



Features

Recording: 2- or 3-channel ECG, optional respiration

Operating time: Up to 5 days

Sampling rate: 1024 Hz/12 bit

Display: 2.4" touch screen, self-orientating

Storage medium: Integrated micro SD card

Data transfer: Hi-Speed USB, Bluetooth®

Casing: Protected against dust & splashed water

CardioMem® CM 4000 and CM 4000 B

Multi-channel digital ECG recorder

Simplicity and reliability – two of the outstanding qualities of the CardioMem® CM 4000 ECG recorder series. This handy, lightweight recorder supports the user throughout all phases of recording Holter ECGs, from applying the electrodes and entering patient demographic data up to inspecting the ECG waveforms.

Compelling Technology, Easy to Handle, Perfect for Everyday Use

A large color display with touch screen offers an overview of all the necessary information. The user is intuitively guided through the recorder menus.

The CardioMem® is small, lightweight and ingress protected against splashed water and dust, making it ideal for everyday use. Helpful functions, such as the detection of faulty electrode contacts or continuous battery monitoring, reduce the risk of corrupted or shortened recordings and hence the costs and troubles associated with having to repeat examinations. Optional auxiliary information that can aid in the final diagnosis, such as transthoracic impedance variations (which show respiration activity during sleep) and pacemaker function, can be acquired

simultaneously to the ECG without any additional electrodes. Users can choose between 3, 5, or 7 lead patient cables for different types of re-recordings. An optional Bluetooth® module allows encrypted, bi-directional data transfer with a PC. Prior to recording, patient demographic data can be wirelessly transferred to the recorder, or entered manually using the recorder interface provided. A further feature is the optional voice recorder, which allows the user to dictate relevant patient information to the recorder. At the end of the recording period, the record file is transferred to a PC via the Hi-Speed USB interface. CardioMem® is then ready for the next patient.

CardioMem® CM 4000 and CM 4000 B

Both recorders are equipped with manual event marker storage. The CardioMem® CM 4000 has a battery compartment for one LR03 (AAA) battery, which is sufficient for continuous recordings up to 48 hours. The CardioMem® CM 4000 B has a slightly larger battery compartment and can operate up to 5 days with one 1.5 V LR6 (AA) battery. For even longer recordings, the battery can be replaced and the recording continued.



CardioMem[®] CM 4000 and CM 4000 B

Technical Data

■ CM 4000 only ■ CM 4000 B only

General	
Dimensions	■ 65 mm x 108 mm x 14.5 mm ■ 65 mm x 108 mm x 16.5 mm
Weight	
w/o battery	■ 76 g ■ 78 g
with battery	■ 89 g ■ 99 g
Battery type	■ 1 x 1.5 V Alkaline (LR03/AAA) ■ 1 x 1.2 V NiMH HR03/AAA ■ 1 x 1.5 V Alkaline (LR6/AA) ■ 1 x 1.2 V NiMH HR6/AA
Operating time	■ 48 h ■ 120 h
Controls	Event key and touch screen, multi-lingual
Display	2.4" color display, 320 x 240 pixel
Connectors	Patient cable Data transfer (Mini-USB)
Available patient cables	2 channels (5 leads) 3 channels (7 leads) 3 channels (3 leads)
Parameters	
ECG channels	2 or 3 independent, bipolar channels or 3 Einthoven leads, automatic selection via patient cable
Lower cut-off frequency	0.05 Hz and 0.25Hz, selectable
Upper cut-off frequency	100 Hz
Input dynamic range	± 6 mV
Offset voltage range	± 300 mV
Pacemaker detection	unipolar, bipolar and biventricular systems
Pulse width	0.1 ... 2 ms
Pulse amplitude	2 ... 250 mV
Open lead detection	Yes
Additional channels	Thoracic impedance variations

Subject to change

Storage	
Storage type	Non-removable micro-SD card
Sampling rate	1024 Hz
Resolution	12 Bit
Data storage	256 Hz, optional 1024 Hz
Memory capacity	≥ 1 GB
Data transfer mode	Hi-Speed USB 2.0
Data transfer time	< 30 s (for 24 h, 3 channel ECG)
Wireless transmission	
Wireless transmission (Online-ECG and settings)	Bluetooth [®] 2.0 + EDR, Class 2
Range (free field)	Min. 5 m
HF frequency range	2.4 ... 2.5 GHz ISM-Band
HF output	0.5 ... 4.5 dBm
Classifications	
Product classification	Ila in accordance with 93/42/EEC
Classification of applied part	Type CF (Cardiac Floating)
Ingress protection	IP 64 according to EN 60529
UMDNS code	12-388
Operating conditions	
Temperature	5 °C ... 45 °C
Relative humidity	5 ... 95 %, non-condensing
Ambient pressure	700 ... 1060 hPa
Storage and transport conditions	
Temperature	-25 ... 70 °C;
Relative humidity	0 ... 90 %, non-condensing
Ambient pressure	700... 1060 hPa
Scope of delivery	
Recorder, patient cable, pouch including waist belt, disposable pouches, batteries, user manual, quick start guide, transport box	

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