

### Features

#### General Features:

- Wireless features for high precision vehicle localization and enhanced communications
- Compliant with the EN50155 and ECE standards (conformal coating of the modules installed inside the AVL Light is available upon request)
- Temperature Range:
  - -25°C ~ +70 °C
  - +85°C for 10 min. (EN50155 class T3)
- Fanless cooling system
- Rugged Chassis Design
- Protection IP54 (can be extended to IP65)
- Maximum Power Consumption: 10W
- Maximum Weight: 2Kg
- USB 1.1 port (optional second port available)
- Fast Ethernet (10/100 Mbps)
- CAN Bus
- 2x Serial Ports (RS-232/422/485)
- 4x Opto-isolated Digital Inputs
- 4x Opto-isolated Digital Outputs
- Odometer Input
- Programmable Identifier Line
- Audio I/O interface
- Analog Video out (optional)

#### RoHS:

- Fully RoHS (2002/95/CE) Compliant



The DuraNAV is a Eurotech low power system designed to be an inexpensive solution for enhanced communications and real-time vehicle tracking (fleet management). It can be used in harsh environmental conditions where the use of rugged devices is essential.

The DuraNAV system is compliant with the EN50155, and ECE standards; it can withstand shocks, vibrations and high humidity, maintaining high reliability and precision. It is resistant to extended temperature ranges, -25°C/+70°C (+85°C for 10 min.), without using any active cooling systems.

The rear panel of the system is provided with 3 SMA antenna connectors that interface the 12 channel GPS for localization, Wi-Fi (802.11b, g) and Tri-band GSM/GPRS (EGSM900/GSM1800/GSM1900) for enhanced communications. Also 2 circular connectors are installed, integrating the following: Fast Ethernet controller, 2 (RS232/422/485 configurable) Serial Ports, 4 Opto-isolated Digital Inputs, 4 Opto-isolated Digital Outputs, an Odometer Input, Audio I/O connections, one USB 1.1 port and one CAN Bus. Furthermore the DuraNAV features an identifier line that can be used to connect an EEPROM device for the user or vehicle identification.

Optionally a third circular connector can be installed to give a VGA output (640x480 – 16 colors) and an auxiliary USB 1.1 port.

The front panel features 6 LED Indicators (4 dedicated to the DuraNAV status and 2 user programmable) and, after removing a protective plate: a SIM card holder, USB 1.1 debug port, Serial ports & Odometer configuration jumpers, a Test Serial Port connector and Reset connector. In this way the maintenance can be performed without disconnecting the system from the installed location.

## Features in Detail

### Wireless features

- Localization:
  - GPS (Fastrax iTrax 03)
    - 12 channel receiver
    - Update rate 1Hz
- Communication:
  - GSM/GPRS (Siemens MC55)
    - Tri-band EGSM900, GSM1800 and GSM1900
    - GPRS multi-slot class 10
    - GPRS mobile station class B
    - Compliant to GSM phase 2/2+
    - Controlled via AT commands
  - Wi-Fi 802.11b, g (Wistron DRCM81)
    - Frequency band b-mode: 2.4 to 2.497 GHz
    - Frequency band g-mode: 2.4 to 2.4836 GHz
    - WEP Encryption 64/128/152 bit

### Communication ports

- USB 1.1 port Controller PHILIPS ISP1161ABM (optionally 2 ports).
- Fast Ethernet port (SMSC 91C111)
- 2 jumper configurable RS232/RS422/RS485 Serial Ports (ST16C550 controller)
- CAN Bus (Philips SJA1000)
- Odometer input with software selectable threshold from 3 to 24 V
- VGA Analog Video out 640x480 16 colours (optional)

### Audio ports

- Line or microphone input
- Software selectable Stereo Line and Headphone Outputs

### I/O ports

- 4x Opto-isolated Digital Inputs
- 4x Opto-isolated Digital Outputs

### Processor

- Intel® PXA 255

### Memory

- 64 MB SDRAM soldered onboard

### Operating Systems supported

- BSP and drivers for Windows CE and Linux

### Standards Compliance

- Climatic compliance: EN 50155 (Humidity, Ambient air temperature, Storage temperature)
- Mechanical compliance: EN61373 (Vibrations & Shocks)
- Electrical compliance: EN 50155 (Power supply voltage interruption, Surges, Insulation resistance)
- EMC compliance: EN 50121, EN 61000, EN 55011, ECE ONU reg.10 (Immunity, Emission)
- Safety compliance: EN 60950

### Back Panel

- 3x Female SMA antenna connectors :
  - Wi-Fi
  - GSM/GPRS
  - GPS
- Male circular connector:
  - Power input
  - 4x Opto-isolated Digital Inputs
  - 4x Opto-isolated Digital Outputs
  - Ignition key
  - Identifier line
  - 1x 10/100MB Fast Ethernet
- Female circular connector:
  - 2x Serial ports (RS-232/422/485)
  - Audio Input / Output
  - Odometer Input
  - Odometer Power Supply Output
  - USB 1.1 port
  - CAN Bus
- Optional Female circular connector:
  - VGA Port
  - Second USB 1.1 port

### Front Panel

- 6 LED (4 dedicated to the system status and 2 user programmable).
- Maintenance interfaces (protected with a removable panel):
  - SIM card holder
  - USB 1.1 debug port
  - Serial ports & Odometer configuration jumpers
  - Test Serial Port connector and Reset connector

## Pyisical Characteristics

|                       |   |
|-----------------------|---|
| DIMENSIONS (mm)       | 255 x 129 x 57 (L x W x H)                                    |
| POWER INPUT           | +9 / +36 V DC   |
| POWER CONSUMPTION     | 10w (maximum)   |
| OPERATING TEMPERATURE | -25 ~ +70°C (standard)<br>+85°C for 10 min (EN50155 class T3) |
| COOLING FANS          | Not required. Passive heat sink provided                      |
| WEIGHT                | 2Kg (maximum)   |
| MOUNTING              | M4 jam nuts   |

## About Eurotech

EuroTech delivers embedded computer systems for high capability and low power applications, networking and wearable computing solutions, and application framework middleware for multimedia, industrial, transportation, medical, and wireless applications. EuroTech platforms allow OEM and enterprise customers to focus on their core revenue-generating products and services and get to market quickly.

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