HIRSCHMANN
A **BELDEN** BRAND

NET MODULE

Unwired
Networks

Netmodule NB3800-UN Series

4G, 5G Railway Router with Unwired Edge Cloud OS

High-Performance Wireless Router with up to two 5G-NR, Multiple LTE Advanced, WiFi, Ethernet, GNSS, SSD Storage, ITxPT and EN 50155.

NB3800-UN with Unwired Edge Cloud OS is a high-speed and ruggedized cellular router designed for rail environments. Its rail and industry approvals, versatility, security features and performance make it ideal for applications such as Passenger WiFi, vehicle communication gateway, remote management and edge computing.

Unwired Edge Cloud OS allows for zero-touch cloud management, automatic softare updates, deployment of multiple local networks, uplink aggregation, secure remote access and virtualization of Linux containers.

Hardware features include multiple 4G/5G modules, up to two WiFi modules, GNSS for positioning, 2 Gigabit, 3 Fast Ethernet ports and up to 1 TB internal storage.

The router is compliant with the mandatory requirements of EN 50155 and EN 45545. Communication interfaces include hardened connectors, including M12 for Ethernet, as well as TNC connectors for antenna connections.

NB3800-UN Railway Router with Unwired Edge Cloud OS

Applications / Key Features:

✓ Passenger WiFi, Passenger Entertainment and Information

✓ Vehicle Communication Gateway

✓ Device Management and Telemetry

✓ Edge Computing

✓ Reliable Connectivity

✓ Remote Access

Mobile/Cellular	1 - 2x 5G-NR, LTE-A-Pro, UMTS 1 - 4x LTE Advanced Pro UMTS, GSM
SIM	4x Mini SIM
WiFi/WLAN	1 - 2x Dual-band IEEE 802.11ac (Wi-Fi 5)
Ethernet	2x Gigabit Ethernet 3x Fast Ethernet
Extended Storge	Up to 1 TB SSD
Positioning	Multi-GNSS
Temperature	-40°C to +70°C
Software	Unwired Edge Cloud OS
Compliance	CE (RED), Railway (EN50155, EN45545)

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Specifications

1 - 2x Mobile / Cellular (optional)
Multimode 5G-NR, LTE, UMTS

5G-NR
n1, n3, n7, n8, n20, n28, n38, n40, n77, n78

4G – LTE
B1, B3, B7, B8, B20, B28, B38, B40

3G - DC-HSPA+/UMTS
B1, B3, B8

Specification
LTE Cat. 20 up to 7CA
4x4 MIMO support in 5G n1, n3, n7, n38, n40, n77, n78 and LTE B1, B3, B7, B38, B40
up to 5.5 Gbps DL / 2.7 Gbps UL
5G NR Modes Sub-6 FDD and TDD
5G Core SA and NSA operations
3GPP LTE/5G Rel. 15, 3G HSPA+ Rel. 18

Region
EMA (APAC or NA on request)

Connector
4 - 8x TNC femaleVoice

SIM
4x Mini SIM - 2FF

1 - 4x Mobile / Cellular (optional)
4G – LTE
B1, B3, B7, B8, B20, B28

3G - DC-HSPA+/UMTS
B1, B3, B8

2G - GSM/GPRS/EDGE
B3, B8

LTE Specification
LTE Cat 4, 2x2 MIMO
DL 150 Mbps / UL 50 Mbps

Voice
CSFB, VoLTE (with optional License)

Region
EMEA

1 - 2x Mobile / Cellular
Multimode LTE Advanced Pro, UMTS

4G – LTE
B1, B3, B7, B8, B20, B28, B38, B40

3G - DC-HSPA+/UMTS
B1, B8

LTE Specification
LTE Cat 12, 2x2 MIMO
DL 600 Mbps / UL 150 Mbps

Region
EMEA, (APAC or NA on request)

Connector

2 - 4x FAKRA D-coded

SIM
4x Mini SIM - 2FF

1 - 2x WiFi / WLAN (optional)
Standard
IEEE 802.11a/b/g/n/ac (Wi-Fi 5)
Dual-band 2.4/5 GHz
2x2 MIMO

Bit rate (max)
300 Mbps 2.4 GHz, 866 Mbps 5 GHz

Modes
Client or Access Point (max. 100 Cl.)

Connector
2 - 4x TNC female

5x Ethernet
2x Gigabit Ethernet
3x Fast Ethernet

Standard
1000Base-TX, Auto MDIX
100Base-TX, Auto MDIX

Connector
2x M12 X-coded female
3x M12 D-coded female

1x USB
USB 2.0 Host Port

Connector
1x Type A

Positioning (optional)
1x Multi-GNSS
BeiDou, Galileo, GLONASS, GPS/QZSS
gpsOne Gen 9

Sensitivity
Up to -158 dBm, < 2m CEP (50)

Antennas
Active or passive

Connector
1x TNC female

Serial, Fieldbus
Protocol
1xRS-232

Signals
TX, RX

Bit rate
Up to 115 200 Bit/s

Connector
1x M12 A-coded female

1 - 2x Module Options
Instead of Serial, Fieldbus

Options
RS-232I, RS-485I, CAN, Audio, IBIS, Digital-I/O, GSM-R

Connector
1x M12 A-coded female

System
Core
1.3 GHz dual-core, 1 GB RAM, 4 GB flash

Module Slots
2x miniPCIe (PCIe + USB), 4x miniPCIe (USB)

Extended Storage
64 GB flash, eMMC for Application data such as logs, media content, ...

Power
Input voltages
24, 36, 48 VDC (-30 % / +30 %)
Optional:
72, 96, 110 VDC (-30 % / +30 %)

Maximal Power Consumption
25 W

Standard
EN 50155 class S2 / C1

Connector
1x M12 A-coded male

Other
Dimensions
Width 167/190 mm x height 121.1 mm x depth 106.5 mm

Weight
ca. 2000 g (with SSD storage)
ca. 1800g (without SSD storage)

Environment
Operating Temperature (depending on model)
-40 °C to +70 °C
EN 50155 class OT4/ST0

Ingress Protection Level
IP40

Software
Unwired Edge Cloud OS (licence included)

Features (requires Unwired Edge Cloud subscription)

Unwired Edge Core (Unwired Edge Cloud Console, Device Management, APIs, Telemetry & Monitoring)

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Unwired Edge WiFi (Passenger WiFi with content filtering and assumed liability, On-board & Cloud WiFi Portal, WiFi Portal Editor, Content Feeds, Content Delivery Network)

Unwired Edge Compute (container virtualization)

Unwired CloudLink (WAN Bonding by Bondix, Load-balancing, Seamless handovers, Managed Bonding Server)

Certifications

Compliance

CE according to 2014/53/EU (RED), 2011/65/EU (RoHS)
UKCA according to Radio Equipment Regulations 2017 No. 1206 (RER),
Railway according to EN 50155,
EN 45545-2
ITxPT (requires license)
Vehicle according to UNECE-R118, UNECE-R10 (on request)

Ordering options

Contact our Unwired sales team sales@unwirednetworks.net

Product of Netmodule AG with Unwired Edge Cloud OS software licence.

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