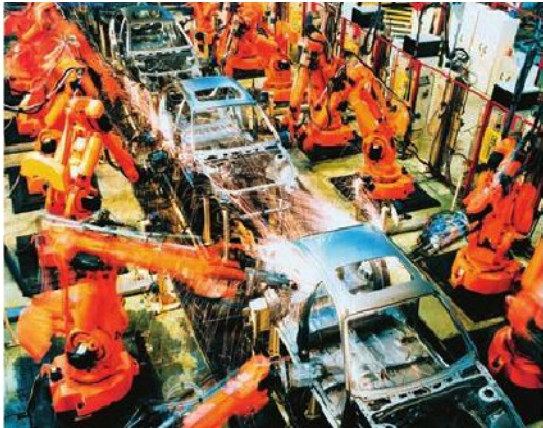


Simplified industrial RFID integration



Integrating RFID (radio frequency identification) with programmable logic control (PLC) systems has always been as complicated as it sounds. To connect RFID devices to a native PLC system normally requires a considerable amount of programming in the PLC and possibly some hardware changes. This can be both risky and time consuming requiring existing control software to be changed and potentially re-commissioned. Leading UK control systems integrator Tritec Systems therefore needed to find a way to simplify the process and provide an 'off-the-shelf' solution for its customers.

INDUSTRIAL HMI EQUIPMENT INTERFACE

Tritec's integration solution is built around a simple industrial HMI equipment interface. This enables rapid and easy integration of RFID with PLC control systems, but to minimise customisation Tritec needed a range of RFID readers that could be deployed in a wide variety of situations and yet communicate over standard networking interfaces and protocols. Tritec therefore chose HARTING UK's wide range of RFID products because they are suitable for use in almost all industrial and commercial application areas including manufacturing, transport, infrastructure, stock/asset tracking and many others.

HARTING RFID readers also provided the standard data interfaces Tritec needed such as RS232 serial and Ethernet, making interconnection simple. Tritec uses this connectivity to develop a practical 'plug and play' solution in which the RFID readers communicate with the HMI over standard Ethernet TCP/IP networking.

The HMI acts as an equipment interface between the PLC and RFID reader providing full and transparent

Tritec has already deployed the solution including to a major UK car manufacture for assembly station automated tooling setup

Tritec Systems simplifies industrial RFID integration thanks to HARTING's wide range of RFID products

data transfer between them. It also means that Tritec's solution offers additional benefits such as a convenient user interface for provision of information to the user such as RFID tag counts/history, diagnostics and configuration settings

Senior engineer, Chris Thornhill, at Tritec Systems, comments: "We chose to use an industrial HMI because it offers a very cost effective solution and the software environment we needed for this project. The flexible connectivity of HARTING's RFID readers provides the infrastructure platform we needed on the RFID side as they can be configured easily for a wide range of applications, industries and environment."

DEVELOPED TO MEET SPECIALIST APPLICATIONS

The HARTING range includes several readers developed to meet specialist applications or deployment in difficult environments. Developments include a unique type of RFID antenna, the Ha-VIS LOCFIELD antenna, which uses a coaxial travelling-wave concept to offer users a compact package with complete flexibility in the design of RF reading zones. The antenna is highly adaptable to customer application and is ideal for situations where space is at a premium.

Modern industrial RFID systems allow components and packages to be followed in real time, and offer a multitude of options for increasing process security and ensuring optimal transparency. However, there is generally very little space available around belt conveyors, and classical RFID antennas are limited in that they cannot map curved tracks. The Ha-VIS LOCFIELD RFID antenna requires only a minimum of space and is mechanically flexible so can therefore be installed and

laid in any given shape to match specific customer applications. This includes the ability to lay it around the curves of conveyor belts allowing users to design their own tailored UHF RFID reading zone. It also makes a wide range of challenging applications possible, including RFID installations in smart shelves, 19-inch racks, complex machines, doors and pass-throughs, all with reduced costs and maximum ease of installation.

Another example is the Ha-VIS RF-R200 which a mid-range unit optimised for read ranges up to two metres. It is available in a number of different versions to suit the requirements of diverse applications. These include a model with an RJ45 interface and PoE (Power over Ethernet) capability, a unit with a USB interface designed for office use, and a basic PCB module without housing for integration into machines or other products.

The HMI in Tritec's solution supports many different PLC vendors and protocols as standard. By using it as a front-end to HARTING RFID readers means that Tritec can deploy a standardised solution with the appropriate reader installed for each job, but in the knowledge that the complete system will require only one point of integration – HMI to PLC. This not only makes RFID integration straightforward to a wide range of PLC systems but also to packaged systems that offer standard interfaces such as Modbus and OPC.

The result for Tritec and its customers is reduced design and implementation time, and simplified commissioning and support phases of any project.

Tritec has already deployed the solution including to a major UK car manufacture for assembly station automated tooling setup along a main vehicle assembly line.

Thornhill concludes; "The HARTING RFID range gives us huge flexibility of application combined with a standardisation, which means we can deliver our customers a solution quickly and efficiently to meet their requirements."

See a live demo on stand D360 at Drives & Controls from 12-14 April at the NEC.

HARTING Ha VIS LOCFIELD antenna



Ha-VIS RFID RF-R200 reader from HARTING

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