

GENEActiv is the original, fully waterproof accelerometer which can be worn 24 hours a day - measuring activity, light and temperature continuously for up to one month. The ergonomic, aesthetically neutral design has excellent subject acceptance and wear compliance.



GENEActiv Specifications

Physical Parameters

Size	43mm x 40mm x 13mm
Weight	16g (without strap)
Main Housing Material	PC/ABS (medical device grade)
Light Guide Material	PC (medical device grade)
Data Contact Material	Gold-plated
Fixings	20mm heavy duty spring bar
Strap	PU resin
Battery Type	Rechargeable lithium polymer

Environmental Protection

Moisture Ingress	Water-resistant to 10m (IP67 - 1m 24hrs)*
Material Ingress	Dust tight (IP67)
Operating Temperature	5 to 40 deg C
Mechanical Impact	0.5m drop resistant

Measurement Capabilities

Memory	0.5 Gb non-volatile
Logging Frequencies	Selectable 10-100Hz (10Hz)*
Maximum Logging Periods	45 days @ 10Hz, 7 days @ 100Hz*

Internal Clock

Type	Quartz Real Time Clock
Frequency	32.768kHz
Accuracy	+/- 20ppm (+/- 1.7s per day)

Acceleration Measurements

Sensor Type	MEMS
Range	+/- 8g*
Resolution	12 bit (3.9 mg)*

- Open SDK available
- Full support for open R analysis
- Behaviour classification supported
- Summary metrics in csv format
- Over 100 peer-reviewed papers

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ORIGINAL

The original wrist worn raw data accelerometer for research is ideal for physical activities, sleep and free living behaviour studies.

- 10 - 100Hz
- Records up to 1 month
- Waterproof and robust

ACTION

Applications such as professional sports, bone health and high impact activities demand wide range acceleration measurement and a high sampling frequency.

- +/- 16g acceleration measurement at 7.8mg resolution
- 1 kHz sampling frequency
- Over 12 hours of continuous recording

SLEEP

Specified for the monitoring of circadian rhythm, this variant allows the direct and continuous recording of skin temperature at any body location.

- +/- 8g acceleration measurement at 3.9mg resolution
- Stainless steel temperature plate
- Splash proof

WIRELESS

Wireless raw data streaming with real time output, ideal for laboratory-based research and advanced algorithm development.

- Up to 8 hours of continuous output
- 10, 50, 100 & 500Hz output with 20m range
- Wireless streaming

Light Measurements

Sensor Type	Silicon photodiode
Wavelength	400 to 1100 nm
Range	0 - 3000 Lux typical
Resolution	5 Lux typical
Accuracy	+/- 10% @ 1000 Lux calibration

Event Logger

Sensor Type	Mechanical membrane switch
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Temperature Measurements

Sensor Type	Linear active thermister
Range	0 to 60 deg C
Resolution	0.25 deg C
Accuracy	+/- 1 deg C
Measurement frequency	Every 30s minimum

USB Connection

Device	USB 2.0 Full Speed
Charge Cradle	Format 4 unit cradle USB 2.0 High Speed
Charge Time	90% @ 2 hours, 100% @ 3 hours
Data Download Time	Maximum 15 minutes for 4 concurrent units

Raw data

The raw data output in SI units of GENEActiv gives complete flexibility and choice over data analysis. This is essential for data set compatibility and future-proofing of longitudinal studies. We support the research community with open analysis tools and SDKs.