

Issue Date:  
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## SENSORS FOR ELECTRIC POWER METER

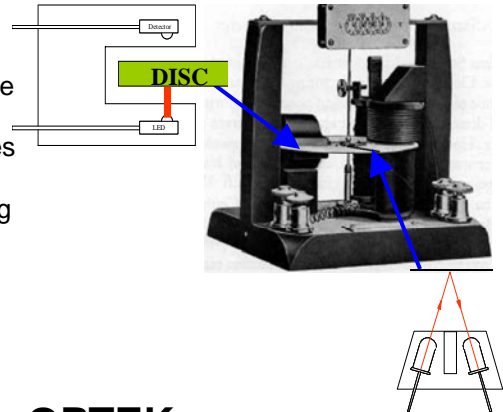
### Application

An electric power meter is a device that measures and displays the amount of electrical energy supplied to a residence or business. The most common type is the single-phase AC electromechanical meter. It measures the energy usage by counting the revolutions of an aluminium disc. Two coils, which are connected to the incoming electrical line exert an electromagnetic force on the disc, causing it to rotate. The number of disc revolutions is proportional to the energy usage.



### Requirements

For many years, the preferred method to measure the disc rotations has been to utilize a reflective or an interruptive infrared optoelectronic switch. Optoelectronic switches offer contactless sensing, minimum output change due to ambient temperature and long operating life. A non-reflective mark on the reflective aluminum disc is detected by an infrared reflective sensor. Alternately, a slotted optical switch can detect a slot or window on the disk.



## The sensor solutions from OPTEK Non-Contact Slotted And Reflective Infrared Optical Switches

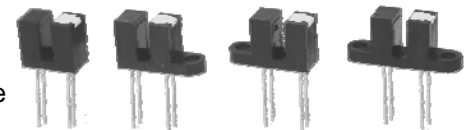
### SLOTTED OPTICAL SWITCHES

- Choice of slot width and depth.
- Choice of analog or digital TTL compatible output.
- Choice of mounting features.

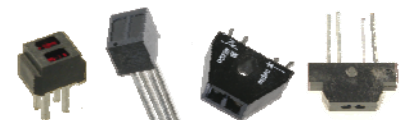
### REFLECTIVE OPTICAL SWITCHES

- Choice of focused or unfocused reflective assembly.
- Choice of IR or Red light for some packages.
- Choice of sensing distances.

Housings are made of low cost Infrared opaque plastic to minimize ambient light radiation interference. Custom designs are available.



SLOTTED OPTICAL SWITCHES



UNFOCUSED REFLECTIVE

FOCUSED REFLECTIVE

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