PNP and NPN sensors use the same wire colors and labeling convention. The difference is how they electrically interact with the load. The load is a device like a relay or PLC input.

* **Brown is the positive dc voltage, typically +24VDC**
* **Blue is the negative dc voltage, typically -24VDC**
* **Black** is the output to the external load. This will be either "Normally Open" or "Normally Closed"
* **White**, if applicable, is the complementary output of the black wire. Example: If the black wire is "Normally Open," the white wire would be "Normally Closed."

**What's the Difference Between PNP and NPN Sensors?**

* **PNP = "Positive Switching" or "Sourcing" A "PNP" sensor switches the positive dc signal voltage (+24VDC).**
* **NPN = "Negative Switching" or "Sinking" A "NPN" sensor switches the negative dc signal voltage (-24VDC).**

The black wire of both PNP and NPN sensors is the output. If the sensor includes a fourth white wire, that is also an output wire that is typically the opposite switch state as the black wire. Visit the [Maintenance Blog](https://maintenanceblog.com/pnp-vs-npn-sensor-wiring-basics-part-1/) for the full article.

PNP vs NPN 3 Wire Sensor Wiring Schematic
