MSR 165 Universal Data Logger

The highest performance in the smallest space! The robust MSR 165 datalogger is capable of making 1600 acceleration (shock, vibrations) measurements per second in all three axes. Shock monitoring is possible up to ±15g. 32 measurement values are recorded even before the event. This waterproof datalogger has extremely low power requirements due to its high-performance 3-axis accelerometer (150 microamperes, 13-bit resolution). Thanks to its rechargeable 900mAh lithium-polymer battery the unit can record shock measurements over a period of 6 months.

The installed memory is capable of storing over two million measurement parameters which is sufficient for over 10,000 shocks. Using an SD card (>4 GS) the memory capacity can also be significantly increased which is particularly useful for recording vibration measurements. All saved measurements can be quickly transferred to a PC or laptop via the USB interface.

The basic specification of the MSR 165 includes a high resolution 3-axis acceleration sensor. In addition you can also record temperature, humidity, pressure and light and four analogue input signals.

**Basic specification and technical data for the MSR 165**

**Housing:** Anodised aluminium case, PC, not encapsulated, Waterproof (IP67)

**Size & weight:** 39 x 23 x 72 mm, approx 69g

**Medium:** Air, various liquids

**Memory capacity:** Over 2 000 000 measurement parameters, 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:** ±15g, -20°C to +65°C

**Accuracy:** ±0.15g (+25°C)

**Measurement/storage Rate:** up to 1600/s (±15%)

**Power supply:**
- Rechargeable lithium polymer battery 900 mAh
- The battery is charged via the USB connection
- At a measurement rate of 1600/s up to once every 12 h, 3-axis acceleration data can be recorded over a period of six months

**PC software:** Free Setup, Reader, Viewer & On-line software (Windows 2000/XP/Vista/7)

**Interface:** USB

**Operating conditions:** Temperature -20°C to +65°C

**Storage conditions:**
- Temperature +5°C to +45°C (ideal storage condition for the battery)
- 10-95% relative humidity, non-condensing

**Standard:** The MSR 165 complies with EU-Directive RoHS/WEEE

* Figures apply to MSR 145S
** based on 1 minute storage rate
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 datalogger. There is a choice between internal and external sensors for these additional measurement parameters. The external sensors are available with cable lengths of 0.15m, 0.40m, 1.00m and 1.60m.

**Working range:**
- Temperature: -20°C to +65°C
- Relative Humidity: 0-100% relative humidity, -20°C to +65°C
- Air Pressure: 0-2000 mbar absolute, -20°C to +65°C
- Light: 0-65000lx

**Accuracy:**
- Temperature: ±0.5°C (-10°C to +65°C)
- Options with external sensor: ±2°C (-55°C to +125°C)
- Relative Humidity: ±2% relative humidity (10-85% rel. humidity, 0°C to 40°C)
  - (with integrated temp.) ±4% rel. humidity (85-95% relative humidity 0°C to 40°C)
- Air Pressure: ±2.5 mbar (750-1100 mbar absolute, +25°C)
- Optional: ±50 mbar (1-10 bar absolute, +25°C)
- Light: max. sensitivity at 500nm

**Measurement/Storage rate:**
- Temperature and Relative Humidity: 1/s to every 12 h
- Air Pressure: 1/s to every 12 h
- Light: 1/s to every 12 h

Additional analogue inputs for connecting third-party sensors

Should you wish to connect additional third-party sensors to your MSR 165 datalogger you can order four analogue inputs.

<table>
<thead>
<tr>
<th>MSR 165Analogue</th>
<th>Inputs</th>
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<tbody>
<tr>
<td>Inc. alarm output and input for starting and stopping data recording</td>
<td>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</td>
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<tr>
<td>Resolution: 12 Bit (max. 2 external sensors possible, light sensor not available)</td>
<td>Measurement/storage rate: 1/s (or 1000/s if the acceleration measurement rate is less than 1/s) up to every 12h.</td>
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Expanding the memory capacity with a SD memory card

On request the MSR 165 can be supplied with an interface for plugging in a standard SD card (one microSD card is included).

We would be pleased to provide you with prices and delivery terms.