



Datasheet ON3900

- Optimal communication unit for vehicles
- High computing power for higher speeds and greater bandwidths
- Latest mobile standards 5G Rel.16 and Wi-Fi 7
- Extensive SD-WAN functionalities: VPN, QoS
- Intelligent link bundling for seamless train-to-ground connections
- Integrated hypervisor for edge computing applications (VMs, containers)
- Cybersecurity protection: network zoning, firewalls, encryption
- Versatile vehicle interfaces (CAN, IBIS, ITxPT, Digital I/O)
- Sensor-to-cloud data transmission
- High-quality, compact hardware design with flexible mounting options
- "Zero Touch" deployment ex factory
- Centralized fleet management



Applications

- Passenger Wi-Fi
- Condition monitoring
- Passenger information systems
- Driver communication
- CCTV
- Remote maintenance
- Payment systems

Features

- Up to 4 x 5G interfaces
- 2 x 5G and 2 x Wi-Fi 7
- 3 x 2.5 Gbps Ethernet, Push-Pull M12
- VLAN, VRF, Firewall, IPsec
- 8 SIM card slots, eSIM
- High-precision GNSS
- Optional SSD up to X TB
- CE, EN 50155, EN 45545, EMC 06
- Cybersecurity: IEC 62443-4-2
- Ignition voltage detection

Technical specifications ON3900

Dimensions / Weight

Dimensions (W x H x D): 260 x 66 x 175 mm

Operating Temperature: -40 °C to +70 °C

Ingress Protection Level: IP40

Port Type and Quantity Options

3 x 2.5 GbE, push-pull M12 X-Coded

Radio-Frequency Modules

Up to 4 Cellular / Wi-Fi Modules with 4x4 MIMO, e.g.

4 x 5G-NR / LTE-A

2 x 5G-NR / LTE-A and 2 x Wi-Fi 7

5G Release 16 / Wi-Fi 7 Access Point,
Client and Mesh modes

8 x SIM-Card slots (Nano Sim, push-push tray)
on two easy handable SIM-drawers

Optional: Easy handable SIM-tray, as Option with
8 x SIM-Card holder (Nano SIM, push-push tray)

Positioning

Built-in Standard-precision GNSS receiver

Optional: GNSS Receiver with DR (Dead reckoning)
Hi-Precision GNSS Receiver with DR (Dead reckoning)
and RTK (Real-Time Kinematic)

CPU

Quad Core Cortex A72 64-bit @ 1.6 GHz,
4 GB RAM (DDR4), 8 GB Flash

Antennas

16 (Cellular / Wi-Fi)

+1 (GNSS) FAKRA Type RF Connectors

Optional: 16 (Cellular / Wi-Fi)

+1 (GNSS) QLS Type RF Connectors

Power Supply

24 – 110 VDC (+/- 30 %) Power Input

Interfaces

1x USB-C Host Port, 1x USB-C Device Port, LED (RGB)

Real Time Clock (RTC)

Buffered 48 h

Extension Options

2 x Extension Slots (10 pin terminal block) to host
options like CAN-FD / RS-485 / RS-232 / DIO

Storage Options

Storage NVMe M.2 SSD, starting from 128 GB
and up to X TB

Environmental

Normal high above sea level, 2000 m and up to
4000 m with temperature derating

Compliance

CE, FCC, UL 62368, PTCRB
(US-Provider Certification will follow)

Country approvals at product launch Europe, USA,
Canada, Australia/New Zealand

EN 50155, EN 45545, EBA EMV 06