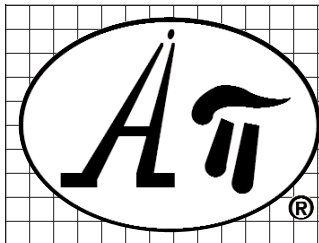


- **General Info**
- **Temperature**
- **Pressure**
- **Flow**
- **Speed**
- **Weighing**
- **Process**



**Absolute Process Instruments, Inc.**

Manufacturer of Quality Signal Conditioners Transmitters & Isolators

## **Application Notes**

### **Signal Conditioners**

While there are many different types of signal conditioners, their basic function is to change or alter signals so that different process devices can communicate with each other accurately. Signal conditioners are most commonly needed to link temperature, pressure, weighing, level and flow devices with indicators, recorders, and computerized process monitoring and control systems. Signal conditioners can also perform some other tasks for you as listed below.

#### **SIGNAL CONVERSION**

A signal conditioner can change an analog signal from one form to another allowing equipment with dissimilar signals to communicate. For instance, if a piece of field equipment puts out a 4-20 mA signal and the control system needs a  $\pm 10$  V input signal, the signal from the field equipment must be converted. A signal conditioner that accepts a 4-20 mA input and produces a  $\pm 10$  V output solves the problem.

#### **SIGNAL BOOSTING**

The signal conditioner increases load drive capability in the loop allowing installation of additional instruments. This works because the input impedance of most isolators is much less the load drive capability of a loop. Therefore adding an isolator to the loop boosts the loop's net load drive capability. This is especially useful when it becomes necessary to add additional devices to an existing overloaded loop.

#### **SIGNAL ALARMING**

Warns of trouble if a process signal reaches a too high or too low level. A signal conditioner that accepts an analog signal (4-20 mA, 1-5 V, etc.) and produces a relay output is an inexpensive way of providing a redundant safety device in the event of a system failure.

#### **SIGNAL ISOLATION**

Stops ground loops from affecting the accuracy of a process signal. Ground loops are a common complaint at system startup and can be eliminated by installing isolated signal conditioners, or isolators, on the process loop between a nonisolated device and a control system.

#### **SPECIFYING**

A signal conditioner requires much of the same information as specifying any other instrument. Always consider these elements:

- Power Source
- Input Signal
- Output Signal
- Desired Options



**FREE APPLICATION ASSISTANCE**

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#### **Did You Know...?**

Api will do non-standard and special ranges for all of our products.