

AMPS-1

Patienten Simulator

**Klein, aber Oho!
Der kompakte
Patientensimulator vereint
alle gängigen Parameter zur
Prüfung von
Monitorsystemen –einfach
gut.**



In der Größe eines Taschenbuchs liegt der AMPS-1 sehr gut in der Hand. Er ist klar im Design und bequem in der Bedienung, da alle Leitungen sowie Verbindungen oberhalb oder seitlich des Gerätes platziert wurden. Die Stromversorgung erfolgt mit einer 9 V Batterie oder einem optionalen Netzteil.

Das modulare Design des AMPS-1 erlaubt es Ihnen, Prüfungen auf einfachste Weise durchzuführen und es bei Bedarf nach eigenen Bedürfnissen aufzurüsten.

Standardausstattung:

- 12-Kanal Ableitungs-EKG-Simulation mit 9 unabhängigen.
- 16 ST Segmente, 8 Hebungen und 8 Senkungen
- Achsenabweichungen: normal (mittel), horizontal und vertikal (verändert EKG-Nulllinie während der Arrhythmien)
- Neonatal-Simulation: EKG-R-Kurve, Breite ist auf 40 ms reduziert.
- EKG-Messung.
- 52 Arrhythmie Auswahlmöglichkeiten.
- Temperatur- und Beatmungssimulationen.
- Schrittmachersimulationen
- Defibrillations-Training
- Fernsteuerbar über RS-232 Anschluss.

Optionales Zubehör:

- 2 oder 4 invasive Blutdruckkanäle inkl. Swan-Ganz-Simulation
- Herzzeitvolumen.
- Simulation fetaler Herztöne
- Mutter-, Kind- und IUP Simulation

Einfach im Gebrauch und günstig im Preis. AMPS-1.

Technische Daten*

ECG General

- Full 12-Lead ECG with 9 independent outputs for each signal lead referenced to RL.
- Output Impedances: 500, 1000, 1500, & 2000 ohms to RL.
- High Level Output: 0.5 V/mV of low level selection.
- Amplitude Accuracy: $\pm 2\%$ 2 Hz Square Wave (Lead II).

Normal Sinus Rhythm

- Rates: 30, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300 BPM. Accuracy $\pm 1\%$.
- Amplitudes (Lead II): 5mV, 4mV, 3mV, 2mV, 1mV, .5mV, .25mV, .1mV.
- ST Segments: 16 total – 8 elevated & 8 depressed.
- ST Segment Levels (Lead II): -0.8 mV to +0.8 mV in 0.1 mV steps on Lead II, .
- Axis Deviation: Normal (intermediate), horizontal, and vertical. Modifies baseline ECG during arrhythmias.
- Neonatal Mode: ECG R wave width is reduced to 40ms.

ECG Performance Testing

- Square Wave: 2 Hz
- Square Wave: 0.125 Hz
- Pulse: 4.0 secs
- Sine Waves: 0.05, 0.5, 1, 10, 25, 30, 40, 50, 60, and 100 Hz.
- Triangle Wave: 2 Hz
- R Wave Detector Test: 60 BPM haver-triangle wave with selectable ampl. and width.
- Width: 8.0 ms to 200 ms (12 selections)
- Amplitude (Lead II and V Leads): 5mV to 0.5mV.

Pacemaker

- Asynchronous
- Demand with frequent sinus beat
- Demand with occasional sinus beat
- A-V sequential
- Non-capture non-function
- Rhythms: Async 75 BPM, Demand 1, Demand 2, AV Seq, Non capture, Non function. - Pulse: -700 mV to +700 mV. Accuracy : 10%
- Width: 0.1, 0.2, 0.5, 1.0, 2.0 ms. Accuracy is 5%.
- Pulse Polarity: Positive or negative.

Synchronization

- Accepts input during defib training.

RS-232 Interface

- RS-232 interface to PC.

Defibrillator Training

- With two emergency scenarios and a cardioversion procedure, AMPS-1 can be used for basic defibrillator training.

Cardiac Output

- Built in Cardiac Output feature, activation optional
- 4 adjustable injectate temperature selections that are factory set and user adjustable
- Baseline of 36, 37 and 38 degrees °C.
- Selections for 2 and 20 degrees °C.

Cardiac Output Selections

- Faulty Injectate Curve
- Left to Right Shunt Curve
- C.O. of 3, 4, 4.5, 5, 5.5, 6, 6.5, 7 l/min
- Cal Pulse: 1o for 1 second
- Cal Pulse: 1o for 4 seconds
- CC .561 for 2 degrees injectate
- CC .608 for 20 degrees injectate

*It. Herstellerangaben, Änderungen vorbehalten

Temperature

- 2 Temperature Channels
- Electronically Switched Temperature of 35, 37, 38, 40, 42°C.
- Probe Compatibility: 400 or 700 series YSI

Respiration

- Baseline Impedance: 500, 1000, 1500, 2000 ohms, LEADS I, II, III
- Impedance Variations: 5, 4, 3, 2, 1, 0.5, 0.2, 0.1, 0.05, 0 Ω
- Rates: 15 to 120 and 0 rpm for APNEA
- Apnea Selections: 12, 22, 32 seconds, and continuous
- Respiratory Effort (Inspiration/Expiration Ratio:) 5/1, 4/1, 3/1 (normal), 2/1, 1/1.

Optional Fetal / Maternal / IUP Simulations

- Fetal heart rates: 60, 90, 120, 140, 150, 210, & 240 BPM
- Trend
- Uniform, Early and Late deceleration
- Maternal heart rate fixed at 80 BPM
- Waveform: 12 lead ECG with complete p-qrs-t complex
- Dynamic intrauterine pressure (iup) waveform: positive bell shaped pressure curve
- Peak pressure: 90 mmhg, Contraction duration: 90 sec
- Pressure transducer sensitivity: 5 or 40 m v/v/mmhg
- Input/output impedance: 300 ohms
- Optional Mechanical Fetal Heart

Arrhythmia Selections

- Premature Beats Premature Atrial Contraction (PAC)
- Nodal Premature Nodal Contraction (PNC)
- Premature Ventricular Contraction (PVC) 1
- Left Ventricular Focus
- PVC1 Early, Left Ventricular (LV) Focus PVC1 R-on-T, Left Ventricular (LV) Focus
- PVC2 Right Ventricular Focus PVC2 Early, RV Focus
- PVC2 R-on-T RV Focus Multifocal PVCs
- AED test waveforms
- Atrial Fibrillation, Course Atrial fibrillation, Fine Ventricular Fibrillation, Course Ventricular Fibrillation, Fine
- Asystole, Flatline
- Supraventricular Tachycardia Ventricular Tachycardia @ 140, 160 & 190 BPM
- Torsades de Pointes @ 200 BPM NSR @ 60 BPM
- Conduction Defects
- First Degree Heart Block Second Degree Heart Block
- Third Degree Heart Block Right Bundle Branch Block
- Left Bundle Branch Block Supraventricular Beats
- Atrial Fibrillation (Coarse) Atrial Fibrillation (Fine)
- Atrial Flutter Sinus Arrhythmia
- Missed Beat (1 time event) Paroxysmal Atrial Tachycardia
- Nodal Supraventricular Tachycardia
- Ventricular Rhythm PVCs 6/Minute
- PVCs 12/Minute PVCs 24/Minute
- Frequent Multifocal Asystole
- Pair PVCs (1 time event) Run 5 PVCs (1 time event)
- Run 11 PVCs (1 time event) Ventricular Tachycardia
- Ventricular Fibrillation (Coarse) Ventricular Fibrillation (Fine)
- Bigeminy Trigeminy

4 Blood Pressure Channels

- Electrically Isolated Channels
- Dynamic BP waveforms are synchronized with normal sinus rhythm rates and track arrhythmia selections.
- Respiration artifact can be selected on blood pressure channels
- Transducer Sensitivity: 5 or 40 μ V/V/mmHg
- Calibrated Rate: 80 BPM normal sinus rhythm
- Static Levels BP1/2/3/4: -10, -5, 0, 20, 40, 50, 60, 80, 100, 120, 150, 160, 180, 200, 240, 320, 400 mmHg
- Automatic Swan-Ganz (every 15 seconds)
- Manual Swan-Ganz, changes each time Enter is selected
- Asystole, Random Baseline > 0.1 mV