

DataSim 6100

Patient Simulator

Technical Data



The DataSim 6100 Patient Simulator is a versatile training tool that features six channels for generating ECG arrhythmias, blood pressure, and respiration. Critical-care nurses, clinical specialists, and instructors have the ability to generate an extensive range of simulations, from a simple normal sinus rhythm to a complex Swan-Ganz catheter insertion. Because the hemodynamic waveforms are physiologically synchronized, students learn to identify the blood pressures and arrhythmias healthcare professionals experience every day.

By interfacing the DataSim 6100 to an Arrhythmia Anne™, Resusci-Anne™ or Chris Clean™, instructors can teach the correct way to defibrillate a patient and achieve the desired effect on ECG and blood pressure activity.

A wide range of optional modules is available to expand the DataSim 6100's waveform selections. Each module plugs into the unit's front panel and features a variety of specialty waveforms and waveform sequences. To make training even more effective, a video adapter accessory displays ECG and blood pressure waveforms generated by the DataSim 6100 on any standard TV set.

Designed for convenience, the DataSim 6100 features a handy handheld keypad, which is attached to the unit with a flexible 20-foot, telephone-style cord for exceptional range of motion.

Key Features

- Extensive training capability
- Interface with Resusci-Anne, Arrhythmia Anne and Chris Clean defibrillator mannequins
- Synchronization of hemodynamic waveforms
- Manual PAC and PVC insertions
- Swan-Ganz procedure
- Video adapter interface
- 6 channels for generating ECG, arrhythmia, blood pressure, and respiration

Optional Features

- Expansion modules

Technical Specifications

Display: 2 in H x 16 in W super twist LCD
Power: AC power provided by (choice of) 115 V or 230 V charger (standard with instrument)
Battery Type: 12 V, 1.9 AH sealed lead acid rechargeable
Battery Capacity: 20 hours
Battery Charge Time: 5 % to 95 % of complete charge in 10 hours

ECG

Output signals
High-Level: 1 V/1 mV

Heart Rate

Range: 30 BPM to 300 BPM
Accuracy: ± 1 %

Output Connectors

Low-Level: 12-lead electrode snaps
High-Level: Switchcraft 15GM7F
Pacemaker Artifact: -8 mV, 1 ms
Sample Rate: 250 sample/s max

Performance Testing

Linearity: 2.5 Hz triangular wave
HR Cal Check: 30 BPM to 300 BPM
Chart Speed: 2.5 Hz square wave
Amplitude: 0.25 mV, 0.5 mV, 1 mV, 1.5 mV, 2 mV, and 2.5 mV

Blood Pressure

Output Signals
High-Level: 1V/100 mmHg
Transducer: 5 μ V/V mmHg and 40 μ V/V mmHg
Exciter Voltage: 10 VAC or DC max
Static Range: 0 mmHg to 250 mmHg, adjustable in 5 % increments
Accuracy: ± 5 % or 1 mmHg, whichever is greater
Waveforms: Static, square wave, and physiological dynamic
Output Connector: Switchcraft 15GM7F

Performance Testing

Static: 0 to 250 adjustable in 5 % increments
Square Wave: 0 mmHg to 250 mmHg adjustable in 5 % increments

Respiration

Output signals
Delta Impedance: 0.25 Ω to 2.5 Ω Lead I
Base Impedance: 250 Ω Lead I, 750 Ω Lead II
Rate Range: 0 BPM to 80 BPM
Lead: All leads

Performance testing

Rate: 0, 10, 20, 40, and 80 per min
Delta Impedance: 0.25 Ω , 0.5 Ω , 1 Ω , 1.5 Ω , 2, and 2.5 Ω
Coincidence check

General Information

Channels (6): ECG/arrhythmia, respiration, arterial pressure, PA pressure, RA pressure, and auxiliary channel for optional cardiac output, CO₂, and other parameters.

Fundamental Rhythms and Sequences:
Normal sinus rhythm, sinus tachycardia and bradycardia, ventricular and sinus asystole, atrial tachycardia, atrial flutter and fibrillation, AV blocks (1st degree, 2nd degree Mobitz I and II, and 3rd degree), unifocal and multifocal PVCs, ventricular tachycardia, ventricular fibrillation, PVCs at 1/min to 35/min for any rhythm, couplet, triplet, bigeminy, junctional, accelerated junctional, PACs and PJC's, atrial tachycardia with aberrant conduction, idioventricular, agonal, ST-segment elevation and depression, pacemaker (atrial, ventricular, and AV sequential), failure to capture and sense, bundle-branch block, cardiac-failure sequence, and conversion sequence.

Dimensions

4.7 in L x 10 in W x 13 in H
(11.94 cm L x 25.4 cm W x 33 cm H)

Weight

7.05 lb (3.2 kg)

Optional Personality Modules

Intra-Aortic Balloon Assist (9513-0139):
Early inflation, early deflation, proper timing, late inflation, late deflation. Five augmented arterial waveforms only. Not interactive with the LABP.

Pediatric ECG (2244432): Sinus arrhythmia, junctional, wandering pacemaker, enlarged atrium, junctional escape, hyperkalemia, CPR artifact, supraventricular tach @ 185 BPM, and supraventricular tach @240 BPM

Ordering Information

Model

2247742:	DATASIM6100US120V
2395218:	DATASIM6100AUS250V
2395229:	DATASIM6100DEN250V
2395234:	DATASIM6100SHK250V
2395241:	DATASIM6100ISR250V
2395252:	DATASIM6100ITAL250V
2395265:	DATASIM6100IND250V
2395276:	DATASIM6100SWZ250V
2395283:	DATASIM6100UK ₂ 50V

Standard Accessories

2242959:	Operator's manual
2392337:	LCD pendant controller
2184111:	120 VAC battery charger (wall mount)
2184127:	220 VAC battery charger (desktop, international version)

Optional Accessories

Blood Pressure Cables

2392213:	BCI International 4100-09 (6 M)
2392213:	Criticare Systems (1100) 4100-09 (6 M)
2392213:	Critikon (Dinamap Plus) 4100-09 (6 M)
2392208:	Datascope (800 series) 4100-08 (6 F)
2199456:	Fakuda Denshi (DS 3300) 4100-61 (12 M)
2199474:	GE Marquette Medical (PPG/E for M: DR, IR, IM4, VR series) 4100-11 (6 F)
2392208:	GE Marquette Medical (PDS 3100) 4100-08 (6 F)
2199508:	GE Marquette Medical (7000/Early Tram - AR series only) 4100-23 (8 M)
2199549:	GE Marquette Medical (Dash, Eagle, Solar, Tram, and MacLab) 4100-60 (rectangular - 11 M)
2199400:	Hewlett Packard 5 μ V (78300, - 500, - 800, and Merlin/Viridia/Omnicare) 4100-04 (12 M)
2199417:	Hewlett Packard 40 μ V (78300, - 500, - 800, and Merlin/Viridia/Omnicare) 4100-05 (12 M)
2392213:	Invivo Research (Omni-Trak) 4100-09 (6 M)
2392213:	Ivy Biomedical 4100-09 (6 M)
2199495:	Kontron (Mini-, Super-, Color-Mon) 4100-20 (6 M)
2392213:	MDE (Escort series) 4100-09 (6 M)
2392213:	Mennen Medical (All) 4100-09 (6 M)
2392213:	North American Drager (Vitalert 2000) 4100-09 (6 M)
2392213:	Ohmeda (Modulus CD-CV) 4100-90 (6 M)
2392213:	Protocol Systems (Propaq Series 100) 4100-09 (6 M)
2392213:	Physio Control (All) 4100-09 (6 M)
2199463:	Quinton (Q-Cath) 4100-62 (6 M)
2199513:	Siemens Mingo (Cath System) 4100-42 b (7 F)
2199421:	SpaceLabs (Alpha 9, Alpha 14, 703R) 4100-06 (5 M)
2392213:	SpaceLabs (1050, 1700, PCMS series) (for use with SpaceLabs adapters 700-0028-00 and 0120-0551-00 when testing the multiparameter Ultraview Command Module) 4100-09 (6 M)
2199393:	Unterminated BP cable 4100-01 (7-pin DIN, one end only)
2199474:	Witt Biomedical 4100-11 (6 F)

About Fluke Biomedical

Fluke Biomedical is the world's leading manufacturer of quality biomedical test and simulation products. In addition, Fluke Biomedical provides the latest medical imaging and oncology quality-assurance solutions for regulatory compliance.

Today, biomedical personnel must meet the increasing regulatory pressures, higher quality standards, and rapid technological growth, while performing their work faster and more efficiently than ever. Fluke Biomedical provides a diverse range of software and hardware tools to meet today's challenges.

Fluke Biomedical Regulatory Commitment

As a medical device manufacturer, we recognize and follow certain quality standards and certifications when developing our products. We are ISO 9001 certified and our products are:

- FDA Compliant
- CE Certified, where required
- NIST Traceable and Calibrated
- UL, CSA, ETL Certified, where required

General-Purpose Cables

2199524:	ECG high-level stereo to 1/4 in phone jack
2244426:	6070-01B intra-aortic balloon assist (manual IABP waveform selection)
2244432:	6070-03B pediatric ECG
2244444:	6070-05B intra-cranial pressures (ICP) (5 μ V/V/mm or 40 μ V/V/mmHg; transducer sensitivity only)
2244459:	6070-06B advanced pacer
2244498:	6070-11B left heart pressures
2244500:	6070-12B valve disease
2244556:	6070-17B ST segments
2244588:	6070-18B cardiac output injectate temp = 32 °F (0 °C)
2244595:	6070-19B Marquette CO module
2244602:	6070-20B cardiac output injectate temp = 77 °F (25 °C)
2244706:	6070-37B normal/Diseased Heart
2244678:	6070-29B Interactive IABP datascopes (Series 90)

Note: Interactive IABP modules augment the arterial pressure in response to inflation/deflation signals from the intra-aortic balloon pump. Both the invasive arterial BP and synchronization/timing cables are included with the above modules. These IABP modules are compatible only with the listed brand and model IABP.

2244563:	6070-10B MCL1 set (set includes the three following modules listed: 2392734, 2392741, and 2392752)
2392734:	6070-07B MCL1 atrials
2392741:	6070-08B MCL1 blocks
2392752:	6070-09B MCL1 ectopy/aberrancy
2244517:	6070-13B 12-lead set (set includes the three following modules listed: 2392765, 2392776, and 2392783)
2392765:	6070-14B 12-lead normal ECG
2392776:	6070-15B 12-lead anterior infarct
2392783:	6070-16B 12-lead inferior infarct

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Fluke Biomedical

PO Box 9090, Everett, WA 98206-9090 USA

Fluke Biomedical Europe AS

Vegamot 8, N-7048 Trondheim, Norway

For more information, contact us:

In the U.S.A. (800) 648-7952 or
Fax (425) 446-5629
In Europe/M-East/Africa +47 73954700 or
Fax +47 73954701
From other countries +1 (425) 347-6100 or
Fax +1 (425) 446-5629
Email: sales@flukebiomedical.com
Web access: <http://www.flukebiomedical.com>

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