

Basic Features

- ◆ Biphasic Energy Measurement
- ◆ Simple to Operate
- ◆ Fully AED Compatible
- ◆ Graphics display w/simultaneous detailed status of parameters & scrolling control of options
- ◆ On-Screen viewing of Defibrillator Waveform
- ◆ Drop down choice screens list all options for parameters
- ◆ Monophasic & Biphasic compatible
- ◆ 5000 V, 1000 Joule Capacity
- ◆ High & Low Ranges
- ◆ Cardioversion delay measurement
- ◆ Charge time measurement
- ◆ Waveform storage & playback
- ◆ 10 Universal patient lead connectors
- ◆ 25 PIN Connector for Centronics Printer
- ◆ 9 Volt Battery Power (Optional Battery Eliminator)
- ◆ Low Battery Indicator
- ◆ Display Backlight
- ◆ Full Remote Operation via RS-232
- ◆ Flash Programmable for Upgrades

DA-2006P Features

- ◆ 26 Selectable Internal Loads
- ◆ Full Pulse Analysis
- ◆ Demand Sensitivity Test
- ◆ Refractory Period Tests
- ◆ 50/60 Hz Interference Test Signals
- ◆ Pacer Input Defib Protection

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DEFIBRILLATOR ANALYZERS

BC Biomedical DA-2006 Series

DA-2006P



The DA-2006 is a microprocessor-based instrument that is used in the testing of defibrillators. It measures the energy output and provided information about the pulse. It is used on manual, semi-automatic and automatic defibrillators with monophasic or biphasic outputs.

The DA-2006P model additionally provides a Transcutaneous Pacemaker analysis function. It measures and displays pacer pulse information as well as performing Refractory Period, Sensitivity and Immunity testing.

All models have a built in 50 ohm human body simulation load as well as 12 lead ECG with arrhythmias and performance waveforms. Additionally, they have a centronics printer port, a serial port, oscilloscope output, high level ECG output, as well as provision for a battery eliminator.

The DA-2006 makes viewing and selecting the desired waveforms and test data quick and intuitive, with all operational information being available on the 240 by 64 pixel graphic display, allowing for easy maneuvering through parameters and scrolling through available options.

NOTE: The instrument is intended for use by trained service technicians.



BC BIOMEDICAL DA-2006 SERIES

SPECIFICATIONS

ENERGY OUTPUT MEASUREMENT GENERAL	
METHOD	Biphasic
LOAD RESISTANCE	50 Ohms +/- 1%, non-inductive (<1 µH)
DISPLAY RESOLUTION	0.1 Joules
MEASUREMENT TIME WINDOW	100 ms
ABSOLUTE MAX PEAK VOLTAGE	6000 Volts
PULSE WIDTH	100 ms

ENERGY OUTPUT MEASUREMENT HIGH RANGE	
VOLTAGE	<5000 Volts
MAX CURRENT	120 Amps
MAX ENERGY	1000 Joules
ACCURACY	+/-2% of reading for >100 Joules +/-2 Joules for <100 Joules
TRIGGER LEVEL	100 Volts
PLAYBACK AMPLITUDE	1 mv / 1000 V Lead 1
TEST PULSE	125 Joules +/- 20%

ENERGY OUTPUT MEASUREMENT LOW RANGE	
VOLTAGE	<1000 Volts
MAX CURRENT	24 Amps
MAX ENERGY	50 Joules
ACCURACY	+/-2% of reading for >20 Joules +/- 0.4 Joules for <20 Joules
TRIGGER LEVEL	20 Volts
PLAYBACK AMPLITUDE	1 mv / 1000 V Lead 1
TEST PULSE	5 Joules +/-20%

ENERGY OUTPUT MEASUREMENT OTHER	
OSCILLOSCOPE OUTPUT	
HIGH MEASURE RANGE	1000:1 amplitude-attenuated
LOW MEASURE RANGE	200:1 amplitude-attenuated
WAVEFORM PLAYBACK	
OUTPUT	LEAD I & PLATES
SCREEN	200:1 Time Base Expansion
SYNC TIME MEASUREMENTS	
TIMING WINDOW	Starts 40 ms before each R-wave peak
TEST WAVEFORMS	All waveform simulations available
DELAY TIME ACCURACY	+/- 1 ms
CHARGE TIME MEASUREMENT	
From 0.1 to 99.9 sec	

CARDIOVERSION	
DELAY	0 to 6000 ms
RESOLUTION	0.1 ms
ACCURACY	+/-2 ms

ECG NSR	
RATE	30 to 300 BPM
ACCURACY	+/- 1%
AMPLITUDE	0.5, 1.0, 1.5, 2.0 mv (Lead II)
ACCURACY	+/- 2% @ Lead II
HIGH LEVEL	200 times Amplitude
ACCURACY	+/- 5%
QRS DURATION	80ms

ECG PERFORMANCE	
SINE WAVE	0.1 to 100 Hz
SQUARE WAVE	0.125, 2,000 Hz
TRIANGLE WAVE	2,000, 2,500 Hz
PULSE WAVE	30,60,120 BPM; 60 ms width
AMPLITUDE	0.5, 1.0, 1.5, 2.0 mv (Lead II)
RATE ACCURACY	+/- 1%
AMPLITUDE ACCURACY	+/- 2% @ Lead II


ECG GENERAL	
LEAD TO LEAD IMPEDENCE (RL, LL, RA, LA)	1000 Ohms
LEAD TO LEAD IMPEDENCE (V1-V6)	1000 Ohms

ECG ARRHYTHMIA SELECTIONS	
Ventricular Fibrillation	
Atrial Fibrillation	
Second Degree A-V Block	
Premature Atrial Contraction	
PVC Early	
PVC Standard	
PVC R on T	
Multifocal PVC	
Bigeminy	
Run of 5 PVCs	
Ventricular Tachycardia	

SHOCK ADVISORY ALGORITHM TEST ECG SIGNALS	
Asystole	
Coarse Ventricular Fibrillation	
Fine Ventricular Fibrillation	
Multifocal Ventricular Tachycardia @ 140 BPM	
Multifocal Ventricular Tachycardia @ 160 BPM	
Polyfocal Ventricular Tachycardia @ 140 BPM	
Polyfocal Ventricular Tachycardia @ 160 BPM	
Supra Ventricular Tachycardia @ 90 BPM	

DATA INPUT/OUTPUTS	
Parallel Printer Port	
RS232C (for computer control)	

PHYSICAL	
DISPLAY	LCD Graphical 256 X 64 Pixels, Backlight
ENCLOSURE	3.4 x 9.8 x 10.7 Inches (86.4 x 249 x 271.8 mm) ABS Plastic???
WEIGHT	< 5Lbs (< 2.3 Kg)
FACE PLATE	Lexan, Back printed
OPERATING RANGE	15 to 40 C
STORAGE RANGE	-20 to 65 C

ELECTRICAL	
POWER	Battery, 9 VDC (2 required) (NE 1604) Alkaline
BATTERY ELIMINATOR (Optional)	BE2006PU (120 VAC) – US BE2006PE (220 VAC) – Euro 10V, 300 mA DC 



DA-2006 Protective Plates & Internal Paddle Adapters

TRANSCUTANEOUS PACEMAKER ANALYZER TEST LOAD	
RANGE	50, 100, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300 Ohms
ACCURACY	50 to 1300 Ohm +/-1% 1400 to 2300 Ohm +/-1.5%

TRANSCUTANEOUS PACEMAKER ANALYZER OSCILLOSCOPE OUTPUT	
0 – 150 V	10.24:1 amplitude attenuation
15 – 60 V	41:1 amplitude attenuation
> 60 V	164:1 amplitude attenuation
MAX OUTPUT	200 V

TRANSCUTANEOUS PACEMAKER ANALYZER PULSE MEASUREMENTS	
AMPLITUDE	4 to 300 mA (100 Ohm load)
ACCURACY	+/-5% or +/-0.5 mA
RATE	30 to 800 ppm
ACCURACY	+/-1% or 2 ppm
PULSE WIDTH	0.6 to 80 ms
ACCURACY	+/-1% or +/-0.3 ms
MAX VOLTAGE	200 V (Variable Load Input Jacks) 15 V (Fixed Load Input Jacks)

TRANSCUTANEOUS PACEMAKER ANALYZER DEMAND SENSITIVITY	
WAVEFORMS	
SELECTIONS	Square Triangle Haversine
WIDTH	10, 25, 40, 100, 200 ms
ECG OUTPUT	
AMPLITUDE – OUT	0 to 4 mv
RESOLUTION – OUT	40 µv
ACCURACY – OUT	+/-2%
PACER INPUT (50 TO 400 OHMS)	
AMPLITUDE – OUT	0 to 10 mv / 50 Ohms
RESOLUTION – OUT	40 µv
ACCURACY – OUT	+/-2%
RATE – IN	30 to 120 ppm
PACER INPUT (500 TO 2300 OHMS & OPEN)	
AMPLITUDE – OUT	0 to 100 mv
RESOLUTION – OUT	1mv
ACCURACY – OUT	+/-2%
RATE – IN	30 to 120 ppm
DEFIBRILLATOR PLATES	
AMPLITUDE – OUT	0 to 10 mv
RESOLUTION – OUT	0.1 mv
ACCURACY – OUT	+/-2%
RATE – IN	30 to 120 ppm

TRANSCUTANEOUS PACEMAKER ANALYZER 50/60 HZ INTERFERENCE TEST SIGNAL	
ECG OUTPUT	0, 0.4, 0.8, 1.2, 1.6, 2.0, 2.4, 2.8, 3.2, 3.6, 4.0 mv
PACER INPUT ≥ 500 OHMS	0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 mv
DEFIBRILLATOR PLATES	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 mv

TRANSCUTANEOUS PACEMAKER ANALYZER REFRACTORY PERIOD	
PACING	20 to 500 ms
SENSING	20 to 500 ms
ACCURACY	+/-2 ms

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