

SAFEGUARDING YOUR SHIPMENTS: A DATA-DRIVEN APPROACH

MINIMIZING TRANSPORT DAMAGE IN E-COMMERCE



E-commerce is booming, but so are the risks of transport damage. With online orders exceeding \$4.5 trillion globally and rising 20% annually, damage-related returns are a significant concern for mail order companies. During transport, goods can be damaged by shock and impact or by fluctuations in temperature, pressure, or humidity. In Germany alone, nearly one-third of deliveries are rejected due to damage or delays, with two-thirds of those caused by shocks. This presents a critical challenge: how to ensure goods reach customers safely while minimizing costly returns and liability disputes.

PROACTIVE DAMAGE PREVENTION: A KEY STRATEGY

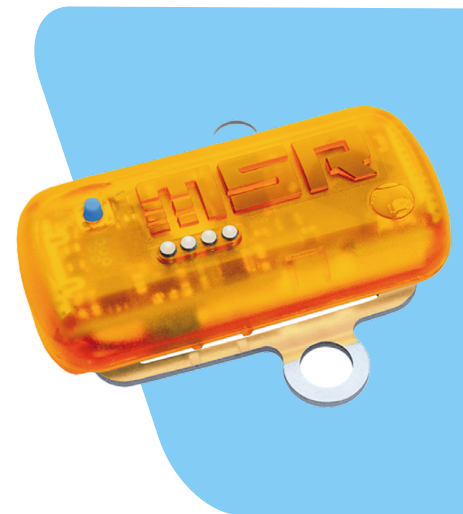
While preventing damage is paramount, it's equally crucial to pinpoint the cause when it occurs. This is where data-driven solutions come into play. By understanding the specific conditions that lead to damage during transport, businesses can:

- **Optimize Packaging:** Develop robust and cost-effective packaging solutions through rigorous testing.
- **Identify Problematic Carriers:** Pinpoint logistics providers that consistently expose goods to excessive shock and vibration.
- **Reduce Returns and Liability Claims:** Minimize customer dissatisfaction and avoid costly disputes.

INTRODUCING THE MSR175 TRANSPORT DATA LOGGER

The [MSR175](#) is a compact and powerful tool for monitoring and analyzing transport conditions. These data loggers can be used in test packages to discreetly record key parameters, including:

- **Shock and Vibration:** Two, 3-axis acceleration sensors (± 15 g and ± 200 g) sample at up to 6,400 Hz to capture shock, vibration, and impacts with high precision, with memory to store up to 1000 events, identifying impacts and jolts that can damage goods.
- **Temperature:** Monitors temperature from -20° to $+65^{\circ}$ C that can affect sensitive products.
- **Humidity:** Measures humidity levels, crucial for protecting goods susceptible to moisture damage.
- **Pressure:** Records changes in atmospheric pressure, which can impact certain types of cargo.



HOW IT WORKS:

Simply configure the MSR175 for the parameters of interest using the MSR dashboard software and place it within the test package during shipment. The logger continuously records data throughout the journey. After the shipment, download the recorded data easily via USB and analyze it using the user-friendly MSR Report Generator to create summary reports and [ShockViewer](#) software for detailed analysis.

BENEFITS

By leveraging the power of data captured by the MSR175, mail order businesses can identify and mitigate risk factors to minimize product damage. This leads to

improved customer satisfaction through safe and on-time deliveries, enhancing customer trust and loyalty. Using the MSR175, businesses can gain valuable insights into the transportation process and improve their overall logistics efficiency. Furthermore, the data from the MSR175 can help to reduce returns, minimize liability claims, and optimize packaging costs. By utilizing the power of data with the MSR175, mail order businesses can proactively address transport damage, enhance customer satisfaction, and achieve significant cost savings.

This application note is based on an article by MSR Electronics GmbH, the manufacturer of MSR transport data loggers. These compact devices feature a large memory and are designed to handle a wide range of measurement tasks, making them an ideal solution for logistics applications.

For more information on the [MSR175 Transport Data Logger](#), or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or www.DataLoggerInc.com.