

Fig. 1 - Transistor in the Open Collector configuration. With no base bias voltage applied, the transistor is OFF; a high resistance exists between the collector and emitter impeding any current flow.

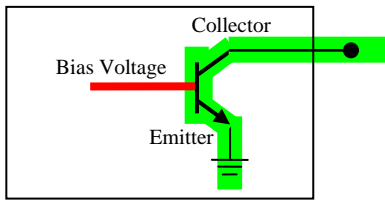


Fig. 2 - With a bias voltage applied to the base, the transistor is turned ON; the collector is pulled down to ground potential through the now conducting collector-base and base-emitter junctions.

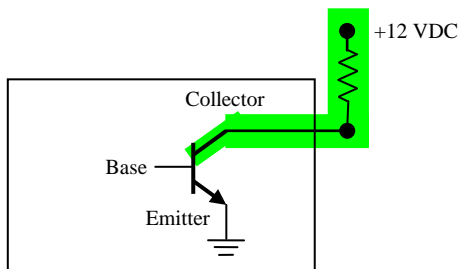


Fig. 3 - With no bias, the voltage at the collector with respect to ground is 12 VDC. The resistor pulls the collector up to 12 VDC.

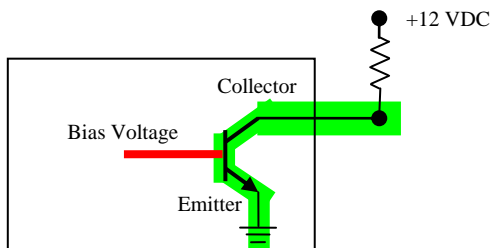


Fig. 4 - With bias applied, the voltage at the collector is now pulled down to ground; zero voltage at the collector.

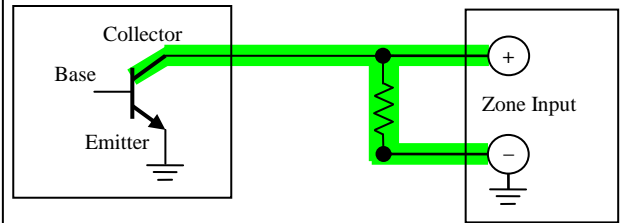


Fig. 5 - Open Collector connected to a zone input of an automation/security panel. No bias applied. Zone input reads across the resistor. Current flows from + to - terminals. Open Collector acts as a Normally Open contact switch.

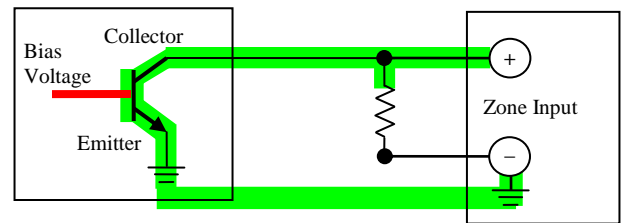


Fig. 6 - The base is now biased. The resistor is shorted out by the conducting collector and emitter junctions. The panel sees a change in resistance across the zone input and reacts accordingly. Note circuit completion through the ground path.

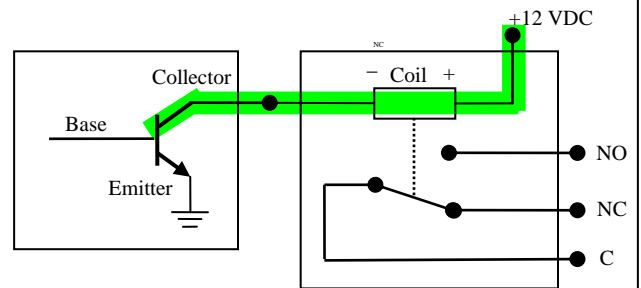


Fig. 7 - Unbiased Open Collector connected to the minus side of a relay's solenoid. Relay is not energized. Common is connected to Normally Closed. Use relay contacts as desired.

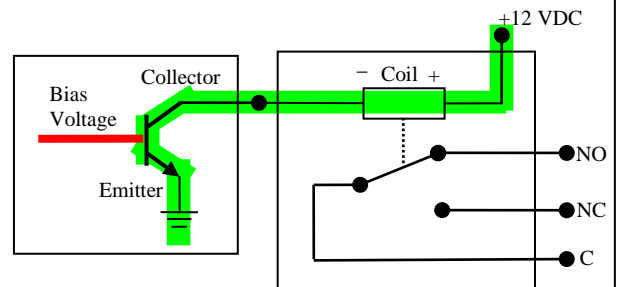


Fig. 8 - Open Collector now biased. Relay is energized and contacts change state. Common is now connected to Normally Open.