

owa2X Family

owa23X-Rugged

IP67: FULL PROTECTION
AGAINST DUST AND WATER*

A NEW SPECIALIZED PRODUCT FOR RUGGED CONDITION APPLICATIONS!
IP67 ENVIRONMENTAL PROTECTION: FULL PROTECTION AGAINST DUST AND WATER.
Internal Antennas!.Reduced Installation cost!*

New option: K-LINE

- REDUCE THE INSTALLATION COST USING THE OPTION owa23X-INTERNAL ANTENNAS.
- NEW SUPERSENSE GPS RECEIVER.

Protection against the entry of dust (dustproof). Complete Contact protection. Protection against strong seas or strong water jets. IP67 signifies protection against the effects of immersion from 15 cm to 1 m for 30 min without water ingress.

- GPRS Class B, Class 10 (4+2), GSM Quad Band, **850MHz**, 900MHz, 1800MHz and **1900MHz**.
- 16 channel GPS integrated. WAAS and EGNOS support. (Depending on model)
- 8 configurable digital inputs/outputs (I/O-0 to I/O-7). I/O-6 can be used as an odometer input.
- 2 analog inputs.
- ON/OFF pin.
- TCP/IP Stack for transparent Internet Connection.
- ARM 7 core up to 60 MIPS, Linux OS and 8 Mbyte FLASH Memory.
- CAN. (Depending on model)
- RS232 and RS485 buses.
- Movement sensor.
- Tamper-proof SIM card (inside enclosure).
- Dedicated internal battery for Real Time Clock and GPS.
- Rugged enhancement.
- Software upgradeable over the air by customer application.
- Optional Ethernet 10baseT. (Depending on model)



VARIANTS	CAN	GPS	30 Way Connector Pin Options			
			A3	B3	D3	E3
owa23A ⁽¹⁾		x	MICP	MICN	SPKP	SPKN
owa23I			MICP	MICN	SPKP	SPKN
owa23A-CAN	x	x	MICP	MICN	SPKP	SPKN
owa23A-ETH		x	ETH-RX+	ETH-RX-	ETH-TX+	ETH-TX-
owa23I-ETH			ETH-RX+	ETH-RX-	ETH-TX+	ETH-TX-
owa23A-ETH-CAN	x	x	ETH-RX+	ETH-RX-	ETH-TX+	ETH-TX-

TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS

- **Power Supply:**
 - Nominal Voltage Range: 6 to 40 Vdc.
- **Interfaces:**
 - 8 configurable digital input/outputs (I/O-0 to I/O-7) .
 - 40Vmax inputs, 100mAmax outputs.
 - I/O-6 can be used as odometer input.
 - ON/OFF pin.
 - CAN bus. (Depending on model)
 - RS232 bus (Tx, Rx, CTS, RTS).
 - RS485 bus (or optional RS232, or optional K-LINE)
 - 2 analog inputs (0-5V) .
 - Audio: Speaker and Microphone (depending on model) .
 - Ethernet 10baseT (depending on model) .
 - Vout 4.5V power output (100mA max) .
 - GSM and GPS antenna connectors.
 - 4 LEDs for status indication.(6 with ETH)
 - Internal movement sensor. (Depending on model)
 - RTC and GPS dedicated battery, 1 month autonomy at 25°C.
- **Approvals**
 - CE Marking.
 - e-marking.

• Power Consumption-Typical Average @12V

Zero Power Mode	4 uA
Low Power Mode	2 mA
Sleep ^[2]	6 mA
Run ^[3]	180 mA

^[2] GSM on network and CPU in sleep.

^[3] GPS Running and GSM transmitting at maximum power.

• Temperature:

Operating (Fully GSM compliant)	-30°C to +75°C
Operating with GSM OFF	-40°C to +85°C
Storage	-40°C to +85°C
With internal battery back-up accessory ^[4]	-20°C to +60°C

^[4] Allowing battery discharge

FIRMWARE SPECIFICATIONS

- 32 bits RISC ARM7 core up to 60 MIPS (Dhrystone 2.1) at 70 Mhz.
- Linux OS (Kernel v.2.4.18).
- Memory:
 - 8 Mbyte FLASH
 - 16 Mbyte RAM
- Application Programming Interface for:
 - owa23 control.
 - Power management.
 - GSM/GPRS.
 - Internet connection.
 - Controlling all the interfaces: I/Os, CAN.
 - GPS.

GSM/GPRS SPECIFICATIONS

- GSM850 + EGSM900 + DCS1800 + PCS1900.
- Power Output Class 4 (2W) for GSM850/EGSM900.
- Power Output Class 1 (1W) for DCS1800/PCS1900.
- GPRS Class B, Class 10 (4+2).
- Audio and CSD Data calls.
- SMS (MT/MO).
- Multiplexed communication supported with GSM/GPRS modem allowing GSM events and SMS during GPRS connection.

GPS SPECIFICATIONS **NEW!**

Kick Start: u-blox 5 receiver module enabling faster start and reacquisition times.

- Receiver: Hybrid GPS L1 frequency, C/A Code GALILEO Open Service L1 frequency, 50 Channels.
- Update Rate: >/= 4 Hz.
- Accuracy: 2,5 m CEP (Circular Error Probability).
- Signal Acquisition:
 - Cold Start: 29 sec.
 - Warm Start: 29 sec.
 - Hot Start: < 1 sec.
 - Aided Start: < 1 sec.
- Signal Reacquisition: <1 sec.
- Power supply for active antenna. + 3 Volt @ 30mA current

• Active antenna recommendations: min 15 dB, max 30 dB, max noise figure 1.5 dB

• Sensitivity

- Acquisition -144 dBm
- Tracking -160 dBm
- Reacquisition -160 dBm

MECHANICAL SPECIFICATIONS

- Dimension: 153.2 (W) x 54 (H) x 134.6 (L).
- Weight: 400g
- Material: Glass reinforced plastic.
- Environmental protection to IP67 standard.
- Connectors:
 - 2 Fakra (GSM & GPS).
 - 30 pin power and signal interface.

INTERNAL ANTENNAS*

– **GPS Receiver:** Ublox 5 SuperSense

– **GSM Antenna:**

- Type: Tri-band PIFA Ceramic antenna.
- Gain: -2 dBi typical.
- Frequency Bands:
 - EGSM 900: TX 880,2 - 914,8 MHz
RX 925,2 - 959,8 MHz
 - EGSM 1800: TX 1710,2 - 1784,8 MHz
RX 1805,2 - 1879,8 MHz
 - EGSM 1900: TX 1850,2 - 1909,8 MHz
RX 1930,2 - 1989,8 MHz

– **GPS Antenna**

- Type: Ceramic Patch
- Gain at zenith: 5 dBi
- LNA: 15 dB typ

UNIVERSAL DEVELOPMENT KIT

- Developer's board owa23X.
- Power supply cables.
- Cables for interfaces.
- CD with: Cross compiler, API's library, manuals, and applications notes.
- Wall-plug to supply the owa21X and Development Board.
- Power & Signal cable 30 way.
- 1/4" nut driver
- Cinch box opening tool