Azbil Differential Pressure Transmitters and Bilingual Communication (DE / HART Protocol)

Azbil's Advanced Transmitters are microprocessor-based smart transmitters featuring both high performance and unparalleled stability. They are capable of measuring a variety of different media, including gas, liquid, vapor, and liquid levels. They also provide high accuracy of ±0.04 % together with long-term stability (zero drift of only ±0.1 % over 10 years), greatly reducing calibration work after installation. Notably, they also feature remote two-way communication. Using this digital output, they are able to facilitate self-diagnosis, range resetting, automatic zero adjustment, and many other options.

Azbil is the only vendor able to cover both DE (Digital Enhanced) and HART5 (Highway Addressable Remote Transducer) Protocol with one single transmitter. So when the Azbil transmitter detects DE communication, it is able to automatically turn itself into DE communication mode, facilitating continuous communication and uninterrupted operation.

DE vs HART Protocols

DE Protocol was developed by Honeywell and typically used in old Honeywell DCS (for instance, the TDCS series) as well as Honeywell/Yamatake transmitters. This is designed to provide a tightly-integrated communications interface with the ProLinx platform as well as Honeywell DE instruments.

Honeywell DE

HART is a hybrid protocol (i.e. it combines analog and digital communication) that combines a 4-20 mA analog signal with a superimposed digital signal, allowing for enhanced communication without interference. This enables bidirectional data exchange, improving diagnostics and control in industrial applications.

HART COMMUNICATION PROTOCOL

Cross Company

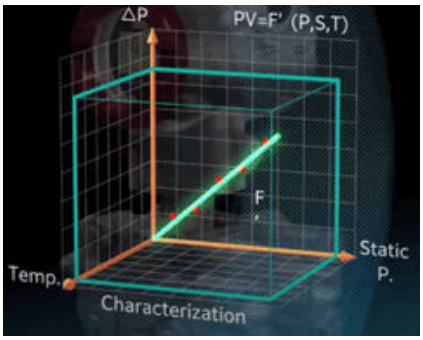
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Benefits of Bilingual Communication with DE/HART Protocols

In process applications, utilizing differential pressure transmitters like Azbil's GTX models (e.g. GTX15D, GTX30D, GTX31D, and others) or AT9000 models that are able to communicate over DE and HART offers several advantages to manufacturers and process operations. Some of these include

- **Increased Compatibility** – A transmitter able to support both protocols increases compatibility with a wider range of existing systems and devices. This allows for more flexibility in mixed technology applications
- **Simplified Integration** – Bilingual communication simplifies integration into existing systems. This reduces the need for additional converters or interfaces, increasing cost savings and lowering system design complexity
- **Greater Future-Proofing** – Having dual-protocol capabilities means the transmitter remains relevant even if upgrades in a plant or application change communication infrastructure
- **Enhanced Data Access** – By supporting both protocols, these transmitters provide operators with access to more detailed process data and device information. This enhances process monitoring and control capabilities

Models For Specific Applications



A wide range of advanced transmitter models designed to meet user requirements are available from Azbil. These include draft range differential pressure, standard differential pressure, high differential pressure, standard differential pressure/high static pressure, and high differential pressure/high static pressure models. These also provide wide measuring ranges, a highly effective means of taking measurement over a wide range thus reducing the need for inventory.

If these sound like options that would improve your manufacturing or other process application, contact Cross Company Process Solutions to talk with an expert about how Azbil's bilingual communication capabilities can benefit your operations.