

Basic Features

- ◆ Biphasic Energy Measurement
- ◆ Simple to Operate
- ◆ 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

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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

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
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%
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%

OTHER

Oscilloscope Output
High Measure Range: 1000:1 amp-attenuated
Low Measure Range: 200:1 amp-attenuated
Waveform Playback
Output: LEAD I & Plates

SCREEN

Sync-Time Measurement: 200:1 Time Base Expansion

Timing Window: 40 ms before R-wave peak
Test Waveforms: All waveform sims. Avail.

Delay Time Accuracy: +/- 1 ms

Charge Time Measurement: 0.1- 99.9 sec

ECG NSR

Rate: 30,40,45,60,80,90,100,120,140,160,180,200,220,240,260,280,300 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: 0.1,0.2,0.5,5,10,40,50,60,100 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

Atrial Fibrillation: Multifocal PVC
Second Degree A-V Block: Bigeminy
Premature Atrial Contraction: Run of 5 PVCs
PVC Early: Ventricular Tachycardia
PVC Standard
SHOCK ADVISORY ALGORITHM TEST
ECG SIGNALS
Asystole: Multifocal Ventricular Tachycardia @ 140 & 160 BPM
Coarse Ventricular Fibrillation: Polyfocal Ventricular Tachycardia @ 140 & 160 BPM
Fine Ventricular Fibrillation: Supra Ventricular Tachycardia @ 90 BPM

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: 50-1300 Ohm +/-1% 1400-2300 Ohm +/-1.5%

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

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)

PACE LIMIT

PACE LOAD (Ohms) - CURRENT (mA)

50 - 300	100 - 300	150 - 300	200 - 300
300 - 300	400 - 300	500 - 300	600 - 300
700 - 286	800 - 250	900 - 222	1000 - 200
1100 - 182	1200 - 167	1300 - 154	1400 - 143
1500 - 133	1600 - 125	1700 - 118	1800 - 111
1900 - 105	2000 - 100	2100 - 95	2200 - 91
2300 - 87			

DEMAND SENSITIVITY

Waveform Options: Square, Triangle, Haversine

Width: 10,25,40,100,200 ms

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: 0.1 mv
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
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 50 OHMS:

0,1,2,3,4,5,6,7,8,9,10 mv

PACER INPUT 100 OHMS:

0,2,4,6,8,10,12,14,16,18,20 mv

PACER INPUT 150 OHMS:

0,3,6,9,12,15,18,21,24,27,30 mv

PACER INPUT 200 OHMS:

0,4,8,12,16,20,24,28,32,26,40 mv

PACER INPUT 300 OHMS:

0,6,12,18,24,30,36,42,48,54,60 mv

PACER INPUT 400 OHMS:

0,8,16,24,32,40,48,56,64,72,80 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

Refractory Period

Pacing: 20 to 500 ms

Sensing: 20 to 500 ms

Accuracy: +/-2 ms

DATA INPUT/OUTPUTS

Parallel Printer Port RS-232C (comp. control)

Physical

DISPLAY: LCD Graphical 256 X 64 Pix, Backlight

ENCLOSURE: 3.4x9.8x10.7in (86.4x249x271.8 mm)

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, Two 9 VDC (NE 1604) Alkaline

BATTERY ELIMINATOR (Optional): BE2006PU (120

VAC) - US BE2006PE (220 VAC) - Euro 10V, 300

mA DC



Defib Adapters &
Plate Protectors

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