

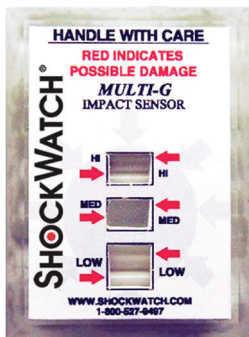
ShockWatch® Impact Indicators for Products

ShockWatch provides a variety of impact indicators for products to determine accurately if mishandling was damaging to your product.



Impact Indicators for Products

ShockWatch impact indicators are highly visible, mechanically-activated devices that turn bright red when an impact occurs. The ShockWatch tube can be incorporated directly into a product's design. The ShockWatch Clips and Multi-G provide the tube in a convenient housing for adhering the impact sensor directly to a product, while the Flex gives you the ability to mount the indicator to products with a more complicated shape. These solutions are ideal when you need to know if product mishandling may have resulted in misalignment, loss of product calibration, or warranty-related repair issues.



Clips: Single and Double

The ShockWatch Clip is a highly visible impact indicator that alerts you if your product has been subjected to unacceptable handling. The single Clip has one tube and will provide nearly 360 degrees of detection. The double Clip has two tubes and gives a full 360 degrees of detection. Clips may be embedded or attached to the exterior of products.

Flex: Single and Double

The Flex, a flexible variation of the Clip, can be mounted easily to curved and irregular shapes, ensuring the indicator will remain in place.

Multi-G Clips

An impact diagnostic tool for packaging engineers, distribution analysts, product designers, and manufacturing engineers. The Multi-G incorporates three sensitivity levels into a single unit to indicate a low, medium, and high impact. It can be used to determine package sensitivity during drop testing.

Benefits

- Provides indisputable evidence of mishandling
- Acts as a visual deterrent to improper handling
- Promotes chain of accountability for all product handling
- Confirms effectiveness of packaging

Selection

Selection of a Clip, Flex, or Multi-G solution begins with understanding the product to be monitored. To select the proper activation levels, determine if shock specifications exist for the product to be monitored. Most complex electromechanical products have been through extensive testing to establish shock damage boundary data. When this information is available, simply select the corresponding sensitivity. Activation graphs are available to best match the damage boundary of your product to the most suitable Clip, Flex, or Multi-G. If shock specifications do not exist for the product to be monitored, contact ShockWatch for assistance with selecting a solution.

The ShockWatch Clip and Flex are available in single or double tube configurations. The following sensitivities are available: 10G, 15G, 25G, 37.5G, 50G, 75G, and 100G. The standard Multi-G Clip houses the following 3 tube sensitivities: 25G, 50G and 75G.

Additionally, Clips are available in standard and mini form factors.

Clip and Flex Minimum Order Quantity: 100

Multi-G Minimum Order Quantity: 12

Key Specifications

Sensitivity range	10 - 100G
Impact duration	0.5 - 50ms
Tolerance	±15% at 20°C / 68°F, 1 ATM
Operating temperature	-25°C to 80°C / -13°F to 176°F
Adhesive	Acrylic
Product 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

Dimensions

Clip	Double Clip	Mini Clip & Double Mini Clip	Flex Single	Flex Double	Multi-G
1.84in x 1.14in 46.7mm x 28.95mm	1.95in x 1.11in 49.5mm x 28.1mm	1.41in x 0.51in 35.8mm x 13mm	1.28in x 0.9in 32.5mm x 22.9mm	1.28in x 1.04in 32.5mm x 26.4mm	1.38in x 1.89in 35mm x 48mm

Weights (varies by sensitivity)

~1.02g	~1.83g	Mini: ~0.38g Double Mini: ~0.36g	~0.19g	~0.28g	~6.09g
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ShockWatch can help you set up a damage reduction program tailored to your unique circumstances. For more information, please contact your ShockWatch representative.