SRScales®
by SR® Instruments, Inc.

Model SR7005*i*-KG

Wall Mount In-Room Mini Platform Scale

Operating and Service Manual

SR® Instruments, Inc., 600 Young Street, Tonawanda, NY 14150
Tel: 716-693-5977 Fax: 716-693-5854 URL: www.srscales.com
email: sri@srinstruments.com

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SR7005*i*-KG Wall Mount In-Room Mini 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 28 inches of free wall / hallway space.
- Platform extends 23" into the room / hallway when folded down. Hallway must be wide enough to allow suitable access and egress for personnel using the hallway.
- If using the AC power supply, a wall outlet must be located within 48" from the upper right end of the scale.

WARNING

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

WARNING

DURING SHIPPING OR STORAGE THE DAMPER THAT CONTROLS THE LOWERING OF THE PLATFORM MAY LOSE ITS PRIME CAUSING THE PLATFORM TO DROP FAST. THE USER SHOULD GUIDE THE LOWERING OF THE PLATFORM

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INSTALLATION (Cont'd)

Figure 1: Wall Bracket

WARNING

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

STEP 3: To mount the SR7005*i*-KG Wall Mount In-Room Mini Platform Scale you can use either:

- The wall mount bracket supplied with the scale (Figure 1) or
- Use the two crossbar mounting holes on the crossbar which are located 16" apart (Figure 2).

USING THE WALL MOUNTING BRACKET

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

STEP (b): Measure up from the floor 27-5/8" and make a mark at a stud location. This will be the location of bottom edge of the wall mounting bracket (Figure 2). Level the wall bracket and mark all three screw locations.

For concrete walls, measure up from the floor 27-5/8" and make a mark, Level the wall bracket and mark all three screw locations.

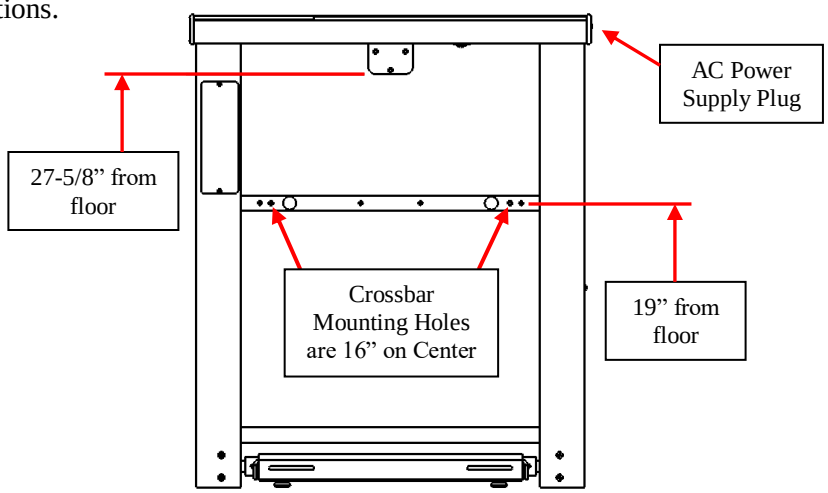

Figure 2: Wall Bracket Installation

STEP (c): For 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.

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INSTALLATION (Cont'd)

STEP (d): Mount the wall bracket to the wall by using the provided #8 x 1-1/2" Phillips flat head screws into the self-drilling wall anchors or using customer supplied appropriate flat head screws long enough to anchor into a wall stud or the concrete anchors.

STEP (e): After the wall bracket is securely fastened to the wall, carefully lift the SR7005i scale and place it onto the wall mounting bracket. Proceed to Step 4.

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.

USING THE CROSSBAR MOUNTING HOLES

STEP (a): Place the scale against the wall and carefully lower the platform. Make a mark at a stud location for the two holes 16" apart (Figure 2).

For concrete walls, follow the same procedure, marking the two hole locations.

STEP (b): 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 (c): Attach the crossbar to the wall by using the provided #8 x 1-1/2" Phillips flat head screws into the self-drilling wall anchors or using customer supplied appropriate flat head screws long enough to anchor into a wall studs or the concrete anchors.

STEP 4: Plug in the AC power supply and/or remove the battery cover and remove the plastic battery strip to activate the six (6) "C" cell batteries. Reattach the battery cover.

WARNING

THE COUNTER BALANCE DAMPER ASSISTS THE END USER WHEN LOWERING THE PLATFORM. THE END USER NEEDS TO CONTROL THE RAISING AND LOWERING OF THE PLATFORM.

SYSTEM DESCRIPTION and INTENDED USE

SYSTEM DESCRIPTION

The SR7005*i*-KG Wall Mount In-Room Mini 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 SR7005*i*-KG low power microprocessor circuitry is powered by six (6) alkaline "C" cell batteries that will provide up to 6,500 weight readings before needing replacement.

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

The SR7005*i*-KG Wall Mount In-Room Mini Platform Scale system has an 18" x 20" (45.8 cm x 50.8 cm) platform weighing surface.

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

INTENDED USE:

The SR7005*i*-KG Wall Mount In-Room Mini Platform Scale system is specifically designed for in-room weighing of patients and is a preferred means of gathering patient weight data of up to 300 kg.

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 300 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

ANTIMICROBIAL PROTECTION

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.

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, remove the batteries and 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	300 kg
PLATFORM SIZE	18 in x 20 in (45.8 cm x 50.8 cm)
DISPLAY TYPE	16-Character Dot-Matrix LCD
DISPLAY RESOLUTION	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	Six (6) “C” cell batteries, Replace battery indicator on Display 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: Ambient Temperature 14°F to 122°F (-10°C to +50°C). Relative Humidity 0% to 85%, Store in the upright position and remove batteries if storing longer than three (3) months

BUTTON FUNCTIONS

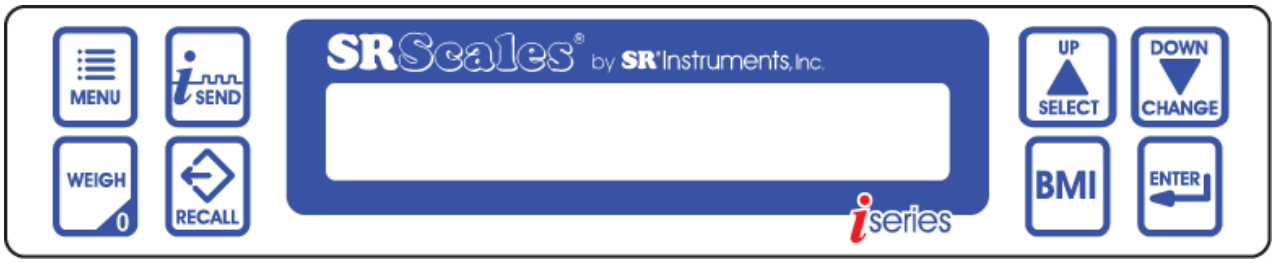

Figure 3: Button Display

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.

RECALL

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

BMI

Press to calculate BMI. When the "**BMI**" is pressed, the default value "**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 Kg**".

MENU

Press Menu to toggle through the menu options.
Setting the **UNITS**: Use **UP** or **DOWN** arrow buttons to select "**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"

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BUTTON FUNCTIONS (Cont'd)

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 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 kilograms; example: "**WT = 123.5 Kg**". 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.

BATTERY REPLACEMENT

STEP 1: The display will read "REPLACE BATTERY".

STEP 2: Unscrew the two (2) battery cover screws and remove the battery compartment cover.

STEP 3: Remove and replace ALL six (6) "C" cell batteries. Refer to battery holder for placement orientation.

STEP 4: Press the "WEIGH" button to confirm that "REPLACE BATTERY" is not displayed.

STEP 5: Replace cover and tighten the two (2) cover screws.

STEP 6: Zero the system.

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 **ZERO** button.

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

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

CALIBRATION TOLERANCE TABLE		
LOW LIMIT	APPLIED LOAD (kg)	HIGH LIMIT
99.9	100.0	100.1
199.8	200.0	200.2
249.7	250.0	250.3
299.7	300.0	300.3

Figure 4: Calibration Table

IMPORTANT

CALIBRATION Qualified service personnel only should perform this procedure. The SR7005*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.

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 (Cont'd)

SETTING CALIBRATION:

Figure 5: Calibration Switch Location

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 end cap closest to the display. Put the scale system into the Calibration Mode by switching the calibration switch on the display board (Figure 5).

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

STEP 3: Press the **MENU** button until "**FULL 226.8 kg**" 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 digits. Press **ENTER** to save changes. Press **WEIGH** button to abort any changes.

STEP 4: Press the **MENU** button until "**HALF 113.4 kg**" is displayed. 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 digits. Press **ENTER** to save changes. Press **WEIGH** button to abort any changes.

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.

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

STEP 6: Remove all weight from the platform when the display prompts to "**ZERO THE SCALE**" and press the **UP** arrow button to save.

STEP 7: Place the **HALF** scale calibrated weights on platform when the display prompts to "**ADD HALF SCALE**". Allow weight to stabilize. Press the **UP** arrow button to save.

STEP 8: Place the **FULL** scale calibrated weights on platform when the display prompts to "**ADD FULL SCALE**". Allow weight to stabilize. Press the **UP** arrow button to save.

STEP 9: Press the **ENTER** button when the display prompts to "**SAVE CALIBRATION?**" to save the calibration or press the **WEIGH** button to exit without saving**.**

STEP 10: Switch the scale system out of the Calibration Mode on the display board (Figure 5).

STEP 11: Reattach the end cap with the two (2) screws.

TROUBLESHOOTING

SYMPTOM	REASON/CORRECTIVE ACTION
The characters only appear on half of the display.	Press the **WEIGH** button or remove one battery. Wait five seconds, then re-install battery 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 5).
The display shows no reading at all.	Check to ensure batteries are installed correctly (see directions for **BATTERY REPLACEMENT**). 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®

SR® Instruments, Inc., 600 Young Street, Tonawanda, NY 14150
Tel: 716-693-5977 Fax: 716-693-5854 URL: www.srscales.com
email: sri@srinstruments.com