

Electronics Optical Isolation

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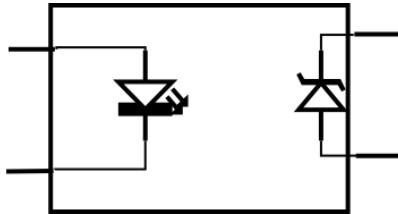
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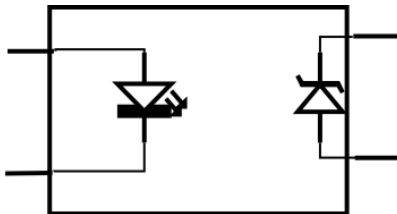
At least more than once.....)

Basic Optoisolator

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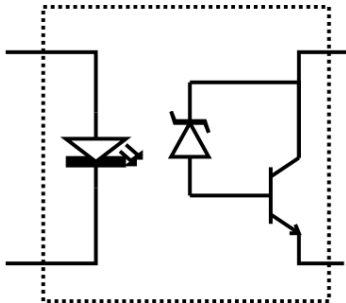
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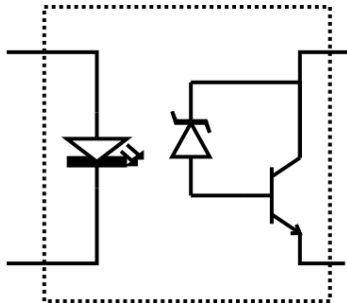
A photodiode in a voltage divider in photocurrent mode operates somewhat like a Zener diode where the Zener voltage is *reduced* by light.

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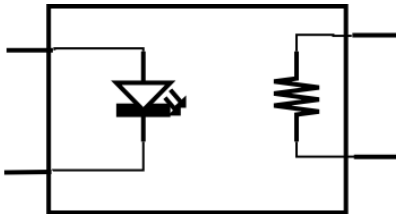
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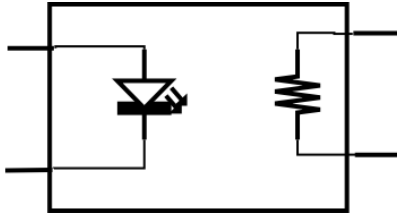


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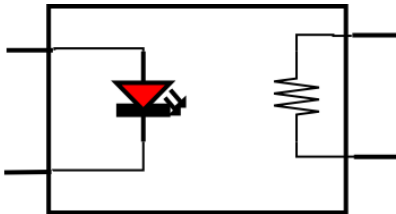


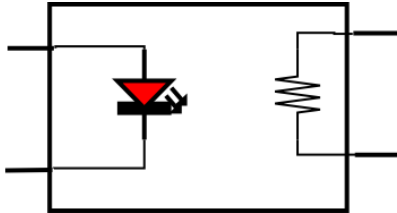
A phototransistor is like a transistor with a photodiode which feeds into the base.



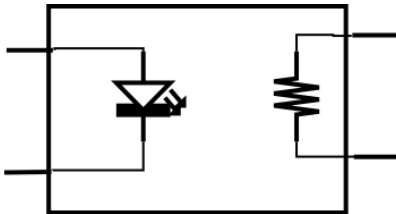


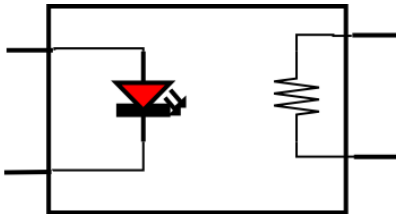
You can think of the photosensitive device like a photoresistor.





When the LED conducts, the resistance between the outputs is reduced.





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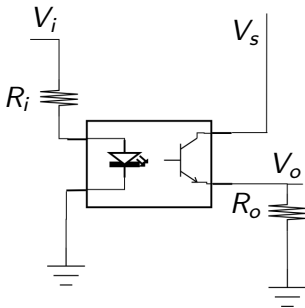
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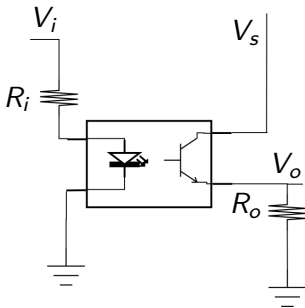
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Using Optoisolators in a Circuit

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Note that the grounds on the two sides need not be the same.

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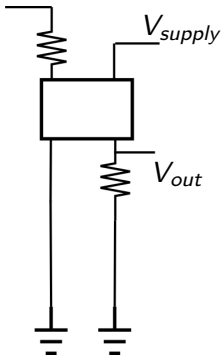
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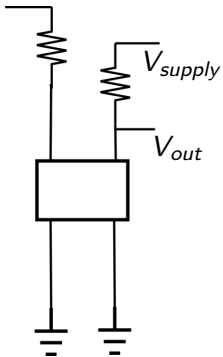
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Usually signals are processed as voltages.
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- The amount of DC isolation provided by an optoisolator is usually in the range of kV.
At some point the insulation will break down and arcs can occur.

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You should be comfortable with both.





Whenever sensors are in a place where it is *possible* for high voltages to be induced, optical isolation should be used to protect electronic devices which follow.

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Together these will make it possible to calculate resistance values.

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