

## **MAG 2000**

The MAG 2000 is a field-tested solution to your mishandling problems. It provides an indisputable record of how your shipment is handled.



### Save Money. Save Time. Deter Mishandling.

The MAG 2000 impact indicator is a cost-effective, resettable and reusable device designed to monitor the handling of fragile goods and freight containers greater than 500 lbs. The device is also widely used on rail cars and trucking fleets to monitor for excessive impacts during humping or latching.

While MAG 2000 can be used on either a product or the product packaging, it is generally advisable that the MAG 2000 be placed on the product since the impact experienced by the product itself is generally more important than the impact received by the packaging. The placement of the MAG 2000 will affect the selection of the proper sensitivity.

### **Benefits:**

- Acts as a visual deterrent to improper handling
- · Reduces mishandling through awareness
- Provides indisputable evidence of mishandling
- Alerts recipient to inspect contents before acceptance
- Promotes chain of accountability for all product handling
- · Confirms effectiveness of packaging
- Helps identify trouble spots in supply chain, from production to transportation and storage
- Helps increase quality of product from dock to dock









## **MAG 2000**

### **SELECTION GUIDE**

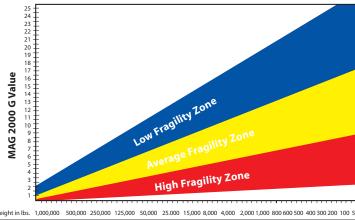
There are two things you need to know to begin selecting a MAG 2000 sensitivity: shipment weight and fragility (Low, Average, or High). The selection guide should always be used as a starting point only. The MAG 2000 that will be best suited to your application will also take into account product packaging.

#### **Low Fragility Zone**

Applicable in situations where both visible and hidden damage is possible and a single extreme impact will cause damage to product.

#### **Average Fragility Zone**

Applicable in situations where there is a moderate degree of stability and survivability built into the product and where a standard mode of transportation is used.



# Weight in kq. 500,000 250,000 130,000 57,000 27,000 13,000 8,800 3,600 1,800 900 450 360 270 225 180 136 90 45 22

### **High Fragility Zone**

Applicable in situations where hidden damage is

the key concern. Typically, these products will be constructed of low-tolerance components, such as data storage drives, optical lenses, or any other products that require precise alignment.

The MAG 2000 is available in three different response orientations: HH, VV, and VH. HH is used to sense horizontal impacts and is mounted to a horizontal surface. VV is used to sense vertical impacts and is mounted to a vertical surface. VH is used to sense horizontal impacts but is mounted to a vertical surface.

Key Specifications		
Sensitivity range	0.5 - 20G	
Impact duration	0.5 - 50ms	
Tolerance	±10% at 20°C / 68°F, 1 ATM	
Operating temperature	-20°C to 60°C / -4°F to 140°F	
Weight (varies by sensitivity)	~31.31g	
Dimensions	2.5in x 2.4in x 0.79in / 63.50mm x 60.96mm x 20mm	
Security	Tamper-resistant, Resettable	
Adhesive	Acrylic	
Adhesive shelf life	2 years when stored at 20°C / 68°F, 1 ATM	
Storage recommendations	20°C / 68°F, 1 ATM, 0 - 99% RH Non-condensing	

Product Description	Part Number*	
MAG 2000 - Single Unit	M21-xG	
MAG 2000 - Single Unit with Adhesive Backing	M21A-xG	
MAG 2000 - Single Unit with Bracket	M22-xG	
MAG 2000 - Single Unit with Bracket & Adhesive Foam Tape Backing	M22A-xG	
MAG 2000 - Two Units with Bracket & Adhesive Foam Tape Backing (Specify the G levels at time of order)	M23A	
*"x" is the G value desired; 0.5G to 20G Minimum order quantity: 5		

SHOCKWATCH®

www.spotsee.io Rev: 6/2018

## **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## SpotSee:

M21A-3G-VH M21A-3G-VV M21A-5G-HH M21A-5G-VH M21A-5G-VV