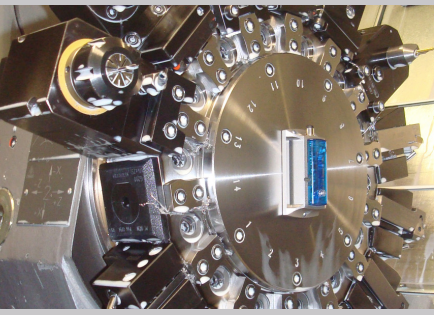
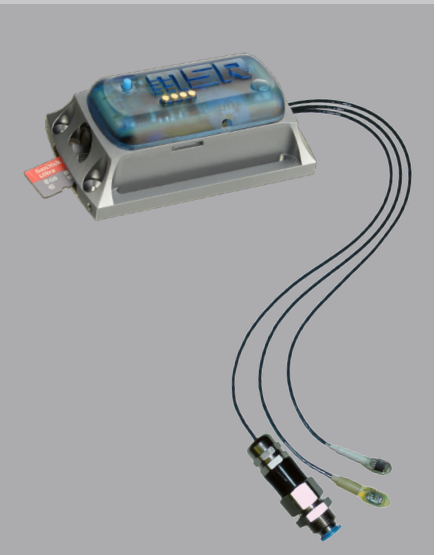
universal data loggers

Swiss made





MSR 165 with external sensors

MSR 165
Data Logger for Shock and Vibration

The data logger, which is equipped with a high resolution 3-axis acceleration sensor (±15 g or ±200 g), supplies valuable measured data about shocks, jolts and vibrations. With its measurement frequency of 1600/s, high-capacity memory and low power requirements, the MSR 165 is ideal for applications in the fields of transportation monitoring, fault diagnoses and load tests.

The memory capacity of over two million stored measured values is sufficient for recording 10,000+ shocks; it can be extended to more than 1 billion measured values by using a microSD card. The measured data can be quickly transferred to a computer via the USB port or microSD card. The MSR PC software allows you to efficiently record and process the measured data.

NEW: For extensive analysis and graphical representation of the data recorded in shock mode and to automatically create reports, the new **MSR ShockViewer** analysis software, which is specifically tailored to the requirements of transportation monitoring, is at your disposal.

Technical data

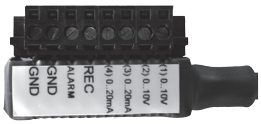
Housing:	Anodised aluminium case, PC, encapsulated, waterproof (IP67)
Size & weight:	39 x 23 x 72 mm, approx. 69 g
Medium:	Air, various liquids
Memory capacity:	Over 2m measurement values, expandable to > 1bn
Colour:	Blue, anthracite
Key:	Set bookmark or start and stop recording
Integrated sensor:	3-axis digital accelerometer (13 Bit resolution)
Working range:	±15 g or ±200 g, -20...+65 °C
Accuracy:	**±15 g sensor:** ±0.15 g (0...5 g, +25 °C), ±0.3 g (5...15 g, +25 °C), **±200 g sensor:** ±2 g (0...15 g, +25 °C), ±5 g (15...100 g, +25 °C), ±10 g (100...200 g, +25 °C)
Measurement / storage rate:	Up to 1600/s (±15%)
Power supply:	Lithium-polymer battery (1000 mAh), rechargeable via USB connection, recording period up to 6 months or replaceable batteries (Li-$SOCl_2$, 3.6 V, 2 x 5800 mAh), for recordings up to 5 years
PC software:	Free Setup, Reader, Viewer- & Online software (Windows XP/Vista/7/8/10)
Interface:	USB
Operating conditions: **Storage conditions:**	Temperature -20…+65 °C • Temperature +5…+45° C (ideal storage condition for the battery) • 10…95 % relative humidity, non-condensing
Standards:	The MSR 165 complies with EU-Directives RoHS/WEEE

Measurement parameters for the additional sensors (internal and external)

In addition to 3-axis acceleration you can also simultaneously measure temperature, humidity, pressure and/or light using the MSR 165 data logger. There is a choice between internal and external sensors for these additional measurement parameters. The external sensors are available with cable lengths of 0.20 m, 1.0 m and 1.6 m.

Measured parameters	Working range	Accuracy	Measurement/ storage rate
Temperature	int.: -20…+65 °C	±0.5 °C (-10…+65 °C)	1 /s to every 12 h
	ext.: -55…+125 °C	±0.5 °C (-10…+65 °C) ±2 °C (-55…+125 °C)	
Relative humidity with integrated temperature	0…100 % rel. humidity int. -20…+65 °C ext. -20…+85 °C	±2 % rel. humidity (10…85 %, 0…+40 °C) ±4 % rel. humidity (85…95 %, 0…+40 °C)	1 /s to every 12 h
Air pressure absolute, with integrated temperature	0…2000 mbar absolute int. -20…+65 °C ext. -20…+85 °C	±2.5 mbar (750…1100 mbar absolute, +25 °C)	1 /s to every 12 h
	0…14 bar absolute -20…+65 °C	±50 mbar (1…10 bar absolute, +25 °C)	
Light	0…65 000 lx	max. sensitivity at 500 nm	1 /s to every 12 h

Additional analogue inputs for connecting third-party sensors

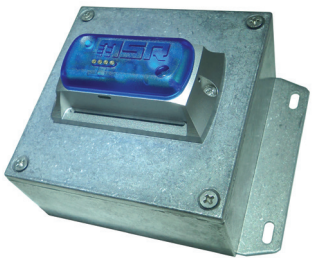
MSR 165 Analogue	Inputs
Inc. alarm output and input for starting and stopping data recording.  Light sensor not available, 2 external sensors possible.	**4 analogue inputs** with freely selectable input configuration: 0…20 mA; 4…20 mA; 0…3.0V; 0.5…4.5 V; 0…5.0V; 1.0…6.0V; 0…10.0V; 0…12.0 V; 0…24.0 V, 0…36,0 V; 0…48,0 V **Measurement/storage rate:** 1 /s (or 1000 /s if the acceleration measurement rate is less than 1 /s) up to every 12 h **Resolution:** 12 Bit

Expanding the memory capacity

On request the MSR 165 can be supplied with an interface for plugging in a standard microSD card (one ≥4 GB microSD card is included). The microSD card increases the memory of the MSR 165 to over 1 billion and can be replaced during operation. Please note that this expansion slot with plugged-in microSD-card only meets the protection category IP60.

Additional long-term power supply

For a longer recording period of up to five years, the MSR 165 can be equipped with replaceable batteries (3.6 V, 2 x 5800 mAh, Li-$SOCl_2$). The batteries are stored in a splashproof cast aluminium case (122 x 92 x 70 mm, approx. 530 g).



Contact us!
We would be pleased to provide you with prices and delivery terms!

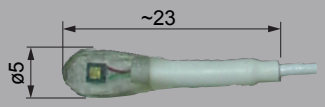
MSR SHOCKVIEWER®

Options:

External temperature sensor

External humidity sensor

External air pressure sensor



External light sensor

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