

MSR 175Pro: Robust Shock Data Logger for Transformer and Heavy-Duty Transport



The MSR175Pro monitors mechanical shock and impact loads as well as climatic conditions in demanding transformer and heavy-duty transport applications. Objective measurement data supports reliable damage assessment and fact-based liability determination.

Key features of the MSR 175Pro

- **Acceleration measurement for highly dynamic shock events**
Reliable recording of short-term impact loads.
- **Flexible measurement configuration**
Selectable measurement and storage rates as well as multiple shock measurement modes.
- **Signal processing for precise evaluation**
Anti-aliasing, decimation and high-pass filters for separating relevant shock events from static loads.
- **Event storage depending on measurement mode:**
 - ring buffer for up to 1,000 shock events
 - non-overwriteable additional memory

Technical data on the MSR 175Pro data logger

Medium:	Air
Memory capacity:	Over 2 million measured values
Shock events:	1,000 in ring buffer + 1,000 in additional memory
Push button:	Start measurement/retrieve status
Housing:	PC, encapsulated, IP65
Size & Weight:	49 x 39 x 122 mm (B x H x L), approx. 180 g
Acceleration sensor:	3-axis acceleration sensor, integrated into the housing
Working range:	±10 g, ±20 g or ±40 g (selectable)
Accuracy:	Non-linearity (typical): 0.1% at ±10 g; 1.3% at ±40 g)
Measurement and storage rate:	4 Hz, 8 Hz, 16 Hz, 31 Hz, 62 Hz, 125 Hz, 250 Hz, 500 Hz, 1000 Hz, 2000 Hz, 4000 Hz (selectable)
Shock modes:	Multiple
Filters:	Anti-aliasing filter, decimation filter, high-pass filter (removal of gravitational acceleration)
Power supply:	Replaceable Li-SOCl ₂ battery (SAFT LSH 14, 3.6 V, 5.8 Ah), battery life at least 2 years
PC software package:	MSR 175 Dashboard, MSR ReportGenerator MSR ShockViewer (basic version)
Interface:	USB
Operating conditions:	Temperature -20...+65 °C
Storage conditions:	<ul style="list-style-type: none"> • +5 °C...+45 °C (ideal storage conditions for battery) • 10...95% relative humidity, non-condensing




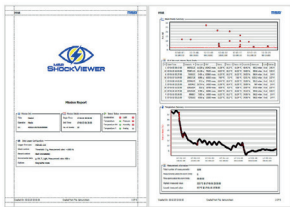
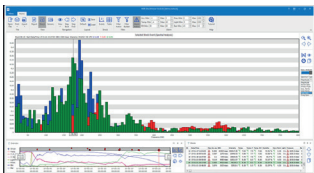
Sensors

The MSR175Pro data logger comes standard with a 3-axis acceleration sensor (selectable measuring ranges ± 10 g, ± 20 g or ± 40 g) and a temperature sensor. A MSR175Pro model with an internal humidity, pressure and light sensor is available as an option.

Measured parameters	Working range	Accuracy	Measurement/storage rate
Temperature	-20...+65 °C	± 0.5 °C (-10...+65 °C)	10 min / 30 min
Relative humidity	0...100% relative humidity -20...+65 °C	$\pm 2\%$ relative humidity (10...85%, 0...+40 °C) $\pm 4\%$ relative humidity (85...95%, 0...+40 °C)	10 min / 30 min
Air pressure	0...2000 mbar absolut (-20...+65 °C)	± 2.5 mbar (750...1100 mbar absolute, +25 °C)	10 min / 30 min
Light	0...83,000 lx	max. sensitivity at 550 nm	10 min / 30 min
Position	To determine the position, the static acceleration is measured and stored every 10 min / 30 min in all 3 axes.		

Software package for the MSR 175 product family (including MSR175Pro)

The MSR 175 software package includes several programmes for commissioning, evaluating and analysing the measurement data recorded by the MSR175 family of data logger. It enables efficient configuration, clear presentation and structured evaluation and documentation of measurement data.

MSR 175 software package	
	Dashboard software for easy commissioning of the data logger.
	MSR ReportGenerator for automatic report creation.
	Extensive evaluation and display options with the MSR ShockViewer.



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