

Near Field Communications and Power

MicroStrain Applications Note: Wireless solutions

The problem: historical methods for measuring stresses and loads on equipment required a wired connection to instrumentation. That meant using slip rings on rotating equipment. to get the signal back.

Brush contacts introduced noise in the measurements. Slip ring assemblies added weight to the vehicle. Wiring meant excessive vehicle downtime for assembly.

In some cases, that meant that the instruments required more maintenance than the equipment they were monitoring!



What if...being able to monitor loads on critical components meant you could **reduce your maintenance expense**, schedule maintenance, and avoid surprises and unpredicted down-time?

The Solution: MicroStrain's patented Near Field Communications and Power (NFC) technology.



If you can cause the sensor to modulate the power signal, and decode that modulation at the power source ... then you can monitor rotating shafts. Strain gauges can monitor torque loads. A hall-effect sensor can report RPM, and you can then calculate real-time power from torque applications.



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MicroStrain Near Field Communication and Power

NFC is a patented technique for power and data transmission. It uses non-contact inductive power to eliminate batteries and slip rings. Strain gauges are used to measure torque on rotating shafts. Power and data communications use a fixed-frame coil in conjunction with a rotating shaft mounted coil. The technique produces very low latency, providing high resolution measurement of torque loads.



One size does not fit all equipment ... but we solved that problem, too!



Flexible designs, adapted for your application, from our pre-configured design library support engineered solutions with optimal components.

3D printed housings accommodate your unique requirements.

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