

Technical Data

EPPerfect EP 44/108 Recording Amplifier

The EPPerfect System is a fully computerized system. With it, the physiological data of the heart can be measured and recorded in the electrophysiological laboratory. Ablation and stimulation are also possible during the examination.

The EPPerfect EP 44/108 Recording Amplifier digitally records and stores the electrical signals of the heart. A stimulator is integrated in the device.

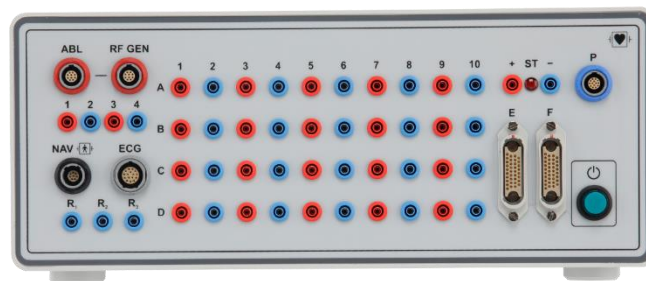


Fig.: Amplifier with 108 Channels and connection for the navigation and IBP.

Special features:

- Excellent signal quality
- Simple handling
- Signals of individual channels can be displayed
- Connections for the EPPerfect Ablation Generator (connection also for compatible third-party devices)
- Use of the device: mobile or permanently installed at the examination table
- Available with a total of 44 or 108 channels.

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EPPerfect EP 44/108 Recording Amplifier: Overview of Technical Data

Amplifier dimensions (length/height /weight)	22,5 x 12,5 x 29,0 cm
Amplifier weight with power supply:	5 kg
Voltage	100-240 V
Frequency	50/60 Hz
Power consumption	37,5 VA
Protection class	Class 2
Protection against defibrillation	5kV
Applied part type	The ECG, STIM, intracardiac, IBP channels are type CF. The NAV output is applied BF.
Leakage current	< 50 μ A
Patient auxiliary current	< 0.1 μ A any lead, except neutral lead < 1 μ A neutral lead
Analog to digital conversion	
No of channels	108 max
Resolution	24 bits
Sample rate	16000 Hz/channel
ECG channels	
Leads	I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6
Maximum differential input voltage	0 $\pm$ 10 mV
Maximum common mode DC offset	$\pm$ 500 mV
Maximum differential DC offset	$\pm$ 150 mV

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Common mode rejection ratio	100 dB at 50 Hz
Maximum common mode voltage	30 V/rms
Noise	< 2,0 μ V pp
Time constant	3.2 seconds
Channel separation	> 55 dB
HR detection rate	30 - 240 Bpm
Input impedance	$\geq 5 \text{ M}\Omega$
Calibration pulse equivalent to	1 mV

Intracardiac channels

No of channels bipolar/unipolar	22 (EPPerfect 44) / 44 54 (EPPerfect 108) / 108
Input mode	Bipolar or unipolar
Max. differential input voltage	$\pm 10 \text{ mV}$
Max. common mode offset	$\pm 250 \text{ mV}$
Max. differential DC offset	$\pm (300 \pm 30) \text{ mV}$
Patient auxiliary current	< 0,1 μ A
Common mode rejection ratio	100 dB at 50 Hz
Channel separation	> 55 dB
Input impedance	$\geq 5 \text{ M}\Omega$
HPF in Hertz	0, 0.05, 0.5, 5, 16, 30, 40, 60, 100, 200
LPF in Hertz	7, 50, 75, 100, 150, 200, 250, 450, 1000
Signal gain in mm/mV	1, 2.5, 5, 10, 20, 40, 80, 160
Calibration pulse equivalent to	1 mV
Display speed in mm/sec	10, 25, 50, 100, 200, 400

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Invasive pressure (option)

Measure range	-50+ 640 mmHg
Measurement error	± 1.5 %
Pressure sensitivity of	5 mV/V/mmHg
Signal gain in mmHg/cm	1, 2.5, 5, 10, 20, 40, 80, 160
Type of transducers suggested	B. Braun Combitrans or Mecex Logical

Stimulator

Output	1 channel, software connectable to any bi-polar output
Pulse amplitude	0,1 - 50 mA
Pulse width	0,1 - 10 msec
Wave form shape	Monopolar pulse an amplitude of 0.1 – 3.0 V, or pulse duration of < 1 ms, Bipolar for > 3.0 V pulse amplitude and pulse duration > 1 ms
Rise time	< 100 µs
S1 Interval	1 – 600 ppm
S2, S3, S4 Interval	1 – 280 ppm
Max. P- or R wave sensitivity	0,5 - 1,0 mV for demand/sensed pacing

EPPerfect 3 D-Navigator

Registration channels	44 or 108
Coordinate position	Electropotential determination method
Probing signal type	Broadband with flat spectrum from 2,5 - 8,0 kHz
Probing signal amplitude	0,002 mA
Resolution	0,5 mA

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