

Adjust the number of turns for the desired trip current. More turns will make the switch more sensitive. A switch with a high threshold current can be made more sensitive, but you can't go the other way. Many modern devices draw some current even when "off" so it's possible to make the switch too sensitive.

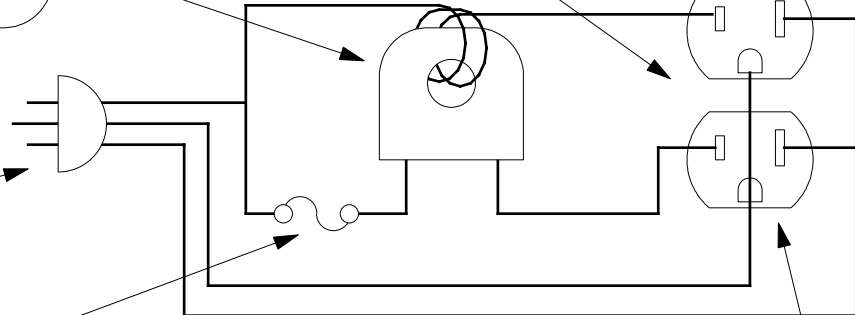
The sketch suggests a duplex receptacle which is OK. You'll have to break the interconnection for the hot wires. The smaller current actuated switches will fit inside a standard outlet box.

Plug the controlling device into this receptacle. Current is limited by the size of the wiring and the breaker on the source.

The picture shows a plug but of course it could be directly wired. Watch out for polarity. The little socket is live, usually gold colored, and should use a black wire. The big socket is common and should use a white wire. The U-ground should be green.

A fuse will limit current to the specified continuous duty value for the selected switch should someone plug in a high power device.

The controlled device goes here. Be careful not to exceed the current limit of the switch.



A simple switch to turn on a secondary device such as a modem or small printer.



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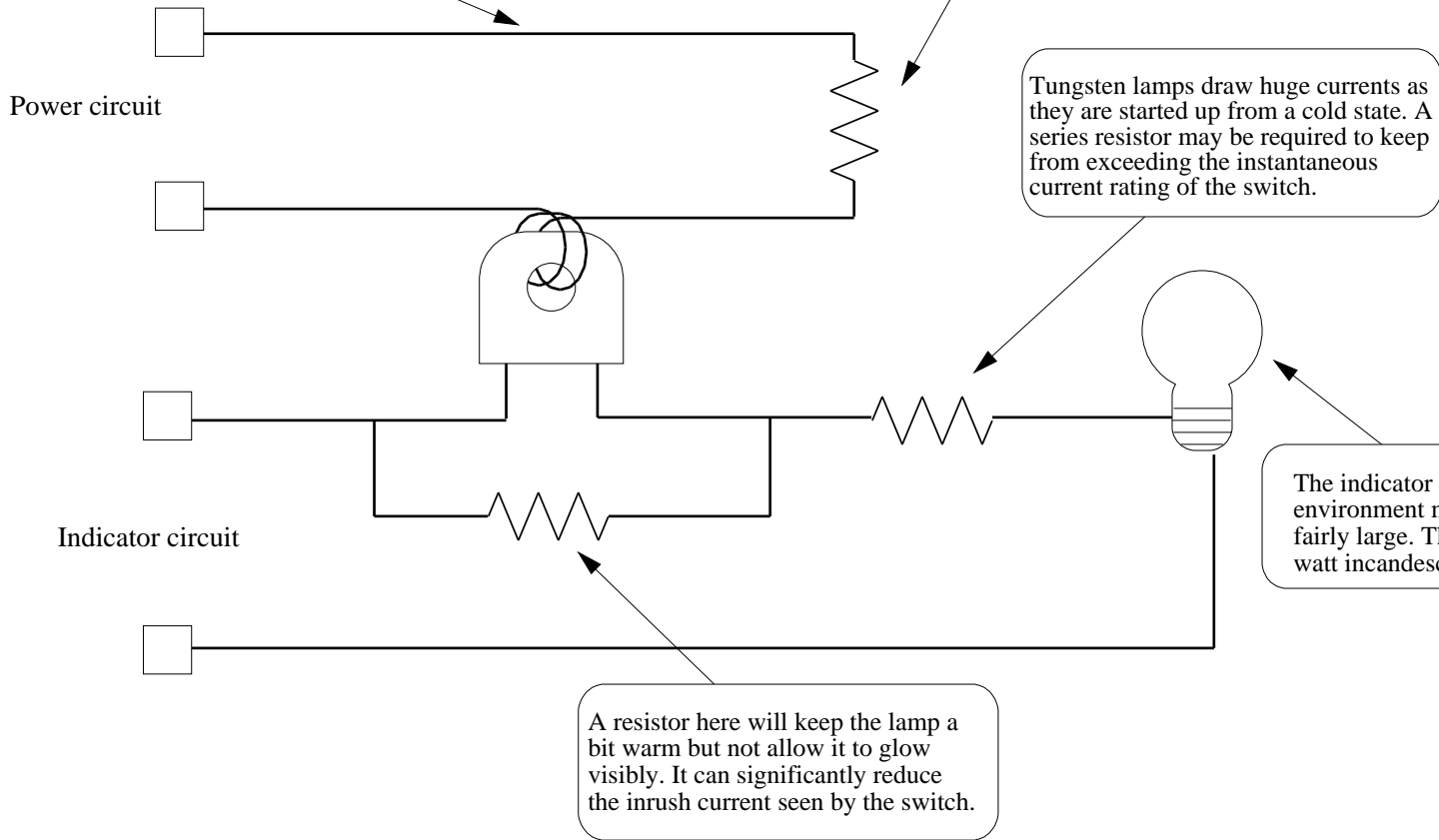
The current in the load can safely be many times the switching point of the switch. These devices are NOT classic "CTs" and will neither be damaged nor be turned off by overcurrent.

The load being sensed can be on a specialized - three phase - circuit because the indicator is totally isolated. Think in terms of a big resistance heater or a pump.

Tungsten lamps draw huge currents as they are started up from a cold state. A series resistor may be required to keep from exceeding the instantaneous current rating of the switch.

The indicator in an industrial environment may need to be fairly large. Think about a 60 watt incandescent lamp

A resistor here will keep the lamp a bit warm but not allow it to glow visibly. It can significantly reduce the inrush current seen by the switch.



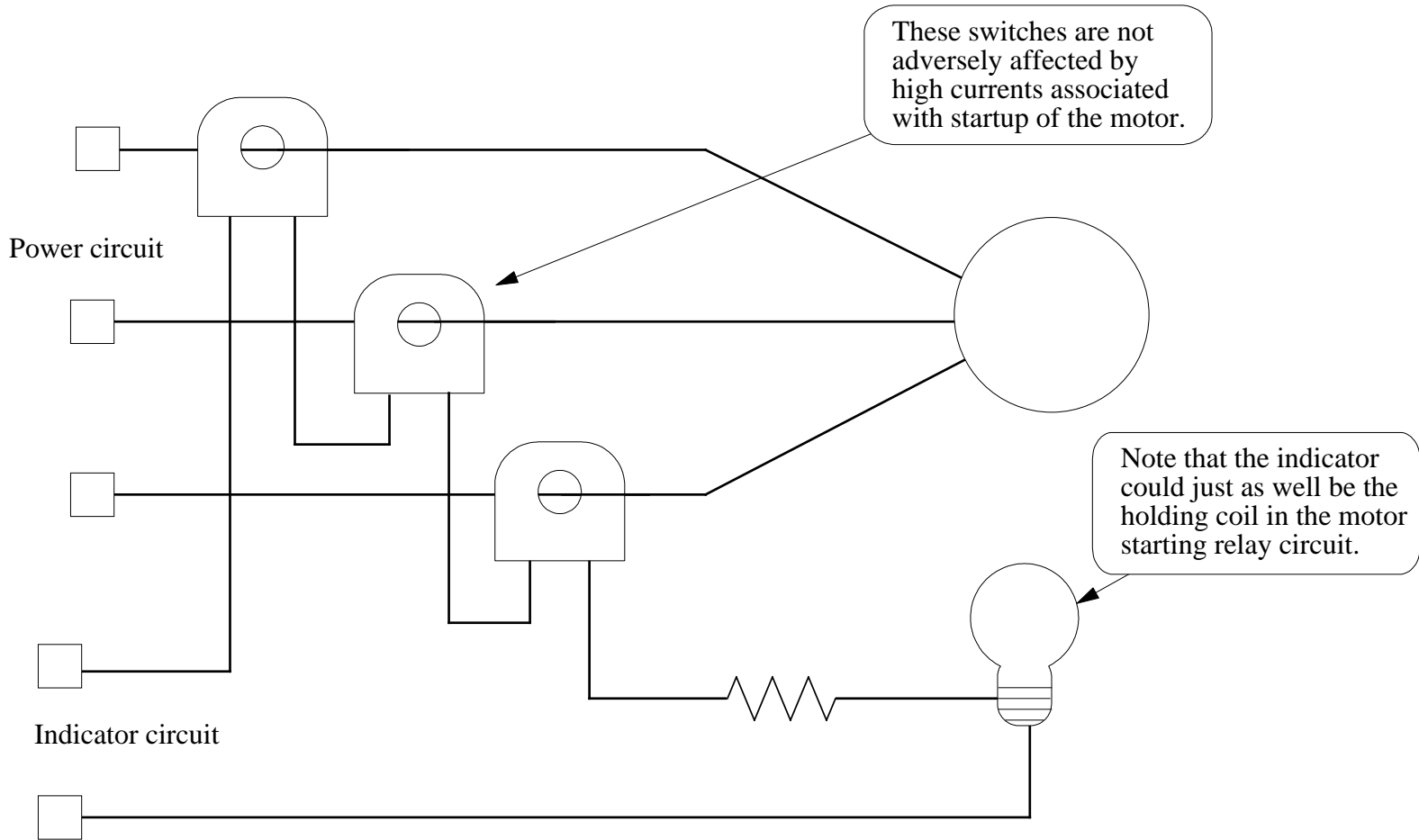
Turning on an indicator lamp in an isolated circuit.



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Loss of phase warning for a delta-connected motor.



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The current in the load can safely be many times the switching point of the switch. These devices are NOT classic "CTs" and will neither be damaged nor be turned off by overcurrent.

The load being sensed can be on a specialized - three phase, for instance - circuit because the indicator is totally isolated. The motor on a high speed power tool is an example.

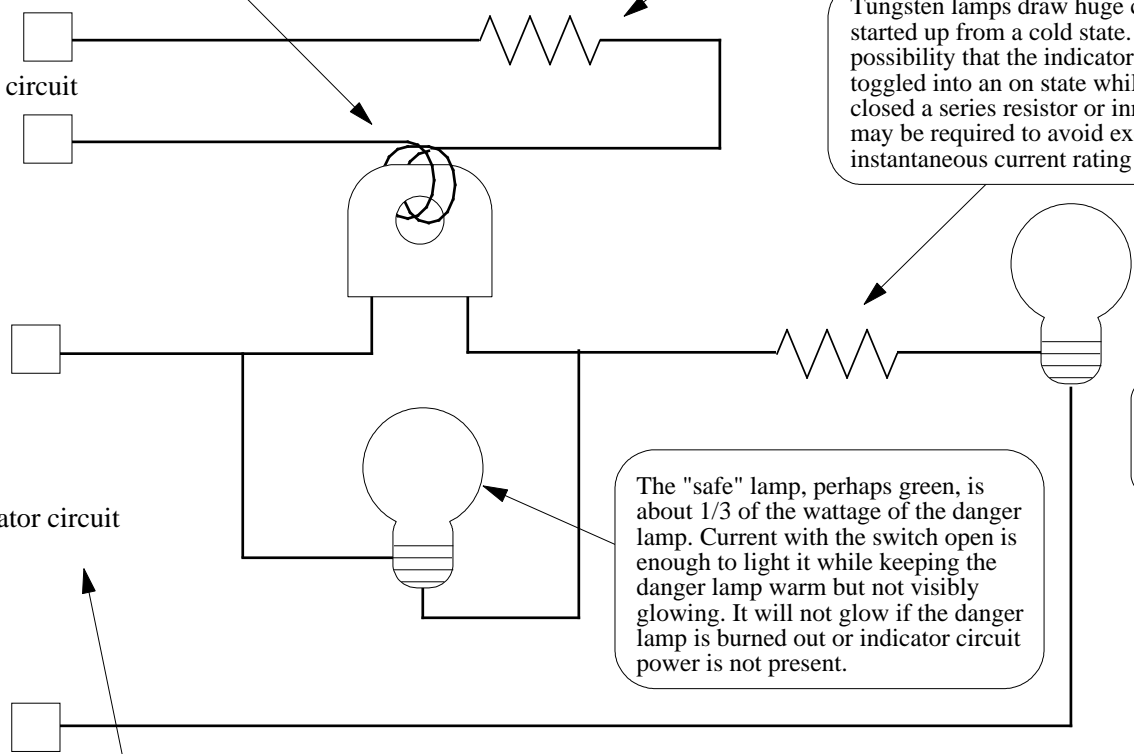
Tungsten lamps draw huge currents as they are started up from a cold state. If there is any possibility that the indicator circuit may be toggled into an on state while the switch is closed a series resistor or inrush current limiter may be required to avoid exceeding the instantaneous current rating of the switch.

The "danger" lamp may need to be fairly bright. Think about a 60 watt incandescent lamp.

The "safe" lamp, perhaps green, is about 1/3 of the wattage of the danger lamp. Current with the switch open is enough to light it while keeping the danger lamp warm but not visibly glowing. It will not glow if the danger lamp is burned out or indicator circuit power is not present.

Power circuit

Indicator circuit



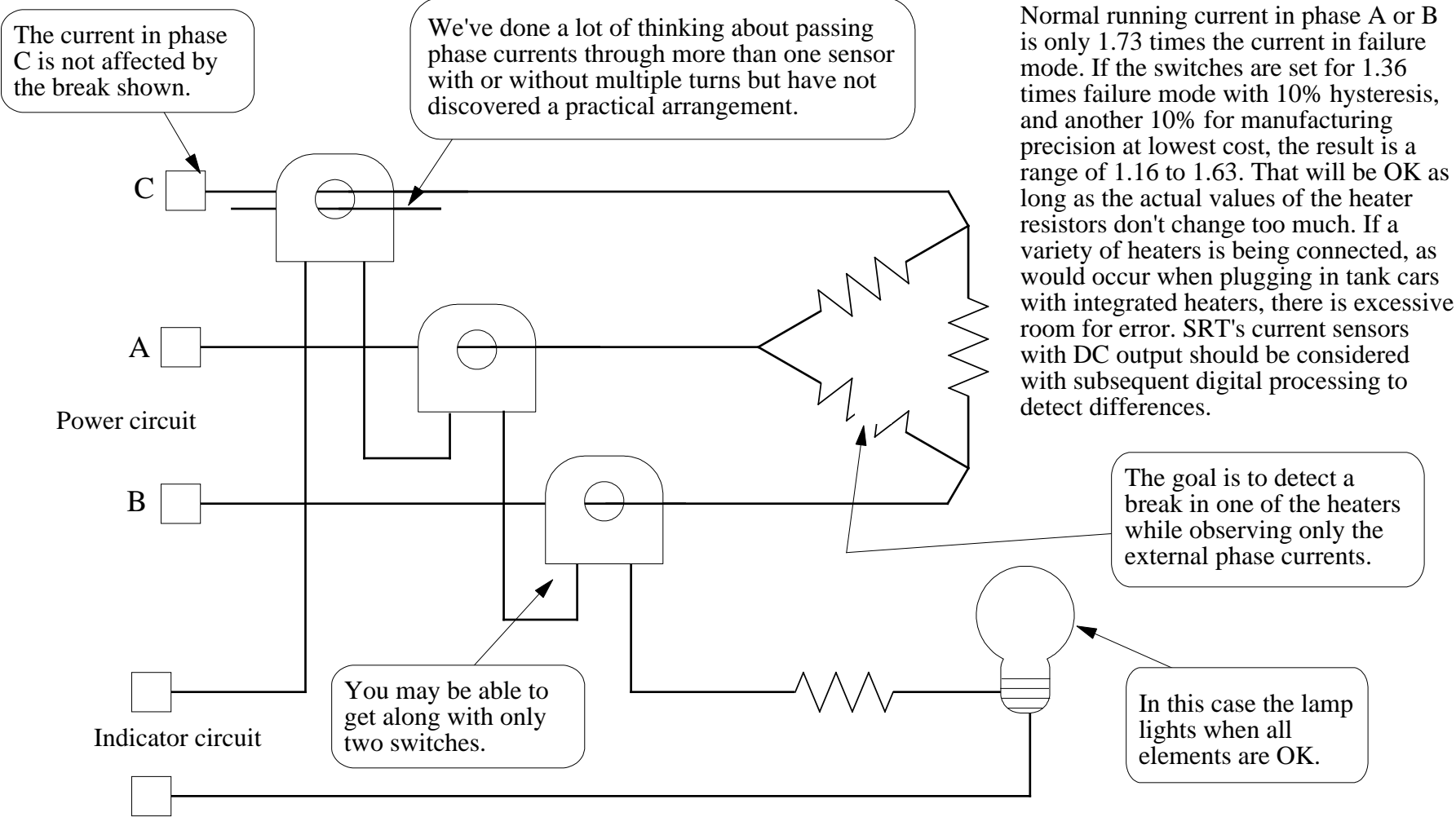
Indicator circuit voltage need not be the same as the power voltage but the switch must be characterized for the voltage used. Lower voltage allows more reliable lamps to be used.

A two-lamp safety indicator.



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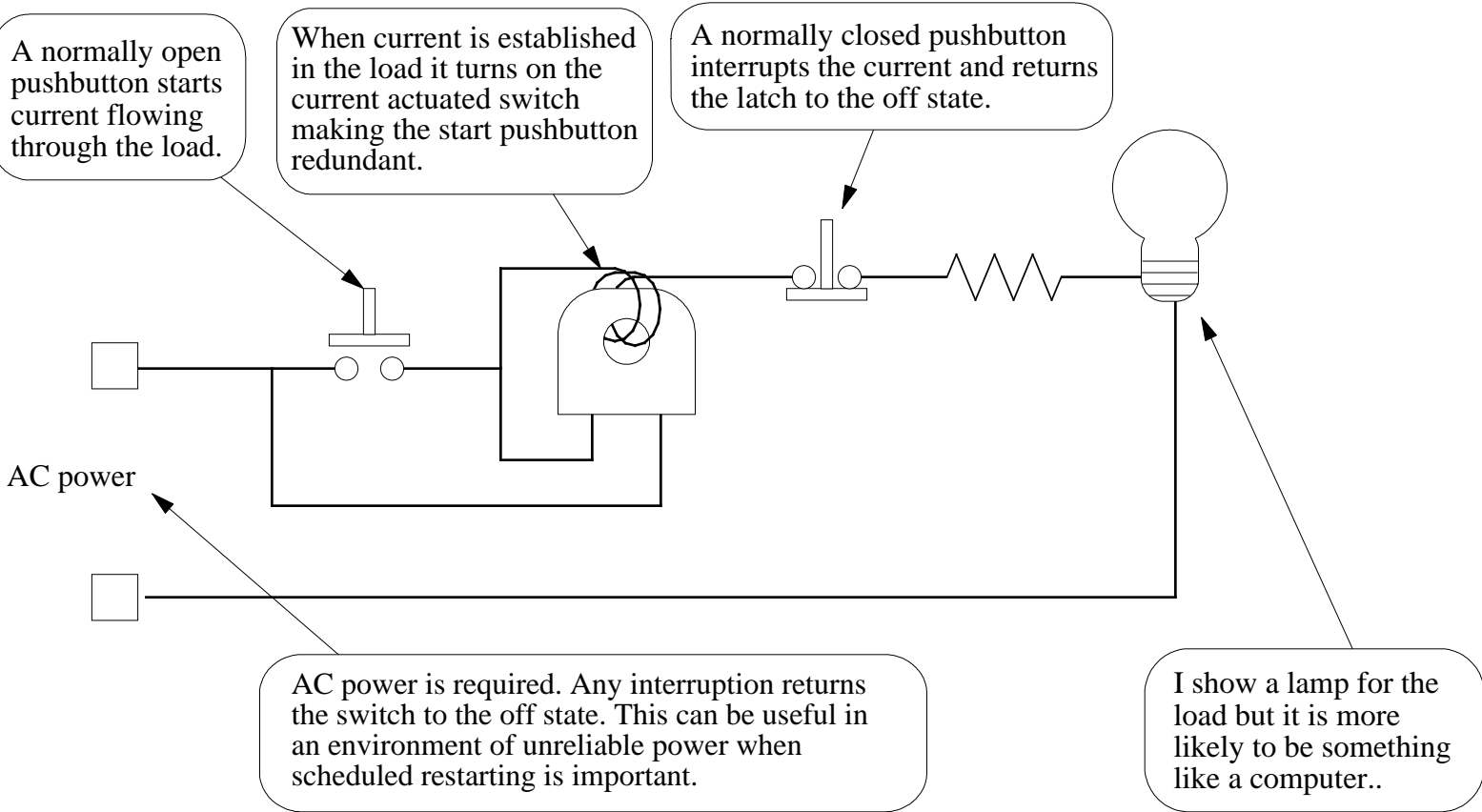


Monitoring the elements of a delta-connected tank heater



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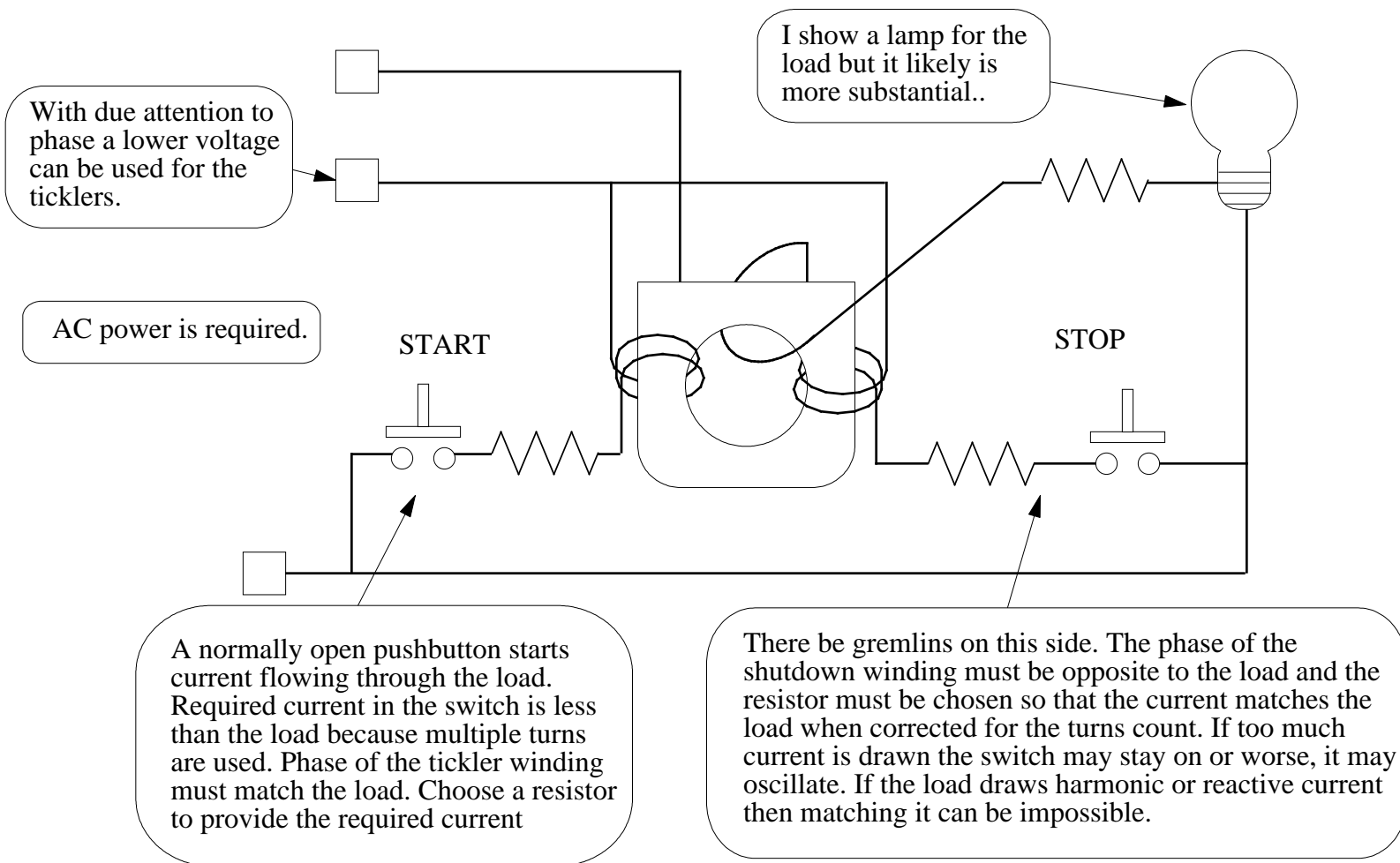
Latching a load by its own current



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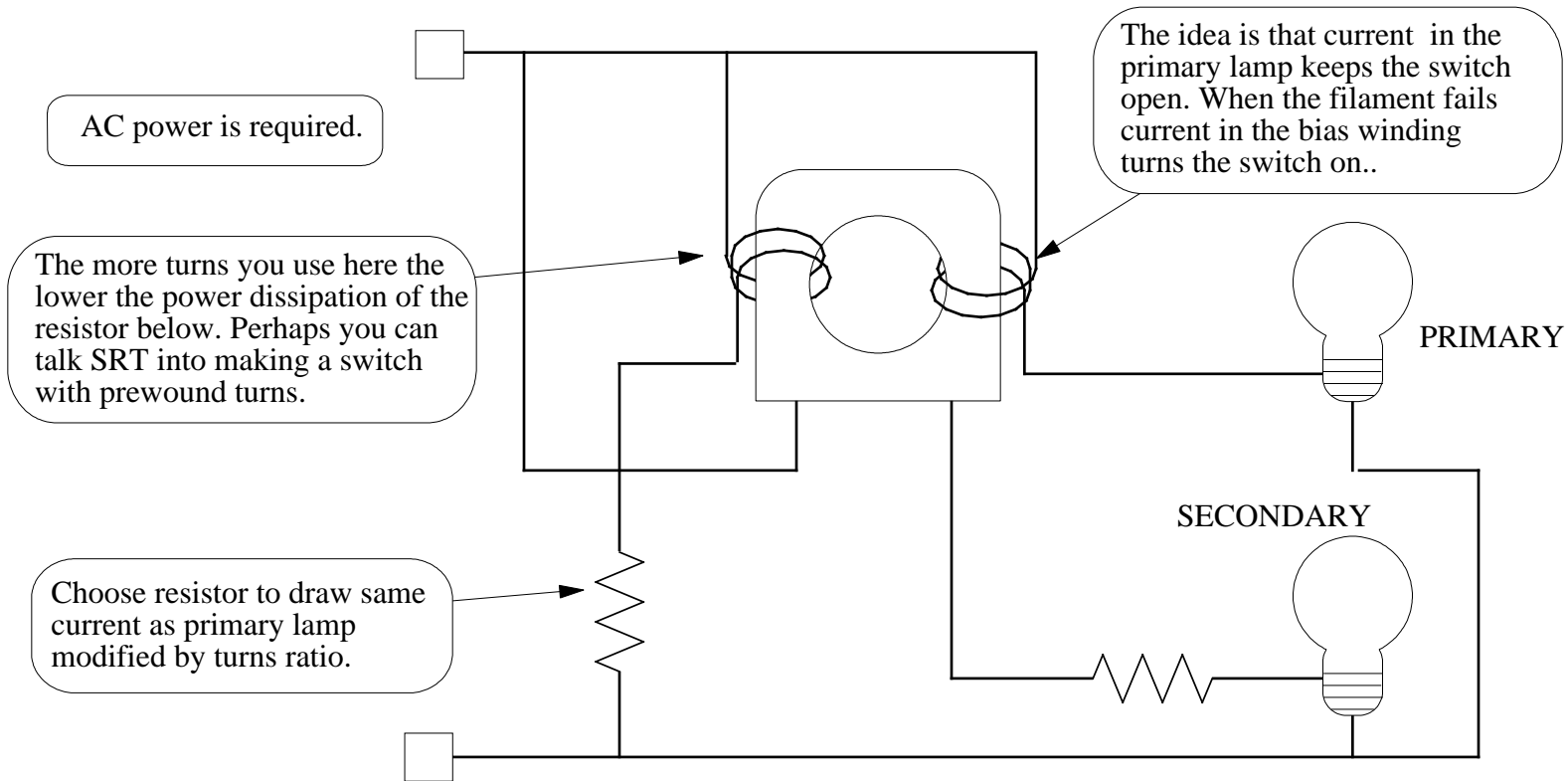


Using tickler windings to reduce current and voltage in the pushbuttons.



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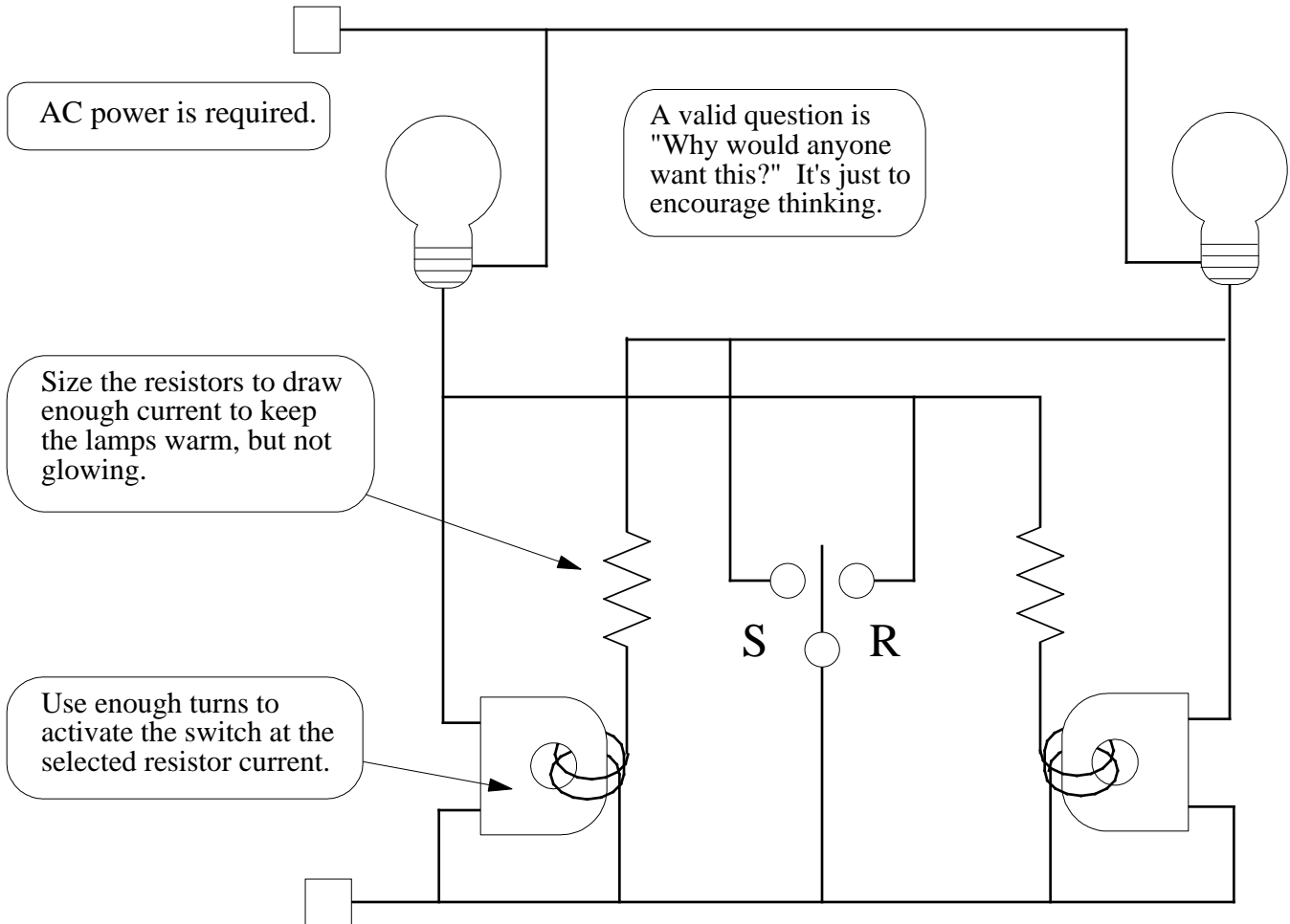
Switching to a secondary lamp when a primary filament fails.



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Set/Reset Flip Flop.



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