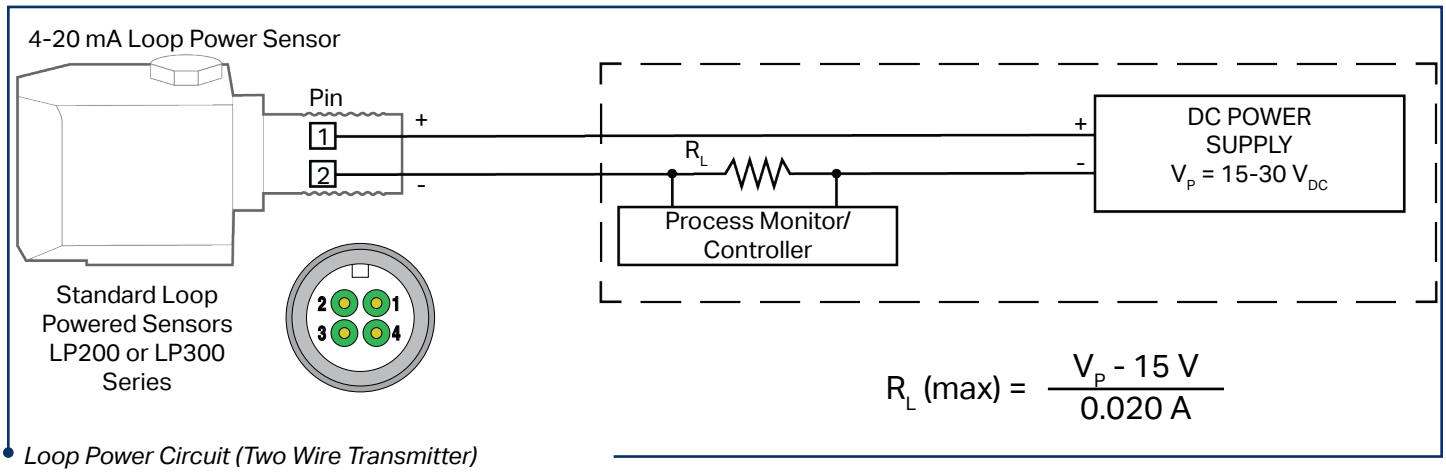

Loop Power Circuit (Two Wire Transmitter)

4-20 mA Loop Power Vibration Sensors

Relative to the figure above, for a two-wire Loop Power Sensor, the positive wire would be connected to Pin 1, and the negative wire would be connected to Pin 2. Pins 3 and 4 are not used. The measurement device (R_L) will be placed in series with the negative wire between the Loop Power Sensor and the negative terminal of the power supply. In this configuration, the Process Monitor or Controller can measure the 4-20 mA current flowing in the current loop.

In many cases, R_L will be a 250Ω resistor. In this scenario, Ohm's Law (*E=IR*) will provide:

- a zero value of 1 V_{DC} (E = 0.004 A x 250 Ω)
- a maximum value of 5 V_{DC} (E = 0.020 A x 250 Ω)
- When R_L = 250 Ω, and Vp ≤ 24 V_{DC} then R_L should be ½ W
- When R_L = 250 Ω, and 24V_{DC} < Vp ≤ 30 V_{DC} then R_L should be 1 W

Dual Output 4-20 mA Loop Power Sensors

Dual output loop power sensors also provide a secondary output of dynamic vibration. These secondary outputs could be acceleration or velocity and are combined in three different loop power sensor configurations:

1. LP401 Series - Overall Velocity (4-20 mA), and Dynamic Velocity (100 mV/in./sec)
2. LP402 Series - Overall Velocity (4-20 mA), and Dynamic Acceleration (100 mV/g)
3. LP404 Series - Overall Acceleration (4-20 mA), and Dynamic Acceleration (100 mV/g)

Dual Output 4-20 mA Loop Power Sensors are a three-wire technology where Pin A is the positive 4-20 mA power, Pin B is a shared common, and Pin C is a positive dynamic vibration.

Click here to download our entire guide to wiring PRO accelerometers.