

Wirelessly Networked Tank Farms

Level Measurement Is Efficiently Integrated into the Process Control System

At a Glance

- Loop or mains powered WirelessHART adapters
- Retrofitting of instrumentation: Network the tank farm wirelessly
- Efficient and future-proof integration into a centralized process control system
- Multidrop allows the connection of up to eight HART field devices



The Application

A petrochemical tank farm with 23 storage tanks is already connected to the control system via conventional wiring. The tanks are now being retrofitted with additional level measuring technology. The new explosionproof sensors have a 4 ... 20 mA interface or a HART interface. All additional measuring points are connected to the central process control system. A connection via cables is for economic reasons not considered.

The Goal

All level measurement is to be mapped in the tank farm's higher-level control system so that measurement and diagnostic data can be used in time. The sensor network should allow field devices to be added easily, which will provide maximum future proofing by opening up the possibility for cost-effective expansions. A battery-powered wireless solution is to be avoided.

The Solution

The BULLET WirelessHART adapter meets these requirements and can be integrated into the existing loop or supply itself with 24 V, e.g. from the lighting. The adapter, which can be used either in Ex d or Ex i, makes it possible for level sensors and other field devices with 4 ... 20 mA output or HART interface to communicate wirelessly with a higher control level. With HART field devices, the multidrop functionality of the adapter makes it possible to collect data from up to eight field devices.

The Benefits

WirelessHART adapters allow wireless network structures to be set up in an integration-friendly and cost-effective manner. They are configured for the harshest mechanical and environmental demands. The newly integrated sensors in the tank farm have a permanent, secure wireless connection to the control room. Process data and water levels are monitored continuously, and diagnostic data is provided for condition monitoring and predictive maintenance.

Technical Features

- Ex i circuits for Ex i field devices
- Cast aluminum housing
- Loop powered
- Direct mounting on HART or 4 mA ... 20 mA field device
- Encapsulated antenna
- Up to 8 field devices in multidrop

