

## ZEBRA-2 Field Mill

### New Cost Affordable Atmospheric Monitoring and Lightning Warning Device

While the statistical odds of a direct lightning strike are small, the consequences can be catastrophic. Modern technology, manufacturing techniques, and lower prices are combined within the **ZEBRA-2 Field Mill** to eliminate the need to take chances.

Organizations involved with explosives, chemical processes, and sensitive operations including military ordnance and aviation facilities use a zero tolerance approach in response to the danger and consequences posed by the presence of lightning. This policy is possible through an ability to monitor the atmosphere for a change in the local electric fields, an approach that has been proven and refined time and again over the last 15 years through use of systems and sensors designed and produced by The **MISSION INSTRUMENTS COMPANY**.

The simple fact is that without elevated electric fields and a separation of charge, lightning usually will not occur. The **ZEBRA-2 Field Mill** monitors your location - 24 hours/day, 7 days/week - the reported data updated virtually every second. Monitoring the threat against pre-defined thresholds makes it possible to implement timely decisions and to take action such as triggering alarms and notification devices, engaging auxiliary power sources, or isolating sensitive equipment and data, and more.

**Field Mills** are not Lightning Detectors: but rather, are designed to determine when conditions exist where lightning is likely to occur in the local area. While using a "detector" is an ideal method to confirm that lightning HAS already occurred, it is often too late to be of real operational value especially if the first event occurs either nearby or at the place that is most vulnerable.

Designed for applications where budgets are limited the **ZEBRA-2 Mill**, is reliable, compact, and easy to install.

#### Applications:

- DOD / DOE Facilities
- Blasting Operations
- AeroSpace
- Hazardous Materials Management
- Atmospheric Research
- Oil & Gas Storage and Handling Facilities
- Military/Commercial Ordnance & Munitions
- Airport FBO and Ground Operations
- Golf Courses and Swimming Pools
- Crane/Heavy Equipment Operations
- Construction Sites
- Public Events and Outdoor Recreation

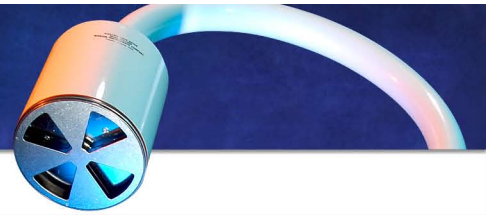


ZEBRA Field Mill

#### Customer List Includes:

- Los Alamos National Lab
- Sandia National Lab
- US Naval Air Warfare Center China Lake
- Weapons Station Pearl Harbor
- US Army National Guard
- Lockheed Martin Aerospace
- Naval Station Pt. Mugu
- Loral Aero Space
- Mass. Institute of Technology
- Westinghouse Savannah River Co.

The ZEBRA-2 is the new replacement for the original ZEBRA. It now includes full polarity-indicating capability with both digital and analog outputs.



# ZEBRA-2 Field Mill

## Technical Specifications

### Operational

Accuracy of field measurement .....  $\pm 5\%$   
 (when e-field > 500 Volts per Meter)  
 Range..... Storm-dependent, 5-mile radius typical  
 Reliability..... 100% notification of field changes  
 False Alarms..... 0% chance of providing false indication  
 of field change in the area  
 Response Time ..... One second  
 Signal Interface..... Analog {and} 8 bit digital standard  
 Range..... 0 to +/- 10kV/m

### Electrical

Power Requirements..15 VDC or 20-30 VDC, 120-240V 50-60Hz adapter included  
 Power Consumption..... 2 Watts  
 Power Protection..... Self-resetting automatic over-current plus  
 Multi-Stage Transient Protection

### Mechanical

#### Motor

Type ..... Brushless - 60,000hours / MTBF  
 Speed..... 1650 RPM

#### Sensor

Weight.....8.5 oz (.25kg)  
 Dimensions ..... height 5.15" (13.0 cm), diameter 3.0" (7.6 cm)  
 Cable Interface.....Cat 5e, Shielded (STP) 4 Twisted Pair

#### Sensor Mount

Weight..... 14.5 oz (.4 kg)  
 Height (Installed)..... 24" (60 cm)  
 Junction Box ..... Screw terminal, wire interface  
 with 1/2" trade size conduit outlet

#### Construction

Material ..... Stainless steel, aluminum, paint and powder coating  
 for corrosion protection

### Environmental

Operating Range ..... -10 to +130 Degrees (F), -23 to 54 Degrees (C)

### Communications

Analog Output ..... 0 -  $\pm 5$  Volt  
 Digital Output ..... RS-232 Streaming, fixed 9600 Baud, ASCII Output

### Mounting Hardware

Stand with junction box and mounting brackets  
 for vertical pipe or flat vertical surface mounting

Cable..... 100 feet (30m) included, can be extended to 300 ft (90m)  
 Can be purchased locally

Indoor User Interface Box with external Power Supply

Cable protective conduit ..... not included

### Accessories / Options Available

Winmills.....Windows based display software  
 Webmills.....Internet / Intranet distribution software

### Contact Information

Sales Inquiries ..... [sales@missioninstruments.com](mailto:sales@missioninstruments.com), 520-721-7242  
 Company Web Site ..... [www.missioninstruments.com](http://www.missioninstruments.com)  
 Warranty.....1 yr. defective parts and/or manufacturing  
 Customer Support..... Ron Binford, 520-721-7242