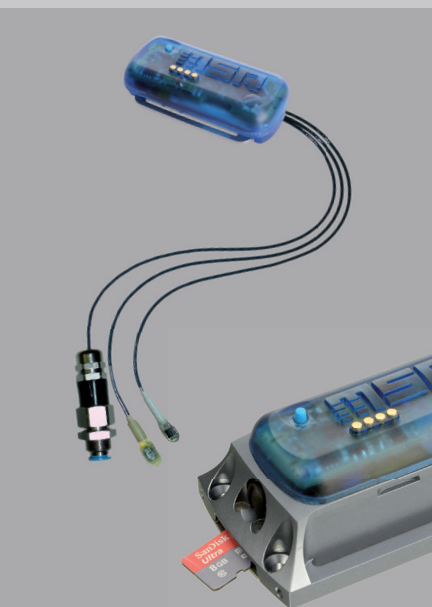


# MSR 145

## Revolutionary Mini Data Logger



MSR 145  
with microSD card






The prize-winning MSR145 is the world's first miniaturised data logger to have integrated temperature, humidity, pressure, light and 3-axis acceleration sensors. An additional two or four analogue inputs are provided for connecting external sensors. This tiny multitalent stores up to 2 000 000 measured values – with an optional microSD card even over a billion measured values – and is also available as a sealed watertight version. Freely selectable measurement rates of up to 50 values per second guarantee uninterrupted documentation of rapid processes. For long-term measurements, the MSR 145 data logger has been fitted with a 900 mAh lithium polymer battery allowing you to easily record measured values over a period of up to two years.

The housing, the battery and measurement parameters, together with the type and number of sensors (internal and external) can be configured individually.

### General technical data

<b>Memory capacity:</b>	Over 2000000 measured values – expandable to over 1bn measured values with optional microSD card.
<b>Push-button:</b>	Set bookmark or start and stop recording.
<b>LED:</b>	<ul style="list-style-type: none"> <li>blue: Record indicator</li> <li>red: Alarm indicator</li> <li>yellow: Battery change indicator</li> </ul>
<b>Power supply:</b>	<ul style="list-style-type: none"> <li>• Lithium-polymer battery, 260 mAh or 900 mAh.</li> <li>• The battery is charged via the USB connection.</li> </ul>
<b>Options:</b>	Charging station (USB hub) for 7 MSR 145
<b>Interface:</b>	USB
<b>PC software:</b>	Free Setup, Reader, Viewer and Online software (Windows XP / Vista / 7 / 8 / 10) to record and evaluate data. All measured values can be rapidly transferred to a PC via USB connection both during the measurement operation and once the measurement task has been completed. Thanks to the integrated clock (RTC), data from as many MSR145 units as required can be synchronised and merged into a single data record.
<b>Operating conditions:</b>	<ul style="list-style-type: none"> <li>• Temperature -20...+65 °C</li> </ul>
<b>Storage conditions:</b>	<ul style="list-style-type: none"> <li>• Temperature +5...+45 °C (ideal storage conditions for the battery)</li> <li>• 10...95% relative humidity, non-condensing</li> </ul>
<b>Standards:</b>	The MSR145 complies with EU-Directives RoHS / WEEE.

## Housing and battery selection


Housing	Sheet material battery capacity	Picture	Size & weight (W x H x L)	Medium
Standard IP 60	PC housing 260 mAh		27 x 16 x 53 mm approx. 20 g	Air
	PC housing 900 mAh		39 x 23 x 72 mm approx. 56 g	
Waterproof IP 67	Silicon tube 260 mAh		18 x 14 x 62 mm approx. 18 g	Air, various liquids
	PC housing 260 mAh		27 x 16 x 53 mm approx. 27 g	
	PC housing 900 mAh		39 x 23 x 72 mm approx. 64 g	

## Selection of Sensors

Make an individual assembly of your MSR145 data logger and select the requested internal and external sensors (cable length 0.20 m, 1.0 m, 1.6 m).

Measured parameters	Working range	Accuracy	Measurement/ storage rate
Temperature	ext.: -10...+58°C	±0.1°C (+5...+45°C) ±0.2°C (-10...+58°C)	1/s to every 12h
	ext.: -55...+125°C	±0.5°C (-10...+65°C) ±2°C (-55...+125°C)	
	int.: -20...+65°C	±0.5°C (-10...+65°C) ±2°C (-55...+125°C)	
	ext.: 1 or 4 connectors for K-type thermo- couples (excluding sensor) -250...+1200°C		
Relative humidity with integrated temperature	0...100% rel. humidity ext. -20...+85°C int. -20...+65°C	±2% rel. humidity (10...85%, 0...+40°C) ±4% rel. humidity (85...95%, 0...+40°C)	1/s to every 12h
Air pressure absolute, with integrated temperature	0...2000 mbar absolute ext. -20...+85°C int. -20...+65°C	±2.5 mbar (750...1100 mbar absolute, +25°C)	10/s to every 12h
	0...14 bar absolute -20...+65°C	±50 mbar (1...10 bar absolute, +25°C)	
Fluid pressure (external sensor) Material in contact with media: • Stainless Steel AISI 316L (DIN1.4404/1.4435) • O-Rings: Viton® 70° Shore	0...3000 mbar absolute -20...+85°C	±30 mbar	20/s to every 12h
	0...30 bar absolute -20...+85°C	±300 mbar	
3-axis-accelera- tion opt. fast peak (1 kHz)	±15g -20...+65°C	±0.15g (0...5g, +25°C) ±0.25g (5...10g, +25°C) ±0.45g (10...15g, +25°C)	50/s to every 12h
Light	0...65'000 lx	max. sensitivity at 500 nm	1/s to every 12h

## Additional analogue inputs for connecting third-party sensors

Analogue Inputs	Technical data
Including alarm output and input for starting and stopping data recording. 	<b>2 or 4 analogue inputs</b> with freely selectable input configuration: 0...20 mA; 4...20 mA; 0...3.0 V; 0.5...4.5 V; 0...5.0 V; 1.0...6.0 V; 0...10.0 V; 0...12.0 V; 0...24.0 V; <b>Resolution:</b> 12 Bit <b>Measurement/storage rate:</b> 50/s up to one sample every 12 h

Please contact us for prices and terms of delivery.



universal data loggers



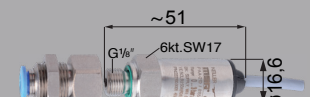
External temperature sensor



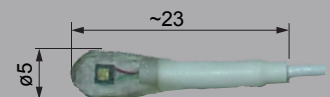
Connector for  
thermocouples



External humidity sensor



External fluid pressure sensor



External light sensor

**MSR Electronics GmbH**  
Mettlenstrasse 6  
CH-8472 Seuzach  
Switzerland

Tel. +41 52 316 25 55  
Fax +41 52 316 35 21  
info@msr.ch  
www.msr.ch

