

About GENEActiv

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 Specification

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
Strap	PU resin
Battery Type	Rechargeable lithium ion 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	0.5Gb non-volatile
Logging Frequencies	Selectable 10-100Hz
Maximum Logging Periods	30 days @20hz, 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 (3.9mg)



Original GENEActiv Model

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

Features

- Open SDKs available
- Full support for open R analysis
- Behaviour classification supported
- Summary metrics in csv format
- Supported by over 700 peer-reviewed papers
- 10 - 100Hz
- Records for up to 1 month without the need to charge
- Waterproof and robust
- Made in Britain

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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
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	USB 2.0 Full Speed
Charging Cradle	Format 4 unit cradle USB 2.0 High Speed
Charge Time	90% @ 2 hours, 100% @ 3 hours
Data Download Time	Maximum 20 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.

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