

## **MagSTAR 3 Magnetometer Station**



The MagSTAR 3 magnetometer station provides a continuous stream of secure, real-time magnetic field measurements for assessment of GIC hazards. It is comprised of two major components: a magnetometer mounted on a concrete pylon, and a fiberglass pole containing electronics and solar power. The MagSTAR 3 is hardened to operate year-round in any area of the continental United States and can transmit data either through a direct wireless link to nearby infrastructure, or through a commercial cellular network. All communications are encrypted.

## **Specifications**

Measurement frequency: 1Hz Timestamp accuracy: +/10mS UTC-GPS Measurement latency: < 2s typical Power: self-contained PV with 102Ah battery system, self charging Operating temperature: sensor and electronics -40C to 65C; solar power system -30C to 60C Wireless link range: 2 miles line-of-site

## **Site Requirements**

The magnetometer instrument is sensitive to electrical noise as well as nearby ferromagnetic materials distorting the field. It is important for the instrument to be located well away from power lines, 100 yards minimum, and from large iron-containing structures such as fences or buildings. Vehicles should not be moving within this radius as well.

The solar power system requires direct sunlight exposure for most of the day, so tree lines and other obstructions should be considered in placement. The solar system and the magnetic sensor can be separated up to 50 yards at an arbitrary orientation. CPI is available for consultation on site selection.













