owa450

TAKE COMPLETE CONTROL OF REMOTE DATA COLLECTION AND PROCESSING
THE owa450 IS THE PERFECT PLATFORM FOR CONTROLLING AND MONITORING
YOUR INDUSTRIAL MACHINES AND VEHICLES

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)
– Programable 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 additonal 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

Wireless Embedded Computer

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TECHNICAL SPECIFICATIONS

• 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
  – 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/output:
    - 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)
  – 2 x Ethernet ports.
  – 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:

<table>
<thead>
<tr>
<th>State</th>
<th>Current (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>0.335</td>
</tr>
<tr>
<td>Standby</td>
<td>9.88</td>
</tr>
<tr>
<td>RUN</td>
<td>47</td>
</tr>
<tr>
<td>RUN + GSM + GPS</td>
<td>73</td>
</tr>
</tbody>
</table>

• 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.

• Temperature
  – Industrial temperature range components -40 °C to 85 °C
  – Operating Temperature:
    - -40 °C to 75 °C without Li-ion Battery
    - -40 °C to 55 °C (from external power supply) with Li-ion Battery
  -20 °C to 55 °C (battery can power the unit) when battery is charged
  0 °C to 45 °C (battery will be charged if external power available)
*Industrial temperature range components -40 °C to 85 °C

• Rugged 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 (POP 100 9100#90)
  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.