

## SS31LA NONINVASIVE IMPEDANCE CARDIOGRAPHY MODULE

The SS31LA records the thoracic impedance parameters associated with Cardiac Output measurements. The SS31LA incorporates a precision high-frequency current source, which injects a very small (2 mA rms) current through the measurement tissue volume defined by the placement of a set of current source electrodes. A separate set of monitoring electrodes then measures the voltage developed across the tissue volume. Because the current is constant, the voltage measured is proportional to the characteristics of the biological impedance of the tissue volume. The SS31LA outputs impedance ( $Z$ ) and derivative of impedance ( $dZ$ ) in real time.



- Use with a 8-spot electrode lead configuration
- Use the SS31LA to measure changes in Cardiac Output under a variety of conditions: laying down, sitting up, standing up, and post-exercise.
- Use on stationary subjects; the SS31LA is sensitive to motion artifact.
- See BSL *PRO* Lesson **H21 Impedance Cardiology** for sample SS31LA setup and data.

### Specifications

#### Outputs:

Impedance ( $Z$ )	(50 mV = 100 $\Omega$ )
Derivative Impedance ( $dZ$ )	(5 mV or 2 $\Omega$ /sec)
Operational Frequency:	100 KHz sine wave
Current Level:	2 mA (rms)

#### Bandwidth: (can limit in BSL *PRO* software)

$Z$ :	DC – 100 Hz
$dZ$ :	DC – 100 Hz

Dimensions: 14 cm (long) x 9.1 cm (wide) x 2.9 cm (high)

Weight: 400 grams

Electrode clip connects to standard snap electrode – use with an 8-spot electrode lead configuration

**Note:** SS31LA replaces the SS31L, which had lead connectors designed for strip electrodes, such as EL506, which were discontinued due to manufacturing limitations.