

# SEN2141 ECG 12 Lead Switch Box

PowerLab Sensors Series

## Description

The ECG 12 Lead Switch Box allows the user to easily switch between standard ECG lead configurations. It gives direct measurement of leads I, II, III, aVF, aVL, aVR, and  $V_1$  to  $V_6$ . The MLA2510 Shielded lead wires (snap-on) are supplied.

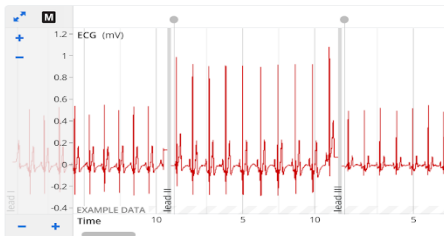


## Operation

To use the ECG switch box, plug the sensor into the USB port of a laptop or desktop computer with a Windows or Mac operating system. Alternatively, plug the sensor into the PowerLab T1 or a USB hub connected to that computer. A green LED on the connector housing indicates the sensor is receiving power and is ready for use.

NOTE: The output from the ECG Switch Box is displayed in the first channel. The second channel displays Lead II only.

## Typical Data



*Lt recording of leads I, II, and III*



*Lt recording of leads aVR, aVL and aVF*



*Lt recording of leads  $V_1$ ,  $V_2$  and  $V_3$*



*Lt recording of leads  $V_4$ ,  $V_5$  and  $V_6$*

## Connection

The The ECG switchbox has 10 lead connectors: LA (Left Arm), RA (Right Arm), LL (Left Leg), RL (Right Leg), and V1-V6 (Chest).

Leads I, II, III, aVF, aVR, and aVL are derived from the four limb leads using the right leg as the reference. The Precordial leads V1 to V6 are derived from summed RA, LA, and LL signals together with the corresponding chest electrode. In all configurations, the right leg (RL) is used as a common ground.

## Bipolar limb leads

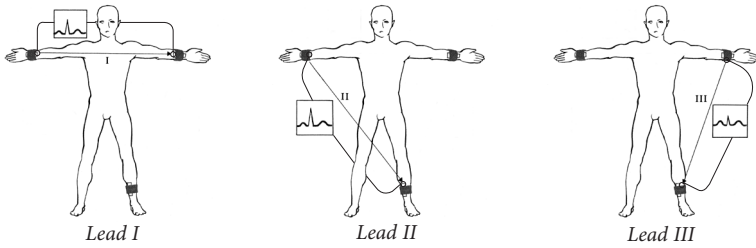


Diagram showing the selection of electrodes for I, II, III using the ECG switchbox and typical signals observed.

## Augmented limb leads

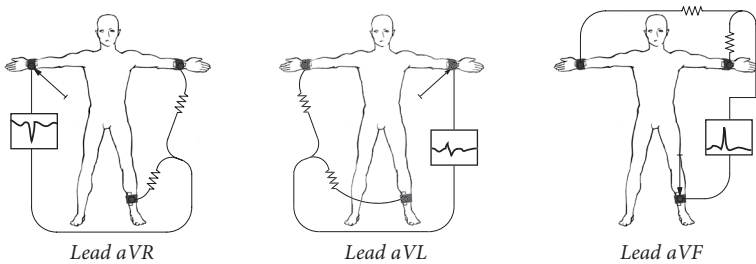


Diagram showing the selection of electrodes for aVR, aVL and aVF using the ECG switchbox and the typical signals observed.

## Precordial leads

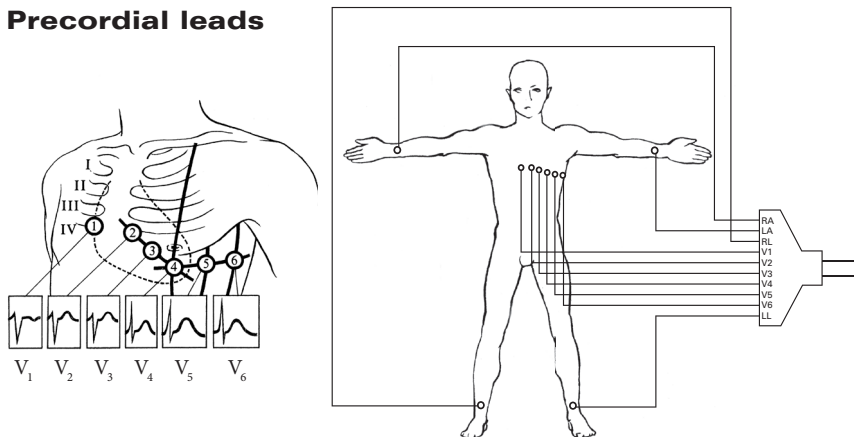


Diagram showing the lead configuration for precordial  $V_1$  to  $V_6$  and typical signals observed.

## Caution

Read "Statement of Intended Use" on our website.

## Specifications

Sampling rate:	1 kHz
Operating frequency:	0.2 Hz to 500 Hz
Input range:	25, 50, 100, 200 mV
Input coupling:	AC coupled
Noise:	
1 Hz to 500 Hz	<5 $\mu$ Vrms (12 $\mu$ Vp-p max.)
Gain Accuracy:	$\pm$ 1.0 %
Isolation:	5200 VDC for 1 minute
Operating Temperature:	15 °C to 40 °C
Weight (excluding electrode leads):	100 g
Enclosure size (l×w×h):	80 x 50 x 23 mm
Cable length:	1.8 m (5.9')
Connector:	USB

All specifications were tested at the time of printing and are subject to change.

## Ordering Information:

SEN2141 ECG 12 Lead Switch Box

For use with:

MLA710 Chest ECG Electrode

MLA1010B Disposable ECG Electrodes

MLA700 Reusable ECG Electrodes

Laptop or desktop computer with Windows or Mac operating system

**ADINSTRUMENTS.com**

ISO 9001:2008 Certified Quality Management System

WARRANTY: 1 year as per ADInstruments warranty terms for PowerLab Sensors.