

Celer

Onboard automotive router

Introduction

The **Celer-series** is Teldat's next generation multi-service communications platform for vehicles. It provides 5G/4G Wi-Fi 6 broadband, secure connectivity with Teldat's next generation firewall, artificial intelligence applications with Google's Coral and eSIM for remote SIM provisioning via Teldat's SENDA (Service for ENhanced Deployment & Administration) service.

Product Highlights

- 5G/4G with Wi-Fi 6
- be.OT: Next Generation FireWall IDS/IPS by Teldat
- Remote SIM provisioning and SENDA service
- Artificial Inteligence Google Coral
- GUI interface for easy installation and maintenanc
- GNSS Tracking Services
- Multi-gigabit Ethernet

Interfaces

Cellular module	5G o 4G optionally
Wi-Fi module	Wi-Fi 6 802.11 ax
BT Interface	Bluetooth 5.1
Location system	GPS embedded
Digital I/O	Yes 1 PIN
Ethernet interface	2 x 2.5 GbE RJ45



Competitive Advantage

Dedicated cybersecurity embedded	IDS/IPS with +800 firms, webfiltering, NGFW and traffic analyser with multiple configurations all embedded in the router.
Best performance WWAN	5G or optionally 4G with Wi-Fi 6 802.11ax/ac/b/g/n in dual band AP and client modes.
Bluetooth 5.1 Connectivity	Bluetooth connectivity increases the networks scalability of the router.
Artificial Intelligence applications	With the Google Coral chip the Celer has the state-of-art AI in-vehicule applications and its future updates.

Key Features

- 4G or 5G configurable cellular module** Availability of chose between Celer-Series with the 5G modem (the best performance solution) and the Celer-Series 4G which is the cost effective one.
- Bluetooth 5.1 low consumption** Multi service BT 5.1 to configure the router and various functions such as connection of sensors or on-board accessories.
- AI Applications** Via TPU (Tensor Processing Unit) embedded Google Coral for dedicated applications such as video processing (Computer Vision), predictive maintenance and many other AI applications.
- dual-SIM slot with eSIM** Dual SIM for each port to increase connection availability, using any telecommunications operator as a backup for the others in case of connection loss in a single module and eSIM availability to zero-touch provisioning.
- Embedded GPS with Teldat's Mobility applications** Ideal for fleet management or telemarketing applications. The equipment has GPS accessible via TCP port that provides real-time geolocation information in NMEA standard.
- Wi-Fi 6 (802.11a/b/g/n/ac)** Multi user 2x2 MiMo dual band Wi-Fi that seamless integrates with HotSpot and WebFilter applications, creating a full solution for on-board Internet connectivity.
- Cybersecurity embedded** Teldat's Security Solutions of Operational Technology to on-board systems.
- Optimised hardware design for on-board environment** Extended temperature range (-25°C to 70°C). Anti-vibration design. 12-24 VDC for connection to batteries with optimising battery consumption capabilities.
- Power supply protection (increase MTBF)** Power supply protection and ignition detection for delayed shutdown. Minimisation of failures due to unstable power supply. Temperature sensor for automatic shutdown.

HARDWARE TECHNICAL FEATURES

WWAN

5G-NR and LTE/HSPA+ or 4G module (external SMA antennas)
 Wi-Fi: dual MiMo 2x2 radio in 2.4 and 5 GHz with SMA-RP connectors
 Bluetooth: low energy 5.1 single SMA antenna connector

SIM

Dual-SIM with one physical slot-tray and one eSIM per modem.
 SENDA service (optional)

Dimensions and weight

145 x 150 x 55 mm (Large/width/height)
 Approximate weight: 1.5 Kg
 Flexible installation with DIN carril optionally

Ethernet

2 x 2.5 GbE LAN/WAN
 Duplex support
 RJ45

Certifications

Regulatory: e-Mark, CE(EU), FCC, RED
 Materials: RoHS, REACH
 EN 60068-2, EN60950-1, EN55022, EN55024

Envirnomental

Ingress Protection: IP40 Solid particle protection > 1 mm
 Operating temperature: -25 to + 70 °C
 Storage temperature: min. -40 °C max. +75 °C

SOFTWARE TECHNICAL FEATURES

Management

Interface: User friendly GUI, CLI configuration and storage in a plain text
 Cloud based Network Management with auto provision functionality.
 Certificates: RADIUS and TACACS+ compatible AAA support

IP Services and Protocols

DHCP, DNS, SFTP, and SSH server and client NTP, LDAP, Syslog
 ARP, ARP Proxy, MTU discovery, NAT, ECMP, BFD RIP, OSPF, BGP
 Multicast: IGMP (v1 to 3), PIM-SM, MSDP, MLDv2

Wi-Fi specific functions

HotSpot Gateway functionality to support HotSpot services
 WLAN controller functionality for Teldat on-board APs

Security

IPSec in transport and tunnel mode, DMVPN, wireguard, OpenVPN and Pulsesecure
 Certificates: CSR, SCEP, X.509v3, PKIX, LDAP revocation
 NGFW with additional license.

Quality of Services

Classification, marking, BW management, BW prioritisation and limitation

ADDITIONAL TECHNICAL FEATURES

TPU Google Coral (*Roadmap)

High-speed inferencing for machine learning (ML) models.
 4 TOPS: capable of performing 4 trillion operations per second

Bundle CNM & CNM Mobility (*Roadmap)

Global centralized device management tool
 Info in real time of the vehicles
 Coverage, signal strength, bandwidth or throughput among others.

SENDA (*Roadmap)

Service for ENhanced Deployment & Administration
 Selected edge devices
 Enhanced deployment (universal zero-touch provisioning)

Scenarios

