



## TECHNOLOGY AVAILABLE FOR LICENSING

### Method and Apparatus for Performing Magnetic Field Measurements Using Magneto-Optic Kerr Effect Sensors

US Patents #5,493,220 and #5,736,856

Inventors: Charles DiMarzio, Steven Oliver, Stephen McKnight

#### Invention Details:

The inventions make use of the magneto-optic Kerr effect: the change in the plane of polarization of light reflected from a layer of magnetic material. One sensor system responds to external stress, and it comprises a magneto-optic sensing element, a light source, one or more polarizers and one or more detectors observing the sensing element. Another sensor system is designed to respond to the current passing through a high voltage power line by creating a signal that is proportional to the power passing through the high voltage power line.

#### Benefits of the Invention:

Utilization of the magneto-optic Kerr effect for sensor systems:

##### Advantages:

- Avoid noise effecting sensor systems
- Avoid explosions/fire hazards

##### Uses:

- Performing magnetic field measurements
- Measurement of strain for electrical based devices in hazardous environments

#### The Bottom Line:

The sensor systems of the inventions employ optical detection methods to replace prior-art electrical methods. The basis of the novel sensor systems is the use of polarized light reflected from magnetic films.

#### For More Information:

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