

# ESU Analyzer Series

## BC Biomedical ESU-2400H



### ESU-2400H

The ESU-2400H offers an unprecedented buffer depth of over 16 million samples. This allows for ultra-stable measurements of ESU Generator output waveforms and provides future-proofing for new generator output modes such as multiple pulsed waveforms.

The ESU-2400H uses the same base platform as the ESU-2400. This means that you can upgrade your existing analyzer without having to purchase a whole new unit. You have the freedom to get started with the ESU-2400 and then upgrade as the need arises.

The low impedance internal load bank has a range of 0 to 6400  $\Omega$  in 1  $\Omega$  increments. It is microprocessor-based and utilizes a combination of unique hardware and software to provide accurate and reliable test results, even from “noisy” Electrosurgical Generator waveforms such as “Spray”. The Patented DFA<sup>2</sup> Technology™ utilized in the ESU-2400H allows the system to aggressively digitize the complex RF waveforms produced by Electrosurgical Generators. Each data point is analyzed to provide highly accurate measurement results.

The ESU-2400H, unlike most conventional ESU Analyzers, has internal high voltage setup relays to control the measurement path. This allows the user to switch between Power measurements, Leakage measurements, REM/ARM/CQM testing, or even run an autosequence that could include any or all of these tests – without even moving wires around.

The current transformer internal to the ESU-2400H senses the RF current flowing through the internal test load and produces a ratiometric voltage, which is digitized and analyzed by the microprocessor. Combining the standard and low ranges of the ESU-2400H with the use of the current transformer, the user has full control over the ability to get high accuracy and high resolution readings from all types of Electrosurgical Generators.

### Features - ESU-2400H

- ◆ The Industry’s Most Comprehensive and Most Accurate Full-Featured Analyzer
- ◆ Measures Advanced Generator Outputs with Pulsed RF at Up to 3 Different Amplitudes
- ◆ Patented DFA<sup>2</sup> Technology™, Ultra High Speed Digitization of Multi-Pulsed Complex RF Waveforms
- ◆ 100% Compatible with Covidien/Valleylab ForceTriad™, Force FX™, FT10™ and Ligasure™ Generators, Conmed System 5000™ Generators, and Legacy Generators by Other Manufacturers
- ◆ Based Upon Years of Collaborative Work with Leading Electrosurgery Industry Manufacturers
- ◆ Captures and Analyzes up to 16 million sample per test
- ◆ 1% Measurement Accuracy
- ◆ Free Auto-Sequences Save Time and help to Ensure Compliance
- ◆ Industry Standard RF Current Measurement
- ◆ Continuous & Pulsed Output Waveform Compatible
- ◆ Embedded Real-Time Operating System with 5.7” Color Touch Screen Display
- ◆ Displays Up to 28 Different Measurement Parameters with User Selectable and Definable Screens
- ◆ Internal Precision Test Loads From 0  $\Omega$  to 6400  $\Omega$  in 1  $\Omega$  Increments
- ◆ External Test Load Compatibility
- ◆ Automated Power Load Curves with Multiple Power Settings Per Load Setting
- ◆ Automated User-Definable Testing Sequences
- ◆ Print test Reports to PDF format or USB Printer
- ◆ USB (3), RS-232, and Ethernet Comm. Ports
- ◆ External Keyboard and Mouse Compatible Via Dedicated Ports
- ◆ Automatic or Manual Activation of ESU Generator During Power Load Curve Tests
- ◆ Remote Communications Capability with ESU Generators
- ◆ REM/ARM/CQM Testing Via 500  $\Omega$  Adjustable Load in 1  $\Omega$  Increments
- ◆ Capture, Store, Print RF Waveforms
- ◆ US Patent No. 9,883,903

#### ตัวแทนจำหน่าย

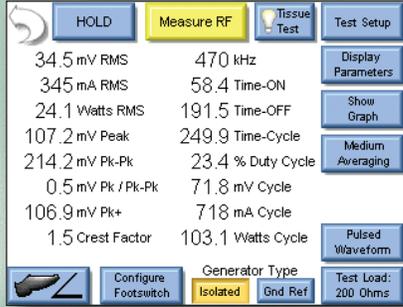
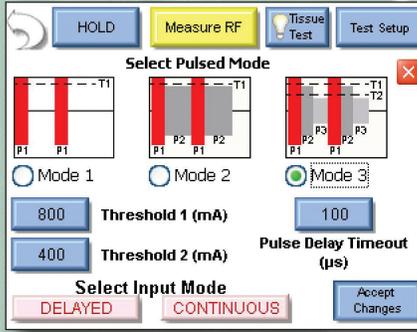
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# ESU-2400H

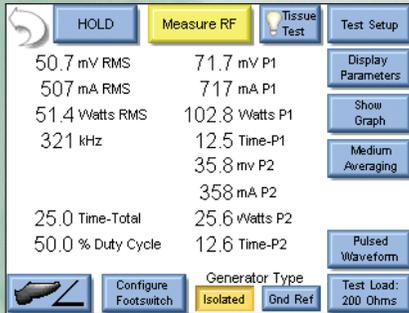
# SPECIFICATIONS

## Advanced Pulsed Mode Measurements

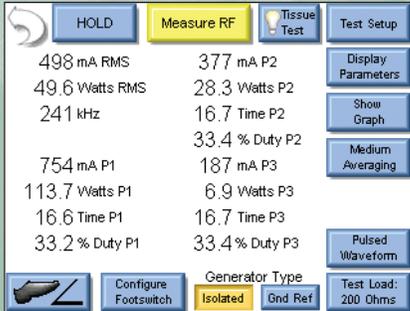
Pulse Mode Config



Pulse Mode

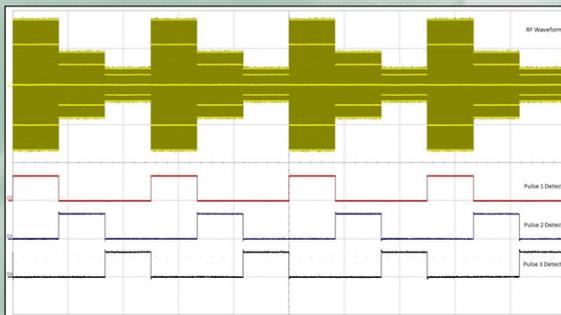


Pulse Mode 2



Pulse Mode 3

## Advanced Pulsed Waveform Detection



MEASUREMENTS	
A/D Resolution	14 Bits
A/D Speed	64 MSPS
Bandwidth	50 kHz – 10 MHz
Measurement Accuracy	± 1% Reading
Current Range	2.0 to 700.0 mA RMS (Low Range) 20 to 7000 mA RMS (High Range)
Current Resolution	0.1 mA RMS (Low Range) 1 mA RMS (High Range)
Power Range (Watts)	500 Watts
Power Resolution (Watts)	0.1 Watts
Crest Factor Range	1.4 to 500
Crest Factor Resolution	0.1
Input Voltage Range	0.20 to 70.00 mV RMS (Low Range) 2.0 to 700.0 mV RMS (High Range)
Voltage Resolution	0.01 mV (Low Range) 0.1 mV (High Range)
mV Peak/Peak-to-Peak Range	0.0 to 1.0
mV Peak/Peak-to-Peak Resolution	0.1

Load Bank Specifications	
Internal Setup/Load Selection Relays	10kV, 5A rated Reed Relays
Internal Load Selection	
Internal Load Range	0 to 6400 Ω
Internal Load Accuracy	± 1% Non-inductive
Internal Load Power Ratings	1 Ω: 25 W 2 Ω: 50 W 4 Ω: 100 W Remaining Loads: 225 W
Load Bank Duty Cycle	10 seconds on, 30 seconds off
Load Cooling	Dual 120mm Variable Speed DC Fans
External Load Selection	
External Load Range	0 to 6400 Ω
External Load Resolution	1 Ω

SCREEN SIZE	5.7" QVGA 18 bit color touch screen
SETUP MEMORY	EEPROM, All Parameters
MEMORY RETENTION	10 Years w/o Power
OPERATING RANGE	15 to 30 °C (59 to 86 °F)
STORAGE RANGE	-20 to 60 °C (-4 to 140 °F)
CONSTRUCTION	Enclosure – Aluminum Face – Lexan, Back Printed
SIZE	7.8 x 15.0 x 22.5 inches 198.1 x 381 x 571.5 mm
WEIGHT	31 lbs. (14 kg)
CONNECTIONS	Input: I/O 4mm Safety Jacks 3xUSB, 1xSerial, 1xEthernet 1xPS/2 Keyboard/Mouse Output: 1xBNC Scope Hypertronics 25-pin Footswitch connector
POWER SUPPLY ADAPTER	Input: Universal 100-240 VAC, 50-60 Hz Output: 12 VDC (Specify power cord see page Z)