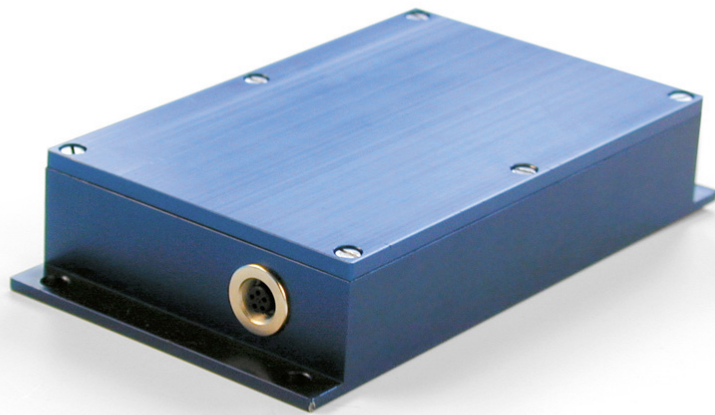




# **g-log data logger data sheet**

g-log s1 / s1E  
g-log sth1 / sth1E



**Shock measurement on all 3 axes**

**Detailed shock curve with time stamp**

**External temperature and humidity sensor (sth1)**

**Dew Point calculation (sth1)**

**Battery life > 12 months**

**Tamper-proof - password protected**

**Stabile aluminum housing - easy mounting**

**Extremely simple evaluation with software provided**

# g-log data loggers

The g-log series meets all requirements: large memory capacity, alarm messages, long battery life, simple operation and evaluation.

## Features

With the g-log data logger, accelerations (impacts, jolts) and the temperature at the time of the impact can be recorded. The progress over time of the accelerations is recorded on all three axes for all events. Additionally, a combined temperature and humidity sensor for the g-log sth1 allows to record climatic values. This makes the g-log s1 the ideal tool for detailed transport monitoring and packing checks. And due to the large memory capacity, measurement time can be more than one year.

The related LogView PC software for programming, graphical and numerical display of the measured values and print-outs enables easy data analysis and logger programming. LogView can be used with all g-log data loggers.

## Security

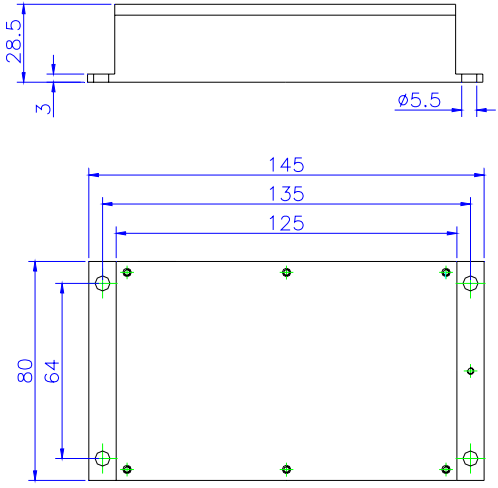
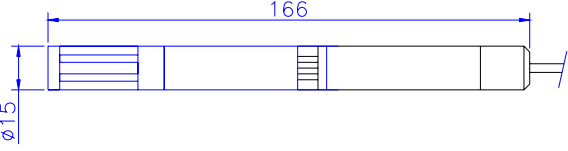
All data are stored in the logger in a non-volatile memory. This means the measured values are retained even in the case of a battery failure.

Any access to the programming of the unit requires a password, and all changes are logged. This ensures that measurements cannot be tampered with and any tampering attempts are detected immediately.

## Housing

The g-log series was developed for use under difficult conditions. The measuring electronics are protected with a sturdy, splash-water resistant aluminium housing. (IP 65)

## Mounting

<p><b>Data Logger</b></p> 	<p><b>Mounting Guidelines</b></p> <p>The data logger must be rigidly connected to the object to be monitored (screw connection with M5 bolts).</p> <p>When positioning the unit it should be ensured that no damping material is located between the object to be monitored and the data logger, as otherwise the measurements will be falsified.</p> <p>An inadequate mounting of the unit can cause excessively high measured values if vibrations result between the goods to be monitored and the data logger.</p>
<p><b>Temperature and Humidity Sensor (sth1)</b></p> 	<p><b>Mounting Guidelines</b></p> <p>Make sure there is adequate air circulation, to ensure the sensor measures the climate of the goods to be monitored.</p>



## Technical Data

<b>General Information</b>	
<b>Housing</b>	3-axis curve recorder for acceleration
<b>Dimensions</b>	Aluminum anodized, splash-water protected IP 65
<b>Weight</b>	145x80x29 mm
<b>Battery</b>	approx. 470g
<b>Current consumption in Standby mode</b>	2x UM3 lithium thionylchloride 3.6 V
<b>Current consumption during measurement</b>	approx. 90µA
<b>Battery life</b>	typ. 5-10mA, 50mA max.
<b>Memory</b>	> 10'000 hr
<b>Memory capacity</b>	Non-volatile, SRAM with buffer battery
<b>Memory mode</b>	1MByte (other memory options on request)
<b>Internal sensors</b>	s1: ca. 3000 shock events
<b>External sensors</b>	sth1: ca. 1500 shock events and 100'000 temperature/humidity values
<b>Digital IO</b>	When memory is full, smallest values are overwritten
<b>Control Buttons</b>	Acceleration (shock, vibration), temperature
<b>Indicators</b>	s1: none
<b>Programming/evaluation</b>	sth1: temperature and humidity
<b>Measurement start/end</b>	none
<b>Connection to PC</b>	start/stop internal, E-Versions with external buttons
<b>Operating range</b>	2 LED red/green (alarm status, unit status, measurement active)
	with LogView PC software
	Programmable or with start/stop button
	RS-232, 57600 kBAud
	-30°C to 85°C

<b>Acceleration sensor</b>	
<b>Unit of measure</b>	g
<b>Measuring sensor</b>	Internal micro-mechanical sensor, static acceleration measurement
<b>Measuring range</b>	-50 g to 50 g (other measuring ranges on request)
<b>Measuring interval</b>	Continuously ready for measurement, adjustable trigger threshold
<b>Wake-up time</b>	Typ. 1 ms, max. 2 ms (from reaching of trigger threshold to recording)
<b>Trigger threshold</b>	1g to 20g, adjustable
<b>Sensor resolution</b>	0.3% (of measurement range)
<b>Sensor accuracy</b>	1% (of measurement range)
<b>Measuring axes</b>	Tri-axial (X, Y, Z)
<b>Event length</b>	automatic
<b>Sampling rate</b>	1 kHz (scan rate = 1ms)
<b>Frequency range</b>	Adjustable (programmable filter)

<b>Temperature sensor (internal, during shock measurement only)</b>	
<b>Unit of measure</b>	°C or °F
<b>Measuring sensor</b>	Internal temperature sensor
<b>Measuring range</b>	-40°C to 85°C
<b>Measuring interval</b>	Temperature measurement during shock event
<b>Sensor resolution</b>	1 °C
<b>Sensor accuracy</b>	3 °C
<b>Sensor positioning</b>	Internal

<b>Temperature and humidity sensor (external, sth1 only)</b>	
<b>Unit of measure</b>	°C or °F / %rH
<b>Measuring sensor</b>	combined external sensor for temperature and humidity (Hygromer®-C94, Pt-100)
<b>Measuring interval</b>	adjustable, 10s bis 5h
<b>Measuring range temperature</b>	-40°C to 85°C
<b>Sensor resolution temperature</b>	0.04°C
<b>Sensor accuracy temperature</b>	±0.3°C
<b>Measuring range humidity</b>	0%rH to 100%rH
<b>Sensor resolution humidity</b>	0.04%rH
<b>Sensor accuracy humidity</b>	±1,5%rH (±1,0%rH with SCS-certificate)
<b>Housing</b>	IP 65
<b>Max. cable length</b>	max. 5m



### EMC Compliance

The device is conform to all requirements of the following standards:

- EN 50081-1:1992 + 50082-1:1997
- EN 50081-2:1993 + 50082-2:1995 + EN 61000-6-2

### Calibration and certification

All units of the g-log series are shipped with a calibration record.

The manufacturer recommends an annual inspection of the unit, whereby an electrical test is conducted and the sensors recalibrated.

## Products and Services

### Data logger

**s1 / s1E (acceleration and temperature internal)**

incl. case

**sth1 / sth1E (acceleration and temperature internal, temperature/humidity external)**

incl. case, external climatic sensor and 2m cable

### Starter Sets

**s1 / s1E**

g-log, Software LogView, PC-data cable, case

**sth1 / sth1E**

g-log, Software LogView, external climatic sensor and 2m cable, PC-data cable, case

### Software

LogView Software

### Accessories

PC data cable

USB-Adapter for PC data cable (used for PC without serial port)

Hygroclip temperature and humidity sensor

Cable for Hygroclip, 1m

Cable for Hygroclip, 2m

Cable for Hygroclip, 5m

Cable for Hygroclip, 10 cm (for Hygroclip fastener)

Hygroclip fastener Set (2 pcs)

### Services

Basic check, battery replacement

Calibration of shock sensors

Calibration of shock sensors with detailed certificate

Service Hygroclip (calibration, new protection filter, new humidity sensor)