

# Use of Remote I/O in Fluidized Bed Systems

Simple Integration of Remote I/O Modules and Valve Banks with the LB System

## At a Glance

- Savings of several person-days when installing new fluidized bed systems compared to individual wiring
- Compact system dimensions; especially low depth
- Optimal use of space: Intrinsic safety and increased safety modules can be mounted next to each other
- Wide range of modules: connection to all existing field devices
- Increased safety cabinet certified as a complete unit



## The Application

During the construction of new plants and the modernization of existing plants, individual factors such as space and the connection to the process control system are decisive factors that influence the choice of technology: in this example, fluidized bed systems are undergoing this type of technological change. These systems are mainly used in the pharmaceutical industry (Zone 2) and in the food industry for drying or coating particles. Previously, Interface Technology's intrinsic safety barriers have been installed in an increased safety housing inside a valve cabinet. The field devices are installed in Zone 2. A PROFIBUS connection is provided by the valves installed in the cabinet. Signals, such as temperature or various 4 ... 20 mA signals, are routed via the intrinsic safety barrier with discrete wiring.

## The Goal

At the customer's request, the field devices are to be coupled to the process control system via a serial bus, as the valve bank already has an existing PROFIBUS connection. This approach is intended to reduce the installation costs. The limited space in the plant is another important consideration.

## The Solution

An individual increased safety housing developed by Pepperl+Fuchs enables all components (valve bank and remote I/O system) to be installed in a single space-saving housing. With a PROFIBUS connection and modules with very small dimensions, the LB system for Zone 2 is ideal for all requirements.

## The Benefits

In comparison to conventional individual wiring, the remote I/O system requires significantly less wiring, fewer person-days, and therefore reduces installation costs. As the LB system features a PROFIBUS connection for signaling, it can be quickly and easily integrated into the existing plant infrastructure, which further reduces costs.

Due to the small width and depth of the most compact process automation system, the limited space can be used optimally.

Remote I/O systems are connected to the process control system via an existing two-wire PROFIBUS cable. The interface is a connectable gateway.

