

# LCM-350 Series Displacement Sensors

**LCM-350 series displacement sensors, developed by Cleveland Electric Laboratories, are effective tools for monitoring and measuring small relative displacements or movements occurring between fixed and moving reference frames.** LCM-350 sensors are optically based, utilize fiber Bragg gratings, and are part of the FiberStrike suite of fiber optic sensing systems offered by Cleveland Electric Laboratories. Examples of applications for LCM-350 displacement sensors include:

- ✓ Monitoring expansion joints on bridges
- ✓ Measuring cracks in concrete structures
- ✓ Monitoring alignment of machine components

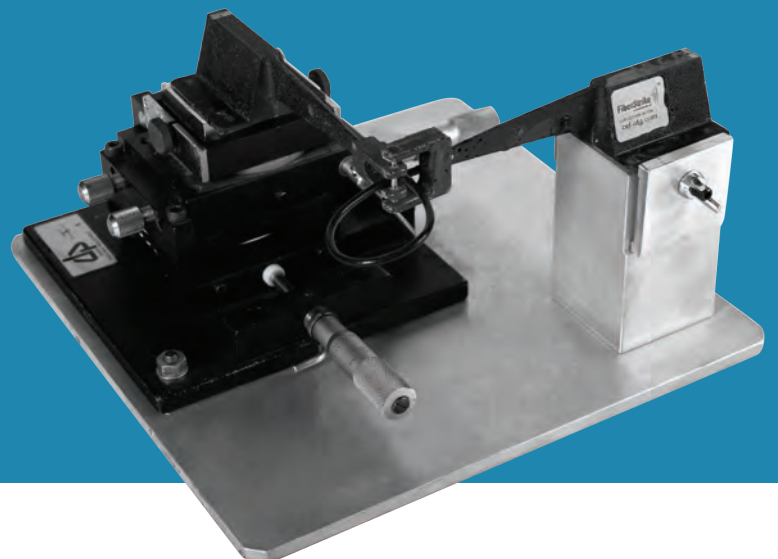
Sensor configurations and mounting options allow measurement of movements in any one or two axes. The unique design of LCM-350 sensors (patent pending) enables clear differentiation of movements in multiple axes, avoiding the limited ability inherent in some other sensor types to discriminate directions of movement. LCM-350 sensors are rugged, made of corrosion-resistant composites, and are easily installed on new structures or retrofitted to existing structures; they may be mounted using hardware or epoxy. Typical overall dimensions are shown on the reverse side of this data sheet.

LCM-350 displacement sensors are passive, emit no signals, require no electrical power, and are immune to interference. Hundreds may be distributed over a wide area and networked over nonconductive optical fiber into a single FiberStrike front-end system, which can be located 20+ kilometers distant from monitored locations. Standard configurations are illustrated. Custom configurations are available.



## Additional Advantages:

- ✓ Passive and emit no signals
- ✓ Require no electrical power
- ✓ Immune to interference

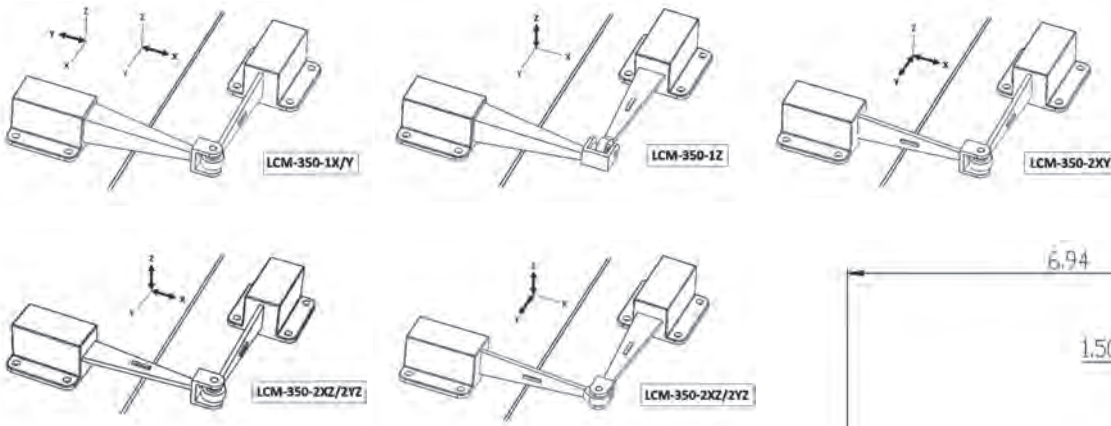


### Available Configurations

<b>LCM-350-1X/1Y</b>	1 axis measurement, X or Y <i>Mounting orientation determines either X or Y measurement axis</i>
<b>LCM-350-1Z</b>	1 axis measurement, Z axis
<b>LCM-350-2XY</b>	2 axis measurement, X - Y
<b>LCM-350-2XZ/2YZ</b>	2 axis measurement, X - Z or Y - Z <i>Mounting orientation determines either X or Y measurement axis</i>

### Performance

<b>Displacement range</b>	±0.25 inch any axis, all axes
<b>Position accuracy</b>	Better than 0.001 inch
<b>Resolution</b>	Better than 0.001 inch
<b>All LCM-350 sensors are temperature compensated</b>	



## Overall Dimensions

Overall dimensions typical for LCM-350 series displacement sensors are shown below. Units are in inches. Fiber pigtails extend 1 meter (standard) beyond sensor mounting base bodies; longer lengths are available.

