owa3X platform

POWERFUL OPEN M2M PLATFORM SUITABLE FOR THE WIRELESS APPLICATION YOU NEED TO DEVELOP

A NEW GENERATION OF OPEN, FLEXIBLE AND POWERFUL WIRELESS EMBEDDED COMPUTERS, PROVIDING FULLY WIRELESS CAPABILITIES FOR REMOTE MANAGEMENT AND MONITORING.

A UNIQUE PLATFORM TO DEVELOP TELEMETRY AND TELEMATIC APPLICATIONS WITH OPTIONAL ENCLOSURE FOR RUGGED CONDITIONS, INTERNAL ANTENNAS AND A WIDE RANGE OF CONNECTIVITY.

owa3X PLATFORM INTEGRATES:

- GSM/GPRS (optional 3G)
- GPS
- EMBEDDED IP FUNCTIONALITY
- WIDE VARIETY OF INTERFACES
  - ANALOG AND DIGITAL I/O
  - 3 RS232 & 2 RS485
  - 3 CAN, 2 K-Line & iButton
  - AUDIO
  - ETHERNET, MICROSD, etc.
  - USB

OPTIONS:

- BLUETOOTH™
- WiFi
- HSPA / UMTS
- CODEC
- I/Os Expansion Board

Wireless Embedded Computer

CUSTOMER APPLICATION

OWASYS SOFTWARE

OWASYS HARDWARE

ARM

ARM9 CPU 32bit
- 400 MIPS
- 64MB FLASH
- 32MB / 64MB RAM
- Industry Standard Architecture

LINUX and C
- Open Platform
- Complex Applications
- Flexible

PSU
- Robust for Automotive
- Very low power

owasys
Advanced Wireless Devices
**Datasheet: OWA3X Telemetry Module**

**Part of APC Technology Group plc**

**EMBEDDED**

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### Interfaces

- **10 configurable digital inputs/outputs:**
  - 50V max inputs (logic low <3V, high >5V).
  - 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 (100mA each).**
- **2 high-side switches to Vin for output (1A each).**
- Short-circuit protection for all outputs.
- **4 analog inputs:**
  - 10 bit resolution, 1% accuracy.
  - Share 4 of the digital I/O pins (only in owa3x-IP30 models).
  - 0-5.12V (5mV per bit) or 0-30.72V (30mV per bit) configurable by sw.
  - Internal ADCs for Vin, Vbat, and temperature.
- **Removable cover for SIM; main battery and microSD.**
- **microSD card holder.**
- **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) or
  - 1 x (TX/RX/CTS/RTS/DCD/DTR)
- **RS485 1Mbps interface.**
- **Ethernet 10/100 BaseT.**
- **Vout 4.5V power output (100 mA max).**
  - When running from battery backup 3.7V (100mA max).
- **GSM / GPRS with FAKRA antenna connector.**
- **GPS with FAKRA antenna connector.**
- **4 LEDs for status indication (6 with Ethernet).**
- **Audio for external microphone and speaker.**
- **CAN bus supporting full speed 1Mbps CAN 2.0B.**
- **K-line bus.**
- **Integrated sensors.**
  - Programmable 3 axis accelerometer and/or gyroscope.

*Availability of features marked with (*) depends on model.

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### Power Supply

- **Nominal range of 7 V to 48 V.**
- **Typical consumption at 12V:**
  - **OFF** 0.4mA
  - **Standby** 15 mA
  - **RUN** 50mA
  - **RUN + GSM voice call** 90mA

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### Batteries

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

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### Temperature

<table>
<thead>
<tr>
<th>Condition</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>-40 °C to +85 °C</td>
</tr>
<tr>
<td>Operating with GSM off</td>
<td>-40 °C to +85 °C</td>
</tr>
<tr>
<td>Operating with GSM on</td>
<td>-30 °C to +80 °C</td>
</tr>
<tr>
<td>Operating from Li-ion Battery</td>
<td>-20 °C to +60 °C</td>
</tr>
<tr>
<td>Li-Ion Battery recharge</td>
<td>0 °C to +45 °C</td>
</tr>
</tbody>
</table>

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### CPU

- **ARM9 at 400MHz clock speed.**
- **Linux OS 2.6.36.**
- **FLASH 64Mbyte.**
- **RAM 32Mbyte / 64Mbyte.**
- **MicroSD card holder for additional storage.**

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### GSM/GPRS

- **GSM850 + EGS900 + GSM1800 + GSM1900.**
- **Class 4 (2W) for GSM850/EGS900.**
- **Class 1 (1W) for GSM1800/GSM1900.**
- **GPRS Class B, Class 10 (4&2).**
- **Audio and CSD Data calls.**
- **SMS (MT/MO).**
- Multiplexed communication supported allowing GSM events and SMS during GPRS connection.

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### GNSS

- Receiver: GPS L1 frequency, C/A code.
- 56-channel continuous tracking receiver.
- GALILEO L1 open service and GLONASS ready.*
- SBAS: WAAS, EGNOS, MSAS, GAGAN.
- Update Rate: 4Hz.
- Accuracy: 2.5 meters CEP.

**Signal Acquisition**

- **Cold Start:** 29 sec.*
- **Warm Start:** 28 sec.*
- **Hot Start:** < 1 sec.
- **Active Antenna Power Supply:** +3.0V @ 30mA.

* Features availability depending on version.

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### Mechanical

**Aluminium enclosure:**

- Environmental protection to IP30 standard.
- Protection against objects larger than 2.5mm and no protection against water.
- **Dimensions:** 110 x 85 x 40 mm, excluding connectors and screws.
- **Dimensions:** 110 x 85 x 26 mm, (COMPACT VERSION).
- **Weight:** 270g.
- **Connectors:**
  - GSM & GPS with FAKRA antenna connector.
  - GPS with FAKRA antenna connector.
  - 4 LEDs for status indication (6 with Ethernet).
  - Audio for external microphone and speaker.
  - CAN bus supporting full speed 1Mbps CAN 2.0B.
  - K-line bus.
  - Integrated sensors.
  - Programmable 3 axis accelerometer and/or gyroscope.

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### Conformity

- **2014/53/EU RED Directive.**
- **UNECE Regulation R-10 (2004/104/EC Directive).**
- **2011/65/UE RoHS II Directive.**

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### Development Kit

Includes:
- Developer’s board owa3X, power supply cables, cables for interfaces, antennas, web access to: cross compiler, API’s, libraries, manuals and application notes.

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### Options

See DESI-BOK100 6006 for product variants and options.