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Pushing Performance

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ANNOUNCEMENT **HARTING/050-2016/1**

Smart Factory Expo

NEC, Birmingham, 2-3 November 2016

HARTING features efficiency improvements in manufacturing logistics based on Integrated Industry 4.0 and IoT

At Smart Factory Expo, HARTING (Hall 2 - Stand number 51/52) is demonstrating its range of automation solutions for improving the efficiency of manufacturing logistic processes based on the concepts of Integrated Industry 4.0 and the Internet of Things (IoT).

HARTING's approach to smart manufacturing is based on the addition of intelligence to manufacturing processes with the aim of achieving a high level of connectivity, visibility, awareness, and adaptability at all stages in the supply chain. By enhancing users' processes with RFID technology, HARTING makes it possible to implement solutions that deliver real profitability gains without the need for re-engineering already proven, stable manufacturing processes.

The two key elements of HARTING's approach are machine-to-machine communications and manufacturing logistics. Machine-to-machine communications is typically concerned with the transmission of information obtained from the monitoring of production equipment to improve diagnostics and to enable effective preventative maintenance.

Manufacturing logistics replaces the existing supply chain management model with the use of intelligent systems to implement functions such as supplying the line with discrete and accurate quantities of materials; ensuring goods flow on a "just in time" schedule, and faithfully tracking assets and inventory in the warehouse and in transit.

HARTING's approach to manufacturing logistics involves the use of RFID sensor networks to collect manufacturing data which is then "operationalised", allowing, for example, production lines to be adjusted, maintained, or re-tooled, based on live information. The ability to use this manufacturing data rapidly to inform IoT systems can be invaluable to users in creating a competitive advantage in complex markets.

New developments in RFID technology being featured by HARTING include the unique Ha-VIS LOCFIELD® flexible coaxial travelling waveguide antenna, which can sense multiple transponders via an RF field radially extended over its length of up to 10 metres. It can be applied in limited space applications where normal patch antennas would be difficult to install. Also on show is the compact Ha-VIS RFID RF-R300 reader, whose rugged construction and IP67 degree of protection means that it can be sited in harsh environment conditions, and a comprehensive range of passive transponders that can be applied on all types of materials, in particular metal surfaces.

HARTING now allows manufacturers to integrate together the two key manufacturing IoT elements of machine-to-machine communications and manufacturing logistics through its new open-source industrial computing device known as MICA (Modular Industrial Computing Architecture). MICA can save, evaluate and process data from sensors, and can then either act as a stand-alone offline computer that can either make local decisions or operate as a gateway via the internet to allow access to a higher-level IT system. It operates with open architecture software, allowing it to be very easily customised. Software applications run in Linux-based containers which hold all the necessary libraries and drivers. As a result, there should be no concerns over data security when MICA is allowed access to a higher-level production operating network.

“By applying both of these innovative HARTING solutions - passive UHF RFID and MICA technology - production line manufacturing managers can monitor the condition status of key machinery in real time for material supply chain management or preventative maintenance issues”, comments Howard Forryan, Product Marketing Specialist: “They can then carry out continuous control adjustments through the separate simple, compact and reliable computing device which provides secure access to the main operating software system to maximise process efficiencies. As a consequence, users can achieve important productivity gains.”

Also targeting smart factory applications is the new module from HARTING’s Han-Modular® family of industrial connectors: the Han-Modular® Switch US4 connector, which integrates a very compact but fully functioning ‘store and forward’ 4-port Ethernet active switch device into the Han-Modular® I/O mixed connector, allowing network devices to be deployed closer in the field while reducing the effort of retrofitting new Ethernet modules.

About HARTING

The HARTING Group develops, manufactures and distributes electrical and electronic connectors, network components, pre-assembled system cables, and backplane assemblies. These products are capable of withstanding the harshest demands in industrial environments and provide high data rates for electronic applications.

HARTING connectors and network components are used in mechanical engineering and plant manufacturing, in automation systems, energy generation and distribution, and in electronic and telecommunication markets. Industrial connectors are also vital in construction machinery, rail vehicles and shipbuilding. HARTING offers Ethernet network components and cable systems for both indoor and outdoor networking applications involving power and data.

HARTING today employs a workforce of nearly 4200 in 43 countries. For further information visit www.HARTING.co.uk

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