

NetBox 3700

The NetBox3700 Mobile & WLAN brings wireless Internet access to trains. It may be used for passenger WLAN or any other electronic equipment on board.



The NetBox3700 is advanced communication module for railway and public transport applications. Typical applications are remote management, condition monitoring, data acquisition.

Thanks to its port-based subnetting feature, the NetBox3700 is able to separate different application networks, thus avoiding interferences and guaranteeing dedicated communication paths. Quality of Service support allows to prioritize the traffic to avoid that less important tasks are blocking high priority data. The NetBox3700, 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 NetBox3700 by using the integrated 5 port Ethernet switch.

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 T3 (-25 °C to +70°C). The dual SIM feature and the sophisticated WAN link manager are offering high availability of network connections between multiple network providers.

Characteristics

Mobile Interface	Multimode LTE, HSPA+, UMTS, EDGE, GPRS and GSM with seamless hand-over LTE/4G: 800/900/1800/2100/2600 MHz, max. 100 Mbps downlink / 50 Mbps uplink UMTS/3G: 850/900/1800/1900 MHz, max. 7.2 Mbps downlink / 5.76 Mbps uplink (in combination with LTE: 900/2100 MHz); GSM/2G: 850/900/1800/1900 MHz Up to 6 WWAN links in parallel, Antenna connector: TNC female
WLAN / WiFi	IEEE 802.11b: 1 to 11 Mbps, IEEE 802.11g: 6 to 54 Mbps, IEEE 1-stream 802.11n: 6.5 to 150 Mbps, 802.11a option, Maximum concurrent hotspot users: 110 (with WPA2 authentication method). Operation modes: access point or client, Antenna connector: TNC female
Ethernet Switch	5 port Ethernet switch 10/100 Mbps, auto MDX, M12 connector 4 poles D-coded female
GPS Receiver	GPS receiver with NMEA 0183 data stream, tracking sensitivity -154 dBm (typical). Antenna connector: TNC female, support for active and passive antennas
Digital I/O	2 digital inputs, maximum input voltage 40 VDC, minimum voltage for level 1 (set): 7.2 VDC, maximum voltage for level 0 (not set): 5.6 VDC. 2 digital outputs, limiting continuous current: 1 A, maximum switching voltage 60 VDC, 42 VAC (Vrms), maximum switching capacity: 60 W; M12 connector 8 poles A-coded female
Serial Interface (option)	Protocol: 1 x RS232 DCE interface instead of fifth Ethernet port Connector type: M12, 4 poles, D-coded female
USB	USB host interface, Connector type: USB A
Power	Nominal voltages: 24VDC, 36VDC and 48VDC according to EN50155. Voltage range: 12VDC to 60VDC, -15% / +5%, Max. power consumption: 15W. Power Interruption Class S2: interruptions up to 10ms are tolerated, no batteries. Connector type: M12, 4 poles, A-coded male, Pin1 +, Pin3 -
Environment	EN50155 T3. Base model: -40 °C to +80 °C, UMTS/WLAN: -25 °C to +70°C LTE: -25 °C to +60 °C, Storage temperature: -40 °C to +85°C Conformal coated, IP40 with SIM / USB cover mounted, IP54 option
Dimensions, weight	190mm x 86mm x 104mm, ~1,100g
MTBF	117000h-296000h depending on model

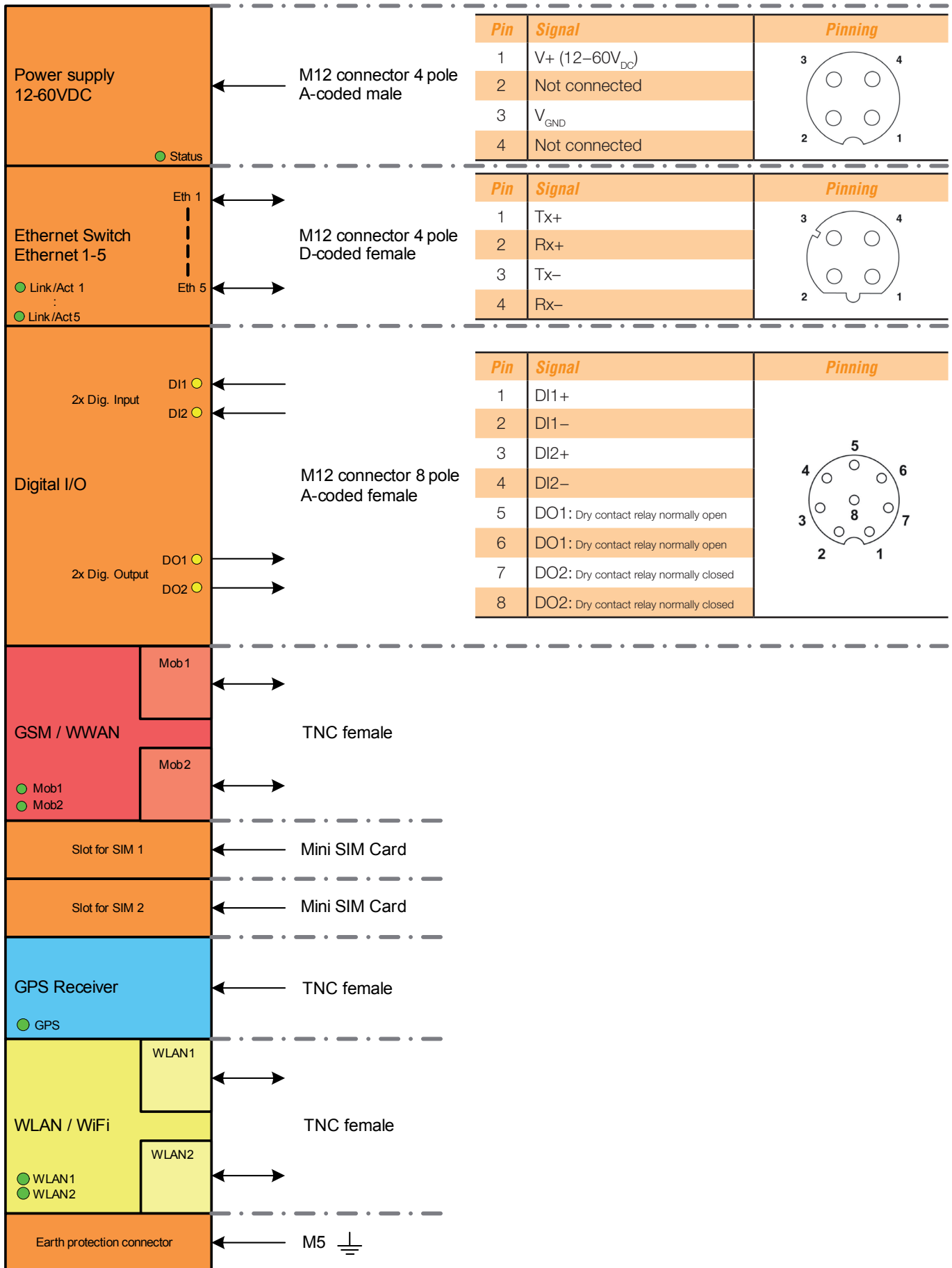
Standards

Railway standards	EN50155, GEN/TS 45545, IEC 60068-2-6:1982; IEC 60068-2-27:1987
EMC Standards	EN55022:2010, EN 61000-6-3:2007+A1:2012, EN 50121-3-2:2006+AC:2008 (Emission) EN55024:2010, EN 50121-3-2:2006+AC:2008 (Immunity)
Type approval	CE according to R&TTE and FCC

Function Overview

HR Part-No.	Description
5.2625.080/90	NetBox VPN-Router, firewall, protocoll, converter, device server
5.2625.080/92	NetBox WLAN (WiFi) 802.11bgn access point / client router
5.2625.080/93	NetBox UMTS(3G) router
5.2625.080/94	NetBox UMTS(3G) router with GPS
5.2625.080/95	NetBox UMTS(3G) WLAN (WiFi) 802.11bgn access point / client router
5.2625.080/96	NetBox UMTS(3G) WLAN (WiFi) 802.11bgn access point / client router with GPS
5.2625.080/97	NetBox 2xUMTS(3G) WLAN (WiFi) 802.11bgn access point / client router with GPS
5.2625.080/81	NetBox LTE(4G) router with GPS
5.2625.080/82	NetBox LTE(4G) WLAN (WiFi) 802.11bgn access point / client router with GPS
5.2625.080/83	NetBox 2xLTE(4G) ; 4xUMTS(G3) ; 2xWLAN (WiFi) 802.11bgn access point / client router with GPS

NetBox 3700 Connection Diagram



NetBox 3700 Dimensions (mm)

