

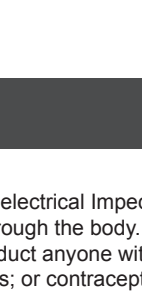
# Surpahs® DS2 Dual-S Digital Body Fat Scale

## User Manual (V-2016/8)

The user manual can be downloaded through Surpahs' website at <http://www.surpahs.com>



Scan for shopping and support:



www.surpahs.com

## QUICK START GUIDE

- Remove the battery insulating strip before first use.
- Place the scale on a hard flat surface. Avoid carpets, rug or soft, uneven surface.
- If you would use the scale as a Weight-Only scale, for the first time to use the scale, you may just step onto the scale to turn it on, and then step off wait the screen to display "0.0" and turn off, and then step on again, the screen will display your weight.
- If you would use the scale as a Body Fat scale, remove socks and wipe your feet with a damp cloth, leaving them slightly damp.
- Press "SET" to enter Setup Mode. The Profile Number will flash on the screen. Press the Up/Down arrow keys  $\blacktriangle$  and  $\blacktriangledown$  and press "SET" to select a profile number.
- Next, select your Gender.
- Next, set your Height.
- Next, set your Age.
- After entering your Age, the scale screen will display "0.0". **Please immediately step onto the scale before it turns off and remain your body still.** The scale will save your weight in your profile, and then display your body fat, water, muscle, and bone ratios, which you can write down to track. You do not have to remain standing on the scale, it will turn off automatically. You may click the "UNIT" button located on the back of the scale to switch display unit between Kilograms (kg) and Pounds (lb).

Next time when you stand on the scale, it will identify your profile automatically according to its stored weight information.

**IMPORTANT:** This scale uses BIA (Bioelectrical Impedance Analysis) to determine body fat level. BIA sends a harmless signal through the body. It is NOT intended for children or pregnant women. Do NOT use this product anyone with an implanted medical device (such as a pacemaker, metal plates or screws, or contraceptive devices). When in doubt, contact your physician.

The information provided by this device is NOT meant to treat, cure, or prevent any disease or illness. This device should NOT be used by anyone who is acutely or chronically ill, suffering from a disease, or taking medications that affect your water levels. The accuracy of readings for these patients has not been verified. Specific medical advice should be obtained from a physician.

## Statement of Accuracy

- This device is intended for home / consumer use; it is not intended for professional use in hospitals or medical facilities.
- Do not use the scale on a carpet, rug or uneven surface as these can cause inaccurate results.
- This scale uses BIA (Bioelectrical Impedance Analysis) to determine body fat percentage. BIA is considered reasonably accurate for measuring groups, or for tracking body composition in an individual over a period of time, but is not considered sufficiently accurate for recording of single measurements of individuals.
- As BIA is based on body water balance, your state of hydration can impact the level of accuracy. Overall the BIA provides an inexpensive, reliable way to estimate and track body fat level.
- For the most consistent and accuracy results, please do not measure within 30 minutes after a meal or 120 minutes after an exercise. It is recommended that you measure at the same time of the day, preferably early evening before a meal.
- Do not compare weight readings from one scale to another as some differences will exist due to manufacturing tolerances.
- Do not use your Doctor's scale reading as "accurate" reference to determine the accuracy of your scale, as it is not the right way to test the scale accuracy. The best way test scale accuracy would be using 50 kg\* (110 lb\*) standard Olympic weight bars on the scale.
- It should be used in a consistent manner for the most accurate readings. While readings of this monitor might be different than that of other scales (hydro densitometry or hand held calipers), your changes in body fat percentages shown by this scale will be reflected accurately.
- If you weigh yourself twice and get two different results, your weight lies between the two readings.

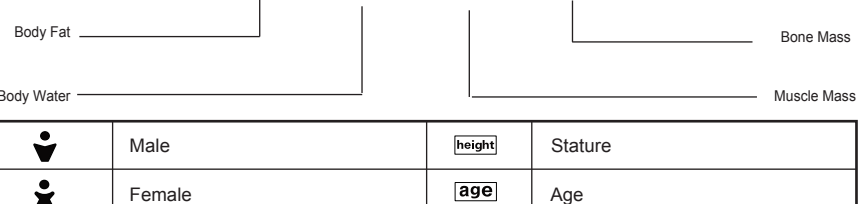
## SPECIFICATIONS/FEATURES

- Measures weight, body mass index (BMI), body fat, body water, muscle and bone mass
- Uses Bioelectrical Impedance Analysis (BIA) technology to estimate body fat, total body water percentage, bone mass, and muscle mass in generally healthy adult (18 years of age or older).

Dimension	280x245x23mm / 11x9.6x0.9 inches
Turn On Method	Sense-ON (Stand on the platform directly)
Display	Blue LCD with White Backlight
Weight Capacity	150 kg / 330 lb
Weight Unit	kg / lb
Weight Graduation	0.1 kg / 0.2 lb
Body Fat Graduation	0.1% (in the range of 5% - 80%)
Height Range	100-220 cm / 3'3" - 7'2"
Age Range	10 - 85 years old
User Profiles	4 Users
Athlete mode	
Accuracy	2.5-50kg (5.5-110lb): $\pm 0.3$ kg (0.66 lb) 50-100kg (110-220lb): $\pm 0.4$ kg (0.88 lb) 100-150kg (220-330lb): $\pm 0.5$ kg (1.10 lb)
Power	6V (4xAAA batteries)
Auto Turn OFF	About 10 seconds after LCD displays "0.0"
Working Environment	Temperature: 0°C to 40°C / Humidity: >90% RH
Storage Environment	Temperature: -20°C to 60°C / Humidity: 0%RH to 93% RH
Low battery indication	
Over load indication	



## SCREEN/LEGEND



Male	Female	Stature	Age
cm	kg	kg	kg
ft	lb	lb	lb
%	Low Battery		

## HOW DOES THE BODY FAT SCALE WORK?

Fat is essential for human body. It can not only store energy and protect viscera, but also regulate body temperature and maintain normal physiological function of human body. However, too much body fat is harmful to human body. It is always accompanied by Fatty Liver, diabetes, coronary heart disease, etc. Therefore self-measuring and self-monitoring body fat level are beneficial to your health. Since we can't judge body fat level simply by our weight, this Surpahs® DS2 Body Fat Scale, with BIA (Bio Impedance Analysis) technology applied, is an accurate device that offers a quick and comfortable way to obtain your body fat level. This Surpahs® DS2 Body Fat Scale uses Bio Impedance Analysis (BIA) technology which passes a small electrical current through the body to estimate body fat mass, total body water, muscle mass, and bone mass. The electrical current is very small and may not be felt. Contact is made with the body via four stainless steel pads on scale.

## BATTERY

- Uses 4 x AAA batteries
- Make sure the + and - sides of the batteries are aligned correctly.
- Replace batteries when the low battery indicator "Lo" is shown.

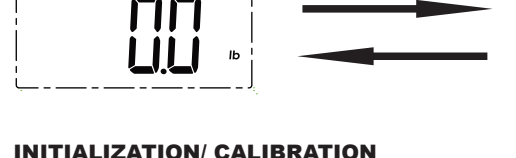
When batteries are inserted, the screen will display "8888".



Wait until the screen display "0.0", and it is ready to use.

## UNIT SELECTION

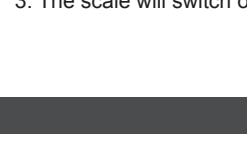
- Default displaying unit is "lb" (pound)
- To change displaying unit, press the UNIT button located on the back of the scale, and you can choose UNIT from kg or lb.



## INITIALIZATION/ CALIBRATION

**NOTE:** To ensure measuring accuracy, this initialization process must be done at anytime the scale is moved to another place, or batteries are changed.

- Step one foot onto the platform to turn it on and then step off.
- "0.0" will be displayed.



3. The scale will switch off and now is ready to use.

## SETUP USER PROFILE

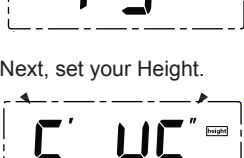
If you would use the scale as Weight-Only scale, you may skip this section and refer to the instructions in "USING THE SCALE AS WEIGHT-ONLY SCALE" section.

You are recommended to setup your profile before the first use, as this eliminates the needs to enter this scale for each time you take a measurement.

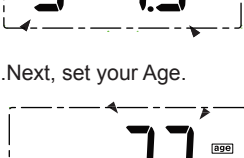
This scale can store up to 4 user profiles (identified as P1 to P4) in memory.

- Remove socks and wipe your feet with a damp cloth, leaving them slightly damp.

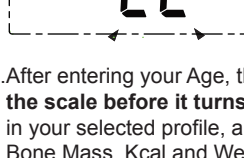
- Press "SET" to enter Setup Mode. The Profile Number will flash on the screen. Press the Up / Down arrow  $\blacktriangle$  and press "SET" to select a profile number.



- Next, Gender icon  $\text{♂}$  is blinking, select your Gender.



- Next, set your Height.



- Next, set your Age.



- After entering your Age, the scale screen will display "0.0". **Please immediately step onto the scale before it turns off and remain your body still.** The scale will save your weight in your selected profile, and then display your Body Fat, Total Body Water, Muscle Mass, Bone Mass, Kcal and Weight.

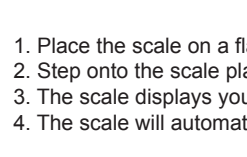
This completes the programming of your profile. The next time you use your scale, it will identify your profile by comparing your current weight with the stored weight.

**Note:** If your weight changes by +/-2 kg (+/-4.4lb) or more, the scale may have trouble identifying your profile. It is recommended that you re-configure your profile.

## USING THE SCALE AS WEIGHT-ONLY SCALE

If you just need to measure body weight only, under this WEIGHT-ONLY mode, your Surpahs® Body Fat Scale will operate as a conventional weight-reading scale, there are no special programming steps are required.

Once the scale is initialized, as previously described, you may simply step on the scale to turn it on and measure your current weight only.

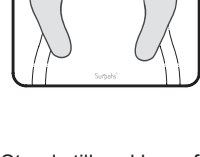


- Place the scale on a flat, hard surface. Carpeted or uneven floors may affect accuracy.
- Step onto the scale platform and remain still while the scale computes your weight.
- The scale displays your weight.
- The scale will automatically turn off in about 10 seconds if there is no operation.

## USING THE SCALE AS BODY FAT SCALE

- If you haven't programmed a user profile, please follow the instructions in "SETUP USER PROFILE" section to complete the setup.
- If it is the first time use or has been moved from one place to another, please follow the instructions in "INITIALIZATION/ CALIBRATION" to initiate the scale.
- For the most consistent and accurate results, please measure at the same time of the day, and do not measure within 30 minutes after a meal or 120 minutes after an exercise.

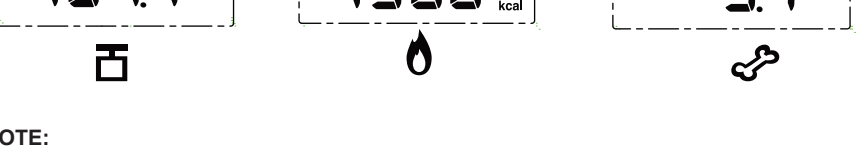
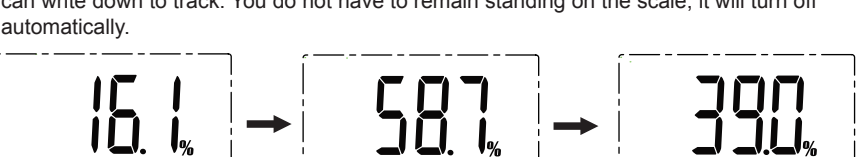
- Wipe your feet with a damp cloth, leaving them slightly damp, step onto the scale to turn it on.



- Stand still and keep fully contact with the 4 stainless steel electrodes until the screen stop displaying the moving "0".



- It automatically identifies a programmed profile (P1-P4). And then displays your Body Fat, Total Body Water, Muscle Mass, Bone Mass, Kcal and Weight two times in sequence. You can write down to track. You do not have to remain standing on the scale, it will turn off automatically.

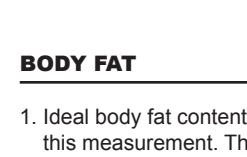


**NOTE:**

If there is no profile matched, it will just go with the "WEIGHT-ONLY" mode, and displays your weight only.

If your weight changes by +/-2 kg (+/-4.4lb) or more, the scale may have trouble identifying your profile. It is recommended that you re-configure your profile.

If one or more other user's stored weight is within +/-2kg (+/-4.4lb) of your weight, the scale is unable to determine which one is your profile, and it will display a choice of profile numbers. You can write down to track. You do not have to remain standing on the scale, it will turn off automatically. You may click the "UNIT" button located on the back of the scale to switch display unit between Kilograms (kg) and Pounds (lb).



Press  $\blacktriangle$  to choose P1  
Press  $\blacktriangledown$  to choose P2

## BODY FAT

- Ideal body fat content is NOT the same for all people. Age, sex, and heredity are variables in this measurement. The table below is a general guide. Consult your physician to determine what is most ideal for you.

Rating	Age
	20-29 30-39 40-49 50-59 60+
Low	<13 <14 <16 <17 <18
Normal	14-20 15-21 17-23 18-24 19-25
Moderately High	21-23 22-24 24-26 25-27 26-28
High	>23 >24 >26 >27 >28

Rating	Age
	20-29 30-39 40-49 50-59 60+
Low	<19 <20 <21 <22 <23
Normal	20-28 21-29 22-30 23-31 24-32
Moderately High	29-31 30-32 31-33 32-33 33-35
High	>31 >32 >33 >34 >35

- It is recommended to measure body fat and weight daily at the same.
- Use this product without clothing for best accuracy. Clothes can vary in weight and affect the calculation.
- Feet must be bare and clean. For best results, they should also be slightly damp.

Reference: University of Illinois Department of Food Science and Human Nutrition.  
Body Fat Percentage Calculator.  
[www.ag.uiuc.edu/~food-lab/wbfbc.html](http://www.ag.uiuc.edu/~food-lab/wbfbc.html)

## TOTAL BODY WATER (TBW)

**You must wait several hours before taking a body fat analysis when:** Drinking coffee or alcohol, taking diuretic medications, or exercising. These all affect your level of hydration and the accuracy of your body fat analysis.

Normal healthy range of total body water (TBW) percentage table:

	% Body Fate Range	Normal % TBW Range
Men	4 to 14%	70 to 63%
	15 to 21%	67 to 57%
	22 to 24%	53 to 55%
	25 and over	55 to 37%
Women	4 to 20%	70 to 58%
	21 to 29%	58 to 52%
	30 to 32%	52 to 49%
	33 and over	49 to 37%

Body water measurement results are influenced by the proportion of body fat and muscle. If the proportion of body fat is high, or the proportion of muscle is low, then the body water results will tend to be below.

It is important to remember that measurements such as body weight, body fat and body water are tools for you to use as part of your healthy lifestyle. Since short term fluctuations can be normal, we suggest that you chart your progress over time, rather than focus on just a single day's reading. Consult your physician to determine what is most ideal for you.

Reference: Derived from Wang & Deurenberg: "Hydration of fat-free body mass", American Journal Clin Nutr 1999;69:833-841.

## MUSCLE MASS

Muscle mass is important in determining a healthy body composition. A person with a higher % of muscle mass finds it easier to move, but needs more energy to do it. Exercise is very important in maintaining a healthy body and the muscle mass % is a useful indicator to control it. The normal muscle mass percentage on the body weight lies between 38% and 54% for men and between 28% and 39% for women depending on age and physical activity level.

Reference: International Commission on Radiological Protection, 1975

## BONE MASS

The bone mass readings given by this scale are estimation of the amount of bone in your body. Individuals with osteoporosis or low bone densities may not get accurate. If you have any concern regarding your bones, please consult your doctor.

	Weight	Bone Mass
Men	Less than 143 lb	5.9 lb
	143 lb - 209 lb	7.3 lb
	209 lb and up	8.1 lb
Women	Less than 110 lb	4.3 lb
	110 lb - 165 lb	5.3 lb
	165 lb and up	6.5 lb

## KCAL

Kcal stands for Kilo-Calories. It tells you how many Kilo-Calories you need to consume each day to keep your body weight not gaining or losing.

## MAINTENANCE AND CARE

- The product is intended for home / consumer use only; it is not intended for professional use in hospitals or medical facilities.

- Clean exposed parts with a soft, slightly damp cloth. To remove stains, use a mild soap.

- Never use detergents, excess water, treated cloths, harsh cleaning agents, or sprays.

- Do not immerse scale in water.

- Treat your scale with care to ensure the best performance. It contains sensitive electronic parts. Avoid rough treatment. Do not jump on, drop or kick the scale.

- Do not attempt to lubricate, disassemble, or open the scale casing as this will void warranty.

- Always weigh yourself on the same scale placed on the same floor surface.

- Do not compare weight readings from one scale to another as some differences do exist due to manufacturing tolerances.

- Place your scale on a hard even floor to ensure the greatest accuracy and consistency.

- It is recommended that you measure at the same time of the day, preferably early evening before a meal, for the most consistent results.

- Your scale rounds up or down to the nearest increment.

- If you weigh yourself twice and get two different results, your weight lies between the two.

- Do not dispose of batteries in a fire. Batteries may explode or leak. Remove batteries from the scale if it will not be used for a long period.

- Do not store the scale where you store cleaning chemicals. The vapors may affect the electronic components of your scale. Do not store the scale on its side.

- Store your scale in a clean, dry location at room temperature. Dust, dirt, or moisture from humidity can accumulate on the weighing sensors causing inaccuracy and malfunction.

- To prevent battery drainage, do not store anything on the scale.

## FCC REGULATIONS

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

## APPENDIX

### EMC Guidance

Table 1 Guidance and MANUFACTURER'S declaration – ELECTROMAGNETIC EMISSIONS- for all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacturer's declaration – electromagnetic emissions		
The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assume that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance

RF emissions CISPR 11	Group 1	The device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
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RF emissions CISPR 11	Class B	
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Harmonic emissions IEC 61000-3-2	Not applicable	
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Voltage fluctuations/flicker emissions IEC 61000-3-3	Not applicable	
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where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).

Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range.

Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

\* Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the device.

† Over the frequency range 150 kHz to 80 MHz, field strengths should be not less than 1 V/m.

Table 2 Guidance and MANUFACTURER'S declaration – electromagnetic IMMUNITY – for all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacturer's declaration – electromagnetic immunity		
The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assume that it is used in such an environment.		
IMMUNITY test	IEC 60601 TEST LEVEL	Compliance level

Electrostatic discharge (ESD) IEC 61000-4-2	$\pm 8$ kV contact $\pm 8$ kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
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Electrical fast transient/burst IEC 61000-4-4	$\pm 2$ kV for power supply lines $\pm 1$ kV for input/output lines	Not applicable
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Surge IEC 61000-4-5	$\pm 1$ kV line(s) to line(s) $\pm 2$ kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
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Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U <sub>n</sub> >95% dip in U <sub>n</sub> for 0.5 cycle 40% U <sub>n</sub> (30% dip in U <sub>n</sub> ) for 5 cycles 70% U <sub>n</sub> (30% dip in U <sub>n</sub> ) for 25 cycles <5% U <sub>n</sub> >95% dip in U <sub>n</sub> for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the device requires continued operation during power mains interruptions, it is recommended that the device be powered from an uninterruptible power supply or a battery.
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Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical commercial or hospital environment.
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NOTE U<sub>n</sub> is the a.c. mains voltage prior to application of the test level.

Table 4 Guidance and MANUFACTURER'S declaration – electromagnetic IMMUNITY – for ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Guidance and manufacturer's declaration – electromagnetic immunity		
The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assume that it is used in such an environment.		
IMMUNITY test	IEC 60601 TEST LEVEL	Compliance level

Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	Not applicable
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Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m
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Recommended separation distance  $d = \sqrt{\frac{35}{f}}$  where f is the frequency in MHz

where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).

Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range.

Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

\* Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the device.

† Over the frequency range 150 kHz to 80 MHz, field strengths should be not less than 1 V/m.

Table 6 Recommended separation distances between portable and mobile RF communications equipment and the device.

The device is intended for use in an