EUROTECH

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## TRANSPORTATION & MOBILITY

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# AN INTERNATIONAL GROUP AT YOUR SERVICE

Eurotech is a leading technology Group with a global presence that spans Europe, the USA and Asia.

We integrate hardware, software, services and expertise to deliver embedded computing platforms and sub-systems to leading OEMs, system integrators and enterprise customers for successful and efficient deployment of their products and services. Our customers rely on us to simplify their access to state-of-art embedded technologies so they can focus on their core competencies.

Our efforts are focused on providing much more than great hardware: we have built an ecosystem of interoperable components, software and services that enable consistent and quick development of end user projects.

We recognize and target the most critical success factors, such as:

- time to market
- ruggedness
- compliance to industry standards and certifications
- reliability and long term availability
- local and global support service

# TRANSPORTATION & MOBILITY

Eurotech is one of the worldwide leaders in embedded platforms for the public and commercial transport market.

Rolling stock (trains, metros, trams), buses and commercial vehicles place heavy demands on their embedded systems, as do the operations that support them.
Because of the harsh environments that these devices are required to work in, rugged and powerful embedded systems such as those offered by Eurotech are required.
Eurotech develops a wide range of rugged subsystems designed specifically for mobile IT infrastructures.
These products serve as ideal solutions for vehicle control, accurate location tracking applications, public announcement systems, passenger information systems, enhanced communications, passenger counting, fleet management and security/surveillance systems.

Offering extensive expertise based upon field-proven systems, along with fast-track development platforms that accelerate time to market, and long lifecycle support from a leading global manufacturer of embedded computing products, Eurotech is an ideal development partner for customer applications requiring standard or custom solutions, platforms and devices.

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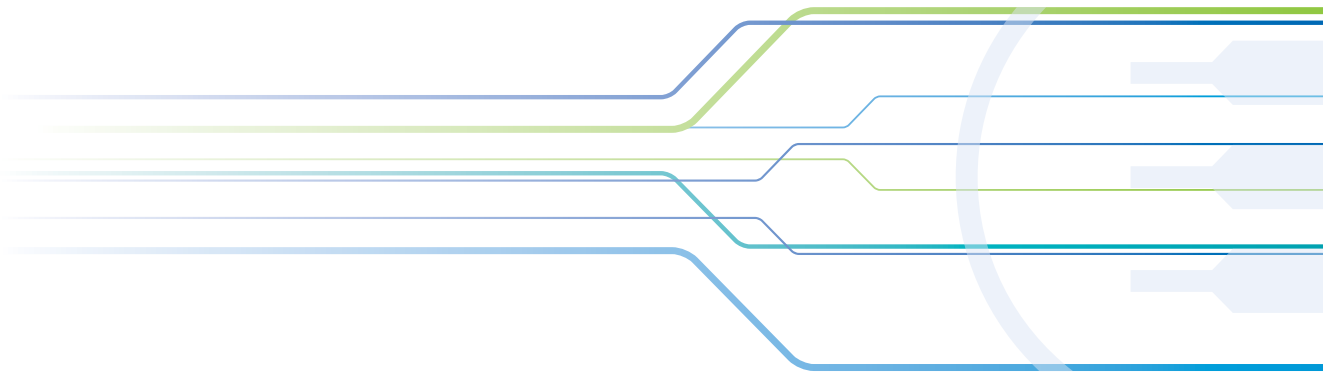


# ReliaGATE 50-21

MULTI-SERVICE GATEWAY & EDGE CONTROLLER

## FEATURES

- Intel Atom Z510P Processor
- Wind River Linux OS
- GPS, WiFi, Cellular and Zigbee support
- USB, Ethernet, Serial, CAN Bus
- Digital and Analog Inputs
- e-mark, CE certified

The ReliaGATE 50-21 Multi-Service Gateway is flexible, ready to deploy and designed to enable M2M applications in a wide range of environments. With high performance delivered through an Intel Atom CPU, the ReliaGATE 50-21 provides high-speed wired and wireless communications such as 3G, Wifi, 802.15.4 (Zigbee), has a built-in GPS 50-channel receiver and a broad range of I/O interfaces packaged into a compact and rugged aluminum case.
The ReliaGATE 50-21 can be provided with Everyware Software Framework (ESF) for easy field data acquisition, optimum M2M connectivity and full Java hardware abstraction. It is also natively integrated with Everyware Device Cloud (EDC), the M2M integration platform that collects and manages M2M device data, connecting distributed devices and sensors with the business application and IT infrastructure.

## BENEFITS

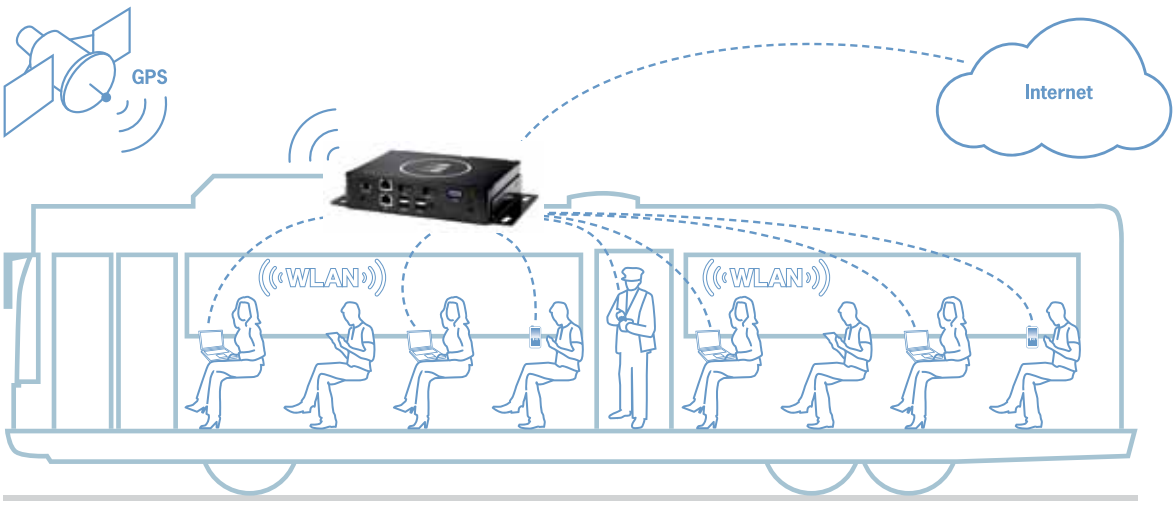
ESF Everyware Software Framework  EDC Everyware Device Cloud

- Robust, flexible and ready to be deployed
- Application ready embedded platform
- Built-in routing capabilities
- CE, e-mark, FCC and MIL-STD-810F compliant

## APPLICATIONS

MOBILE WIFI
INDUSTRIAL M2M GATEWAY
TELEMETRY
REMOTE ASSET CONTROL

**Example**:



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **CPU** | Intel Atom Z510P, 1.1GHz |
| **Memory** | GPS – 50 channel receiver<br>Wi-Fi – 802.11 a/b/g/n – Access Point & Client<br>Cellular<br>- Telit HE910 (UMTS/HSPA+)<br>- Telit DE910 (CDMA/EvDO)<br>- Telit GE910 (2G GSM/GPRS)<br>802.15.4 / Zigbee Support for Zigbee Pro Stack & NXP JenNet networking |
| **Interface** | USB 4x USB 2.0 ports<br>Ethernet 2x Gigabit Ethernet ports<br>Serial 2x RS232/RS485/RS422<br>2x RS232/TTL (optional)<br>CAN 2x CANBus<br>Display 1x VGA<br>Inputs 4x Isolated Digital Input<br>2x Analog Inputs<br>Outputs 2x Isolated Digital Outputs |
| **Routing** | Static Routes<br>DHCP<br>DNS Client<br>Firewalling<br>Security AES, 3DES,SSH, IPsec<br>NAT (Network Address Translation)<br>Terminal Server & Client<br>Port Forwarding |
| **Power Supply** | 9 to 36 VDC (Nominal 12) with transient protection |
| **Power Consumption** | 8 W Typical |
| **Os Support** | Wind River Linux |
| **ESF and EDC Ready** | Yes |
| **Dimensions** | 188 x 130 x 42.5 mm (L x W x H) w/o mounting brackets |
| **Operating Temperature** | Extended Temp -20°C to 60°C<br>Industrial Temp -40°C to 85°C (options) |
| **Storage Temperature** | -40°C to +85°C |
| **Humidity** | 95% relative humidity at +45°C non condensing |
| **Compliance** | CE, FCC, Mil-810F, UL Equivalent |

## FAQ

**What are the routing capabilities?** From the configuration GUI, it supports connectivity to wired and wireless devices through use of NAT (Network Address Translation), Port forwarding and Static Routes.

# DynaCOR 10-10

CONNECTED RUGGED MOBILE COMPUTER

## FEATURES

- EN50155 Fully Qualified
- Linux OS
- IP 65 protection rating
- Based on Intel Atom
- Built-in GPS, Wifi, 3G
- Wide range power supply

The DynaCOR 10-00 is a very compact rugged mobile computer platform ideal for on-board vehicle M2M applications in rail and road transport sectors. Certified for rugged applications and with IP65 protection rated ultra-light aluminium enclosure, the device is designed for long term reliability, withstanding severe mechanical and temperature stresses in harsh environments while supporting a range of popular wired and wireless communications options.
The DynaCOR 10-00 is enabled for Eurotech Everyware Software Framework (ESF) and the Everyware Device Cloud (EDC) environment, speeding up application software development on the device and ensuring rapid creation of scalable, robust solutions for integrating devices to business applications.

## BENEFITS

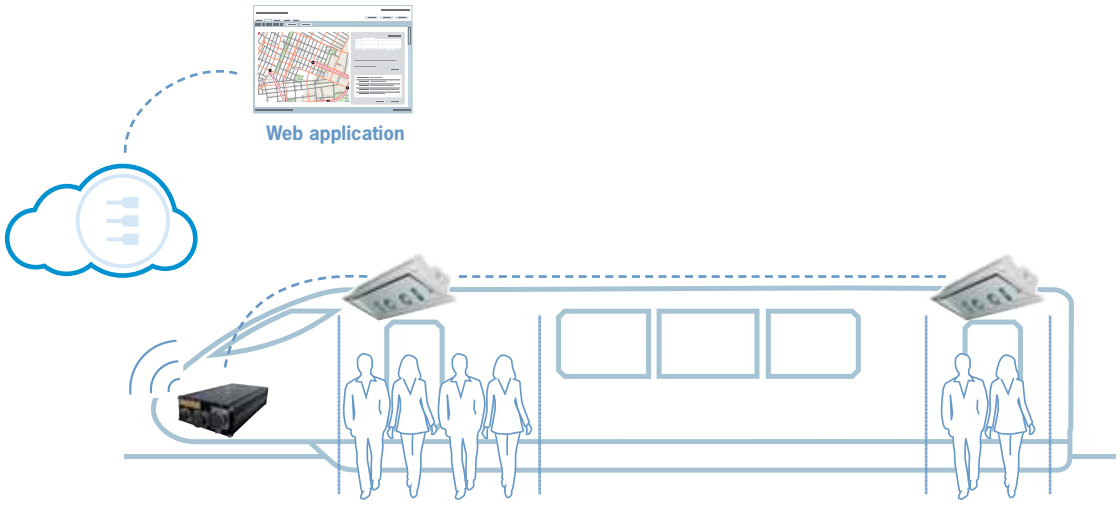
ESF EDC EN50155 IP65

- Application Ready Platform
- Certified for Railway Environments
- Rugged for long term reliability
- Low Power and Fanless

## APPLICATIONS

COMMUNICATION GATEWAY
MOBILE GENERAL POURPOSE PC
HEAVY INDUSTRY MACHINERY
WIFI ON BOARD
FLEET MANAGEMENT

**Example**: DynaCOR 10-00 Application Gateway



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **CPU** | Eurotech Catalyst XL Intel Atom Z510P, 1.1GHz, 512MB RAM soldered on board |
| **Mass Storage** | 2GB flash disk SSD soldered on board<br>1 removable micro SDHC card slot for data storage (maintenance interface) |
| **Wireless** | A1: GPS 50 channels Galileo ready, SMA connector<br>A2: WiFi 802.11 a/b/g/n Primary, SMA connector<br>A3: WiFi 802.11 a/b/g/n Secondary, SMA connector<br>A4: HSUPA/HSDPA/UMTS/GPRS modem (data only), SMA connector |
| **Interface** | M1: Power IN +24V DC (+, - and earth chassis)<br>Key Input<br>M2: 1x USB 2.0 port (maintenance); 5x Opto-isolated Digital Output; 10x Opto-isolated Digital Input; 1x Opto-isolated Digital Input Odometer<br>Audio Ports: 1x Stereo Microphone Input, 1x Stereo Headphones Output, 1x Speakers Output<br>M3: 2 x Gigabit Ethernet ports<br>1x Opto-isolated RS232 serial port<br>1x Opto-isolated RS422/RS232/RS485 serial port, software configurable |
| **Ground** | M4 Screw - System ground connection |
| **Maintenance Interface** | 1x serial interface RS232<br>2x USB 2.0<br>1x SIM Card Slot<br>1x microSDHC slot<br>4x LED<br>1x VGA output,<br>1x Reset pushbutton |
| **Power Supply** | 10.5 - 36V DC (Optionally 110 and 72 nominal V DC) |
| **Real Time Clock** | 24 hours at 25°C (typical) |
| **OS Support** | Wind River Linux |
| **ESF Ready** | Yes |
| **EDC Ready** | Yes |
| **Dimensions** | 254 x 129 x 57mm (L x W x H) |
| **Weight** | 1.5Kg |
| **Operating Temperature** | -25°C - 55°C EN50155 Class T1 (70°C for 10 min) |
| **Storage Temperature** | -30°C - 80°C |
| **Humidity** | 95% relative humidity at +45°C non condensing |
| **Enclousure** | Black ultra-light extruded aluminum alloy enclosure IP65 rating |
| **Cooling** | Fanless design (no moving parts) |
| **Compliance** | CE, EN 61373 (Vibrations & Shocks) EN 60950 (Safety)<br>EN 61000 (Burst Immunity test) EN 60068 (Temperature test)<br>Designed to meet: DIN-5510-2 (German Fire and Smoke) and ISO-11170 (Italian Fire and Smoke)<br>Load Dump (for 24V In): ISO 7637-2 (2004-06)<br>EN50155 (railway applications) |
| **Peripherals & Accessories** | Cable set with standard connectors for an easy peripherals and I/O connection |

## FAQ

**How many versions of the DynaCOR 10-10 are available?** Different versions featuring a sub-set of the communication interfaces are available as a standard products. Please contact our sales office to get more info.

# DuraNAV

RUGGED AVL PLATFORM

## FEATURES

- Low power PXA 255 ARM CPU
- Linux or Win CE
- 256MB Disk On Module
- 802.11 Wi-Fi
- Wireless cellular modem
- GPS
- 10/100Mbit Ethernet port
- Serial USB and CAN ports

DuraNAV is a low power, purpose-built system platform for embedded applications that require GPS positioning, wireless communication, Ethernet, vehicle bus interfacing and general purpose I/O. These features make the DuraNAV especially suitable for vehicle location and asset monitoring. Vehicle grade connectors and compact size are ideal for installations on trucks, buses or commercial and tactical vehicles.

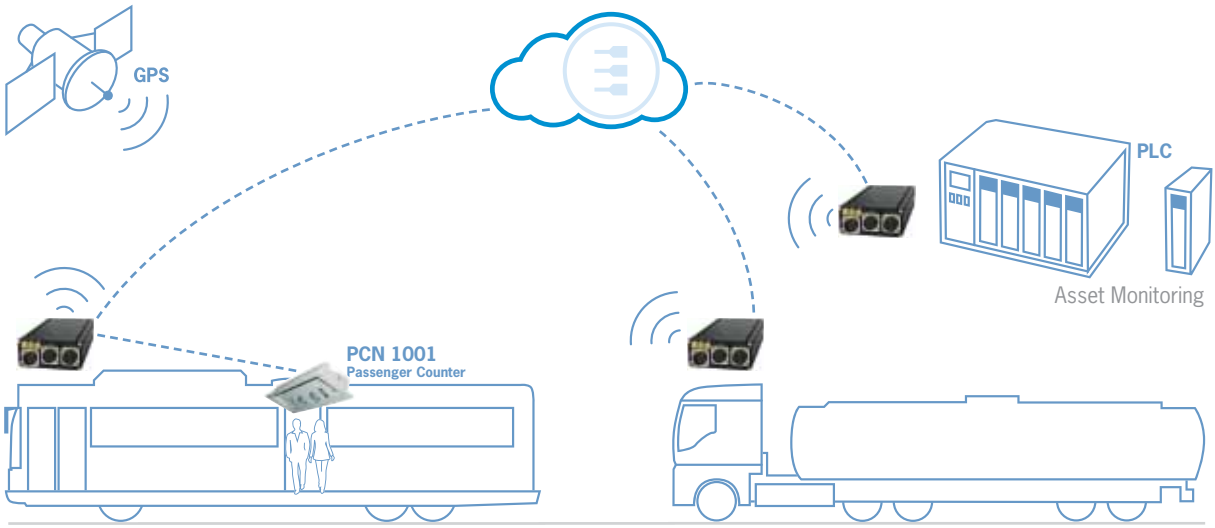
## BENEFITS

EN50155

- EN50155 fully qualified
- Standard operating systems
- Low power platform
- Comprehensive set of wired and wireless comms

## APPLICATIONS

VEHICLE DATA LOGGING
FLEET AND ASSET MANAGEMENT / LOCALIZATION
DISTRIBUTED ASSET MONITORING



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Processor & Memory** | PXA 255 @ 400MHz - 64MB RAM |
| **Mass Storage** | 256MB Disk On Module |
| **Operating System** | Linux (kernel 2.6) or Windows CE 5.0 |
| **Software** | Eurotech Software Framework (optional) |
| **I/O** | 10/100Mbit Ethernet<br>2x USB 1.1<br>CAN –bus interface<br>2x RS-232/422/485 serial ports<br>4 Isolated Digital Inputs<br>4 Isolated Digital Outputs |
| **WLAN** | Integrated IEEE 802.11 b/g - external antenna |
| **WWAN** | GSM/GPRS – external antenna |
| **GPS** | 12 channel high sensitivity – external antenna |
| **Audio** | Stereo line in<br>Stereo line out<br>Microphone in |
| **Service Panel** | Power on led – Power good led – 4 programmable LEDs<br>1 Mini-Din for keyboard and mouse<br>1 DB 15 VGA analog video output<br>1 reset button<br>I2C port for status monitor and debug |
| **Power** | 9 to 36VDC |
| **Dimensions** | 255x129x57mm (10.04" x 5.08" x 2.24") (L x W x H) |
| **Operating Temperature** | -25° to +55°C (-13°F to +131°F)<br>+70°C (158°F) for 10 min |
| **Storage Temperature** | -40° to +85°C (-40°F to +185°F) |
| **Humidity** | 95% relative humidity non condensing |
| **Environmental** | IP65 (NEMA 4X) |
| **Compliance** | EN50155 (Humidity, Ambient air temperature, Storage temperature)<br>EN61373 (Vibration & Shock)<br>EN50155 (Power supply voltage interruption, Surges, Isolation resistance)<br>EN50121, EN61000, EN55011, ECE ONU reg.10 (Immunity, Emission)<br>EN60950 (Safety) |
| **Weight** | Approx 2Kg (4.40lbs) |

### PERIPHERALS & ACCESSORIES

Starter Kit (Cables, Wi-Fi, GPS, GPRS antennas)

# DuraCOR 1XXX

CONFIGURABLE, MOBILE RUGGED COMPUTERS

## FEATURES

- Certified for railway and automotive applications
- Low power
- Fanless and sealed
- Modular design
- Support for cellular and wireless radios

The rugged DuraCOR 1XXX can be configured to match the needs of any transportation application where a certified platform is needed. Available in three different heights, the DuraCOR 1XXX can be quickly tailored to your needs; the internal expansion bay provides plenty of capacity for your special requirements. The DuraCOR 1xxx are certified EN50155 and 2004/104/EC, making them ideal for demanding applications, such as those deployed in rail networks, rolling stock, buses, and vessels.

## BENEFITS

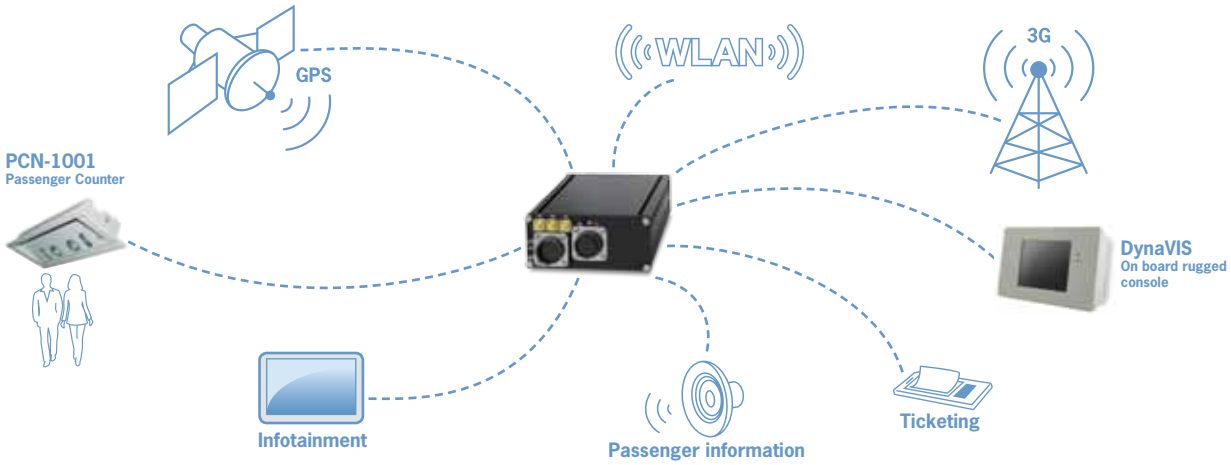
ESF EDC EN50155

- Designed to be compliant with:
  - » EN50155 (Railway applications)
  - » 2004/104/EC (Automotive applications)

## APPLICATIONS

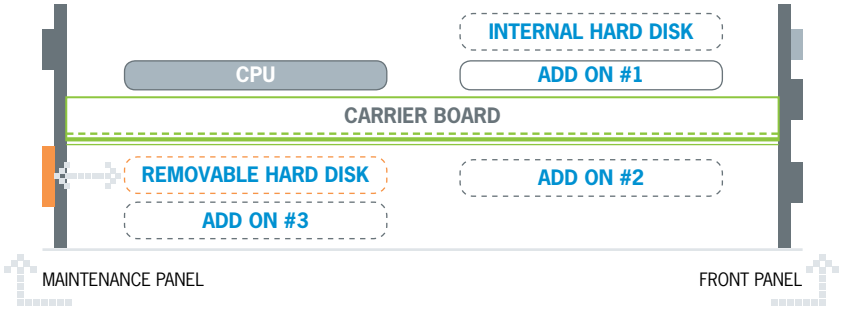
ON-VEHICLE COMPUTING AND DATA PROCESSING
FLEET AND ASSET MANAGEMENT AND MONITORING
SURVEILLANCE AND VIDEO RECORDING
PUBLIC ANNOUNCEMENT
CONDITION BASED MAINTENANCE

**Example**: Multipurpose unit (PIS, Passenger Counting, Ticketing, Infotainment, Driver Console, Wireless services).



## DuraCOR 1XXX Architecture

Three sizes with great expandability




**Many CPU options:**

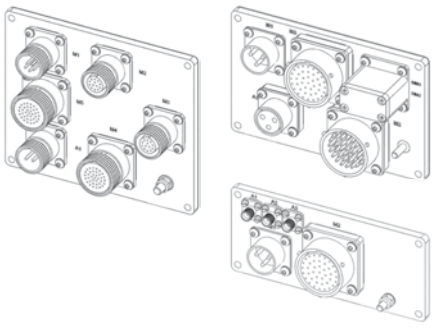
- Intel Atom
- Intel Pentium M
- Intel Celeron
- Intel Celeron M

**The carrier board includes:**

- Power supply (non-insulated – see options for insulated PS)
- Disk On Module
- WLAN 802.11 a/b/g
- Audio Codec (AC97)

## Modules & Enclosure Profile

| | Low | Mid | High |
|---|---|---|---|
| CPU | √ | √ | √ |
| Add-on #1 | √ | √ | √ |
| Add-on #2 | - | √ | √ |
| Add-on #3 | - | √ | √ |
| Removable Hard Disk | - | - | √ |
| Internal Hard Disk | √ | √ | √ |
| Carrier Board | √ | √ | √ |



Mix and match up to three expansion options (one per add-on slot):

| | |
|---|---|
| **Communication** | IBIS Bus |
| | MVB Bus |
| | 8x RS232/422/485 + 2x CAN 2.0B |
| | 4x 10/100 Ethernet ports |
| | 4x 10/100 Ethernet switch |
| **Cellular networks and GPS** | GPS + GSM-R |
| | GPS + GSM/GPRS |
| | GPS + UMTS/HSDPA/HSUPA/WCDMA |
| **Audio / Video** | 4x Video inputs – JPEG 2000 Compression |
| | 4x Video inputs – MPEG4 Compression |
| | Audio I/O Matrix |

## OPTIONS

| | |
|---|---|
| **MVB Bus** | MVB Device Class 3 (or 4 optional) |
| **Serial communication** | 8x RS232/422/485 + 2x CAN 2.0B |
| **GPS + GSM-R** | 12-channel low power GPS receiver<br>Selex® RGM101™ GSM-R module<br>Onboard or external 3V SIM-card interface |
| **GPS + GSM/GPRS** | 12-channel low power GPS receiver<br>900/1800/1900MHz GPRS modem<br>Onboard or external 3V SIM card |
| **GPS + UMTS/HSDPA/ HSUPA/WCDMA** | 12-channel low power GPS receiver<br>Tri-band HSUPA/UMTS/HSDPA: 850/1900/2100MHz<br>Quad-band EDGE/GPRS/GSM: 850/900/1800/1900MHz<br>Dual band CDMA: 800/1900MHz |
| **JPEG 2000 Compression** | 4 MUX channels, each with 2 analog inputs<br>JPEG2000 encoder module<br>Motion detection |
| **MPEG4 Compression** | 4 Analog video input channels<br>4 Audio input channels<br>MPEG-4 (ISO/IEC 14496-2), MPEG-4 SOP @LEVEL3 |
| **Audio I/O Matrix** | 8 stereo audio input channels<br>8 differential analog output channels<br>2-channel mixer |
| **Ethernet Ports** | 4 ports 10/100 Ethernet |
| **Ethernet Switch** | 4 ports 10/100 Ethernet |
| **Insulated Power Supply** | 24VDC, 50W<br>72VDC, 50W<br>110VDC, 50W |

## FAQ

**I need a peripheral that it is not listed in the Options list. Is it possible to add it?** The DuraCOR 1xxx is a very flexible product. If the peripheral you need is not available in the Options list, it might still be possible to add it; just call us to check it and have a quote.

**What type of connectors are used?** The connectors on the front panel can be either metallic or plastic, in order to match the highest standards of reliability and durability.

**What type of material is used for the enclosure?** To ensure the highest reliability standard, the case is made with a lightweight aluminum alloy.

**What types of power supply are available?** The standard configuration provides a non-insulated, 9 to 36VDC power supply. There are three additional 50W insulated power supply options: 24VDC, 72VDC and 110VDC.

**Examples of DuraCOR 1XXX configurations**

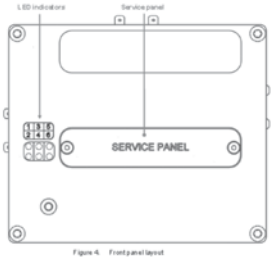



Figure 4. Front panel layout

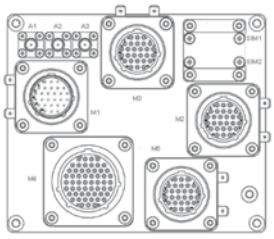


Figure 5. Rear panel layout

# DynaVIS 10-00

ON BOARD RUGGED CONSOLE

## FEATURES

- EN50155
- Rugged and low power
- 5.7" VGA display with touch screen
- Intel® Atom™ processor
- 50-channel GPS
- Wi-Fi, 3G modem, Gigabit Ethernet
- Many power supply options

The DynaVIS 10-00 is a very complete platform for any transportation application; it provides the computational power of the Intel Atom CPU, a 50-channel GPS, a 5.7" touchscreen panel, Wi-Fi, 3G connectivity, Gigabit Ethernet and plenty of transportation specific features, optoinsulated I/O and serial interfaces and an insulated, wide-range power supply. Low power, very compact and rugged, the DynaVIS 10-00 can be simply integrated in railway, automotive and similar applications. The DynaVIS 10-00 supports ESF, Eurotech's framework for rapid application development and EDC, the versatile Eurotech Device Cloud platform that you can use to connect your device to any business application without the need to care about the underlying infrastructure.

## BENEFITS

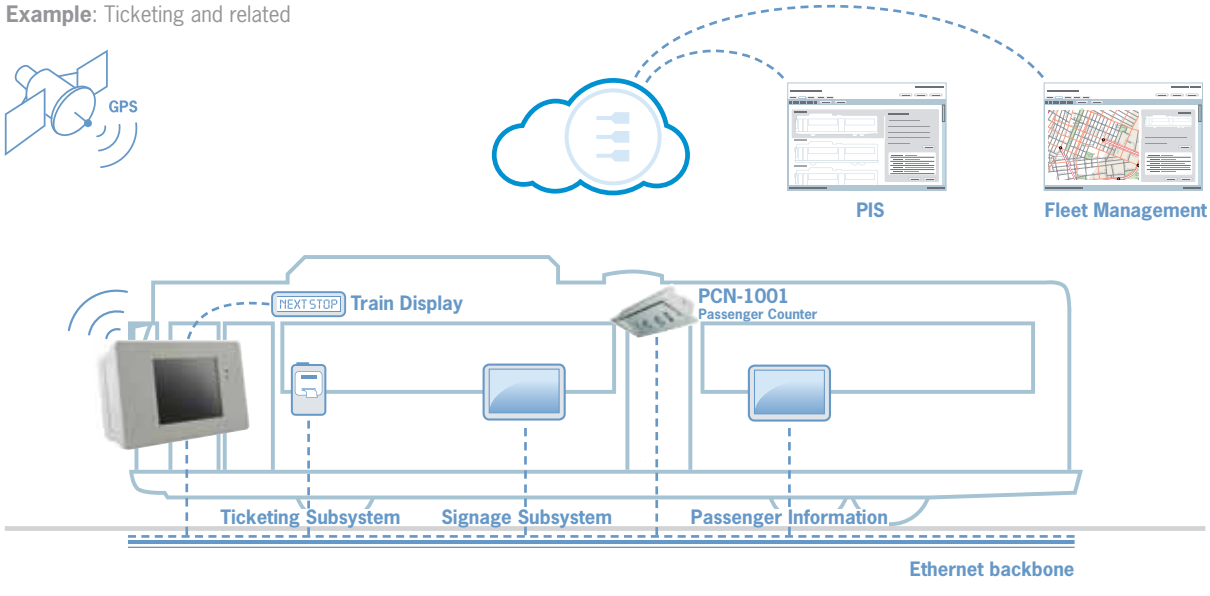
ESF EDC EN50155

- Designed for transportation Market: EN50155 compliant
- Fanless, low power Atom™ based design
- Wide choice of built-in communication capabilities
- Wind River Linux OS

## APPLICATIONS

ACCESS AND MACHINE CONTROL
ON BOARD GATEWAY
DRIVER'S CONSOLE
GENERAL PURPOSE COMPUTING
MOBILE CONNECTED HMI
MOBILE M2M INTERFACE

**Example**: Ticketing and related



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **CPU** | Intel® Atom 1.1GHz |
| **RAM** | RAM 512MB soldered on board |
| **Storage** | 2GB FLASH disk SSD soldered<br>1 Removable microSDHC for data storage |
| **Display** | 5.7"; VGA 640X480 with touch screen<br>Colors: 262K; Brightness: 280 cd/m²; Contrast ratio: 350:1, Viewing angle: +/-70°,<br>Antiglare surface, automatic contrast adjust via light sensor |
| **GPS** | GPS 50 channels (model UBlox LEA-5) Galileo ready |
| **Modem** | HSUPA/HSDPA/UMTS/GPRS modem (optional) |
| **Wi-Fi** | Wi-Fi 802.11 a/b/g/n |
| **Main Interfaces** | MIL qualified connectors (MIL-DTL-26482 type connectors)<br>**M1:** Power IN key input<br>**M2:** 1x USB 2.0 port (maintenance)<br>5x Optoinsulated digital output<br>10x Optoinsulated digital input<br>1x Optoinsulated digital input odometer<br>Audio ports:<br>1x Microphone stereo input<br>2x Audio speakers output (L+R)<br>1x Stereo headphone output<br>**M3:** 2x Gigabit Ethernet ports<br>1x Optoinsulated RS232 serial port<br>1x Optoinsulated RS232/422/485 configurable serial port<br>1x USB 2.0 (maintenance) |
| **Maintenance Interface** | 1x serial interface RS232, 1x SIM card slot, 2x USB (mouse and keyboard)<br>1x microSDHC slot, 2x LED Power good and Power on, 1x VGA output, Reset pushbutton |
| **Power Supply** | 10.5 to 36VDC (Optionally 110 and 72 nominal VDC) |
| **Power Consumption** | 19W |
| **Dimensions** | 230 x 140 x 61,7mm (9.05" x 5.51" x 2.42") |
| **Operating Temperature** | -25°C to +55°C EN50155 Class T1 (70°C for 10 min)<br>(-13°F to +131°F EN50155 Class T1 (158°F for 10 min)) |
| **OS Support** | Wind River Linux, Windows Embedded Standard |
| **Certifications** | IP65, EN50155 (Railway applications), EN61373 (Vibrations & Shocks), EN60950 (Safety), EN61000 (Burst Immunity test), EN60068 (Temperature test), DIN-5510-2 (German Fire and Smoke) and ISO-11170 (Italian Fire and Smoke), Load Dump (for 24V In): ISO 7637-2 (2004-06) |
| **Weight** | 1,5Kg (3.31lb) |
| **Enclosure** | Light and resistant aluminium alloy |

## FAQ

**How can I mount the DynaVIS 10-00?** The DynaVIS 10-00 can be simply mounted thanks to the VESA 75 hole patten.

**What type of accessories are available?** The CBL-0402-00 is a cable kit that provides PC-like headers for the interfaces. It is a bundle of three cables:

Power supply and Key IN – to M1
Digital I/O, Odometer, USB2 and Audio – to M2
Gigabit, USB1, SER1, SER2, and CAN – to M3

# ISIS ICE

RUGGED COMPUTER WITH GREAT EXPANDABILITY

## FEATURES

- E-mark
- Rugged and low power
- Three heights for up to three expansion bays
- PCI, PCIe and ISA expandability
- Wide range filtered PSU circuit, with ignition
- ESF support
- EDC ready

A compact, rugged and expandable (PCIe, PCI and ISA) low power computer that is ideal for many on-vehicle and trackside applications. Versatile and preconfigured with Wind River Linux or Windows XPe, the ISIS ICE sports an Intel Atom CPU and advanced features, such as an on-board optional GPS. A wide range filtered power supply is specifically designed to perform under the most demanding conditions in vehicular applications. ISIS ICE supports Everyware Software Framework (ESF) for platform-independent programming and, thanks to Everyware Device Cloud (EDC) it is ready to benefit from a sophisticated, scalable computing infrastructure.

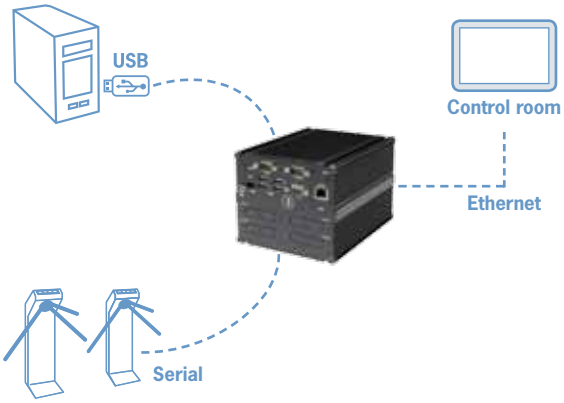
## BENEFITS

- Great expandability with PCI Express modules (Wi-Fi, etc) and PC/104 modules (ISA and PCI)
- Rugged and compact, with three heights to allow stacking multiple expansion modules
- Low power Atom CPU
- Extended temperature range
- Simple programming with ESF and native cloud connection with EDC

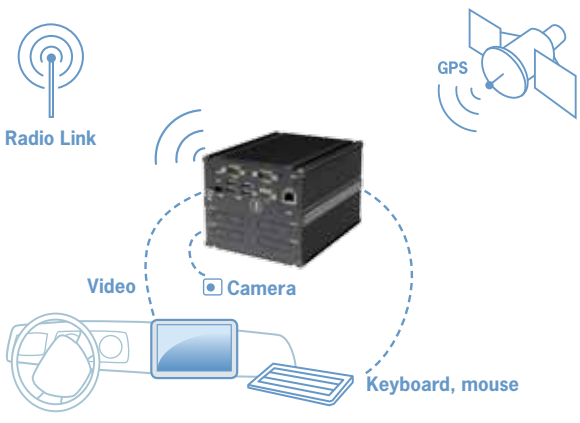
## APPLICATIONS

ACCESS AND MACHINE CONTROL
IN-VEHICLE AND TRACKSIDE APPLICATIONS
COMMUNICATIONS GATEWAYS
GENERAL PURPOSE COMPUTING

**Example**: Ticketing and related




**Example**: Patrolling (in vehicle digital video)



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **CPU** | Intel® Atom™ up to 1.6GHz |
| **RAM** | Up to 1GB |
| **Storage** | Up to 4GB on-board FLASH disc<br>Optional internal HD |
| **Peripherals** | 1x VGA<br>4x USB 2.0<br>1x 10/100 BaseT Ethernet<br>1x RS232/485/422<br>1x RS232<br>1x iTrax300 20 channel GPS receiver |
| **Expansion capabilities** | 1x PCI 32-bit (PC/104+)<br>1x ISA 16-bit (PC/104+)<br>2x PCI Express MiniCard socket<br>1x SIM card socket<br>4x user accessible ports |
| **Dimensions** | Small: (no PC/104 expansion) 160 x 56 x 128mm (6.3" x 2.2" x 5.04")<br>Medium: (up to 1 additional PC/104 card) 160 x 82 x 128mm (6.3" x 3.23" x 5.04")<br>Large: (up to 3 additional PC/104 cards) 160 x 108 x 128mm (6.3" x 4.25" x 5.04") |
| **Power supply** | Filtered 9 – 36VDC, with ignition |
| **Operating temperature** | -20°C to +60°C (-4°F to +140°F) |
| **OS Support** | Microsoft Windows XP, XP Embedded<br>Wind River Linux 3.0 |
| **Certifications** | E-mark |

## FAQ

**How can I expand the ISIS ICE?**
The ISIS ICE can be expanded by stacking up to three PC/104+ modules and by adding up to two PCI Express MiniCard modules. All ISIS ICE versions support up to two PCI Express Minicard modules; in addition to these, the large version supports up to three PC/104+ modules, while the medium version allows one PC/104+ expansion. The small version is very compact and does not support PC/104+ expansion modules.

**What is the purpose of the user accessible ports?**
They can be used to access the optional expansion modules. For wireless peripherals, three antenna connectors are provided.

**What is a Wide Range PSU?**
This type of power supply is capable of accepting unstable, "dirty" power input (as can happen in mobile applications) and deliver clean, stable power to the device.

**What is E-mark?**
E-marking is a certification for vehicle safety (systems and components) regulated by the Economic Commission of Europe (ECE), which represents EU and non-EU members.

# Helios

FLEXIBLE EDGE CONTROLLER

## FEATURES

- Flexible Atom™ based platform
- USB expansion bay
- Vehicle power supply
- ESF and EDC ready


Helios is a versatile, low power edge controller that provides a programmable hardware platform with enhanced wireless connectivity. Ideal for data acquisition and integration, the Helios can be quickly expanded; a USB bay provides three locking connectors for hosting devices, such as cellular modems. The Helios supports options such as a vehicle power supply and extended temperature range, making it a great choice for mobile applications. With support for ESF, the Helios is very simple to program and, if you want to reap the benefits of our M2M platform, the Helios is EDC (Everyware Device Cloud) ready.

## BENEFITS

- Flexible low power device with vehicle power supply
- Management of sensors
- Programmable platform for local data integration, data compression and interpretation
- Support for USB expansion (including wireless options)
- On board GPS

## APPLICATIONS

M2M
MOBILE DATA GATEWAY

DATA AGGREGATION AND INTEGRATION
SENSOR MANAGEMENT

**Example**: Passenger counting and infographics


**Example**: Cold Chain monitoring

## GENERAL SPECIFICATIONS

| | |
|---|---|
| **CPU** | Intel® Atom™ Z5xx up to 1.6GHz |
| **RAM** | Up to 2GB DDR2 |
| **Storage** | 2GB FLASH<br>Internal SATA interface option |
| **Video** | Optional (VGA/LVDS/DVI/HDMI) |
| **Audio** | Optional |
| **Peripherals** | 3x USB 2.0 host ports for wireless and storage devices<br>2x USB 2.0 general-purpose ports<br>GPS with external antenna option<br>1x Gigabit Ethernet<br>1x EIA-232/EIA-485 serial port |
| **Expansion capabilities** | USB bay, with 3 locking connectors protected by cover<br>3x external antenna connections to the USB bay |
| **Dimensions** | 259 x 121 x 45mm (10.19" x 4.76" x 1.77")<br>Adaptable I/O side plates<br>Removable USB Bay cover<br>Mounting options |
| **Power supply** | 12VDC (up to 36VDC vehicle power input option)<br>Power management support capable of operation at < 3W |
| **Operating temperature** | -40°C to +85°C (-40°F to +185°F) |
| **OS Support** | Wind River Linux 3.0, Windows® Embedded Standard, Windows® CE 6.0 |
| **Certifications** | SAE J1455-2006, vehicle<br>MIL-STD-810F, 20 g/s, 11 ms |

## FAQ

**What is an Edge Controller?** An Edge Controller sits between a network and devices that generate or transmit data, such as sensors. The purpose of the Edge Controller is to handle the data and relay it to a wired or wireless network.

**What is a Flexible Edge Controller?** The Helios is a Flexible Edge Controller because it supports two very important features:

- Simple USB expansion with support for wireless technologies
- Programmability, to permit data consolidation, compression and integration. This capability allows local analysis, encryption and reaction (e.g. alarms, etc). Additionally data filtering minimizes the quantity of data transmitted through cellular links

**What is the USB bay?** It is an expansion area that is protected by a removable cover. Here the three USB 2.0 host ports are located; they permit expanding the Helios with peripherals such as wireless and storage USB devices.

**What is the purpose of the locking feature of the USB ports?** These ports use USB sockets with locking latches preventing accidental disconnects or lost connections due to vibrations.

**How do you connect the wireless USB expansions to the external antennas?** Each USB port in the bay includes a corresponding connection for an external antenna. The type of connection is dependent on the USB device used.

# STACK 104

STACKABLE MOBILE COMPUTER

## FEATURES

- Stackable design
- Multiple certifications: EN50155 Road & Rail GAM EG 13
- Support for Real Time OS
- Insulated power supply
- Fanless

The STACK 104 is a modular system based on stacking standard PC/104 boards into a frame made of a high resistance and lightweight Zinc, Aluminium, Magnesium and Copper alloy (ZAMAC) designed for harsh and high vibration installations. The STACK 104 is fanless, lightweight and features wide temperature ranges as well immunity to high levels of vibration making the system ideal for applications in harsh environments. High density connectors make the STACK 104 ideal for applications that require a high I/O density or high levels of insulation such as those found on feeder driven trains or metros. Many CPU, peripheral and power supply modules are available to tailor the system to your needs.

## BENEFITS

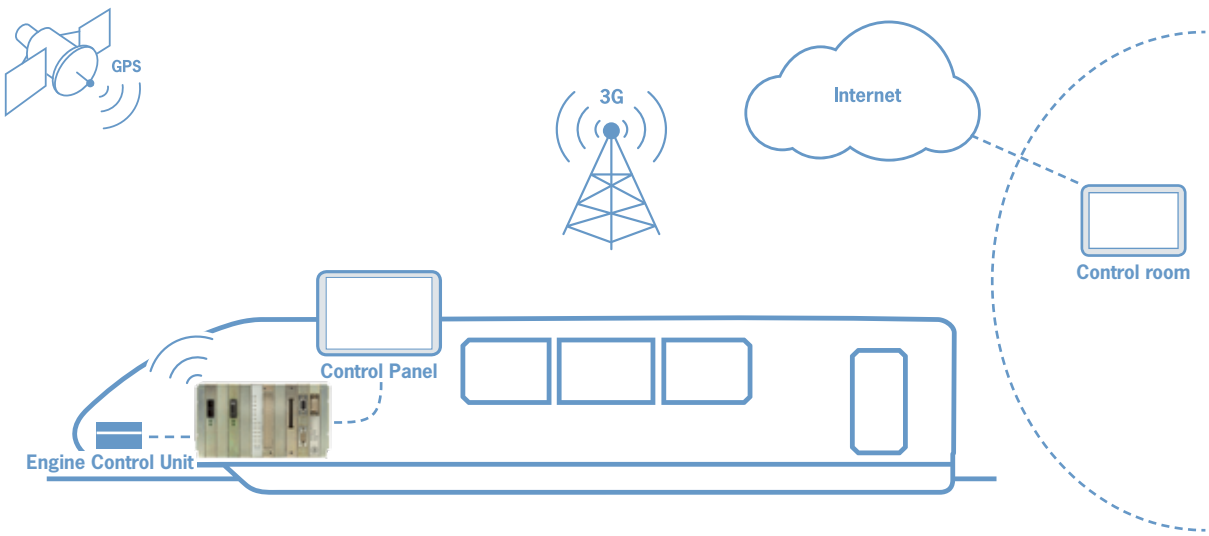
EN50155

- Compliant with EN50155 Road & Rail and GAM EG 13
- Support for wireless and cellular technologies
- Rugged, wide temperature range and fanless
- Real time operating system support

## APPLICATIONS

I/O INTENSIVE MOBILE COMPUTING
HIGH VOLTAGE TRAIN SYSTEMS
INSULATED CONTROLLERS
HIGH AVAILABILITY SYSTEMS

**Example**: ECU management and remote monitoring



## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| **CPU Modules** | **CPU4 – VORTEX 486**<br>Low power/low consumption<br>Vortex 86DX 800MHz<br>256MB DDR 2<br>1x VGA<br>1x 10/100 Ethernet<br>1x RS232<br>3x TTL<br>4x USB<br>1x Parallel<br>1x Compact FLASH<br>1x PS/2 | **CPU6 – ISIS**<br>High performance<br>Intel Atom up to 1.6GHz<br>Wi-Fi<br>GPS<br>SVGA<br>Serial ports<br>USB |
| **Dimensions** | 116 x 111mm (4.56" x 4.37") – height depends on module<br>(Typ. 16,81mm (0.66") for expansion modules) | |
| **Power supply** | 24-48 VDC - 25W - Insulated<br>72-110 VDC - 25W - Insulated<br>24-48/72/110/220 VDC - 30W - Insulated | |
| **Operating temperature** | -25°C to +70°C (-13°F to +158°F) | |
| **OS Support** | DOS, Windows CE, Linux, QNX, VX Works | |
| **Certifications** | EN 50155, EN 60250, GAM EG13 | |

## STACK 104 Architecture

A system consists of three subsections: the CPU section, the Add-on section and the power supply section.

Various CPU are available in order to satisfy the different requirements of the application.

CPU MODULES (HEAD)

Fast Ethernet, Can BUS, insulated Multi-Serial Ports, Digital I/Os and hi-speed USB 2.0 communication capabilities available off-the-shelf.

ADD ON MODULES
» COMMUNICATION
» I/O
» MULTIMEDIA

Different Power supply sub-options are available in order to target different applications.

POWER SUPPLY MODULES

## FAQ

**How flexible is the STACK 104?** Eurotech provides a wide range of CPU modules, add-on modules as well as a power supply modules that can be combined into a complete system. Also, our team will support you in building up the system from the hardware to the software.

**Which are the target applications for this system?** The system is intended for being deployed in harsh environments that can be easily found in railway networks. An example is the monitoring of the system that supplies the power to the locomotive's pantograph.

# PROTEUS ICE

COMPACT RUGGED COMPUTER

## FEATURES

- Very compact:
  only 200 x 120 x 25mm
- Feature rich and low power
- GPS, Bluetooth or ZigBee wireless
- Two displays, touch screen and audio
- Trusted platform module
- PCI-Express MiniCard support
- Wide-range power supply

The PROTEUS ICE packs multimedia, wireless, encryption, and geolocation capabilities in a very compact, rugged enclosure. With a wide range power supply, the PROTEUS ICE is ideal in all those applications where reliability and low power consumption are a must. Supporting up to two displays, audio and touch screen capabilities, the PROTEUS ICE is a perfect HMI platform. With support for two PCI-Express MiniCard modules, it is possible to add even more features, such as cellular modems. Coupled with on-board features, such as GPS, Wi-Fi, Bluetooth and ZigBee, the PROTEUS ICE can deliver sophisticated services to the passengers with minimal integration efforts.

## BENEFITS

ZigBee

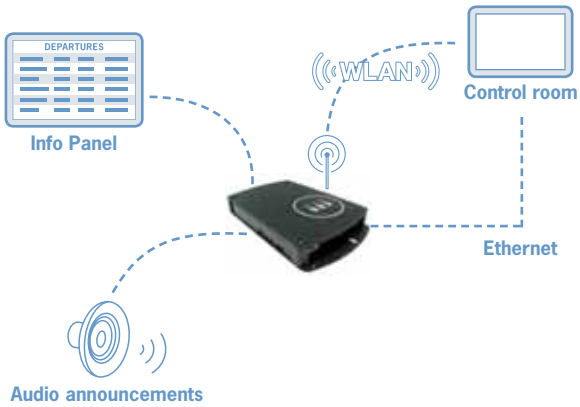
- A miniature workhorse with wireless and multimedia and geolocation capabilities
- Robust yet expandable, with support for two PCI Express mini card modules and an on-board SIM socket
- Touch screen, two displays and audio support
- Support for platform integrity through TPM: cryptography, digital rights management, password protection and more

## APPLICATIONS

DIGITAL SIGNAGE
HMI
IN-VEHICLE ENTERTAINMENT
MULTIMEDIA
GENERAL PURPOSE COMPUTING

**Example**: Location-aware information


**Example**: Patrolling (in vehicle digital video)



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **CPU** | Intel® Atom™ up to 1.6GHz |
| **RAM** | Up to 1GB DDR2 SDRAM |
| **Storage** | 4GB SSD on-board |
| **Video** | 2x single-channel LVDS with backlight<br>4.5 and 8 wire resistive touchscreen interface |
| **Audio** | AUDIO HD audio CODEC and 2W audio amplifier supporting mic in, line in, speakers out and headphones |
| **Peripherals** | 5x USB 2.0 supporting low/full/high speed modes<br>1x Gigabit Ethernet<br>1x eSATA<br>1x RS232<br>SIM slot<br>Atmel Trusted Platform Module Device<br>On-board 20-channel GPS receiver SirFStar III (option)<br>ZigBee (option)<br>Bluetooth (option) |
| **Expansion capabilities** | 2x PCI Express to PCIe MiniCard socket<br>1x Micro SD slot |
| **Dimensions** | 200 x 120 x 25mm (7.87" x 4.72" x 0.98") |
| **Power supply** | Power supply 8.5VDC to 25VDC |
| **Operating temperature** | 0°C to +60°C (32°F to +140°F) |
| **OS Support** | Microsoft® Windows® XP Embedded, Wind River Linux 3.0 |
| **Weight** | 570g (1.25lbs) |

## FAQ

**How are the USB ports arranged?** There are 5 USB ports. They support low/full/high speed modes and are arranged as follows: two ports are internal (connected to the PCIe MiniCard socket) and three are external (one supports the Type A connector, two available through a PIN header).

**Where's the SATA connector?** The PROTEUS ICE supports eSATA. It provides an external eSATA connector plus an external SATA power connector.

**Do you provide GPIO?** GPIO is provided by an external PIN header. A total of eight GPIO is provided.

# DuraNAS

RUGGED NETWORK ATTACHED STORAGE

## FEATURES

- EN50155 Fully Qualified
- Network attached storage
- Up to 1TB RAID 1
- POE power supply
- Web GUI

DuraNAS is a network storage device for mobile applications. Fully EN50155 qualified, this device can be attached to an Ethernet backbone to provide shared access to files and folders to any networked device. DuraNAS is very easy to configure, thanks to a graphical WebGUI and a secure, scriptable connection via SSH. DuraNAS is compatible with most operating systems, such as Windows and Linux. An optional enclosure with a lock makes operations such as maintenance and massive data collection quick, safe and simple.

## BENEFITS

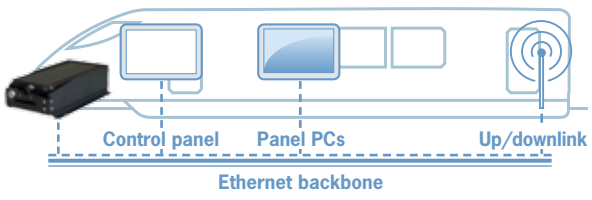
EN50155

- EN50155 qualified network attached storage: just plug it in the vehicle Ethernet backbone to instantly add storage capability
- Simple configuration with a Web GUI and SSH
- Data encryption with 128bit AES
- Data protection with RAID 1
- Large storage capacity (up to 1TB)
- Plug&Play installation with DHCP
- Optional removable enclosure with keylock

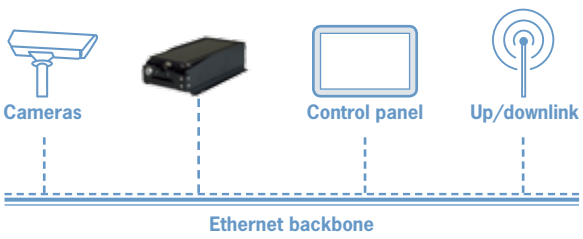
## APPLICATIONS

ON-LINE STORAGE
AUDIO/VIDEO STREAMING
VIDEO CAPTURE
DATA LOGGING

**Example**: Audio/video streaming




**Example**: Track-side video surveillance



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Storage Capacity** | HDD: 100GB in RAID 1 or 200GB aggregated<br>500GB in RAID 1 or 1TB aggregated<br>SSD: 128GB in RAID 1 or 256GB aggregated |
| **Encryption Standard** | Advanced Encryption Standard (AES); 128 bit key-size |
| **Host interface** | 10/100Mbit Ethernet |
| **Led indicators** | Ethernet link<br>Ethernet activity<br>SATA boot failure<br>Early on<br>Power on |
| **Power Supply** | Power-over-Ethernet<br>Powered Device 37 – 57VDC<br>Power Classification: Class 0 (IEEE 802.3af compliant) |
| **Power Consumption** | < 12W |
| **Dimensions** | 171 x 59,5 x 285mm (6.73" x 2.34" x 11.22") (W x H x L) without key locked enclosure<br>171 x 83 x 293mm (6.73" x 3.26" x 11.53") (W x H x L) with key locked enclosure |
| **Weight** | 3Kg (6.61lbs) |
| **Operating Temperature** | Typical configuration: -25°C to +55°C (+70°C for 10 minutes) (-13° to +131°F) (+158°F for 10min.) |
| **Storage Temperature** | -40°C to +85°C (-40°F to +185°F) |
| **Humidity** | 95% relative humidity non condensing |
| **Environmental** | IP65 (NEMA 4X) |
| **Compliance** | EN50155 (Railway applications)<br>EN61373 (Vibrations & Shocks)<br>EN60950 (Safety)<br>EN61000 (Immunity, Emission)<br>EN60068 (Environmental testing) |

## FAQ

**What is Network Attached Storage (NAS)?** A NAS is a specialized device that allows file level access through a network infrastructure (typically Ethernet)

**Who needs a NAS device?** Anybody who needs a convenient, standard and expandable data repository; so a NAS is an important building block for a flexible and scalable system architecture.

**What is an NFS server? What is an SMB server?** NFS and SMB are two network protocols widely used to share data at the file level. They are supported by virtually all operating systems, including Windows and Linux.

**What is the WebGUI?** The WebGUI is one way of configuring the device (the other is SSH). With a web browser, the user can access an intuitive, graphical interface that gives access to the device settings.

**What is SSH?** SSH is used to establish a secure connection with the device. This is a standard network protocol that can be used to access the configuration parameters of the NAS. Moreover, with SSH is it possible to use scripting to automatically configure any number of DuraNASes.

**What is a DHCP client?** DHCP is a network protocol that allows automatic device configuration thorough the network. At boot time, the device is recognized and fed with the configuration data.

**What is RAID?** RAID is a technology that uses two or more disks to ensure fault tolerance and/or higher speed.

# ZyWAN

ROBUST CELLULAR ROUTER

## FEATURES

- Ready to use Linux router
- Combines cellular, Wi-Fi and GPS capabilities
- Dual Ethernet and three serial ports
- OTA (Over-the-Air) Web GUI for easy customization
- Customizable programming environment

The rugged ZyWAN provides real-time access to any Ethernet, 802.11 or serial device for mobile and fixed data applications through a secure and robust connection to CDMA, EVDO, GSM/GPRS, 3G, and iDEN cellular networks.
The ZyWAN operates as a fully configurable embedded Linux router enabling firewalling, DHCP, DNS and NAT. Also included is a GPS receiver for mapping applications. To easily manage the ZyWAN, a WEB GUI interface presents a simple tool that allows to quickly change settings locally or over-the-air. The ZyWAN is available in number of customer ready application configurations.

For developers, the ZyWAN comes ready for programming in Embedded Linux and J2ME (IBMJ9), and OSGI (Eclipse). So customers can personalize the application in order to fulfill their own specific requirements or to provide value on top of its standard configuration.

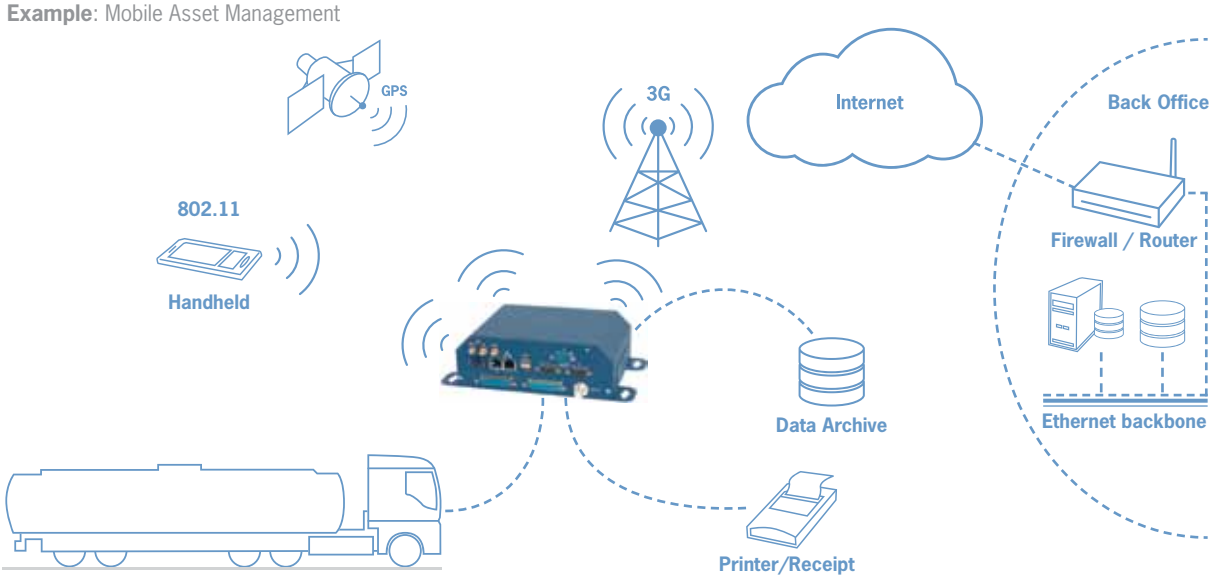
## BENEFITS

- Flexible, robust, secure wireless solution
- Easy to use for quick installation
- Certified for operating on EU and US carriers

## APPLICATIONS

FLEET MANAGEMENT
FIELD FORCE AUTOMATION
UTILITIES, OIL & GAS
TELEMETRY OF REMOTE SYSTEMS
ATM, KIOSK AND POS
PUBLIC SAFETY AND FIRST RESPONDERS

**Example**: Mobile Asset Management



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Processor** | Marvell PXA 270 @ 520MHz |
| **Memory** | 64MB RAM, 64MB FLASH |
| **Operation System** | Linux 2.6 Eurotech Optimized kernel |
| **I/O** | 2x Ethernet 10/100Mbps<br>2x USB 1.1<br>2x RS-232 serial ports<br>1x RS-232/422/485 serial port |
| **WLAN** | IEEE 802.11b, SMA Connector (optional) |
| **WWAN** | 3G, IDEN, EVDO, SMA Connector |
| **GPS** | Very high sensitivity 12 channel GPS receiver |
| **Router Functions** | Virtual Private Network (VPN) Support: IPSec, OpenVPN, and VPNc<br>DHCP<br>Routing<br>Firewalling<br>Security AES,3DES, SSH, etc.<br>NAT (Network Address Translation)<br>Terminal server and client<br>DNS client |
| **Video Out** | VGA and touch screen interface (optional) |
| **Expansion** | I/O Expansion bus |
| **Power supply** | Input power: 10 - 30VDC<br>Over and reverse voltage protection: 100VDC<br>Ignition sense input: 12VDC protected<br>Power: 8W |
| **Dimensions** | 238x137x65mm (9.37" x 5.94" x 2.56") (L x W x H) |
| **Operating Temperature** | -20°C to +65°C (-4°F to +149°F) (without 802.11), 0°C to +60°C (32°F to +140°F) (with 802.11) |
| **Humidity** | 95% relative humidity non condensing |
| **Compliance** | FCC/CE/PCTRB |
| **Weight** | Approx 1.4 Kg (3.00 lbs) |

## FAQ

**Why do I need a router?** You need a router in application in which you have to connect two different networks. As depicted in the example the ZyWAN is connecting a local moving network (the one on the truck between Printers, hand held devices, etc) with a Back Office. This kind of installation provides a secure, reliable and bidirectional channel between the moving network on the vehicle and the Back Office where the business application runs. The amount of devices providing valuable information all can be accessed through this secure connection to better manage assets and business processes.

**What can I connect to the ZyWAN?** You can connect a broad range of devices though the various interfaces offered the ZyWAN that includes USB, Ethernet, both RS232 or RS485 serial communications and a WLAN interface. Providing this flexibility is critical in meeting the demands of most applications. In the mobile asset application, the ZyWAN connects a printer through a serial port or a USB port, a temperature sensor through another of the serial ports, a flow meter through an RS485 port, Wi-Fi to a handheld, manages a cellular connection and receives data from to the engine diagnostics port.

**Can I access a local serial port from my Back Office?** Yes, this is a functionality that is available and easily configured into the GUI. This functionality is described in routing terms as a terminal server creates a secure, pass-through connection with the serial port like you are locally connected to the physical port. Thus, if you have an application that needs to connect to a remote device for data or diagnostics, the ZyWAN can be easily deployed and configured.

# DuraMAR® 215X

RUGGED MOBILE ACCESS ROUTER

## FEATURES

- Ready Off-The-Shelf wireless mobile IP router
- Flexible and secure solution that leverages CISCO iOS
- Wi-Fi, HSDPA, GRPS communication interfaces
- EN50155 certified
- IP 65

A mobile access router creates an IP network for a vehicle (such as a train, bus or truck), helping to enable secure voice, video, and data communications with a network operations center while maintaing transparent connectivity whether the vehicle is stationary or in motion. The Eurotech DuraMAR® routers enable System Integrators to achieve mobile communications-on-the-move (COTM) and a wide range of in-vehicle networking applications, from wireless Internet access to Voice over IP (VoIP), from passenger Wi-Fi services to streaming video surveillance and smart vehicle diagnostics/ maintenance. The DuraMAR® 2150 leverages Cisco Systems' industry standard IOS® software and mobile access routing (MAR) technology. The Eurotech Communication Controller runs proprietary and optimized Eurotech firmware providing multiple high-speed wireless connections such as HSDPA/HSUPA or Wi-Fi. The DuraMAR® 2150 is primarily designed for train and rolling stock applications, but it is also suited for use by public safety authorities, rescue teams and first responders. The DuraMAR® 2151 leverages Cisco Systems' industry standard IOS® software and mobile access router (MAR) and the Wireless Mobile Interface Card (WMIC). The solution is particularly suited for vehicle based applications in which a mesh Wi-Fi network is requested for communicating the information to the ground operations center.

## BENEFITS

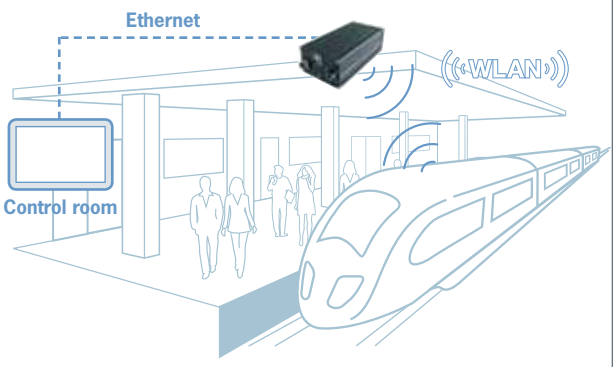
EN50155

- EN50155 Mobile Access Router
- Based on Cisco MAR technology
- Compact and rugged design

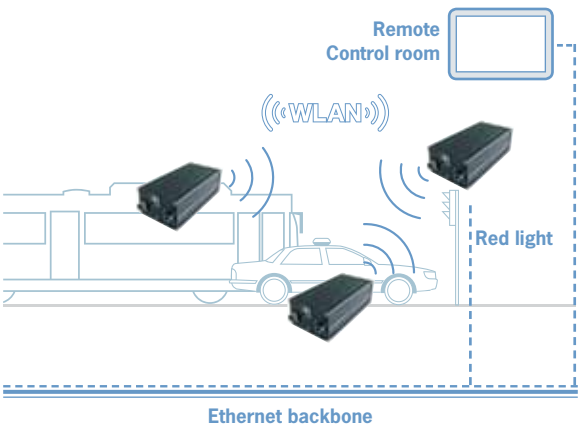
## APPLICATIONS

SMART VEHICLE CONTROL & DIAGNOSTIC
SECURE TELEMETRY OF REMOTE SYSTEMS
PASSENGER WI-FI SERVICES
VIDEO SURVEILLANCE

**Example**: Train to ground communication




**Example**: Connected Vehicles



## GENERAL SPECIFICATIONS

| | DuraMAR 2150 | DuraMAR 2151 |
|---|---|---|
| **IP Routing** | Integrated Cisco Wireless & Mobile Router; Robust Cisco IOS Software Security, Management, QoS, VLAN, & Routing Protocol Support, including IPv6 and IP Mobility (IETF Mobile IP Standard RFC 2002) | Eurotech proprietary solution, fully customizable, Network Address Translation, IPV4, Asymmetric routing, including: Load balancing/ aggregation/policy routing, Multiple WAN transports |
| **Wireless Interfaces** | EDGE/UMTS/HSDPA/HSUPA<br>CDMA2000 EV-DO Rev. A<br>SIM cards accessible from the front panel | Wi-Fi 802.11 a/b/g, 4.9GHz |
| **I/O** | Ethernet 10/100Mbps<br>2x RS-232 console ports | 2x Ethernet 10/100Mbps<br>2x RS-232 (debug ports) |
| **Wireless Diagnostic Port** | 3-band internal stand alone GSM/GPRS wireless modem;<br>SNMP Remote diagnostics, status and alarm monitoring | SNMP Remote diagnostics, status and alarm monitoring |
| **Power supply** | Insolated + 110VDC nominal train feeder input or +8 to +36VDC general purpose vehicle input | +9 to +39VDC |
| **Power Consumption** | 25W max | 38.5W nominal |
| **Dimensions** | 255x129x83mm (10.04" x 5.08" x 3.27")<br>(L x W x H) | 272x129x83mm (10.71" x 5.08" x 3.27")<br>(L x W x H) |
| **Operating Temperature** | -20° to +70°C (-4°F to +158°F)<br>-20° to +55°C (-4°F to +131°F) with Wi-Fi | -20° to +55°C (-4°F to +131°F)<br>(+70°C for 10 min.) (+158°F for 10 min.) |
| **Storage Temperature** | -25° to +70°C (-13°F to +158°F) | -40° to +85°C (-40° to +185°F) |
| **Protection Class** | IP65 | IP54 |
| **Compliance** | EN50155 Railway applications | EN50155 Railway applications |

## FAQ

**What is a router?** A router is a device that forwards data packets between telecommunication networks. A router is connected to two or more data lines from different networks. When data comes in on one of the lines, the router reads the address information in the packet to determine its ultimate destination. Then, using information in its routing table or routing policy, it directs the packet to the next network on its journey or drops the packet. A data packet is typically forwarded from one router to another through networks that constitute the internetwork until it gets to its destination node.

**What is a MAR?** MAR is the acronym of Mobile Access Router. A MAR is a router device that, when installed on a vehicle, maintains transparent, secure connectivity between the vehicle and the operation center network whether the vehicle is stationary or in motion.

**What is EN50155? Why EN50155 is important?** Is a certification that is applied to some electronic equipment that is deployed on rail vehicles. The EN50155 is a comprehensive set of tests that set the basic requirements for devices that have to be installed on rail vehicles. As part of the certification the device has to pass different tests related with temperature, shock, vibrations and safety.

# RiderNET

MOBILE HOT SPOT


## FEATURES

- Mobile hot spot
- WWAN (UMTS/HSDPA) for Backhaul connectivity
- WLAN (802.11 b/g) for subscriber connection
- Bandwidth management
- Built in GPS
- Remote monitoring services
- Complete installation kit

RiderNET³ is a mobile high-speed Internet access solution specifically designed for mass transit vehicles. RiderNET³ enables public transit authorities and private coach operators to provide business commuters, students and other passengers a reliable wireless 802.11 (Wi-Fi) connection to check email and visit websites at broadband speeds from the convenience of their seats on the bus.
An affordable way to help increase ridership and retain valuable customers, RiderNET³ bundles all the equipment (router, modem, antennas, cabling) and managed services necessary to provide Wi-Fi, remote system monitoring, usage reporting and content filtering. Especially suited for the harsh bus environment, this turn-key solution incorporates a rugged hardware design that eliminates the use of less-reliable consumer devices.
Providing wireless Internet access onboard passenger buses can help riders make commute time more productive, while helping reduce congestion on roadways as drivers switch to public transit.

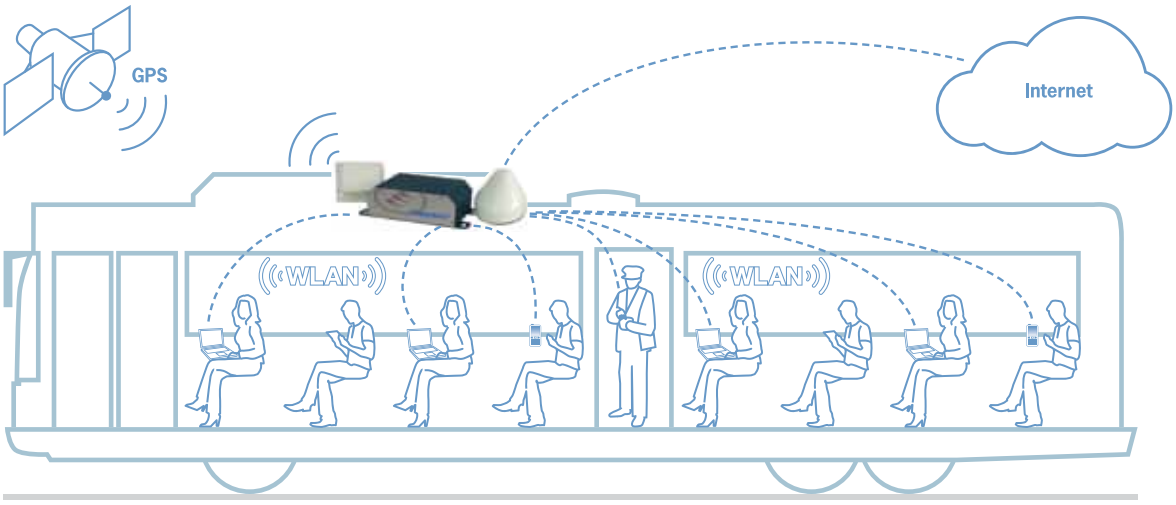
## BENEFITS

ESF Everyware Software Framework
EDC Everyware Device Cloud

- Specifically developed for bus installation
- Turn-key proven solution
- Easy to install, monitor and maintain

## APPLICATIONS

MOBILE WI-FI HOT SPOT FOR URBAN AND LONG DISTANCES BUSES



## GENERAL SPECIFICATIONS

### HW FEATURES

| | |
|---|---|
| **Broadband Modem** | UMTS/HSDPA or EV-DO modem with High Gain Backhaul Vehicle Antenna |
| **WLAN** | IEEE 802.11 b/g |
| **Operation System** | Linux 2.6 Eurotech Optimized kernel |
| **GPS** | Integrated high sensitivity GPS receiver |
| **Power Supply** | 10 to 30 VDC with ignition sensing |
| **Operative Temperature** | 0° to +60°C (+32°F to +140°F) |

### SW FEATURES

| | |
|---|---|
| **Content Management** | Filters, and tools for content management, welcome pages withn branding capabilities |
| **Bandwidth Management** | Integrated for optimized user experience |
| **Monitoring Tools** | Built-in keep alive feature, remote monitoring service |
| **Reporting Tools** | Advanced reports and historical usage |
| **Optional features** | Advertising sponsorship support, unique login and usage tracking, Ethernet/Serial ports for vehicle area network, data transfer to garage networks |

## FAQ

**Which is the typical RiderNET³ application?** RiderNET³ is typically used to provide internet access to commuters, passengers that are travelling on buses. RiderNET is a turn-key solution that incorporates bus-proven hardware, a flexible software platform and management tools.

**Is it possible to customize the welcome pages and other services?** Yes, we can customize the welcome pages as per your specifications. Feel free to contact us.

# PCN-1001

PASSENGER COUNTING DEVICE

## FEATURES

- High accuracy bidirectional counting
- Easy and flexible to deploy
- EN50155 fully certified

The Eurotech Passenger Counter (PCN-1001) is a compact and autonomous device designed to accurately keep track of the passengers entering or leaving public transport vehicles such as trains, metros or buses.
The Passenger Counter analyses the height, shape and direction of any objects that are passing the field of view; if it is determined that the object is a person entering or leaving, the incoming and outgoing counters are incremented accordingly, along with time and date information. The Passenger Counter is natively integrated with ESF based Eurotech devices reducing the time needed to develop a complete passenger monitoring system but it can be easily interfaced with other on-board PC systems.

## BENEFITS

ESF EN50155

- High accuracy bidirectional counting system for trains, metros and buses
- EN50155 certified: perfect fit for tough environments
- Easy to install: intended to make easier the deployment process on vehicles
- Fast integration with on board computer systems

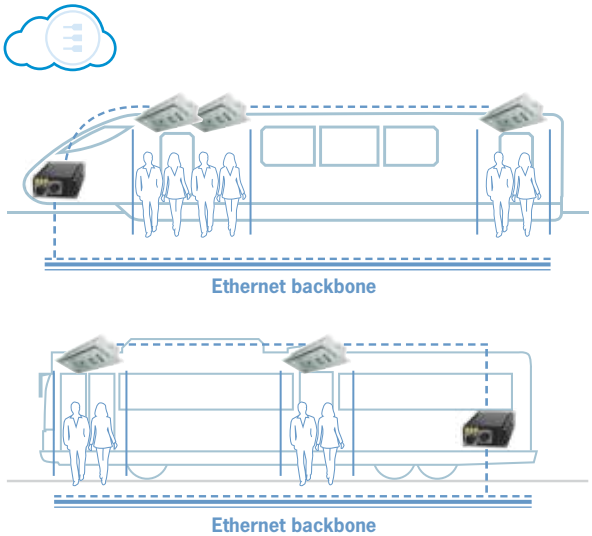
## APPLICATIONS

SMART TRANSPORTATION SYSTEM ON TRAINS, METROS AND BUSES

DATA COLLECTION ON PUBLIC VEHICLES
REAL TIME SERVICE PLANNING AND MONITORING

**Example**: PCN-1001 configurations


**Example**: PCN-1001 on a train and on a bus



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Application** | Automatic passenger counting solution |
| **Technology** | Contactless stereoscopic vision detection |
| **Interfaces** | RS485 interface, 2+2 digital I/O, USB (service) |
| **Mechanical** | IP65 sealed magnesium enclosure |
| **PSU** | DC/DC 9-32VDC |
| **Standards** | EN50155 class T1, 2004/104/EC |
| **Accessories** | Starter Kit, configuration software |
| **External plate** | 230 x 100 x 3mm (9.05" x 3.93" x 0.12") |
| **Dimensions** | PCN-1001 Frame<br>Height 100mm (3.93")<br>Width 230mm (9.05")<br>Depth 3mm (0.12")<br>Required cut out<br>Height 82mm (3.23")<br>Width 208,5mm (8.21")<br>Depth 41,5 to 70mm (1.63" to 2.75") |
| **Operating Temperature** | -25 to +55°C (+70°C for 10 minutes) (-13°F to +131°F) (+158°F for 10min.) |

## FAQ

**Which kind of vision technology does the PCN-1001 use?** The PCN-1001 combines a stereoscopic vision and an infrared system to track and count people in its field of view.

**How can I interface the PCN-1001 with an on-board PC?** You can interface the PCN-1001 through a RS485 connection using a simple protocol. For your convenience the PCN-1001 is natively integrated with our ESF based devices so you do not have to spend time on the software integration side and you can concentrate on your business application.

**Can I install the PCN-1001 in a train?** Yes, the PCN-1001 has been conceived since the beginning to be installed on moving vehicles and it is compliant with EN50155.

**Does the PCN-1001 have digital I/O inputs?** Yes, it has 2 digital I/Os input that can be connected to door sensors in order to activate or stop the counting process only under certain conditions (i.e. when the doors are closed the counting process can be stopped).

# Zypad WR 11XX

WRIST WORN RUGGED COMPUTER

## FEATURES

- Rugged mobile wearable computer for harsh environments
- IP67 protection rate
- Extensive communications capabilities
- Modular design
- Designed for compliance to ATEX Zone 2, Cat.3

The Zypad WR 11XX Wrist Worn Rugged Computer is a powerful computing device designed to withstand the most severe environmental conditions and to be worn comfortably on the user's wrist for hands-free operation.
The WR 11XX consists of a core system, a modular battery pack and an add-on expansion module; this allows the user to rapidly change the configuration of the device.
The WR 11XX has a special case made of fibreglass reinforced nylon and magnesium alloy, which maximizes the strength and minimizes weight. Also the large high-resolution touch screen display is protected by a special film; this is to avoid damage and is made to withstand water, dust, etc. The WR 11XX is compliant with MIL standard regulations.

## BENEFITS

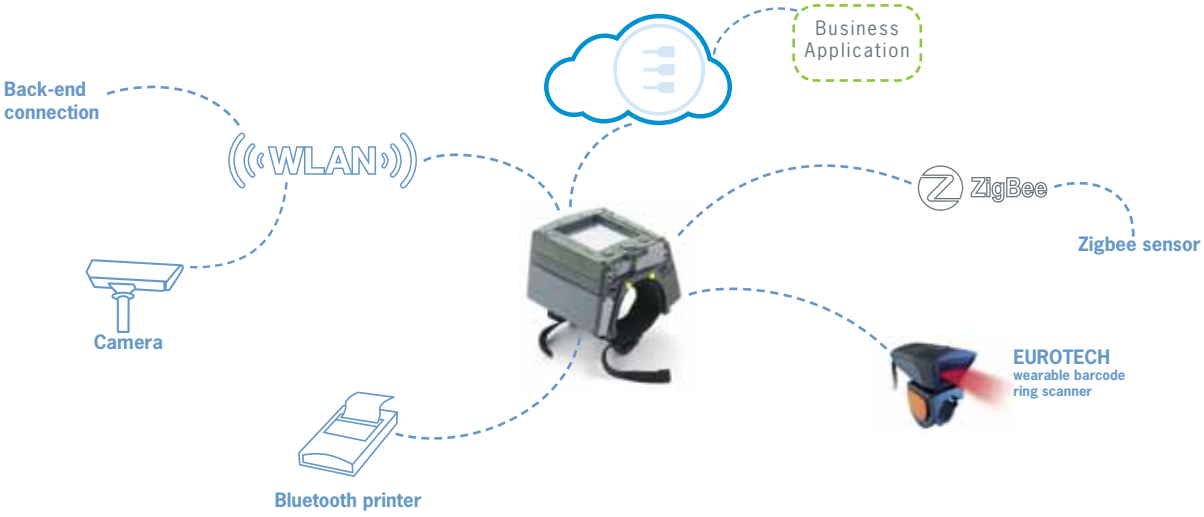
EDC ZigBee

- Designed to comfortably fit the user's wrist
- WPAN (Bluetooth or ZigBee) and WLAN (IEEE 802.11 b/g) interfaces are integrated
- IP67 protection rate
- Large and resistant touch screen interface
- Wide temperature range
- Linux OS
- 1D and 2D ring scanners available

## APPLICATIONS

FIRST RESPONDERS
EMERGENCY SERVICES
FOREST SERVICES
OIL AND GAS
SECURITY
HARSH LOGISTIC ENVIRONMENTS
DEFENSE

**Example**: WR 11XX communication example



## GENERAL SPECIFICATIONS

### CORE ARCHITECTURE

| | |
|---|---|
| **Processor** | PXA 270 @ 416MHz |
| **Memory** | 128MB FLASH<br>256MB RAM |
| **Display** | 640 x 480 pixels (VGA) Color 3.5" TFT with touch screen<br>Visible with direct sunlight<br>Night vision compliant (optional)<br>Shock resistant |
| **LED** | 1x Power<br>1x Charge<br>1x WPAN<br>1x WLAN<br>1x Alarm |
| **Audio** | AC 97 CODEC<br>On board microphone with noise cancellation<br>On board integrated speaker for high noise environment |
| **I/O** | 1x USB Device port<br>1x USB Host port<br>1x Audio port |
| **WPAN** | Bluetooth Class 2 - integrated antenna<br>or<br>Zigbee integrated antenna |
| **WLAN** | Integrated IEEE 802.11b/g - integrated antenna |
| **Other devices** | Integrated accelerometer<br>Integrated electronic compass (optional)<br>Biometric fingerprint reader |
| **Expansion slots** | 1 user accessible microSD memory card |
| **Other expansion** | 1 expansion connector for 1 optional module (see below) |
| **Keyboard** | Cursor pad<br>Virtual QWERTY keyboard on screen |
| **Pen device** | Stylus |
| **Operating system** | Linux based on Kernel 2.6 |
| **Application Development system** | Linux: Eurotech SDK for Kernel Linux 2.6 |
| **Case** | Fibreglass reinforced nylon/Magnesium alloy |
| **Weight** | 645g Computer Core (1.42lb)<br>120g Wrist Support (0.26lb) |

### BATTERY PACK

| | |
|---|---|
| **Power** | 3.6V Li-Ion interchangeable (hot swappable) battery pack |

### ADD-ON MODULE

| | |
|---|---|
| **GPS** | 12 channel receiver with very high sensitivity<br>DGPS and SBAS (WASS, EGNOS) support<br>Internal antenna |

# GENERAL SPECIFICATIONS

## AGENCY APPROVALS

| | |
|---|---|
| **Emissions** | EN55022 (CISPR22) Class B<br>FCC 15. Class B<br>DOC Class B<br>CE Mark<br>MIL-STD 461 |
| **Immunity** | EN55024<br>FCC 15, Class B<br>DOC Class B<br>MIL-STD 461 |
| **Safety** | UL and cUL listed, UL 1950 third edition<br>TUV T- Mark, EN60950<br>UL and cUL listed, UL 1604 with all batteries and all wireless radios<br>Designed for compliance to ATEX Zone 2, Category 3 |

## ACCESSORIES

| | |
|---|---|
| **AC Adapter** | External universal power supply<br>Input: 100-240VAC / 50-60Hz / 400mA<br>Output: 5VDC / 2.4A |
| **Audio Adapter** | Gives the following features:<br>a 3,5mm stereo audio socket<br>a 3,5mm mono microphone socket |
| **Power and USB Adapter** | Connection to the AC adapter<br>USB device connector (“A” type plug)<br>USB host connector (“A” type receptacle) |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| **Temperature** | Operating: -20° to 60°C (- 4° to +140° F)<br>Storage: -40° to 75°C (- 40° to +167° F)<br>Cold Boot (battery): 0°C (32° F) @ 70% charge<br>Cold Boot (AC adapter): any<br>MIL-STD 810F methods 501.4 and 502.4 |
| **Thermal shock** | 1,5°C < 5°C / minute over -20°C to 60°C (34.7°F < 41°F / minute over -4°F to 140°F)<br>MIL-STD 810F method 503.4 |
| **Humidity** | 0% to 95% non-condensing<br>MIL-STD 810F method 507.4 |
| **Transit shock** | Up to 4 drop to concrete, all surfaces, edges, and corners<br>MIL-STD 810F method 516.5 |
| **Crash shock** | 75g, 11ms, Terminal saw tooth<br>MIL-STD 810F method 516.5 |
| **Vibration** | 0.4g^2/Hz, 20Hz - 1000Hz<br>6dB/octive 1000Hz - 2000Hz<br>MIL-STD 810F method 514.5C-17 |
| **Vehicular vibration** | Composite wheeled vehicle method<br>MIL-STD 810F method 514.5C-17 |

## FAQ

**For which kind of application do I need a Zypad Wearable computer?** You may need a wearable computer when in your application hands-free operation is a must. The Zypad family provides a board range of wearable devices that can be chosen depending on the applications.
You may also need a Zypad wearable computer for many other applications in which you would like to overcome the the physical limitations associated with normal hand-held computers.

**What does IP67 mean?** The IP Code (or Ingress Protection Rating) consists of the letters IP followed by two digits or one digit and one letter and an optional letter. The IP Code classifies and rates the degrees of protection provided against the intrusion of solid objects, dust, accidental contact, and water in mechanical casings and with electrical enclosures.
In our case IP67 means:

- No ingress of dust; complete protection against contact
- Up to 1m of submersion

**Why this IP rating is very important in harsh environments?** Typically these kind of environments are intrinsically dangerous for the user. In order to safely operate in, the user doesn't have time to worry and treat with care the device.
The WR1 1 XX is a perfect fit for this kind of application, since worn on the wrist is close to the user and the rugged design prevents it from being easily damaged or broken.

**How can I connect the Zypad to the Eurotech M2M platform?** Eurotech provides a library that speeds-up the integration of the Zypad into the Eurotech M2M platform so you can immediately concentrate on the business application.

**How can I develop my application?** Eurotech provides extensions to Linux for hardware specific features like electronic compass, finger-print and accelerometers.

**Can I power the device from an external battery pack?** Yes, this can be definitively done. For example the battery pack can be located on the back-pack and the battery modules of the Zypad can be removed leaving only the core on the user's wrist.

**How can I connect a Ethernet based device to the WR 1 1XX?** You can simply use one of the USB ports available and an adapter. The device natively supports the most common USB to Ethernet adapters that are on the market.

# Zypad WL 11XX

WRIST WORN COMPUTER

## FEATURES

- Lightweight wearable computer for hands-free operation
- Built-in wireless communications capabilities
- Standard operative system

The Zypad WL 11XX Wrist Worn Personal Computer is a powerful computing device designed to be worn comfortably on the user's wrist for hands-free operation.
From its original concept the Zypad WL 11XX has been designed to be as flexible as possible maximizing its potential application areas. The Zypad WL 11XX lightweight, versatile and completely hands-free convenience makes it of special interest to Logistics, Emergency Services, Security, Defense, Healthcare, Maintenance and any area where hands-free access to large amounts of information is necessary.

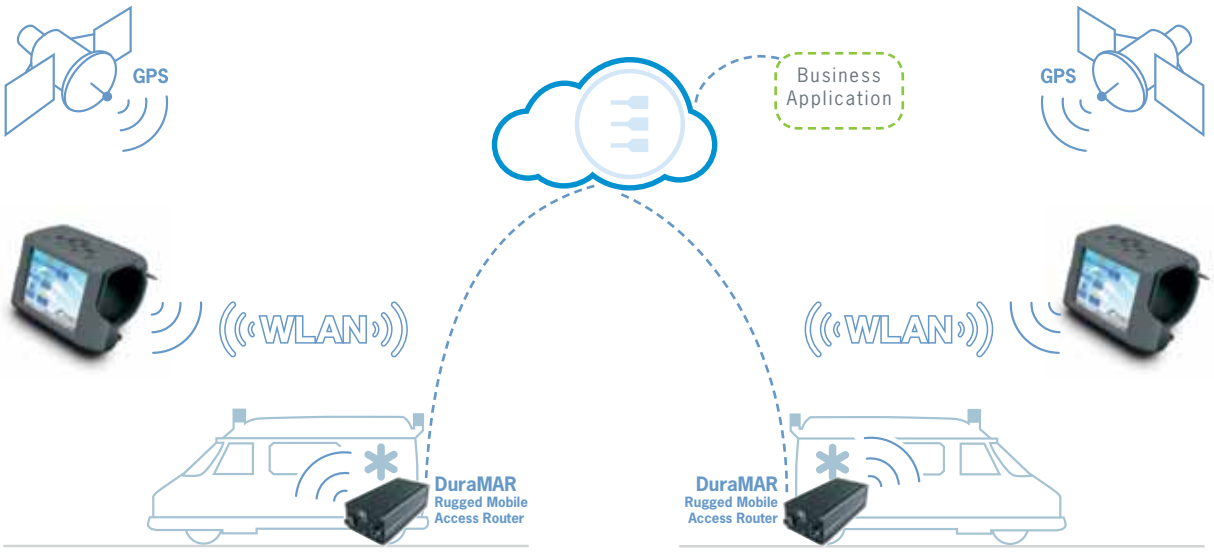
## BENEFITS

- Designed to comfortably fit the user's wrist for hands free operations
- Integrated PAN (Bluetooth, ZigBee), WLAN (IEEE 802.11 b/g)
- Large touch screen interface
- Windows CE 6.0 and Linux OSs
- 1D and 2D ring scanners available

## APPLICATIONS

WAREHOUSE PICKING
VOICE DIRECTED APPLICATIONS
EMERGENCY SERVICES
SECURITY
MAINTENANCE
TRANSPORTATION

**Example**: WL 11XX in a mobile emergency environment



## GENERAL SPECIFICATIONS

### SYSTEM ARCHITECTURE

| | |
|---|---|
| **Processor** | PXA 270 @ 400MHz |
| **Memory** | 128MB RAM - 128MB Non Volatile FLASH |
| **Display** | 320X240 pixels (1/4 VGA) 65K Color 3.5" TFT with touch Screen<br>Automatic contrast adjust via ambient light sensor |
| **LED** | 1x Power On/Charge LED, 1x WLAN Activity LED, 1x WPAN Activity LED |
| **Audio** | Integrated |
| **I/O** | 1x USB Client, 1x USB Host, 1x Audio Jack In/Out |
| **WPAN** | Bluetooth CLass 2 v1.2 (up to 10 meters), ZigBee (optional) |
| **WLAN** | Integrated IEEE 802.11 b/g with internal antenna |
| **WWAN** | External via Bluetooth |
| **GPS** | High sensitivity receiver with integrated antenna |
| **RFID** | Integrated transceiver and antenna, Meets ISO 15693-14443A@13.56MHz (optional) |
| **Other devices** | Accelerometer (linear) |
| **Expansion slots** | 1x user accessible Mini SD |
| **Keyboard** | 11 keys-backlight |
| **Power** | 3.6V 2200mAh Li-Ion interchangeable battery pack<br>Advanced power management features (patented) |
| **Battery charging** | External universal power supply<br>Multiple battery charger<br>USB cable connected to a PC<br>Car cigarette lighter power supply |
| **Pen device** | Integrated stylus connected to the device |
| **Operating system** | Windows® CE 6.0, Linux based on Kernel 2.6 |
| **Application development** | Windows: Microsoft Platform Builder & Eurotech SDK for CE<br>Linux: Eurotech SDK for Kernel Linux 2.6 |
| **Operating temperature** | -10°C to +50°C (14°F to +122°F) |
| **Storage temperature** | -20°C to +50°C (-4°F to +122°F) |
| **Humidity** | 95% relative humidity non condensing |
| **Environmental** | Water resistant |
| **Regulatory approvals** | EU/USA/CANADA - R&TTE |
| **Weight** | 290g (battery included) (0.639lb) |

### ACCESSORIES

| | |
|---|---|
| **Power** | Universal Power Supply<br>Multiple battery charger<br>Vehicle (cigarette lighter) battery charger<br>High capacity battery pack |
| **Display protection** | Display Protective Film pack |
| **Cables** | USB Host cable<br>Y-USB client cable (USB + Power) |
| **Audio** | Headset (cabled)<br>Bluetooth Headset (wireless) |
| **Barcode** | Wearable ring scanner for 1D barcodes<br>Wearable ring scanner for 2D barcodes (high capacity battery pack is also required) |
| **Protective cover** | IP54 protective rubber case |

# Zypad WL 15XX

WRIST WORN COMPUTER

## FEATURES

- Wearable computer for hands-free operation
- IP54 protection rate
- Integrated 3.5G communications capabilities

The Zypad WL 15XX series of wearable computers give users access to immediate information without sacrificing mobility. The Zypad WL 15XX is designed for instant access to computing capabilities while the wearer is carrying out tasks in the field: an integrated 3.5G module with a discrete keyboard provides remote connectivity.
Featuring hands-free operation, IP54 protection rate, robust wireless capabilities, and built-in GPS tracking, this versatile wearable computer serves as an ideal tool for emergency search and rescue, healthcare, homeland security, maintenance, law enforcement, logistics, transportation, and defense applications.

## BENEFITS

- Designed to comfortably fit the user's wrist for hands free operations
- Integrated PAN (Bluetooth, ZigBee), WLAN (IEEE 802.11 b/g)
- Integrated WWAN (3.5G)
- IP54 protection rating
- Large touch screen interface
- Windows CE 6.0 and Linux OSs
- 1D and 2D ring scanners available

## APPLICATIONS

WAREHOUSE PICKING
VOICE DIRECTED APPLICATIONS
EMERGENCY SERVICES
HOMELAND SECURITY
MAINTENANCE
TRANSPORTATION

**Example**: WL 15XX communications

## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Processor** | Marvel PXA 320 |
| **Graphics / Audio** | 3.5" TFT display at QVGA (320 x 240) resolution<br>Resistive touch screen<br>Backlight controlled by ambient light sensor<br>Integrated microphone<br>Mono-audio speaker<br>Audio-in using 2.5" audio jack<br>Bluetooth audio I/O PCM codec |
| **Memory** | 128MB mobile SDRAM, 128MB mobile FLASH |
| **Operating system** | Windows® CE 6.0 |
| **Environmental** | IP54 |
| **USB** | 1x USB device port (full speed)<br>1x USB host port (full speed) |
| **WPAN** | Bluetooth (Class 1) with integrated antenna<br>ZigBee |
| **WLAN** | Integrated IEEE 802/11b/g interface with integrated antenna |
| **WWAN** | GSM/GPRS/CDMA/EDGE, UMTS, HSDPA radio module support (optional, exclusive of each other) with integrated antenna<br>User-accessible SIM card slot |
| **GPS** | Integrated antenna |
| **Expansion Interfaces** | 1x Micro SD slot |
| **Barcode reader** | Barcode reader and imager with view and capture capabilities (optional, factory installed) |
| **Accelerometer** | 3 axis |
| **Keyboard/Buttons** | 12x Keys<br>1x Power on/off key<br>Programmable, built-in backlight |
| **Temperature** | Operating: -20°C to +50°C (-4°F to +122°F)<br>Storage: -30°C to +50°C (-22°F to +122°F) |
| **Humidity** | 95% relative humidity (non-condensing) |
| **Power** | Power monitor with fuel gauge, hot swap of battery, battery charging using USB port |
| **Accessories** | Quad battery charger, additional batteries, 1D/2D barcode reader |

## FAQ

**For which kind of application do I need a Zypad Wearable computer?** You may need a wearable computer when in your application hands-free operation is a must. The Zypad family provides a board range of wearable devices that can be chosen depending on the applications.
You may also need a Zypad wearable computer for many other applications in which you would like to overcome the the physical limitations associated with normal hand-held computers.

**How can I connect the Zypad to the Eurotech M2M platform?** Eurotech provides a library that speeds-up the integration of the Zypad into the Eurotech M2M platform so you can start thinking to the business application immediately.

**How can I develop my application?** Eurotech provides a standard Windows CE 6.0 SDK extended with a hardware specific features library called ZDK (Zypad Development Kit) all integrated in a standard Visual Studio environment for standard application development.

# BR2000

MAN WORN RUGGED COMPUTER

## FEATURES

- Light weight and battery-operated device
- Integrated wired and wireless
- Durable, IP67 enclosure
- Standard operating systems
- Wearable and vehicle mountable computer

The BR2000 is a rugged, small form factor wearable and vehicle mountable computer designed for use under extreme conditions, providing reliable wired and wireless connectivity in demanding applications, such as mining, industrial, transportation and disaster relief.
The BR2000 weighs less than 850gr (less than 2lbs) including the battery, which provides up to 6 hours operations, in typical applications. It can be mounted onto a vehicle or worn on a tactical vest, utility belt, pocket or backpack and interfaces with a wrist-worn, vest-mounted or hand-held display and/or helmet monocle.
Leveraging the low-power architecture of the Intel Atom™ processor together with high-speed wired and wireless network and device I/O interfaces, the BR2000 offers extensive communications capabilities such as Wi-Fi, Bluetooth, and GPS. Standard I/O includes Gigabit Ethernet, USB 2.0, RS232/422, on-board FLASH and Compact FLASH, Audio, and 2D/3D Video Output.
Operating system support includes Windows 7, WES 7, Wind River Linux, and other RTOS. The BR2000 can run the Everyware™ Software Framework and is compatible with Everyware™ Device Cloud.

## BENEFITS

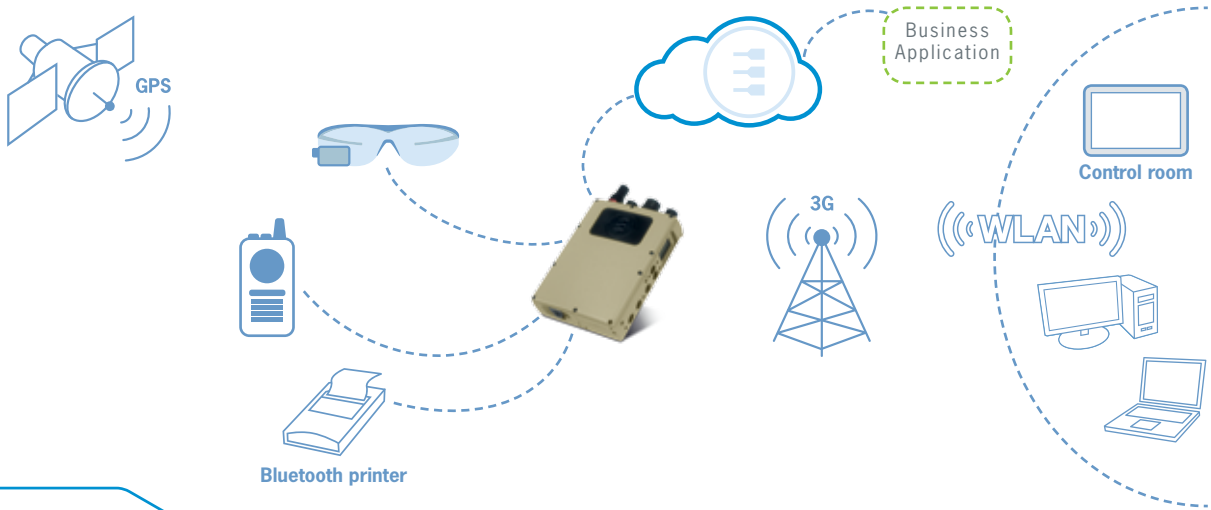
ESF EDC

- Compact and powerful Atom based device
- Battery powered
- Built-in wired and wireless communications
- IP67 protection rating
- Standard OS

## APPLICATIONS

MINING
INDUSTRIAL
TRANSPORTATION
EMERGENCY CREW
DEFENSE

**Example**: BR2000 application example



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Processor** | Intel® Atom™ E660T @ 1.3GHz CPU<br>Intel PCH EG20T |
| **Graphics / Audio** | 1x 2D/3D VGA display output (LVDS optional)<br>1x Composite video (NTSC/PAL) output<br>Audio microphone and headset output |
| **Memory** | 1GB RAM (up to 2GB supported)<br>High-capacity Compact FLASH (with option for Secure Erase)<br>Up to 32GB Onboard FLASH |
| **Operating system** | Windows 7, WES 7, Wind River Linux/Embedded Linux, Android (contact us on availability) |
| **USB** | 6x USB 2.0 ports |
| **WPAN** | Bluetooth (Class 1) with integrated antenna |
| **Serial ports** | 1x RS-232/422 (full port)<br>2x RS-232 (Tx/Rx) |
| **Integrated Wireless Communications** | 802.11 b/g/n with integrated antenna<br>Bluetooth (Class 1, EDR up to 2-3Mbps) with integrated antenna<br>50-channel GPS receiver with integrated antenna<br>Support for appended cellular modems (CDMA, GSM, UMTS) |
| **Ethernet** | 1x 10/100/1000BASE-T Ethernet interface |
| **I/O Expansion Interfaces** | Expansion device support via USB, PCIe, DIO, RS-232/422<br>(accessible in connector interface panel) |
| **Security** | Trusted Platform Module v1.2<br>Emergency erase/sanitize support |
| **User Controls** | 1x Power on/off key<br>4x Programmable keypad buttons (Up, Down, Select, Back)<br>Configuration control/maintenance display<br>LED indicators for alarm, power, and battery level<br>Concealed emergency erase button |
| **Physical** | Weight: 0,6kg (1.4lb) and 0,8kg (1.8lb) with battery pack<br>Dimensions: 138 x 107 x 36mm (5.43" x 4.21" x 1.41")<br>Metal: Aluminum alloy, corrosion resistant<br>Mounting: Screw-down attach points for direct fixed mount or quick release brackets<br>Humidity: Up to 95% relative humidity (non-condensing, conformal coating option)<br>IEC 60529 IP67-class enclosure (sealed against water, dust)<br>Connectors: Miniature military-grade push-pull circular, single-hand blindmate |

# BR2000

MAN WORN RUGGED COMPUTER

## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Power** | 5W average power consumption (typical wearable use case)<br>Up to 6 hours of battery pack run time (30Wh battery pack capacity)<br>Internal backup battery for main battery fast swap<br>External DC power input range from 9 to 24VDC (+4/-2V)<br>Remote power on/off support<br>Auxiliary power output for external peripherals (up to 5V @ 1A)<br>Field replaceable battery pack options: Li-Ion rechargeable/disposable CR123<br>Operating temperature: -40ºC to +71ºC (-40°F to 159,8°F)<br>Battery solutions: rated for -40ºC to +55ºC (-40°F to 131°F)<br>Storage temperature: -40°C to +85°C (-40°F to 185°F)<br>Operating shock: 40g, 11ms, 3 pos/neg per axis, 18 terminal peak sawtooth pulses<br>Crash safety shock: 75g, 11ms, 2 pos/neg per axis, total 12 sawtooth pulses<br>Random vibration: SAE J1455-2006, vehicle profile; MIL-STD-810G (Method 514)<br>Water immersion: 1 meter submersion, 30 minutes (similar to IP67)<br>Dust ingress: designed for compliance w/method 510.4, no dust ingress<br>Operational altitude: sea level to ~20,000 ft (~6096 meters) |
| **EMI/EMC Certifications** | IEC 61000-4-2 EMC-Part 4-2<br>EN 55022/CISPR22 Immunity and Emissions<br>Designed to meet MIL-STD-461F for conducted and radiated emissions/susceptibility |

## FAQ

**For which kind of application do I need a Zypad Wearable computer?** You may need a wearable computer when in your application hands-free operation is a must. The Zypad family provides a board range of wearable devices that can be chosen depending on the applications.
You may also need a Zypad wearable computer for many other applications in which you would like to overcome the physical limitations associated with normal hand-held computers.

**What does it mean IP67?** The IP Code (or Ingress Protection Rating) consists of the letters IP followed by two digits or one digit and one letter and an optional letter. The IP Code classifies and rates the degrees of protection provided against the intrusion of solid objects, dust, accidental contact, and water in mechanical casings and with electrical enclosures.
In our case IP67 means:

- No ingress of dust; complete protection against contact
- Up to 1m (3,28ft) of submersion

**How can I connect the Zypad to the Eurotech M2M platform?** Eurotech provides a library that speeds-up the integration of the Zypad into the Eurotech M2M platform so you can immediately concentrate on the business application.
Moreover, if you pick the version that runs Wind River Linux you can leverage all the ESF and EDC functionalities right away.

**How can I develop my application?** Of course it depends on the operating system. Eurotech provides complete development environments and standard tools in order to facilitate the application development. Also we provide extended libraries/drivers for hardware specific features like electronic compass, finger-print and accelerometers.

**Can I power the device from an external battery pack?** Yes, this can be definitively done. For example an external battery pack can be located on the back-pack powering the BR2000.
On the other side, the BR2000 can power an external device through one of its interfaces.

**How can I connect a Ethernet based device to the BR2000?** You can simply use the Gigabit Ethernet port available.

# HRC-3100

HANDHELD RUGGED COMPUTER

## FEATURES

- Compact and lightweight
- Rugged handheld device
- Indoor & outdoor Use
- Integrated barcode reader

Eurotech HRC-3100 is a rugged handheld computer. Due to its small, compact, lightweight design, it can be used in a wide range of mobile applications: in retail stores, warehousing, field services, manufacturing or supply chain.
HRC-3100 has a bright color display which makes reading the data on the device easy. The touch screen and hardware programmable keys make the interface very intuitive to user.
With its built in WLAN radio, HRC-3100 is an ideal tool for the mobile users who need to collect, process and communicate information at the point of activity. Thanks to the integrated barcode scanner data can be automatically read and inserted without the risk of input errors.
The integrated Voice over IP feature allows not only communication of data, but also of voice with the user (intercom), thus combining two devices in one.
HRC-3100 has a wide range of accessories that improves the usability and integration of the device into the final application.

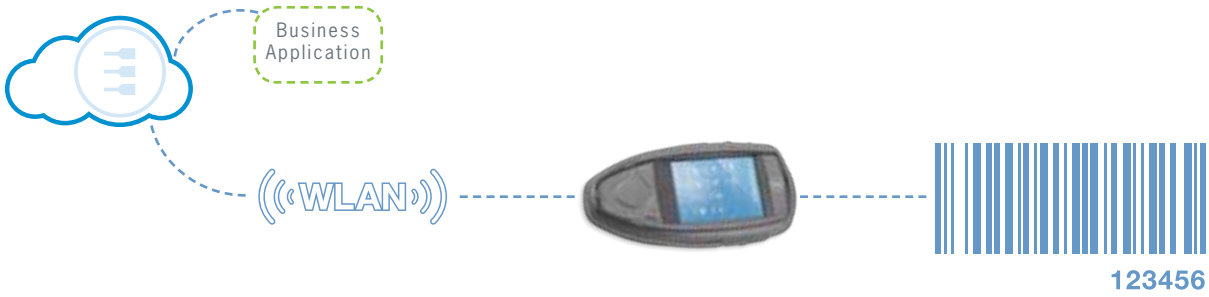
## BENEFITS

- Designed to fit the palm of the hand
- Built-in WLAN communication
- Integrated barcode reader
- IP54 Protection rating
- Resistant and bright touch screen interface
- Windows CE OS
- Complete set of accessories
- Groupware solutions available

## APPLICATIONS

RETAIL IN-STORE
WAREHOUSING
LOGISTIC AND TRANSPORTATION
FIELD SERVICES
SECURITY
HEALTHCARE

**Example**: HRC-3100 application



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Processor** | PXA 270 @ 520MHz |
| **Memory** | 128MB RAM - 1GB Non Volatile FLASH |
| **Memory Expansion** | User accessible expansion miniSD card |
| **Display** | 2.8" TFT 320x240 pixels QVGA, touch screen - 64K colours, dynamic landscape/portrait mode switch |
| **LED** | 1 System status LED, 1 WLAN status LED, 1 Charging status LED |
| **Audio** | Integrated 18 bit sound – 1 speaker – 1 microphone – 1 buzzer |
| **I/O** | 1x USB host & client (needs relevant accessory) |
| **Operating system** | Microsoft Windows CE 5.0 |
| **WLAN** | Integrated IEEE 802.11b/g with internal antenna |
| **Data Capture** | Integrated high performance 1D CMOS imager |
| **Keyboard/Buttons** | 3 tactile rubber programmable keys, 2x 2 programmable side action keys, suspend and reset button |
| **Pen Device** | Integrated stylus |
| **Application Development** | Eurotech SDK for Visual Studio.NET and Embedded Visual C++ |
| **Power** | 8.9Wh 2400 mAh Li-Ion battery pack |
| **Battery Charging** | Universal power supply |
| **Dimensions** | 144 x 72 x 37mm (5.67" x 2.83" x 1.45") |
| **Weight** | 230g (0.50 lb) battery included |
| **Humidity** | 5 to 95% relative humidity non condensing |
| **OPERATING TEMPERATURE** | -10 to +50°C (battery charging 0 to 45°C) - 14°F to 50°F (battery charging 32°F to 113°F) |
| **STORAGE TEMPERATURE** | -20 to +60°C (-4°F to 140°F) |
| **Environmental** | IP54 |
| **Drop Specifications** | 1,2m (4ft) onto concrete |
| **Regulatory Approvals** | CE - R&TTE - RoHS |

## FAQ

**What does IP54 mean?** The IP Code (or Ingress Protection Rating) consists of the letters IP followed by two digits or one digit and one letter and an optional letter. The IP Code classifies and rates the degrees of protection provided against the intrusion of solid objects, dust, accidental contact, and water in mechanical casings and with electrical enclosures.
In our case, IP54 means:

Dust protected

Water splashing against the enclosure from any direction shall have no harmful effect

**How can I connect the HRC-3100 to the Eurotech M2M platform?** You can use the Wi-Fi channel in order to connect to the M2M platform. Also Eurotech provides a library that speeds-up the integration of the device into the M2M platform so you can start thinking to the business application immediately.

**How can I develop my application?** Eurotech provides a standard Windows CE 5.0 SDK extended with a hardware specific features library all integrated in a Visual Studio environment for standard application development

**How can I manage a large number of HRC-3100?** The HRC-3100 family includes groupware solutions that allow an easy management of the devices. The group ware solution is designed to allow the management of many devices in a Enterprise oriented way. Our Groupware solutions allows to effectively store, physically lock and control in an IT oriented way big number devices reducing the TCO and improving the efficiency.

# HRC-4200

HANDHELD RUGGED COMPUTER

## FEATURES

- Large half VGA display
- Rugged handheld device
- Extensive communications capabilities
- Different data acquisition\delivery options
- GPS
- 3G

Eurotech HRC-4200 is a rugged powerful handheld computer designed for use in a wide range of mobile applications to extend enterprise computing within as well as far beyond, company grounds. HRC-4200 has a large half VGA color display to show large amount of data and allows comfortable gloved operation of the full on screen QWERTY keyboard. With its built in WWAN and WLAN, the HRC-4200 is an ideal tool for the mobile user who needs to collect, process and communicate information at the point of activity. Voice and data can be exchanged in a secure way across the networks both inside and outside the company. The integrated Bluetooth and IrDA wireless interfaces allow the communication between HRC-4200 and other devices to create a personal area network (PAN). Thanks to the integrated barcode scanner, data can be automatically read and inserted without the risk of input errors. The integrated GPS receiver allows both car navigation, fleet management and secure proof of delivery (POD), supported by on screen signature capture. HRC-4200 has a wide range of accessories that improves the usability and integration of the device into the final application.

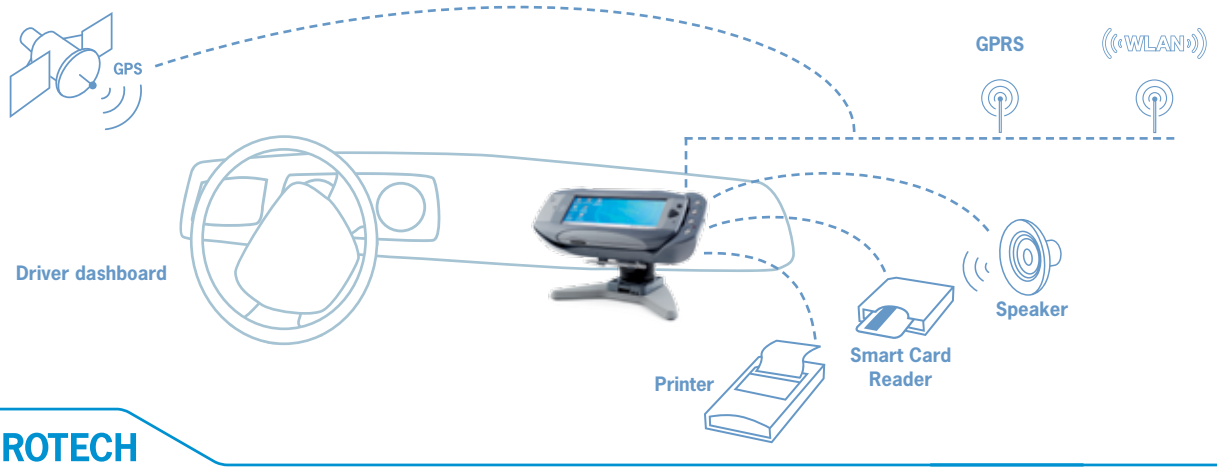
## BENEFITS

- Designed for mobility – Integrates radio sub-systems to stay always connected
- Built-in WPAN, WLAN interfaces
- Barcode and smartcard readers
- IP54 protection rating
- Large and resistant touch screen interface
- Windows CE OS
- Complete set of accessories
- Groupware solutions available

## APPLICATIONS

LOGISTIC AND TRANSPORTATION
SECURITY SERVICES
FIELD SERVICES
PARKING LOT MANAGEMENT
EMERGENCY SERVICES
SECURITY

**Example**: HRC-4200 communication



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **Processor** | PXA 270 @ 520MHz |
| **Memory** | 128MB RAM - 1GB Non Volatile FLASH |
| **Memory expansion** | User accessible expansion SD card up to 32GB |
| **Display** | 6.2" TFT 640 x 240 pixels HVGA (153 x 58mm effective area)<br>Touch screen - 64K colours<br>Dynamic landscape/portrait mode switch |
| **LED** | 1 System status LED, 1 WWAN status LED, 1 GPS status LED |
| **Audio** | Integrated 18 bit sound – 1 speaker – 1 microphone |
| **I/O** | 1 USB host & client (needs relevant accessory) |
| **IrDA** | 115Kbps |
| **WPAN** | Bluetooth Class 1 internal antenna |
| **WLAN** | Integrated IEEE 802.11b/g with internal antenna |
| **WWAN** | Integrated GSM/GRPRS class 10 with internal antenna – User accessible SIM card slot<br>Tri-Band 900/1800/1900MHz or 850/1800/1900MHz (USA) |
| **GPS** | Integrated ultra fast 50 channel, SBAS & A-GPS support, NMEA & UBX protocols,<br>GALILEO ready, SuperSense® Indoor GPS Technology – Internal antenna |
| **Smart Card Reader** | Outside accessible/internal, ISO 7816 Class A, B supported |
| **Data capture** | Integrated high performance 1D laser scanner, on screen signature capture |
| **Keyboard/Buttons** | On screen finger friendly keyboard freely resizable and freely programmable, free programmable side action keys and triangular buttons, suspend and reset button |
| **Power** | 17.8 Wh 4800 mAh Li-Ion hot swappable battery pack, non removable Li-Pol rechargeable backup battery |
| **Battery charging** | Universal power supply |
| **Pen device** | Integrated stylus |
| **Operating System** | Microsoft Windows CE 5.0 |
| **Application development** | Eurotech SDK for Visual Studio.NET and Embedded Visual C++ |
| **Dimensions** | 230 x 94 x 34mm (9.05" x 3.70" x 1.34") |
| **Weight** | From 640g (1,41 lbs) depending on configurations (battery included) |
| **Operating temperature** | -10 to +60°C (14° to 140°F) (battery charging 0 to 45°C (32° to 113°F)) |
| **Storage temperature** | -20 to +60°C (-4° to 140°F) |
| **Humidity** | 95% relative humidity non condensing |
| **Environmental** | IP54 |
| **Drop specifications** | 1,2m (4ft) onto concrete |
| **Regulatory approvals** | CE - R&TTE - RoHS, FCC 15 Class B |
| **Case colors** | Standard dark/light grey – custom colours available on request |

### ACCESSORIES

| | |
|---|---|
| **Power** | Travel charger incl. power adapter or cigarette lighter adapter, docking station, multi charging station, multi battery charger |
| **Connectivity** | via smart caps (USB host & client/Audio/RS232)<br>via docking stations (USB host & client/Audio/RS232)<br>via multi charging station (Ethernet) |
| **Other** | Pistol grip<br>Carrying cases |

# ANTARES ICE

MIL-STD 1U SERVER


## FEATURES

- MIL-STD-810F shock & vibration
- High performance Core i5 and Core i7 CPUs
- Large memory with up to 8GB RAM
- Up to 4 additional PCIe expansions
- Fanless option
- TPM option for secure computing
- DC and AC power supplies

The ANTARES ICE is a powerful, general purpose platform that brings server capabilities in a harsh environment: the MIL-STD-810F shock and vibration certification ensures reliable operation even in the most demanding conditions. The ANTARES ICE supports high performance CPUs, such as the Core i7 and Core i5 and it is also available in a fanless version. In addition to a rich set of on-board peripherals, multiple video ports and options such as TPM for secure computing, the ANTARES ICE can also be expanded through PCIe boards and Mini PCIe Modules. The ANTARES ICE is the perfect choice when performance and reliability are mandatory, such as in control rooms, in data aggregation and monitoring applications, and whenever a flexible and powerful platform is required.

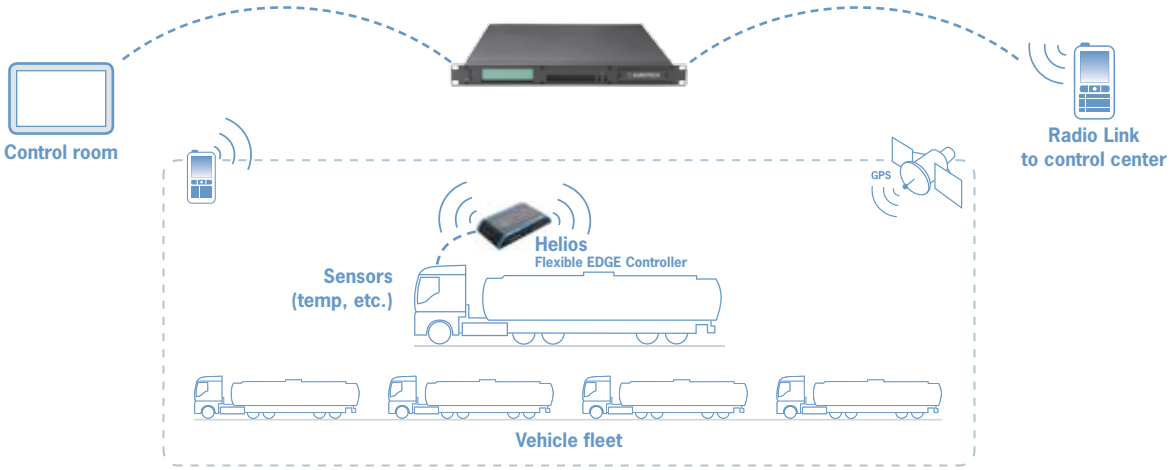
## BENEFITS

- Great server for rugged applications (in-vehicle and trackside)
- Wide range of CPU options including Core i3, i5 and i7
- Low power, fanless Core i7 option
- Many storage options: 2x2.5" and 2x3.5" hard disks, DVD/RW
- Feature rich: 6x USB, 2x GbE, SD socket, 2x serial, 2x HDMI, VGA, Audio, SIM socket, 2x PCIe slots, 2x Mini PCIe slots

## APPLICATIONS

CONTROL ROOM / IN THE FIELD SERVER
MULTI MEDIA INFOTAINMENT
DATA CONCENTRATORS
COMMUNICATIONS CONTROL
PLANT AUTOMATION

**Example**: Fleet telemetry



## GENERAL SPECIFICATIONS

| | |
|---|---|
| **CPU** | Intel® Core™ i3, i5, i7 and Celeron, up to 2.53GHz |
| **RAM** | Up to 8GB with ECC support |
| **Storage** | 2 x 3.5" SATA or 2 x 2.5" SATA<br>DVD/RW |
| **Peripherals** | 6x USB, 2x GbE, 1x RS232, 1x RS232/RS485/RS422, 2x HDMI, VGA option, audio, TPM |
| **Expansion capabilities** | 2x PCI Express slots<br>2x PCI Express MiniCard sockets with SIM support |
| **Dimensions** | 1U high, 19" rack mount chassis (352mm deep) |
| **Power Supply** | Universal AC (90-132V, 180-264V AC @ 47-63Hz, auto-ranging)<br>24VDC option |
| **Operating Temperature** | +5°C to +50°C (41° to +122°F) |
| **OS Support** | Windows Embedded Standard, Windows 7 and Fedora Linux |
| **Certifications** | MIL-STD-810F |

## FAQ

**Which configuration supports fanless operation?** The ANTARES ICE supports fanless operation when fitted with an Intel Core i7 620UE 1.06GHz CPU.

**How do you manage the two PCIe expansion slots in 1U?** An internal raiser provides up to two PCIe expansion slots; the PCI lane arrangement is either 1 x4 or 2 x2.

**How many hard disks can be fitted in the ANTARES ICE?** The ANTARES ICE supports a mix of 2.5"and 3.5" hard drives. There are two bays that are available for storage devices:

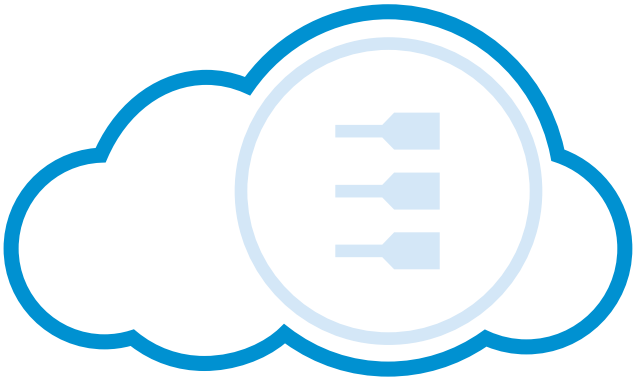
- one user-accessible bay that can hold one 3.5" or two 2.5" disks
- one interal bay that can hold one 3.5" disk and one DVD/RW drive

**How do I access the SD card / Mini PCIe card slots?** These slots are protected by a cover and can be accessed without opening the enclosure.

**What are the specs of the front LCD display? Can I use it to display my information?** The front panel LCD display has a resolution of 256x64 pixels. It can be used to display user-defined information.

# EVERYWARE™ DEVICE CLOUD

EUROTECH CLOUD SOLUTION



## FEATURES

- Immediate access to world-class communication solutions, services and technology
- Scalability (Size doesn't matter)
- Instant financial benefits
- Reducing risk and future proof

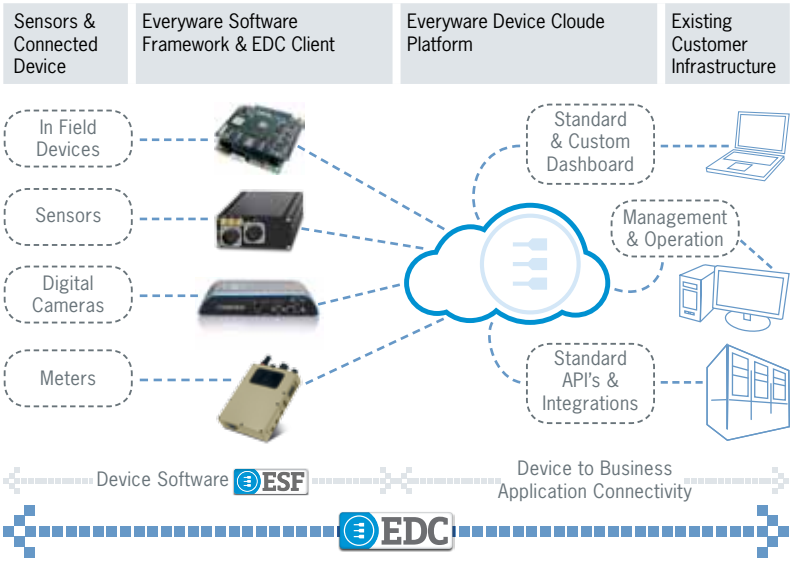
Plug devices into the cloud...
Faster than ever before.

In today's business it becomes increasingly important to have constant visibility of assets and processes, anytime, anywhere. This is especially true for the transportation market where assets are constantly in movement and complex IT systems are in place to supervise everything and provide services to operations, customers and so on.

In order to make this Machine-to-Machine (M2M) communications scenario possible, in an affordable, secure and reliable way, Eurotech offers a proven set of software building blocks seamlessly integrated between each other that allow to connect any device to the cloud in order to provide all the needed services.

## EDC
Everyware Device Cloud

Everyware™ Device Cloud (EDC) offering unlocks your M2M potential. Through EDC, customers can reduce the time, cost, and complexity of implementing, managing, and scaling their M2M device networks and using the device data in the business application.




### FEATURES

Everyware™ Device Cloud gives you the full package:

- a broad portfolio of purpose-built embedded hardware
- wired and wireless connectivity solutions
- ESF, the cohesive middleware software specifically conceived for embedded devices
- an M2M platform to immediately deliver data from the field to downstream applications and business processes, dashboards, and reports

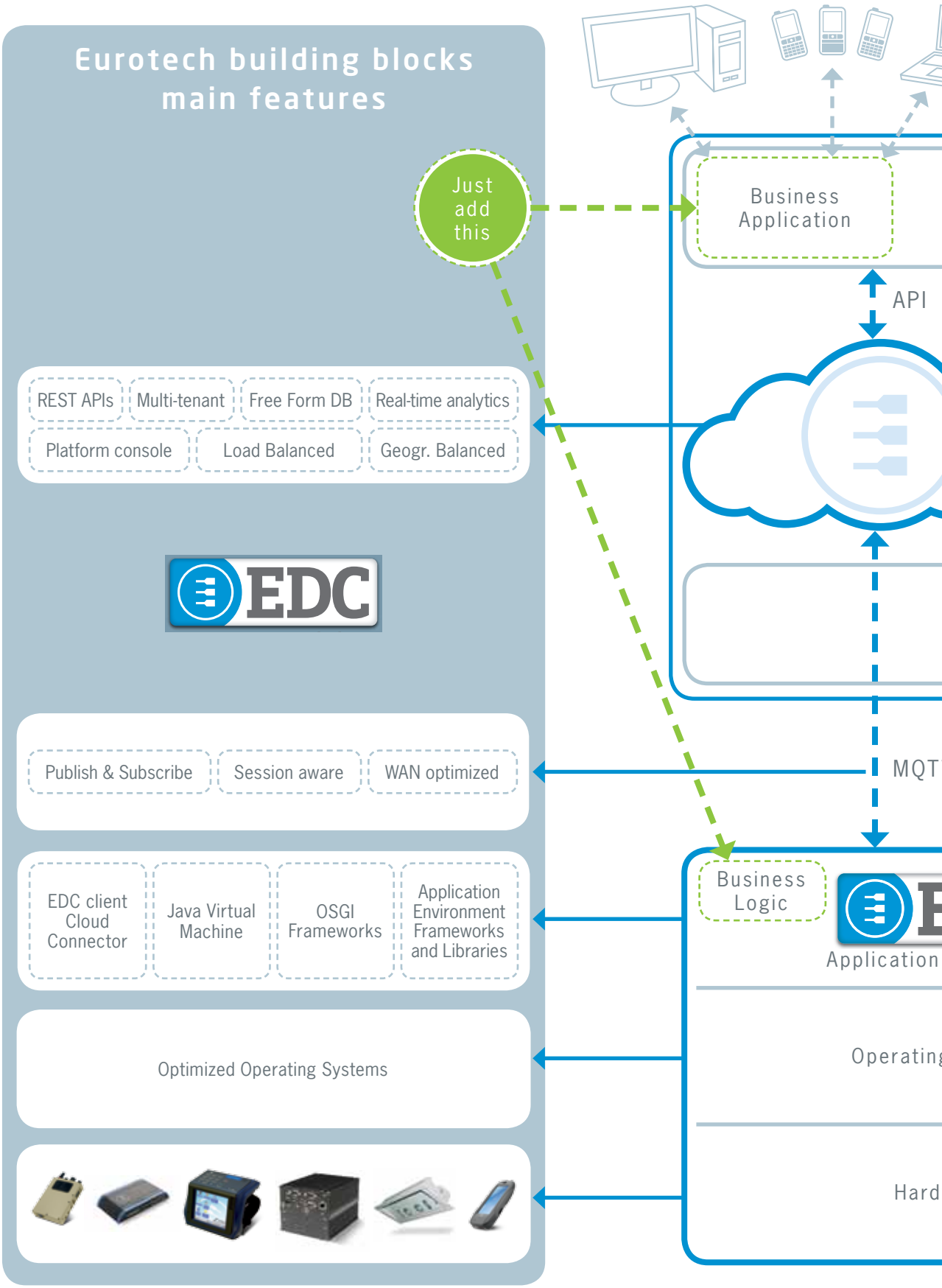
## ESF
Everyware Software Framework

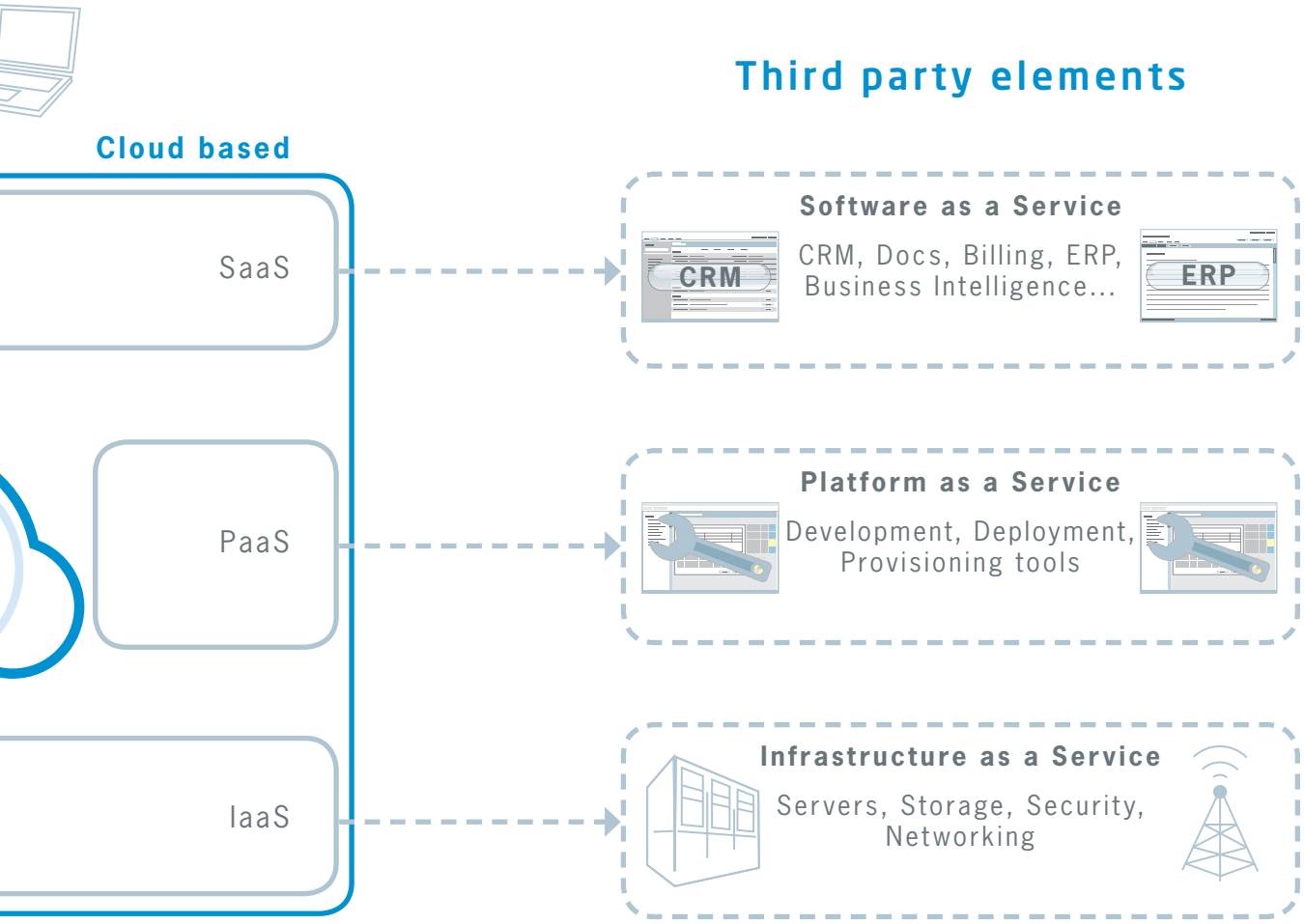
Everyware™ Software Framework (ESF) is comprehensive and application-oriented software framework based on Java and OSGi framework software technologies. It allows developers and project managers to deliver complete, hardware-independent M2M applications quickly and effectively. Fully integrated within ESF, the Everyware Device Cloud Client provides instant connectivity with Eurotech cutting edge multiprotocol M2M Cloud plat form. Just connect and immediately deploy your M2M business services for unlimited users and inter face with virtually any business application through simple and effective APIs. EDC and ESF help companies focus on their core competencies, by supplying a set of highly modular, common building blocks.


### FEATURES

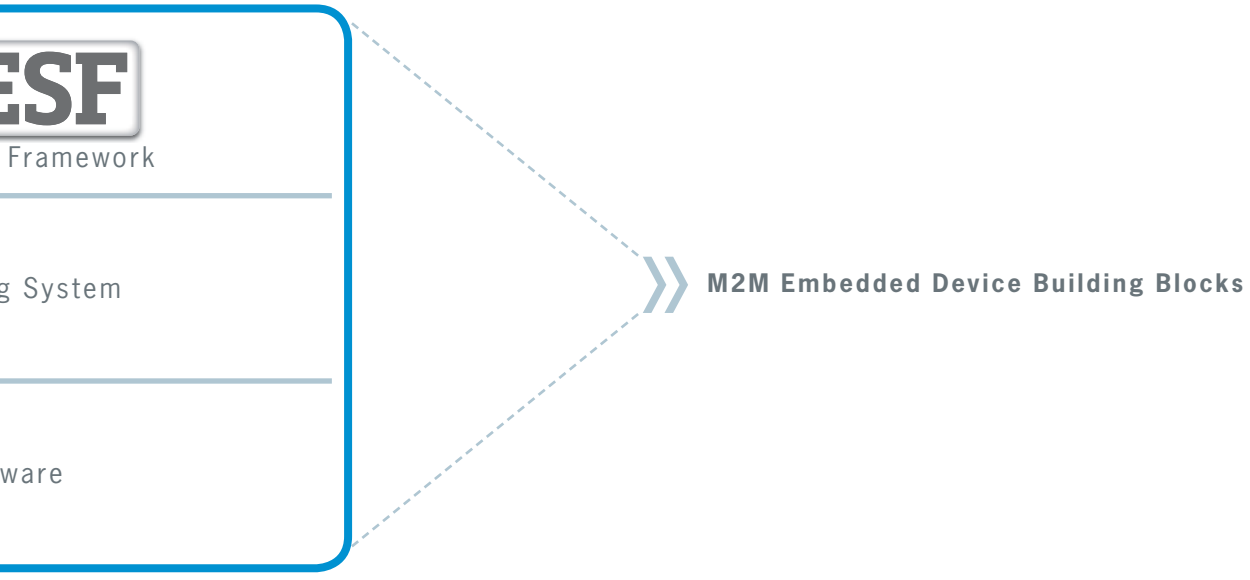
Leveraging this comprehensive offer ensures:

- Shorter development times/faster time to market
- Portable, robust code/higher quality software
- Less use of resources/reduced development costs
- More deterministic project execution/less risk
- Instant M2M Cloud platform connectivity
- Focus on the real values that make a customer application successful


Eurotech building blocks
main features
Just
add
this
Business
Application
API
REST APIs
Multi-tenant
Free Form DB
Real-time analytics
Platform console
Load Balanced
Geogr. Balanced
EDC
Publish & Subscribe
Session aware
WAN optimized
MQT
EDC client
Cloud
Connector
Java Virtual
Machine
OSGI
Frameworks
Application
Environment
Frameworks
and Libraries
Business
Logic
Application
Optimized Operating Systems
Operating
Hard




T » **M2M optimal Communication Protocol**



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