

# What is the difference between a 2-wire and a 4-wire transmitter?

**2-Wire vs. 4-Wire:** A 4-wire transmitter is either powered by a 110V or 220V power supply. This allows direct activation of relays, pumps, solenoids, etc. However, in a hazardous environment, flammable or combustible vapors, gases or dust are present which could possibly ignite under certain circumstances. A 2-wire transmitter is loop-powered, which means it is powered by a low voltage, low current, DC power supply, typically 24V. A 4-20mA current is usually supplied by a distributed control system or other centralized data acquisition hardware and connected to the transmitter via 2 wires. A 2-wire transmitter does not directly control relays, pumps, etc., and will not spark if a malfunction occurs.

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