

Transport data logger with acoustic signal

MONI LOG[®] EnDaL vi sound



- Monitoring of transport and handling of highly sensitive goods
- Suitable for clean rooms - particularly suitable in the high technology sector
- Acoustic alarm for limit values overruns
- Measures acceleration, temperature, air humidity or pressure
- High-sensitivity Triaxial low power ICP[®] acceleration sensor
- Powerful and license-free ENCUR software
- Customised special solutions
- Extensive accessories

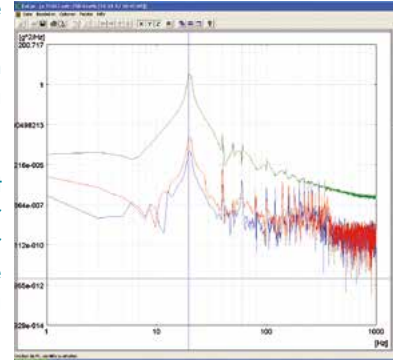
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EnDaL vi sound is a versatile modifiable data logger for demanding transport monitoring and safe machine handling. Highly sensitive shock sensors immediately trigger acoustic warnings when the set limit values are exceeded. Certain movement sequences can be quickly corrected by the staff and objects can be protected against improper handling. EnDaL vi sound also measures temperature and air humidity. Depending on the needs of the user, additional sensors for air pressure and stacking pressure as well as up to 4 digital signals can be connected. All measured values are stored in the data logger independent of the battery status and can be analysed after transfer to a PC. Extensive accessories as well as user-friendly configuration and parameterisation enable EnDaL vi sound to provide a wide range of options for recording measurement data. The measuring system is also available in a clean room design. This is particularly well suited e.g. for transport monitoring of optics systems or lithography systems for semiconductor and microsystem technology, but also for transporting valuable art objects or other highly sensitive goods. The convenient ENCOUR software for programming and data analysis is included in the delivery.



Technical data

Parameters:	Acceleration (a) in three directions (x,y,z), temperature (T), relative air humidity (% rH), other sensors can be connected and parameterized to analogue and digital inputs.
Measuring ranges:	Acceleration 2, 5, 10, 20, 50, 100, 200 g (internal sensor), 50, 100, 200, 500, 1000 mV (external 3D - ICP [®] sensor, switchable), temperature: -40...+85°C, humidity 0.2...100% rH, analogue channel 0...2.5 V, digital channel (4 inputs) low: 0...0.8 V, high: 2.4...12 V
Memory:	16,384 acceleration values, 16,384 temperature and humidity values each, 10 or 20 acceleration-time graphs corresponding to the peak events, 4,096 digital events
Analogue filters for acceleration measurement (frequency response):	Filter type: Bessel 4th order, low pass Upper limit frequency: 16 to 1000 Hz can be set together for all channels Lower limit frequency: 0.2 Hz for internal B-sensors, 0.5 Hz for external B-sensors
Acceleration sensor:	Internal three-axial piezo-electric sensor or special, low-power 3D - ICP [®] acceleration sensor with 0.1 mA working current per channel connected with voltage amplifier input, sensitivity of the charge and voltage amplifier individually configurable, cable length up to 40 m
Temperature sensor:	Internal or external sensor in a sensor tube
Humidity sensor:	Capacitive polymer and temperature sensor in tube dia. 17 mm, 80 mm long, up to 40 m cable
Operating time:	Internal batteries: 1,000 h (R14-NiMh), 1,500 h (R14 alkaline), 2,000 h (R14 lithium), 100 h (9V block) or external battery pack: 1,500 h (recharg. NiMh), 4,500 h (alkaline), Special designs on request
Power supply:	2 standard R14 (C) batteries, optionally external battery pack + additional internal 9V block, automatic switchover mode
Graph recording mode:	2 kHz sampling rate, 1 s or 2 s recording per event
Data storage:	Min. 6 years, irrespective of battery status
Dimensions and weight:	180 x 106 x 37 mm / IP 65 / 800 g / aluminium
Controls:	Magnetic ON/OFF switch and 5 LEDs for status indication, optional test connector via RS232
Data interface:	RS-232 connection (USB via adapter)
Programming:	Sensitivity, channel selection and frequency range for acceleration measurements; acceleration response threshold 5...75% of the measuring range; minimum shock amplitude; recording duration for acceleration-time graph; time interval of temperature and humidity measurements and analogue channel; up to three measurement periods; password protection; alarm threshold