

# MSR 145: Mini Data Logger for Temperature, Humidity, Pressure, Light, Acceleration



This thumb-sized MSR 145 data logger is capable of simultaneously measuring and recording a variety of measures such as temperature, humidity, pressure, 3-axis acceleration and light.

With the MSR 145 you can choose between **different housings, battery capacities, sensors and connections**. Freely selectable measuring rates of up to 50 measurements per second guarantee complete documentation of fast processes. Depending on the measurement rate setting and the choice of battery, the MSR 145 can record data for up to two years.

All measured values can be quickly transferred to a computer via USB interface for data analysis. The user-friendly MSR PC software for data acquisition and analysis is included free of charge with your MSR 145 data logger.

MSR 145 data loggers are «**Air Cargo Approved**» and thus comply with air cargo security requirements.






## General technical data

<b>Memory capacity:</b>	Over 2 000 000 measured values – expandable to over 1bn measured values with optional microSD card.
<b>Measurement/storage rate</b>	Detailed information can be found at <a href="http://www.msr.ch">www.msr.ch</a>
<b>Push-button:</b>	Set bookmark or start and stop recording.
<b>LED:</b>	Blue: Record indicator Red: Alarm indicator Yellow: Battery change indicator
<b>Power supply:</b>	<ul style="list-style-type: none"> <li>Lithium-polymer battery, 230 mAh or 1000 mAh.</li> <li>The battery is charged via the USB connection.</li> </ul>
<b>Sensors:</b>	You can select different internal sensors and up to five external sensors or connections.
<b>Interface:</b>	USB
<b>PC software:</b>	Free MSR PC software for configuration and evaluation of the data. PC requirements: Windows 7 or higher.
<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 MSR 145 complies with EU-Directives RoHS/WEEE.



MSR 145  
with microSD card

## Housing and battery selection

Housing	Sheet material battery capacity	Picture	Size & weight (W x H x L)	Medium
Standard IP 60	PC housing 230 mAh		27 x 16 x 53 mm approx. 20 g	Air
	PC housing 1000 mAh		39 x 23 x 72 mm approx. 56 g	
Waterproof IP 67	Silicon tube 230 mAh		20 x 14 x 62 mm approx. 18 g	Air, various liquids
	PC housing 230 mAh		27 x 16 x 53 mm approx. 27 g	
	PC housing 1000 mAh		39 x 23 x 72 mm approx. 64 g	

## Selection of sensors

Make an individual assembly of your MSR 145 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 (max. deviation)
<b>Temperature</b>	ext.: -55...+125 °C	±0.5 °C (-10...+65 °C) ±2 °C (-55...+125 °C)
	ext.: -40...+125 °C int.: -20...+65 °C	±0.2 °C (-10...+50 °C) ±1 °C (-40...+125 °C)
<b>Connector for thermal element of type K (without sensor)</b>	-200...+1350 °C	
<b>Relative humidity</b> with integrated temperatuer	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)
<b>Air pressure</b> absolute, with integrated temperature	10...2000 mbar absolute ext.: -40...+85 °C int.: -20...+65 °C	±2 mbar (1 % FS) (750...1100 mbar absolute, +25 °C)
	0...14 bar absolute -20...+65 °C	±50 mbar (1 % FS) (1...10 bar abs., +25 °C)
<b>Fluid pressure</b> with integrated temperature  Material in contact with media: • Stainless Steel AISI 316L (DIN1.4404/1.4435) • O-Rings: Viton® 70° Shore	-1000...3000 mbar relative -20...+85 °C	±30 mbar (1 % FS)
	0...3000 mbar absolute -20...+85 °C	±30 mbar (1 % FS)
	0...30 bar absolute -20...+85 °C	±0.3 bar (1 % FS)
	0...400 bar absolute -20...+85 °C	±4 bar (1 % FS)
<b>3-axis-acceleration</b> opt. Fast Peak (1 kHz)	0...1000 bar absolute -20...+85 °C	±10 bar (1 % FS)
	±15g -20...+65 °C	±0.15g (0...5g, +25 °C) ±0.25g (5...10g, +25 °C) ±0.45g (10...15g, +25 °C)
<b>Light</b>	0...65'000 lx	max. sensitivity at 500 nm
<b>Connection for strain gauges</b>	full bridge • rated output 1mV/V • bridge voltage 3V	
<b>Analogue inputs</b> Resolution: 12 bit	<b>4 analogue inputs</b> with freely selectable input configura- tion: 0...20 mA; 4...20 mA, 0...3.0V; 0...5.0V; 0...10.0V; 0...12.0V; 0...24.0V; 0...36.0V; 0...48.0V	
<b>Control terminal</b>	alarm output • input for starting and stopping data recor- ding • 3V voltage output	



universal data loggers



External temperature sensor



Connector for  
thermocouples



External humidity sensor



External fluid pressure sensor



External light sensor



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Please contact us for prices and terms of delivery.