

SS25LA HAND DYNAMOMETER



Use the hand dynamometer to measure grip force—use in isolation or combine with EMG recordings for in-depth studies of muscular activity. The lightweight, ergonomically designed transducer provides direct readings in kilograms or pounds. The simple calibration procedure makes this device easy to use for precise force measurements, and the isometric design improves experiment repeatability and accuracy. The SS25LA is a basic unit, designed for student lessons; it can also be used in the MRI, with proper module setup, since it employs plastics in the spring constant. The highest performance dynamometer is TSD121C, which employs a four terminal, laser-trimmed, wheatstone bridge built onto metal elements.

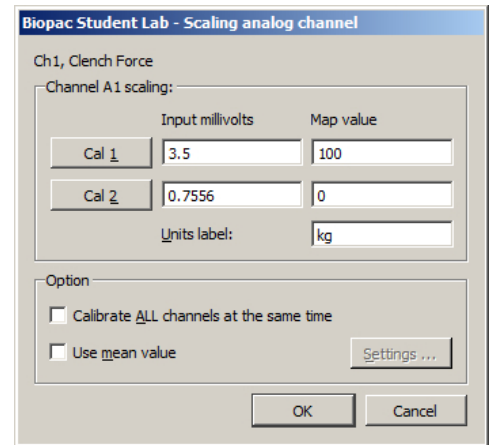
Hardware Setup

Connect the SS25LA Simple Sensor to a CH input on the front panel of an MP3X unit.

Proper grip: Place the palm across the shorter bar and wrap fingers to center the force.

Scaling — Software Setup for the MP3X

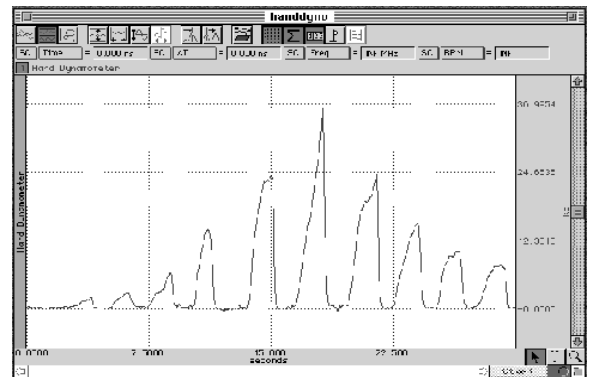
- 1) Select **Set Up Channels** under the MP3X menu and enable one analog channel.
- 2) Select the desired **Clench Force** Preset (kg or lbs, the example to the right is shown in units of kg.)
- 3) Click on the **Setup** button.
- 4) Click on the **Scaling** button to activate a dialog box similar to the one shown at right.
- 5) In the **Map value** column, note the default scaling of “0” for **Cal2** and “100” for **Cal1**. These represent 0 and 100 kilograms, respectively.
- 6) Place the SS25LA on a flat surface.
- 7) Click the **Cal2** button to obtain an initial calibration reading. A value similar to the above example “0.7556” will appear.
- 8) To obtain the **Cal1** input value, add the **Cal2** input value to the default **Cal1** 3.5 mV per 100 kg value. (In this example, this value would be 0.7556 mV + 3.5 mV = 4.2556 mV.)



NOTE: The above instructions are for BSL 4 and higher. In BSL 3.7.7 and earlier, placement of the CAL1 and CAL2 scale values are reversed.

Calibration Confirmation

- a) Click “Start” to begin data acquisition.
- b) Place the SS25LA on a flat surface and then place a known weight on the uppermost portion of the grip.
- c) Review the data to confirm that the known weight is reflected accurately in the data (sample at right).
- d) Adjust the Scaling parameters and repeat steps a-c as necessary.



SS25LA Specifications

Isometric Range:	0-90 Kg
Dimensions:	17.78 cm (long) x 5.59 cm (wide) x 2.59 cm (thick)
Nominal Output:	13.2 μ V/kg for 1 V excitation Max excitation for MP36/36R is 5 V, for nominal output 66 μ V/kg
Rated Output:	100 kg
Linearity:	8%
Sensitivity:	0.75 kg
Weight:	323 grams
Cable Length:	3 meters