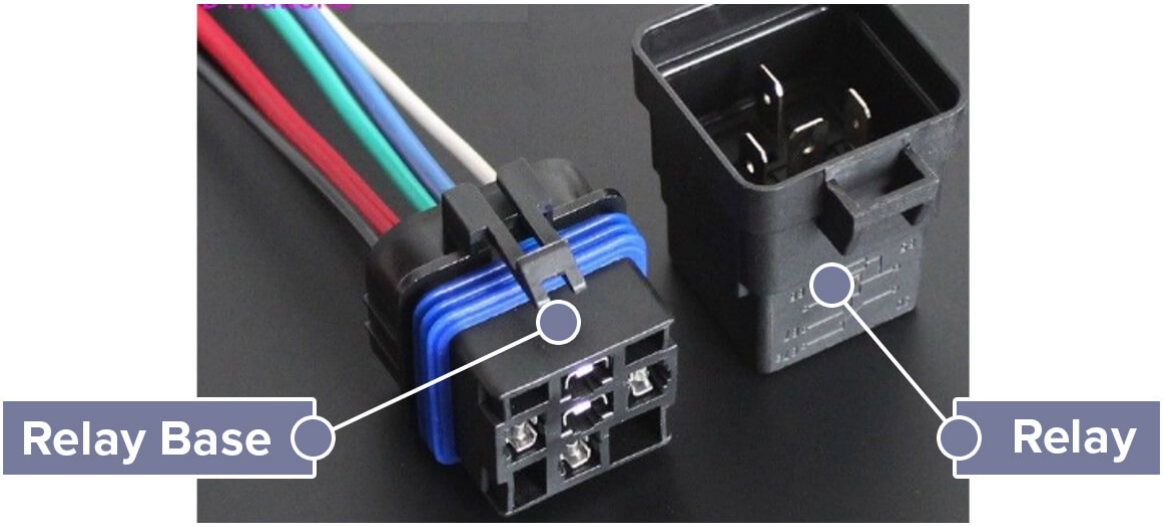
View this email in your browser

Welcome to the Nexteligence Newsletter!

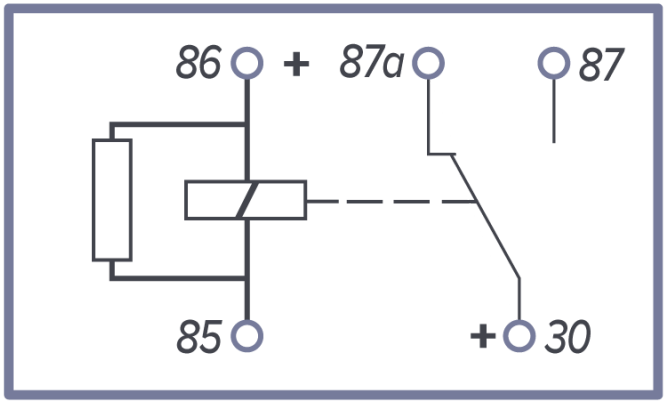
Welcome to the fifth edition of the Nexteligence Newsletter. We look forward to continuing to provide the latest news in the Nexteligence training community.

Relays and why we use them.

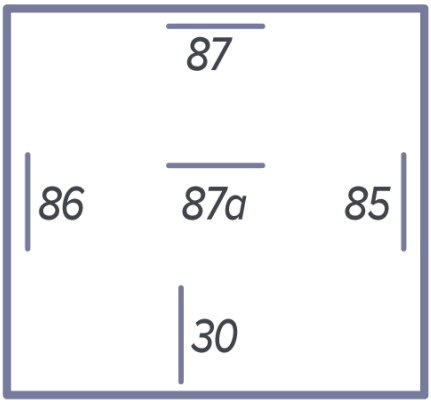
In this month's edition of the Nexteligence Newsletter, we are going to look at relays and talk about why we use them. A relay is simply an electrical switch that uses low or minimal current flow to control high or large current flow. Before we talk about the function of a relay let's look at the components that make up a 5 pin relay and the relay base or, what the relay plugs into.



Relay and Relay Base Schematic Symbols



Relay

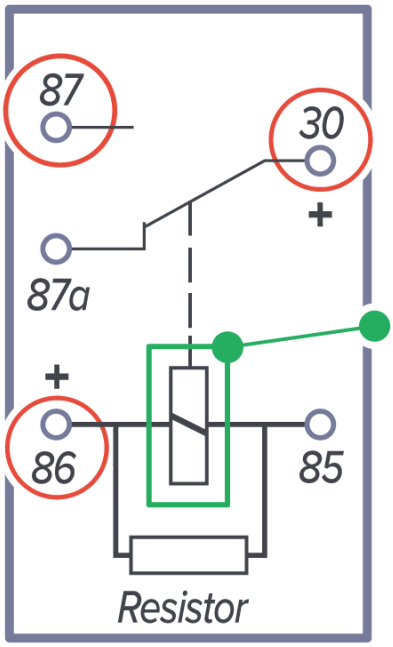


Relay Base

Relays are made up of electrical contacts or paths for current or voltage to travel, coils that produce magnetism to make the relay switch states, and resistors that protect the device. Let’s identify each component.

Because pins 87 and 30 are NOT connected in the powered off state, these contacts are called “normally open” or not touching.

Because pins 87a and 30 are connected in the powered off state, these contacts are called “normally closed” or touching which will allows current to flow.

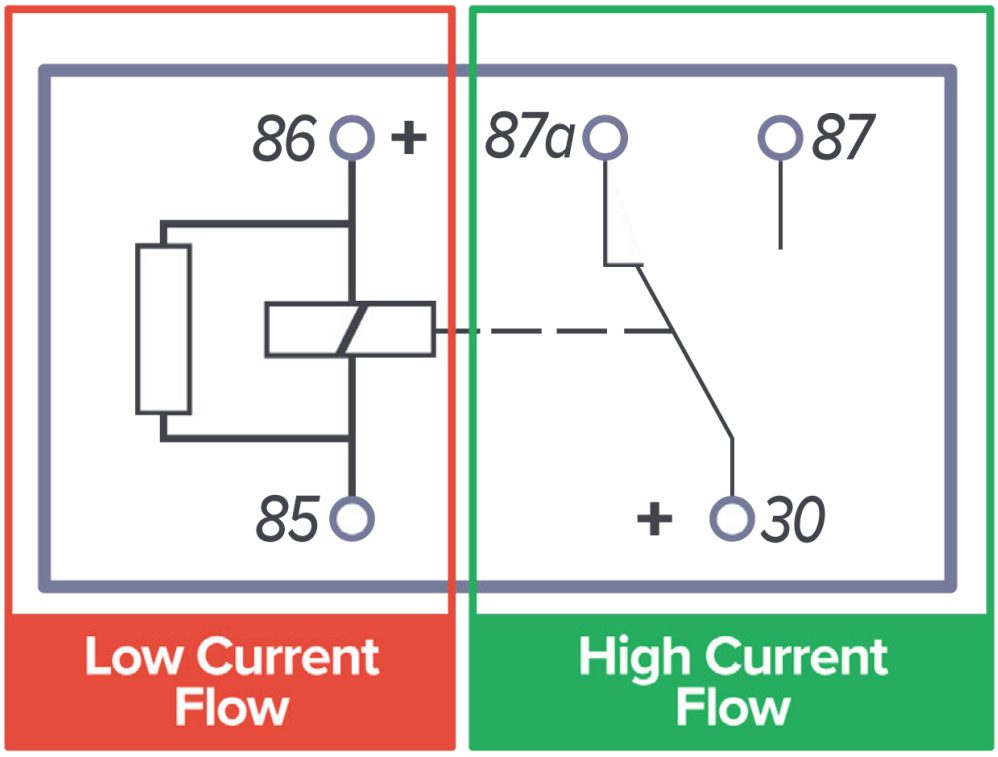


Pin 30 shares a connection between pin 87 and 87a and is referred to as the common connection because it is common to both 87a and 87.

Coil. The coil is made up of a coil of wire. When this wire is energized by adding power and ground to pins 85 and 86 the lever arm moves and switches power from pin 30 and 87a to pins 30 and 87.

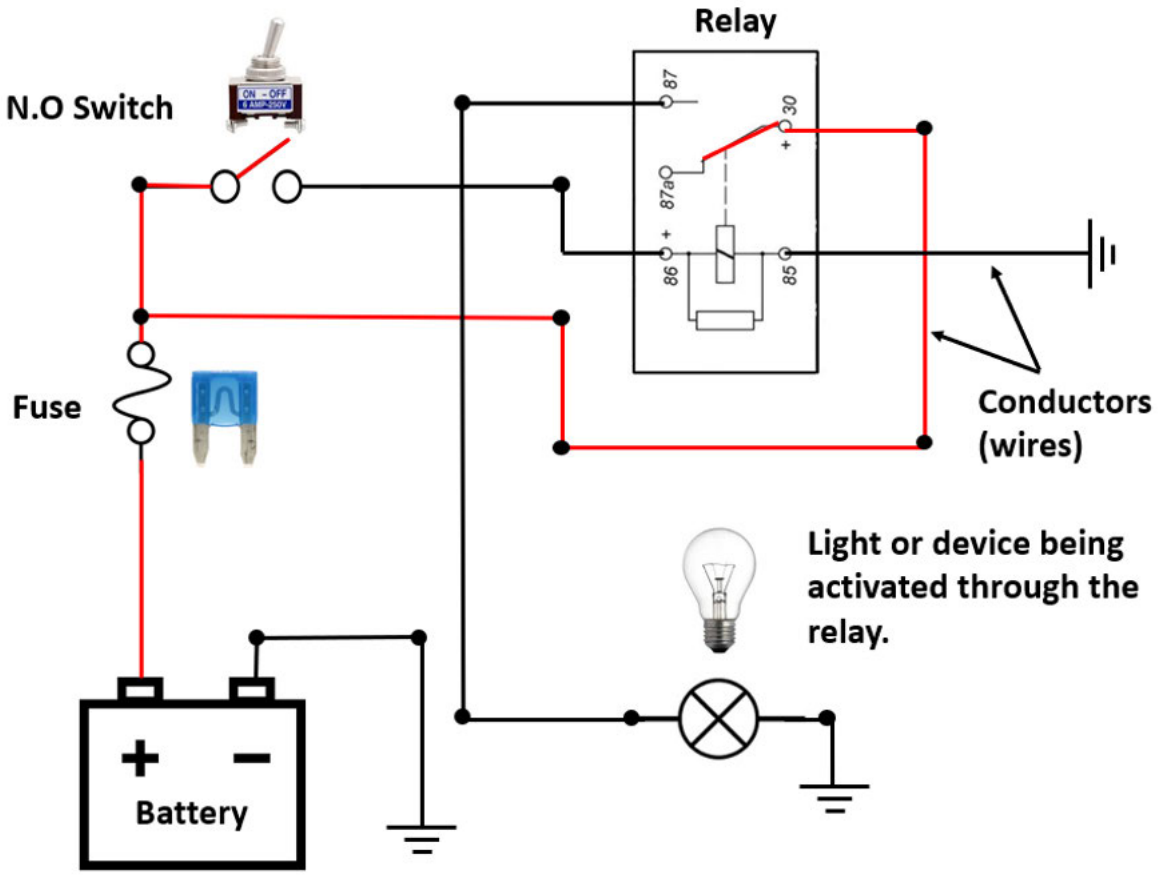
A resistor is added to the coil of the circuit to dissipate any current that may be in the circuit once the relay is deactivated and to protect the coil of wire in the coil from overcurrent situations.

Relays are identified by the amperage that the top portion of the relay can transmit. Commonly 30-amp, 40-amp, and 50-amp are the amperage ratings that you will come in contact with when installing relays.

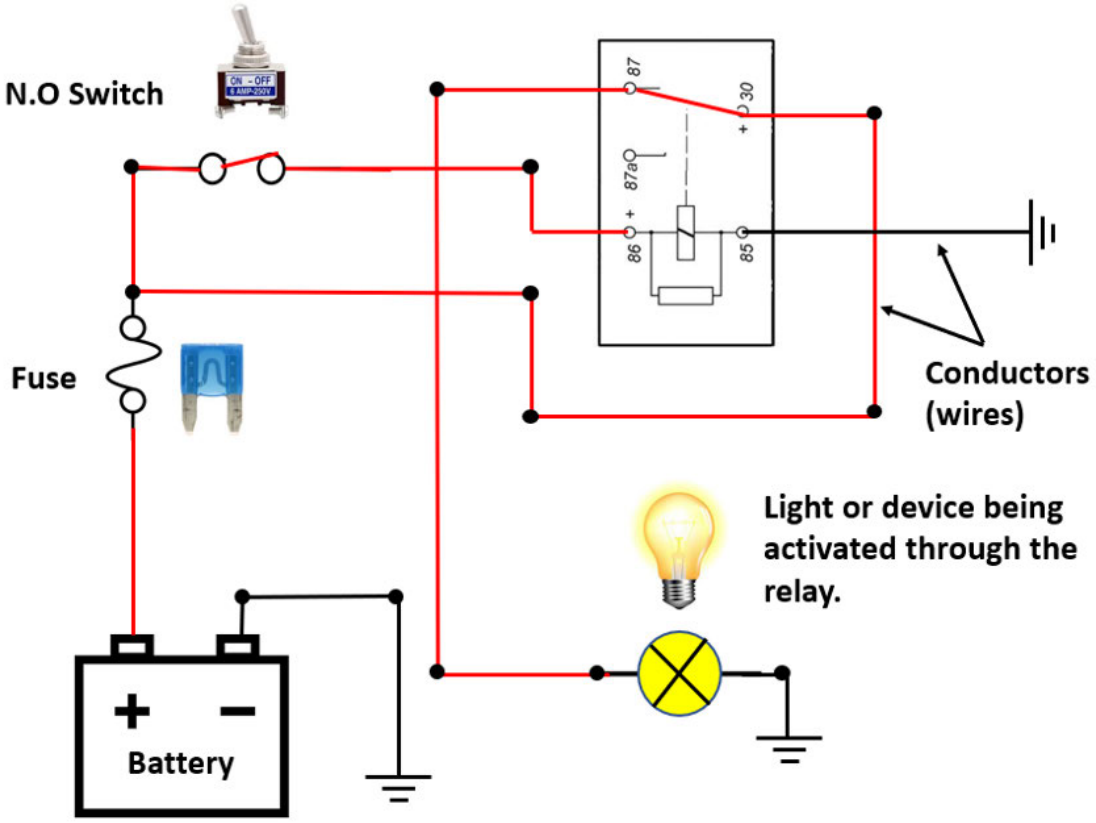


It only takes about 150 milliamps (1000 milliamps = 1 amp) to activate the coil portion of a relay on pins 85 and 86 that controls the larger 30-40-50 amp top circuit pins 30-87a-87 of the relay. In the pictorial schematics below we can see how we use the relays as electrical switches in the circuit to activate higher current drawing devices. This allows us to use smaller ampacity wires and switches to activate the relay on the coil side which is cheaper and easier to add on to a circuit due to the low amp draw and low cost of the smaller wire and smaller switches.

Switch "OFF" Circuit Inactive



Switch "ON" Circuit Active



Would you like to know more about relays? Good news! We teach that in our Nexteligence MAT classes. You can get in-depth electrical circuit training by contacting us to register for a Nexteligence MAT class at: Nexteligence@doveresg.com

---

Contact Info & Helpful Links

Nexteligence Class Registration

Feel free to contact us anytime if you have any training questions or to register for one of our training classes.

Email Training

2023 NexteligenceTraining Schedule

Our 2023 Training Schedule is now available and can be viewed via the Nexteligence Training webpage, as well as the Heil Dealer Portal.

View Training Schedule

Service Shack

Visit the Heil Service Shack for helpful training and instructional videos

View Service Shack

Sign Up for the Nexteligence Newsletter!

To signup for the newsletter or to add members of your team, click button below!

Sign Up Here

Nexteligence
Connected-Tech Training

BRONZE SILVER GOLD PLATINUM

Our mailing address is:
Environmental Solutions Group
201 W. Main Street, Ste 300
Chattanooga, TN 37408