



VFDs Provide the Control and Energy Savings to Make Ski Resorts Profitable

Ski resorts use tremendous amounts of energy in their day-to-day operations. All ski resorts must transport skiers from the base of a mountain to its peaks or to the start of various slopes or trails. To improve control and reduce the energy costs of lift operations, many resorts are installing variable frequency drives (VFDs).

In regions where natural snowfall is inconsistent or inadequate to ensure good ski conditions, resorts must rely on snowmaking. For most ski resorts, lift and snowmaking operations account for more than 80% of total energy costs.

The Need for Shaft Grounding on VFD-Driven Motors

VFDs can dramatically reduce energy costs, but they can also damage the motors they control. They induce voltages on motor shafts that discharge through the bearings, causing pitting, fluting, and catastrophic motor failure. Without bearing protection, energy savings from the use of VFDs can be quickly wiped out by the exceptionally high cost of repairs, downtime, and lost production.

Proven, Long-Term Bearing Protection

By diverting damaging bearing currents safely to ground, AEGIS® Shaft Grounding Rings ensure the reliable, long-term operation of VFD-driven motor and systems.



Applications:

Lifts

- Chair lifts
- Carpet lifts
- Gondolas
- High-capacity trams
- Poma lifts and T-bar lifts

Snowmaking

- Water pumps
- Base- and peak-load air compressors
- Single- and multi-ring fan systems
- HKD tower system pumps
- Snow inducer delivery pumps

Facilities

- Well and well water holding tank pumps
- Building heating/cooling systems
- Wastewater pumps
- Pumps for off-season attractions





Protecting VFD-Driven Motors In: Ski Resorts

The Problem

Ski resorts must transport large numbers of skiers from the base of one or more mountains to the start of various runs quickly, safely, and efficiently.

VFDs are used to adjust the speed of chair lifts, gondolas, carpets, and high-capacity trams to accommodate varying passenger loads, weather conditions, skier disabilities, personnel shift changes, and emergencies.

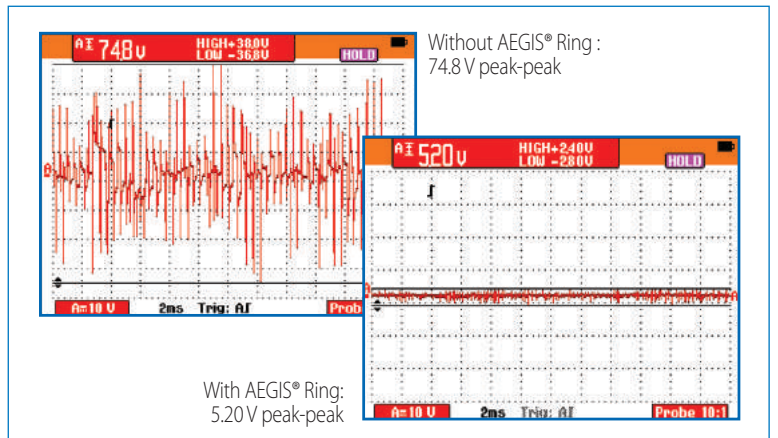
In certain regions, resorts must supplement natural snow with artificial snow. They must also be able to optimize snowmaking operations to slope and weather conditions. VFDs provide a simple, cost effective means of tailoring the mixture of water and compressed air to snowmaking guns to meet these changing demands.

But VFDs can induce harmful voltages on the shafts of the motors they control — voltages that can discharge through motor bearings, damaging them, shutting down snowmaking equipment and ski lifts, and costing resorts tens of thousands of dollars in lost revenue.



The Solution

AEGIS® Rings channel harmful VFD-induced voltages away from bearings and safely to ground, protecting vital lift and snowmaking motors from damage and ski resorts from costly downtime. The protection that AEGIS® Rings provide is especially important for ski resorts with short or unpredictable ski seasons.



AEGIS® Rings are available through: