



GENEActiv™

Leading the way in wrist-worn, raw data accelerometry

LEADING THE WAY

in wrist-worn, raw data accelerometry

Since 2008, Activinsights have been working together with world-established leaders in research and academia to design the best raw data devices on the market. GENEActiv has the ability to collect maximal raw data, whilst advancing open analysis tools to facilitate first-class data evaluation and output.



THE RANGE



ORIGINAL



ACTION



SLEEP



WIRELESS

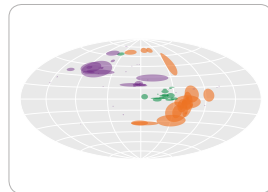
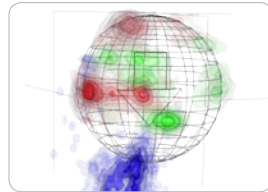
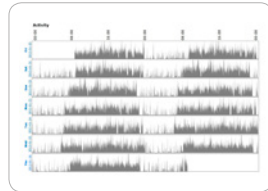
Our leading range of lightweight and unobtrusive wrist-worn accelerometers are designed for objectively measuring physical activities and movement frequencies within free-living populations and clinical research. GENEActiv has been proven in both small scale studies and large international cohorts of over 10,000 subjects.

OPEN RAW DATA ANALYSIS

Continuous raw data output is the ultimate resource in the measurement of human behaviour.

Whether researching populations or planning an intervention, raw data provides the best opportunity to discover the intricacies of people's daily lives. Unfiltered data in SI units with reliable timestamps provides an ideal format to integrate with other measures.

- Open SKDs available
- Full support for open R analysis
- Behaviour classification supported
- Wide range of visualisation approaches
- Summary metrics in csv format



ACTIVE SUPPORT

The GENEActiv team are proud to offer continuous product and study support for all customers.

Direct personal communication in a responsive manner throughout studies has proven invaluable for our customers.

- Our dedicated team are on-hand to share experience and knowledge in trial design and protocols
- We encourage customers to approach us to develop new analysis possibilities
- We provide calibration services and also supply straps for thigh, ankle, upper arm and chest; child-sized straps are also available

For more information, visit www.geneactiv.co.uk

Alternatively, call +44 (0)1480 862082 or email info@geneactiv.co.uk

ORIGINAL

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's leading technical design ensures reliability, giving you complete peace of mind that you will get the data you need.

Key benefits include:

- Free-living, wrist-worn instrument
- Ergonomic design
- Waterproof and robust
- Records for up to 1 month
- Precision real-time clock
- Open data format

*100% of units tested to 10m water resistance, with the exception of GENEActiv Sleep.



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

GENEActiv SPECIFICATIONS

Physical Parameters		Light Measurements	
Size	43mm x 40mm x 13mm	Sensor Type	Silicon photodiode
Weight	16g (without strap)	Wavelength	400 to 1100 nm
Main Housing Material	PC/ABS (medical device grade)	Range	0 - 3000 Lux typical
Light Guide Material	PC (medical device grade)	Resolution	5 Lux typical
Data Contact Material	Gold-plated	Accuracy	+/- 10% @ 1000 Lux calibration
Fixings	20mm heavy duty spring bar	Event Logger	
Strap	PU resin	Sensor Type	Mechanical membrane switch
Battery Type	Rechargeable lithium polymer	Temperature Measurements	
Environmental Protection		Sensor Type	Linear active thermister
Moisture Ingress	Water-resistant to 10m (IP67 - 1m 24hrs)*	Range	0 to 60 deg C
Material Ingress	Dust tight (IP67)	Resolution	0.25 deg C
Operating Temperature	5 to 40 deg C	Accuracy	+/- 1 deg C
Mechanical Impact	0.5m drop resistant	Measurement frequency	Every 30s minimum
Measurement Capabilities		USB Connection	
Memory	0.5 Gb non-volatile	Device	USB 2.0 Full Speed
Logging Frequencies	Selectable 10-100Hz (10Hz)*	Charge Cradle	Format 4 unit cradle USB 2.0 High Speed
Maximum Logging Periods	45 days @ 10Hz, 7 days @ 100Hz*	Charge Time	90% @ 2 hours, 100% @ 3 hours
Internal Clock		Data Download Time	Maximum 15 minutes for 4 concurrent units
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)*		

*Technical specification varies for Sleep, Action and Wireless. See page 7 for details.