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CamNtech excels in FDA-cleared devices for activity, sleep, and patient monitoring. **MotionWatch-8:** Wrist worn 3-axis actigraphy with light detection for sleep and circadian rhythm analysis; **PRO-Diary:** Wrist worn 3-axis actigraphy and questionnaire for clinical patient management supporting 8 question types and branching; **ActiwaveCardio:** 10 gram chest worn 3-axis actigraphy device with ECG monitoring for Heart Rate Variability and Inter Beat Interval measurement with energy expenditure and sleep analysis; **Actiheart 4:** Similar to the ActiwaveCardio but a single axis accelerometer; **Actiwave single and multichannel devices:** These are ECG, EMG, and EEG monitoring.

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Company	ActiGraph	Advanced Brain Monitoring Inc	Ambulatory Monitoring Inc	CamNtech
Product	 ActiGraph Link	 Night Shift	 Micro Motionlogger Watch	 MotionWatch 8
Website	www.actigraphcorp.com	www.advancedbrainmonitoring.com	www.ambulatory-monitoring.com	www.camntech.com
Cost/Warranty	\$275/1 year	\$349/Limited 2-year	1 year	2 year
Accelerometer Technology	3-axis solid state accelerometer with digital filtering	MEMS triaxial digital output motion sensor	Solid state triaxial	3-axis MEMS
Product Dimensions (cm)	3.5 x 3.5 x 1.5	6.35 x 3.8 x 1.3	3.6 x 3.6 x 1.2	3.81 x 2.54 x 1.016
Weight, Including Batteries and Band (grams)	38	44	30	16.8
Batteries	Rechargeable lithium polymer	Lithium polymer	1 DL2430 disposable coin cell	Common watch CR2032
Battery Life	16 days (wireless & gyro disabled, 30 Hz sample rate)	Up to 5 nights between charges	30+ days	120 days
Type of Memory Storage	4 GB nonvolatile	256 KB nonvolatile	2 MB nonvolatile	4 MB nonvolatile
Recording Time at 1-Minute Sample Interval	180 days	Up to 10 hours per night for 6 nights	30+ days	120 days
Logging Intervals	Collects as raw data (30-100 Hz), processing in 1, 2, 3, 5, 10, 15, 30, 60, 120, 150, 180, and 240-second intervals	30-second intervals	1, 2, 5, 10, 30, 60 seconds	epochs, also does 1 second (ie, 1, 2, 5, 15, 30, 60 seconds)
Light Sensor Type	N/A	N/A	Photodiode	Digital
Wavelength Range (nm)	N/A	N/A	400 to 700 (520 peak)	0 to 64,000 lux
Moisture Protection	IP27—Water-resistant to 1 m for 30 minutes	Not water-resistant	100 m water-resistant	Waterproof
Communications Interface	USB, Bluetooth LE	USB	USB-to-IrDA	USB
Computer Operating System Compatibility	Windows XP, Windows Vista, Windows 7, Windows 8, Parallels Desktop for Mac	Internet-based software	Windows XP, Windows Vista, Windows 7, Windows 8	Windows Vista, Windows XP, Windows 7, Windows 8
Additional Features	Gyroscope and magnetometer sensors for advanced positional data capture; LCD screen displays time/date, and subject measures; integrated wear time sensor for off-wrist detection; support for heart rate (wireless HR sensor required); PLM scoring; automatic bedtime detection; daytime activity profile. Compatible mobile app supports real time data uploads and subject feedback.	Worn around the neck, Night Shift monitors sleep and wake time, and computes sleep efficiency, sleep latency, wake after sleep onset, and awakenings/hr, quantified snoring dB, and neck position. Records up to 356 nights' hours of use, sleep efficiency, %snoring >50 dB, neck position, and awakenings/hr.	Time/date display, event marker with LED feedback, visual status indicator, multimode data collection, temperature channel, off-wrist detection. Five peer-reviewed articles validate this actigraph.	The Event Marker button has a visual LED feedback indicator, confirming the event was marked. Advanced sleep monitoring using proven sleep/wake algorithms, NPCRA functionality, daytime activity analysis, PLMS analysis, easy battery change—no downtime for regular recharging, FDA cleared, ISO13485 manufacturer.

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CamNtech	Philips Respironics	SOMNOmedics America Inc
		
PRO-Diary	Actiwatch Spectrum	SOMNOwatch
www.camntech.com	www.philips.com/actigraphy	www.somnomedics-diagnostics.com
2 year	1-year standard; extended warranty available	2 year
3-axis MEMS	Solid-state "piezoelectric"	Miniaturized poly-silicone-surface micromachined sensor (MEMS)
5.1 x 3.4 x 0.8	4.8 x 3.7 x 1.4	4.5 x 4.5 x 1.6
16	30	30
Lithium-ion rechargeable	Lithium coin cell CR 2430	Lithium-ion-Accu, inbuilt, rechargeable
30 days	1-year battery life (continuous use at 1-minute epoch)	26+ days
4 MB	2 MB nonvolatile	8 MB internal storage card
14 days	36 days (activity plus 4 channels of light data)	45 days
epochs, also does 1 second (ie, 1, 2, 5, 15, 30, 60 seconds)	15-second, 30-second, 1-minute, 2-minute, 5-minute	Sampling rate 1 per second up to 256 per second; storage rate 1 per 120 seconds (2 minutes) up to 256 per second
None	Red, green, and blue color sensitive photodiodes	NPN-phototransistor
N/A	Blue 400-500; Green 500-600; Red 600-700	350-970
Water-resistant, not submergible	Immersible 1 m for 30 minutes per IPX7 IEC 60529	Water-resistant (waterproof on demand)
Mini USB	Infrared to dock 57.6 kpbs; USB to PC (USB 1.1 and 2 compatible)	USB
Windows Vista, Windows XP, Windows 7, Windows 8	Actiware: Windows 2000, Windows XP, or Windows Vista; Actiware CT: Windows 2000, Windows XP Professional, Windows Vista Business, or Windows Vista Ultimate	Windows XP, Windows 7, and other Windows operating systems
Paperless diary with OLED screen interface and touch sensitive slider. Uses the Motionware software for sleep analysis and has additional software for user designed questionnaires with 8 different question types. FDA approved and validated against paper diaries in clinical work with timed, random, or user activated prompts.	Device also records in a red, green, and blue light only mode; off-wrist detection; event marking; shock and vibration resistant; dust, heat, and perspiration resistant; latex/nickel free; biocompatibility tested; adheres to the requirements of 21 CFR Part 820, and ISO 9001 and 13485 certification; programmable time/date display with backlight; status feedback; multiple light and activity data collection modes; NIST traceable calibration; sleep mode.	Event marker button, sleep/wake analysis, PLM scoring, 1 external channel possible (2nd Actisensor, ECG, EEG, respiratory), programmable start and stop periods for several recording periods, linking of several SOMNOwatch recordings thanks to high synchronization rate.