11/2019

AVAWEIGH
COMMERCIAL SCALES

USER MANUAL

Digital Receiving Scale

334RS150T	334RS400T
150 lb.	**400 lb.**

INTRODUCTION & INSTALLATION

GENERAL AND SAFETY INFORMATION

- Risk of Electrical Shock: Disconnect all power sources before making cable connections to the scale platform or indicator.
- For use in dry environments only.
- Do not operate in hazardous areas.
- Read and understand all operating instructions before using this product. Keep this manual for future reference.
- Record the weight shortly after placing a load on the platform. After extended periods, the load cell's output signal may result in a less accurate reading.
- Place the scale on a hard, flat, and level surface before using.
- Avoid extended exposure to extreme heat or cold. Optimum operation is at normal room temperature. See operating temperature range in the specifications table. Allow the scale to acclimate to room temperature before using.
- Allow sufficient warm up time. Turn the scale on and allow up to 2 minutes for internal components to stabilize before weighing.
- Electronic scales are precision instruments. Do not operate near cell phones, radios, computers or other electronic devices that emit radio frequencies that may cause unstable readings.
- Avoid using in heavy vibration or heavy airflow conditions.

SPECIFICATIONS

	334RS150T	334RS400T
MAX CAPACITY	LB unit: 150lb x 0.2lb KG unit: 68kg x 0.1kg	LB unit: 400lb x 0.5lb KG unit: 182kg x 0.2kg
CONSTRUCTION	Epoxy painted carbon steel, treaded surface, heavy duty metal base	
WEIGHING UNITS	lb/kg	
CALIBRATION UNITS	lb/kg	
APPLICATION MODES	Weighing	
DISPLAY	0.625” (16mm) 7-segment LCD, 5½ digits	
ZERO RANGE	±20% of full capacity	
TARE RANGE	Full capacity	
STABILIZATION TIME	< 3 seconds	
OPERATING TEMP	40 - 105°F (5 - 40°C)	
HUMIDITY RANGE	<90% relative humidity, non-condensing	
POWER SUPPLY	Batteries: 4 x AAA (not included) AC Adapter: 9Vdc/600mA, central positive	
INTERFACE	RS232, USB	
SAFE MAX OVERLOAD	150% of capacity	

CONTROLS & FUNCTIONS

INDICATOR DISPLAY CHARACTER DEFINITIONS

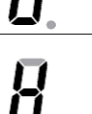
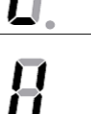
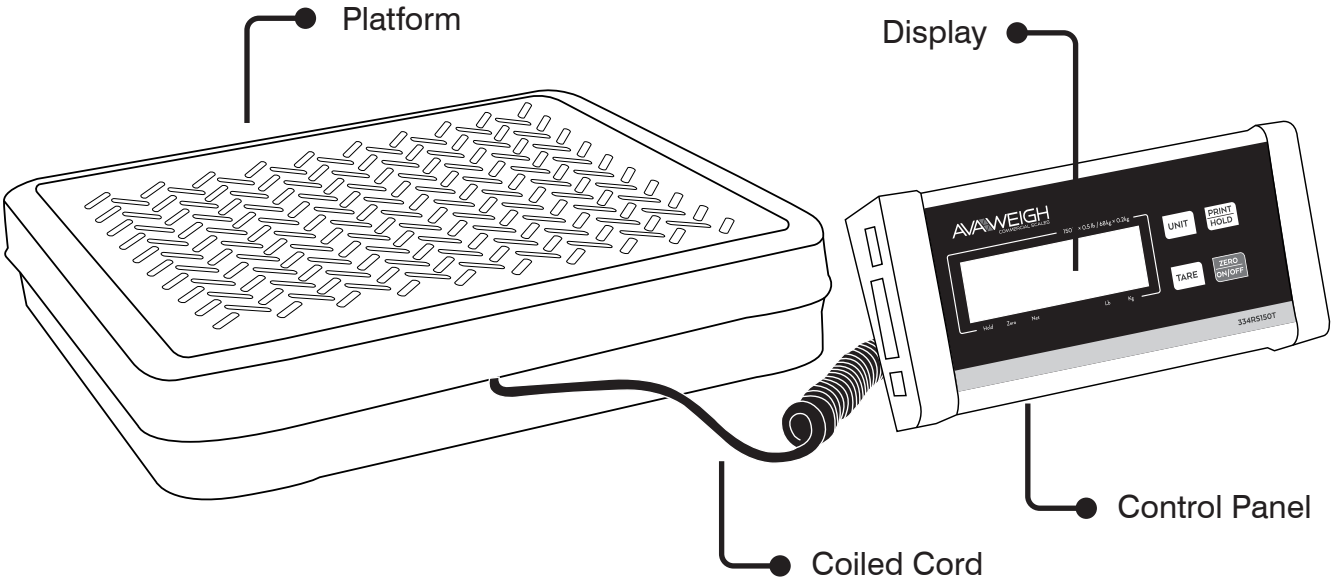
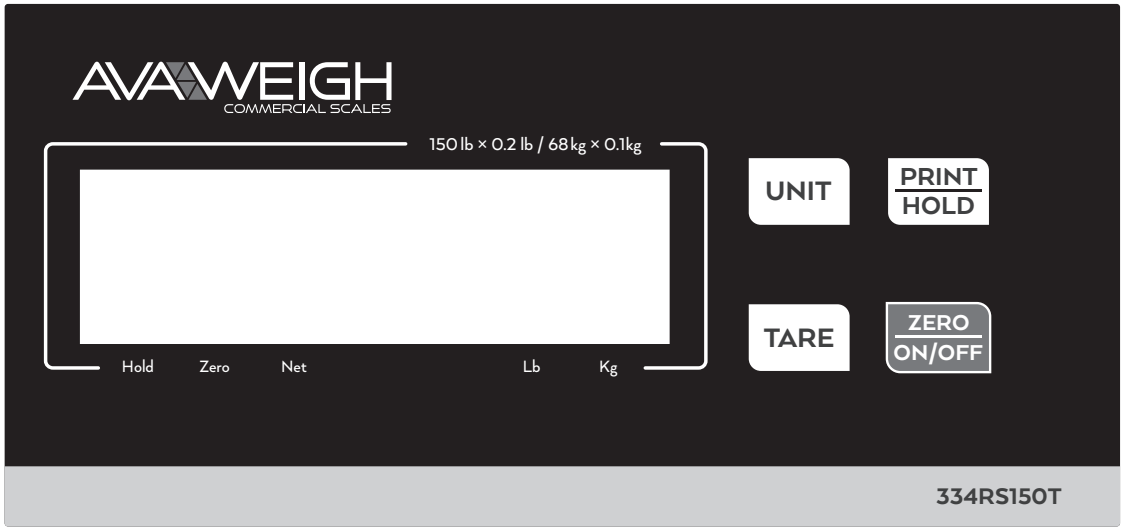
ASCII	LCD/LED Show	ASCII	LCD/LED Show	ASCII	LCD/LED Show
0		A		N	
1		B		O	
2		C		P	
3		D		Q	
4		E		R	
5		F		S	
6		G		T	
7		H		U	
8		I		V	
9		J		W	
		K		X	
		L		Y	
		M		Z	

DIAGRAM & CONTROL PANEL





- Zero - Scale is zeroed and gross weight is 0, tare is 0.
- Net - Display reading is net weight; tare is not 0.
- Lb, Kg - Unit of measure.
- Hold - Scale is in dynamic weighing mode.
    - Hold flashes - actual fluctuating weight is displayed.
    - Hold does not flash - locked weight is displayed.

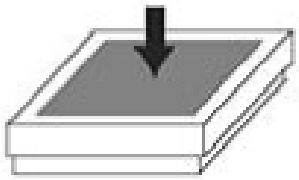
FUNCTION KEYS

KEY	MODE		DEFINITION
PRINT / HOLD	Weighing mode	< 3 seconds	Send output data via the USB or RS232 port
		> 3 seconds	Enter or exit HOLD mode
	Setup or Calibration mode		Shift the flashing data entry position from right to left
UNIT	Weighing mode		Select weight unit of measure
	Setup or Calibration mode		Increase the digit in the flashing data entry position by 1
TARE	Weighing mode		Tare the weight
	Setup or Calibration mode		Confirm the input data and continue to next step
ZERO / ON/OFF	Weighing mode	< 3 seconds	Zero the platform weight
		> 3 seconds	Power off the scale
	Setup or Calibration mode		Exit to normal weighing mode
ZERO / ON/OFF + UNIT	Weighing mode (more than 3 seconds)		Enter USER parameter setup mode
ZERO / ON/OFF + TARE	Weighing mode (more than 3 seconds)		Enter calibration mode

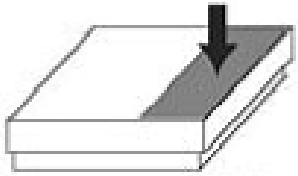
OPERATIONS

NORMAL WEIGHING MODE

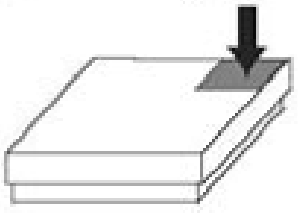
1. Power on the scale by pressing the ZERO/ON/OFF key.
2. When the display stabilizes, but it doesn't show zero, press ZERO/ON/OFF to set a new zero point.
3. Place objects on the scale platform and read the weight on the indicator.
   Note: Objects should be placed at the center of the platform. Corner or side loading heavy objects may risk overloading an individual load cell and damage the scale.



YES



NO



NO

4. To change the weight unit of measure, press the UNIT key.
5. To send data to another device via the serial port, press the PRINT/HOLD key.
6. To hold the weight data, press and hold the PRINT/HOLD key for 4 seconds.
7. Power off the scale by pressing and holding the ZERO/ON/OFF key for 4 seconds.

ZERO

If the display dose not shows 0, and there is nothing on the platter, press the ZERO/ON/OFF key to zero the reading.
Zero range: ±20% * full Capacity.
The zero function is unavailable when the displayed reading is out of the zero range and the indicator will show the error message 0^{---} or 0_{---}, meaning the scale is over or under zero range.

SETTING A TARE WEIGHT

1. Zero the scale as described above.
2. Place an empty container on the platform, press the TARE key. The display will return to zero, eliminating the weight of the container. The NET announciator will be lit on the display.
3. Put the material or object to be weighed in the container. The net weight will be displayed.
4. To exit tare mode, remove all weight from the scale. The display will show a negative weight. Press the TARE key to return the display to zero.

CALIBRATION

Note:
(1) Before calibrating the scale, you should prepare standard weights (more than 10% of FS weight) for calibration.
(2) In the following steps, pressing ZERO/ON/OFF will exit calibration.

1. Move all weight from the scale. Under normal weighing mode, press and hold TARE and ZERO/ON/OFF keys for more than 4s to enter calibration mode.
2. The indicator will show “CAL.P0”, the scale will begin to calibrate the zero-point of the scale. Remove all weight from the scale. Press the TARE key to confirm, or press the ZERO/ON/OFF to exit this mode. After receiving the reasonable zero-point data, the next step will automatically occur.
3. When “CAL.P1” is displayed, the scale will be calibrated on second calibration point. xxxxxx kg (or lb) will be displayed. The default standard weight is 50%FS. Load 5%-100%FS weight on the scale, and use the HOLD or UNIT keys to input the loaded weight. Press the TARE key to confirm the input, and then the indicator will flash the input standard weight. After the scale becomes stable it will automatically be directed to next step. If the second point cannot be calibrated correctly, it will display “CAL.Er” and return back to step2 for re-calibration.
4. When “CAL.P2”is displayed, the scale will be calibrated on third calibration point. xxxxxx kg (or lb) will be displayed. The default standard weight is 100% FS. Load 10%-100%FS (this must be equal or larger than the weight from the second calibration point) weight on the scale. Use the HOLD or UNIT keys to input the standard weight’s value. Press the TARE key to confirm. The indicator will flash the input weight. If the indicator receives reasonable data, it will go to next step automatically. If an error occurred, the scale will display “CAL.Er” and return back to step2 for re-calibration.
5. When “CAL.P0” is shown again, the scale will calibrate the zero-point again. Remove any weight from the scale, press the TARE key to confirm; the displayed data will flash. If the indicator receives reasonable data, it will calculate and store all parameters into EEPROM. Then it will auto-reset, and be directed to weighing mode. If an error occurred in calibration, the scale will display “CAL.Er” and then it necessary to repeat the procedure from step2.

USER PARAMETERS SETUP

1. In normal weighing mode, press UNIT and ZERO/ON/OFF until “USer” is shown to enter in the mode.
2. Press the UNIT key to change the flashed digits, press the HOLD/PRINT key to shift the flashed position. Press the TARE key to confirm and save the set data and enter next setting. Press the ZERO/ON/OFF key to exit this mode.
3. Summary of user parameters setting:

PARAMETER	OPTION	SETTING	SETTING
U1	0-15	Auto-off time: 0: no auto-off function; 01-15: when no weight change or key operation is occurring, the scale will auto power off after 1-15 minutes	05
U2	0,1,2	Backlight on-off mode option : 0= Backlight is always off; 1= Backlight is always on; 2= Backlight is auto on and auto off. The backlight will auto off after 10 seconds of stable weigh or no key operation, and it will auto on when the scale weight is unstable or key operation is occurring.	2
U3	0,1,2	HOLD/PRINT key function set: 0=HOLD, 1=PRINT; 2=HOLD and PRINT	2
U4	0-50	Hold function mode: 0=no hold function; 1=hold larger weight reading; 2-50=when weight is more than 10d and the variety is within ±2d□±50d, hold stable weight; When weight is below 10d and then over 10d and becomes stable, the new stable weight will be held.	2
U5	0-7	Serial communication output format: 0=communication is disabled 1=output stable weight, unit and status data after PRINT pressed, data has not been received; 2=output gross, tare, net weight, unit and status data after PRINT pressed; data has not been received; 3=continuously output displayed weight, unit and status data, data has not been received; 4=continuously output gross, tare, net weight, unit and status data, data has not been received; 5=output weight, unit and status data one time when scale becomes stable; 6=output gross, tare, net weight, unit and status data one time when scale becomes stable; 7=Command –response mode.	1

PARAMETER	OPTION	SETTING	SETTING
U6	3	Baud rate for Serial communication: 0=1200, 1=2400, 2=4800, 3=9600, 4=19200	3
U7	0	Serial communication data format: 0=8N1, 1=7O1, 2=7E1	0

4. More Information for User Parameters Setting:

U5 to set serial communication output format:

(1). U5=0: No serial communication function. It will not transmit or receive any data even if the scale is installed with serial communication hardware. Serial communication function can be only activated when the scale is in normal weighing mode.

(2). U5=1: Press PRINT key, the scale will output the current stable weight, weight unit, and current Status data ; it does not receive any data . The output format is as below:

<LF>< weight reading, minus, decimal point, weight unit><CR><LF>H1H2H3 <CR><ETX>

(3). U5=2: Press PRINT key, the scale will output the data of stable gross, tare, net weight, weight unit and current status data. The format is as follows:

<LF><Gross: reading, minus, decimal point, unit><CR>
<LF><Tare: reading, decimal point, unit><CR>
<LF><Net: reading, minus, decimal point, unit><CR>
<LF>H1H2H3<CR><ETX>
The number of bytes used:
Weight reading ---------- 8bytes;
Minus ----------1byte;
Decimal point ----------1byte;
Weight unit ----------2 or 5 bytes;
Current status (H1.H2.H3) --------- 3bytes

(4). U5=3: Continuously output of the current displayed reading, weight unit and current status data, it does not receive any data. The output format is same as U5=1.

(5). U5=4: Continuously output of the current gross weight, tare weight, net weight data, weight unit and current status data, it does not receive any data. The output format is same as U5=2.

(6). U5=5: When the scale is stable, it will output the current displayed reading ,weight unit, and current status data automatically one time, it does not receive any data. The output format is same as U5=1.

(7). U5=6: When the scale is stable, it will output the current gross weight, tare weight, net weight unit and current status data automatically one time, it does not receive any data. The output format is same as U5=2.

(8). U5=7: Bio-Serial Communication: after receiving an available command, the indicator will send out the corresponding messages.

5. More Details About Serial Communication

The following details contain more information for when U5 is set to 7:

a) The baud rate and data format is set by U6 and U7. Responses to serial commands will be immediate, or within one weight measure cycle of the scale. One second is adequate for use as a time-out value by remote (controlling) device.

b) The length of the weight field will be 8 digit weight data, one for minus sign, one for decimal point, two for measure unit (e.g. “lb”, “kg”). If the unit is lb:oz, another two for “lb” and one for a space (<sp>) after lb. Units of measure abbreviations are always lower case.

(1). If the weight is overcapacity, the scale will return ten ‘^’ characters (the field of minus sign, decimal point, weight data is filled by ‘^’).

(2). If the weight is under capacity, it will return ten ‘_’ characters (the field of minus sign, decimal point, and weight data is filled by ‘_’).

(3). If the zero point has an error, it will return ten ‘_’ characters.

(4). The character will be ‘-’ for negative weight or a space character for positive weight. Minus sign follow after the first digit.

(5). Useless leading zero before digits are suppressed.

c) Key to symbols used

<LF> : Line Feed character (hex 0AH)

<CR> : Carriage Return character (hex 0DH)

<ETX> : End of Text character (hex 03)

<SP> : Space (hex 20H)

H1H2H3 : Three status bytes

<p> : Polarity character including minus sign for negative weight and a space character for positive weight

W1-W8 : Weight data

<dp> : Decimal point

U1U2 : Measure units, “kg”, “lb”, or “lb oz”

d) Commands and responses

(1). Command: W<CR> (57h 0dh)

Response:

① over capacity:

<LF>^^^^^^^^^^u1u2<CR><LF>H1H2H3<CR><ETX>

② under capacity:

<LF>_________u1u2<CR><LF> H1H2H3<CR><ETX>

③ zero-point error:

<LF>----------u1u2<CR><LF> H1H2H3<CR><ETX>

Note: If the weight unit is lb: oz, U1U2= “lb oz” in above item ①②③.

④ Normal weight is displayed, current weight unit is kg or lb, decimal point position is set by C4:

<LF><p>w1w2w3w4w5w6<dp>w7w8u1u2<CR><LF>H1H2H3<CR><ETX>

⑤ Normal weight is displayed, current weight unit is lb:oz,

<LF><p>w1w2w3w4w5w6lb<sp>w7w8<o><z><CR>H1H2H3<CR><ETX>

Or
<LF><p>w1w2w3w4w5lb<sp> w6w7<dp>w8oz<CR>H1H2H3<CR><ETX>
(2). Command: S<CR> (53h 0dh)
Response: <LF> H1H2H3<CR><ETX>
(3). Command: Z<CR> (5ah 0dh)
Response: <LF>H1H2H3<CR><ETX>
Zero function is activated, and then it returns to current scale status, similar to pressing the ZERO key. If ZERO function cannot be activated, it will return to current scale status.
(4). Command: T<CR> (54h 0dh)
Response: <LF> H1H2H3<CR><ETX>
TARE function is activated, and then returns scale status, similar to pressing the TARE key. If TARE function cannot be activated, it will return to current scale status.
(5). Command: U<CR> (55h 0dh)
Response: <LF>u1u2<CR><LF> H1H2H3<CR><ETX>
Changes units of measure and return scale status with new units, similar to pressing the UNIT key. The new measure unit should be allowed to use as a C5 setting. If the weight unit is lb:oz, U1U2= “lb oz”
(6). Command: L<CR> (4ch 0dh)
Response: <LF> H1H2H3<CR><ETX>
If HOLD function is enabled, go to or exit from HOLD mode, similar to pressing the HOLD key.
(7). Command: X<CR> (58h 0dh)
Response: NONE
Power off the scale, similar to pressing and holding the ZERO/ON/OFF key for 4 seconds.
(8). Command: all others
Response: <LF>? <CR><ETX>
Unrecognized command
e) Additional Commands and Responses for Scale Base Application:
(1). Command: F<CR> (46h 0dh) --- to restore factory calibration data
Response: <LF>OK H1H2H3<CR><ETX>\
(2). Command: O<CR> (4Fh 0dh) --- zero point calibration
Response: <LF>OK H1H2H3<CR><ETX> --- if zero calibration is sufficient
<LF> H1H2H3<CR><ETX> ---- if zero calibration resulted in an error
(3). Command: H<CR> (48h 0dh) --- weight calibration
Response: <LF>OK H1H2H3<CR><ETX> --- if weight calibration is sufficient
<LF> H1H2H3<CR><ETX> --- if weight calibration resulted in an error
f) Output status bit meaning:
The status bit definition:

BIT	BYTE 1 (H1)	BYTE 2 (H2)	BYTE 3 (H3)
0	0=stable	0= not under capacity	01=normal work mode 10= hold work mode 00=not define 11= not define
	1= not stable	1= under capacity	
1	0= not at zero point	0= not over capacity	
	1= at zero point	1= over capacity	
2	0=not AD over	0=not Zero Over	0= gross weight
	1=AD over	1=Zero Over	1= net weight
3	0= eeprom OK	0=not Zero down	0=not AD down
	1= eeprom error	1= Zero down	1=AD down
4	always 1	always 1	always 1
5	always 1	always 1	always 1
6	always 0	always 1	always 0
7	parity	parity	parity

SYMBOL DEFINITIONS

0‾‾‾	Zero point is over the setting range
0___	Zero is below the setting range
Ad‾‾‾	Analog digital converter chip over max. range
Ad___	Analog digital converter chip below min. range
————	Weight signal is too large
————	Weight signal is too small
EEP.E1	Config parameters incorrect (no set, no calibration, over normal range, etc.)
EEP.E2	User parameters are incorrect
CAL-Px	Calibration point
CAL.Er	Error in calibration
CAP.--	The setting full capacity will be displayed
Cx.y	No. x configuration parameter is set to y
Ux.y	No. x user parameter is set to y
Lo.bAt	Battery voltage is below 4.2V

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
Does not turn on.	1. AC adapter is not securely connected 2. Low battery 3. Indicator is damaged	1. Re-plug the AC adapter or rotate the plug to securely connect to the scale 2. Replace the batteries 3. Replace with a new indicator and perform calibration
Ad———	1. The cable from platform to indicator is not correctly connected, or disconnected, or short circuit 2. Indicator is damaged 3. Load cell cable is broken 4. Load cell is damaged	1. Check the cable 2. Replace with a new indicator and perform calibration. 3. Return the scale for repair
Ad———		
0———	Indication is out of key zero range	Reduce the weight on platform, till the indication is within the key zero range.
0———	Weight reading below Power On Zero limit.	1. Check whether an object is stuck between scale base, if yes, remove the object. 2. Perform zero calibration.
————	1. Weight reading exceeds overload limit 2. The weight value cannot be displayed in the current unit of measure because it exceeds 6 digits.	1. Reduce load on the scale until a weight value is displayed. 2. Use a more appropriate unit of measure.
————	Weight reading below Under load limit	1. Perform zero calibration
EEP.E1	CONFIG parameters are not correctly set	Re-set CONFIG parameters as technical manual instructed.
EEP.E2	USER parameters are not correctly set	Re-set USER parameters per the Technical manual
CAL.Er	1. Input data or loaded weight is too small, too big 2. Weight signal is unstable, un-linear	1. Input correct data, load correct weight onto platform. 2. Return the scale for repair
Cannot zero the display	1. Load on scale exceeds allowable limits.(20%FS) 2. Load on the scale is unstable	1. Remove load from the scale. 2. Wait for the load to stabilize. then press the ZERO/ON/OFF key to zero the display
Weighing is not accurate	1. An object is stuck between the load cell and scale base 2. Load cell received a heavy impact	1. Remove the object 2. Perform calibration 3. Place the load on the center of the weighing platform

AVAWEIGH LIMITED WARRANTY

AvaWeigh warrants its equipment to be free from defects in material and workmanship for a period of 1 year. This is the sole and exclusive warranty made by AvaWeigh covering your AvaWeigh brand equipment. A claim under this warranty must be made within **1 year** from the **date of purchase** of the equipment. Only the equipment's original purchaser may make a claim under this warranty. AvaWeigh reserves the right to approve or deny the repair or replacement of any part or repair request. The warranty is not transferable. AvaWeigh Equipment installed in/on a food truck or trailer will be limited to a period of **30 days** from the original date of purchase.

For Warranty Inquiries:

To obtain warranty information or make a claim against this warranty, please contact the location where you purchased the product.

- **www.WebstaurantStore.com**
  Call 717-392-7472. You must have your order number ready when contacting.
- **The Restaurant Store**
  Please contact your local store directly.
- **www.TheRestaurantStore.com**
  Call 717-392-7261. You must have your order number ready when contacting.
- **Clark Food Service Equipment, PRO Marketplace, Hometown Provisions**
  Please contact your account manager directly.
  If you do not know your account manager, please call 717-392-7363 for CFSE and Pro Marketplace or 717-464-4165 for Hometown Provisions

Failure to contact the designated location prior to obtaining equipment service may void your warranty.

AvaWeigh makes no other warranties, express or implied, statutory or otherwise, and **HEREBY DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE.**

This Limited Warranty Does Not Cover:

- Equipment sold or used outside the Continental United States.
- AvaWeigh has the sole discretion on wearable parts not covered under warranty.
- Equipment not purchased directly from an authorized dealer.
- Equipment used for residential or other non-commercial purposes.
- Equipment that has been altered, modified, or repaired by anyone other than an authorized service agency.
- Equipment for which a valid purchase cannot be verified. Please have your order number or receipt, and serial number (if available) when making a claim.
- Damage or failure due to improper installation, improper utility connection or supply, and issues resulting from improper ventilation or airflow.
- Defects and damage due to improper maintenance, wear and tear, misuse, abuse, vandalism, or Act of God.

Any action for breach of this warranty must be commenced within 1 year of the date on which the breach occurred. No modification of this warranty, or waiver of its terms, shall be effective unless approved in a writing signed by the parties. The laws of the Commonwealth of Pennsylvania shall govern this warranty and the parties' rights and duties under it. AvaWeigh shall not under any circumstances be liable for incidental or consequential damages of any kind, including but not limited to loss of profits.