



MSR 165

Datalogger for shock and vibration



Può registrare fino a 1600 campionamenti di accelerazione al secondo su tre assi
La misura di shock è possibile entro il campo ± 15 g
Registra fino a 32 campionamenti, prima che l'evento accada

PRINCIPIO DI FUNZIONAMENTO

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 ± 15 g, 32 measurement values are recorded even before the event takes place. 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 900 mAh lithium-polymer battery the unit can record shock measurements over a period of six 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 GB) 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, light and four analogue input signal.



VERSIONE "PETROLEUM" (OLIO) PARTI COMUNI

Housing:	Anodised aluminium case, PC, not encapsulated, waterproof (IP67)
Size & weight:	39 x 23 x 72 mm, approx. 64 gr
Medium:	Air, various liquids
Memory capacity:	Over 2.000.000 measurement parameters
Colour:	Blue, anthracite
Key:	Set bookmark or start and stop recording
Integrated sensor:	3-axis digital accelerometer (13-bit resolution)
Working range:	± 15 g, -20°C to 65
Accuracy:	± 0.15 g (25°C)
Measurement/storage rate:	up to 1600/s ($\pm 15\%$)
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:	39 x 23 x 72 mm, approx. 64 gr
Interface:	Air, various liquids
Operating conditions:	Free Setup, Reader, Viewer & Online software (Windows 95 or higher)
Storage conditions:	USB
Standards:	Temperature 5°C to 45°C (ideal storage condition for the battery) 10-95% relative humidity, non-condensing
Accuracy:	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 datalogger. There is a choice between internal and external sensors for these additional measurement parameters. The external sensors are available with cable lengths of 0.15 m, 0.40 m, 1.00 m and 1.60 m.

Measured parameters	Working range	Collegamento alimentazione loop	
Temperature with external sensor	-20°C to 65°C	(-) 4-20 mA, out	1/s to every 12 h
	-55°C to 125°C (with external sensor)	Non collegato	
Relative humidity with integrated temperature	0-100% rel. humidity -20°C to 65°C	$\pm 2\%$ rel. humidity (10-85% rel. humidity, 0°C to 40°C)	1/s to every 12 h
		$\pm 4\%$ rel. humidity (85-95% rel. humidity, 0°C to 40°C)	
		$\pm 0.5^\circ\text{C}$ (0°C to 65°C)	
With integrated temperature	-2000 mbar absolute -20°C to 65°C	± 50 mbar (1-10 bar absolute, +25°C)	1/s to every 12 h
		$\pm 0.5^\circ\text{C}$ (0°C to 65°C)	
	Optional: 0-14 bar absolute -20°C to 65°C	± 50 mbar (1-10 bar absolute, 25°C)	1/s to every 12 h
		$\pm 0.5^\circ\text{C}$ (0°C to +65°C)	
Light	0-300 lx	Max. sensitivity at 580 nm	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 input.

MRS 165 ANALOGUE	TECHNICAL DATA
Inc. alarm output and input for starting and stopping data recording.	4 analogue inputs, 0 to 3.0 V, 12 bit (max. 2 external sensors possible, light sensor not available) Measurement/storage rate: 1/s (or 1000/s if the acceleration measurement rate is less than 1/s) up to every 12 h.

EXPANDING THE MEMORY CAPACITY WITH AN 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). Please note that this expansion slot with plugged-in micro SD-card only meets the protection category IP60.