

Protecting Mobile Electronic Equipment from Shock and Vibration Damage

Enidine Wire Rope Application

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Application Overview

A cellular phone manufacturer and service provider (SIC 3663 and 4812) needed to map the signal strength variations within its customer coverage area. The signals are tracked using electronic detection devices that record differences in cellular phone signal strength over a given area. The equipment is mounted externally onto a mobile vehicle's horizontal slide racks for easy removal and servicing. During normal vehicle operation, signal detection devices are subject to excessive random vibration and shock road inputs. A standard vehicle suspension system does not provide enough energy absorption and vibration isolation to protect the sensitive tracking devices, setting up conditions that could compromise data integrity and cause equipment damage. To prevent this, the manufacturer asked ITT Enidine Inc. for a solution that would protect the sensitive electronics from various road inputs and engine vibrations while exposed to harsh environmental conditions.



Product Solution

ITT Enidine Inc. engineers recommended the use of (WR12 and WR16 Wire Rope Isolators, with load capacities of up to 3,600 lbs, to provide maintenance-free multi-axis shock and vibration isolation. The all-metal, corrosion-resistant design of the ITT Enidine Inc. Wire Rope Isolator is unaffected by chemicals, oils, ozone and abrasives, allowing for reliable product performance on vehicle slide racks. Since the product can operate under a temperature range of -150°F to 500°F (-100°C to 260°C), it is ideal for the harsh outdoor conditions under which electronic signal detection equipment must operate.

Application Opportunity

Mounted in compression on the mobile vehicle, ITT Enidine Inc. Wire Rope Isolators provided exceptional stability and isolation in both vertical and horizontal planes. They easily held the detection equipment in place and provided the necessary equipment protection for optimum signal detection. With this preventative measure, the manufacturer was able to avoid significant repair and replacement costs, while ensuring the quality of its tracking data. Any cellular phone, satellite dish or electronic equipment manufacturer could benefit from ITT Enidine Inc.'s Wire Rope technology.