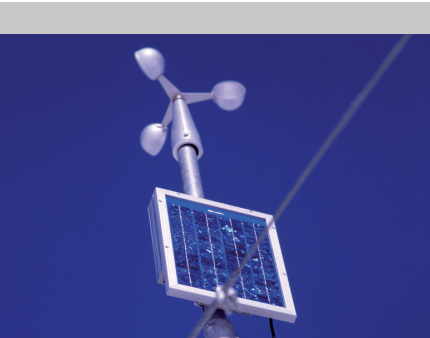


# MSR 160 mini Data Logger with 4 analogue inputs and microSD card



MSR 160 with  
screw terminal

Four analogue inputs, a high measurement rate and its gigantic memory capacity, all packed into a small format are the key characteristics of the new MSR 160 data logger. The analogue inputs of the robust mini logger can be used for conventional sensors with analogue outputs (e.g. CO<sub>2</sub>, conductivity, pH etc). In addition, a multiple output switching power supply is also provided.

This highly versatile data logger has a measurement rate of up to 1000/s. The analogue measuring instrument can be optionally fitted with additional internal or external temperature, humidity and pressure sensors. With the optional microSD card over one billion measurement parameters can be recorded and saved using the MSR 160. The lightweight device (approx. 80g) has an anodised aluminium case and a 900 mAh rechargeable lithium polymer battery. All saved data can be rapidly transferred to a PC or laptop via the USB interface. The user-friendly data acquisition and analysis software is supplied free along with the data logger.

## Basic specification and technical data

<b>Analogue inputs:</b>	4 analogue inputs with freely selectable input configuration: 0...20 mA; 4...20 mA; 0...3.0V; 0.5...4.5V; 0...5.0V; 1.0...6.0V; 0...10.0V; 0...12.0V; 0...24.0V Resolution: 12 Bit
<b>Measurement/Storage rate:</b>	1000/s to every 12 h
<b>Housing:</b>	Anodised aluminium case, PC, encapsulated waterproof (IP67), in blue, anthracite
<b>Size &amp; weight:</b>	39x23x72 mm, approx. 80g
<b>Key:</b>	Configurable pushbutton functions
<b>Memory capacity:</b>	Over 2000 000 measurement parameters – expandable to over 1bn measurement parameters with optional microSD card.
<b>Power supply:</b>	<ul style="list-style-type: none"> <li>• Rechargeable lithium polymer battery 900 mAh</li> <li>• The battery is charged via the USB connection</li> </ul>
<b>Interface:</b>	USB
<b>PC software:</b>	Free Setup, Reader, Viewer and Online software (Windows XP / Vista / 7 / 8 / 10) for data acquisition and analysis.
<b>Operating conditions: Lagerbedingungen:</b>	<ul style="list-style-type: none"> <li>• Temperature -20...+65 °C</li> <li>• Temperature +5...+45 °C (ideal storage condition for the battery)</li> <li>• 10...95% relative humidity, non-condensing</li> </ul>
<b>Standards:</b>	The MSR 160 complies with EU-Directives RoHS/WEEE.

### Measurement parameters of the available sensors (internal and external)

You can specify your MSR 160 with up to four different internal sensors: the options are temperature, humidity, pressure and attitude. If required you can also connect external sensors in place of the internal ones (temperature, humidity or pressure) with the following cable lengths: 0.15 m, 0.4 m, 1.0 m, and 1.6 m (maximum 2 pcs.).

Measured parameters	Working range	Accuracy	Measurement/storage rate
<b>Temperature</b>	int.: -20...+65 °C	±0.5 °C (-10...+65 °C)	1/s to every 12h
	ext.: -55...+125 °C	±0.5 °C (-10...+65 °C) ±2 °C (-55...+125 °C)	
<b>Relative humidity</b> with integrated temperature	0...100% rel. humidity -20...+65 °C	±2% rel. humidity (10...85%, 0...+40 °C) ±4% rel. humidity (85...95%, 0...+40 °C)	1/s to every 12h
<b>Air pressure</b> absolute, with integrated temperature	0...2000 mbar absolute -20...+65 °C	±2.5 mbar (750...1100 mbar absolute, +25 °C)	1/s to every 12h
	optional: 0...14 bar absolute -20...+65 °C	±50 mbar (1...10 bar absolute, +25 °C)	1/s to every 12h
<b>3-axis-acceleration</b> (Position)	±15g -20...+65 °C	±0.15g (+25 °C)	1/s to every 12h

### Expanding the memory capacity with a microSD memory card

On request the MSR160 can be supplied with an interface for plugging in a standard microSD card (one ≥4GB microSD card is included). The microSD card increases the memory of the MSR160 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.



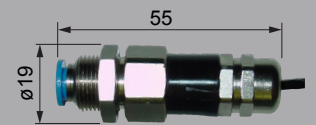
### Options:



External temperature sensor



External humidity sensor



External air pressure sensor



Screw terminal

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