

# owa450



The Perfect Platform for controlling and monitoring your industrial Machines and Vehicles

## Global LTE & ITXPT IoT Gateway

### owa450 Core:

- LINUX Kernel 4.19.94
- Debian 10 Distribution File System
- ARM Cortex A8 32 bit 800MHz
- 512MB DDR3 (Up to 1 GB)
- 1GB NAND Flash (Up to 2 GB)
- Access to Debian Standard Repositories
- Able to run C/C++, Python, Java, LUA apps

### Key Features:

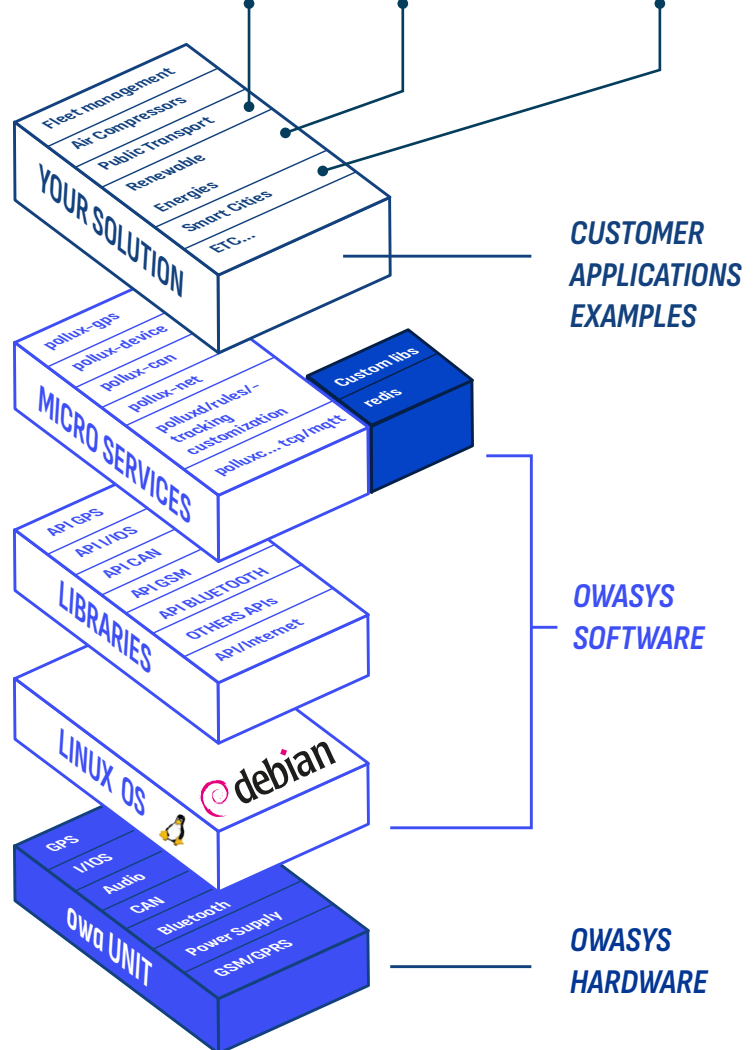
- IP40 Enclosure
- CAN (up to 4 interfaces)
- Kline (up to 2 interfaces)
- RS485 (up to 2 interfaces)
- Programmable 3 Axis Accelerometer
- TPM 2.0
- 8 digital output open drain 200mA.
- 2 digital output high side 1A.
- 10 digital input 0 to 50V.
- 3 additional optional digital input.
- 4 analog input, 0 to 5,12V or 0 to 30,72V
- 5V voltage output
- 3 RS232 (TX, RX) interface
- Ethernet 10/100Mbps
  - RJ45 or M12 connector
- MicroSD
- Micro SIM
- USB 2.0
- Programmable 9 Axis sensor (optional)
  - Accelerometer/Gyroscope/Magnetometer.

### Wireless Interfaces:

- Concurrent reception of up to 3 GNSS  
GPS, GLONASS, GALILEO, BeiDou  
Dead Reckoning options
- CELLULAR COMMUNICATIONS
- LTE Cat 1 with 3G and 2G fallback
- Region: Global (Worldwide)
- WiFi 802.11 a/b/g/n/ac
- BT 4.2

### Mechanics

- IP40
- 150mm x 94mm x 32mm



[www.owasys.com](http://www.owasys.com)

Time to wireless!!

BOK 100 9101-I\_owa450 Datasheet

**owasys**<sup>®</sup>  
HMS GROUP MEMBER

**CPU**

- ARM Cortex A8 at 800MHz clock speed.
- Linux Kernel 4.19.94
- Debian 10 File System
- NAND FLASH 1GB (Up to 2 GB)
- DDR3 512MB (Up to 1 GB)
- MicroSD card holder for additional storage.

**GNSS**

- Receiver: GPS/GLONASS/GALILEO/QZSS/BeiDou.
- 72-channel continuous tracking receiver.
- SBAS: WAAS, EGNOS, MSAS, GAGAN.
- Update Rate: up to 10Hz.
- Accuracy: 2 meters CEP.
- Signal Acquisition:
  - Cold Start: 26 s.
  - Hot Start: < 1.5 s.
- Signal Reacquisition: < 1 s.
- Active Antenna Power Supply: +3.3V
- \* Features availability depending on version.

**Interfaces**

- Up to 4 CAN bus
  - 2 CAN bus supporting full speed 1Mbps CAN 2.0B.
  - 2 CAN FD supporting 8Mbps
- Up to 2 K-line bus.
- Integrated sensors.
  - Programmable 9 axis sensor, accelerometer, gyroscope and magnetometer.
- TPM 2.0
- 10 configurable digital input/outputs:
  - 50V max inputs (logic low <1.5V, high >3V).
  - All inputs function as wake signals for low power modes.
  - All inputs can be used as counters (odometer). 32bit, 3Khz max.
  - 8 open collector outputs (200mA each).
  - 2 high-side switches to Vin for output (1A each)
  - Short-circuit protection for all outputs
- Optional 3 extra digital inputs in expansion connector
- 4 analog inputs:
  - 12 bit resolution, 1% accuracy.
  - Multiplexed with digital I/O pins.
  - 0-5.12V (5mV per bit) or 0-30.72V (30mV per bit) configurable by SW
- Maxim 1-Wire.
- microSD card holder
- USB Host 2.0
- 3 external RS232 ports. 6 pins configurable by SW as follows:
  - 3 x (TX/RX) or
  - 1 x (TX/RX) & 1 x (TX/RX/CTS/RTS)
- Up to two RS485 port.
- Ethernet 10/100Base-TX
- Vout 5V power output (500mA max).
- FAKRA antenna connectors
- 4 LEDs for status indication
- Audio CODEC for external microphone and speaker
- \* Availability of features depends on models

**Power Supply:**

- Nominal range of 9V to 48V.
- Typical consumption at 24V:

OFF	0.335 mA
Standby	9.88 mA
RUN	47 mA
RUN + GSM + GPS	73 mA

**Batteries**

- Back-up when there is no power supply available.
- Standard backup battery for RTC. Duration 10 years.
- Optional rechargeable Li-Ion 3.7V. Inserted via rear battery cover.

Safety Purposes Operating Temperature Range without Li-ion Battery	-40 °C to +75 °C*
Safety Purposes Operating Temperature Range with Li-ion Battery	-40 °C to +55 °C (from external power supply) -20 °C to +55 °C (battery can power the unit) 0 °C to +45 °C (battery will be charged if external power available)

\* Industrial temperature range components -40 °C to 85 °C

**• LTE Cat 1 with UMTS/HSPA and GSM fallback**

- DL 10.2Mbps, UL 5.2Mbps
- GPRS Class B, Class 12 (4&4).
- No standard voice calls support, calls must be done using a SIP client.
- owa450(P):
  - LTE Cat 1 bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28, 66
  - UMTS/HSPA+ bands: 1, 2, 3, 4, 5, 6, 8, 19
  - GSM/GPRS/EDGE: Quad band

**Enclosure**

- Environmental protection to IP40 standard. (protection against dust).
- Dimension: L=150 x W=94 x H=32 mm)
- Weight: 254g
- Material: PC+ABS.
- System connectors: Molex Microfit 24 way 43045-2400
- MicroSIM
- MicroSD
- Ethernet RJ45 or M12

**Development Kit**

Includes: Developer's board owa450, power supply cables, cables for interfaces, speaker, microphone, antennas, web access to: cross compiler, API, libraries, manuals and application notes.

**Options**

See DESI-BOK 100 9108 for product variants and options

