Electronics
Optical Isolation

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  At least more than once.....)

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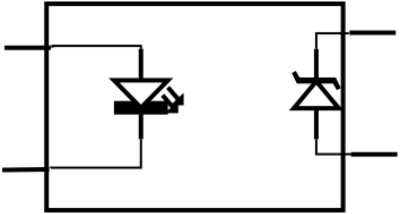

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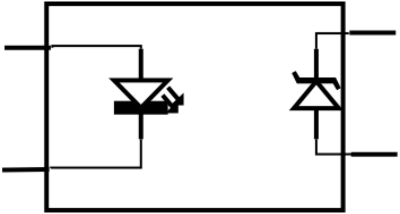

A photodiode in a voltage divider in photocurrent mode operates somewhat like a Zener diode where the Zener voltage is *reduced* by light.

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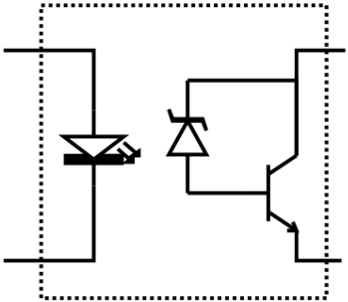

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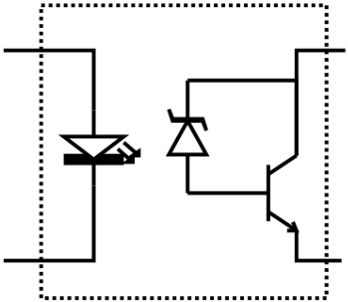
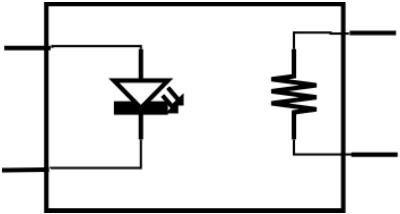
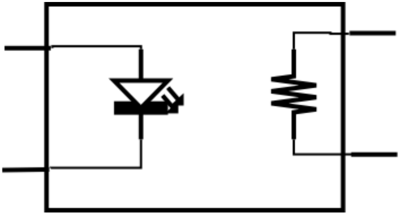
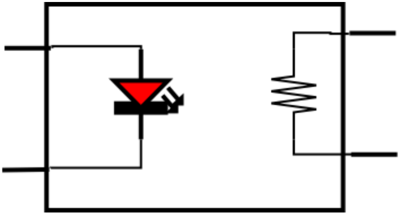


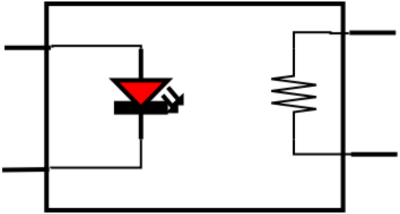
A phototransistor is like a transistor with a photodiode which feeds into the base.



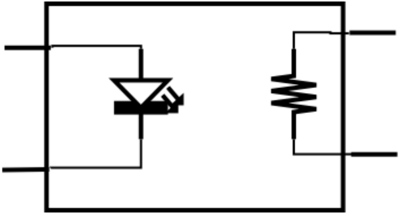


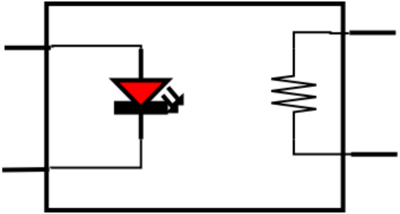
You can think of the pohotosensitive device like a photoresistor.





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





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Using Optoisolators in a Circuit

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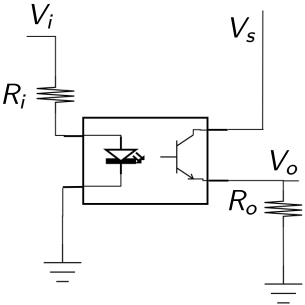

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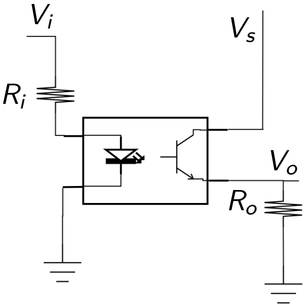

Note that the grounds on the two sides need not be the same.

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  At some point the insulation will break down and arcs can occur.

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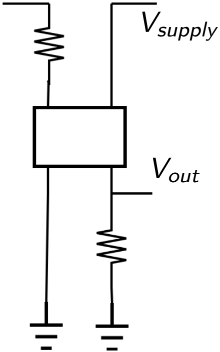
You should be comfortable with both.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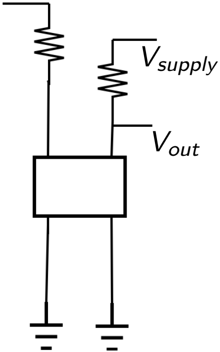
V_{out}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Whenever sensors are in a place where it is *possible* for high voltages to be induced, optical isolation should be used to protect electronic devices which follow.

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- recommended *forward current* for the LED
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Together these will make it possible to calculate resistance values.

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it should be possible to determine the *resistance* which will give this current.

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