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Clearfield Expands Fiber Portfolio with Sensing Cables for Continuous Infrastructure Monitoring

New temperature, acoustic, and strain sensing cables help operators monitor critical fiber routes and identify potential issues before they lead to outages

MINNEAPOLIS--(BUSINESS WIRE)-- Clearfield, Inc. (NASDAQ: CLFD), a leader in fiber connectivity solutions for telecom, data center and network infrastructure environments, today announced the expansion of its fiber portfolio with new temperature, acoustic, and strain sensing cable solutions. The distributed fiber optic sensing (DFOS) portfolio helps operators continuously monitor the condition and security of outside plant fiber routes, central offices, data centers, cell sites, and other critical infrastructure – providing investment protection.

Unlike cameras or individual sensors that only monitor specific locations, distributed fiber sensing can provide continuous visibility across long stretches of aerial, buried, and conduit routes. Operators can use the technology to detect digging activity, unauthorized access, tower climbs, temperature changes, and cable strain before they result in a fiber cut, service outage, or emergency truck roll.

“Broadband, data center, and wireless operators manage significantly different infrastructure, but they all face the same challenge: limited visibility into conditions across critical assets -- whether that's miles of fiber, dense data center environments, remote edge and IoT sites, or critical border and perimeter infrastructure,” said Anis Khemakhem, Chief Commercial Officer of Clearfield. “Fiber sensing gives them better information about potential threats and changing network conditions so they can respond sooner, protect critical assets, and make more informed maintenance and security decisions.”

Network outages can carry significant costs. Uptime Institute’s 2026 Annual Outage Analysis found that 57% of respondents said their most recent major outage cost more than $100,000, while one in five reported costs above $1 million. Clearfield’s sensing cables provide earlier visibility into potential threats, helping operators respond sooner and reduce downtime, emergency repairs and customer disruption.

The portfolio includes three types of sensing cables designed to monitor different conditions across fiber routes and facilities. Temperature sensing cables identify changes and hot spots, acoustic sensing cables detect digging, climbing and intrusion, and strain sensing cables monitor stress caused by ground movement, shifting poles, and other physical conditions.

“Distributed fiber sensing extends the value of optical fiber beyond communications by turning the cable into a continuous monitoring platform,” said Ernie Gallo, Principal at NEBScore. “By measuring temperature, strain and acoustic activity with enhanced fiber

along the route with light scattering techniques, operators can gain centralized visibility into remote and hard-to-reach assets without installing individual sensors at every location. This helps them identify changing conditions and manage infrastructure more proactively."

Distributed sensing data can also help prioritize inspections, maintenance, and infrastructure investments. Beyond outside plant networks, the portfolio supports perimeter security and temperature monitoring across data center campuses, edge sites, IoT gateways, and other remote facilities.

Non-metallic options support aerial applications, while steel-armored Fiber-in-Metal-Tube cables are designed for buried and conduit environments. The passive cables require no power along the route, meet IEC 60794-1-2 standards, and can be installed using existing telecom crews and workflows.

The sensing cables connect back to an interrogator that analyzes the data and alerts operators to activity or changing conditions along the route. They can feed into Clearfield active cabinets, central office infrastructure, and the NOVA™ platform, supporting both new network construction and existing deployments where new sensing cable is installed.

For more information on Clearfield and its innovative fiber solutions, visit www.SeeClearfield.com.

About Clearfield, Inc.

Clearfield, Inc. (NASDAQ: CLFD) designs, manufactures, and distributes fiber optic management, protection, and delivery solutions that enable high-performance connectivity across a wide range of markets, helping to close the digital divide. Clearfield's labor lite, craft-friendly platform is leveraged by community broadband providers, MSOs, incumbent service providers, ISPs, data centers, wireless providers, IoT networks, the military, municipalities, and cooperatives to connect homes, businesses, and critical infrastructure faster and more efficiently. Headquartered in Minneapolis, MN, Clearfield deploys more than a million fiber ports each year. For more information, visit www.SeeClearfield.com.

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Media Contact:
Christy Barbaran
Connect2 Communications for Clearfield, Inc.
clearfield@connect2comm.com

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