

INTERCONNECT
MACHINES NOW!



 Linux-based
microcomputer

wireless intelligent remote m2m appliance
wirma[®] automotive

wirma[®] automotive is part of the m2m family of networking products developed by KerLink[®]. It is designed for embedded wireless applications requiring a driver interface (remote fleet management, triggering geolocated actions, real time data collection, etc).

wirma[®] automotive has a graphics screen and a key pad. It has a high power microcomputer. It has many embedded interfaces and a GPS receiver. It also has embedded interfaces for accessing many different wireless and wired communications networks.

wirma[®] automotive has a programming interface for accessing the hardware resources. Customers' applications can be easily adapted to any environment and to all operating requirements.

wirma[®] automotive can be used within the KerLink[®] network architecture to provide a global solution for m2m services. The KerLink[®] optimised high reliability connection protocol allows communications software to build all the company's equipment into its information system quickly and easily to provide value added services.

Versatility

wirma[®] automotive is an open microcomputer which can be adapted physically and functionally for any type of application:

- Fleet management (traceability, scheduling, etc),
- Collecting data on fuel consumption, driving time,
- Remote diagnostics of the vehicle components, raising geographic alarms,
- Supervision of the vehicle's on board equipment,
- Optimisation of routes,
- On board navigation systems,
- Driver interface,
- Voice emergency alarm,
- ...



Example: public service vehicle operating system

- A public service vehicle operator can localise his vehicles on the road, regulate the flow, improve safety and information for his drivers while taking advantage of new operating data enabling him to provide a better service for passengers.



Example: road haulage fleet management

- A haulage company manages the data from vehicles to assure reliable diagnostics and schedule maintenance operations. The operator can also speak to the drivers, monitor the vehicles' progress and estimate the time of arrival. The information passed to customers is more accurate and the company becomes more efficient and more profitable.

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Advanced features

- Multi protocol equipment
- Several machines can be connected to a single wirma[®]
- Basic m2m data models
- Data acquired stored locally
- KerLink[®] m2m services: software interface providing simple, unified, reliable access to hardware (TCP/IP, XML)
- Advanced GPS geolocation
- User interface (screen/key pad, voice)

Specifications

Physical:

Robust metal case (235mmx90mmx233mm)
240x64 pixel reflective LCD
17 key pad
Mounted on dashboard

System:

Processor ARM920T 200 MIPS at 180 MHz
RAM: 32 Mb SDRAM (up to 128 Mb)
ROM: 64 Mb FLASH (up to 128 Mb)
Supply voltage: 7V – 42V
Battery backup
Wake-up modes: CAN, GSM, RTC
Ignition switch detection
Internal temperature control
Internal microphone and loudspeaker
Hands free kit
Built-in GPS receiver

Advantages

- Rapid implementation: m2m applications development tools
- Rapid, easy modification for updates: new machines, new types of sensor, etc
- Configurable state machine
- Upgradable embedded application
- Several programming languages (C, C++, Java)
- Safety and user information

Networking:

GSM/GPRS 900/1800 Class 10, FME male antenna connector, 3 connector SIM card
WLAN 802.11G
Ethernet 10/100 baseT, RJ45

Interfaces:

2 USB host interfaces
1 CAN 2.0A or B, high speed
5 serial ports (4 RS232 and 1 RS485)
16 binary, 8 ADC, 8 DAC
Embedded Bluetooth V1.2

Open operating system:

Linux standard version V2.6.13
Cross compilation system for developing embedded applications in C or C++ (optionally Java)

Standards:

CE mark, conforms to R & TTE Directive
Directive 2006/28/EC e-marking
Wide operating temperature range

Development tools

- Automotive Debug Kit (optional): wirma[®] automotive, dedicated debugger, power supply, antennae (GSM/DCS, GPS, Bluetooth, WLAN), training and software development kit (SDK).
- Software development kit (SDK): GNU tools for compiling and linking embedded applications, specifications for basic m2m function interfaces and debugging. For rapid, easy development of specific solutions under Java, in C or C++

Can be used in the KerLink[®] m2m network solution: wanesy[®] (optional)

- Optimised connection and encryption of the data transfer
- Standardised protocol for interface to customer IT systems for any application
- Unified hardware interface for local or remote applications
- Concentrator for several units using wireless protocols (Bluetooth, WLAN optional)
- Optimum selection of physical layer
- Roaming
- Simple administration (remote software updates, reporting, alarms, etc)
- Time-saving using real time management
- Profitability/minimisation of operating costs through better handling of the data collected
- Permanent link between the customer's information system and the equipment
- Network QoS

