

WirelessHART Connects Mobile Measuring Stations

Flexible Infrastructure for Portable
Gas Monitoring Sensors

At a Glance

- Mobile measuring stations networked anywhere with BULLET WirelessHART adapters
- Flexible, situation-based system monitoring with WirelessHART connection
- Ex d and Ex i-proof design
- New monitoring stations can be added at any time



The Application

In a chemical facility, air quality is measured to detect gas leaks. The use of mobile monitoring stations is cost-effective and allows measured values to be recorded in a way that is fast, situation-based, and local. The monitoring stations are operated via batteries that are supported by solar panels. To detect flammable gases and vapors, sensors are used that measure the current concentration. With mobile measuring stations, there is no need for a cable connection to the control level. To make this possible, the WirelessHART adapter must be able to use the measuring stations' independent energy supplies.

The Goal

Sensor data from the gas detectors should be transmitted wirelessly and securely via WirelessHART adapters. It should also be possible to move the stations to other locations as needed.

The Solution

A BULLET WirelessHART adapter is used in each mobile detection unit. It is supplied via the energy management of the measuring station and transmits the measuring signal and the diagnostic data from the gas sensors via the WirelessHART gateway to the control room gateway. At the same time, the network manager continuously scans the network and reacts to deviations from its normal operation. Regardless of whether a new wireless sensor has been added, the position of the monitoring station changes, a sensor fails completely, or a communication path becomes unstable and a better preference path needs to be established, the network manager will take the necessary steps to ensure that the WirelessHART network is operating at the highest level possible.

The Benefits

The wireless transmission of the measured values and diagnostic data allows the measuring stations to be portable and autonomous. The sturdy, industry-compatible design of the adapters—available in Ex i and Ex d—guarantees high availability of data communication.

The ability to easily integrate additional mobile monitoring stations into the WirelessHART infrastructure of the chemical plant makes the BULLET WirelessHART adapter a future-proof investment.

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

