

Reliability when it matters.

Our product provides **increased operational reliability**, improves safety, reduces maintenance costs and downtime, and **increases revenue**.

SMARTWIRE

A reliable device for monitoring the health and integrity of electrical wire

Our patented technology was specifically developed by NASA engineers to detect wire faults during operation and autonomously re-route power and prevent a catastrophic failure or equipment shutdowns.

Faults in electrical wiring are a serious concern for the utility industry. There are a number of industrial accidents that have occurred as a result of faulty wiring creating faults resulting in arcing leading to fires and explosions (catastrophic failure). False positive and negative events also shutdown industrial equipment and operations causing companies to lose significant revenue.

Current, technology detects electrical faults in a system, but is not able to monitor, locate, identify faults or autonomously reroute power to prevent catastrophic failure or equipment shutdowns.

Our product monitors the health of the wire. It detects, identifies, and locates damage to the wire and can also autonomously reroute power before the core conductor of the wire is damaged to prevent catastrophic system failure or shutdowns occur.

This proven technology has been used by NASA in rocket launches. There are currently no competitors with this capability.

BENEFITS

- **Intelligent** - pattern recognition algorithms autonomously identify the type and location of a fault without operator intervention
- **Real-time monitoring** - monitors while wires are powered and operational, making it possible to locate intermittent faults that occur only while wires are in use and can reduce the number of false positive and false negative events
- **Non-intrusive** - faults are monitored in the background using very low power signals that do not disrupt normal circuit operation
- **Intuitive** - a user-friendly graphical user interface displays information on the type of fault and its location
- **Flexible** - capable of monitoring up to 64 individual wires on a cable simultaneously in online or offline mode
- **Increased profit** - out of operation time, maintenance downtime and resulting costs are reduced

wire fault solution

Please visit us at
www.suncitysmarttech.com

SMARTWIRE

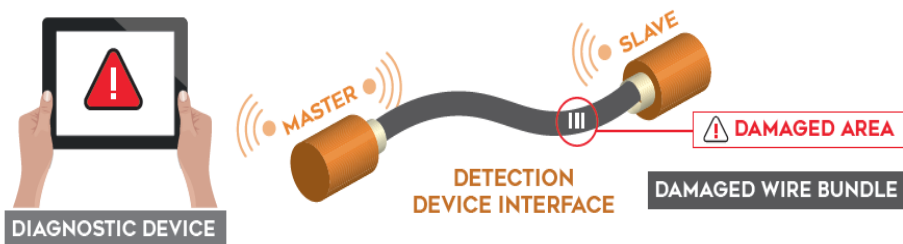
THE TECHNOLOGY

Our product was designed to monitor electrical faults in either online or offline modes of operation. In the online mode, wires are monitored without disturbing their normal operation. A cable can be monitored several times per second in the offline mode, and once per second in the online mode. The online cable fault locator detects the occurrence of a fault, determines the type of fault (short, open, or intermittent), and the location of the fault.

This enables the detection of intermittent faults that can be repaired before they become serious problems. Since intermittent faults occur mainly during operation, a built-in memory device stores all relevant fault data. This data can be displayed in real time or retrieved later so maintenance and repairs can be completed without spending countless hours attempting to pinpoint the source of the problem.

Hardware and algorithms safely, efficiently, and autonomously transfer electrical power and data connectivity from an identified damaged or defective wire in a cable to an alternate wire path. This portion of the system consists of master and slave units that provide the diagnostic and rerouting capabilities.

A test pulse generated by the master unit is sent down an active wire being monitored by the slave unit. When the slave unit detects the test pulse, it routes the pulse back to the master unit through a communication wire. When the master unit determines that a test pulse is not being returned, it designates that wire as faulty and reroutes the circuit to a spare wire.



APPLICATIONS

- Industrial Wiring
- Smart Grid Wiring
- Automotive Wiring
- Aerospace Wiring
- Marine Wiring
- Defense Vehicle, Aircraft, & Equipment Wiring

PRODUCT CONFIGURATIONS

- Fault Detection Terminal Block
- Fault Detection Wiring Harness
- Fault & Damage Detection Wiring Harness
- Damage Detection Skin

PUBLICATIONS

Patent No: US8810255; US8593153

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