SRScales®
by SR® Instruments, Inc.

Model SR7000*i*

Wall Mount Platform Scale

Operating and Service Manual

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SR7000*i* Wall Mount Platform Scale

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INSTALLATION

STEP 1: Unpack the scale system and check parts against the **PACKING CHECKLIST**. If there are any missing or damaged parts, please call the service hotline at 1-800-654-6360.

IMPORTANT

SCALE MUST BE INSTALLED BY QUALIFIED PERSONNEL

STEP 2: Determine the best location for the scale by considering these recommendations:

- Have 10 feet of free wall / hallway space to roll a wheel chair onto the scale from either side.
- Platform extends 45” into the hallway when folded down. Hallway must be wide enough to allow suitable access and egress for personnel using the hallway.
- A 120v AC power outlet must be within 36” of the power supply on the scale.

WARNING

DEVICE MUST BE INSTALLED IN A LOCATION THAT ALLOWS FOR MEANS OF EGRESS ACCORDING TO LOCAL, STATE AND NATIONAL STANDARDS

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INSTALLATION (CON'T)

Figure 1: Wall Bracket

WARNING

THE WALL BRACKET MUST BE SECURELY ANCHORED TO THE WALL USING APPROPRIATE HARDWARE

STEP 3: To mount the SR7000*i* Wall Mount Platform Scale use the Wall Bracket (Figure 1) supplied with the scale.

STEP 4: When the desired location is determined, use a tape measure and measure up from the floor 41 ½" and make a mark. This will be the location of top edge of the wall mounting bracket (Figure 2).

NOTE: The wall mounting bracket does not need to be centered on the crossbar, but must be located between the bumpers

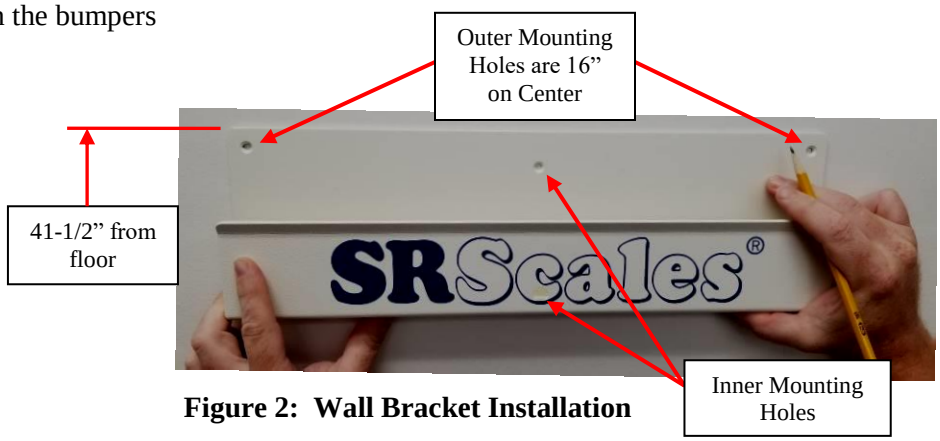

Figure 2: Wall Bracket Installation

STEP 5: For stud walls, use a stud finder and locate any studs in the mounting area:

- For two (2) studs located within the mounting area (usually 16" on center) align the outer mounting holes with the studs, level the wall bracket and mark all four screw locations.
- For one (1) stud located within the mounting area align the inner mounting holes with the stud, level the wall bracket and mark all four screw locations.
- For no studs located within the mounting area, level the wall bracket and mark all four screw locations.

For concrete walls, level the wall bracket and mark all four screw locations

Continued next page

INSTALLATION (CON'T)

STEP 6: For stud wall mounting locations without a stud, use a screwdriver to drive the provided self-drilling wall anchors into the wall. It is not recommended to use a power drill to set the wall anchors.

For concrete wall mounting, install appropriate wall anchors at all marked screw locations.

STEP 7: Mount the bracket to the wall by either using the provided #8 x 1" Phillips flat head screws into the self-drilling wall anchors or using the customer supplied appropriate flat head screws long enough to anchor into the wall or the concrete anchors.

NOTE: The screws need to be a flat head type screw so there is adequate clearance for the scale frame to slide into the wall bracket.

STEP 8: After the bracket is securely fastened to the wall, have two people lift the SR7000i Series scale and place it into the wall mounting bracket.

IMPORTANT

THE WALL BRACKET IS INTENDED TO KEEP THE SCALE FROM PULLING OFF OF THE WALL. ENSURE THAT THE ENTIRE WEIGHT OF THE SCALE IS ON THE FLOOR AND NOT ON THE WALL BRACKET.

STEP 9: Carefully lower the SR7000i Series platform down into position for use and plug the provided AC power cord into the power supply located inside the bracket at the right end of the upper support bar and into a wall outlet (Figure 3**)**.

Figure 3: Power Cord Plug In

WARNING

THE COUNTER BALANCE ACTUATORS ASSIST THE END USER WHEN RAISING OR LOWERING THE PLATFORM. THE END USER NEEDS TO CONTROL THE RAISING AND LOWERING OF THE PLATFORM.

REPLACEMENT PARTS and ACCESSORIES

Part #	Description
FRTP211C1	Paper, thermal printer 58mm (15 rolls)
FRME20A0903F01	Medical Grade AC Power Supply
FRPCORD3	3 Foot Ultra Low Profile Angled Power Cord
FRPCORD6	6 Foot Ultra Low Profile Angled Power Cord

SYSTEM DESCRIPTION and INTENDED USE

SYSTEM DESCRIPTION

The SR7000*i* Wall Mount Platform Scale system employs the latest in microprocessor and load cell technology to provide accurate and repeatable weight data. Four (4) identically matched transducers are strategically placed to ensure an accurate representation of the patient's weight.

The SR7000*i* low power microprocessor circuitry is powered by a Medical Grade AC power supply.

The patient's weight is displayed on a 16-character dot matrix LCD w/LED backlight. The weight data may be viewed either in pounds or kilograms with a displayed resolution of 0.1 for each.

The SR7000*i* Wall Mount Platform Scale system has a 24" x 40" (61 cm x 101.6 cm) platform weighing surface.

The scale system has a programmable Automatic Power Down (APD) for adjusting scale on-time.

INTENDED USE:

The SR7000*i* Wall Mount Platform Scale system is specifically designed for weighing ambulatory and non-ambulatory wheelchair bound patients and is a preferred means of gathering patient weight data of up to 1000 pounds or 454 kilograms.

Platform should be stored in the upright position when not in use to prevent a trip and fall hazard.

WARNING

DO NOT EXCEED MAXIMUM WEIGHT LIMIT OF 1000 LB / 454 KG

WARNING

DEVICE COULD BE A TRIP AND FALL HAZARD IF PLATFORM IS LEFT IN THE DOWN POSITION

WARNING

PATIENTS EXPERIENCING DIFFICULTY WALKING OR SEEING SHOULD BE ASSISTED WHEN USING THE PLATFORM SCALE

MICROBAN ANTIMICROBIAL PROTECTION

Microban® antimicrobial technology has been added to help reduce the growth of bacteria as part of a medical center's approach to creating a cleaner healthcare environment. For more information, visit https://www.microban.com/sr-scales

CLEANING and DISINFECTING

CLEANING

To clean the display / user interface and other scale contact areas:

- Use a soft cloth dampened with water and mild detergent to clean scale surfaces.
- Wipe surface with clean soft cloth dampened with water and then dry with clean soft cloth.
- Do not use abrasive materials to clean scale surface to prevent damage to the surface finish.
- Do not spray liquid directly onto scale surfaces. Use only a damp cloth.

DISINFECTION

To disinfect the display / user interface and other scale contact areas:

- Use a soft cloth dampened with disinfectant or a damp disposable disinfectant cloth. Cloth cannot be dripping wet. Follow manufacturer's instruction on the proper use of commercially available disinfectants.
- Disinfectant solutions with 1% sodium hypochlorite or 70% isopropyl alcohol are suitable for display / user interface and other scale contact surfaces.
- After disinfecting, use a soft cloth dampened with clean water and dry with a soft clean cloth to prevent buildup of material on scale finish.
- Do not use abrasive material to disinfect / clean scale surfaces to prevent damage to the surface finish.
- Do not spray liquid directly onto scale surfaces. Use only a damp cloth.

WARNING: DO NOT SPRAY CLEANING SOLUTION OR LIQUIDS DIRECTLY ON SURFACES TO BE CLEANED

WARNING: EXPOSURE TO EXCESSIVE LIQUID WILL DAMAGE USER INTERFACE KEYPAD

WARNING: DO NOT USE PRESSURIZED WATER OR STEAM. THE SCALE SYSTEM CONTAINS ELECTRONIC COMPONENTS THAT MAY BE ADVERSELY AFFECTED BY EXPOSURE TO SUCH AN ENVIRONMENT.

STORAGE

Platform should be stored in the upright position when not in use to prevent a trip and fall hazard.

If storing this equipment for periods longer than three (3) months, store in the upright position to prevent damage to the hydraulic cylinders. To maintain proper operation of this instrumentation, storage and transport conditions should not vary outside the following conditions: Relative Humidity 0% to 85%, Ambient Temperature 14°F to 122°F (-10°C to +50°C).

SPECIFICATIONS

MAXIMUM WEIGHT CAPACITY	1000 lb or 454 kg
PLATFORM SIZE	24 in x 40 in (61 cm x 101.6 cm)
DISPLAY TYPE	16-Character Dot-Matrix LCD
DISPLAY RESOLUTION	0.1 lb / 0.1 kg
ACCURACY	0.1% +/- 1 digit of displayed resolution for calibrated range
AUTO ZERO	Auto Zero when platform is first put down. One button operation after platform is left down
AUTO POWER DOWN	Adjustable between 30 to 300 seconds
AVERAGING	Automatic digital filter
POWER SUPPLY	Medical Grade AC Power Supply
CALIBRATION	Calibration is traceable to NIST standards
OPERATING CONDITIONS	Normal operating conditions for this product: Ambient Temperature Range: 68°F to 85°F (20°C to 30°C) Relative Humidity Range: 0%-85% Avoid exposure to high-pressure water or steam
TRANSPORTATION and STORAGE	Platform should be stored in the upright position when not in use to prevent a trip and fall hazard. Storage and transportation conditions should not vary outside the following conditions: Relative Humidity 0% to 85%, Ambient Temperature 14°F to 122°F (-10°C to +50°C). Store in the upright position if storing longer than three (3) months

BUTTON FUNCTIONS

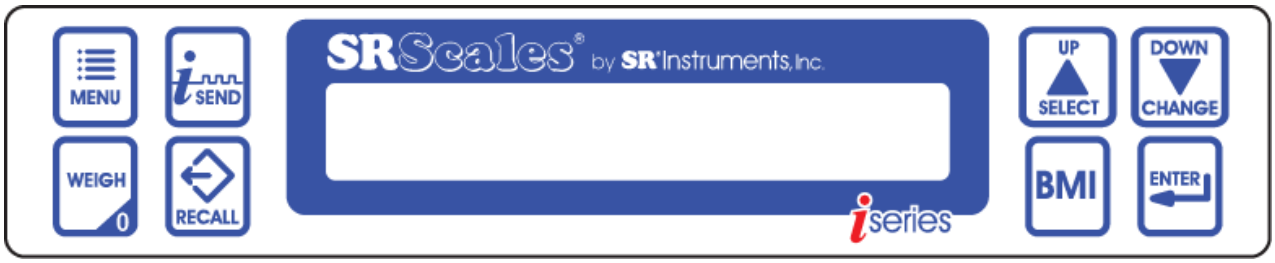

Figure 4: Button Display

WEIGH

Press and hold to zero scale. Button is used to zero the system before placing the patient on the scale. Ensure that nothing is in contact with the weighing surface during this procedure.

SEND (PRINTER)

Press to send stored values to printer. Output values include time, date, and weight. If BMI was calculated, BMI and height will be included in the output values. Also, low paper is an output value.

RECALL

Press to recall the last stored weight. The stored weight will be erased when the scale is zero or another stable weight is stored.

BMI

Press to calculate BMI. When the "**BMI**" is pressed, the default value "**HT = 65 in**" or "**HT = 165 cm**" is displayed. If there is no stored stable weight, the display will indicate "**NO WEIGHT DATA**" and then go back to the weigh screen "**WT = 0.0 Lb**".

MENU

Press Menu to toggle through the menu options.
Setting the **UNITS**: Use **UP** or **DOWN** arrow buttons to select "**Lb/ in**" or "**Kg/ cm**". Press **ENTER** to save changes.

Setting **ON TIME**: Use **UP** or **DOWN** arrow buttons to adjust the "**ON TIME**". The "**ON TIME**" may be set from 30 to 300 seconds in 30 second increments. Press **ENTER** to save changes.

Setting **TIME** and **DATE**: Use the **UP** arrow button to select digit. To change digit use the **DOWN** arrow button. Press **ENTER** to save changes.
NOTE: When selected, the year position defaults to "00"

Continued next page

BUTTON FUNCTIONS (CON'T)

ENTER

Press to save change in digits for calibration, for unit's set-up, for time and date set-up and saving completed calibration data.

UP / SELECT

Press **UP** to adjust height up from the default for BMI calculation, to increase the scale's "on time", or to select a digit when setting time and date.

DOWN / CHANGE

Press **DOWN** to adjust the height down from the default for BMI calculation, to decrease the scale's "on time", or to change the value of a selected digit when setting time and date.

BASIC SYSTEM OPERATION

SETTING SYSTEM ZERO

Scale will auto-zero when the platform is first lowered. Make sure the scale is free and clear of any obstructions. When platform is left down, press and hold the **ZERO / WEIGH** button. The displayed message will indicate "**HOLD TO ZERO**" and count down to zero. Release the button when display message indicates "**HANDS OFF**". Make sure that nothing is in contact with the scale while zeroing the system. In a few seconds, the display will read "**WT = 0.0 Lb**" (or **Kg**).

WEIGHING

Position the patient on the scale. The weight stable indicator "□" flashes on the display. When the weight is stable, the weight stable indicator remains solid. The display will indicate the patient's weight in either pounds or kilograms; example: "**WT = 123.5 Lb**". The stable weight is auto stored in memory.

RECALLING LAST STORED WEIGHT

Press to recall last stored weight. The stored weight will be erased when the scale is zeroed or another stable weight is stored.

THEORY OF OPERATION

SR Instruments patient weighing systems are digital scales. Strain-gauge force cells convert the force of an applied weight into an analog signal. This signal is amplified by an operational amplifier and converted to a digital signal by an on-chip analog to digital converter. The digital signal is filtered, converted to appropriate units, and displayed on the liquid crystal display.

Strain-gauge force cells each contain four strain gauges mounted in a full Wheatstone-bridge configuration. These bridges convert the physical movement of the force cell, due to the applied mass on the system, into minute changes in electrical resistance. These changes in resistance produce a voltage difference across the Wheatstone-bridge, which is amplified by the operational amplifier. The amplifier is configured to current sum the output of each cell, with potentiometers serving to normalize the sensitivity (voltage out per unit of weight applied) of each bridge. The offset potentiometer produces a small current, which nulls the output of the amplifier for an unloaded system.

The output of the operational amplifier is digitized by the analog to digital converter. The sigma-delta converter sums a rapid sequence of 0's (0 volts) and 1's (reference voltage) to achieve balance with the input signal from the amplifier.

The micro-controller filters the digital output of the analog to digital converter, subtracts the value saved during the system zero operation and scales the filtered output, and then displays the result on the liquid crystal display. The micro-controller performs a moving-median filter of data for continuous weigh the micro-controller performs checks for signal stability before locking in on the reading.

The micro-controller can be placed in a calibration mode, where the system can be re-calibrated. In the calibration mode, the system slope is calculated from two points (zero and full scale) in the 2-point calibration mode or the slope and change in slope is calculated from three points (zero, half, and full scale) in the 3-point calibration mode.

CALIBRATION

NOTE: Ensure that nothing is in contact with the scale system during this procedure. Remove hands from the system when noting the displayed calibration results.

CHECKING CALIBRATION:

STEP 1: Select known calibrated weights, traceable to NIST.

NOTE: DO NOT USE barbells or uncalibrated weights.

STEP 2: Zero the scale by pressing and holding the left **ZERO** button.

STEP 3: Place the calibrated weight on the scale. Wait for scale to stabilize; note scale reading.

STEP 4: Scale readings should be within Calibration Tolerance Table limits (Figure 5)

CALIBRATION TOLERANCE TABLE		
LOW LIMIT	APPLIED LOAD	HIGH LIMIT
99.9	100.0	100.1
199.8	200.0	200.2
299.7	300.0	300.3
399.6	400.0	400.4
499.5	500.0	500.5
599.4	600.0	600.6
699.3	700.0	700.7
799.2	800.0	800.8
899.1	900.0	900.9
999.0	1000.0	1001.0

Figure 5: Calibration Table

IMPORTANT

CALIBRATION Qualified service personnel only should perform this procedure. The SR7000*i* load cells have no user serviceable components and should not be tampered with for any reason. Re-calibration is generally not required, but should be verified periodically to ensure accuracy. The recommendation for calibration check is at least once every 12 months, or as individual maintenance policy requires.

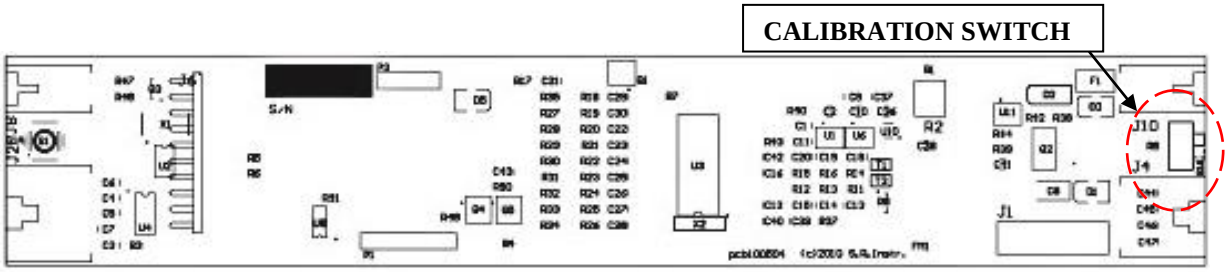

Figure 6: Calibration Switch Diagram

CAUTION

The integrated circuits and semiconductors on the printed circuit boards may be damaged by electrostatic discharge (ESD). Be sure to use proper handling precautions at all times.

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CALIBRATION (CON'T)

SETTING CALIBRATION

NOTE: Ensure that nothing is in contact with the scale system during this procedure. Remove hands from the system when noting the displayed calibration results.

STEP 1: Remove the two (2) screws on the display assembly cover. Remove the display assembly from the scale. Put the scale system into the Calibration Mode by switching the calibration switch on the display board (Figure 6).

STEP 2: Select known calibrated weights, traceable to NIST, up to the Full Scale value (maximum capacity).

STEP 3: Press the "**MENU"** button until "**FULL 1000.0Lb**" is displayed. Set the **FULL** value to the actual quantity of calibrated weight being used for Full Scale. Use the "**UP"** arrow button to select the digit and the "**DOWN"** arrow button to change digit. Press "**ENTER**" to save changes. Press "**WEIGH**" button to abort any changes.

STEP 4: Press the **MENU** button until "**HALF 500.0Lb**" is displayed.

NOTE: The Half-Scale value is a value between zero and the Full Scale values. It is usually close to half the Full Scale value.

Set the **HALF** value to the actual quantity of calibrated weight being used for Half Scale. Use the "**UP"** arrow button to select the digit and the "**DOWN"** arrow button to change the digit. Press **"ENTER"** to save changes. Press "**WEIGH**" to abort the changes.

STEP 5: Press **MENU** button until "**3 PT CAL**" is displayed. Press the "**UP"** arrow button.

STEP 6: Display will read "**ZERO**". Ensure that all weight has been removed from the platform and press the "**UP"** arrow button.

STEP 7: Display will read "**ADD HALF**". Place the calibrated weight on platform for **HALF** Scale. Allow weight to stabilize. Press "**UP"** arrow button to save change.

STEP 8: Display will read "**ADD FULL**". Place the calibrated weight on platform for **FULL** Scale. Allow weight to stabilize. Press "**UP"** arrow to save change.

STEP 9: Press **"ENTER"** button to save the calibration, or "**WEIGH**" button to exit without saving**.**

STEP 10: Switch the scale system out of the Calibration Mode on the display board (Figure 6).

NOTE: Ensure that no wires have become unplugged during calibration.

STEP 11: Place the display assembly into the scale frame. Attach using the two (2) display cover screws.

TROUBLESHOOTING

SYMPTOM	REASON/CORRECTIVE ACTION
The characters only appear on half of the display.	Press the "WEIGH" button or disconnect power. Wait five seconds, then re-connect the power and try the "WEIGH" button again.
The display lights appear to work, but do not respond to button activation.	Check to ensure the membrane switch label is correctly plugged into display board. Check to ensure the calibration switch is not in the Calibration Mode (Figure 6).
The display shows no reading at all.	Check that power supply is plugged in. Check display cable to make sure it is connected securely.
For additional information or assistance, telephone our Service Hotline: 1-800-654-6360 or e-mail: sri@srinstruments.com	

WARRANTY

FOUR YEAR LIMITED WARRANTY

SR Instruments, Inc. systems are manufactured with high quality components. SR Instruments, Inc. warrants that all new equipment will be free from defects in material or workmanship, under normal use and service, for a period of four (4) years from the date of purchase by the original purchaser. Normal wear and tear, injury by natural forces, user neglect, and purposeful destruction are not covered by this warranty. Warranty service must be performed by the factory or an authorized repair station. Service provided on equipment returned to the factory or authorized repair station includes labor to replace defective parts. Goods returned must be shipped with transportation and/or broker charges prepaid. SR Instruments, Inc.'s obligation is limited to replacement of parts that have been so returned and are disclosed to SR Instruments, Inc.'s satisfaction to be defective. The provisions of this warranty clause are in lieu of all other warranties, expressed or implied, and of all other obligations or liabilities on SR Instruments, Inc.'s part, and it neither assumes nor authorizes any other person to assume for SR Instruments, Inc. any other liabilities in connection with the sale of said articles. In no event shall SR Instruments, Inc. be liable for any subsequent or special damages. Any misuse, improper installation, or tampering, shall void this warranty.

DAMAGED SHIPMENTS

Title passes to purchaser upon delivery to Transportation Company. Purchaser should file any claims for shortage or damage with the delivery carrier and should refuse any shipment that has obvious external damage.

RETURN POLICY

All products being returned to SR Instruments, Inc. require a Return Goods Authorization number (RGA). To receive an RGA, call our Customer Service at 716-693-5977 ext 103 or toll-free in the USA and Canada at 800-654-6360 ext 103.

When inquiry is made, please supply model and serial numbers, purchase order and reason for return.

Generally, deleted, damaged, and outdated merchandise will not be accepted for credit. A minimum restocking charge of 15% will be assessed on return of current merchandise unless scale is returned because of SR error.

No returns will be accepted after 30 days.

All returns are to be shipped FREIGHT PREPAID to: SR Instruments, Inc., 600 Young Street, Tonawanda, NY 14150.

RESTOCKING FEE

- **15% fee** will be assessed on return of current merchandise
- **No fees** will be charged if the scale is returned because of an error on the part of SR Instruments, Inc.
- **No returns** accepted after 30 days**.**

SRScales®
by SR® Instruments, Inc.

Precision & Technology in Perfect Balance®

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