HARTING IIC MICA

The Integrated Industry Platform

Pushing Performance

People | Power | Partnership

Taking full advantage of Integrated Industry (known as Industry 4.0 in Germany) requires finding new solutions for hardware, software, and system design.

Crucially, there is an increasing need for compact, but robust, solutions to perform tasks in the field—from collecting sensor data and the orchestration of PLC systems to communication with data centres and the cloud. These techniques enable innovative companies to design future production systems that are simpler, more modular, and more cost effective.

HARTING IIC MICA enables our customers and partners to realise Integrated Industry projects quickly and with minimal expenses and disruptions.

The HARTING IIC MICA provides a complete toolkit of customisable and expandable hardware and software modules as well as APIs and methods that let customers integrate their own hardware and software using HARTING's unique industry-leading *Virtual Industrial Computing* software platform.

Benefits

- Cost savings through virtualization of servers and computers in production environments
- Security of investment through modular upgradability of existing equipment
- Time savings through easy integration
- Reduced overhead through user-selectable programming language

Sample Application Areas

- RFID readers
- Cloud gateways
- Production control systems
- SAP integration down to production equipment level
- PLC Orchestration
- AI, neural network or fuzzy logic controllers
- Predictive analytics systems

Modular Toolkit

MICA is a complete platform for Integrated Industry projects comprised of a toolkit of hardware and software modules. Using this toolkit, customers can specify and develop their own customised product or solution.

Unlike Raspberry Pi, Beaglebone, or mini ATX-based PCs, MICA hardware comes in a compact, industrial strength, environmentally sealed die cast aluminium enclosure with industry-standard plug connectors.

The entire system is designed to be easily extendable with additional customer-designed or -specified hardware and software components. For example all circuit boards communicate via standard USB interfaces, so custom circuit boards can be designed and integrated by the customer, HARTING, or 3rd party providers.

Adding your own software applications is also easy and safe thanks to our new programming language agnostic *Virtual Industrial Computing* technology. This lets you develop new software apps rapidly using the programming language and IDE of your choice.

Iron-clad reliability and support

Scrupulous use of open standards and open source software lets you prototype and develop hardware and software solutions rapidly. At the same time, stringent quality control and forward looking design assure that the hardware and software will be usable in production systems for years to come.

Service level agreements, extended warranties, and long term availability contracts, as well as technical support and field service are available.

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MICA Basic with PoE und GPIO

Virtual Industrial Computing

Integrated Industry merges the real world of a production environment with the virtual world of IT. MICA is designed to let developers from both backgrounds realise projects quickly and successfully.

Our modular and open platform is built on the Linux operating system. The unique *Virtual Industrial Computing* layer provides an innovative combination of established and proven Linux technologies which lets you virtualize applications on a field system without the overhead of running classical virtual machines.

Applications run in containers which provide all the libraries and drivers needed for your application. This makes package dependencies and incompatibilities a thing of the past.

Communication between containers is IP based. You can even mix and match operating systems on a single physical system, for example by running Debian Linux in one container and a BusyBox based Linux in another.

Hardware Technology

All communication between hardware modules is over USB to facilitate easy prototyping, addressing, and integration.

The enclosure offers multiple reconfigurable IO ports which can supply up to 24V DC.

The MICA computing appliance can be powered via Power over Ethernet (PoE) or alternatively 24V DC.

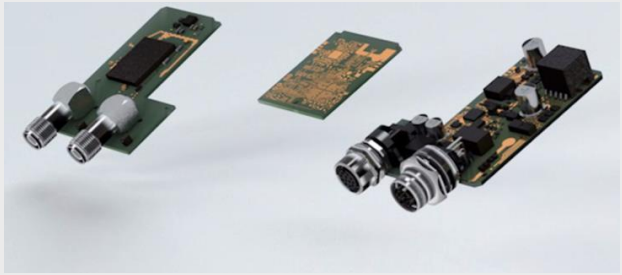
The ruggedized electronics are packaged in a robust, compact and environmentally sealed aluminium enclosure equipped with industry standard M12 plug connectors. All components and the enclosure are tested and validated against common industrial and railway standards.

MICA with optional RFID and stainless steel wall mount

Security

Integrated Industry relies on a high level of connectivity and networked connections. This makes secure communication and authentication essential. HARTING takes a system-wide approach to address these concerns. Every box is equipped with a TPM (Trusted Platform Module) chip for reliable and secure authentication and supports SSL and VPN for secure communication.

On the application level MICA's *Virtual Industrial Computing* technology sandboxes each container to eliminate unintended interactions or manipulation by malicious programs.



Power and network PCB, CPU, and a customized (right to left)

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