Honeywell and MTL Help FertiNitro Harness the Power of HART® and Improve Productivity while Reducing Maintenance Costs

Benefits

There are millions of HART®-enabled transmitters installed worldwide. Yet, HART functionality is used only on a limited basis, if at all, on many of these transmitters. Users frequently employ hand-held devices for tasks such as manual recordkeeping.

Fertilizantes Nitrogenados de Oriente (FertiNitro) decided to leverage the power of HART and was looking for HART-capable Field Termination Assemblies (FTAs) to replace the non-HART FTAs currently installed at its site.

For this application, Honeywell supplied its Field Device Manager (FDM), a robust solution fully aligned with the HART protocol. FDM provides users with the freedom and flexibility to better manage and maintain HART devices, reducing maintenance costs and improving employee productivity. Additionally, it supports all universal, common-practice, and device-specific commands described in vendor-created HART Device Description (DD) files.

Background

FertiNitro is Venezuela’s largest fertilizer company, producing approximately 1.5 m tons of urea each year. The company was nationalized in October 2010, having previously been owned by Pequiven (35%) and Koch Industries (35%). FertiNitro is one of the world’s main producers of nitrogen fertilizer, with daily production capacity of 3,600 tons of ammonia and 4,400 tons of urea.

Challenges

At FertiNitro, the FTA footprint was a key element in the development of a suitable instrumentation solution. Fixing dimensions also had to conform to the existing Honeywell FTA mounting channel design. The available products on the market offered in a redundant configuration were judged to be unsatisfactory for this application, since the upgrade had to be completed during a scheduled plant shutdown. The alternative solution was also extremely expensive and designed around four different components. Thus, its footprint was not acceptable for this project.

Honeywell’s scope of work was to provide FDM software, hardware and engineering services to upgrade the plant with HART capability. This presented a serious challenge for 1,500 existing analog loops. Existing cabinet space was limited, the upgrade had to be completed during a planned maintenance shutdown, and it had to be easy to implement.

Solution

Honeywell worked with MTL Instruments, a division of Cooper Crouse-Hinds and a specialist in the area of HART interfacing, to arrive at a solution meeting the project challenges.

After reviewing the specifications, the Honeywell team identified specific problems and developed a customized solution to meet FertiNitro’s unique requirements. MTL offered HART products that are widely used by Honeywell to extract HART data from
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FTAs. Honeywell worked with MTL, both locally in Houston, Texas, and with MTL Development Engineering in the UK, to quickly develop a reliable solution designed around MTL's field-proven HART technology. The resulting approach was a drop-in replacement for the existing FTAs that had compatible mountings, field wiring connections and system cables, and included the integrated HART connector.

In addition to the design of the FTAs, MTL also recognized that consideration had to be given to the specification of new cables linking the HART connector on the FTA to the MTL HART multiplexers. The two ends of the cable would be located in separate cabinets, which meant running the cables under the floor between the cabinets. MTL defined and supplied the screened cables that were necessary in order to preserve signal quality in such a potentially noisy environment.

This breakthrough solution has the potential to be used in many more project upgrades in the future, where HART functionality is required. It can be integrated with existing HART-compatible FTAs, already available from MTL, which provide redundant and non-redundant HART interfaces for analog inputs and outputs.

The FertiNitro project is typical of the close relationship MTL and Honeywell have enjoyed at all levels for more than 20 years. The combined experience and knowledge of the two companies ensures the successful outcome of upgrade projects in a timely and cost-effective manner.

More Information
For more information on FDM, visit www.honeywell.com/ps or contact your Honeywell account manager.

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