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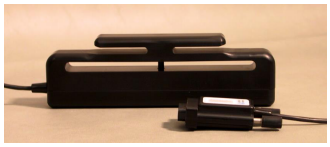
SS25LB HAND DYNAMOMETER



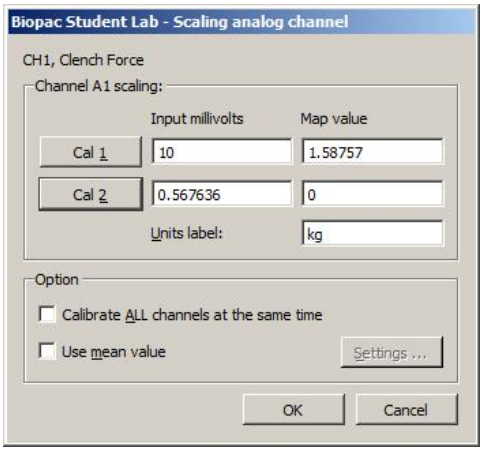
Use the hand dynamometer to measure grip forceð use in isolation or combine with EMG recordings for in-depth studies of muscular activity. The lightweight, ergonomically designed transducer provides direct readings in kilograms or pounds. The simple calibration procedure makes this device easy to use for precise force measurements, and the isometric design improves experiment repeatability and accuracy. The SS25LB 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 SS25LB Simple Sensor to a CH input on the front panel of an MP36/36R/35/45 unit.

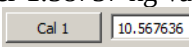
Proper grip: Place the palm across the shorter bar and wrap fingers to center the force.



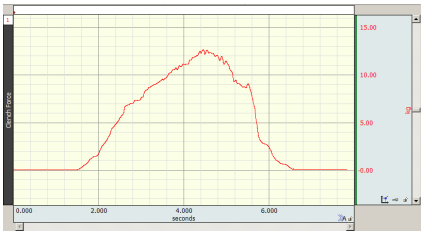
Scalingð Software Setup for the MP36/MP36R/MP35/MP45

Note: When using with Biopac Student Lab, the SS25LB is compatible with versions 4.1 and higher only.

1) Select **Set Up Data Acquisition > Channels** under the MP menu and enable one analog channel.
2) Select the desired **Clench Force (SS25LB)** Preset in units of kg, lbs, or N. (Example above is units of kg.)
3) Click the **Setup** button.
4) Click 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 ñ0ò for **Cal 2** and ñ1.58757ò for **Cal 1**. These represent 0 and 1.58757 kilograms, respectively. **The MAP values must not be altered**.
6) Place the SS25LB on a flat surface.
7) Click the **Cal 2** button to obtain an initial calibration reading. A value similar to the above example will appear.
8) To obtain the **Cal 1** input value, add the **Cal 2** input value to the default **Cal 1** 10 mV per 1.58757 kg value. (In the above example, this value would be 0.567636 mV + 10 mV = 10.567636 mV.)



Optional Calibration Confirmation



a) Make sure the SS25LB is connected to the same channel as enabled in Step 1 above.
b) Click ñ**Start**ò to begin data acquisition.
c) Place the SS25LB on a flat surface and then place a known weight on the uppermost portion of the grip.
d) Review the data to confirm that the known weight is reflected accurately in the data (sample above).
e) Adjust the Scaling parameters and repeat steps a-c as necessary.

SS25LB Specifications

Clench Force Range:	0-50 kgf	Weight:	323 grams
Nominal Output:	6.299 mV/kgf	Cable Length:	3 meters
Linearity:	6%	Dimensions:	17.78 cm (long) x 5.59 cm (wide) x 2.59 cm (thick)
Sensitivity:	20 gf		

NOTE: See Hardware Guide Appendix for SS25LB hysteresis specification and response diagram.