MONILOG®
RISK LOGGER

TRANSPORT RISK

STORAGE RISK

OPERATIONAL RISK

MONILOG®

EnDaL smart

EXTREMELY ROBUST & COMPACT DATA LOGGER

SHOCK

INCLINATION

VIBRATION

TEMPERATURE

HUMIDITY

PRESSURE

GPS TRACKING

LIGHT INCIDENCE

- Integrated inclination sensor for the detection of tipping and swinging operations
- Registers all mechanical shock events and stores the 500 largest with signal progress
- Measures direction, strength, time, duration, minimum and maximum of the effect
- Records temperature, air humidity and air pressure
- Monitors compliance with transport specifications
- Stores GPS coordinates for accurate positioning
- Indicates limit value overruns with alarm LED
- Intuitive operation, extremely long and independent operating time
- Easy to configure and evaluate with license-free software
- Tamper-proof with multi-level password protection

EnDaL smart

COMPACT DATA LOGGER FOR LARGE-SCALE TRANSPORTS

The MONILOG® EnDaL smart is a small, easy-to-use and versatile data logger. ⊕ It monitors sensitive goods on long transport routes and in critical environments, such as transformers, generators, switchgear or fragile optics, medical or automotive components. ⊕ The sensor technology of the data logger measures impact events, temperature, air humidity, air pressure and inclination. ⊕ The measurement data can be exported to external programs (e.g., Microsoft Excel), displayed and evaluated clearly. ⊕ All measured values can also be displayed as an immediate overview at a glance. ⊕ Via an integrated GPS receiver, the respective location of the transport goods can be located both at critical events as well as at time intervals.

Up to 10,000 recorded position records can be thus imported, clearly visualized and evaluated e.g. in Google Earth© or other programs. ⊕ Commercially available alkaline or lithium batteries ensure a mains-independent power supply. ⊕ The minimum energy consumption and a long, maintenance-free operating time make the MONILOG® EnDaL smart an autonomous measuring device, which also works extremely reliably under adverse environmental conditions. ⊕ The license-free software MONILOG® Analyser allows easy and intuitive operation of the data logger. ⊕ A robust housing with an IP67 certification protects the device from dust and splash water.

MONILOG® EnDaL smart

VIEW **360°**

www.monilog.com/products

MONILOG® RISK LOGGER

Technical data of MONILOG® EnDaL smart

Housing:	Aluminium, powder-coated, degree of protection IP67, weight 750 g, size 35 x 140 x 100 mm surface mounting (3-point screwed connection recommended), magnetic foot mountings optional
Operation and storage conditions:	-20°C to +70°C with alkaline batteries -40°C to +85°C with lithium batteries
Data memory, time:	Data receipt for a minimum of 10 years, independent of battery status 32 MB flash parameter and data storage date/time as world time UTC, supported by the internal battery
Voltage supply:	2 batteries type C or R14 replaceable Alkaline batteries (2 x 1,5 V, 8.000 mAh), lithium batteries (2 x 3,6 V, 8.500 mAh) At least 1 year operating time (with synchronization interval of 10 min, all options active)
Operating and indication elements:	1 green active LED, 1 red alarm LED, 1 red-green battery LED 1 on/off key (password-protected), 1 status key
Interfaces:	USB 2.0 Client (Mini-USB AB), SMA socket for the connection of an external, active antenna 50 Ω 3 – 30 mA / 3 V (rod or cable antenna)
GPS position sensing:	32 satellite channels (GPS, SBAS, BeiDou, QZSS)
Conformity:	Device certification according to CE, IC, FCC, shock evaluation according to DIN EN 15433-6, frequency analysis according to DIN EN 13011, Use according to IEEE C 57.150-2012

Sensors and data measurement:

Acceleration and shock:	±16 g (3-axes, tolerance ±0,32 g), digital signal filtering with bandwidth of 1 to 1.000 Hz, configurable, with crossover of a registration threshold, a shock-curve is recorded (2 kHz, 1 s), the 500 highest shock curves are stored (optional: 100 g; 1kHz, tolerances to ±2 g)
Temperature:	-40°C to +85°C, tolerance ±0,5 K, 200.000 data records
Relative humidity:	0% – 100% RH, tolerance ±2% RH (on 20 ... 80% RH), 200.000 data records
Air pressure:	260 – 1.260 mbar ±2 mbar tolerance, (optional: 10 – 2.000 mbar ±4 mbar tolerance), 200.000 data records
Inclination:	Inclination calculation from static acceleration, with crossover of an inclination threshold, an inclination curve is recorded (12 Hz, 8 s, tolerance ±3°), up to 640 inclination curves can be stored
GNSS position data:	GPS, SBAS, BeiDou, QZSS, tolerance 100 m, 25.000 data records

Programmable parameters:	Shock registration thresholds x, y, z, minimum shock duration, shock strength, limit for slope, temperature, humidity, pressure, LED alarm indication, intervals for continuous measurement of GPS, slope, temperature, humidity and pressure, password for reading, configuring, On/Off switching, Start/Stop time for the data recording

by **SMT** ELEKTRONIK

WHAT ARE YOU LOGGING FOR?

MONILOG® Risk Loggers measure, signal and document the external influences that threaten the value and functional capability of your damageable items.

We offer the ideal product design, software and sensor system for each and every customer requirement:

SHOCK   **INCLINATION**   **VIBRATION**   **TEMPERATURE**

HUMIDITY   **PRESSURE**   **GPS TRACKING**   **LIGHT INCIDENCE**

TRANSPORT RISK

Where are your freight items located? Which levels of stress are and have the items been exposed to?

STORAGE RISK

Are the ambient conditions correct for your stored items? Were they and will they remain stable?

OPERATIONAL RISK

Do mechanical factors put operation of your offshore plant at risk? When do you, as the operator, need to intervene?

Which device maps your particular risk profile? Our product finder provides the answer and sets the course for specific modifications or for new developments. Productfinder online: www.monilog.com/productfinder

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