

WirelessHART Adapter BULLET Enables More Flexibility for Mobile Mixing Tanks

At a Glance

- Enabling cost-efficient yet highly flexible portable mixing tanks for pharmaceutical applications
- Signal transmission via WirelessHART frees tanks from conventional wiring
- Multiple measured values are obtained from only two BULLET WirelessHART adapters
- Field devices and BULLET adapters draw energy directly from the agitator



The Application

In modern pharmaceutical applications, portable mixing tanks are an integral part of the drug production process and take over all relevant processing steps—from mixing to heating and cooling of the products. Due to their integrated agitator, these mixing tanks can also be used as preparation tanks, material buffers, or as storage for dosed products.

The Goal

Since the mixing tanks are frequently used in safeguarded procedures that have to meet the highest standards, numerous measurements have to be taken: They are equipped with industrial sensors that control the drive speed of the agitator and detect the temperature, pressure, pH value, and fill level of the tank. The data generated by the sensors must be supplied to the process control while ensuring flexibility and mobility of the mixing tanks.

The Solution

As these sensors are 4 mA ... 20 mA HART-compatible, the field device data can be transmitted wirelessly to the

process control system using WirelessHART technology: For this purpose, the mixing tank is equipped with two “BULLET” WirelessHART adapters. The BULLETs transmit the field device data to a WirelessHART gateway, which then passes it on to the process control.

Both BULLET adapters and field devices can be powered directly from the existing energy source which drives the agitator. While one BULLET adapter transmits the 4 mA ... 20 mA signal from the agitator, the HART signals transmit the temperature, pressure, pH value, and fill levels to the control side in multidrop mode from a second BULLET.

The Benefits

As no conventional wiring is required to transmit process data to the control system, mobile mixing tanks save money. In addition, no batteries are needed, freeing the user from monitoring battery status and preventing costly downtime. The tanks are ready to be moved quickly when a process changes or they are needed at a different location. At the same time, the existing power supply of the agitator is optimally utilized. As a result, the WirelessHART adapter BULLET enables a high level of performance, cost efficiency, and flexibility to be achieved in pharmaceutical applications.

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

