DS7060

Handrail Scale

Technical Manual

MAN0259 – Rev 3 Doran Scales, Inc. www.doranscales.com

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Section 1. Unpacking and Care

Thank you for purchasing a Doran scale. This product has been designed with the highest level of technology. We are dedicated to delivering a superior product that will provide many years of trouble free service.

As an ISO9001 registered company, Doran Scales is dedicated to delivering products built with strict compliance to our high quality standards. If you have any questions regarding your scale, please contact Doran Scales, Inc.

Unpacking

Carefully remove the scale from the shipping carton. If you notice any shipping damage, notify the shipper immediately. Be sure to retain all shipping materials in case the scale must be shipped elsewhere.

Cautions and Warnings

Normal care should be taken when handling and using this product. Improper handling or abuse can damage the scale and result in costly repairs that may not be covered by the warranty. Please observe the following precautions to ensure years of trouble free service from your new scale.

- Do not use sharp objects to press any of the buttons.
- Do not pick up the scale by the indicator or cables.
- Do not use the scale if it is damaged in any way.
- Do not leave patients unattended on the scale.
- Do not exceed the scale capacity.
- Do not drop the scale.
- Do not drop objects on the scale.
- When transporting, do not hit other objects, walls or doorframes with the scale.

Care & Cleaning

With reasonable care, this product will last for many years. Here are some tips to care for your scale. Failure to comply with these guidelines may void the warranty.

- This scale will withstand typical cleaning methods and chemicals that are used in healthcare environments. This includes but not limited to cleaners that contain sodium hypochlorite (bleach), hydrogen peroxide and alcohol.
- Do not get water inside the indicator or platform.
- Do not immerse in water or any liquid.
- Do not use strong solvents or abrasive cleaners as this can damage the touch panel or other plastic parts.

Preventive Maintenance

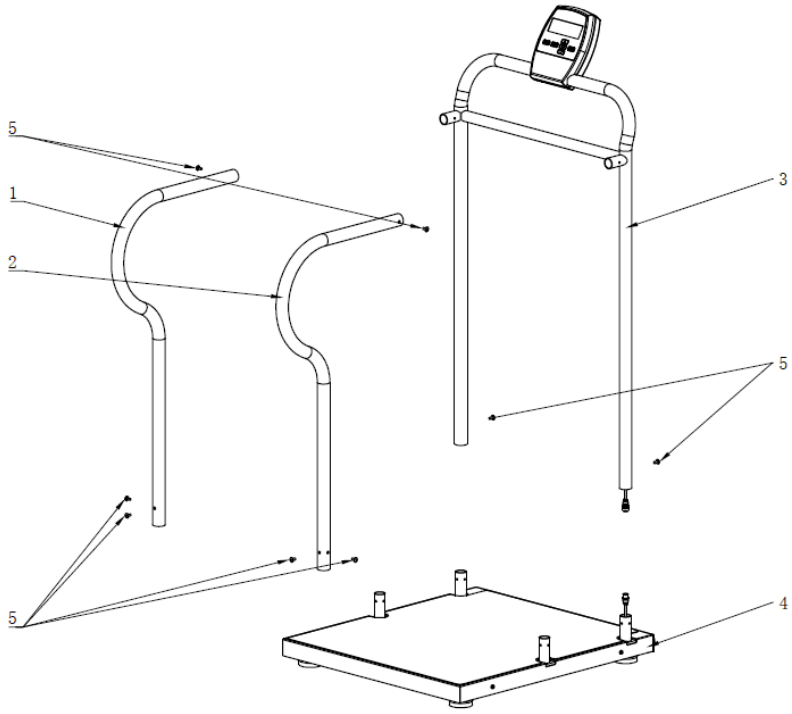
- Examine the scale periodically for damage and wear and tear before use.
- If the scale is damaged, check calibration of the scale and safety before use.
- Check calibration annually and calibrate if necessary.
- Remove batteries during long periods of non-use.

Assembly Instructions

Before assembly, ensure you have all the components below. If any items are missing, contact Doran Scales. Please be careful to follow all instructions. Improper assembly may void the warranty. Be sure to retain all shipping materials in case the scale must be shipped elsewhere

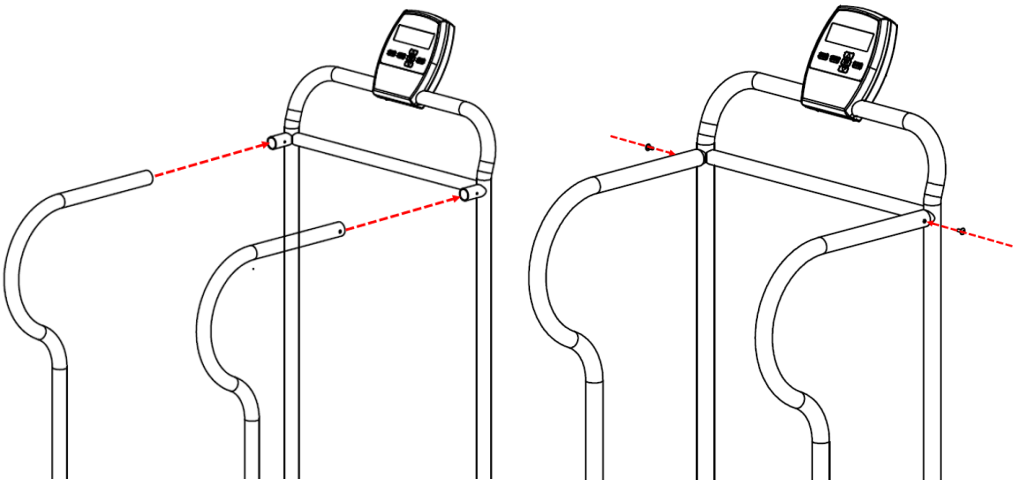
Component List

1. Left Handrail
2. Right Handrail
3. Column (Indicator mounted)
4. Platform
5. M5 Screws x 8

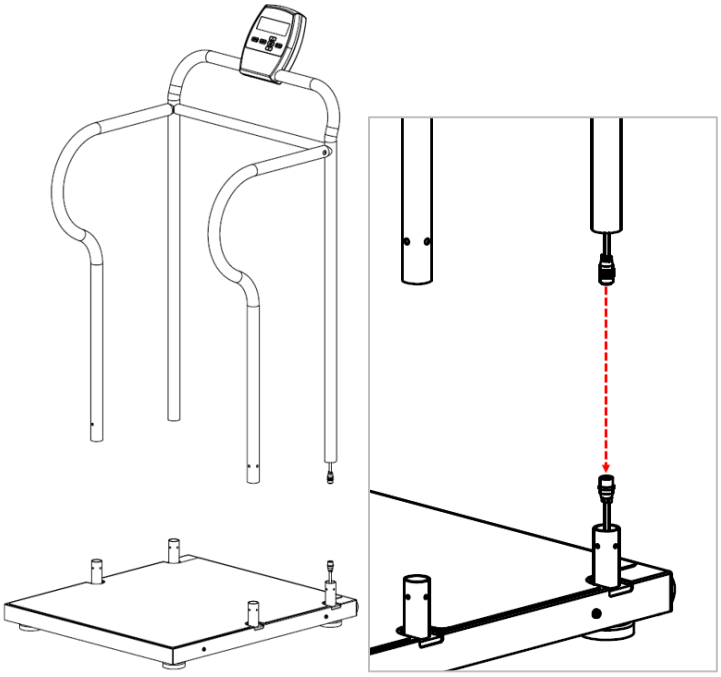


1. Carefully remove the scale from the shipping carton. Be sure to locate the bag of hardware containing items listed above.

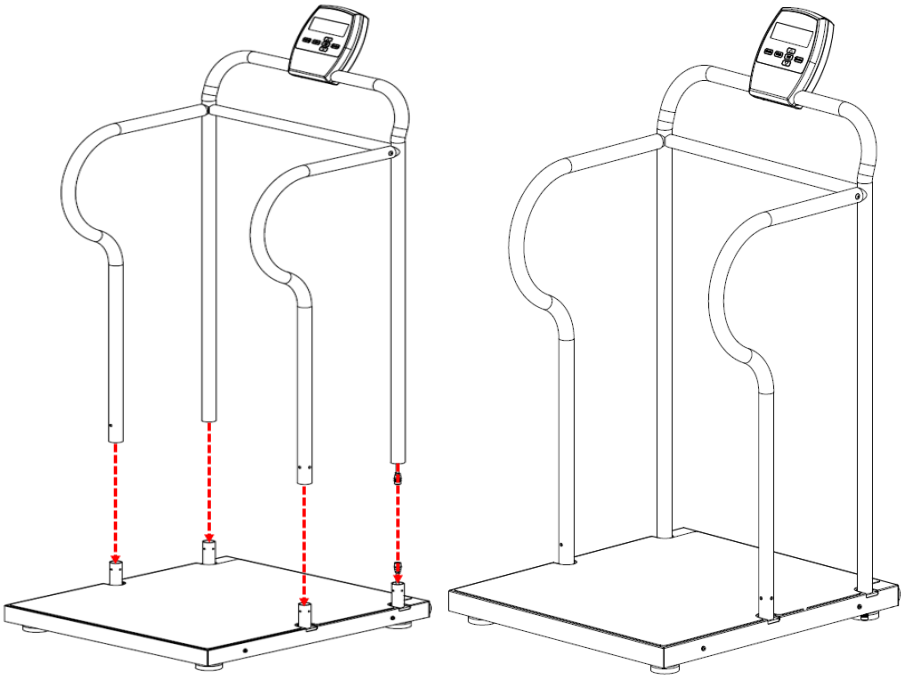
2. Insert the handrails into the Column(3). Screw in the M5 Screws(5) from the side of the handrail, but do not fully tighten.



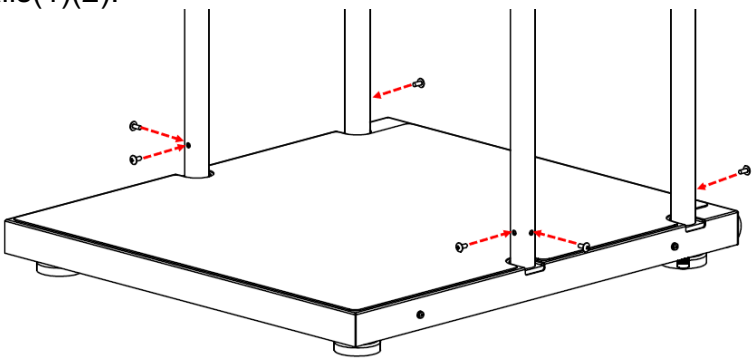
3. Locate the Column(3) near the platform. Connect the cable from the Column(3) to the connector on the Platform(4). Push the connector into place until a click is heard. DO NOT force the connector in place, it is keyed and can only be connected when inserted properly. Tug gently on the cable to ensure a proper connection has been made. **Once the proper connection has been made, be sure to gently push any cable slack back into the column as to ensure the cable does not get pinched or damaged when attaching the column to the base.**
4.



5. Insert the Handrails and Column(3) into the base together.



6. Screw in the six M5 Screws(5) on the bottom of Column(3) and Handrails(1)(2).



7. Once all M5 Screws(5) are in place, tighten all screws at the base and handrail / column connections.

Section 2. Battery Operation

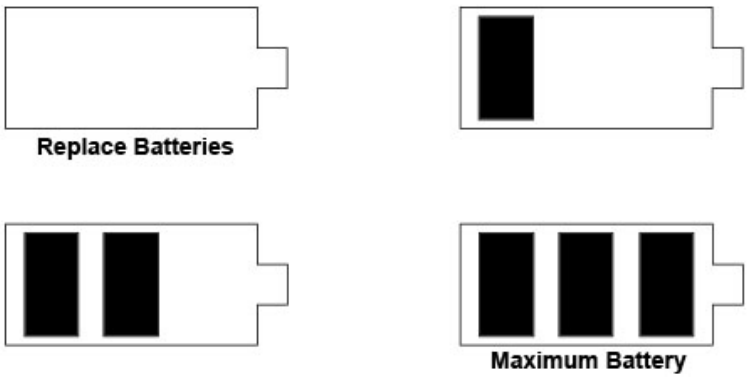
Battery Installation

The indicator can be powered by a set of six AA alkaline batteries. These batteries can perform over 85,000 weighments of typical use with the standard Automatic Shutoff Timer settings.

The battery compartment is located on the backside of the indicator. Press the locking tab up to release battery compartment cover. Completely remove all the batteries from the indicator and install the new set of batteries. Be sure the batteries are oriented properly. Reinstall the battery compartment cover to complete the battery installation.

Battery Indicator

The battery indicator displays the remaining battery life available. A low battery status is also indicated by two beeps when a weight is held (If Parameter bH is set to on.) This indicator will not be displayed if the scale is powered by its wall transformer.



Section 3. Scale Operation



Fig. 3 Front Panel

Display Pushbuttons

The Model DS7060 controls consist of Units, Zero, Reweigh, ▲, ▼, and BMI buttons. The display is used to provide weight indications and operator messages indicating scale operation.

Power On/Off

Press the Zero button to turn on the indicator. Press and hold the Zero button for 3 seconds to turn off the indicator. The indicator has an adjustable Automatic Shutoff Timer that will turn off the indicator when not in use.

Zero

When the Zero button is pressed, the scale will reset to zero weight. This feature can be used to zero out any weight not desired to be part of the patient weight. The current BMI entry will be changed back to a 0.0 value.

Units

Press the Units button to toggle between lb and kg weighing units. The current unit will be displayed to the right of the weight digits. *NOTE: The Units button can*

be locked or unlocked by pressing and holding Units for 5 seconds. An "L on" message is displayed when button is locked and "L oFF" when unlocked.

Reweigh

To reinitiate the weighing process, press Reweigh. This will allow a new measurement to be taken without the patient having to leave the platform.

BMI

With the Hold weight being displayed, press the BMI button to enter the height of the patient. Adjust the value by using the ▲ or ▼ buttons. *NOTE: Select the Height units by pressing the Units button to toggle between the height in inches or centimeters. A menu timer will exit out of this mode if no buttons are pressed within a 30 second time period.*

Display Annunciators

The display annunciators will indicate the scale status.

Motion

When the scale senses motion, MOTION will be indicated. Once motion ceases, a stable reading will be displayed.

Stable Hold

Indicates a stable weight has been achieved and held on the display. This indicates an accurate weight has been achieved. *Note: Weights below 4.5 pounds will not be held.*

Average Hold

Indicates that the weight held on the display is a result of averaging several weights due to excessive motion on the scale. *Note: Weights below 4.5 pounds will not be held. The Average Hold weight may be slightly less accurate than a Stable Hold weight.*

Displaying an Average Hold weight instead of a Stable Hold weight will speed the weighment process for patients that cannot stand still. The Average Hold weight will differ from the patient's actual weight based upon the severity of the motion caused by the patient while on the scale. Although this weight may be less accurate than a Stable Hold weight, the deviation from the patient's actual weight will be minimal.

The time required for the Average Hold to engage is based upon the Average Aperture parameter. See the Parameter Setup section for configuration instructions.

Battery Indicator
The battery indicator displays the remaining battery life. See the battery operation section for detailed information. *NOTE: The battery Indicator will be disabled when using an external power supply.*

Software Number and Revision display
Pressing and holding the Reweigh button for 3 seconds will perform a display test, show the Software number "Su 179" and the revision "r 3.2" or higher and then display "StESt" to indicate the Switch test mode is active. The Switch test mode stops after 10 seconds if no switch was pressed. The scale will then run a Display Segment test. After the display Segment test, the scale will return to the normal mode of operation.

Weighing a Patient

1. Turn on the indicator by pressing the Zero button.
2. The indicator will perform a startup zero.
3. The indicator will momentarily display dashes, "-----", followed by 0.0.
4. Patient stands on the scale platform. *NOTE: The handrails and indicator tower can be grasped during weighing.*
5. The display will scroll dashes until the patient's weight is captured.
6. The indicator will beep (when enabled) and then hold the weight on the display until the scale shuts off.

Zero Operation

1. Place item to be zeroed on the scale platform.
2. Press Zero. The scale will display a zero weight. If the item is removed, the stable negative weight will be automatically zeroed out after 3 seconds.
3. Step onto the scale platform and the patient's weight, less the item's weight, will be displayed.
4. To reset the scale weight to zero, Press Zero again with the scale platform empty.

BMI Operation

1. With Hold weight displayed, press BMI button to enter the height value. Height entry starts at 5: 6.0 or 168.0 in representing 5 foot 6 inches or 168 centimeters. *NOTE: Height units can be changed by pressing the Units button.*

2. Press the ▲ button to increase or the ▼ button to decrease the value. When the correct value is displayed, press the BMI button to enter the value and exit. *NOTE: A menu timer will exit out of this entry mode if no buttons are pressed within a 30 second time period.*

Reweigh Operation

1. With the patient standing on the scale platform, press Reweigh to reinitiate the weighing process.
2. The display will scroll dashes until the patient's weight is captured.
3. The indicator will beep (when enabled) and hold the weight on the display until the scale shuts off automatically.

Section 4. Scale Calibration

Entering and Exiting Setup Mode

To enter setup mode from the front panel, press and hold REWEIGH and ZERO together. Release both buttons when the display reads CAL n.

To exit the calibration mode and save the changes, press REWEIGH or press BMI to scroll to the end of the menu. The scale will then return to a normal weighing operation.

Two calibration procedures are offered.

- The Two Point calibration will calibrate the scale using only one weight that can be user defined. This calibration procedure is effective and can be used in the field with a test weight, or by using your own body weight.
- The Multiple Point calibration procedure requires four separate test weights. This procedure offers the greatest accuracy and is intended for factory or field calibration by a scale technician.

The Two Point calibration will calibrate the scale using only one weight that can be user defined. This calibration procedure is effective and can be used in the field with a test weight, or by using your own body weight.

Two Point Calibration Procedure

1. When the setup mode is entered the display reads CAL n.
2. Press the ▲ button to change the display to CAL 4.
3. Press BMI.
4. The display reads CAP, then the current Capacity value in lb or kg.
5. Press the ▲ or ▼arrow to select a capacity. Press the UNITS button to toggle between lb or kg units.
6. Press BMI to save current capacity and advance to the zero point calibration.
7. The display will now show CAL 0.
8. Remove all weight from the scale platform.
   NOTE: During calibration be sure vibration and air currents are not present.
9. Press BMI to perform a zero point calibration. The display will count down to zero. The counter will reset if too much motion (Er nn) is detected.
10. The scale will display 800.0. Representing an 800 lb span point calibration.
11. If necessary, press UNITS to calibrate in kilograms.
12. If desired, change the calibration weight by using the up or down arrow button to scroll the weight value.
    NOTE: The span weight value can be changed to any weight between 1% and 100% of capacity. For maximum accuracy, use a 40% of capacity weight or more.
13. After the span weight has been entered, place the calibration weight on the platform.

14. Press BMI to accept the span weight value. The display will count down to zero and return to the weigh mode.

Multiple Point Calibration Procedure

1. When the setup mode is entered the display reads CAL n.
2. Press the ▲arrow button to change the display to CAL Y.
3. Press BMI.
4. The display reads CAP, then the current capacity value in lb or kg.
5. Press the ▲or ▼arrow to select a capacity from a table, example 800 lb (360 kg). Press the UNITS button to toggle between lb or kg capacity units.
6. Press BMI to save current capacity and advance to the zero point calibration.
7. The display reads CAL 0.
8. Remove all weight from the scale platform.
   NOTE: During calibration be sure vibration and air currents are not present.
9. Press BMI to perform a zero point calibration. The display will count down to zero. The counter will reset if too much motion (Er nn) is detected.
10. The scale will display 800.0. Representing a 800 lb span point calibration.
11. Press Zero button, to enter multipoint calibration
12. The scale will display 160 lb (70 kg)
13. Place 160 lb (70 kg) onto the scale.
14. Press BMI. The display will count down to zero.
15. The scale will display 320 lb (140 kg)
16. Place 320 lb (140 kg) onto the scale.
17. Press BMI. The display will count down to zero.
18. The scale will display 480 lb (210 kg)
19. Place 480 lb (210 kg) onto the scale.
20. Press BMI. The display will count down to zero.
21. The scale will display 640 lb (280 kg)
22. Place 640 lb (280 kg) onto the scale.
23. Press BMI.
24. The display will count down to zero and return to the weigh mode.

Calibration Troubleshooting

If Zr uL or Zr oL appears on the display, the calibration zero is out of range. Check connections between the indicator and base. Press BMI to perform the zero calibration again. If this error persists, consult the raw counts table.

If Er SP appears on the display, the span calibration is out of range. Place the proper weight on the platform and press BMI to perform the span calibration again. If this error persists, consult the raw counts table.

If Er n9 appears on the display, the span calibration has detected a negative range. If this error persists, consult the raw counts table.

The following table shows the acceptable Raw Counts for no load and full load. Raw Counts can be viewed through the last setup parameter. Refer to Section 5, Parameter Setup, for more information regarding parameter viewing.

If the scale's raw counts are not within the ranges specified in the following table, contact Doran's Technical Assistance department at tech@doranscales.com.

Calibration Requirements in Raw Counts		
	Minimum	Maximum
Zero Calibration Point	-2000	20000
Required Calibration Span (100% of Capacity Scale Cal Point – Zero Cal Point)	6000	30000
Required Calibration Span (5% of Capacity Cal Point – Zero Cal Point)	300	1500

Section 5. Parameter Setup

The indicator has many adjustable parameters which control the scale's operation. The parameter settings shown in bold are the default settings.

Entering and Exiting Setup Mode

To enter setup mode from the front panel, press and hold REWEIGH and ZERO for 5 seconds. Release both buttons when the display reads CAL n.

To exit the setup mode and save changes, press REWEIGH or BMI to scroll to the end of parameter menu. *Note: If no buttons are pressed within 30 seconds, the scale will automatically exit the setup mode.*

Setup Mode Navigation

1. Press BMI to scroll forward to the next parameter.
2. Press ▲ or ▼ buttons to change the current parameter setting.
3. Press Reweigh to save any changes and exit setup mode.

Calibration Mode Entry

CAL	**Enter Calibration Mode** (60 second timer)
n	Do not enter calibration
y	Enter Calibration (see Scale Calibration section)

CAP	**Capacity** (60 second timer) Use the UNITS button to toggle between lb or kg capacities.
45(lb) 20(kg)	45 x 0.02 lb or 20 x 0.01 kg
50(lb) 25(kg)	50 x 0.02 lb or 25 x 0.01 kg
100(lb) 45(kg)	100 x 0.05 lb or 45 x 0.02 kg
500(lb) 230(kg)	500 x 0.2 lb or 230 x 0.1 kg
550(lb) 250(kg)	550 x 0.2 lb or 250 x 0.1 kg
600(lb) 270(kg)	600 x 0.2 lb or 270 x 0.1 kg
800(lb) 360(kg)	**800 x 0.2 lb or 360 x 0.1 kg (default)**
1000(lb) 450(kg)	1000 x 0.5 lb or 450 x 0.2 kg

CAL	Zero Calibration Point
0	*NOTE: This parameter is only visible when in the calibration mode. Press UNITS button to toggle between lb and kg units*

45.00	Span Calibration Point
1-800.0**(lb)** 1-360.0(kg)	Span calibration weight setting: *NOTE: This parameter is only visible after a zero calibration is performed.*

Reset All Parameters to Default Settings

rSt	Default parameters
n	No. Parameters are not defaulted.
y	Yes. Set all parameters to the factory default values when BMI is pressed. Calibration data is preserved.

Automatic Shutoff Timer

Ao	**Automatic shutoff timer. The timer controls the period of time the scale stays on after non-use.**
10	10 seconds
30	30 Seconds
60	1 minute
120	**2 minutes (Default)**
300	5 minutes
600	10 minutes
900	15 minutes
oF	Automatic shutoff timer disabled.

Average Aperture

AA	Determines the amount of motion allowed to hold a stable weight. A slower setting will result in more accurate weights but will require a longer time to achieve a stable weight. A faster setting will achieve a stable weight faster but may be less accurate.
4	Fastest Setting
8	Default Setting
16	Slowest Setting

Data Output

d.o.	**Controls when information is transmitted from the scale though the RS232 serial port and or USB port.**
t.d	EMR is transmitted when a request command is received through the RS-232 or USB port.
A.S	**Transmits an EMR string after the STABLE HOLD or AVERAGE HOLD weight is displayed. (default)**
A.b	Transmits an EMR string after the Height has been entered
C.P	Continuously transmits an EMR string 3.75 times a second.

EMR Format

For.	**Format Protocol of transmitted and received data from the serial port**
IW	IQvitals format. (9600,7,ODD,2)
WW	Welch Allyn Spot format. (2400,7,EVEN,1)
F0	Doran data format. F0 (9600,8,NO,1)
F1	**Doran data format. F1 (9600,8,NO,1)**
Fd	Doran data format. Fd (2400,8,NO,1)
FH	Doran data format. FH (2400,8,NO,2)

Configure Output

Conf	**Configure Serial Output (For future use)**
	Not detected (default)

r	Detected

LB Units Enable / Disable

	lb units Enable/Disable
on	**lb weighing units active (default)**
oF	lb weighing units disabled

KG Units Enable / Disable

	kg units Enable/Disable
on	**kg weighing units active (default)**
oF	kg weighing units disabled

OZ Units Enable / Disable

	oz units Enable/Disable (Capacities ≤ 100 lb / 45 kg only)
on	oz weighing units active
oF	**oz weighing units disabled (default)**

LB:OZ Units Enable / Disable

	lb:oz units Enable/Disable
on	lb:oz weighing units active
oF	**lb:oz weighing units disabled (default)**

Inches Units Enable / Disable

	Inches Height units Enable/Disable
0.1	0.1” increment for BMI entry
0.5	**0.5” increment for BMI entry (default)**
1.0	1.0” increment for BMI entry
oF	inches height units disabled

Centimeters Units Enable / Disable

	Centimeters Height units Enable/Disable
0.1	0.1 cm increment for BMI entry
0.5	0.5 cm increment for BMI entry
1.0	**1.0 cm increment for BMI entry (default)**
oF	cm height units disabled

Button Press Beep

bb	**Enables/Disables indicator beep when buttons are pressed**
y	Beep enabled
n	**Beep disabled (default)**

Stable or Average Hold Weight Beep

bH	**Enables/Disables beep when a stable or average hold weight is achieved**
n	Beep disabled.
y	**Beep enabled. (default)**

Battery Voltage Level

dC	**Displays current battery voltage (DC)**
	Battery Bar Indications: Empty Battery Symbol 5.1 – 5.9 V One Bar 6.0 – 6.9 V Two Bars 7.0 – 7.9 V Three Bars 8.0 – 9.0 V No Battery Indication 9.1 V and above

Raw Counts

xxxxx	**Raw counts from A/D converter**
	View these numbers if calibration is unsuccessful. Refer to Section 4 for interpretation of these numbers. Press BMI or Reweigh to exit setup mode.

Section 6. Data Communications

RS-232 Communications Port

The indicator is equipped with an RS-232 communications port. The RS-232 connection is located on the back of the indicator behind the top access cover. An optional RS-232 cable is available. Insert the phone style connector into the receptacle on the indicator housing and connect the 9-pin connector to your computer or printer.
Note: This option may reduce battery life.

Basic understanding of RS-232 data communications is needed when setting up the indicator to communicate with a printer or PC. When setting up an RS-232 communications system, there are two concerns which affect the configuration of that system. These are:

- Baud Rate
- Data Bits and Parity

The baud rate determines how fast the data is sent from the scale. The sending and receiving units must be set to the same baud settings. Refer to the **For.** parameter for details.

The indicator's data bits, parity and stop bits are set when configuring the **For.** parameter. The receiving units must match the scale setting for proper communication.

USB Communications Port

The indicator is equipped with a USB communications port. The USB connection is located on the back of the indicator behind the top access cover. An optional USB cable is available. Follow the instructions included with the option to install all necessary drivers.

Once the USB drivers are installed on your PC, insert the USB connector into the receptacle on the indicator and connect the other end of the cable to your computer.

Doran F0 protocol (F0) (9600, 8N1)		
Command (RXD) Computer to Scale	**Scale Output Responds (TXD)** Scale to Computer	**Description**
Z or z		Zero the scale (if in motion, scale will wait until stable, then zero)
<cr> or W	<stx><weight><sp> <uu><sp><cr><lf>	<stx> (☻) = ASCII 02h, Start of Text <weight> = 6 character field with decimal point <sp> ( ) = ASCII 20h, Space <uu> = 2 character field “lb” or “kg” <cr> (♪) = ASCII 0dh, Carriage Return <lf> (◙) = ASCII 0ah, Linefeed
U		Scale scrolls through available weight units
H	<height><sp><hh><sp>GR <sp><cr><lf>	Current Height value in inches or centimeters <height> = 6 character field with decimal point <sp> ( ) = ASCII 20h, Space <hh> = 2 characters Height Unit “in” or “cm” <cr> (♪) = ASCII 0dh, Carriage Return <lf> (◙) = ASCII 0ah, Linefeed
R or r		Scale performs a Reweigh operation

Doran F1 protocol (F1) (9600, 8N1)		
Command (RXD) Computer to Scale	**Scale Output Responds (TXD)** Scale to Computer	**Description**
Z or z		Zero the scale (if in motion, scale will wait until stable, then zero)
<cr> or W	<stx><pol><weight>#<uu>#GR S#<height>#<hh>#<bmi>#BMI <cr><lf>	<stx> (☻) = ASCII 02h, Start of Text <pol> = 1 character “-“ =negative, “ “=ASCII 20h <weight> = 6 character field with decimal point <uu> = 2 character field “lb” or “kg” <height> = 5 character field with decimal point <hh> = 2 characters Height Unit “in” or “cm” <bmi> = BMI value 4 character field with decimal point <cr> (♪) = ASCII 0dh, Carriage Return <lf> (◙) = ASCII 0ah, Linefeed
U		Scale scrolls through available weight units.
R or r		Scale performs a Reweigh operation (same as pressing the Reweigh button)

Doran Fd protocol (Fd) (2400, 8N1)		
Command (RXD) Computer to Scale	**Scale Output Responds (TXD)** Scale to Computer	**Description**
Z or z		Zero the scale (if in motion, scale will wait until stable, then zero)
<cr> or W	--:--,--/--/--,<bmi>,<height>, <gross><uu><sp>G <cr><lf>	<bmi> = BMI value 4 character field with decimal point <height> = 6 character field with decimal point and cm (metric) OR 7 character field with decimal point and ‘ after foot reading and “ after inch reading (SAE) <gross> = gross weight 6 character field with decimal point <uu> = 2 character field “lb” or “kg” <sp> ( ) = ASCII 20h, Space <cr> (♪) = ASCII 0dh, Carriage Return <lf> (◙) = ASCII 0ah, Linefeed
U		Scale scrolls through available weight units.
R or r		Scale performs a Reweigh operation (same as pressing the Reweigh button)

Doran FH protocol (FH) (Continuously transmits at 3.75 per second – 2400 8N2)		
Command (RXD) Computer to Scale	**Scale Output Responds (TXD)** Scale to Computer	**Description**
Z or z		Zero the scale (if in motion, scale will wait until stable, then zero)
<cr> or W	<stx><status><0xD7><0xE4> <weight><cr>	<stx> (☻) = ASCII 02h, Start of Text <status>0x80 = positive lb weight, 0x82 = positive kg weight <weight> = 6 character field with decimal point <cr> (♪) = ASCII 0dh, Carriage Return Current Display Weight. Active, Stable Hold, or Average Hold.
U		Scale scrolls through available weight units.
R or r		Scale performs a Reweigh operation (same as pressing the Reweigh button)

Welch Allyn Spot protocol (UU) (2400, 7E1)		
Command (RXD) Computer to Scale	**Scale Output Responds (TXD)** Scale to Computer	**Description**
DR<cr><lf>	<mot><sp><sp> <weight><uu><cr><lf>	<mot> “SD”=stable, “S_” = motion <sp> ( ) = ASCII 20h, Space <weight> = 6 character field with decimal point <uu> = 2 character field “lb” or “kg” <cr> (♪) = ASCII 0dh, Carriage Return <lf> (◙) = ASCII 0ah, Linefeed

IQ Vitals protocol (IU) Fairbanks TeleWeigh (9600, 7O2)		
Command (RXD) Computer to Scale	**Scale Output Responds (TXD)** Scale to Computer	**Description**
Z or z		Zero the scale (if in motion, scale will wait until stable, then zero)
<cr> or W	<weight><sp><uu><sp> <mot><sp><sp><cr><lf> <eot>	<weight> = 6 character field with decimal point <sp> ( ) = ASCII 20h, Space <uu> = 2 character field “lb” or “kg” <mot> = 2 character field “GR” = stable, “gr” = motion <cr> (♪) = ASCII 0dh, Carriage Return <lf> (◙) = ASCII 0ah, Linefeed <eot> (♦) = ASCII 04h, End of Transmit
U		Scale scrolls through available weight units.
H	<height><sp><hh><sp>GR<sp> <sp><cr><lf>	Current height value in inches “in”.
R or r		Scale performs a Reweigh operation

Section 7. Specifications

Scale Platform Dimensions	28” L x 28” W x 50” H
Indicator Dimensions	8” L x 6.5” W x 2.3” H
Power	AC Adapter Optional: 6 AA Alkaline Batteries
Displayed Units	lb, kg
Capacity	800 x 0.2 lb or 350 x 0.1 kg
Construction	Painted Mild Steel and Plastic Housing.
Options	RS-232 Communication cable USB Communication cable

Section 8. Troubleshooting

General Problem Resolution

Problem	What to Do or Check
Weight reading will not repeat or scale does not return to zero when weight is removed.	Person or object other than that being weighed is touching the scale. Verify that there is nothing caught in or interfering with the platform.
Scale overloads before scale capacity is reached.	Verify scale calibration is correct. If problem persists, recalibrate the scale.
Scale will not come to zero when the Zero button is pressed.	Make sure that the scale is stabilizing (Motion annunciator is off). After pressing the Zero button, the scale should zero as soon as it becomes stable.
Weight readings are not correct.	Verify the scale calibration with an accurate set of test weights. If the readings are not correct, recalibrate. Be sure the platform is on a flat surface and all four feet are touching the floor.
Scale drifts off zero.	Check for air currents and/or vibration around the scale.
Scale shuts itself off or will not turn on.	Press the Zero button to turn on the indicator. Check that new batteries are installed properly in the battery tray. If using an AC adapter, confirm that it is firmly plugged into a functioning wall outlet. Verify the connector at the rear of the indicator is properly installed.

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