SIM slots: 2 Mini-SIM ISO/IEC 7810:2003, ID-000
WLAN / WiFi	IEEE 802.11abgn up to 300 Mbps 2.4/5GHz MIMO, access point or client Antenna connector: TNC female, supporting one or two antennas
Ethernet	5 port Ethernet switch 10/100 Mbps, auto MDX, M12 connector 4 poles D-coded female
GPS	GPS receiver with NMEA 0183 data stream, tracking sensitivity -154 dBm (typical) Antenna connector: TNC female, support for active and passive antennas
USB	USB 2.0 host interface, Connector type: USB A
Serial	Protocol: 1 x RS232 DCE interface instead of digital I/O port Connector type: M12, 4 poles, D-coded female
Digital I/O	2 digital inputs, level 0 (not set): 0-4.0 VDC level 1 (set): 7.2-40 VDC 2 digital outputs, 0-60 VDC/1A, maximum switching capacity: 60 W Connector: M12 8 poles A-coded female
Power	Standard - Nominal voltages: 24VDC, 36VDC and 48VDC according to EN50155; Voltage range 12VDC to 60VDC, -15% / +5% Option - Nominal voltages: 72VDC, 96VDC and 110VDC according to EN50155; Voltage range 50VDC to 136VDC, ±10% Max. power consumption: 15W Compliant with EN50155 class S2/C1: interruptions up to 10ms are tolerated, no batteries Connector type: M12, 4 poles, A-coded male, Pin1 +, Pin3 -
Environment	Operational temperature: -40 °C to +70 °C; Storage temperature: -40 °C to +85°C Conformal coating, IP40 with SIM / USB cover mounted, IP52 option
Dimensions, weight	Width 190mm x height 86mm x depth 104mm, approx. 1'100g
MTBF	117'000h-296'000h depending on model
EMC standards	EN 55022:2010, EN 61000-6-2:2005, EN 50121-3-2:2006 (Emission) EN 55024:2010, EN 50121-3-2:2006, EN 50121-4:2006 (Immunity)
Type Approval	CE according to R&TTE Railway: EN50155, EN 45545-2
Order numbers NB3700-U NB3700-U-G NB3700-UW-G NB3700-L-G NB3700-LW-G NB3700-LWPb-G	(contact sales for more models, options or project specific adaptations) UMTS Router UMTS Router + GPS UMTS, WLAN Router + GPS LTE Router + GPS LTE, WLAN Router + GPS LTE, WLAN Router + 70, 96, 110V PSE + GPS

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