

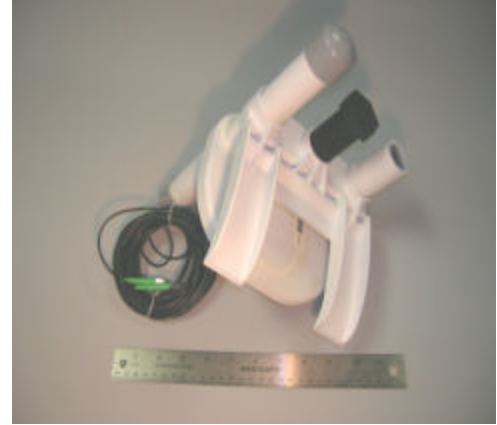


Airak, Inc. is proud to present an easy-to-install and use fiber optic load current sensor for electrical distribution load current monitoring of overhead medium voltage electrical distribution lines:

The Benefits

- **Safe and Easy to Install** – *does not conduct electrical current – intrinsically safe to personnel and interconnected equipment*
- **Lightweight** – *overhead sensor weighs just 1.25 lbs, independent of whether it is measuring 3 Amperes or 1000 Amperes*
- **Smallness** – *the overhead hanger package is 11" x 7" x 6.25", independent of current measuring range*
- **Immune to EMI/RFI** – *the all-optical configuration means that electrical noise is not picked up and transmitted to conditioning/control equipment*
- **Zero Risk of Explosive Failure** – *unit does not saturate or use any form of oil for cooling*
- **Intended for 34.5 KV Applications and Below** – *meets 130KV BIL testing criteria*
- **Automated Manufacturing** – *design supports the ability to be mass-produced, increasing reliability and decreasing costs*
- **Increased Dynamic Range and Bandwidth** – *allows one transducer to measure large changes in current*
- **Hot Stick Mountable** – *does not require outage or segmentation of the power line*

Overhead-Mountable Optical Current Sensor



Overhead-Mountable Optical Current Sensor



The Technology

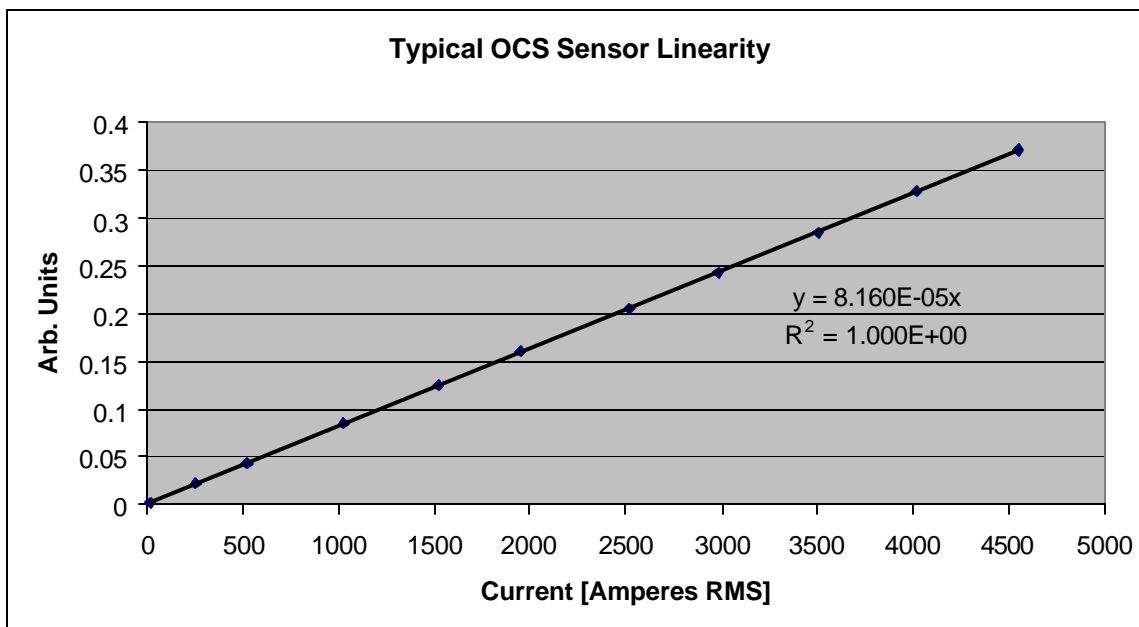
More than 150 years ago Sir Michael Faraday discovered that when linearly polarized light travels through flint glass that is exposed to a magnetic field, its plane of polarization rotated. This property, now known as the Faraday Effect, is widely used in the fiber optic telecommunications field, specifically to prevent reflected light energy from coupling back into a light source and changing source parameters such as frequency or power output. In sensor systems that exploit the Faraday Effect, a sensor assembly is placed into a magnetic field. By monitoring the rotation of the incident polarization state, a direct measurement of the magnetic field intensity or current can be inferred.

Additional Information

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FOCS-WS Specifications

Dynamic Range:	60 dB minimum
Frequency Response:	5 Hz - 5 kHz Standard; Wider Possible ¹
Full-Scale Measuring Range:	1KA, 3KA, or 15KA ²
Voltage Isolation:	Meets IEEE 36 kV insulation class
Standard Error:	Less Than +/- 1.0% f.s.
Sensitivity / Resolution:	Better Than 0.5% f.s.
Repeatability:	Better Than 0.5% f.s.
Temperature Range:	-40°C to 85°C
Sensor Weight:	1.25 lbs ³



¹ Frequency response is practically limited by the signal processing electronics

² Different crystal compositions yield different full-scale values.

³ The weight of the overhead-mountable OCS is independent of the transducer full-scale current or voltage rating.