

Selecting the Correct Amplifier or DAQ for your Full-Bridge Sensor

measurements. Noise needs to be filtered out before you can capture an accurate signal. DAQs and PLCs designed to interface directly with full-bridge sensors will include band pass and other forms of signal conditioning and filtration. These filters eliminate some effects on accuracy by removing electrical noise above and below the analog sensor's signal range.

The final component for your DAQ system is amplification. A full-bridge sensor can output a signal in the nanovolt through millivolt range. When your DAQ or PLC is limited to measuring volts, you will need an amplifier to convert millivolts to a larger signal. Some PLCs and DAQs come with built-in

amplification; others will require an external amplifier. What if your existing DAQ or PLC doesn't provide built-in amplification, signal conditioning, and a stable power source for sensor excitation? In that case, you'll need an amplifier to fill in the shortfalls in your instrumentation supporting your full-bridge sensor.

With this knowledge in hand, you will be better equipped to select a system that best fits your needs and maximize the value, capability, and performance of your DAQ or PLC. You will also know the exact questions to ask your chosen supplier in order to ensure that the system performs accurately.

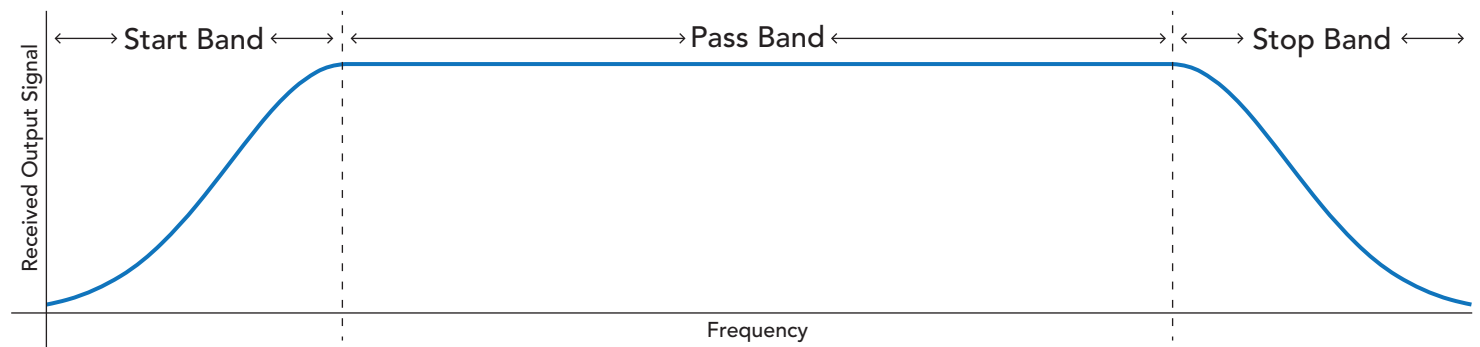


Figure 3: Signal filtration removes noise that affects the accuracy of the sensor's analog signal.